

8-2000

Social Capital, Social Cohesion and Population Outcomes in Canada's First Nations Communities

Jerry P. White

University of Western Ontario, white@uwo.ca

Paul S. Maxim

University of Western Ontario, maxim@uwo.ca

Paul C. Whitehead

University of Western Ontario, paulcw@uwo.ca

Follow this and additional works at: <https://ir.lib.uwo.ca/pscpapers>

Recommended Citation

White, Jerry P.; Maxim, Paul S.; and Whitehead, Paul C. (2000) "Social Capital, Social Cohesion and Population Outcomes in Canada's First Nations Communities," *PSC Discussion Papers Series*: Vol. 14 : Iss. 7 , Article 1.

Available at: <https://ir.lib.uwo.ca/pscpapers/vol14/iss7/1>

ISSN 1183-7284
ISBN 0-7714-2290-3

**Social Capital, Social Cohesion and
Population Outcomes in Canada's
First Nations Communities**

by
Jerry P. White
Paul S. Maxim
Paul C. Whitehead

First Nations Social Cohesion Project

Discussion Paper no. 00-7

August 2000

On the web in PDF format: <http://www.ssc.uwo.ca/sociology/popstudies/dp/dp00-7.pdf>
<http://www.ssc.uwo.ca/sociology/firstnations/>

**Population Studies Centre
University of Western Ontario
London CANADA N6A 5C2**

SOCIAL CAPITAL, SOCIAL COHESION AND POPULATION OUTCOMES IN CANADA'S FIRST NATIONS COMMUNITIES¹

Communities are social constructions built through the interaction of human actors with each other and with their environment. As such, the community is both a physical entity and a relationship. Organizations, institutions, structures of custom and patterns of everyday life are products of our interrelationships in our communities. These interrelationships can produce cohesion and solidarity or discord and disunity. Whether we believe it is the sameness of life that produces cohesion (as in Durkheim's mechanical society), or the class consciousness that defines world views, solidarity effects people's well-being and their social and economic achievements.

The sociology of this century has demonstrated a fascination with cohesion and the lack of it in human community. From the anomic post-structural angst of anti-positivism to the Colemanesque social capitalist constructions of trust, the problems we, as sociologists focus on are similar. What are the features of our communities that explain the human condition? Can we come to understand them and even predict their effect?

This paper is the first of a series that contribute to this quest for understanding. We consider that this paper provides the foundation for our research agenda. In this research agenda we are concerned in general with determining what factors in the make-up and functioning of communities contribute to differential population outcomes. This project is anchored in the sociology of policy

¹Our thanks to Jennifer Hoffman, Helga Benedikson, Doug Enright, Erin O'Sullivan, Stephen Gyima, Curtis Jones, Doug Boshart, and Gail Perry for their input into the concepts and production of this working paper.

and purpose even as it addresses this theoretical issue. We are centrally concerned, as social scientists, with what makes the population outcomes of the First Nations peoples so unique. The First Nations communities in Canada share a demography that sets them apart from the non-Aboriginal communities. Despite being particularistic by culture and geography they share commonalities across the country. We believe the key to this enigma lies in the very nature of the communities and how different social and physical resources interact to effect the cohesion of those communities.

The project, that spawns this paper, addresses how variations among available forms of capital (including social, human and natural/physical capital) and the cohesiveness of First Nations communities generate differential population outcomes. Those outcomes include variations in life expectancy, rates of infant mortality, levels of morbidity and a range of other unique patterns of factors within those communities. In this paper we present our working hypotheses in the form of a model. We outline the components of the model and some of the assumptions underlying it.

2. UNDERLYING UNDERSTANDINGS AND ASSUMPTIONS

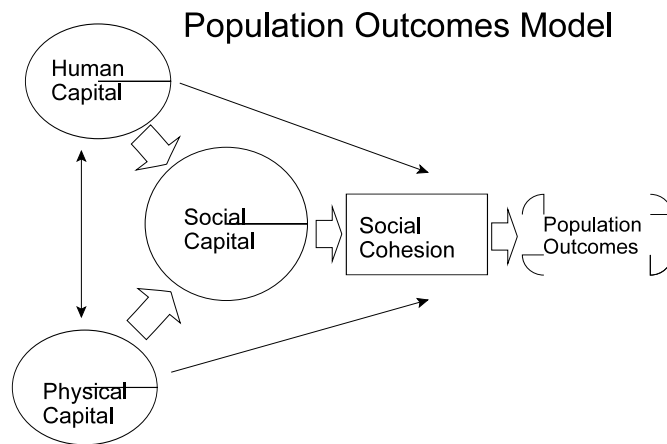
The Hypotheses and the Model

The Model. Our theoretical model includes several components: (1) a multifaceted dependant variable—population outcomes; (2) three independent variables—social capital, human capital and physical capital; and, (3) one intervening variable—social cohesion. Figure One outlines the model.

