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Social Capital and Aboriginal Communities: A critical assessment

Synthesis and assessment of the body of knowledge on social capital with emphasis on Aboriginal communities

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General overview of the concept

Social capital has a somewhat short intellectual history in the social sciences. Although the first explicit usage of the term in the contemporary sense was that of Lyda Hanifan (1920), who employed the expression to explain the role of community participation in shaping local educational outcomes, social capital as a concept then disappeared for several decades. It was “reinvented” by Jane Jacobs (1961) in the late 1960s and subsequently elaborated upon by Loury (1977) in the late 1970s and then by James Coleman in the 1980s.¹ A parallel approach was also being developed by French sociologist Pierre Bourdieu (Bourdieu & Wacquant, 1992). The major impetus to scholarship on the topic, however, came with Robert Putnam’s seminal work in the 1990s on governance in Italy, and his subsequent argument that Americans in the late twentieth century were ‘bowling alone’ (Woolcock, 1998).

Given the relative differences in the conceptualization of social capital, a trajectory of the ideas comprised in its current discourse is best done following the main thinkers of the concept. Table 1 presents 17 definitions of social capital from a number of authors. (Coleman, 1990; Bourdieu, 1983; Loury, 1992; Putnam et al., 1993; Portes & Sensenbrenner, 1993; Burt, 1992; Fukuyama, 1995; Edwards, 1997; Woolcock, 1998; Midgley & Livermore, 1998; Paxton,

1999; Narayan, 1999). This should be of practical help while we trace the historical background, the different ideas embedded in the conceptualizations, the fields of scholarship and the ideological context of social capital. For the purpose of comprehensiveness, the table also includes authors who have introduced distinct definitions that have supplemented the primary concepts (see Table I).

Table I

<i>James Coleman (1990) (1988).</i>
Social capital is a variety of different entities having two characteristics in common: they all consist of some aspect of a social structure and they facilitate certain actions of individuals who are within the structure. Social capital inheres in the structure or relations between persons and among persons. It is lodged neither in individuals nor in physical implements of production. Two elements are critical to social capital: the level of trustworthiness of the social environment, which means that obligations will be repaid, and the actual extent of obligations held. Social structures differ in both of these dimensions, and actors within a particular structure differ in the second. As an attribute of the social structure in which a person is embedded, social capital is not the private property of any of the persons who benefit from it.
<i>Pierre Bourdieu (1983).</i>
Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition – i.e., membership in a group which provides each of its members with the backing of the collectivity-owned capital, a “credential” which entitles them to credit, in the various senses of the word. These relationships may exist only in the practical state, in material and/or symbolic exchanges which help to maintain them. They may also be socially instituted and guaranteed by the application of a common name (the name of a family, a class, a tribe, a school, a party, etc.) and by a whole set of instituting acts.

<i>Glenn Loury (1992).</i>
“Now consider all of these processes associated with naturally occurring social relationships among persons, which promote or assist the acquisition of skills and traits valued in the market place. They constitute of an economic resource which I have called social capital, an asset which may be as significant as financial bequests in accounting for the maintenance of inequality in our society, especially inequality between ethnic groups.”
<i>Robert Putnam (Putnam et al., 1993) (Putnam, 1993).</i>
Social capital refers to features of social organization, such as trust, norms and networks, that can improve the efficiency of society by facilitating coordinated actions.
<i>Alejandro Portes (1995).</i>
Social capital is the ability to command scarce resources by virtue of membership in networks or broader social structures.
<i>Ronald Burt (1992).</i>
Social capital is at once the resources that contacts hold and the structure of contacts in a network. The first term describes whom you reach. The second describes how you reach.
<i>Francis Fukuyama (1995).</i>
Social capital is the component of human capital that allows members of a given society to trust one another and cooperate in the formation of new groups and associations.
<i>The World Bank (Edwards, 1997).</i>
The World Bank’s working definition: Social capital refers to the “glue” that holds societies together, being a composite of social networks and institutions, social norms (such as co-operation), and social values or attributes (especially trust).
<i>Michael Woolcock (1998).</i>
“Social capital...the nature and extent of a community’s personal and institutional relationships.”
<i>James Midgley (Midgely & Livermore, 1998).</i>
Social capital is defined as social infrastructure. Infrastructural development for social purposes not only provides the material amenities needed for community development but also creates the community-held assets that bring people together and enhance their commitment to local development.
<i>Pamela Paxton (1999).</i>
Social capital involves two components: 1) Objective associations between individuals. There must be an objective network structure linking individuals. This component indicates that individuals are tied to each other in social space. 2) A subjective type of tie. The ties between individuals must be of a particular type reciprocal, trusting, and involving positive emotion.
<i>Deepa Narayan (1999)</i>
Social capital is defined as the norms and social relations embedded in the social structures of society that enable people to co-ordinate action and to achieve desired goals.
<i>Falk & Filpatrick (1999)</i>
Social capital is the product of social interactions with the potential to contribute to the social, civic or economic well-being of a community-of-common-purpose. The interactions draw on knowledge and identity resources and simultaneously use and build stores of social capital. The nature of social capital depends on various qualitative dimensions of the interactions in which it is produced, such as the quality of the internal-external interactions, the historicity, futurity, reciprocity, trust and the shared values an norms.
<i>Richard Rose (1997)</i>
Social capital consists of informal social networks and formal organizations used by individuals and households to produce goods and services for their own consumption, exchange or sale.

<i>Adler & Kwon (1999)</i>
Social capital is a resource for individual and collective actors located in the network of their more or less durable social relations.
<i>Schuller, Baron & Field (2000)</i>
Social capital: broadly, social networks, the reciprocities that arise from them, and the value of these for achieving mutual goals.
<i>Nan Lin (2001)</i>
Social capital consists of resources embedded in one's network or associations.

The idea of social capital can be located in a historical series of ideas on different forms of capital. According to Paxton (1999), the concept of physical capital was originally introduced to explain the ways that physical implements, such as tools or machines, could facilitate production. “Then Becker (1964) building on Schultz (1961), presented the notion of human capital and argued that individuals, through education or job training, can hold within themselves the ability to facilitate production. The newer concept of social capital acknowledges that certain social relations can also facilitate production” (Paxton, 1999, pp. 91-92). Swedberg has documented that the Durkheimian, Weberian and Marxist traditions within classical sociology were all heavily influenced by the economic debates and much of what we now refer to as “social capital” lie at the heart of these concerns. Apparently, similar debates surrounded sociology’s controversial entry into the American universities through the University of Chicago in the 1890s, where the case for social forces as independent factors shaping urban development served to differentiate the sociologists from the economists. “Two paths thus divided, and by the early twentieth century qualitatively different approaches to the study of economic life - once a topic of universal social-scientific concern if not agreement - now served to define the boundary between competing academic disciplines on both sides of the Atlantic” (Woolcock, 1998, p. 160).

A convenient way of framing the ideas that follow is to make a clear distinction between social capital and civil society. Edwards (1997) provides a simple but lucid distinction: “civil society” is *the arena* on which people come together to pursue the interests they hold in common; “social capital” refers to *the glue* that holds societies together. Consequently, the review will concentrate on the ideas behind the “glue,” not on the ideas about the “societal places” where it exists. However, inasmuch as there are issues concerning where social capital plays out, then the “arena” will be considered.

According to Greeley (1997), Coleman introduced the term social capital as part of the major project that occupied the final years of his life – the building of a bridge between sociology and economics (in particular the economics of the Chicago School), between the concept of the “socialized” notion of human kind and the “rational choice” notion. In Coleman’s (1988) own words: “My aim...is to import the economists’ principle of rational action for use in the analysis of social systems proper, including but not limited to economic systems, and to do so without discarding social organization in the process. The concept of social capital is a tool in aid of this” (p. S97). Favell (1993) indicates that Coleman’s *Foundations of Social Theory* (in which his main conceptualizations of social capital are found) is an attempt to apply a universal rational choice theory to the entire range of central questions in social theory.

Putnam, on the shoulders of Coleman, brought the concept into structural social theory by claiming that social capital could accumulate over aggregate sections of a community and influence effective government. Paxton (1998) argues that in this way, Putnam has followed the tradition of de Tocqueville, who claimed that participation in associations leads individuals to develop an “enlightened self-interest” (p. 101) that supports democratic society. In this sense, social capital reflects voluntary association membership in a manner similar to other theoretical concepts like civil society, while also capturing important features of participation, such as subjective trust. The major issue for Putnam is how social trust, that is, trust among those lacking intimate knowledge of each other, develops and is maintained in a society. He claims that trust has two sources, norms of reciprocity and networks of civic engagement, and the first is likely to be a function of the second. His ideas were influenced by the findings of non-cooperative game theory (Sugden, 1986), arguing that a “tit-for-tat strategy” is a self-sustaining equilibrium (Levi, 1996). Thus, if people act trustfully, they tend to cooperate and invite cooperation in return. The “glue” of social

capital is here, extended to an aggregate societal level and simultaneously limited to the narrow interpretation of what constitutes the “arena” of civil society. If, as Seligman (1992) posits, civil society is a public realm (apart from the state but nevertheless regulated by law) yet constituted by private individuals, it includes those areas of private enterprise. A narrow or broad understanding of what constitutes civil society is an important division of how scholars understand social capital. To clarify this point, the work of some additional authors requires attention.

Bourdieu’s (1983) rationale for the introduction of social capital was that it is “impossible to account for the structure and functioning of the social world unless one reintroduces capital in all its forms and not solely in the one form recognized by economic theory” (p. 242). This notion coincides with Granovetter’s (1985) critique of a pure “market” approach to economic action. Accordingly, in Portes’ and Sensenbrenner’s (1993) opinion, the introduction of the concept of social capital has reinforced the sociological perspective. Portes explicitly inserts social capital under the umbrella concept of social “embeddedness,” but this raises the question about the “arena” of civil society, i.e., what does civil society encompass?

Foley and Edwards (1997), although not exactly arguing this point, indicate that Putnam’s is a reading of de Tocqueville that privileges the beneficent and nonpolitical manifestations of associational life, ignoring in the process equally powerful interpretations of civil society that lay particular stress on the conflict at the heart of modern societies. Further, Granovetter’s “strength of weak ties,” runs counter to the traditional interpretation of de Tocqueville, which privileges voluntary networks composed of social ties that are both dense and strong. The Tocquevillian argument leans on what Newton (1997) calls the “thick trust” characteristic of the Durkheimian version of how relationships get built, which posits the necessity of dense networks of strong ties (Edwards & Foley, 1997). Newton (1997) says that in many ways, social capital (and we add, social capital from Putnam’s perspective) is the modern social science analogue of fraternity. In the 1970s and 1980s some political circles assumed that only liberty mattered for democracy, and even then a narrow economic definition of liberty – the liberty of the market place. In the 1990s it was increasingly realized that democracy is much more than liberty and requires a range of values, attitudes and assumptions of the kind that comprise social capital (e.g., trust). In this sense, it seems to relate to the importance of shared values and a social contract already highlighted by Rousseau (1993). Weber (1930) also emphasized the

importance of trust, which according to him, grew out of religious habit. For example, the early puritans developed shared values that glorified hard work, thrift and honesty. According to Minkoff (1997), most discussions of civil society and social capital emphasize their local dimensions, drawing attention to the sustenance and growth of face-to-face social networks, voluntary associations and community institutions. Putnam argues that civil society is the main arena for producing the norms of trust and reciprocity that undergird civility, civic participation and (a liberal vision of) democracy. National social movements, however, (according to Putnam) lack the same social capital-generating qualities. Berman (1997) argues that current enthusiasm for civil society holds that political development is a function of societal and cultural factors, and de Tocqueville is seen as the guiding light of political analysis. The author contends that the study of societal and cultural factors needs to be married to the study of political institutions.

We can now return to the division among scholars who have a narrow or broader understanding of the arena of civil society. A central idea shared by the two main thinkers of social capital, Coleman and Bourdieu, was the need to integrate sociological and economic thinking to account for the structure and function of the social world. However, Putnam’s development appears to have taken a “Tocquevillian” road (to be fair to de Tocqueville, the adjectivization of his name has the purpose of denotation, not of adequately describing his thinking²) whereas social capital is the “glue” of a civil society that does not clearly encompass both economic and political forces. Civil society, and consequently the “arena” of social capital, appears to be limited to face-to-face social networks, voluntary associations and community institutions. In our interpretation, this is not what Bourdieu and Coleman had in mind. In this sense, Portes (1995) is more consistent with their ideas when he inscribes the concept of social capital under the discipline of economic sociology, or what Woolcock (1998a) describes as “new economic sociology.” The latter writer states that “the new economic sociology” – as opposed to the “old economic sociology” characterized by Talcott Parsons and Neil Smelser (1956), “is less deferential to formal economics, seeing little distinction between exchange that is otherwise deemed ‘economic’ or ‘social’” (Woolcock, 1998a, p. 191). A central theme of Woolcock’s development of social capital within the field of new economic sociology is that the latter is a field that seeks to position itself between the traditional “oversocialized” and “undersocialized” approaches to understanding economic behaviour. This notion was introduced by Granovetter

(1985), who further argued that all economic action was inherently enmeshed in social relations of one configuration or another. Consequently, it allows the analyst to overcome shortcomings of orthodox economics, which in the words of Bourdieu (Bourdieu & Wacquant, 1992, p. 119) “overlooks the fact that practices may have principles other than mechanical causes or the conscious intention to maximize one’s utility and yet obey an immanent economic logic.”

The statements of the following two authors help clarify the scope of the arena. Evans (1996) argues that social capital “inheres not just in civil society, but in an enduring set of relationships that span the public-private divide... it is social capital built in the interstices between state and society that keeps [economic] growth on track” (p. 1122). He is clearly arguing for a broader scope of the arena. Edwards (1997), on the other hand is somewhat ambiguous in his call for a broader scope. The author understands civil society as the space where the common goals, product of social capital, are formed and debated. He then adds “completing these visions... involves the state and the market too, but they are the servants of a true civil society and not its masters” (p. 11).

Putnam, in another sense to the above review, actually extends the notion of social capital when he postulates it as a “feature of social organizations.” This refers to ideas behind the societal “levels” of social capital (which is different from the “arena”). Let us visit other authors for this discussion. Portes and Landolt (1996) argue that Coleman’s concept of social capital has been stretched in questionable ways. Specifically, “in Putnam’s hands, social capital has become a property of groups and even nations, rather than individuals” (Portes & Landolt, 1996, p. 18). We will then first explore the ideas behind Portes’ understanding of the concept. Portes and Sensenbrenner (1993) contend that there are four different types of social capital corresponding to each of the major theoretical traditions. They argue that from Marx and Engels we can extract the notion of “bounded solidarity,” i.e., adverse circumstances can act as a source of group cohesion. As well, that from Simmel we learn of “reciprocity transactions,” the norms and obligations that emerge through personalized networks of exchange (e.g., favours between neighbours). Portes and Sensenbrenner (1993) explain that Durkheim and Parsons discuss the importance of “value introjections,” the idea that values, moral imperatives and commitments precede contractual relations and inform individual goals other than the strictly instrumental. Finally, they argue that from Weber we discern the idea of “enforceable trust,” that formal institutions and particularistic group settings use different mechanisms for

ensuring compliance with agreed-upon rules of conduct –the former (e.g., bureaucracies) using legal/rational mechanisms, the latter (e.g., families) substantive/social ones. The societal levels of social capital aspects in the above review explains why Portes (1998) is uncomfortable with Putnam’s “stretch” in equating “social capital” with the level of ‘civiness’ in communities such as towns, cities or even entire countries. In his understanding, sociological analyses of social capital “have been grounded on relationships between actors or between an individual actor and a group” (p. 18). Sampson and colleagues (1999) exemplify empirical research that coincides with Portes in considering social capital as pertinent to the micro level (e.g., neighbourhood), and not at a more macro level.

Contrarily, Fukuyama (1995), whose notion of social capital centres on the trust component, talks about nations with “healthy endowments of social capital” and of “low-trust countries.” Arguably, Fukuyama’s understanding of the concept is at a macro level (although not exclusively). Quigley (1996) contends that both Fukuyama and Putnam demonstrate that social capital, especially trust, is accumulated through a time-consuming, primarily local process. Nonetheless, both tend to utilize social capital as a macrosociological phenomenon or a feature of society. On the other hand, Midgley and Livermore’s (1998) understanding of social capital as social infrastructure relates more to the micro level. Their conceptualization appears to be related to ideas such as that of community assets (Sherraden, 1991; McKnight, 1995a), spirit of community (Etzioni, 1993), community regeneration, and community power (McKnight, 1987; McKnight, 1995).

Woolcock (1998a; 1998b) is the author that most systematically integrates a broad “arena” as envisioned by Coleman and Bourdieu, while including the possibility of studying social capital at different societal levels, in line with Putnam’s submission. Woolcock seeks to apply the concept of social capital to the analysis of national and community development in Third World countries. He argues that any synthesis of social capital as it has developed at the micro and macro levels may have to integrate distinct forms. Recently, several scholars introduced terminology that reflects distinct dimensions (World Bank, 2000), bonding, bridging, and linking social capital. These developments signal the need to pursue the issue of dimensions of social capital, where both the arena and the levels are accounted for. The distinction between bonding, bridging and linking social capital (Woolcock, 1999; Narayan, 1999; Woolcock & Narayan, 2000) has been incorporated in many of the more recent conceptual developments.

In summary, social capital, to the extent that it is a property of the social environment, takes the form of a relational resource. A common understanding amongst most authors is that social capital is a resource composed of a variety of elements, most notably social networks, social norms and values, trust, and shared resources (Bourdieu & Wacquant, 1992; Bourdieu, 1983; Loury, 1992; Putnam et al., 1993; Putnam, 2000; Woolcock, 1998b; Woolcock, 1998a; Woolcock & Narayan, 2000; Narayan, 1999; Schuller et al., 2000; Lin, 2001). Its function appears to be related to the enabling of some societal good within the boundary of that specific societal level (Coleman 1988; 1990). It is mostly considered an aggregate feature that can aid in the characterization of a social system. For Bourdieu, (1983), social capital relates to actual or potential resources within a social structure that collectively supports each of its members, and is linked to the possession of a durable network of relationships of mutual acquaintance and recognition.

Areas of study where the notion of social capital has been applied to

Among the main areas in which the concept of social capital has been applied to are: community governance and political participation; knowledge and innovation; firms; labour markets; public services and the welfare state; education; and health. Although many more could be included, this list alone helps capture the variety and extent of fields. Given the striking expansion of the use of social capital in numerous areas of study, this review does not seek to be detailed nor comprehensive. What follows is a brief examination of some representative studies that exemplify the use of social capital in distinct fields.

In particular, social capital has been studied in relation to education (Munn, 2000), immigration (Portes, 1995), local economic development (Midgley & Livermore, 1998), microfinance (Rankin, 2002), sustainable community development (Dale, 2005), economic performance (Casey & Christ, 2005), health (Kawachi et al., 1997; Gooden, 1998; Veenstra, 2000; Rose, 2000b; Campbell et al., 2002; Bolin et al., 2003), identity, transition to work (Fevre, 2000), and information and communication technology (Huysman & Wulf, 2004; Norris, 2003; Steinmueller, 2004), among numerous other fields.

In relation to education, social capital has been examined for its link to educational achievement (grades and test scores), educational attainment (graduation and college enrollment), and psychosocial factors that affect educational development (engagement, motivation and

self-concept). For instance, the notion of social capital has been used to understand school practices particularly those aimed at tackling social exclusion (Munn, 2000). Findings from this particular study suggested that if schools are aware of the advantage which social capital confers on middle- and upper-class children, then schools can compensate for this by developing their own support mechanisms to help poor children achieve.

Among the literature of successful rural development is a study of six localities in the Ecuadorian and Bolivian Andes, four of which were characterized by a successful sustainable intensification of rural land use and livelihoods (Bebbington, 1997). Dimensions of social capital, such as organizations and networks, were deemed to play a critical role in helping these localities renegotiate relationships with the market, state and other civil society factors.

A more recent study on regional economic development suggested that social capital helps explain regional differences in economic development (Rutten & Boekema, 2007). The case study demonstrated that technology is a necessary but not sufficient condition for regional economic development. Also, that regional social capital originates from the embeddedness of firms in regional webs of social relations, and the norms, values and customs of these networks facilitate collaboration for mutual benefit.

Studies specific to social capital and information and communication technology (ICT) have begun to appear. A recently published multidisciplinary volume (Huysman & Wulf, 2004) compiled a series of articles that examined this relationship from the fields of computer sciences, sociology, communication studies, business economics, and management studies. One of these papers (Quan-Haase & Wellman, 2004) argued that the effects of the internet on social capital can be conceptualized from three broad approaches. First, "the internet transforms social capital" meaning that it leads to major transformations in social contact and civic involvement away from local and group-based solidarities, and toward more spatially dispersed and sparsely knit interest-based social networks (Barlow et al., 1995; Wellman et al., 2001). Second, "the internet diminishes social capital" through its entertainment and information capabilities it draws people away from family and friends (Nie 2001; Nie et al., 2002). Third, "the internet supplements social capital" because as another means of communication it facilitates existing social relationships as well as helps build patterns of civic engagement and socialization (Quan-Haase & Wellman, 2002; Chen et al., 2002). Among the initial studies that had specifically looked at the impact of ICT on social capital, one of them

(Norris, 2003) concluded that the internet seems to widen the experience of community and the other (Steinmueller, 2004), that social networks are influenced by (and influence) ICTs.

The health field has been particularly prolific in studying social capital and its potential relationship with health and well-being. Early empirical research into the association between social capital and health were those of Kawachi and colleagues (1997), Gooden (1998), Kennedy and colleagues (1998), Wilkinson and colleagues (1998), Veenstra (2000), Rose (2000b), Subramanian et al. (2001), Veenstra (2002), Campbell and colleagues (2002), and Gold and colleagues (2002). The results of these empirical inquiries provided some support for considering social capital as a health determinant. However, both conceptual and measurement issues hindered the strength of the findings. As Muntaner and colleagues (2000) indicate, the evidence is scant or ambiguous depending on the definition that is used.

More recent developments have studied social capital as a factor related to access to health care (Hendryx et al., 2002) and as a requirement for health promotion programs (Clutterbuck, 2001; Sapag & Kawachi 2007). Other studies have looked at social capital in relation to improved self-rated health (Sirven, 2006), as a predictor of coronary heart disease (Sundquist et al., 2006), as associated with population health (Folland, 2007), adult health (Carpiano 2007), mental health (de Silva et al., 2007), and enhanced health and well-being (Yip et al., 2007) to mention a few.

The above review suggests that social capital has been increasingly used to seek understanding of societal factors as they affect different outcomes of interest. As well, the impact on societies and communities of certain developments and initiatives has also been examined through the lens of social capital. Although the number of studies utilizing social capital to examine such a variety of fields is ever increasing, this should not translate into an a critical assessment of the usefulness of the concept. As the final section of this review will identify, there are valid critiques to consider.

Social Capital and Aboriginal communities

It was not until the year 2000 that research concerning social capital and Aboriginal peoples picked up pace. The First Nations Social Cohesion Project of the Population Studies Centre at the University of Western Ontario was one of the first attempts to examine social capital in First Nations communities in Canada. This group contributed several papers and pursued a research agenda to address the ways in which variations among forms of capital and cohesiveness within First Nations communities generate different

outcomes at a population level (White et al., 2000; Maxim et al., 2003). A study by Mignone and colleagues developed a conceptual framework of social capital in First Nations communities and validated a tool for its measurement (Mignone, 2003a; Mignone et al., 2004). As well, Levitte (2004) researched social capital in the context of Aboriginal economic development in Canada. Social capital has been used to analyze traditional forms of indigenous governance (Hunter, 2000; Schwab & Sutherland, 2001), sustainable development (Altman, 2001), welfare reform (Smith, 2001), and indigenous learning communities (Schwab & Sutherland, 2001). Social capital has also been used as a means to better understand the disconnect between the management of waste in nine First Nations communities in Northwest British Columbia and their traditional relationship with the land (Moody & Cordua-von Specht, 2005).

In the Aboriginal health field, First Nations planners have indicated that “analytical frameworks that attempt to associate factors such as poverty with health outcomes are insensitive to the complex socio-economic conditions that exist in First Nations communities” (O’Neil et al., 1999). In other words, there may be features of the communities, above and beyond individual level characteristics, that are impacting health, well-being and other outcomes but are not being measured by current research. In fact, an Assembly of First Nations document on holistic health policy (Reading et al., 2007) has incorporated the notion of social capital as a potential determinant of health. This also relates to what Memmott and Meltzer (2005) suggest when they state that “Indigenous people actually invest significant time and energy into building social capital, but that it often manifests in ways that are not registered in terms of ‘economic development’ or that do not match the mainstream criteria of ‘good governance.’” A clear description of Aboriginal communities that could be understood as possessing high stocks of social capital can be found in the following quote from the Royal Commission on Aboriginal Peoples. Describing Aboriginal societies of the past it states:

The economic relations embedded in traditional cultures emphasized conservation of renewable resources, limiting harvesting on the basis of need, and distributing resources equitably within the community, normally through family networks. Since families and clans owned rights to resources and since everyone was connected in a family, no one was destitute and no one was unemployed (Royal Commission on Aboriginal Peoples, 1996, p. 658).

It is under this light that the notion of social capital may be of potential usefulness if properly conceptualized for Aboriginal communities. The fact that social capital is a concept heavily embedded in cultural understandings (Brough et al., 2006) must be addressed “if it is be of value in understanding, and most importantly taking action to improve, Indigenous health status” (Baum, 2007a, p. 121). A rigorous examination of Aboriginal communities requires a historical understanding of the many factors at play. Factors that impact the well-being of populations are a result of historical socioeconomic, political and cultural forces. The history of the relations between First Nations peoples and European nations and their descendents is paradigmatic in this regard. The notion of social capital can offer a lens that takes into account these historical factors as they are embedded in current societal features, consequently having the potential to offer a richer understanding of these factors as determinants of well-being. To exemplify from a historical perspective of First Nations peoples, the loss of a significant number of population in Aboriginal communities due to disease in the early years of colonization³, the loss of traditional lands, the policies of assimilation and residential schooling, the loss of political autonomy, etcetera (Royal Commission on Aboriginal Peoples, 1996b; Dickason, 1997; Gralewicz, 1997), can also be interpreted as having had a potentially negative impact on the stocks of social capital. However, this interpretation cannot be made mechanistically, because the ongoing struggles to counter these forces may also have had the potential of generating stocks of social capital. An interesting depiction of the latter is offered in an article describing the native initiative for self-government of Ka Lahui, Hawaii (Trask, 2000).

Among different fields of study, social capital in Aboriginal communities has been discussed as associated with economic development. The relationship between social capital and entrepreneurship has been explored by scholars (Portes & Landolt, 2000) who have pointed to the ability of social networks to pull together financial and other material resources for business development on the one hand, and to apply pressures on entrepreneurs on the other. Social networks have been highlighted as of importance in overcoming challenges to entrepreneurship, such as access to training, access to markets and the negotiation of community values and norms. (Levitte, 2004). Gertler and Levitte (2005) show that to be innovative and commercially successful, Canadian biotech firms must reach out to both their local and global networks to access both knowledge and capital. The same has been said of Aboriginal businesses. Woolcock (1998) asserts that strong relationships with formal institutions are instrumental in that they allow

groups to access resources, ideas and information from institutions of power. Dale (2005) argues that “sustainable communities depend on the formation and maintenance of networks, particularly at the bridging and linking level, in order to build any of the imperatives and capital” (p. 22). Evans (1996) believes that the obstacles that poor communities face stem from their members’ inability to ‘scale up’ micro-level social capital and social action to a politically and economically effective level. Levitte (2004) identifies several barriers to Aboriginal business development: access to start-up and growth financing; access to skills such as business training and a trained labour force; and access to markets and marketing strategies. In this sense, information and communication technology understood from a social capital perspective appears to have the potential to bridge some of these barriers. As an example, there are a number of experiences using internet based tools to build community capacity that offer promising cases for examination (Fawcett, et al., 2003). More recently, Canadian authors have explored the relationship between social capital and Aboriginal youth resilience (Ledogar & Fleming, 2008). Further, a Canadian study (Hutchinson, 2006) has argued that how communities balance their relationships with the Canadian governments other First Nations and their members may affect population health status. The author suggests that linkage social capital indicators demonstrate how, with increased recognition and inclusion, the constituents of the communities who participate in these relationships have better health than those who are not effectively included. The communities with relationships that promote recognition and inclusion may meet their constituents needs and goals through leveraging resources and the development of common understandings and responsive policies. Relationships that have more opportunity for direct First Nation control are more likely to improve First Nation health status than those relationships that limit their active participation in social service development.

At the international level, there are a number of studies reporting on social capital and indigenous issues. For instance, Brough and colleagues (2007) report on a study of social capital within an urban Aboriginal and Torres Strait Islander context in Australia. They identify that a primary source of bonding social capital comes from family and wider community connections. However, given the context of oppressive history and experiences of ongoing racism and discrimination, bridging social capital remains elusive among Indigenous Australians. The findings suggested that the understanding of the tensions between the two social capitals requires an engagement with the complexities of identity.

A Mapuche researcher in Chile developed a model to study social capital of urban Indigenous people that includes notions of multiculturalism and indigenous development (Figueroa Huencho, 2007). The model seeks to articulate a holistic approach in the design and implementation of programs and policies related to urban Aboriginals in Chile.

A study by Carroll and Bebington (2000) focused on a special type of structural social capital embedded in second-tier indigenous peasant federations in the Andean countries. It examined the manifestations of this social capital and analyzed the strategies of the various social actors for its use, mainly to further the interests of poor and oppressed members, but often in the service of broader societal or narrower partisan purposes.

A study conducted with First Nations in Manitoba formulated a conceptual framework of social capital for First Nations communities and developed a culturally appropriate instrument for its measurement (Mignone, 2003a; Mignone et al., 2004; Mignone, 2003b). The study was a product of a partnership between First Nations communities in Manitoba and the University of Manitoba. This formulation of a conceptual framework of social capital for First Nations communities emerged from an iterative analysis between existing literature and the ethnographic evidence from the fieldwork. The operational definition of Social Capital derived from the study was the following:

Social capital characterizes a community based on the degree that its resources are socially invested, that it presents an ethos of trust, norms of reciprocity, collective action, and participation, and that it possesses inclusive, flexible and diverse networks. Social capital of a community is assessed through a combination of its bonding (within community relations), bridging (inter-community ties), and linking (relations with formal institutions) dimensions⁴ (Mignone, 2003b, p. 132).

Bonding social capital refers to internal community relations. It addresses the networks, ethos and socially invested resources within a particular society, community or group in question, i.e., the intra-community ties. *Bridging* social capital is essentially a horizontal notion, implying connections between societies, communities or groups, i.e., the inter-community ties. *Linking* social capital refers to a vertical dimension, i.e., the relations with formal institutions beyond the community. Specifically to our study, bonding social capital refers to relations within each Aboriginal community. Bridging refers to horizontal links with other communities, be they other Aboriginal communities or

other communities of place (e.g., urban centres). Linking refers to connections between particular Aboriginal communities and institutions like federal/provincial government departments and public/private corporations (e.g., Indian and Northern Affairs Canada, Industry Canada, Manitoba Hydro, private ICT companies, banks).

Table 2 summarizes the social capital framework, showing each dimension as consisting of the three components and their descriptors. For socially invested resources (SIR) the descriptors are physical, symbolic, financial, human or natural. The central notion is that these resources be socially invested, i.e., that they be potentially accessed by, or of potential future benefit to, any member of the community. Each descriptor captures the resource investment at a particular stage of its development. Physical refers to tangible resources produced by human beings (e.g., roads). Symbolic refers to resources that pertain to the identity of the community as such, and for the most part are intangible (e.g., traditional language). Financial refers to monetary resources. Human resources mean human capacity as a product of formal and informal education. Natural resources are those provided by nature shaped with or without human intervention. Resources are essentially mutable. For example, a financial resource becomes a physical resource when money is used to build houses. Similarly, a human resource becomes a financial resource when income potential increases due to the attainment of an education degree. Consequently, these five descriptors seek to capture the different facets of socially invested resources at a given point in time. These descriptors are distinct from other forms of capital (e.g., human capital, financial capital) because they refer to the degree of social investment of resources at the community level.

The term ethos (in the sense of character or disposition of a community) to name a component of social capital is used to capture the notions of trust, norms of reciprocity, collective action and participation. Trust is self-explanatory in that it means that community members have confidence in one another as well as in community leaders. Norms of reciprocity, although potentially neutral, are considered in this framework as a positive value. Collective action represents the notion that community members may pursue actions that seek to benefit the collective. Finally, an ethos of participation implies the willingness of community members to be involved with others in common activities. The difference from collective action is that the main reason for participation is that of the individual's interest, with no explicit purpose of a collective good.

Networks are understood as “structures of recurrent transactions” (Aldrich, 1982), and are described according to their inclusiveness, diversity and flexibility. Higher degrees of these three characteristics would imply higher levels of social capital. Inclusiveness of networks refers to the notion that these structures of interactions are relatively open to the possibility of newcomers and to the exchange of information with newcomers. While there is room for subgroups with high levels of interaction (e.g., communities of interest within a community of place), communities require the existence of diverse networks for higher levels of social capital for the community as a whole. Diversity implies the co-existence of networks that differ from one another, composed of distinct elements or qualities, but that are capable of interacting in a meaningful way. Flexibility of networks implies a ready capability to adapt to new, different or changing requirements. Inclusiveness, diversity and flexibility are actually interrelated qualities. They are different aspects of a same phenomenon. In general, a correlation among these three descriptors of networks should be expected.

The first level of the framework (the distinction between three dimensions of bonding, bridging and linking) captures the social reality of Aboriginal communities in terms of their intra and inter-community and institutional interactions. Social capital, understood as a relational resource, cannot truly characterize a community if it only captures community interactions. Communities do not exist in isolation and their potential stocks of social capital must express this reality because, as Woolcock (1999) indicates, “different combinations of these dimensions might yield different outcomes” (p. 7).

Does the notion of social capital include the term “social” because “capital” is collectively owned, or is it because “social” assets are constituted as “capital”? This is not a rhetorical question, it is central to the meaning of what constitutes social capital. There is a difference between capital that consists of social relations (i.e., investment in social relations) and capital that is social because it is a collective investment. The evidence backs an interpretation of social capital that would need to include both meanings. Social capital appears to be relevant both as a relational investment and as a collective asset.⁵

This three-dimensional model considers social capital as a feature of communities, with the caveat that the community of which it is a feature must be clearly delimited. Aboriginal communities in both rural and urban areas can be understood as communities of identity, of place and of interest. It is the communities themselves that implicitly or explicitly provide the delimitation. As such, this understanding of social capital is of potential use for First Nations, Métis and Inuit communities both in rural and urban settings. Ultimately, these notions of social capital relate to ideas around power relations. Bonding and bridging social capital are particularly related to the power of the collective, whereas linking social capital suggests power relations with formal institutions.

Critique of social capital

As should be expected, the notion of social capital, both as a conceptual tool and for the use it is given, is not without its critics. As Schuller and colleagues (2000) indicate, it is important “to distinguish critiques which seek to explore and develop its (social capital) potential from those which imply a rejection of the concept’s utility” (p. 23). They further state that a main criticism of the concept has been its “over-versatility” but that the criticism “relates more to the ways the concept has been applied than to its intrinsic quality” (p. 26).

Table 2: Social Capital Framework

Bonding		
SIR*	Ethos	Networks
Physical	Trust	Inclusive
Symbolic	Norms of Reciprocity	Flexibility
Financial	Collective Action	Diverse
Human	Participation	
Natural		
Bridging		
SIR*	Ethos	Networks
Physical	Trust	Inclusive
Symbolic	Norms of Reciprocity	Flexibility
Financial	Collective Action	Diverse
Human	Participation	
Natural		
Linking		
SIR*	Ethos	Networks
Physical	Trust	Inclusive
Symbolic	Norms of Reciprocity	Flexibility
Financial	Collective Action	Diverse
Human	Participation	
Natural		

*SIR = Socially Invested Resources

Among the critics of the first type are Arrow (2000) who maintains that he finds no consensus for adding something called “social capital” to other forms of capital, as well as Solow (2000) who indicates that so far he has “seen only vague ideas and casual empiricism” (p. 6). Both scholars argue that despite the intention of those who write and talk about social capital to get at something difficult but important, namely the interaction between society’s institutions and shared attitudes with the way the economy works, there is no value added with this conceptual tool. Fine (2000, 2001) is an author who figures prominently among those rejecting the concept’s utility. His two central arguments are that “capital” is inherently social and thus there is a redundancy in a notion such as social capital. More importantly, he argues that by trying to formulate and apply this concept, we are taking the economics out of the study of society. Fine not only sees no need for this idea, but states that the versatility suggests how the concept is serving no real purpose in social sciences.

Another author (Labonte, 1999) also points out that the concept of social capital may be just fad in social sciences. If, as Saul (1995) suggests, “fashion is merely the lowest form of ideology” (p.19), the question to answer is if this concept has brought new theoretical tools to enhance our analytical leverage and further understanding of the social environment, or is it (in Labonte’s words) a “Trojan horse” for colonization from any side of the ideological spectrum. The above review of ideas that have led to the current notion(s) of social capital, suggests that there is an element of repackaging. Notwithstanding, the same can be said of any theoretical construction. As a novelist expressed it “the present, want it or not, never ceases to agglomerate history” (Casullo, 1989)⁶. A variety of earlier ideas are present in the current formulations of social capital, of which the main ones appear to have been brought together from the need to examine society with the combined lenses of sociological and economical thinking. In this sense, Bourdieu (Bourdieu & Wacquant, 1992) insists that a general science of economy of practices “that does not limit itself to those practices that are socially recognized as economic must endeavor to grasp capital, that ‘energy of social physics’ in all of its different forms, and to uncover the laws that regulate their conversion from one to another” (p. 118).

The ideological context or purpose associated with the conceptual representations of social capital was not always apparent in the previous review section. The visibility of the ideological background increases however, when considering the use to which it appears to be put to. According to Baum (1997), a contentious area is that of the role of the state

in the creation and maintenance of civil society and social capital. The author identifies two fundamentally different positions on this role: libertarian and communitarian. The former position sees the development of civil society as a means of rolling back the state. The state is seen to interfere in the development of civil society by restricting the freedom of individuals. By contrast, the communitarians see a central role of the state as advancing the development of civil society through the provision of state-funded structures to support and nurture it. Champlin (1997) argues that the idea of community has been reshaped in the hands of conservative philosophers (libertarians in Baum’s terms) from a cultural construct to a natural law, and that community has been further collapsed into “social capital” which is found to exist at the local level and between individuals. The consequence is that community is seen as “partial, local and entirely private,” and thus associated with the economy rather than the state or with the family rather than the economy. This “privatization” of a public good as social capital, according to Champlin, has the implication that other public goods, which are seen as to depend upon social capital (e.g., education and safe neighbourhoods), will also be privatized. This appears to be at the heart of Fukuyama’s (1995) claim that the “most important factors affecting the real quality of life in such societies lie safely beyond what national governments can affect in positive ways... [it is] less able to promote strong bonds of special solidarity or the moral fabric that underlies community” (p. 102). On the contrary, a “communitarian” perspective would not ignore “the importance of a reformed and activist state” (Allen et al., 1998) in order to address broader structural conditions and local social capital configurations.

In the words of Schuller and colleagues (2000), “social capital [as a concept] has several adolescent characteristics: it is neither tidy nor mature; it can be abused, analytically and politically; its future is unpredictable, but it offers much promise” (p. 35). There are several justifications in defense of social capital. One is, as Edwards and Foley (1997) state, that social capital adds to theory by bringing mediating levels of the social structure into cultural analysis in a systematic way. “Societies can no longer, if they ever could, be adequately understood in terms of the individual and society” (p. 677). In other words, “it shifts the focus of analysis from the behaviour of individual agents to the pattern of relations between agents, social units and institutions” (Schuller et al., 2000, p. 35). Closely linked with the latter is “the merit of social capital developing out of empirical research of diverse kinds to act as a link between micro-, meso-, and macro-levels of analysis” (Schuller et al.,

2000, p. 35). Finally, that it provides a “fruitful conceptual and policy device by which to get beyond exhausted modernization and world-systems theories” and “a credible point of entry for sociopolitical issues into a comprehensive multi- and interdisciplinary approach to some of the most pressing issues of our time” (Woolcock, 1998a, p. 188).

The measurement of social capital and its impacts with emphasis on Aboriginal communities

The measurement of social capital

Many of the existing measures of social capital have been developed for the purposes of economic development programs, in particular for developing nations. Of these, most are applicable to the study of social capital in small communities. Social capital measures used in studies of larger societal scales (e.g., states, regions, countries) have tended to use pre-existing data sets and from these, the measures were constructed. One pertinent criticism to the latter approach is that of Foley and Edwards (1997) who suggest that available data seem to have driven (and distorted) conceptualization rather than the other way around.

The issue of measurement is central to the advancement of the understanding of social organization and its impacts. The notion of social capital is part of this endeavour. Indeed, as Leeder and Dominello (1999) point out, “if social capital were to remain a confusing combination of incommensurable elements...it will mislead us” (p. 429). They consequently emphasized that only “if we are prepared to unpack it, and reduce it to measurable and knowable elements, then it may serve us well in discerning wise ways of steering our society through effective, reflective and humane social policy towards better health and family well-being” (p. 429).

The review of the literature suggests that it is a concept that has been used at different societal levels within an array of settings that extends from highly industrialized to non-industrialized societies. Similarly, attempts to develop measures have also extended across this wide range. As a sample of this range we find Putnam’s studies in Italy (Helliwell & Putnam, 2000) and the United States (Putnam, 2000), Bullen and Onyx’s (1998) in Australia, Veenstra’s (2000) in Canada, Rose’s (2000a) in Russia, Narayan and Pritchett’s (2000) in Tanzania, Sudarsky’s (1999) in Colombia, and Krishna and Shrader’s (1999) in rural India and Panama. It can thus be argued that there are two related

issues at stake, one, the universal applicability of the concept, and second, the relevancy of common or diverse measures. We will discuss these issues at the end of this section.

Attempts to measure social capital have substantially increased in the last decade. These attempts have taken several routes, in part related to differing theoretical frameworks, in part related to the confines of existing data. What follows is a review of measures used to date and a brief critical appraisal.

Putnam (1995) considers citizen engagement in community affairs as social capital and specifies three of its features as networks, norms and trust. His measures were derived from the U.S. General Social Survey (GSS).⁷ Several epidemiological studies (Kawachi et al., 1997a; Kennedy et al., 1998; Wilkinson et al., 1998; Kawachi et al., 1999; Subramanian et al., 2001; Gold et al., 2002), have essentially followed these measurements. Narayan (1997), in a study on poverty and social capital in Tanzania, developed a Social Capital Index inspired in part by Putnam’s work in Italy. The Index is an arithmetic average of both the number and characteristics of groups to which a person belongs. The survey queried household respondents about three dimensions of social capital: their membership in groups; the characteristics of those groups; and individual values and attitudes. The study does not provide reliability or validity information about the tool.

An Australian study (Bullen & Onyx, 1998) piloted a questionnaire and by using factor analytical tools sought to identify underlying dimensions of the set of questions by locating clusters of questions that were related to each other. The results suggested eight distinct elements that define social capital: participation in local community; pro-activity in social context; feelings of trust and safety; neighbourhood connections; family and friends connections; tolerance of diversity; value of life; and work connections. The study did not conduct reliability analyses. Further factor analytical analyses from samples of five Australian communities (two rural, two outer metropolitan, and one inner-city) revealed three specific factors: community participation, agency and trust (Onyx & Bullen, 2000). Veenstra (2000) explored, in a cross-sectional study, the relationships among individual-level social and human capital attributes and self-rated health status in Saskatchewan. The specific constructs of social capital chosen for the study essentially follow Putnam, although the survey contained questions specifically developed for this inquiry.⁸ In a study looking at the relationship between the civic nature of a community and effective political governance by regional health boards in Canada, Veenstra and Lomas (1999) identified three

community/aggregate level constructs and two individual level constructs. The former three were: civic participation; opportunities to experience (and abilities to exploit) collaborative problem-solving; and associationalism. The latter two were: trust and commitment.⁹

Knack and Keefer (1997) identified the constructs of trust and civic norms for their cross-country investigation of possible economic payoffs of social capital. They used data from the World Values Surveys from 29 market economies.¹⁰ This study has been critiqued as an example in which single questions about trust levels are used as indices of social capital, “and then linked through sophisticated regressions to very broad measures of national economic performance, with conclusions drawn to several decimal points” (Schuller et al., 2000, p. 27). Roche (1998) investigated how neighbourhood socio-demographic attributes and extra-familial social capital modified the association between parenting and behavioural precursors to violence among adolescent males. The dimensions of social capital of this study were: organizational or institutional involvement, neighbourhood informal control and neighbourhood social cohesion.¹¹ A 1998 study (Doebler, 1998) on adolescent and young adult outcomes, delimited social capital based on two dimensions: family-based social capital and community-based social capital. The former was measured by family structure, mother working outside the home, number of siblings and family relations. The latter was measured by family mobility, church attendance, and participation in extra-curricular school activities, vocational activities and volunteer activities. Paxton (1998, 1999) explored the relationship between social capital and democratic society. The study delimited two dimensions of social capital, trust and associations. The author’s model incorporates a variety of measures of group membership, friendship and trust.