The model presupposes a unitary direction for the influence of variables however we do believe there are recursive paths that will appear in the actual functioning of the system when we get to the stage of actual measurement. We know already that there is a recursive relationship between

human and social capital (a parent teacher association enhances school operations) and a weak but observable relationship between investment in a community and the development of human capital e.g. capital investment in businesses leads to training on the job , company tickets and even full apprenticeships.

Figure 1



We see physical capital and human capital influencing the community both directly and in conjunction with social capital. We hypothesize that variations in social capital will affect social cohesion and, through this influence, have an effect on various population outcomes. Empirical research on social capital indicates that it has an impact on general mortality (Ichiro et al., 1997), infant mortality (Bendahmane, 1994), morbidity in vulnerable groups (Aday, 1997), fertility (Lilliard & Waite, 1993), economic performance (Grootaert, 1998, 1999; Knack & Keefer, 1997) and a range of other population and health outcomes (Sandefur & Lauman, 1998). It is also related to human capital as we indicate in the model (Teachman et al., 1997; Coleman 1988). The primary influence

we see as human capital enhancing the capacity to have stronger levels of social capital but we also recognize the strong possibility that higher levels of social capital may enhance the acquisition of human capital. For example when a parent-teacher organization contributes to the functioning of the schooling on a reserve. We believe that it is possible to measure social capital at the community level and refine an index based on critical variables identified in existing research (Krishna & Shrader, 1999). The Aboriginal Peoples Survey (APS), Census, DIAND Survey of Community Characteristics (DSCC) and the Indian Registry when developed into an integrated data set, will allow us to construct this index through variables concerned with the existence of community associations, membership participation, proportion of single parent families, language retention and trust in community political leadership among others².

In the simplest terms, communities that can draw on civic involvement, positive norms, trust and trustworthiness while having education and training based skills and the requisite financial and physical resources will be better functioning communities. An aspect of such a community is how well its constituents adhere to the collective. We call this cohesion and as we detail below, it involves how a community manages its diversity and resources through established institutions for the benefit of its constituents.

The model comes to life in the details which we describe in the next section.

2.1 The Multifaceted Dependant Variable

Population Outcomes

² We will also be doing an audit of a large sample of First Nations communities where we create a grid and data base of all organizations active in each community through interviews with key community actors.

We begin with the understanding that the social and demographic developments of most of Canada's First Nations communities are heading in different directions than those of the broader society. The First Nations population is young (with a median age of 25 compared to 35 years for all Canadians); 53% of reserve populations are under 25 years of age; First Nations populations are growing rapidly with a projected increase of 1.7% compared to 1.1% for Canadian between 1997 and 2005 (DIAND, 1997). First Nation peoples are both rural and urban peoples where 40% live outside reserves (Royal Commission on Aboriginal People, 1996; Statistics Canada, 1991), but migration data shows reserve populations are increasing as well (Beavon & Norris, 2000) but on-reserve populations are also growing (Clatworthy, 1995). First Nations communities churn with migration rates close to 60% between minor census periods (e.g., 1986-91) (Statistics Canada, 1991). The gap in life expectancy between First Nations and all Canadians is seven years with First Nations' men at 66.9 years and First Nation women at 74 years (compared to 74.6 and 80.9, respectively, for all Canadians). Birth rates are twice the national average and infant mortality rates, while falling from 28 to 11 per 1,000 live births from 1979 to 1993, remain nearly double the national average (Royal Commission on Aboriginal People, 1996). Suicide rates for youth are eight times the national average for females and five times that for males (Health Canada, 1997). Addictions and solvent abuse are reported as a serious community problem by 62% of First Nation people over 15 years (Statistics Canada, 1991). Cancers in women, particularly cervical and breast have higher than average occurrence (Health Canada, forthcoming). Four percent of First Nations' children were in the custody of Child and Family Services Agencies in 1996-97 (DIAND, 1997), some 39% of adults report family violence to be a problem in their community, 25% report child abuse, and 15% report rape as problems (Statistics Canada, 1991). Rates of incarceration for First Nations persons are more

than five times higher than the national average (Solicitor General of Canada, 1997) and in some jurisdictions, such as Saskatchewan and Manitoba, aboriginals account for nearly 60% of all jail and prison admissions.

These population dynamics vary by the First Nation, but they form patterns that make all First Nations distinct from the non-Aboriginal populations around them. Despite a diverse geography and varied language and culture, the patterns are undeniable and that begs the scientific question “What are the factors that are leading to these patterns?”.

Our aim here is to begin the process of modelling that will eventually uncover some explanations for these phenomenon. This process is hampered numerous problems with the available data on First Nations. Measuring population outcomes for First Nation communities is a difficult proposition. One of the main data sources includes the Census of Canada. This is a rich source of information, but it has some problems in terms of the data on First Nations. In 1991, 78 First Nation communities were considered by Statistics Canada to be under-enumerated and these communities were excluded from the Census database. Parent (1995) has estimated the number of individuals excluded at approximately 37,000. Parent (1995) also warns that the undercount on reserves *included in the Census* may be relatively higher than Canada as a whole but there are no reliable estimates.³

It is also difficult to track particular communities from census to census because names change and new communities are created. The testing of the model we are proposing will require the construction of major data set that will include a range of existing data sets such as The

³In 1996, Statistics Canada collected data from 751 populated geographical units which qualified as First Nations communities as defined for this study Census enumeration was not completed in another 77 communities, representing somewhere in the vicinity of 44,000 residents in First Nations Communities.

Aboriginal Peoples Survey (APS) 1991, the DIAND Survey of Community Characteristics (DSCC), the mother and infant data, mortality data included in the provincial death registry, the national cancer data set and several others.. All the data will have to be aggregated to the community level to allow analysis while protecting confidentiality. These multi-faceted data will be attached (not linked) to the available census data. We have taken the 1986, 1991 and 1996 census data for first nations and aggregated them by community for the purposes of attaching (not linking) this data which will create the kind of community data base that will allow the analysis of the model.

The creation of this multifaceted data set that will allow us to address a wide range of demographic issues. Four categories of population outcomes will be studied in our initial research, including variations in mortality, patterns and variation in morbidity particularly cancer and mother-daughter health and fertility patterns looking at new vistas in male and female fertility as well as spacing, rates and issues of infertility. These questions while of utmost importance in themselves will be looked at through the lens of the model.

The model presupposes that these outcomes are related to physical, human and social capital inter-relationships that spawn cohesion. This hypothesis is innovative but far from entirely original. As Bendiktsson (2000:9) points out income inequality and the distribution of mental and social disorder is well known in the epidemiological literature: “lower SES is associated with lower life expectancy, higher over-all mortality rates, [as well as] higher rates of infant and perinatal mortality. In fact, SES is correlated with all the major cause of death categories in the ICD, as well as other health outcomes, measures of life expectancy, physical and mental.” (see also Link and Phelan, 1993:81). While it is acknowledged that the proximate conditions of life that are correlated with poverty are no doubt involved in explaining the variance, lifestyle and less enriching physical

and social environment, there is, as Benediktsson notes much evidence to show that these features do not explain the differences in health outcomes and that despite absolute increases in wealth, health outcomes have not increased as rapidly. What other forces are at work?

There remains a clear set of pointers that indicate that deprivation, poverty, and even unemployment have effects on population outcomes. Avison (1999:i)) found in his study of unemployment and the mental health of families. Women who experience job loss have significantly higher rates of diagnosed disorders. This finding is in agreement with other studies such Brenner (1979) who finds relationships between unemployment and mortality as well as diagnosed mental disorders in Britain and Catalano (1991) where income disparity and economic insecurity have effects on health in the US. Extensive work has been done by Wolfson on both the US and Canadian experience. Wolfson finds a significant association between income inequality and mortality (1999). He notes that there are important reasons to consider a broad range of factors including economic well-being, income polarization and disparity when reviewing determinants of health.

The *social cohesion perspective*, typified by R.G. Wilkinson (1998;1997;1996), argues that structural forces related to income inequality, relative and absolute poverty are related to poor population outcomes. This relationship has been tested at several levels of analysis including international, regional and between communities finding that societies with less income inequality are on the whole healthier (Benediktsson 2000:12). Whether it is international level analysis (Wilkinson, 1998), intra-nationally between regions (Kaplan et al., 1996, Kennedy et al., 1996; Kawachi et al., 1996) or community level investigation (Narayan et al., 1999) the findings point to a pattern where the more unequal the income distribution the poorer the health outcomes. There

seems to be relatively conclusive evidence that there is something structural that is related to the cohesiveness of the community (Kawachi et al., 1997; Kennedy et al., 1996; Narayan, 1997; Wilkinson, 1996;1997;1998). The *World Bank Research Group on Social Capital* has developed a number of studies that indicate there is a range of factors that involve income and community organization that impact on health and general population outcomes (Grootaert,1998;1999; Narayan, 1997). While they use the term `social capital' they are looking at a variable that has the characteristics of both social capital and social cohesion. Our research is innovative in that we separate these into two distinct concepts. We will explore the intra-variable relationships between these variables and inter-relationship between the variables and population outcomes below.