A study on children who prosper in unfavourable environments (Runyan et al., 1998) provides an example of measurements of social capital without a proper construct definition. The investigators presented a broad and brief definition of social capital, “benefits that accrue from social relationships in communities and families” (p. 12) and proceeded directly to the creation of an index of social capital using scores from 0 to 5. Their indicators were: presence of two parents residing within the home; social support for the primary maternal caregiver; presence of no more than two children in the home; neighbourhood support; and attendance to church or religious services by maternal respondent. There is no clear linkage between these measures and the concept of social capital. Similarly, the measures used by Gooden (1998) in a study on social

capital, stress and the health of rural African-Americans in central Virginia appear quite questionable. The study used frequency of church attendance, community organization membership, employment outside of home, marital status, and telephone in home as social capital measures.

Brehm and Rahn (1997) argued that social capital manifests itself in individuals as a tight reciprocal relationship between levels of civic engagement and interpersonal trust. These two dimensions were measured in their study using data from the GSS.¹² Buckland and Rahman (1999) considered social capital as civic engagement, and measured it by the total number of civic organizations to which households report involvement, and the total reported number of civic organizations’ meetings per year.

Comprehensive undertakings related to the measurement of social capital have been the “Barometer of Social Capital” from Colombia (Sudarsky, 1999), designed to measure social capital and citizen participation, and the development and validation of a social capital inventory by Narayan and Cassidy (2001). The former study built a conceptual space to be measured, and pre-tested a questionnaire to validate its diagnostic capacities in a variety of social formations. The conceptual space was composed of ten dimensions and two main factors were isolated.¹³ The second study factor analyzed dimensions of social capital such as group characteristics, generalized norms, togetherness, everyday sociability, neighbourhood connections, volunteerism and trust.

Krishna and Shrader (1999) described the development of a Social Capital Assessment Tool (SCAT), a field-tested set of indicators and methodologies that measure levels of cognitive and structural social capital in communities designated as beneficiaries of development projects funded by the World Bank. The SCAT included three components: a community profile, a household survey and an organizational profile. Nonetheless, the researchers did not provide information related to the reliability and validity of SCAT.

Krishna (2002) later proceeded to develop locally relevant measures of social capital for Indian villages in the states of Rajasthan and Madhya Pradesh. The study distinguished structural and cognitive features of social capital, developing distinct measures for each. For the former, the indicators chosen were membership in labor-sharing groups, dealing with crop disease and dealing with natural disasters. For the latter, the indicators were trust, public spiritedness and solidarity.

A study in poor communities in Nicaragua (Mitchell & Bossert, 2006) used a similar distinction between a structural dimension and cognitive dimension of social capital in seeking to analyze measures of social capital. The study analyzed relationships between membership density, social trust and a comprehensive set of household-level social capital indicators. The structural measures were found to be more strongly associated with positive community outcomes.

Inkeles (2000) proposed four component elements of social capital at the community level, social institutions, culture patterns, modes of communication and association between individuals and between collective entities, and psychosocial characteristics of a given community or population. He suggested the development (but did not offer a precise plan) of a social capital index that would provide a single number, comparable to the Gross Domestic Product, summarizing the grand total of social capital available to any group, community, people or nation.

Rose's (2000b) study on social capital and individual health was among the few that used a special-purpose questionnaire designed to measure social capital in a multiplicity of forms, "thus avoiding the risk of 'retrofitting' social capital labels to available survey data collected for other purposes" (p. 1425). The New Russia Barometer was administered to a full-scale multi-stage randomly stratified sample covering the whole of the Russian Federation, urban and rural. 1904 Russians age 18 or over were interviewed face-to-face in 191 widely dispersed primary sampling units. The questionnaire included multiple indicators of social integration, an individual's cumulative use of networks and situation-specific networks, aside from indicators of human capital. This survey was developed drawing on the experience of six previous New Russia Barometer surveys. However, neither reliability nor validity information was reported by the study.

Other studies have developed indices of social capital at the national or sub-national levels. In the United States, The National Commission on Philanthropy and Civic Renewal (Barry & Manno, 1998) has developed a Nation's Index of Civic Engagement based on a sample of 1000 respondents. This index includes five dimensions: the giving climate, community engagement, charitable involvement, the spirit of voluntarism and active citizenship. Robert Putnam's Saguaro Seminar has launched the Social Capital Community Benchmark, a comprehensive survey of social capital in the United States (Putnam, 2000).

To balance the pre-eminence of psychosocial forms of social capital, it has been advocated that social capital should be measured in terms of structural and cultural/cognitive

components (Krishna & Shrader, 2000; Harpham et al., 2002; van Deth, 2003). Structural aspects of social capital refer to social structures such as networks, associations, institutions, institutionalized relations and connections. Cognitive forms relate to the more subjective or intangible elements such as trust, obligations, values, support, sharing and norms of reciprocity.

One of the few attempts to measure social capital from ecological level data was reported by Flora and Flora (2000), using data from the "Economic Development Strategies and Entrepreneurial Social Infrastructure" research project for rural communities of the United States. Questionnaires were sent to elected and appointed officials in 1099 randomly selected non-metropolitan communities and counties. Based on their conceptual framework, they sought to measure aspects of legitimacy of alternatives, mobilization of diverse resources and network diversity. These were group-level indicators, vis-à-vis the use of aggregate data.

A paper by Lochner, Kawachi and Kennedy (1999) reviewed the concept of social capital and related constructs, with the aim of providing a brief guide to their operationalization and measurement.¹⁴ The authors conclude that despite differences in the approach to measurement, and despite the lack of a single definition of social capital, there appears to be agreement that community characteristics ought to be distinguished from individual characteristics and those measured at the community level.

The above review demonstrates several issues. First, because most comprehensive definitions of social capital are multidimensional, measures incorporate different levels and units of analysis. Second, few long-standing surveys were designed to measure social capital, leaving researchers to compile indices from a range of approximate items, such as measures of trust in government, voting trends, memberships in civic organizations, and hours spent volunteering (Knack, 1999). Third, somewhat conflicting and ambiguous understandings of the concept highlight the intrinsic difficulty of pursuing its measurement. Finally, with the exception of Sadursky's, Bullen and Onyx's, Narayan and Cassidy's, and to some extent Veenstra's, the validity of most measures have not been carefully assessed, nor the reliability of measurement instruments. A 2002 paper that reviews measures of social capital confirms these appreciations (Harpham et al., 2002). As Foley and Edwards (1997) comment, in many cases available measures seem to have driven (and distorted) conceptualization rather than the other way around. What appears most prevalent among the reviewed studies is the use of certain indicators as measures of partial aspects of social capital. This places an important

limitation both in assessing the content validity of the instruments, and in providing construct validity evidence. Woolcock and Narayan (2000) warn against the mounting pressures to provide simple measures, indicating that “there is a danger that expectations will exceed capacity and that hastily assembled, poorly conceived measures will jeopardize the agenda they purport to serve” (p. 240). They argue that one way of reaching a balance “between quality and quantity measures is to un-bundle social capital into its dimensions and to generate new data sets that are comparable” (p. 240).

A reference document by the Policy Research Initiative (2005) on the measurement of social capital makes a number of recommendations for the Canadian government. First, that the Government should adopt a social capital approach to developing research plans, data and policy analysis and evaluation. Second, that adopting a social capital approach involves the examination of three important aspects, documenting the existence of social networks, examining the conditions of social network functioning and mobilization and evaluating the productive potential of social networks in specific contexts. Third, it suggests various methods of examining social capital for the specific needs of different policy areas: populations at risk of exclusion; major life transitions; community development; and rural revitalization.

A 2003 Health Canada document (van Kemenade, 2003) examined data sources, indicators selected as part of social capital research and the difficulty of adapting to sources of indicators that were not specifically designed for social capital analysis. It then examined existing data sources in Canada. The document proposed seven basic and two complementary indicators for measuring social capital within the framework of health surveys. Two indicators are related to trust (trust in others, trust in institutions); three are related to social cohesion (respect for diversity, goals for the country, values and society model); two related to social support and immediate networks (frequency of contacts between the respondents and their immediate circle, quality of relationships); four related to civic participation and social engagement (sense of belonging to the local community, membership in community groups or participation in their activities, volunteer work, civic participation); one related to income distribution (Gini coefficient); and one related to health (self-rated health status).

Krishna and Shrader (1999) raise a key point related to the measurement of social capital. They ask if a measure of social capital can be found that is universally valid across countries and cultural contexts. This in fact relates both to the cross-cultural validity of the concept and to the cultural appropriateness of measurement tools. They argue

that to retain social capital as a useful concept, we need to empirically test whether social capital is a universally measurable phenomenon, or whether we have to restrain its usage and make comparisons only among social units that are culturally not too dissimilar. This relates to the longstanding dispute of whether the natural sciences model is applicable to social sciences. Mainly if the key concepts of explanation and prediction can be based on context-independent theories as they are in the natural sciences (Flyvbjerg, 2001). In relation to measurement tools, they are by necessity culturally bound. This is so because to tap into any aspect of the construct, a necessary condition is that items be relevant to respondents and that the terminology used be culturally appropriate. Interestingly enough, these issues have not received much attention in the literature on social capital.

As a general statement, it can be argued that it is more scientifically sound to commence the study of social capital within the context of the communities for which the concept will be hypothesized as a determinant of specific societal outcomes. That was the idea behind a study that developed a social capital framework for First Nations communities in Manitoba and a tool for its measurement (Mignone, 2003). Although assuming a level of universality of the concept of social capital, it sought to capture specific elements relevant to the meaning of social capital in these particular communities.

The instrument that was developed in Manitoba (Mignone et al., 2004), a survey questionnaire, was composed of three scales, each tapping into a different dimension of social capital, Bonding, Bridging, and Linking. The instrument evidenced fewer limitations for the Bonding scale and more for the Bridging and Linking scales. Within community issues (bonding) seemed to relate more to individuals' day-to-day experience, whereas intercommunity and institutional topics (bridging and linking) somewhat less. The differential rates between the Bonding scale and the other two scales were consistent with this expectation. The main consequence appeared to be that the use of individual survey data should be supplemented with other sources of evidence to improve the measurement of social capital as conceptually specified in the study. In this sense, further social capital measurement tools would benefit from the development of composite measures, where aggregate data from this questionnaire would be combined with what could be called ecological level data.¹⁵ The latter could come from two sources, from key informant surveys, and from community level data. These sources would constitute a structural scale.

The conceptual framework would again be the basis from where to develop the measures. The measurement of the Bridging and Linkage dimensions in particular would benefit from this supplementary information. Because these dimensions are about interactions with other communities and institutions, and many of these interactions are at an institutional level, individuals involved on a more frequent basis with these issues would be particularly suited to provide this information. These key informants (e.g., band administration staff, band council, chiefs, agency staff, informal community leaders, challengers to current band officials) could be surveyed using existing and new questionnaire questions. Given that they would be surveyed based on their role, this data would be considered community level and not individual level. Albeit within another context, this idea was also introduced by other authors (Flora & Flora, 2000), who suggested the development of “group-level indicators” via questionnaires to elected and appointed officials of communities. The other source would be community level indicators. There are some examples within social capital research, as well as ideas that come from related areas of study.¹⁶ Specifically, the instrument should address the three dimensions (bonding, bridging and linking) and their respective components, and should be composed of measures derived from the aggregation of individual questionnaire scores, measures derived from key informant surveys, and measures derived strictly from community level data.

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Before proceeding with the next section, we need to clarify the meaning of degree or stocks of social capital. The question is if we can differentially describe Aboriginal communities according to degrees of social capital (i.e., one community having more social capital than the other), what does it mean that one community has more social capital than the other? Understanding social capital as a feature of a community implies that each community can hold differing

stocks of social capital. Nonetheless, given that social capital can be measured at different levels, it may not have positive effects for all members of a community. For instance, social capital within a single group of a community need not be positively related to social capital at the community level. While social capital within a particular group may be expected to have positive effects for the members of that group, it does not necessarily “spill over” into positive gains in social capital for the entire community. Not only can social capital within a single group potentially reduce social capital between groups, but high within-group social capital could have negative effects for members of the community as a whole (Paxton, 1999). Consequently, the level (or scale) of community at which social capital is measured must be clear and explicit to properly understand the meaning of higher or lower stocks of social capital and its potential implications.

The impact of social capital

Before providing a review of the evidence in relation to the impact of social capital on diverse outcomes, two issues need clarification. As mentioned earlier, social capital can be considered an attribute at different levels (or scales), i.e., as a property of individuals, households/families, communities, regions, etc. One of the most serious methodological and interpretive misunderstandings arises from not clearly identifying and distinguishing the scale at which social capital is conceptualized, measured and its potential impacts assessed. Given that the main purpose of this review is to examine the usefulness of social capital in relation to First Nations communities, what follows essentially focuses on social capital as a community-level attribute and the evidence of its impact on community outcomes, with particular emphasis on health. Nonetheless, and for the purposes of illustration, a few studies of individual level effects of social capital are also presented.

As mentioned frequently in the literature, social capital may have positive and negative impacts. Often this is presented as a limitation of the notion of social capital. However, this way of thinking ignores that features of communities should not be considered valid or not valid based on potential value-laden and context-dependent impacts they may have. On the contrary, it should be assumed that social capital may have positive, negative or no impacts, and this must be assessed in each particular case. The review will consider the evidence about the impacts of social capital, albeit with two cautions. First, that what is considered positive or negative is necessarily context-dependent and value-laden and consequently not universal

per se (e.g., what could be considered positive for one group may be negative for another). Second, that positive or negative also relates to the scale at which social capital is an attribute (e.g., what could be positive for a group within the community may be negative for the community as a whole). The difference in levels is not always clear-cut, and furthermore, it is reasonable to expect that there may be correlations and/or interactions across the different levels. As such, there is an inherent difficulty in modelling theoretically and analytically the impact of social capital, so at the very least the distinction across scales needs to be clearly identified. The argument is not against understanding social capital as an attribute at different scales, but about the confusion that arises if this distinction is not addressed.

The number of research papers assessing the impact of social capital has grown exponentially over the last 10 years. Nonetheless, the empirical evidence seems to suffer from a lack of more fully developed theoretical frameworks that may provide stronger grounds for testing hypotheses and for interpreting results. The review below includes studies representative of several features: overall, studies that have sought to assess the impact of community-level social capital on diverse outcomes; a number of Canadian studies focusing on impacts on several fields; some of the early studies identifying the potential effect of social capital also on diverse areas of community well-being; studies related to the impact of social capital specifically on health (from diverse aspects of health and societies); and studies specifically related to Aboriginal communities. The section finishes with a review of plausible explanations for the impact of social capital on community outcomes, mostly in relation to health.

A document of the Policy Research Initiative (2005) on social capital includes several papers that review the potential impacts of social capital. The section by Lévesque (2005) looks at the influence of social capital on people's individual financial circumstances. The document by Keating and colleagues (2005) considers the role of social capital as a resource for aging well in Canada, distinguishing two subsets of social networks of older adults: support networks and care networks. Kunz (2005) explores the role of social capital in the settlement and integration of immigrants to Canada, suggesting that family and friends are the major sources of support for immigrants during the settlement process. In relation to the issue of educational attainment in Aboriginal communities, White and colleagues (2005) explore the role of social capital in this process. They identify four key elements: existing levels of social capital, the effects of norms, cultural openness and community capacity. However, they argue that social capital has only moderate

explanatory power and that it exists in a context with other forms of capital. Corrado and colleagues (2005) explore the relationship between social capital and community crime prevention programs. In particular to Aboriginal people, they briefly explain "social-capital-based" crime prevention programs in urban settings. The emphasis of these initiatives is on providing safer and culturally relevant opportunities to adapt to urban life through social capital networks. These are described as networking opportunities to build new friendships, human capital and linkages to community resources. Among other expected impacts, one is the reduction in youth crime and certain adult crimes by reducing isolation and social disorganization.

Two of these papers (Lévesque, 2005; Keating et al., 2005) centre their analyses of impacts on the social capital of individuals, Kunz's (2005) article essentially focuses on the family level, while the other two documents (Corrado, 2005; White et al., 2005) basically understand social capital at the community level. Lévesque (2005) uses a network-based approach to social capital, where it is considered "a resource that stems from participation in certain social networks that possess specific characteristics which open up access to resources of varying value" (p. 5). It is the participation of individuals in certain social networks that Lévesque studies, and as such it is about the social capital of individuals (as the author rightly acknowledges). Keating and colleagues' (2005) view of support networks and care networks is located more on the intersection between individual social capital and community social capital. They review research linking these networks with aging well, and the results are somewhat mixed in relation to positive outcomes. Nonetheless, the main implications of their paper relate more to programs and policies that seek to engage individuals to networks than to community-level social capital interventions.

Kunz's (2005) focus is on social capital at the family level as it relates to immigrant settlement and integration in Canadian society. The author's main conclusions are that social networks play an important role in immigrant integration and also to some extent to better settlement and integration outcomes for immigrants and for society in general. The evidence supports the relationship between networks and job attainment but not whether networks result in better jobs.

White and colleagues' (2005) adopt a "structural approach" to the concept of social capital, defining it as "the networks of social relations within the milieu, characterized by specific norms and attitudes that potentially enable individuals or groups access to a pool of resources and supports" (p. 67). They conclude that understanding social

capital is important in promoting educational attainment but that “it has moderate influence and rarely acts alone” (p. 77). The authors argue that social capital influences outcomes for Aboriginal educational attainment in conjunction with other resources (human and economic/physical capital). Corrado (2005) reviews initiatives aimed at building community (or neighbourhood) level social capital as a means of crime prevention. He concludes that there is sufficient research evidence “to be optimistic about the relevance and importance of social capital” (p. 129) in the prevention of crime.

The next set of studies are earlier “illustrative fields” that Putnam (2000, p. 290) provides as “measurable and well-documented”, suggesting that social capital (from a community level perspective) makes a difference. The review uses both Putnam’s evidence and that of other researchers. Scholars argue that child development is powerfully shaped by social capital (Putnam, 2000) citing a body of research over the last several decades suggesting that trust, networks and norms of reciprocity within a child’s family, school, peer group, and the larger community have wide-ranging effects on the child’s opportunities and choices and, hence, on his or her behaviour and development. For instance, a strong convergence was found between state-by-state (in the United States) Social Capital Index and a measure of child well-being, the Kids Count indexes of the Annie E. Casey Foundation. Even when holding constant numerous other factors, social capital appeared second only to poverty in the effect on children’s lives. Similar conclusions have been reached by scholars studying family life at the level of the neighbourhood. For example, in a study of two neighbourhoods (Garbarino & Sherman, 1980), one with a high child maltreatment rate and the other with a low rate, social capital turned out to be the main factor that distinguished the two communities. State-level measures of higher social capital have been found to be correlated with higher student scores on standardized tests in elementary school, junior high and high school, as well as with the rate at which students stay in school (Putnam, 2000). These apparent beneficial effects of social capital persist even after accounting for a number of other factors such as racial composition, affluence, economic inequality, adult educational levels, poverty rates, educational spending, teacher’s salaries, class size, etc.

In relation to crime, numerous studies have also found a connection between higher levels of social capital and lower crime rates. A state-level analysis of homicide statistics in the United States consistently found proportionally fewer murders in states with more social

capital (Putnam, 2000). A thorough study by Sampson and colleagues (1997) of Chicago neighbourhoods found that two characteristics -mutual trust and altruism among neighbours, and their willingness to intervene when they see children misbehaving- went a long way to explain why some neighbourhoods are less crime prone than others. According to this study, a neighbourhood’s “collective efficacy” was a better predictor than was its poverty or residential instability of whether a person is likely to be victimized in the neighbourhood. A study by Sampson and Groves (1989) analyzing British crime data found that in areas where people are connected through tight bonds of friendship and looser yet more diverse acquaintanceship ties, and where people are active in local committees and clubs, there are fewer muggings, assaults, burglaries, auto thefts, etc. In line with the notion that impacts of social capital may not necessarily be seen as positive, Putnam (2000) points out that inner-city gangs may be seen as attempts at neighbourhood-based social capital building in areas where constructive institutions are lacking.

As Putnam (2000) explains, economists have developed an impressive body of research suggesting that social ties can influence who gets a job, a bonus, a promotion and other employment benefits. However, this is at the individual level. The question about the potential positive effect of community social capital on economic well-being is somewhat more complicated. At a neighbourhood level, a Pittsburgh study (Temkin & Rohe, 1998) found that, other things being equal, neighbourhoods with high social capital were far less likely to decline than were low social capital areas. A study in poor communities in Nicaragua (Mitchell & Bossert, 2006) analyzed relationships between membership density, social trust and a comprehensive set of household-level social capital indicators. The structural measures were found to be more strongly associated with positive community outcomes.

In relation to the health field, numerous studies have been published after 1997. The earlier studies were that of Kawachi and colleagues (1997). These researchers carried out an ecological analysis of social capital indicators across the United States in relation to state-level mortality rates. The results suggested, for instance, that per capita group membership in each state was strongly inversely correlated with age-adjusted all-cause mortality (after adjusting for household poverty rates). Also, lower levels of social trust were associated with higher rates of most major causes of death. In 1999, Kawachi and colleagues reported on a multilevel study of the relationship between state-level social capital and individual self-rated health. As expected, they

found strong associations between individual risk factors (e.g., low income, low education, smoking, etc.) and poor self-rated health. However, even after adjusting for these variables, individuals living in states with low social capital were at increased risk of poor self-rated health (the odds ratio for fair/poor health associated with living in areas with the lowest levels of social trust was 1.41). Already in 2001 Health Canada sought to clarify the place of social capital among the social determinants of health (van Kemenade, 2001). The report presented some of the initial studies of Kawachi and Putnam suggesting positive effects of social capital on health. It also provided a brief review of the various methods used to measure social capital, as well as the indicators commonly used in research on the subject.

A Finnish study (Nieminen, 2006) explored associations between social capital and health, from a national survey of adult population. Using factor analyses, the researcher identified three dimensions of social capital, social support, participation, and trust. Each dimension was studied separately in relation to perceived health. The results suggested a clear association of each dimension of social capital with perceived health, even when controlling for age, gender, chronic illness and the two other dimensions.

Yip and colleagues (2007) empirically examined the relationships between social capital and health and well-being in rural China. The researchers measured social capital adopting a structural/cognitive distinction, whereby structural social capital was measured by organizational membership and cognitive social capital was measured by a composite index of trust, reciprocity and mutual help. The outcome measures included self-reported general health, psychological health and subjective well-being. Results indicated that cognitive social capital (i.e., trust) was positively associated with all three outcome measures at the individual level and psychological health/subjective well-being at the village level as well.

Folland (2007) sought to extend the body of research of Putnam in relation to social capital and health using United States data from 48 states from 1978 to 1998. He did so by challenging the association hypothesis in several ways: seven different health measures were studied; the 48 contiguous states were observed at six points in time from 1978 to 1998 over four year intervals; multivariate tests featuring economic variables from the production of health literature; and a statistical method (instrumental variables) was applied to account for the possibility that omitted variables are confounding the social capital estimates. The results found cases for which social capital and health hypothesis performed only weakly, but for the most part

the hypothesis was remarkably robust to the variations. Although correlation does not establish causation, the study provides further evidence in a direction consistent with the hypothesis that social capital improves health.

A follow-up study (Sundquist, et. al., 2006) of 1.4 million men and 1.5 million women in Sweden for 1998 and 1999 assessed the association between linking social capital and coronary heart disease (CHD). Neighbourhood linking social capital was conceptualized as proportions of individuals voting in local government elections at the neighbourhood level. The neighbourhood- and individual-level factors were analysed within a multilevel framework. Linking social capital was associated with CHD in both men and women. In neighbourhoods with low linking social capital, the odds ratios were 1.19 and 1.29 for men and women respectively, after adjustment for age, country of birth, education, marital status and housing tenure.

A study analyzing *Los Angeles Family and Neighborhood Survey* data (Carpiano, 2007) linked with tract level census data tested a conceptual model of neighbourhood conditions and social capital. It assessed the relationships between neighbourhood social capital forms (social support, social leverage, informal social control and neighbourhood organization participation) and adult health behaviours (smoking, binge drinking) and perceived health. The results suggested that specific social capital forms were directly associated with both positive and negative health outcomes.

Cross-sectional data from the Young Lives study with information across 234 communities in Peru, Ethiopia, Vietnam, and Andhra Pradesh (India) were used to assess the association between common mental health disorders (CMD) of mothers of one-year-old children and individual and ecological (community-level) social capital (De Silva, et al., 2007). Multi-level modelling was used while adjusting for a wide range of individual and community level confounders. The analysis showed that individual cognitive social capital was associated with reduced odds of CMD across all four countries. The results for social capital were more mixed and culturally specific.

Another study (Lofors & Sundquist, 2007) examined the association between linking social capital and hospitalization due to depression or psychosis in the entire Swedish population aged 25-64 (4.5 million men and women) from 1997 to 1999. Small area neighbourhood units were used to define neighbourhoods. The definition of linking social capital was based on mean voting participation in each neighbourhood unit. Multilevel logistic regression was used to estimate odds ratios and neighbourhood-level variance. The results showed associations linking social

capital and hospitalization due to depression or psychosis for both men and women even after adjustment for age, housing tenure, education, employment status marital status, and country of birth. However, neighbourhood deprivation did eliminate social capital as an explanation in the case of depression, but not in the case of psychosis.

The state-level association between social capital and rates of gonorrhoea and syphilis were examined analyzing data from the 48 contiguous states of the United States for 1990, 1995 and 2000, while controlling for regional variation in STD rates, poverty, income inequality, racial composition, and percentage aged 15-34 years (Semaan et al., 2007). Regression analysis showed that states with higher social capital had lower STD rates. However, social capital was not associated with STD rates when state variation in racial composition was included in the regression analysis.

Specific to Aboriginal communities, research into the impacts of social capital is scarce. Among the few recent studies is one that examined body mass index (BMI), income and social capital in a Native Amazonian society (Brabec et al., 2007). The research found evidence that village social capital and village income complement each other and are associated with higher BMI.¹⁷ Another study (Memmott & Meltzer, 2005) discusses the application of the social capital construct to indigenous communities in Australia. These authors report on a community that moved from a state of social stress and violence to one of social prospering and creative achievements. The change was largely achieved by drawing on traditionally derived networks and norms, and applying them to the more formal "whitefella style" networks. Also in Australia, Baum (2007a) provides a case study of relationships between Australian Aboriginal and non-Aboriginal peoples. He provides some evidence suggesting that low linking social capital may be part of the explanation for poor health status among Aboriginal peoples. A very relevant study examined cultural continuity and its role as a protective factor against suicide (Chandler & Lalonde, 1998). Although this paper is not strictly about social capital, several of the factors analyzed are clearly related to social capital within communities. The authors reviewed the notions of personal and cultural continuity and their relevance to understanding suicide among youth in nearly 200 First Nations in British Columbia. The authors found that the rates of suicide were related to the degree to which these First Nations were engaged in community practices that showed a collective effort to rehabilitate cultural continuity. Communities that have taken active steps to preserve and rehabilitate their own

cultures were shown to be those in which youth suicide rates are dramatically lower. In Manitoba, a study was published formulating plausible mechanisms linking social capital to suicide risk factors among First Nations youth (Mignone & O'Neil, 2005). Nonetheless, these researchers are yet to provide empirical evidence. Currently a research program using data from the Manitoba First Nations Regional Health Survey is testing a number of hypotheses in relation to bonding social capital and several health and well-being outcomes (Elias et al., 2007).

After the above review, there are two central issues that merit discussion: the strength of the evidence in relation to the impacts of social capital on diverse outcomes and the plausible mechanisms through which social capital affects community outcomes, both positive and negative.

The majority of the studies that provide empirical evidence about the impacts of social capital have simply assessed the association between social capital (based on different definitions and measures) and particular outcome variables. Strictly speaking they do not provide evidence for causation. Below are some basic examples of causal directions. Although there are others, the causal possibilities can be postulated as follows:

1. $>SC = >X$; or $>X = >SC$; or $>Y = >SC$ and $>X$
2. $<SC = >X$; or $<X = >SC$; or $<Y = >SC$ and $>X$
3. $>SC = <X$; or $>X = <SC$; or $>Y = <SC$ and $<X$

To illustrate, let X =Health and Y =Income

1. $>SC = >Health$; or $>Health = >SC$; or $>Income = >SC$ and $>Health$
2. $<SC = >Health$; or $<Health = >SC$; or $<Income = >SC$ and $>Health$
3. $>SC = <Health$; or $>Health = <SC$; or $>Income = <SC$ and $<Health$

The hypothesis for (1) would be that higher degrees (stock, levels) of social capital would produce higher levels of health. However, the causality could go in the other direction that at higher levels of health there is more social capital. Another possibility would be that a third factor common to both (e.g., higher levels of income) would increase both social capital and health. Options (2) and (3) suggest other directions of causality.

Prominent scholars (Shadish et al., 2002) in the field of scientific methods alert us that "despite (our) intuitive familiarity with causal relationships, [even] a precise definition of cause and effect has eluded philosophers

for centuries” (p. 3). Nonetheless, we continually seek to understand and gain evidence in relation to possible causes of community outcomes. Many of the above reviewed studies provided compelling evidence of an association between social capital and different societal outcomes. However, a well-known maxim in research is that correlation does not prove causation. This limitation is in large part related to the characteristics of the field of studies itself. Community features and outcomes are not easily malleable (if at all) to experimental designs that may provide some evidence of causality. The strength of the existing evidence is that numerous studies using different notions, measured and conducted in a variety of contexts, continue to replicate findings of some association between social capital and certain outcomes. Simultaneously, there is still a lack of stronger empirical evidence both assessing the causality and understanding the potential mechanisms at play. Added to the limitation in research designs, some scholars have also indicated (Sabatini, 2005) that the “conceptual vagueness, the coexistence of multiple definitions, and the chronic lack of suitable data have so far been an impediment to both theoretical and empirical research of phenomena in which social capital may play a role” (p. 2). In summary, despite the strengths and limitations, social capital as a concept that may help better understand the dynamics of societies and communities, and may help guide programmatic and policy interventions has clearly captured the imagination of a large number of scholars. The verdict in relation to its impacts is still out and will remain as such for the foreseeable future. Nonetheless, this is no excuse for inaction in either the research or policy fields.

A book chapter on social capital and economic development (Torsvik, 2004) has a very relevant subtitle “A plea for mechanisms.” If research is still lacking in assessing the impacts of social capital, more so is the understanding of the possible mechanisms involved. There are a number of hypothesized explanations, most still requiring empirical verification, not to mention the heated debate about the interpretation of the evidence.

According to Putnam (2000), social capital has many features that help people translate aspirations into realities, and that may explain “its salutary effects” (p. 287). Among them are that social capital “allows citizens to resolve collective problems more easily...greases the wheels that allow communities to advance smoothly...widens our awareness of the many ways in which our fates are linked” (p. 288). He also states that “the networks that constitute social capital also serve as conduits for the flow of helpful information that facilitates achieving our goals” (p. 289).

In the particular instance of youth crime, Putnam (2000) argues that the social capital (e.g., individuals connected to one another through trusting networks and common values) “allows for the enforcement of positive standards for youth and offers them access to mentors, role models, educational sponsors, and job contacts outside the neighbourhood” (p. 309). Further, that “social networks also provide emotional and financial support for individuals and supply political leverage and volunteers for community institutions” (p. 311).

At the neighbourhood level, Kawachi and Berkman (2000) have postulated three plausible mechanisms linking social capital to health. They argue that “one possibility is by influencing health-related behaviours in two ways, by promoting more rapid diffusion of health information or increasing the likelihood that health norms of behaviour are adopted (e.g., physical activity) and by exerting social control over deviant health-related behaviour” (pp. 184-5). Another option “is by influencing access to services and amenities, for instance, more cohesive neighbourhoods more readily band together to create social organizations that may increase the access to services such as transportation, community health clinics and recreational facilities” (p. 185). Finally, that “neighbourhood social capital could influence the health of individuals via psychosocial processes by providing effective support and acting as a source of self-esteem and mutual respect” (p. 185). At the level of the state, the explanation linking social capital to health could be that the more cohesive states produce more egalitarian patterns of political participation that result in the passage of policies which ensure the security of all its members (Kawachi & Kennedy, 1997; Kawachi et al., 1997b, Wilkinson, 1996).

Folland (2007) suggests the following avenues by which social capital might affect health: reducing stress, social ties as buffering of stress; coaching, sympathetic relationships might serve in urging healthful practices; providing information, a social network expands one’s knowledge base from which to improve health; and increasing responsibility, one’s role in the community develops a sense of responsibility for the well-being of others. Costa-Font and Mladovsky (2008) discuss explanations of the likely behavioural mechanisms that underpin the connection between social capital and health. They consider that an important influence lies in the social formation of health preferences and constraints individuals face in determining their life-styles and in using health care.

Specific to mental disorders, Lofors and Sundquist (2007) suggest that poor social networks result in a lack of social support, isolation and powerlessness, which in turn increase the individual’s vulnerability. Mignone and O’Neil

(2005) hypothesized plausible mechanisms linking social capital to suicide risk and protective factors among First Nations youth. They argue that inclusive, flexible and diverse networks may have an impact on sense of belonging, support from peers and family, and community support. Also, that collective action, norms of reciprocity and participation may positively impact sense of belonging and better coping with distress.

Szreter and Woolcock (2004a) summarize three perspectives on the efficacy of social capital as explored in the public health literature. One is a 'social support' perspective that argues that informal networks are central to objective and subjective welfare. Second is an 'inequality' thesis that states that widening economic disparities have eroded citizens' sense of social justice and inclusion, which in turn has led to heightened anxiety and compromised rising life expectancies. Third, a 'political economy' approach that sees the primary determinants of poor health outcomes as resulting from socially and politically mediated exclusion from material resources. They then present a "grounded theory of social capital...that develops a distinction between bonding, bridging, and linking social capital" (p. 650), arguing that this framework reconciles the three above mentioned perspectives. Their approach is debated by Muntaner (2004) who argues that in order to provide an accurate account of how society affects health, "historical and structure-less psychosocial constructs" (p. 679) such as social capital, should be replaced with less ideological, and more historically specific models. As well, Davey Smith and Lynch (2004) debate the interpretation of the evidence provided by Szreter and Woolcock (2004a) in relation to age-specific mortality trends. They state that the social capital mechanism proposed by those scholars is an incomplete explanation. A final paper in this discussion (Szreter & Woolcock, 2004b) suggests that the argument is not "that social capital, however conceived, is or should be the sole or even primary variable used to explain all public health outcomes" (p. 700). They argue that social capital adds to "social theory for public health policy" in a way that "is not constrained to think in terms only of socio-demographically similar or dissimilar group affiliations... [or to] see all outcomes as inherently the manifestations of individual choices at one extreme or class contests at the other...but that one can integrate a range of group and network memberships into a broader, integrated theory of agency and structure" (p. 704).

Influencing social capital: A review of the literature with emphasis on Aboriginal communities

Influencing social capital

At first consideration, a review of how social capital may be influenced in communities may appear straightforward. However, the somewhat complex (and at times conflicting) trajectory of the notion of social capital presented in the previous section suggests that this may not be the case. A key question to ask is what are we really seeking to influence or impact? Glaeser (2001) argues, that the real weakness of the research on social capital "is the lack of both theory and empirical work focusing on the causes of social capital" (p. 35). He further states that "if we are going to change the level of social capital, we must have a coherent model of the formation of social capital and a body of empirical work that we trust" (p. 35). What seems to be clear from the previous section is that it is a losing cause to seek a universal notion and framework of social capital. Although this may seem a pessimistic position, it is in fact an optimistic one. Indeed, anchored in a particular reality, the ideas represented in social capital can enhance our understanding of societal realities and assist in deriving more effective and tangible ways of increasing community capabilities and well-being. Thus, we should work with a notion of social capital that makes sense to the particular reality we want to deal with and use it to guide programs and policies. To address this matter, we need to first provide some epistemological clarifications and some more distinctions related to what is meant by social capital.

Let us start with an apparently surprising statement: there is no such "thing" as social capital. Strictly speaking, the term social capital simply stands for a concept. Nunnally and Bernstein (1994) indicate that "treating a term as if it denotes a real entity or process is called 'reification' and has caused many problems in science" (p. 104). Paraphrasing these authors, there should be no expectation of speaking of social capital as if it were a "real" variable to be discovered empirically (which is different from empirically verifying a construct). Words "that scientists use to denote constructs have no real counterparts in the world of observables; they are only heuristic devices for exploring observables" (Nunnally et al., 1994, p. 106). As Max Weber explained, the use of abstractions (ideal types) is simply useful fiction that helps us understand the more complex, messy, impure realities (Coser, 1977). A major objection to this line of thinking is that if there is no such

“thing” as social capital, it would then be a mere cognitive construction of the researcher, and consequently not feasible of empirical verification (nor of any meaningful use). The point we are trying to make is not that there is no reality to which social capital refers to, but that we should not confuse “the construction of certain elements of reality into a logically precise conception” (Weber, 1958, p. 59) with reality itself. Contrary to the objection, this understanding precisely underscores the importance of pursuing empirical examinations of social capital and action oriented initiatives.

It is evident from the literature review in the first section that there is no simple answer to the question of what social capital is. In truth, no one can claim to use the “real” definition of social capital. The term social capital stands for a concept. Consequently social capital, being an abstract, cannot have a prototype in the way of a term like “car.” For ordinary use, we agree on prototypical meanings for the word “car,” and the disagreement will reside on the margins (e.g., When does a car become a truck? Is a minivan a car? Etc.). However, terms standing for concepts can mean whatever anyone says they mean. The crux is to establish, based on the trajectory of the term, the “prototypical” use of the expression social capital in social sciences and its dimensions, within the constraints presented by an abstract concept. The expectation is to present an internally logical construct of social capital with clearly identifiable dimensions which will agree to varying degrees to that of other authors. Further, that it be relevant to the particular societal or community context to which it is applied.

The review of the literature suggested that social capital is sometimes used in conjunction, or interchangeably with, several other concepts. Before proceeding, we should briefly clarify the commonalities and differences as we see them, to better identify how that aspect of community reality that we call social capital can be influenced for the better or worse.

The term most often found in conjunction with social capital is social cohesion. The following quote from Wilkinson (1996) exemplifies the use of the concept and its link to that of social capital:

Looking at a number of different examples of healthy egalitarian societies, an important characteristic they all seem to share is their social cohesion. They have a strong community life. Instead of social life stopping outside the front door, public space remains a social space. The individualism and the values of the market are restrained by a social morality. People are more likely to be involved in social and voluntary activities outside the home. These societies have more of what has

been called ‘social capital’ which lubricates the workings of the whole society and economy...in short, the social fabric is in better condition (p. 104).

A paper authored by Jane Jenson (1998) offers an inventory of theoretical approaches to social cohesion. It maps out five dimensions of the concept: belonging, inclusion, participation, recognition and legitimacy. According to Jenson (1998):

for some, social cohesion invokes primarily the capacity to construct a collective identity, a sense of belonging. For others, the focus is a society’s commitment and capacity to assure equality of opportunity by including all its citizens and reducing marginality. Social cohesion is also discussed in relation to democratic practices... [S]ocial cohesion is sometimes interpreted in terms of society’s capacity to mediate conflict over access to power and resources, to accept controversy without trying to shut it down (p. 17).

This brief review of social cohesion suggests both overlapping aspects and distinctions with the understanding of social capital formulated in the previous sections. Social cohesion closely approximates the dimension of bonding social capital in particular the trust and association components. However, it does not refer to socially invested resources and networks. In this sense, social cohesion can be considered a concept with overlapping aspects to social capital, or a subset of social capital. The latter perspective would locate social cohesion mostly, though not exclusively, within the dimension of bonding social capital.

Finally, there is a distinction from a theoretical perspective that might be the strongest in favour of social capital. The description of a community from the level of its cohesiveness conveys a closed system’s perspective of societies. At the very least, it does not include in its construct the interactivity with other communities or institutions. A multidimensional notion of social capital articulates the reality of communities as open systems and takes into account the consequent dynamics.

Another term frequently found in relation to social capital is social support. The main difference between social support and social capital relates to what they each characterize. If we consider social capital as an attribute of individuals or families, then there can be some significant overlapping with social support. Social support shares with social capital the notion of resources and networks (more so than with social cohesion). However, contrary to

social capital, social support is not a notion that has been formulated as an attribute of a community. The availability of social support appears more individually or family based and proximal, than social capital. As Kawachi and Berkman (2000) state “social cohesion and social capital are both collective, or ecological, dimensions of society ... to be distinguished from the concepts of social networks and social support, which are characteristically measured at the level of the individual” (p. 175).

Again, as with social cohesion, most of the conceptual overlapping would be related to bonding social capital. However, an interesting parallel can also be formulated for the other dimensions of social capital. If we look at the community as an individual or family, both the bridging and linkage dimensions of social capital would correspond to social support functions. In particular the “assistance and/or information one receives through formal and informal contacts” (Wallston et al., 1983, p. 369).

Finally, the term “social networks” is intimately linked to social capital. According to Berkman and Glass (2000) “Barnes (1954) and Bott (1957) developed the concept of social networks to analyze ties that cut across traditional kinship, residential, and class groups ... The development of social network models provided a way to view the structural properties of relationships among people with no constraints or expectations that these relationships occurred only among bounded groups defined a priori” (p. 140). Wellman (1993) identifies an “egocentric network approach to social network analysis in which the structure and function of networks are assessed from the perspective of an individual” (p. 424). In the words of Berkman and Glass (2000), “the strength of social network theory rests on the testable assumption that the social structure of the network itself is largely responsible for determining individual behavior and attitudes by shaping the flow of resources which determine access to opportunities and constraints on behavior” (pp. 140-1).

Wellman (1988) argues that the essence of community is its social structure, not its spatial structure. By assessing actual ties between network members, one can empirically test whether community exists and whether that community is defined on the basis of neighbourhood, kinships, friendship, institutional affiliation or other characteristics.

The concept of social networks presents several common notions with social capital. First, “network” is a component of each dimension in some of the formulations of social capital. In this sense, the idea of social networks fits well within social capital. Second, the concept of social networks shares with social capital the double capacity

of being an attribute of individuals and families (the “egocentric network approach”), and of being an attribute of a society. The main distinction between social capital and social networks is that the former includes a resources component. The concept of social networks focuses on “the medium,” whereas social capital is composed of “the medium and the message” (Woolcock, 1998b). More so, social capital encompasses the possibility of the medium being the message. As Burt (1992) states, “social capital is at once the resources contacts hold and the structure of contacts in a network. The first term describes whom you reach. The second describes how you reach” (p. 12). This notion is further pursued by Lin (2001) when he postulates, within the theory of social capital, that in social networks interacting actors carry varying types of resources, and that “most of the resources are embedded in others with whom each actor is in contact ... or they are embedded in structural positions each actor occupies or is in contact with” (p. 75).

This section suggests two relevant issues to consider when assessing how to influence social capital. First, that social capital is a notion that allows us to organize the reality that we may be trying to influence and to consequently have better tools for interventions. Further, it enables us to develop more reliable ways of measuring potential impacts. Precisely for those reasons, what may be understood as social capital of a community requires careful consideration and definition, and should not be thought of as an entity that can be tangibly distinguished without proper examination. The second issue is that to seek to influence, social capital implies taking into consideration other highly relevant aspects of community that are not discretely separate. The above reviewed commonalities and distinctions with notions of social cohesion, social support and social networks, makes the case for taking these aspects of community into account when assessing ways of influencing social capital.

Case descriptions

Given the level of abstraction of much of the social capital literature, it appears more useful to see concrete examples of instances where interventions or policies may have influenced social capital. The following are summarized case descriptions illustrating what several scholars interpreted as instances where social capital was impacted positively or negatively. This will enable us to arrive to some tentative analyses and conclusions in a subsequent section of the review.

Case provided by Putnam (2000, pp. 323-4).

In 1940 Tupelo, Mississippi was one of the poorest counties in the poorest state in the nation. It had no exceptional natural resources, no great university or industrial concern to anchor its development, no major highways or population centers nearby...A university-trained sociologist and native son, George McLean, returned home...to run the local newspaper. Through exceptional leadership he united Tupelo's business and civic leaders around the idea that the town and surrounding Lee County would never develop economically until they had developed as a community.

Concerned about the dim prospects of the county's cotton economy, McLean initially persuaded local business leaders and farmers to pool their money to buy a siring bull. The move proved the start of a lucrative dairy industry that improved local income and therefore made business more prosperous. To create a less hierarchical social order, the town's elite Chamber of Commerce was disbanded and a Community Development Foundation open to everyone was started in its place. The foundation set to work improving local schools, starting community organizations, building a medical center, and establishing a vocational education center. At the same time, businesses were welcomed into town only if they paid high wages to all employees and shared this as a goal. Rural Development Councils were set up in outlying areas to encourage self-help collective action—from technical training to local cleanup campaigns—in a setting in which cooperative action for shared goals had been countercultural.