2.2 The Three Independent Variables

Social capital

This concept has become central to research agendas in both North America and Europe (Bourdieu,1990; Coleman, 1990; The World Bank, 1998) and dates back to the 1980s in sociological discourse (Coleman, 1998; Granovetter, 1985). Social capital is a resource that is created in the relationships among persons and groups that engender trust and mutual obligations that can be drawn upon in order to develop and act effectively (Callahan, 1996). It inheres in the structure of relations between and among actors, and is made up of obligations, expectations, information channels, norms of reciprocity and effective sanctions that constrain or encourage certain types of behaviour (Callahan, 1996; Wall et al., 1998). Coleman (1988) developed this concept in the context of defining it according to its function. He saw it as a variety entities, with two elements in common: they consist of some aspect of social structures facilitating the actions of

individual or collective actors and they are productive, i.e., they make achievement possible (Coleman,1988:98). Coleman also notes that it is less fungible than other forms of capital. It is less tangible than both physical and human capital in his estimation but, none-the-less exists because it can be called upon and used to enhance productive activity (ibid:100). We concur to a degree with Coleman, but wish to push the concept quite a bit further to facilitate its measurement and also increase the predictive ability of our model which employs social capital as a central variable.

Social capital stands for the ability of actors to secure benefits by virtue of their association in a structure, what Portes (1998) has called membership in social networks (1998:6). We are hypothesizing that the development of human capital and establishment of a physical resources infrastructure needs to be complemented by social capital which in turn allows institutionalized development in order to reap the full benefits of all these investments. The redemption of social capital brings it into being and gives it a use value. Its exchange value is simply its ability to be redeemed. This is best understood as a process of commodification where the capital becomes a resource that can be exploited in a social network. That network could have at any of its nodes, organizations such as companies or collectivities. As you will see below the crystallization of that network into an institution creates social cohesion.

Social capital in our model can best be understood as being potentiated along three dimensions. The first is virtually identical to the Putnam/Coleman notion of existence and participation in community (civic) organizations. The second is the construction of trust and trustworthiness and the third is the development of norms of cooperative behaviours and reciprocal obligations. If we examine these one by one the concept of social capital becomes clearer and the measurement possibilities, i.e., the evidence of social capital develops a focus.

The concept of trust has been raised as central to social capital since the first writings on the subject (Coleman, 1988). We start by looking at the functioning of trust. We read in Coleman's *Foundations of Social Theory* about Jerusalem and the mother of six who moved there because it was safer for her children to play. That is a clear descriptive, but let us look at some more complex examples to develop the concept. There are many tangible examples of this relationship between people. For example, the Danish have a high trust society. Mothers (and fathers) park their children outside shops in their buggies while they enter the stores to shop. The level of trust allows the shopping to be more efficient and is an indication of the existence of social capital that we can see as it is redeemed. However, the New York Times (1997, May 22) reports that this practice led to the arrest of a visiting Danish woman. She attempted to redeem the social capital built up in Denmark in New York by parking her stroller and entering a store. This was a non-redeemable environment because it was a low trust environment. The norms of social control in the USA actually worked against this woman. Such a norm might work in favour of children in some cases as it sanctions abuse in the non-trust society but in the case of Danish visitor it operated differently. The social capital did not exist. Why can we say that? It could not be redeemed. It did exist in Denmark, and the evidence is that it could be redeemed. In both cases the individual tried to redeem. In both cases they perceived it to exist. In only one case did it exist as it was perceived. In the US we saw a norm of social control redeemed by an unknown person. By this we mean that someone called police when they perceived a woman abandoning her child. The norm that was redeemed was one shared and developed in that society against abuse. The parent is responsible in the US for protection of the child because there is a much reduced level of social trust i.e. less faith in the general community as a caretaker. Both are forms of social capital but they are unique in that

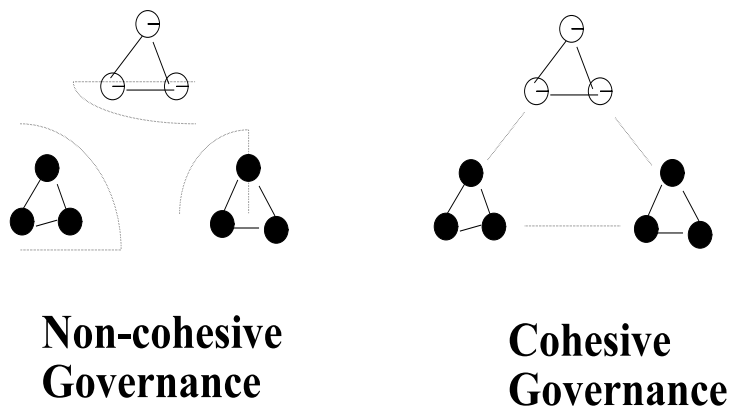
they are created in the differential social interactions and relationships of actual life. Are they equal but different? No, the US form of social capital is diminished as it is less universal (i.e. not everyone would report the abandonment) and based on lower forms of cooperation (reliance on authorities to discipline). This means it is less social capital not a different type or form of social capital. Social capital is a resource just as the other forms of capital are resources. It is important to reject the notion of a “negative social capital” or “downside social capitals” that are not resources but exclusionary forces such as the notion presented by Portes (1998) and Portes and Sensenbrenner (1993) and Portes and Landolt (1995). It is interesting to note that the police intervention with a “law” in hand is an example of an institution and as such is indicative of a form of cohesion. Few would dispute that one of the things that keeps the US cohesive is its police and paramilitary structures that enforce order. Witness the problems when there is a reduced police presence.

We can see, in the above example, issues of trust, trustworthiness and norms. Let us take another set of social capital indices. The civic association and civic participation dimensions can be seen through many measures. In a community the voting turnout i.e. participation in the governance structure, is one example of how one might look at levels of social capital. If in a community the turnout for a band election was universal we might conclude a level of inherent association and involvement in community exists. That could be indicative of high social capital. The test of cohesion would come with the outcome of the election where we would see if the governance structure could weld the different competing groups together. It is important to note that the intense campaigning in an election and high voter turnout is always indicative of social capital but perhaps not indicative of an actual transposition of capital into a factor of cohesion. Figure 2 illustrates this point. There are three sub-groups each competing to be elected to run the

community government (Band Council).

The groups have strong intra-group ties of trust (the elected will serve the group) and shared aspirations (norms). However, there can be two results to the election. On the left side we see the groups remain hostile on the right side the post election results lead to a development of ties between the groups. In the first case the results of an election mean that two of the groups will be shut out. In the case of our imaginary First Nation community lets say jobs go to the elected group supporters as does housing. That means that there is social capital within the small group, but that is not the case between the groups. Our model argues that this means it will be a less cohesive community in the first case. In fact we would expect that lack of trust between competing groups that is indicated in first iteration of Figure 2 will eventually lead to an erosion of participation in elections. The potential losses of jobs and incomes inherent in the process if one's participation may lead to people fearing involvement or to cynicism. We might therefore see lower rates of participation over time. This would indicate a decline in social capital.

Figure 2
Competing
Electoral groups



Just as we see a process of building social capital we can see that certain processes depreciate social capital. An example would be migration. Migration means that the composition of a community changes. This has obvious effects on the bonds and interactions between people in the community. If the levels of migration are high either measured as net migration or in terms of the rate of “churn” the probability of forming associations, clubs, parent-teacher groups, sport clubs, etc. is diminished. Any community civic life would be negatively effected. Migration is therefore a potential measure of depreciating social capital.

This example brings home another point. The resource “social capital” is generated and held for redemption at multiple levels in society. Wall (1998) notes that social capital can be measured at three levels of analysis: the individual, family and community/region. In the example presented individuals in family/clan groups interact to create social capital. The individuals can redeem this social capital just as the family/clan can redeem obligations and reciprocally developed capital with other clans. The community can also redeem social capital calling on citizens to be active around some program or action, but, as we will see below the community may likely benefit as the institutionalization of the obligation takes place in the form of cohesion.