Over the next fifty years under McLean's and his successor's leadership, Tupelo has become a national model of community and economic development, garnering numerous awards and attracting a constant team of visitors eager to copy the town's success in their own communities. Since 1983 Lee County has added one thousand industrial jobs a year, garnered hundreds of millions of dollars of new investment, produced arguably the best school system in Mississippi, constructed a world-class hospital and kept unemployment and poverty rates well below the state (and sometimes even the national) average. The community's success was based on its unwavering commitment to the idea that citizens would not benefit individually unless they pursued their goals collectively. Today it is unthinkable that one could enjoy social prominence in Tupelo without also getting involved in community leadership. Tupelo residents invested in social capital—networks of cooperation and mutual trust—and reaped tangible economic returns.

Case provided by Corrado and colleagues (2005, p. 125).

Many urban Aboriginal migrants end up residing in socially disorganized neighbourhoods where they are isolated from family and friends. One innovative program in responding to urban Aboriginal residents is the National Aboriginal Association of Friendship Centres, typically located in or near socially disorganized Aboriginal neighbourhoods. These centres provide the culturally appropriate physical space and a wide range of networking opportunities to build new friendships, human capital and linkages to community resources among Aboriginal people living in urban centres. Many urban Aboriginal people who regularly attend National Aboriginal Friendship Centres participate with their families. These centres have strict policies regarding alcohol and drugs, and aggressive behaviour. In effect, the emphasis is on providing safe and culturally relevant opportunities to adapt to urban life through social capital networks. In one study, a sample of Vancouver Aboriginal Friendship Centre members overwhelmingly expressed their approval of the resources and networking made available by the centre.

Case provided by Kilpatrick and Vanclay (2005, pp. 141-158).

This case is of a rural community practice initiative, ExecutiveLink (EL), in Australia that sought to build social capital. EL is a process oriented program that develops skills and facilitates change in Australian farm families and businesses. It does this through establishing groups (called boards) comprising the management teams (usually husband and wife partnerships) of around six farm businesses who live in relative proximity to each other. Boards are clustered at regional/state level into chapters. The boards meet for regular structured events, which include formal training and experiential processes. The primary goals of EL are to: improve business performance through benchmarking and targets; educate and motivate for change; develop a well-considered business plan over four years; empower participants to analyze and assess their businesses according to individual needs; develop a strong network of motivated producers who can respond to opportunities, both on and off the farm; and develop trust and skills to a point where group marketing and investments will be natural outcomes.

EL builds social capital through a series of processes: Individual members acquire a high level of personal self-confidence and a high level of interpersonal skills, including leadership skills; getting to know each other as individuals (history and future aspirations), thereby developing shared

values and trust; coming to regard each other as credible sources of support and advice; and committing to fellow members, and being prepared to help each other out.

Case provided by Sapag and Kawachi (2007, pp. 145-6).

Villa El Salvador in Lima, Peru. In 1973, they created the urban self-governing community, to which later representatives of different groups got involved, women, business people, crafts people, and sport and cultural associations. The development plan included urbanism, industry, forestry and agriculture, culture, and sports. In 1983, they became a district with local government and democratic elections. In 1989, the community had 50,000 homes. The population had built to 38,000, as well as 60 community locales, 64 educational centres, 32 libraries, numerous health centres and pharmacies, and a network of streets and roads. Illiteracy was reduced to 3 per cent, and infant mortality was reduced to 40 per cent less than the Peruvian average. However, poverty levels are still high (three times more than Lima). At the base of this process is their Indigenous culture and traditions, and thousands of years of history of cooperation, communal work and mutual support.

Cases provided by Mignone and colleagues (2007, pp. 13-24).

The study assessed the plausibility of the impact of information and communication technologies (ICT) on Aboriginal communities from a social capital perspective, seeking to understand possible mechanisms through which ICT can impact relations within communities, between communities, and across communities and formal institutions. Specifically, given that social capital implies some form of investment, it examined how ICT is a potential tool for strengthening communities' resources, networks and ethos.

The cases studied were: K-Net (the Kuh-ke-nah Network) in northwestern Ontario is an Aboriginal owned community ICT network that provides access to the internet; Métis communities in the province of Alberta; The Qiniq network in Nunavut that provides high speed internet services to 25 Inuit communities in Nunavut; The Ktunaxa Nation Broadband Network, located in south eastern British Columbia; and urban Aboriginal ICT initiatives in Winnipeg, Manitoba.

The impact of ICT on Aboriginal communities was evidenced by the following. For instance, ICT investments in remote communities dramatically increased their

bridging and linking opportunities in areas such as business, education and health. Potential for increased social capital within communities (bonding) and across communities (bridging) was reflected for example in online groups, the use of personal web pages and efficient tools for self-governance.

One of the most interesting insights from the examination of the ICT initiatives is that despite the "what" of connectivity mattering, it is the "how" of connectivity that may significantly make a difference in terms of community social capital. In other words, the "ownership of the means of production" (in this case the ownership of the networks) clearly relates to increased community social capital at the bonding, bridging and linking levels.

Case provided by Michael and colleagues (2008, pp. 282-288).

A community-based participatory prevention research intervention was designed to increase social capital in Latino and African American communities in (Power for Health/Poder es Salud)Multnomah County (that contains the city of Portland), Oregon. The project was implemented with numerous partnering communities, organizations, churches, and public institutions, involving training and working through community health workers who met with community members and identified health needs and ranked intervention priorities. A variety of different initiatives were implemented, ranging from the development of a business incubator, a girls' leadership group, a public safety committee, to an Aztec dance class and popular education classes about gang violence for Latino community members.

Case provided by Pronyk and colleagues (2008, pp.1559-1570).

This case is one of the few intervention studies to assess whether social capital can be intentionally generated. The group conducted an intervention in rural South Africa that combined group-based microfinance with participatory gender and HIV training in an attempt to catalyze change in solidarity, reciprocity and social group membership as a means to reduce women's vulnerability to intimate partner violence and HIV. A cluster of randomized trials were used to assess intervention effects among eight study villages. After two years, adjusted effect estimates indicated higher levels of structural (evidence of expanded social group membership) and cognitive (solidarity and collective action) social capital in the intervention group than the comparison group.

The Intervention with Microfinance for AIDS and Gender Equity (IMAGE) combined a microfinance program (Small Enterprise Foundation, SEF, Tzaneen, South Africa) with a gender and HIV training curriculum (Kim et al., 2007; RADAR, 2002). The intervention was introduced in communities with no prior access to microfinance services. A participatory wealth ranking process identified the poorest half of households in target villages. These households were offered access to credit through group-based microfinance services for income-generating activities. The intervention used a Grameen Bank model of microfinance delivery and employed standard microfinance best-practice in all respects (Yunus, 1999). Businesses were run by individual women, with loan groups of five guaranteeing each others loans and repaying together to receive additional credit. Approximately 40 women (eight groups of five) comprised one loan centre which met every 2 weeks to repay loans and discuss their businesses. Based upon participatory learning and action principles (Freire, 1994), a 12 month training curriculum called 'Sisters-for-Life' (SFL) was implemented during fortnightly loan centre meetings to microfinance participants. The program included two phases: Phase One consisted of 10 one-hour training sessions covering topics such as gender roles, cultural beliefs, relationships, communication, IPV and HIV. Training sessions aimed to strengthen communication skills, critical thinking and leadership, and as a way of fostering solidarity through group based learning (Friedman & O'Reilly, 1997). Phase Two encouraged wider community mobilization to engage both youth and men in the intervention communities. Key intervention participants were nominated by centre members for further leadership training, and subsequently worked with their centres to mobilize the wider community around priority issues including HIV and IPV. Each loan centre identified a priority issue (or series of issues over time) and worked together to formulate a village level action plan. Areas to be addressed were at the discretion of loan centres and varied widely. While SFL trainers helped facilitate group discussion, any individual or group-level activities were led by loan recipients themselves.

It is interesting that so much has been written about social capital, but so few case examples of how it is generated and how it operates has been published in the literature. Social capital is a concept that although requiring thorough theoretical formulation, also needs tangible illustrations for it to be useful for programmatic and policy purposes. As Abbott (1992) has rightly observed a social science expressed in terms of typical case narratives

would provide "far better access for policy intervention than the present social science of variables" (p. 79). The above selection of case descriptions illustrates a few issues. First, the reviewing of a variety of actual cases can provide interesting ideas, some directly applicable and some that may spur new innovations specific to different realities. Second, that the actors involved in generating social capital are more often than not from both within and from out of the particular communities involved. This interplay in itself is a topic that requires careful understanding and calibration. Third, the case descriptions evidence in a more tangible way the large variety of types of investments that relate to social capital. The reality of investment is an integral part of what constitutes social capital, as Flora and Flora (2000) well explain when they state that resources become capital only when they are invested, otherwise they are consumed or stored and do not create new resources. However, the main policy and programmatic puzzle relates to the type of investments needed. The above cases suggest that the investments are necessarily of different and various natures, and although not all may be possible, they do need to be considered as options.

The evidence

There is very little empirical evidence related to the results of programs and policies influencing social capital. To our knowledge, the above cited South African case description (Pronyk et al., 2008) is the only intervention embedded with a research design that allows for some clear evidence in this respect. The empirical evidence they provide suggests that "an intervention group-based microfinance with gender and HIV training has the potential to catalyze shifts in multiple dimensions of social capital" (p. 1566). They further indicate that the effects on "structural social capital appeared large, with evidence of expanded social group membership" (p. 1567). Pronyk and colleagues (2008) also provide some evidence that suggests "effects on cognitive social capital... particularly solidarity and collective action" (p. 1567). Another scholar (Herrerros, 2004) analyzed country-level data to assess the potential role of the state on impacting social capital, and provided evidence to its effect on several measures. There are also a number of writings that offer some degree of evidence, as well as possible explanations, about potential ways of influencing levels of social capital.

Kawachi and Berkman (2000) state that "there is an asymmetry to our state of knowledge of social capital; regrettably, we have a far better understanding of the forces that tend to destroy social capital, but rather few notions of what kinds of interventions help to build it" (p. 188).

They indicate that one lesson is clear, that social capital requires stability of social structure. Disruptions of social organization or of social relations can be highly destructive to social capital. This follows Jane Jacobs' (1961) ideas that a basis of social cohesion must be a continuity of people who have forged social networks. "These networks are a city's irreplaceable social capital. Whenever the capital is lost, from whatever cause, the income from it disappears, never to return until and unless new capital is slowly and chancily accumulated" (p. 138).

Putnam (2000) also indicates that "creating (or re-creating) social capital is no simple task" (p. 402). In relation to the United States as a whole, he identifies six spheres that deserve special attention to renew stocks of social capital: youth and schools; the workplace; urban and metropolitan design; religion, arts and culture; and politics and government. Putnam argues that "a mounting body of evidence confirms that community service programs really do strengthen the civic muscles of participants, especially if the service is meaningful, regular, and woven into the fabric of the school curriculum" (2000, p. 405). Volunteering in one's youth is the strongest predictor of adult volunteering. Participation in extracurricular activities (both school linked and independent) is another proven means to increase civic and social involvement in later life. Putnam also indicates that there is some evidence that community- and family-oriented workplace practices benefit the employer as well as the employee. Consequently, ways to reward firms that act responsibly toward their employees' family and community commitments and ways to encourage other employers to follow their example have to be formulated. Putnam also argues that it is plausible that urban design innovations like mixed-use zoning, pedestrian-friendly street grids and more space for public use should enhance social capital. He also mentions that the internet can reinforce real, face-to-face communities, not merely displace them with a virtual community. "Computer-mediated communication also opens opportunities for forms of democratic deliberation and community building—like citywide citizen debates about local issues or joint explorations of local history or even announcements of a local ultimate Frisbee tournament" (Putnam, 2000, p. 411). Consequently, he argues that the digital divide can and must be addressed by public policy. Finally, Putnam insists that social capital is often a valuable by-product of cultural activities whose main purpose is purely artistic.

Furthering Putnam's above argument, Hall (1999) states that "social capital...turns primarily on the degree to which people associate regularly with one another in settings of relative equality, thus building up relations of

trust and mutual reciprocity. Therefore, it may be created via formal or informal patterns of sociability..." (p. 420). After analyzing the development of social capital in Britain, he concludes that "governments can and do affect the levels of social capital in their nation...[In] the British experience... through both their educational policies and social policies, it seems that government can have a significant effect on levels of social capital..." (p. 458).

Herreros (2004), despite building on the position that views social capital essentially as a by-product of other activities, emphasizes other sources, in particular the role of the state. Based on his analyses comparing countries in relation to welfare state interventions he argues that "The Welfare State social policies distribute resources (financial and cognitive) to individuals that enable them to participate in associations, and social policies (education, pensions, health) create interests around which people organize" (p. 87).

Specific to the Canadian context van Kemenade and colleagues (2003) have offered a number of reflections seeking to understand how to invest in social capital. They identify that in the anti-poverty field, international development agencies have listed examples of external interventions that generated a sense of community spirit conducive to social capital (Durstun, 1999) and that certain programs promote opportunities to develop new group strategies. Furthermore, they indicate that social networks have frequently been used in developing countries as part of interventions to develop disadvantaged areas or rural communities (Fayreau et al., 2001). Van Kemenade and colleagues state that organizing new networks or making use of existing networks has been proven as a strategy for preventing such social problems as violence, alcoholism, drugs, etc. Also, networks that take the form of community coalitions or other collaborative organizations are also very common in the history of community development in North America. Although they mention that there is almost no literature on government intervention to strengthen social capital, they provide two examples where government may have developed some of the components of social capital directly or indirectly. They refer to the case in Quebec with interventions to support the social economy that took the form of recognizing and organizing new interests (responding to new needs) and providing a new structure for existing and new initiatives (i.e., supporting the creation of the Chantier de L'economie social). The second example they provide are community programs targeting early childhood, interventions that seek to promote access to resources, social support, and the development of community networks (e.g., CAPC, Aboriginal Head Start, CPNP).

In a document seeking to understand Aboriginal policing in a social capital context, Matthews and Cote (2005) state, that “while we are able to provide numerous examples calling on Aboriginal communities and policing agencies to develop social capital in the form of partnerships, there are no clear cut solutions documented on how to do this” (p. 146). Nonetheless, they argue that “hints in the literature talk about how to foster community participation in community policing and restorative justice initiatives” (p. 146) and that they summarize them around two categories of strategy: “infrastructure-building strategies, and community partnership-building strategies” (p. 146).

A few others offer examples of processes among Aboriginal communities that can be seen as creating or fostering social capital. White and Maxim (2003) argue that, “intense campaigning in an election (band election) and high voter turnout are always indicative of social capital generation” (p. 15). However they state that depending on how the community deals with the post-election results, this may not necessarily transpose into more cohesion. They also suggest that just as we see a process of building social capital, we can see that certain processes depreciate social capital. “An example would be migration...if the levels of migration are high the probability of forming associations, etc... is diminished” (p. 16).

Mignone and colleagues (2005) also offer some illustrative examples of initiatives in First Nations communities that may have led to increased social capital. Among others mentioned, one was the implementation of interdenominational prayer meetings held once a week where the different religious groups of the community participated. This initiative fostered more inclusive relationships and appeared to have decreased existing conflicts between the different denominations. Another example was the more regular organization of cultural camps for children and youth, suggesting a significant investment in symbolic resources plausibly leading to maintaining Cree language, traditions and identity.

In summary, there is very little clear-cut empirical evidence in relation to actual ways of influencing social capital. Nonetheless, there is a gamut of data that point to programmatic and policy choices that can be taken into account in the formulation of interventions. Two areas of research require more development in this respect. One is further studies such as that of Pronyk and colleagues (2008) that includes the interventions themselves, a research design that may produce strong empirical evidence. Another area is to conduct more in-depth case histories, analyzing past and current communities' experiences evidencing increased or

decreased social capital. The importance of context cannot be overestimated when seeking to understand the role and the generation of social capital, and case histories offer the possibility of capturing the actual context.

The policies

As has already been mentioned, it is possible to identify policies that have eroded social capital. For instance, Talbot and Walker (2007) illustrate how the consequences of neo-liberal policy initiatives had an impact on linking social capital in one small rural community in Australia. Policy changes affecting all levels of government and various commercial agencies have undermined people's capability for a range of actions which bring personal and community-wide social and economic returns. Putnam (2000) illustrates the great damage done to social capital in the inner city of Indianapolis with the unintended disruption of neighbourhood networks when those neighbourhoods were pierced by Interstate 65 in the early 1960s. Specific to Aboriginal people, Moody and Cordua-von Specht (2005) provide a good summary of the processes of loss of social capital as a result of government policy over many generations, from the loss of population due to exposure to new diseases, to the loss of territory and forced relocation, the banning of traditional potlatches, residential schools (psychological, emotional, familial, and cultural impacts), etc. Mignone and colleagues (2005) identify similar processes as potentially having had a negative impact on the stocks of social capital. However, they indicate that this interpretation cannot be made mechanistically, because the ongoing struggles to counter these forces may also have had the potential of generating stocks of social capital.

In Australia, Cuthill (2003) examined the role of local government in building human and social capital. He argues that the development of local government policy and programs that support a more participatory approach to local governance is a key contributor to building community well-being. According to Cuthill (2003), the approach that focuses on increased citizen participation in local governance “builds on current systems of representative democracy and promotes local governance based on the ideas, knowledge and values of citizens with respect to their own endogenous development process” (p. 382). This attempts to build the capacity of citizens and communities to adapt to, and take informed action on, the issues, challenges and changes which continually confront them. The author states that this is achieved by means of social organization evidenced through civic engagement, increased skills and knowledge, effective associational networks, information sharing, increased trust and critical reflection.

Australian scholars (O'Brien et al., 2005) have explored the issue of finding ways to build bridging social capital in group situations dominated by highly dense networks that may imply a very restrictive bonding social capital. Specific to indigenous communities, they identify two main pitfalls that may arise in this regard. The first is simply to dismiss indigenous social capital as backward and non-adaptive if it is not linked to some type of bridging social capital. O'Brien and colleagues argue that this is the "one-size-fits-all" approach and that not surprisingly it evokes strong reactions from members of groups who possess this type of social capital. The second pitfall, which they argue is equally destructive as the first, is to proclaim the moral superiority of a highly exclusive indigenous social capital and to use that judgement as an excuse for its failure to build bridging ties. This alternative consigns individuals, communities and nations to isolation and dominance by more powerful groups. O'Brien and colleagues state that "whatever the character of its indigenous social capital, a group must still participate in a global economy, and this requires building social capital ties" (p. 26). More so, that the real challenge is to identify a strategy for building bridging social capital that is consistent with the bonding ties it already possesses. According to them building bridging social capital is essentially a type of collective action or public goods problem, and the first step is to understand what are the universal problems facing any aggregate of persons seeking a common goal. The second step was to build bridging social capital is to recognize that there are many paths that will fit into one of the three strategies for solving the public goods problem: coercion, selective incentives and federated groups.

Kawachi and Berkman (2000) identify two broad types of approaches to building social capital, top-down and bottom-up. Possible top-down approaches to rebuild social capital: state and federal government as well as the private sector, could do much to directly subsidize local associations that foster social capital, such as neighbourhood associations, cooperative childcare and youth organizations. Possible bottom-up down approaches to rebuild social capital: existing institutions (such as faith communities, trade unions and charitable foundations) could do much to encourage voluntarism and invest in the social infrastructure of distressed neighbourhoods.

Szreter (2000) addresses the issue of social capital creation and destruction from a broad policy perspective. He states that "unfortunately the Thatcher years only compounded this social capital problem....deliberate disinvestment...in the public sector's social services and in state education exacerbated this deficit in social capital among the

working classes" (p. 76). He argues that in order to promote extensive social capital for rising generations, governments will have to redefine the relationship between private and public, in the light of the importance of coproduction –partnership- and investment in widespread citizen participation.

This means, first, more transparency in central government activities and the use of public resources. Second, much more authority and power will need to be devolved to properly open and participatory organs of local government to enable them to energize local economies and clusters of companies by being sensitive and responsive to the requirements and needs of citizens, businesses, and the full range of civic associations in their local contexts (Szreter, 2000, p. 77).

Herreros (2004) furthers the notion that social capital can generate more social capital. "The virtuous circle begins with the creation of trust relations as a by-product of participation in associations (although, in fact, social capital can be created as a by-product of participation in any type of social network, formal or informal, such as, e.g., friendship relations)" (p. 101). He indicates that the decision to participate in an association may be motivated by different considerations, one of which is state provision of selective incentives to participate. This author suggests that the participation in associations can create trust, which leads to the "key element in the virtuous circle: those relations of trust foster the creation of, and participations in new associations" (p. 101). According to Herreros, this is how social capital creates more social capital.

The above review suggests that the consideration of policies and programs that may influence social capital require a number of precisions related to the particular realities of the societal context to which they are addressed. The importance of not presupposing a common understanding of what is meant by social capital has clearly emerged. Without specific formulations of what is considered social capital for that particular reality, there is no clear guidance for the object of interventions or policies. Simultaneously, even somewhat differing notions of social capital have to some degree been shown to be affected positively or negatively by interventions and policies. As the previous sections have explained, the identification of the levels of community that are to be addressed is of crucial significance in this respect. Further, the distinction between bottom-up and top-down approaches to building social capital may be useful, while at the same time considering

that complementary approaches may be the best. Specific to Aboriginal communities, many of the above reviewed ways of influencing social capital seem quite pertinent and promising. However, both in urban and non-urban settings, it is especially relevant to recognize the particular realities of Aboriginal communities and to formulate social capital policies within their specific perspective. If social capital can be a source of inquiry, then the effects of policy on the social capital of communities could and should be monitored, if not considered from the start. The review suggests that policy decisions from different levels of government, corporations and Aboriginal leadership, may intentionally or unintentionally impact community social capital stocks for better or for worse.

Aboriginal social capital: A synthesis

A social capital summary

To the extent that social capital is a property of the social environment, it takes the form of a relational resource. A common understanding amongst most authors is that social capital is a resource composed of a variety of elements, most notably social networks, social norms and values, trust, and shared resources (Bourdieu & Wacquant, 1992; Bourdieu, 1983; Loury, 1992; Putnam et al., 1993; Putnam, 2000; Woolcock, 1998a; Woolcock, 1998b; Woolcock & Narayan, 2000; Narayan, 1999; Schuller et al., 2000; Lin, 2001). Its function appears to be related to the enabling of some societal good within the boundary of that specific societal level (Coleman, 1988, 1990). It is mostly considered an aggregate feature that can aid in the characterization of a social system. For Bourdieu (1983), social capital relates to actual or potential resources within a social structure that collectively supports each of its members, and is linked to the possession of a durable network of relationships of mutual acquaintance and recognition.

Social capital has been studied in a large variety of fields. Social capital has been studied in relation to education (Munn, 2000), immigration (Portes, 1995), labour markets (Department of Economics, 1999), local economic development (Midgley & Livermore, 1998), microfinance (Rankin, 2002), sustainable community development (Dale, 2005), economic performance (Casey & Christ, 2005), health (Kawachi et al., 1997; Gooden, 1998; Veenstra, 2000; Rose, 2000; Campbell et al., 2002; Bolin et al., 2003), identity, transition to work (Fevre, 2000), information and communication technology (Huysman & Wulf, 2004a; Norris, 2003; Steinmueller, 2004), among numerous others.