There are many possible approaches to the measurement of social capital. One necessary condition to this process is to avoid creating a tautological construct where one operationalizes the concept using its functions. Enright (2000:2) points to the problem where one “operationally define[s] social capital as the benefits that accrue to the people from the relationships of trust etc....defining social capital by what it does eliminates our ability to test what it does!” To avoid this, he has proposed that we measure social capital along three dimensions: availability, investment and utilization, where availability refers to the amount available, investment refers to whether people

create social capital through their behaviours and utilization refers to the extent to which people call on the accrued social capital. Grootaert (1999) and many in the World bank group do just that. At times they define social capital as the collective action that occurs (its outcome). They look at memberships in government, social , political and religious organizations, contributions to credit groups and redemption of support from credit groups as indicators of social capital.

Social capital is effected by, and measured through, seemingly tangential relationships in a community. For example, income is an indicator of level of social capital. We argue that increased polarization and dispersion of income has a detrimental effect on community cohesion as it undermines social capital. This in turn impacts population outcomes. Income inequality at an individual level of analysis has been looked at in relation to health with fascinating results. Studies are mixed on the effect of inequality on mortality for example. Ichiro et al (1997) indicate that only when variables related to cohesion intervene can we see income inequality influencing mortality. Socio-economic status has been found to be associated with a range of “major cause of death “categories (as listed the International Compendium of Diagnosis and Disease [ICD]) as well as other minor and major health outcomes (Fiscella & Franks, 1997; Link & Phelan, 1993:81).

The last point we wish to make about social capital relates to how social capital operates or functions to be productive. We can identify 2 major dimensions on which social capital operates to enhance productivity. The first is the economic. Narayan and Pritchard (1997) note that social capital works across many dimensions for affecting economic outcomes:

- it enhances public sector efficacy (as in Putnam’s study of the newly developed Italian Governments)
- it helps diffuse innovation through inter-connectedness

- it increases the number of high risk / high gain endeavours by spreading the risk. In a community this may mean that a family can pursue an entrepreneurial idea without fear of abject poverty if it fails or a group can start a co-op manufacturing or distribution centre.
- it encourages formation of cooperative action around problems that have a “common property” element. For example the burning and clear-cutting of rainforest on village land can be restricted and planned reducing destructive activity.
- it improves information knowledge (i.e. reduces information imperfections which can cause inaccurate decisions) and therefore, encourages actions based on predictability.

Human capital and physical capital are integral aspects of our model.

Human Capital.

Human capital theory argues posits that when investments are made in human resources there is a return in terms of increased productivity both individually and collectively. This may be reflected, for example, in the gross income or product of a community. Becker (1964) saw this process in similar terms to the physical capital embodied in machines. Embodied capital enhanced the productive capacity of machines. The investment of education and training was also embodied in human beings, facilitating increased productivity, new ways to act and enhanced contribution.

Much of the investigation of human capital by economists centres on “Is the investment in human resources costeffective?” or, in simple terms, “Is it worthwhile economically?” We sidestep that particular debate about just how much benefit for how much investment and concentrate on the core of the theory – there is both a social (collective) return and an individual income return to education and training (Gunderson & Riddel, 1988). There is considerable empirical verification for

this theoretical proposition (Ashenfelter, 1978; Dooley, 1986; Hanson, 1970). For example, there are also numerous Canadian studies of First Nations income patterns that verify that there is a return for each year of education for Aboriginal Canadians (White, Maxim and Whitehead., 2000; Bernier, 1997; George & Kuhn 1995).

Human capital is seen as influencing social capital in our model and having a more direct effect on population outcomes through cohesion. If we think of the youth of a community as forming two groups, Youth Group One are school attendees while Youth Group Two are drop-outs. Group one will form more bonds of mutual obligation and trust. They see the mutual advantage of their skills and have an institutional setting for the redemption of those obligations as well as norms and values that they share around acquisition of increased education (human capital). Group two will share fewer institutional links and will therefore develop fewer bonds of obligation. They may share norms developed outside the school, but, by and large, these norms would be negative and therefore as they are redeemed will have a depreciating effect on community social capital.

Human capital allows community level growth in terms of interdependence. Those with productive skills interact and in that interaction they also build social capital. It stands to reason that higher levels of human capital create the possibility of more and better productivity which will generate more and higher quality social capital.

The link to population outcomes through this indirect path is also relatively deductive from the model itself. As we noted above, the increased social capital is already linked to the rise of institutionalized governance of difference for the growth of cohesion. The independent effect of human capital is through its influence on the increased community capacity to develop and successfully run organizations and institutions. We have noted elsewhere (Maxim, White and

Whitehead 2000) that levels of education are an indication of an increased capacity carry out individual and community tasks as it assumes there is a greater productive potential to call on. In the Davis Inlet case we attach as an illustration (Appendix One) we see that the presence of a school has little effect because the school is not utilized. The children do not stay in school and the parents do not promote it because it seems to have little positive effect given the poor living conditions and lack of work.

Human capital can play differing roles in the creation of population outcomes. Increased levels of human capital, in a community that has *diminished* levels of social capital can lead to what appear to be negative population outcomes. Studies indicate some contradictory relationships between human capital and migration, fertility and social capital (Massey & Besem, 1992). We can hypothesize for example that the youth in group one above may, if there are no opportunities in the First Nation community, choose to leave. This migration would be a net drain on the community, leaving it with fewer human resources and an even lower average level of human capital on which to draw. This would create a reciprocal decline in institutions and discourage investment in the community from outside and even from within. Human capital, therefore, relies on being combined with some forms of physical capital to become productive. The absence of investment in physical capital may actually have a detrimental effect on the social capital of a community and therefore on its cohesion and population outcomes.

Data also indicates that as human capital increases, social patterns or norms change. This is also part of the production of social capital. We would hypothesize that as education increases the age of first sexual experience increases (as measured by first pregnancy). Research indicates that this has an impact on social relations in terms of fertility patterns as well as on cancer rates

particularly cervical cancers associated with STDs. In this way human capital has direct population effects.

We are aware that the level of education in First Nations communities, while improving, lag behind the national average (DIAND, 1997; Four Directions Consulting 1997). Labour force participation rates also lag behind national averages, with lows of less than 47% on reserves (Four Directions Consulting 1997:92;Statistics Canada, 1991;). These are indications that the issues around human capital are critical in the development of understandings of population outcomes in these communities.

Natural and Physical Capital.

This form of capital includes both the financial resources (e.g.,capital for investment, collective income pooled in credit groups, buildings and/or machines) and the natural resources (e.g., land, forest, animals). A community can have an array of physical resources to call on but, as in any marginal economy, it depends on the proper combination of fixed and variable capital to create productive circumstances. When the community of Davis Inlet (Appendix One) was forced to move by the Newfoundland government in 1948, the new community did not have the same configuration of resources. There were fish in the new location but no caribou for example. The skills, i.e. human capital, did not match the physical resources. The same was true when the community was moved from the mainland in 1967. The outcomes were devastating to the community. The level of illness, the suicides and breakdowns of social capital in the form of norms and values, which lead to cohesiveness decline, was evident.

As noted above, physical capital is necessary to allow human capital to enhance the

community in which it resides. Human capital is held by the individuals and resides in the community only so long as the individual stays there. Unless the community creates the structures to release human capital it remains held by the individuals and therefore does not contribute to the development of the community. We can see that the redemption of human capital, ie. its becoming social, is like a chemical reaction where the proper balance of elements must be present. The human capital held by the individual members of “Youth Group One” in our example becomes a social good only as the skills are employed. That demands the financial and other physical capital resources of the community to be both present and in motion.

Physical capital also includes the collectivised income of the community. Income is an important and influential social form of capital only as it is represented in credit associations and credit unions. These become lower forms or localized forms of investment capital. The World Bank studies of Indonesia (Grootaert 1999) and Tanzania (Narayan and Pritchett, 1997) have illustrated this point. Access to funds through borrowing of pooled incomes provides the stability for growth of localized small scale production. Personal income has community effects but it is not in the true sense of the concept a form of capital for the model.⁴ The physical capital variable can, according to our model, have an effect on cohesion. The community, with few collective physical resources and low income, will not create as many social spaces. These spaces are related to cohesion. For example the investment socially and individually in a ball field for baseball or lacrosse and the establishment of grounds keeping, referees and even central uniform pool constitutes an institution that allows the cohesion of a community to grow. We will discuss this below but it is clear even to this point how

⁴ Personal income is more related to patterns of cohesion in terms of its polarization and dispersion. Income fluctuations do have effects on the consumption levels of the communities and have indirect effects therefore on tax based resources, the success of consumer goods businesses and the charity level investment for such cohesion building things as playgrounds.

physical resources play a role through the direct path to cohesion as well as through the complex modelled path via social capital.

The relation of physical capital levels and population outcomes has been the subject of broad based research. We know that unemployment (a condition that can be directly related to a lack of investment) can be correlated to morbidity levels and mortality just as income differences have been argued to have a relationship to mortality (Wilkinson, 1998:77).