The health field has been particularly prolific in studying social capital and its potential relationship with

health and well-being. Early empirical research into the association between social capital and health were those of Kawachi and colleagues (1997, 1999), Gooden (1998), Kennedy and colleagues (1998, 1999), Wilkinson and colleagues (1998), Veenstra (2000), Rose (2000b), Subramanian and colleagues, (2001), Veenstra (2002), Campbell and colleagues (2002), and Gold and colleagues (2002). The results of these empirical inquiries provided some support for considering social capital as a health determinant. However, both conceptual and measurement issues hindered the strength of the findings. As Muntaner and colleagues (2000) indicate, the evidence is scant or ambiguous, depending on the definition that is used.

More recent developments have studied social capital as a factor related to access to health care (Hendryx et al., 2002) and as a requirement for health promotion programs (Clutterbuck, 2001; Sapag & Kawachi, 2007). Other studies have looked at social capital in relation to improved self-rated health (Sirven, 2006), as a predictor of coronary heart disease (Sundquist et al., 2006), as associated with population health (Folland, 2007), adult health (Carpiano, 2007), mental health (de Silva et al., 2007), and enhanced health and well-being (Yip et al., 2007), to mention a few.

The above suggests that social capital has been increasingly used to try to understand societal factors as they affect different outcomes of interest. As well, the impact on societies and communities of certain developments and initiatives has also been examined through the lens of social capital. Although the number of studies utilizing social capital to examine such a variety of fields is ever increasing, this should not translate into a non-critical assessment of the usefulness of the concept.

Social capital has also been examined in Aboriginal communities in relation to a variety of fields, economic development among them. Social networks have been highlighted as of importance in overcoming challenges to entrepreneurship, such as access to training, access to markets and the negotiation of community values and norms (Levitte, 2004). Levitte (2004) identifies several barriers to Aboriginal business development: access to start-up and growth financing; access to skills such as business training and trained labour force; and access to markets and marketing strategies. In this sense, information and communication technology understood from a social capital perspective appears to have the potential to bridge some of these barriers. More recently, Canadian authors have explored the relationship between social capital and Aboriginal youth resilience.

At the conceptual level a study conducted with First Nations in Manitoba formulated a framework of social

capital for First Nations communities and developed a culturally appropriate instrument for its measurement (Mignone, 2003a; Mignone, 2003b; Mignone et al., 2004). The operational definition of Social Capital derived from the study was the following: "Social capital characterizes a community based on the degree that its resources are socially invested, that it presents an ethos of trust, norms of reciprocity, collective action, and participation, and that it possesses inclusive, flexible and diverse networks. Social capital of a community is assessed through a combination of its bonding (within community relations), bridging (inter-community ties), and linking (relations with formal institutions) dimensions" (Mignone, 2003b, p. 132).

Among critics of the concept of social capital, some scholars argue that despite the intention of those who write and talk about social capital there is no value added with this conceptual tool. Some also add that "capital" is inherently social and thus there is a redundancy in a notion such as social capital and that by trying to formulate and apply this concept, we are taking the economics out of the study of society.

In words of Schuller and colleagues (2000), "social capital [as a concept] has several adolescent characteristics: it is neither tidy nor mature; it can be abused, analytically and politically; its future is unpredictable, but it offers much promise" (p. 35). Nonetheless, there are several justifications in defence of social capital. One is, as Edwards and Foley (1997) state, that social capital adds to theory by bringing mediating levels of the social structure into cultural analysis in a systematic way. "Societies can no longer, if they ever could, be adequately understood in terms of the individual and society" (Edwards & Foley, 1997, p. 677). In other words "it shifts the focus of analysis from the behaviour of individual agents to the pattern of relations between agents, social units and institutions" (Schuller et al., 2000, p. 35). Closely linked with the latter is "the merit of social capital developing out of empirical research of diverse kinds to act as a link between micro-, meso- and macro-levels of analysis" (Schuller et al., 2000, p. 35). Finally, that it provides a "fruitful conceptual and policy device by which to get beyond exhausted modernization and world-systems theories," and "a credible point of entry for socio-political issues into a comprehensive multi- and interdisciplinary approach to some of the most pressing issues of our time" (Woolcock, 1998a, p. 188).

Many of the existing measures of social capital have been developed for the purposes of economic development programs, in particular for developing nations. Of these, most are applicable to the study of social capital in small communities. Social capital measures used in studies of

larger societal scale (e.g., states, regions and countries) have tended to use pre-existing data sets and from these data the measures were constructed. One pertinent criticism to the latter approach is that of Foley and Edwards (1997) who suggest that available data seem to have driven (and distorted) conceptualization rather than the other way around.

The issue of measurement is central to the advancement of the understanding of social organization and its impacts. The notion of social capital is part of this endeavour. Indeed, as Leeder and Dominello (1999) point out, "if social capital were to remain a confusing combination of incommensurable elements...it will mislead us" (p. 429). They consequently emphasized that only "if we are prepared to unpack it, and reduce it to measurable and knowable elements, then it may serve us well in discerning wise ways of steering our society through effective, reflective and humane social policy towards better health and family well-being" (p. 429).

Krishna and Shrader (1999) raise a key point related to the measurement of social capital. They ask if a measure of social capital can be found that is universally valid across countries and cultural contexts. This in fact relates both to the cross-cultural validity of the concept and to the cultural appropriateness of measurement tools. They argue that to retain social capital as a useful concept, we need to empirically test whether social capital is a universally measurable phenomenon, or whether we have to restrain its usage and make comparisons only among social units that are culturally not too dissimilar. Interestingly enough, this is an issue that has not received much attention in the literature on social capital.

Before proceeding, it is important to clarify the meaning of degree or stocks of social capital. The question is if we can differentially describe Aboriginal communities according to degrees of social capital (i.e., one community having more social capital than the other), what does it mean that one community has more social capital than the other? Understanding social capital as a feature of a community implies that each community can hold differing stocks of social capital. Nonetheless, given that social capital can be measured at different levels, it may not have positive effects for all members of a community. For instance, social capital within a single group of a community need not be positively related to social capital at the community level. While social capital within a particular group may be expected to have positive effects for the members of that group, it does not necessarily "spill over" into positive gains in social capital for the entire community. Not only can social capital within a single group potentially reduce social

capital between groups, but high within-group social capital could have negative effects for members of the community as a whole (Paxton, 1999). Consequently, the level (or scale) of community at which social capital is measured must be clear and explicit to properly understand the meaning of higher or lower stocks of social capital and its potential implications.

A clear description of Aboriginal communities that could be understood as possessing high stocks of social capital can be found in the following quote from the Royal Commission on Aboriginal Peoples. Describing Aboriginal societies of the past it states:

The economic relations embedded in traditional cultures emphasized conservation of renewable resources, limiting harvesting on the basis of need, and distributing resources equitably within the community, normally through family networks. Since families and clans owned rights to resources and since everyone was connected in a family, no one was destitute and no one was unemployed (Royal Commission on Aboriginal Peoples, 1996, p. 658).

An issue mentioned frequently in the literature is that social capital may have positive and negative impacts. Often this is presented as a limitation of the notion of social capital. However, this way of thinking ignores that features of communities should not be considered valid or not valid based on potential value-laden and context dependent impacts they may have. On the contrary, it should be assumed that social capital may have positive, negative or no impacts, and this must be assessed in each particular case.

The review in the second section considered the evidence about the impacts of social capital, but with two caveats. First, that what is considered positive or negative is necessarily context-dependent and value-laden and consequently not universal per se (e.g., what could be considered positive for one group may be negative for another). Second, that positive or negative also relates to the scale at which social capital is an attribute (e.g., what could be positive for a group within the community may be negative for the community as a whole). The difference in levels is not always clear-cut, and furthermore, it is reasonable to expect that there may be correlations and/or interactions across the different levels. As such, there is an inherent difficulty in modelling theoretically and analytically the impact of social capital, so at the very least the distinction across scales needs to be clearly identified. The argument is not against understanding social capital as

an attribute at different scales, but about the confusion that arises if this distinction is not addressed.

Many of the above reviewed studies provided compelling evidence of an association between social capital and different societal outcomes. However, a well-known maxim in research is that correlation does not prove causation. This limitation is in large part related to the characteristics of the field of studies itself. Community features and outcomes are not easily malleable (if at all) to experimental designs that may provide some evidence of causality. The strength of the existing evidence is that numerous studies using different notions and measures, and conducted in a variety of contexts continue to replicate findings of some association between social capital and certain outcomes. Simultaneously, there is still a lack of stronger empirical evidence both assessing the causality and understanding the potential mechanisms at play. Added to the limitation in research designs, some scholars have also indicated that the “conceptual vagueness, the coexistence of multiple definitions, and the chronic lack of suitable data have so far been an impediment to both theoretical and empirical research of phenomena in which social capital may play a role” (Sabatini, 2005, p. 2). In summary, despite the strengths and limitations, social capital as a concept may help better understand the dynamics of societies and communities and may help guide programmatic and policy interventions. This has clearly captured the imagination of a large number of scholars. The verdict in relation to its impacts is still out, and will remain as such for the foreseeable future. Nonetheless, this is no excuse for inaction in either the research and policy fields.

In relation to plausible mechanisms linking social capital to health, Kawachi and Berkman (2000) formulated three options at the neighbourhood level. They argue that “one possibility is by influencing health-related behaviours in two ways, by promoting more rapid diffusion of health information or increasing the likelihood that health norms of behaviour are adopted (e.g., physical activity) and by exerting social control over deviant health-related behaviour” (pp. 184-5). Another option “is by influencing access to services and amenities, for instance, more cohesive neighbourhoods more readily and together to create social organizations that may increase the access to services such as transportation, community health clinics and recreational facilities” (p. 185). Finally, that “neighbourhood social capital could influence the health if individuals via psychosocial processes by providing affective support and acting as a source of self-esteem and mutual respect” (p. 185). At the level of the state, the explanation linking social capital to

health could be that the more cohesive states produce more egalitarian patterns of political participation that result in the passage of policies which ensure the security of all its members (Kawachi & Kennedy, 1997; Kawachi et al., 1997b).

Other scholars (Folland, 2007) have suggested other avenues by which social capital might affect health: reducing stress, social ties as buffering of stress; coaching, sympathetic relationships might serve in urging healthful practices; providing information, a social network expands one's knowledge base from which to improve health; increasing responsibility, one's role in the community develops a sense of responsibility for the well-being of others. Costa-Font and Mladovsky (2008) consider that an important influence lies in the social formation of health preferences and constraints individuals face in determining their life-styles and in using health care.

Specific to mental disorders, Lofors and Sundquist (2007) suggest that poor social networks result in a lack of social support, isolation and powerlessness, which in turn increase the individual's vulnerability. Mignone and O'Neil (2005b) hypothesized plausible mechanisms linking social capital to suicide risk and protective factors among First Nations youth. They argue that inclusive, flexible and diverse networks may have an impact on sense of belonging, support from peers, and family and community support. Also, that collective action, norms of reciprocity and participation may positively impact sense of belonging and better coping with distress.

Szreter and Woolcock (2004a) summarize three perspectives on the efficacy of social capital as explored in the public health literature. One is a 'social support' perspective that argues that informal networks are central to objective and subjective welfare. Second is an 'inequality' thesis that states that widening economic disparities have eroded citizens' sense of social justice and inclusion, which in turn has led to heightened anxiety and compromised rising life expectancies. Third, a 'political economy' approach that sees the primary determinants of poor health outcomes as resulting from socially and politically mediated exclusion from material resources. They then present a "grounded theory of social capital...that develops a distinction between bonding, bridging and linking social capital" (p. 650), arguing that this framework reconciles the three above mentioned perspectives. Their approach is debated by Muntaner (2004) who argues that in order to provide an accurate account of how society affects health, "a historical and structure-less psychosocial constructs" such as social capital, should be replaced with less ideological, and more

historically specific models. As well, Davey Smith and Lynch (2004) debate the interpretation of the evidence provided by Szreter and Woolcock in relation to age-specific mortality trends. They state that the social capital mechanism proposed by those scholars is an incomplete explanation. A final paper in this discussion (Szreter & Woolcock, 2004b) states that the argument is not "that social capital, however conceived, is or should be the sole or even primary variable used to explain all public health outcomes" (p. 700). They argue that social capital adds to "social theory for public health policy" in a way that "is not constrained to think in terms only of socio-demographically similar or dissimilar group affiliations... [or to] see all outcomes as inherently the manifestations of individual choices at one extreme or class contests at the other... but that one can integrate a range of group and network memberships into a broader, integrated theory of agency and structure" (p. 704).

A final issue examined in the review was about the ways that social capital can be influenced. It is interesting that so much has been written about social capital, but so few case examples of how it is generated and how it operates has been published in the literature. The review suggested that there is very little clear-cut empirical evidence in relation to actual ways of influencing social capital. Nonetheless, there is a gamut of data that points to programmatic and policy choices that can be taken into account in the formulation of interventions.

Two issues were identified as relevant to consider when assessing how to influence social capital. First, that social capital is a notion that allows us to organize the reality that we may be trying to influence and to consequently have better tools for interventions. Further, it enables us to develop more reliable ways of measuring potential impacts. Precisely for those reasons, what may be understood as social capital of a community requires careful consideration and definition, and should not be thought of as an entity that can be tangibly distinguished without proper examination. The second issue to influence social capital implies taking into consideration other highly relevant aspects of community that are not discretely separate. The commonalities and distinctions with notions of social cohesion, social support and social networks, make the case for taking these aspects of community into account when assessing ways of influencing social capital.

The development of policies and programs to influence social capital also requires a number of precisions related to the particular realities of the societal context to which they are addressed. The importance of not presupposing a

common understanding of what is meant by social capital has clearly emerged. Without specific formulations of what is considered social capital for that particular reality, there is no clear guidance for the object of interventions or policies. Simultaneously, even somewhat differing notions of social capital have to some degree been shown to be affected positively or negatively by interventions and policies. As the previous sections have explained, the identification of the levels of community that are to be addressed is of crucial significance in this respect. Further, the distinction between bottom-up and top-down approaches to building social capital may be useful, while at the same time considering that complementary approaches may be the best. Specific to Aboriginal communities, many of the reviewed ways of influencing social capital seem quite pertinent and promising. However, both in urban and non-urban settings, it is especially relevant to recognize the particular realities of Aboriginal communities and to formulate social capital policies within their specific perspective. If social capital can be a source of inquiry, then the effects of policy on the social capital of communities could and should be monitored, if not considered from the start. The reviews suggest that policy decisions from different levels of government, corporations and Aboriginal leadership, may intentionally or unintentionally impact community social capital stocks for better or for worse.

Where from here?

Sampson (2003) has argued that the consideration of the collective properties of community environments promises a deeper theoretical understanding of the aetiology of health outcomes. He believes, for instance, that the field of public health can also capitalize on sociological theory in a pragmatic fashion by designing prevention strategies from the perspective of collective efficacy. The argument is that traditional thinking about disease has emphasized behavioural change among individuals as a means to reduce disease risk. For instance, smoking interventions have targeted smokers and include hypnosis, smoking cessation programs and nicotine patches. Environmental approaches look instead to macro-level factors such as taxation policies, regulation of smoking in public places and restriction of advertising in places frequented by adolescents. Such approaches appear to have yielded notable reductions in aggregate cigarette consumption in the United States. The evidence suggests that community-level prevention that attempts to change places and social environments rather than people (e.g., building community, targeting hot spots) may yield similar payoffs that complement traditional

individual and disease-specific approaches (Sampson, 2003).

As Mechanic (1993) noted in relation to health-related behaviours,

there is little appreciation of the extent to which life imperatives and social opportunities and constraints either enhance or inhibit harmful personal behaviours. Relative to personal behaviour change, such alternatives as the improvement of living conditions, the development of new technologies, regulatory incentives and environmental modifications receive little emphasis (p. 97).

Among the environmental modifications that Mechanic mentions, the social environment is of central relevance. The notion of social capital allows for a better understanding of how to develop and implement interventions for improved community outcomes. Social capital appears to be a useful lens to guide policy and programmatic interventions at the community-level that may have positive impacts on health and well-being.

Nonetheless, there are three main challenges that still require attention: first, the universality of the notion of social capital; second, the evidence at a local level of how to influence social capital and of the impacts of social capital; third, the development and implementation of tangible ways of influencing social capital in Aboriginal communities.

It is a losing cause to expect a universal notion of social capital. Although it apparently complicates matters, it does not truly undermine the usefulness of the concept. From both a research and a policy perspective, we should work with a definition that makes sense to the particular reality we want to deal with. A reasonable expectation is to present an internally logical construct of social capital with clearly identifiable dimensions, which will agree to varying degrees to that of other authors. Essentially however, that it be relevant to the particular societal or community context where it is applied to (context-dependent). For instance, the distinction of bonding, bridging and linking seems to fit well with First Nations communities (geographically delimited, community membership relatively well determined, relations with other First Nations, existence of Tribal Councils, relations with government and corporations, etc.). The review presented a conceptual framework developed among Manitoba First Nations that for now appears to be useful to capture important aspects of community dynamics.

As already mentioned, two areas of research require more development. One is further studies such as that of Pronyk and colleagues (2008) that include in the

interventions themselves, a research design that may produce strong empirical evidence. Another area is to conduct more in-depth case histories, analyzing past and current communities' experiences evidencing increased or decreased social capital. The importance of context cannot be overestimated when seeking to understand the role and the generation of social capital, and case histories offer the possibility of capturing the actual context. Social capital is a concept that although requiring thorough theoretical formulation, also needs tangible illustrations for it to be useful for programmatic and policy purposes. As Abbott (1992) has rightly observed, a social science expressed in terms of typical case narratives would provide "far better access for policy intervention than the present social science of variables" (p 79.) Although the study of social capital based on large random samples or entire populations using for instance questionnaire surveys is important, the current study of social capital is biased in that direction vis-à-vis case studies. As Flyvbjerg (2001) indicates, "a discipline without a large number of thoroughly executed case studies is a discipline without a systematic production of exemplars, and that a discipline without exemplars is an ineffective one" (p. 87). At this point, the study of social capital may be more relevant not essentially to develop theory, "but to contribute to society's practical rationality in elucidating where we are, where we want to go and what is desirable according to diverse sets of values and interests" (Flyvbjerg, 2001, p. 167). This is the direction that may help better capture why and how social capital may be of use for programs and policy. Further, studies should also focus on seeking to assess the impact of any policy or program on the social fabric, such as environmental impact assessments conducted. For this purpose, the notion of social capital may be particularly useful.

Nonetheless, the review of the literature also showed a number of gaps particularly in relation to Aboriginal communities. For instance, there are no studies that talk about issues within communities related to division that can occur between two or three dominant families who compete to control the position of Chief and Band Council and how this affects the social capital of the community. Further, ways that First Nations communities have dealt successfully with these issues would be very valuable to study as a way for other communities to increase their social capital. Similarly, issues related to more traditional forms of governance as opposed to those who follow the Indian Act provisions would be important to understand in relation to its impact on social capital. Another major gap that merits full attention is the contribution of indigenous

knowledge and ways of knowing to the discussion of social capital. For social capital to be more relevant to Aboriginal communities, this is a direction that needs to be pursued.

Specific to Aboriginal communities, participatory action oriented inquiries could be especially helpful. For instance, using rapid assessment designs (Beebe, 1995, 2001; Handwerker, 2001; Chambers, 1994a, 1994b, 1994c; Mignone, et al., 2008) to examine several community-level dimensions of social capital. This assessment would lead to the design and implementation of several community initiatives aimed at strengthening community life and well-being. One of the major reasons for using a rapid assessment design is that it would allow for research and action to be closely linked and compressed in time, thus making real community participation more feasible. Further, the fact that community members would see things happening (i.e., not merely another study with no tangible outcomes) would help sustain the interest and commitment. More so, the participatory rapid assessment itself would be an intervention that could play a social development role. As a broad statement, the objectives of this type of initiative would be to: assess the situation of the communities from a community social capital and well-being perspective; identify and develop intervention strategies to address the social capital and social development dimensions of particular interest; assess the impact of the interventions; and develop a model of community-level intervention feasible of being scaled-up or replicated in different forms in First Nations communities from other regions.

The distinction between bottom-up and top-down approaches to building social capital (Kawachi & Berkman, 2000) although somewhat simplistic may help to organize ideas in relation to initiatives among First Nations communities geared to increasing the levels of social capital. From a bottom-up perspective, a possible step that by itself has generating potential, is organizing more explicit conversations about the state of community relations as such. Most of the aspects of social capital have intuitive meaning to many community members, and in general they are topics of lively conversation. One important issue rarely mentioned in the literature is that all communities have important reservoirs of social capital, often times not recognized, and frequently contained within certain community groups, thus not benefiting the community as a whole. It is clearly pertinent to identify current strengths as well as weaknesses in this respect. Expanding existing stocks of social capital require identifying them better and replicating their modalities of creation. As well, although there are at times a number of serious community issues

(e.g., suicide, addictions, etc.), focusing initiatives on the “problems” has not always proven successful.

From a social capital perspective, increasing volunteering opportunities and general participation in activities of interest to different community groups is an end in itself. Although easier said than done, this issue has been repeatedly mentioned by Elders as necessary (Mignone, 2005). A clear social capital investment would be to have ongoing dedicated efforts to develop these opportunities. This means that initiatives will centre on different interests that will vary but also intersect across different community groups (youth, adults, Elders, men, women, etc.). Increased participation in itself (whatever the activity) would be the goal. The ongoing aspect is of major significance, because it could be expected that many attempts may be necessary before visible changes occur. The particulars of the initiatives should be different depending on each community. The “what” is not so much what matters, it is the “how” that generates social capital. Inherent to any social capital initiative is community involvement and direction. The initiatives may range from fostering the creation of cooperatives or self-help collectives related to business, household matters, etc., to the enhancement of cultural, recreational, artistic and sports activities. Increased voluntarism and broader community infrastructures would be the goals. Top-down approaches, that in fact should complement bottom-up approaches, could assist with community investments. For instance, governments, band administration, as well as corporations and businesses, could do much to subsidize local associations that foster social capital, such as community associations, cooperative ventures and youth organizations.

The reviews have suggested the need for more and better evidence in relation to both the impacts of social capital and about how to influence it. Simultaneously, they have showed that social capital can be a useful framework to focus attention on the community as a whole and its dynamics. It can bring to light in a more holistic manner the aspects that may require particular attention, and it provides a more structured guide of ways to promote initiatives that will foster community well-being.

REFERENCES

Abbott, A. (1992). What do cases do? Some notes on activity in sociological analysis. In C. Ragin & H. Becker (Eds.), *What is a case? Exploring the foundations of social inquiry*. Cambridge: Cambridge University Press.

- Adler, P. S. & Kwon, S. W. (1999). *Social capital: The good, the bad, and the ugly*. Unpublished Work.
- Aldrich, H. (1982). The origins and persistence of social networks. In P. Marsden & N. Lin (Eds.), *Social structure and network analysis* (pp. 281-293). Beverly Hills: Sage.
- Allen, J. C., Warner, M. & van Bastelaer, T. (1998). Social capital - Bridging disciplines, policies and communities. *International Conference* (pp. 1-66). Michigan State University.
- Altman, J. C. (2001). *Sustainable development options on Aboriginal land: The hybrid economy of the twenty-first century*. Canberra: CAEPR, Australia National University: Centre for Aboriginal Economic Policy Research.
- Arrow, K. J. (2000). Observations on social capital. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective* (pp. 3-5). Washington DC: The World Bank.
- Barlow, J. P., Birkets, S., Kelly, K., & Slouka, M. (1995). *What are we doing online?* Harper's 291 (August): pp. 35-46.
- Barry, J. & Manno, B. (1998). *Nation's Index of Civic Engagement*. Washington, DC: Hudson Institute.
- Baum, F. (1997). Public health and civil society: Understanding and valuing the connection. *Australian and New Zealand Journal of Public Health*, 21, 673-675.
- Baum, F. (2007a). Cracking the nut of health equity: Top down and bottom up pressure for action on the social determinants of health. *IUHPE - Promotion & Education*, XIV (2), 90-95.
- Baum, F. (2007b). Social capital. In B. Carson, T. Dunbar, R.D. Chenhall, & R. Bailie (Eds.), *Social determinants of Indigenous health*. Crows Nest NSW: Allen & Unwin.
- Bebbington, A. (1997). Social capital and rural intensification: Local organizations and islands of sustainability in the rural Andes. *The Geographical Journal*, 163 (2), 189-197.
- Becker, G. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. New York: National Bureau of Economic Research.
- Beebe, J. (1995). Basic concepts and techniques of rapid appraisal. *Human Organization*, 54(1), 42-51.

- Beebe, J. (2001). *Rapid assessment process: An introduction*. Walnut Creek: AltaMira Press.
- Berkman, L. F. & Glass, T. A. (2000). Social integration, social networks, social support, and health. In L. F. Berkman & I. Kawachi (Eds.), *Social epidemiology*. New York: Oxford University Press.
- Berman, S. (1997). Civil society and political institutionalization. *American Behavioral Scientist*, 40, 562-574.
- Bolin, K., Lindgren, B., Lindström, M., & Nystedt, P. (2003). Investments in social capital-implications of social interactions for the production of health. *Social Science and Medicine*, 56, 2379-2390.
- Bourdieu, P. (1983). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood Press.
- Bourdieu, P. & Wacquant, J. D. (1992). *An invitation to reflexive sociology*. Chicago: The University of Chicago Press.
- Bolin, K., Lindgren, B., Lindström, M., & Nystedt, P. (2003). Investments in social capital-implications of social interactions for the production of health. *Social Science and Medicine*, 56, 2379-2390.
- Brabec, M., Godoy, R., Reyes-Garcia, V., & Leonard, W. R. (2007). BMI, income, and social capital in a Native Amazonian society: Interaction between relative and community variables. *American Journal of Human Biology*, 19, 459-474.
- Brehm, J. & Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science*, 41, 999-1023.
- Brough, M., Bond, C., Hunt, J., Jenkins, D., Shannon C., & Schubert, L. (2006). Social capital meets identity. *Journal of Sociology*, 42(4), 396-411.
- Brough, M. K., Henderson, G., Foster, R., & Douglas, H. A. (2007). Social Capital and Aboriginal and Torres Strait Islander Health -Problems and Possibilities. In I. Anderson, F. Baum & M. Bentley (Eds.), *Proceedings Social Determinants of Aboriginal Health Workshop*, (pp. 191-201), Adelaide.
- Buckland, J. & Rahman, M. (1999). Community-based disaster management during the 1997 Red River flood in Canada. *Disasters*, 23, 174-191.
- Bullen, P. & Onyx, J. (1998). *Measuring social capital in five communities in NSW: Overview of a study* New South Wales, Australia.
- Burt, R. S. (1992). The social structure of competition. In R. S. Burt (Ed.), *Structural holes: The social structure of competition*. (pp. 8-49). Cambridge: Harvard University Press.
- Campbell, C., Williams, B. & Gilgen, D. (2002). Is social capital a useful conceptual tool for exploring community level influences on HIV infection? An exploratory case study from South Africa. *AIDS Care*, 14, 41-54.
- Carpiano, R. M. (2007). Neighborhood social capital and adult health: An empirical test of a Bourdieu-based model. *Health & Place*, 13, 639-655.
- Carroll, T. F. & Bebbington, A. J. (2000). Peasant federations and rural development policies in the Andes. *Policy Sciences* 33, 435-457.
- Casey, T. & Christ, K. (2005). Social Capital and economic performance in the American states. *Social Science Quarterly*, 86, 826-845.
- Casullo, N. (1989). *Como pudo ser posible? La visita del filosofo Jurgen Habermas y el debate sobre el nazismo*. Clarin.
- Chambers, R. (1994a). The origins and practice of participatory rural appraisal. *World Development*, 22(7), 953-969.
- Chambers, R. (1994b). Participatory rural appraisal (PRA): Analysis of experience. *World Development*, 22(9), 1253-1268.
- Chambers, R. (1994c). Participatory rural appraisal (PRA): Challenges, potentials and paradigm. *World Development*, 22(10), 1473-1454.
- Champlin, D. (1997). Culture, natural law, and the restoration of community. *Journal of Economic Issues*, 31, 575-584.
- Chandler, M. J. & Lalonde, C. (1998). Cultural continuity as a hedge against suicide in Canada's First Nations. *Transcultural Psychiatry*, 35, 191-219.

- Chen, W., Boase, J. & Wellman, B. (2002). The global villagers: Comparing internet users and uses around the world. In B. Wellman & C. Haythornthwaite (Eds.), *Internet in everyday life*. Oxford: Blackwell.
- Clutterbuck, P. (2001). *Building social capital: Implications for policy and practice*. Unpublished work.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.
- Coleman, J. S. (1990). *Foundations of social theory*. Cambridge: The Belknap Press of Harvard University Press.
- Corrado, R. R., Cohen, I. M. & Davies, G. (2005). Social capital and community crime prevention programs. In *Social capital in action: Thematic policy studies*. (pp. 116-132). PRI Project – Social capital as a public policy tool. Government of Canada. September.
- Costa-Font, J. & Mladovsky, P. (2008). Social capital and the social formation of health -related preferences in behaviours. *Health Economics, Policy and Law*, 3, 413-427.
- Cuthill, M. (2003). The contribution of human and social capital to building community well-being: A research agenda relating to citizen participation in local governance in Australia. *Urban Policy and Research* 21(4), 373-391.
- Dale, A. (2005). Social capital and sustainable community development: Is there a relationship? In A. Dale & J. Onyx (Eds.), *A dynamic balance: Social capital and sustainable community development*. Vancouver: UBC Press.
- Davey Smith, G. & Lynch, J. (2004). Commentary: Social capital, social epidemiology and disease aetiology. *International Journal of Epidemiology*, 33, 691-700.
- Department of Economics (1999). 1999 creation and returns of social capital: social networks in education and labour markets. In *Social Capital 99: Abstracts* (pp. 158-162). University of Amsterdam.
- De Silva, M. J., Huttly, S. R., Harphma, T., & Kenward, M. G. (2007). Social capital and mental health: A comparative analysis of four low income countries. *Social Science and Medicine*, 64, 5-20.
- Dickason, O. P. (1997). *Canada's First Nations: A history of founding peoples from earliest times*. (Second Ed.), Oxford: Oxford University Press.
- Doebler, M. K. (1998). *Successful outcomes for rural young women: A longitudinal investigation of social capital and adolescent development*. The Pennsylvania State University.
- Dube, Y., Howes, J. & McQueen, D. (1957). *Housing and social capital Toronto: Royal Commission on Canada's Economic Prospects*. Ottawa.
- Durston, J. (1999). Construyendo capital social comunitario. *Revista de la CEPAL*, 69. Comisión Económica de las Naciones Unidas para Latino América y el Caribe. (ECLAC/CEPAL) Santiago.
- Edwards, B. & Foley, M. W. (1997). Social capital and the political economy of our discontent. *American Behavioral Scientist*, 40, 669-678.
- Edwards, M. (1997). *Enthusiasts, tacticians and sceptics: The World Bank, civil society and social capital*. Unpublished Work.
- Elias, B. et al., (2007). *The social environment and health of First Nations women and men*. CIHR Grant Proposal.
- Etzione, A. (1993). *The spirit of community: Rights, responsibilities and the communitarian agenda*. New York: Crown Publishers.
- Evans, P. (1996). Government action, social capital and development: reviewing the evidence of synergy. *World Development*, 24, 1119-1132.
- Falk, I. & Kilpatrick, S. (1999). *What is social capital? A study of interaction in a rural community*. Unpublished Work.
- Favell, A. (1993). James Coleman: Social theorist and moral philosopher? *American Journal of Sociology*, 99, 590-613.
- Fawcett, S., Schultz, J., Carson, V., Renault, V., & Francisco, V. (2003). Using internet based tools to build capacity for community based participatory research and other efforts to promote community health and development. In M. Minlker & N. Wallerstein (Eds.), *Community-based participatory research for health*. Jossey-Bass: San Francisco, CA. Favreau, L., Fréchette, L., Boulianne, M., & van

- Fevre, R. (2000). Socializing social capital: Identity, the transition to work, and economic development. In S. Baron, J. Field & T. Schuller (Eds.), *Social capital: Critical perspectives* (pp. 94-110). Oxford: Oxford University Press.
- Figueroa Huencho, V. L. (2007). *Capital social y desarrollo indígena urbano: una propuesta para una convivencia multicultural. Los Mapuches de Santiago de Chile*. Ph.D. dissertation. Universitat Ramon Llull, Barcelona.
- Fine, B. (2001). *Social capital versus social theory: Political economy and social science at the turn of the millennium*. London: Routledge.
- Fine, B. & Green, F. (2000). Economics, social capital, and the colonization of the social sciences. In S. Baron, J. Field & T. Schuller (Eds.), *Social capital: Critical perspectives* (pp. 78-93). Oxford: Oxford University Press.
- Flora, C. B. & Flora, J. L. (2000). *Measuring and interpreting social capital on the community level: The difference and similarities between social capital and entrepreneurial social infrastructure*. Unpublished Work.
- Flyvbjerg, B. (2001). *Making social science matter: Why social inquiry fails and how it can succeed again*. Cambridge, UK: Cambridge University Press.
- Foley, M. W. & Edwards, B. (1997). Escape from politics? Social theory and the social capital debate. *American Behavioral Scientist*, 40, 550-561.
- Folland, S. (2007). Does "community social capital" contribute to population health? *Social Science and Medicine*, 64, 2342-2354.
- Frank, J. (2003). Making social capital work for public policy. *Horizons*, 6(3), 3-6.
- Friedman, S. R. & O'Reilly, K. R. (1997). Sociocultural interventions at the community level. *AIDS*, 11(Suppl. A), s201-s208.
- Fukuyama, F. (1995). Social capital and the global economy. *Foreign Affairs*, 74, 89-103.
- Garbarino, J. & Sherman, D. (1980). High-risk neighborhoods and high-risk families: The human ecology of child maltreatment. *Child Development*, 51, 188-198.
- Gertler, M. S. & Levitte, Y. M. (2005). Local nodes in global networks: The geography of knowledge flows in biotechnology innovation. *Industry and Innovation*, 12, 487-507.
- Glaeser, E. L. (2001). The formation of social capital. *Isuma*, 2, 34-40.
- Gold, R., Kennedy, B., Connell, F., & Kawachi, I. (2002). Teen births, income inequality, and social capital: Developing an understanding of the causal pathway. *Health and Place*, 8, 77-83.
- Gooden, B. I. (1998). *Social capital, stress and the health of rural African-Americans in central Virginia*. Ph.D. The University of North Carolina at Chapel Hill.
- Gralewicz, R. M. (1997). *Federal policies and their effects on Indian health: A southern Alberta plains case study*. Washington State University.
- Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91, 481-510.
- Greeley, A. (1997). Coleman revisited: Religious structures as a source of social capital. *American Behavioral Scientist*, 40, 587-594.
- Gyarmati, D. & Kyte, D. (2003). Social capital, network formation and the community employment innovation project. *Horizons*, 6(3), 19-24.
- Hackett, P. (2002). *A very remarkable sickness: Epidemics in the Petit Nord, 1670 to 1846*. Winnipeg: University of Manitoba Press.
- Hall, P. (1999). Social capital in Britain. *B.J. Pol.* 29, 417-461.
- Handwerker, W. P. (2001). *Quick ethnography*. Lanham: AltaMira Press.
- Hanifan, L. J. (1920). *The community center*. Boston: Silver, Burdette, and Co.
- Harpham, T., Grant, E. & Thomas, E. (2002). Measuring social capital within health surveys: Key issues. *Health policy and planning*, 17, 106-111.
- Helliwell, J. F. & Putnam, R. D. (1995). Economic growth and social capital in Italy. *Eastern Economic Journal*, 21, 295-307.

- Helliwell, J. F. & Putnam, R. D. (2000). Economic growth and social capital in Italy. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective* (pp. 253-268). Washington DC: The World Bank.
- Hendryx, M., Ahern, M., Lovrich, N., & McCurdy, A. H. (2002). Access to health care and community social capital. *Health Services Research, 37*, 87-103.
- Herreros, F. (2004). *The problem of forming social capital: Why trust?* New York: Palgrave MacMillan.
- House, J. S. (1999). *Social context, social inequality, mind, body, and health*. Unpublished Work.
- Hunter, B. (2000). *Social exclusion, social capital, and Indigenous Australians: Measuring the social costs of unemployment*. Centre for Aboriginal Economic Policy Research. Discussion Paper No. 204/2000. Canberra: CAEPR, Australian National University.
- Hutchinson, P. J. (2006). First Nation/State relationships and First Nation health: An exploratory analysis of linkage social capital as a determinant of health. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health 4*(1), 105-118.
- Huysman, M. & Wulf, V. (2004). *Social capital and information technology*. In M. Huysman & V. Wulf (Eds.), Cambridge: The MIT Press.
- Inkeles, A. (2000). Measuring social capital and its consequences. *Policy Sciences, 33*, 245-268.
- Jacobs, J. (1961). The use of city neighbourhoods. In *The death and life of great American cities*. (pp. 112-140). New York: Vintage Books.
- Jenson, J. (1998). *Mapping social cohesion: The state of Canadian research* (Rep. No. F/03). Ottawa: Renouf Publishing Co.
- Kawachi, I. & Berkman, L. F. (2000). Social cohesion, social capital, and health. In L. F. Berkman & I. Kawachi (Eds.), *Social epidemiology* (pp. 174-190). New York: Oxford University Press.
- Kawachi, I., Kennedy, B. P. & Glass, R. (1999). Social capital and self-rated health: A contextual analysis. *American Journal of Public Health, 89*, 1187-1193.
- Kawachi, I., Kennedy, B. P., Lochner, K., & Prothrow-Stith, D. (1997a). Social capital, income inequality, and mortality. *American Journal of Public Health, 87*, 1491-1498.
- Kawachi, I., Kennedy, B. P., Lochner, K. (1997b). Long live community: Social capital as public health. *Am Prospect*, November/December: 56-59.
- Keating, N., Swindle, K. & Foster, D. (2005). The role of social capital in aging well. In *Social capital in action: Thematic policy studies*. PRI Project – Social capital as a public policy tool. Government of Canada. September, pp. 24-48.
- Kemenade, S. (2001). Pérou, le bidonville de l'espoir: Villa El Salvador. *Research journal of the STEP Research Group on Civil Society and Social Economy*. International Labour Office.
- Kennedy, B. P., Kawachi, I. & Brainerd, E. (1999). The role of social capital in the Russian mortality crisis. In I. Kawachi, B. P. Kennedy & R. G. Wilkinson (Eds.), *The society and population health reader: Income inequality and health* (pp. 261-277). New York: The New Press.
- Kennedy, B. P., Kawachi, I., Prothrow-Stith, D., Lochner, K., & Gupta, V. (1998). Social capital, income inequality, and firearm violent crime. *Social Science and Medicine, 47*, 7-17.
- Kilpatrick, S. & Vanclay, F. (2005). Communities of practice for building social capital in rural Australia: A case study of ExecutiveLink. In A. Dale & J. Onyx (Eds.), *A dynamic balance: Social capital & sustainable development* (pp. 141-158). UBC Press: Vancouver.
- Kim, J. C., Watts, C. H., Hargreaves, J. R., Morison, L. A., Porter, J. D. H., Phetla, G., et al. (2007). Understanding the impact of microfinance-based intervention on women's empowerment and the reduction of intimate partner violence in the IMAGE study, South Africa. *American Journal of Public Health, 87*(9), 1794-1802.
- Knack, S. (1999). *Social capital, growth and poverty: A survey of cross-country evidence*. Social Capital Initiative. [Working Paper 7], (pp. 1-48). The World Bank. Social Capital Initiative.
- Knack, S. & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics, 112*, 1251-1288.

- Krishna, A. (2002). Active social capital: Tracing the roots of development and democracy. New York: Columbia University Press.
- Krishna, A. & Shrader, E. (1999). *Social capital assessment tool*. In (pp. 1-21). Washington D.C.: The World Bank.
- Krishna, A. & Shrader, E. (2000). Social Capital Assessment Tool, Working Paper No. 21. Social capital Initiative. Washington: The World Bank.
- Kunz, J. L. (2005). Orienting newcomers to Canadian society: social capital and settlement. In *Social capital in action: Thematic policy studies*. PRI Project – Social capital as a public policy tool. Government of Canada. September, pp. 52-64.
- Labonte, R. (1999). Social capital and community development: Practitioner emptor. *Australian and New Zealand Journal of Public Health*, 23, 430-433.
- Leeder, S. & Dominello, A. (1999). Social capital and its relevance to health and family policy. *Australian and New Zealand Journal of Public Health*, 23(4), 424-429.
- Ledogar, R. J. & Fleming, J. (2008). Social capital and resilience: A review of concepts and selected literature relevant to Aboriginal youth resilience research. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health* 6(2), 25-46.
- Lévesque, M. (2005). Social capital, reducing poverty, and public policy. In *Social capital in action: Thematic policy studies*. PRI Project – Social capital as a public policy tool. Government of Canada. September, pp. 5-21.
- Levi, M. (1996). Social and unsocial capital: A review essay of Robert Putnam's Making Democracy Work. *Politics and Society*, 24, 46-55.
- Levitte, Y. (2004). Bonding Social Capital in Entrepreneurial Developing Communities - Survival Networks or Barriers? *Journal of the Community Development Society*, 35, 44-64.
- Lin, N. (2001). *Social capital: A theory of social structure and action*. Cambridge, UK: Cambridge University Press.
- Lochner, K., Kawachi, I., & Kennedy, B. P. (1999). Social capital: a guide to its measurement. *Health & Place*, 5, 259-270.
- Lofors, J. & Sundquist, K. (2007). Low-linking social capital as a predictor of mental disorders: A cohort study of 4.5 million Swedes. *Social Science & Medicine* 64, 21-34.
- Loury, G.C. (1977). A dynamic theory of racial income differences. In P. Wallace & A. LeMund (Eds.), *Women, minorities, and employment discrimination*. Lexington, MA: Lexington Books.
- Loury, G. C. (1992). The economics of discrimination: Getting to the core of the problem. *Harvard Journal of African American Public Policy*, 1, 91-110.
- Matthews, R. & Cote, R. (2005). Understanding Aboriginal policing in a social capital context. In *Social capital in action: Thematic policy studies*. PRI Project – Social capital as a public policy tool (pp. 134-152). Government of Canada. September.
- Maxim, P., White, J. & Beavon, D. (2003). Dispersion and polarization of income among Aboriginal and non-Aboriginal Canadians. In J. White, P. Maxim & D. Beavon (Eds.), *Aboriginal Conditions: Research as a Foundation for Public Policy* (pp. 222-247). Vancouver: UBC Press.
- McKnight, J. (1987). Regenerating community. *Social Policy*, Winter.
- McKnight, J. (1995a). Asset-based community building. *City Magazine*, 16, 10-12.
- McKnight, J. (1995b). *The careless society: Community and its counterfeits*. New York: Basic Books.
- Mechanic, D. (1993). Social research in health and the American socio-political context: The changing fortunes of medical sociology. *Social Science & Medicine* 36(2), 95-102.
- Memmott, P. & Meltzer, A. (2005). Modelling social capital in a remote Australian Indigenous community. In A. Dale & J. Onyx (Eds.), *A dynamic balance: Social capital & sustainable development*. UBC Press: Vancouver.
- Michael, Y. L., Farquhar, S. A., Wiggins, N., & Green, M. K. (2008). Findings from a community-based participatory prevention research intervention designed to increase social capital in Latino and African American communities. *J Immigrant Minority Health*, 10, 281-289.

- Midgley, J. & Livermore, M. (1998). Social capital and local economic development: Implications for community social work practice. *Journal of Community Practice*, 5, 29-40.
- Mignone, J. (2003a). *Measuring social capital: A guide for First Nations communities*. Ottawa, Ontario: Canadian Institute for Health Information.
- Mignone, J. (2003b). *Social capital in First Nations communities: Conceptual development and instrument validation*. Doctor of Philosophy, University of Manitoba.
- Mignone, J., Halli, S., Hiremath, G. M., Sabnis, V., Laxmi, J., Moses, S., O'Neil, J., Ramesh, B. M., & Blanchard, J. (2009). Rapid ethnographic methodology - A grounded approach to the construction of a village-level rapid assessment tool predictive of HIV/AIDS in rural India. Submitted to the *International Journal of Qualitative Methods*.
- Mignone, J., Henley, H., Brown, J., O'Neil, J., & Ross, W. (2007). *Information and Communication Technology in Aboriginal Communities in Canada: Increasing Aboriginal Social Capital*. The University of Manitoba, Winnipeg.
- Mignone, J., Longclaws, J., O'Neil, J., & Mustard, C. (2004). Social Capital in First Nations Communities: Concept and Measurement. In J. White, P. Maxim & D. Beavon (Eds.), *Aboriginal Policy Research: Setting the Agenda for Change* (pp. 125-139). Ottawa: Thompson Educational Publishing, Inc.
- Mignone, J. & O'Neil, J. (2005). Conceptual understanding of social capital in First Nations communities: An illustrative description. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 3(2), 7-44.
- Mignone, J. & O'Neil, J. (2005b). Social capital and youth suicide risk factors in First Nations communities. *Canadian Journal of Public Health*, Jan/Feb, 96, S51-S54.
- Minkoff, D.C. (1997). Producing social capital: National social movements and civil society. *American Behavioral Scientist*, 40, 606-619.
- Mitchell, A. D. & Bossert, T. J. (2006). Measuring dimensions of social capital: Evidence from surveys in poor communities in Nicaragua. *Social Science & Medicine* 64, 50-63.
- Moody, L. & Cordua-von Specht, I. (2005). Stones: Social capital in Canadian Aboriginal communities. In A. Dale & J. Onyx (Eds.), *A dynamic balance: Social capital & sustainable development* (pp. 127-140). UBC Press: Vancouver.
- Munn, P. (2000). Social capital, schools, and exclusions. In S. Baron, J. Field & T. Schuller (Eds.), *Social capital: Critical perspectives* (pp. 168-181). Oxford: Oxford University Press.
- Muntaner, C. (2004). Commentary: Social capital, social class, and the slow progress of psychosocial epidemiology. *International Journal of Epidemiology*, 33, 674-680.
- Muntaner, C., Lynch, J. & Davey Smith, G. (2000). Social capital and the third way in public health. *Critical Public Health*, 10, 107-124.
- Munn, P. (2000). Social capital, schools, and exclusions. In S. Baron, J. Field & T. Schuller (Eds.), *Social capital: Critical perspectives* (pp. 168-181). Oxford: Oxford University Press.
- Narayan, D. (1997). *Voices of the poor: Poverty and social capital in Tanzania*. 1-80. Washington, DC, The World Bank. Environmentally and socially sustainable development studies and monographs series.
- Narayan, D. (1999). *Bonds and bridges: Social capital and poverty*. Washington, DC: The World Bank.
- Narayan, D. & Cassidy, M. (2001). A dimensional approach to measuring social capital: Development and validation of a social capital inventory. *Current Sociology*, 49, 59-102.
- Narayan, D. & Pritchett, L. (2000). Social capital: Evidence and implications. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective* (pp. 269-295). Washington DC: The World Bank.
- Newton, K. (1997). Social capital and democracy. *American Behavioral Scientist*, 40, 575-586.
- Nie, N. H. (2001). Sociability, interpersonal relations, and the internet: reconciling conflicting findings. *American Behavioral Scientist*. 45(3), 426-37.
- Nie, N. H., Hillygus, D. S. & Erbring, L. (2002). Internet use, interpersonal relations, and sociability: A time diary study. In B. Wellman & C. Haythornthwaite (Eds.), *Internet in everyday life*. Oxford: Blackwell.

- Nieminen, T. (2006). Social capital and health in Finland. In L. Iisakka (Ed.), *Social capital in Finland: Statistical review*. Tilastokeskus Statistiskcentralen Statistics Finland. Helsinki – Helsingfors.
- Norris, P. (2003). *Social capital and ICTs: Widening or reinforcing social networks?* Paper presented at the International Forum on Social Capital for Economic Revival, Tokyo, Japan. March.
- O'Brien, D. J., Phillips, J. L. & Patsiorkovsky, V. V. (2005). Linking Indigenous bonding and bridging social capital. *Regional Studies* 39 (8), 1041-1051.
- O'Neil, J. D., Kaufert, P. T., Reading, J. R., Kaufert, J., Young, T. K., & Manitoba First Nations Health Research and Information Committee. (1999). *Why are some First Nations communities healthy and others are not?: Constituting evidence n First Nations health policy*. Unpublished Work.
- Onyx, J. & Bullen, P. (2000). Measuring social capital in five communities. *The Journal of Applied Behavioral Science*, 36(1), 23-42.
- Parsons, T. & Smelser, N. (1956). *Economy and society: A study in the integration of economic and social theory*. New York: Free Press.
- Paxton, P. (1998). *Capitalizing on community: Social capital and the democratic society*. The University of North Carolina at Chapel Hill.
- Paxton, P. (1999). Is social capital declining in the United States? A multiple indicator assessment. *American Journal of Sociology*, 105, 88-127.
- Policy Research Initiative (2005). *Social capital in action: Thematic policy studies*. PRI Project – Social capital as a public policy tool. Government of Canada. September.
- Portes, A. (1995). Economic sociology and the sociology of immigration: A conceptual overview. In A. Portes (Ed.), *The economic sociology of immigration: Essays on networks, ethnicity, and entrepreneurship* (pp. 1-41). New York: Russell Sage Foundation.
- Portes, A. (1998). Social capital: Its origin and applications in modern sociology. *Ann.Rev.Sociol.*, 24, 1-24.
- Portes, A. & Landolt, P. (1996). The downside of social capital. *The American Prospect*, 26, 18-21.
- Portes, A. & Landolt, P. (2000). Social capital: Promise and pitfalls of its role in development. *Journal of Latin American Studies* 32(2), 529-547.
- Portes, A. & Sensenbrenner, J. (1993). Embeddedness and immigration: Notes on the social determinants of economic action. *American Journal of Sociology*, 98, 1320-1350.
- Pronyk, P. M., Harpham, T., Busza, J., Phetla, G., Morison, L. A., Hargreaves, J. R., Kim, J. C., Watts, C. H., & Porter, J. D. (2008). Can social capital be intentionally generated? A randomized trial from rural South Africa. *Social Science & Medicine*, 67, 1559-1570.
- Putnam, R. D. (1995). Tuning in, tuning out: The strange disappearance of social capital in America. *Political Science and Politics*, 664-683.
- Putnam, R. D. (2000). *Bowling Alone; the collapse and revival of American community*. New York: Touchstone.
- Putnam, R. D., Leonardi, R. & Nanetti, R. Y. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, New Jersey: Princeton University Press.
- Quan-Haase, A. & Wellman, B. (2004). How does the internet affect social capital? In *Social Capital and information technology*. In M. Huysman & V. Wulf (Eds.), Cambridge: The MIT Press.
- Quan-Haase, A. & Wellman, B. (2002). Capitalizing on the internet: Social contact, civic engagement, and sense of community. In B. Wellman & C. Haythornthwaite (Eds.), *Internet in everyday life*. Oxford: Blackwell.
- Quigley, K. (1996). Human bonds and social capital. *ORBIS*, 40, 333-342.
- RADAR (2002). *Social interventions for HIV/AIDS: intervention with microfinance for AIDS and gender equity*. IMAGE study intervention monograph no. 2. Rural AIDS and Development for Action Research Programme. University of Witwatersrand.
- Rankin, K. N. (2002). Social capital, microfinance, and the politics of development. *Feminist economics*, 8(1), 1-24.

- Reading, J. L., Kmetz, A., Gideon, V. (2007). *First Nations holistic policy & planning model: Discussion paper for the World Health Organization Commission on Social Determinants of Health*. Ottawa: Assembly of First Nations.
- Roche, K. M. (1998). *Neighborhood characteristics and social capital: Influences on the association between parenting and fighting and delinquency among adolescent males*. Doctor of Philosophy School of Hygiene and Public Health, The Johns Hopkins University.
- Rogers, E. M. & Kincaid, D. L. (1981). *Communication networks: Toward a new paradigm for research*. New York: The Free Press.
- Rose, R. (1997). *Measures of social capital in African surveys*. Unpublished Work.
- Rose, R. (2000a). Getting things done in an antimodern society: Social capital networks in Russia. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective* (pp. 147-171). Washington DC: The World Bank.
- Rose, R. (2000b). How much does social capital add to individual health? A survey study of Russians. *Social Science and Medicine*, 51, 1421-1435.
- Rousseau, J. (1993). *The social contract and discourses*. In J.M. Dent (Ed.), London: Everyman.
- Royal Commission on Aboriginal Peoples (1996). *Report of the Royal Commission on Aboriginal Peoples: Looking forward, looking back*. (vols. 1 & 5) Ottawa: Minister of Supply and Services Canada.
- Runyan, D. K., Hunter, W. M., Socolar, R., Amaya-Jackson, L., English, D., Landsverk, J., et al. (1998). Children who prosper in unfavourable environments: The relationship to social capital. *Pediatrics*, 101, 12-18.
- Rutten, R. & Boekema, F. (2007). Regional social capital: Embeddedness, innovation networks and regional economic development. *Technology Forecasting & Social Change*, 74, 1834-1846.
- Sabatini, F. (2005). Social capital as social networks: A new framework for measurement. *Social Capital Gateway*, June. (www.socialcapitalgateway.org)
- Sampson, R. J. (2003). Neighborhood-level context and health: Lessons from sociology. In I. Kawachi & L. Berkman (Eds.), *Neighborhood and health*. (pp. 132-146). Oxford: Oxford University Press.
- Sampson, R. J. & Groves, W. B. (1989). Community structure and crime: Testing social disorganization theory. *American Journal of Sociology*, 94(4), 774-802.
- Sampson, R. J., Morenoff, J. D. & Earls, F. (1999). Beyond social capital: Spatial dynamics of collective efficacy for children. *American Sociological Review*, 64, 633-660.
- Sampson, R. J., Raudenbush, S.W. & Earls, F. (1997). Crime: A multilevel study of collective efficacy. *Science*, 277, 918-924.
- Sapag, J. C. & Kawachi, I. (2007). Capital social y promoción de la salud en América Latina. *Rev Saude Pública*, 41(1), 139-149.
- Saul, J. R. (1995). *The unconscious civilization*. Concord, Ontario: Anansi.
- Schuller, T., Baron, S. & Field, J. (2000). Social capital: A review and critique. In S. Baron, J. Field & T. Schuller (Eds.), *Social capital: Critical perspectives* (pp. 1-38). Oxford: Oxford University Press.
- Schultz, T. (1961). Investment in human capital. *American Economic Review*, 51, 157-175.
- Schwab, R. & Sutherland, D. (2001). Building Indigenous learning communities. Centre for Aboriginal Economic Policy Research. Discussion Paper No. 225/2001. Canberra: CAEPR, Australian National University.
- Seligman, A. B. (1992). *The idea of civil society*. New York: The Free Press.
- Semaan, S., Sternber, M., Zaidi, A., & Aral, S. O. (2007). *Social capital and rates of gonorrhoea and syphilis in the United States: Spatial regression analyses of state-level associations*. Unpublished Work.
- Shadish, W. R., Cook, T. D. & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin: Boston.
- Sherraden, A. (1991). *Assets and the poor: A new American welfare policy*. Amonck, NY: M.E. Sharpe.

- Sirven, N. (2006). Endogenous social capital and self-rated health: Cross-sectional data from rural areas of Madagascar. *Social Science & Medicine*, 63, 1489-1502.
- Solow, R. M. (2000). Notes on social capital and economic performance. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective* (pp. 6-10). Washington DC: The World Bank.
- Subramanian, S., Kawachi, I. & Kennedy, B. P. (2001). Does the state you live in make a difference? Multilevel analysis of self-rated health in the U.S. *Social Science & Medicine*, 53, 9-19.
- Sudarsky, J. (1999). *Colombia's social capital: The national measurement with the BARCAS*. Unpublished Work.
- Sugden, R. (1986). *The economics of rights, co-operation, and welfare*. Oxford, UK: Basil Blackwell.
- Steinmueller, W. E. (2004). *ICTs and social capital*. Paper presented at the DRUID Winter Conference, January.
- Sundquist, J., Johansson, S. E., Yang, M., & Sundquist, K. (2006). Low linking social capital as a predictor of coronary heart disease in Sweden: A cohort study of 2.8 million people. *Social Science & Medicine*, 62(4), 954-963.
- Szreter, S. (2000). Social capital, the economy, and education in historical perspective. In S. Baron, J. Field & T. Schuller (Eds.), *Social capital: Critical perspectives* (pp. 56-77). Oxford: Oxford University Press.
- Szreter, S. & Woolcock, M. (2004a). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology*, 33, 650-667.
- Szreter, S. & Woolcock, M. (2004b). Rejoinder: Crafting rigorous and relevant social theory for public health policy. *International Journal of Epidemiology*, 33, 700-704.
- Talbot, L. & Walker, R. (2007). Community perspectives on the impact of policy change on linking social capital in a rural community. *Health & Place*, 13, 482-492.
- Temkin, K. & Rohe, W. (1998). Social capital and neighborhood stability: An empirical investigation. *Housing Policy Debate*, 9(1), 61-88.
- Torsvik, G. (2004). Social capital and economic development: A plea for mechanisms. In S. Prakash & P. Selle (Eds.), *Investigating social capital: Comparative perspectives on civil society, participation and governance*. Sage Publications: Thousand Oaks.
- Trask, H. (2000). Native social capital: The case of Hawaiian sovereignty and Ka Lahui Hawaii. *Policy Sciences*, 33, 375-385.
- van Deth, J. W. (2003). Measuring social capital: orthodoxies and continuing controversies, *Int. J. Social Research Methodology*, 6(1), 79-92.
- van Kemenade, S. (2001). *Social capital as a health determinant: How is it defined?* Policy Research Division, Health Canada: Ottawa.
- van Kemenade, S., Paradis, S. & Jenkins, E. (2003). Can public policy address social capital? *Horizons*, 6(3), 31-34.
- Veenstra, G. (2000). Social capital, SES and health: An individual-level analysis. *Social Science and Medicine*, 50, 619-629.
- Veenstra, G. (2002). Social capital and health (plus wealth, income inequality and regional health governance). *Social Science and Medicine*, 54, 849-868.
- Veenstra, G. & Lomas, J. (1999). Home is where the governing is: social capital and regional health governance. *Health & Place*, 5, 1-12.
- Wallston, B. S., Alagna, S. W., DeVellis, B. M., & DeVellis, R. F. (1983). Social Support and Physical Health. *Health Psychology*, 2, 367-391.
- Weber, M. (1930). *The protestant ethic and the spirit of capitalism*. London: Allen & Unwin.
- Weber, M. (1958). Essays in sociology. In H. H. Gerth & C. Wright Mills (Eds.), New York: Routledge.
- Weich, S., Burton, E., Blanchard, M., Prince, M., Sproston, K., & Erens, B. (2001). Measuring the built environment: validity of a site survey instrument for use in urban settings. *Health & Place*, 7, 283-292.
- Wellman, B. A., Quan-Haase, A., Witte, J., & Hampton, K. (2001). Does the internet increase, decrease, or supplement social capital?: Social networks, participation, and community commitment. *American Behavioral Scientist*. 45(3), 437-56.

White, J. P., & Maxim, P. S. (2003). Social capital, social cohesion, and population outcomes in Canada's First Nations communities. In J. P. White, P. S. Maxim & D. Beavon (Eds.), *Aboriginal conditions: Research as a foundation for public policy* (pp. 7-33). Vancouver: UBC Press.

White, J., Maxim, P. & Whitehead, P. (2000). *Social capital, social cohesion and population outcomes in Canada's First Nations communities* (Rep. No. 00-7). London, Canada: Population Studies Centre, University of Western Ontario.

White, J., Spence, N. & Maxim, P. (2005). Impacts of social capital on educational attainment in Aboriginal communities: Lessons from Australia, Canada, and New Zealand. In *Social capital in action: Thematic policy studies*. (pp. 66-80). PRI Project – Social capital as a public policy tool. Government of Canada. September.

Wilkinson, R. G. (1996). *Unhealthy societies: The afflictions of inequality*. London: Routledge.

Wilkinson, R. G., Kawachi, I. & Kennedy, B. P. (1998). Mortality, the social environment, crime and violence. In M. Bartley, D. Blane & G. Davey Smith (Eds.), *The sociology of health inequalities* (pp. 19-37). Oxford: Blackwell.

Woolcock, M. (1998a). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27, 151-208.

Woolcock, M. (1998b). *Social theory, development policy, and poverty alleviation: A comparative-historical analysis of group-based banking in developing economies*. Doctor of Philosophy Sociology, Brown University.

Woolcock, M. (1999). *Managing risks, shocks, and opportunity in developing economies: The role of social capital*. Unpublished Work.

Woolcock, M. & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer*, 15, 225-249.

World Bank, T. (2000). *Let's talk social capital* #25, 26, 27, 32.

Yip, W., Subramanian, S. V., Mitchell, A. D., Lee, D. T. S., Wan, J., & Kawachi, I. (2007). Does social capital enhance health and well-being? Evidence from rural China. *Social Science & Medicine*, 64, 35-49.

END NOTES

1. Schuller and colleagues (Schuller et al., 2000) bring to our attention a little known work titled Housing and Social Capital, published in 1957 by the Royal Commission on Canada's Economic Prospects (Dube et al., 1957). Social capital in their formulation is "the public physical infrastructure of a nation".

2. de Tocqueville, "the master himself", in words of Berman (1997), "did not ignore the need to marry the analysis of societal and cultural factors to the study of political institutions."

3. A 2002 book (Hackett, 2002) offers a meticulous account of the diffusion of diseases from Europe through central Canada to the West between 1670 and 1846.

4. Although this definition was derived from an analysis that tested broad theoretical ideas against the specific ethnographic realities of First Nations communities, we believe it is arguably relevant beyond the specific communities from which it arose. This current definition includes minor revisions post publication of papers reporting on the above mentioned study.

5. This incorporates both "hard" and "soft" social capital, as termed by House and colleagues (1999).

6. "(N)unca deja el presente, lo quiera o no, de aglomerar la historia." Original in Spanish. Translation is mine.

7. His measure of trust is derived from the U.S. General Social Survey (GSS) question: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people." Whereas his measure of civic engagement is derived from the GSS questions related to group membership: "Now we would like to know something about the groups and organizations to which individuals belong. Here is a list of various organizations. Could you tell me whether or not you are a member of each type?" No reliability information is provided. In terms of construct validity, Putnam acknowledges the important limitations of this survey because "the domains most central to our interests" are "largely confined to formal group membership, church attendance, and social trust." (Putnam, 2000)

8. One index was related to the construct of civic participation, and asked questions concerning actions that demonstrate a desire to serve the greater good, an interest in affairs in the public realm, and experience participating in political life. Because the author did not have an a priori reason to assume that civic participation would be a cohesive concept, he did not conduct reliability analysis upon this index. A second series of indices addressed the construct of trust from five different angles: trust in government in general (mean inter-item correlations $r = 0.402$ and Cronbach's alpha 0.871), trust in people from the respondents' parts of the province (mean inter-item correlations $r = 0.359$ and Cronbach's alpha 0.805), trust in people from the respondents' communities (mean inter-item correlations $r = 0.568$ and Cronbach's alpha 0.795), trust in people from respondents' part of Saskatchewan (mean inter-item correlations $r = 0.695$ and Cronbach's alpha 0.817), trust in people in general (mean inter-item correlations $r = 0.620$ and Cronbach's alpha 0.906). The social engagement construct was measured using the following type of questions: frequency of socialization with family members, friends and participation in small groups that provide support for its members; frequency of socialization with work-mates; willingness to turn to a work colleague in a time of trouble; attendance at religious services.

9. Civic participation was measured by: the proportion of eligible citizens who voted in recent elections; the proportion of households who subscribe to a local newspaper; the proportion of individuals who have belonged to a neighbourhood improvement association, donated blood, volunteered regularly in the past year or written a letter to the editor in a local newspaper. Opportunity and ability to collaboratively solve common problems was measured through a random survey that asked citizens to identify problems in their community, and whether there had been opportunities available to confront the problem, whether they availed themselves of the opportunity and whether they had ever organized a group to deal with a community problem. Associational life was measured with data about clubs and associations in communities, and through a random survey asking for a list of groups in which the respondents participated. At the individual level, trust was divided in trust in other citizens and trust in institutions. These constructs were to be measured by survey questions.

10. They used the question "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" to assess the level of trust in a society. Their trust indicator was the percentage of respondents in each nation replying "most people can be trusted." The norms of civic cooperation was assessed from responses to a question about whether each of the following behaviours "can always be justified, never be justified or something in between: a) claiming government benefits which you are not entitled to; b) avoiding a fare on public transport; c) cheating on taxes if you have a chance; d) keeping money that you have found; e) failing to report damage you've done accidentally to a parked vehicle." Respondents chose a number from 1 (never justifiable) to 10 (always justifiable). The researchers reversed these scales and summed values over the five items to create a scale with a 50-point maximum.

11. The first dimension was measured using data from an in-school questionnaire to students asking about their school club and organizational involvement. Two questionnaires inquired about school parental involvement (this is the only scale for which the study reports internal consistency results, and these results varied from Cronbach Alpha's 0.45 to 0.68) and parent organizational involvement. The second dimension was measured via two parent questionnaires inquiring about neighbourhood collective monitoring of youth and about neighbourhood incivilities. The third dimension was measured using data from an in-home adolescent questionnaire inquiring about the adolescents' perceptions of their neighbourhood.

12. Measures of civic engagement were created from the question "...Here is a list of various organizations. Could you tell me whether or not you are a member of each type?" Factor loadings for the endogenous variables were used. Interpersonal trust measures were created from three questions of the GSS, under the assumption that all three reflected a general trust in others. However, the questions received differential loadings on their measurement scale. (never justifiable) to 10 (always justifiable). The researchers reversed these scales and summed values over the five items to create a scale with a 50-point maximum.

13. The ten dimensions were: social control, hierarchy, political participation, institutional trust, media, civic republicanism, solidarity and mutuality, civic participation, horizontal relationships, information and transparency. The two main factors that were isolated were: social capital and faith in unvalidated sources of information. The study does not report reliability analyses.

14. The authors focus on four constructs: collective efficacy, psychological sense of community, neighborhood cohesion, and community competence. They sustain that each of these constructs taps into slightly different, yet overlapping, aspects of social capital. The paper reviews several instruments used to measure each of these constructs and calls for further study into their use as measures of social capital.

15. What Kawachi and Berkman (2000) call "integral" variables, Lochner and colleagues (Lochner et al., 1999) refer to as "intrinsic" measures, and Roger and Kincaid (1981) term "global" variables.

16. Helliwell and Putnam (Helliwell & Putnam, 1995) included as regional level indicators timeliness of budgets, legislative innovation, and speed and accuracy of responses to requests for information, newspaper readership, number of sports and cultural organizations, turnout in referenda, etc. Other interesting measurement and methodological ideas are found in Anielski's (2007) book on genuine progress indicators, in a study that developed reliable measures of place using site survey checklists (Weich et al., 2001); (Flora & Flora, 2000), using network analysis of community organizational networks (in fact the use of network analysis methods particularly for the Network component of the study's framework is an important avenue to pursue), among others. Specific to First Nations communities, Chandler & Lalonde (Chandler & Lalonde, 1998) offer the best ideas.

17. This is an example of how a "positive" impact is context-dependent and value-laden. In this particular case, higher BMI is positive given the low caloric normal diet of this Indigenous community. Currently in North America higher BMI might be seen as a negative outcome given the diabetes epidemic.