First Nations communities have differing resources and access to resources. These resources can include natural capital such as forest open to logging, fisheries that can be worked, animal stocks and even hydro power. Legal access to resources and commercial capital to exploit the resources including manufacturing constitutes this variable. Our data sets under development will produce a picture of these differences and permit us to measure differences and the population outcomes associated with these differences. It is already documented that physical resources are scarce and access to equity and debt capital is very restricted in First Nations communities (Royal Commission on Aboriginal Peoples, 1997). Our model indicates that physical and natural resources play a role in population outcomes both directly and through community cohesion. It is to the cohesion variable we turn next.

2.3 The Intervening Variable: Social Cohesion

In recent years, the concept of social cohesion has been gaining importance in debates surrounding national policy and research, both in Canada and Europe (The Social Cohesion Network, 1998:2). Social cohesion as an analytical concept potentially allows measurement of a society's ability to "manage the stresses and strains of modern life." (The Social Cohesion Network, 1998:23). Social

cohesion itself is a complex concept composed of several intricately related issues. It is defined as “the ongoing process of developing a community of shared values (Breton et al., 1980:12; Policy Research Committee, 1996; Robinson & Wilkinson, 1995), shared challenges (Breton et al. 1980:331, Policy Research Committee, 1996:44) and equal opportunity (Amin & Tomaney, 1995; Ford et al., 1996; Oreja, 1987:7) , based on a sense of trust (Kawachi et al., 1998; Policy Research Committee, 1996:47), hope (The Social Cohesion Network, 1998:3,17), and reciprocity (Breton et al., 1980:4) among all Canadians” (The Social Cohesion Network, 1998:24). The basic definition used by Canada’s Cohesion Network⁵ is a good starting point but feel that it tends to be used as an all inclusive catchall descriptive category rather than an analytical variable to explain population outcomes.

The concept became more widely investigated after Putnam’s work on the growing fracturing and reduced integration in Western society (Putnam, 1993) . Social cohesion has been employed as a concept in many fields including political science (Jenson, 1998) , epidemiology (Lomas, 1998) and sociology (Kaufman, 1999). Much of the “cohesion” literature rests on the resurrection of the Tocquevillian liberalism that argues that voluntary involvement in social movements creates political stability by building cooperation in a population (Toqueville, 1995). Some interpretations centre their analysis on the institutions of modern late capitalism and attribute the creation of social order to them. From this perspective “a cohesive society is one in which accommodation of socio-economic conflicts is well managed ...[and] will be at risk only if differences are mobilized as grounds for conflicting claims and management of mobilized claims is fumbled” (Toqueville 1995:4; see also Jenson, 1998).

⁵The Social Cohesion Network is a working group largely in government that was established to examine issues around cohesion, sustainable growth and human development in Canada.

We take this a step further and ask two sets of questions. First, what is the societal effect of social cohesion? Does it effect population outcomes, the health and well-being of communities? The second set of questions relates to how social cohesion is to be measured. Measurement of social cohesion is predicated on the assumption that social cohesion is an outcome of investments into social capital, the social union as well as cultural and social projects (The Social Cohesion Network, 1999). The model presented here takes these investments into account as it examines the influence of social, human and physical capital on the intervening variable of social cohesion and its effects on population outcomes. In this model, the level of social cohesion that is created in a society also serves to determine the degree to which investments in the various forms of capital are exploited by the population.

The operationalization and measurement of social cohesion will involve creating a composite index that assesses how the *institutions* of the community have integrated the differences in that community along such dimensions as the following: the sense of well-being in a community, be it economic, social or cultural; the polarization in a community; the income inequality in a community; the generated cultural life and consumption and exchange of cultural products; the governance structures, the civic life (voting, volunteering etc.); the conflict management and resolution mechanisms; the shared institutionalized perspectives on approaches to crime, the institutionalized reconciliation of the multiple identities of its members (Indian status for example); attachment and re-attachment mechanisms for those leaving and coming into the community i.e., the institutionalized connectedness to community (migration); and identification with the symbols of the community.

These dimensions of social cohesion are restricted to the *institutionalized* processes because the categories overlap with the those of social capital. A key feature of this model is the

differentiation of social capital and social cohesion for this allows us to make breakthroughs on the question of measurement of the modelled relationships at the community level.

2.4 Differentiating Social Cohesion and Social Capital

Social capital and social cohesion are often collapsed theoretically, creating problems of conceptual circularity. Recent work has contributed to both empirically and theoretically distinguishing these concepts (Kaufman, 1999). We find however that there is an on-going confusion. We propose that these are at least somewhat unique concepts and that the conceptual separation is key to discovery of how they can be modelled to generate a predictive and descriptive theory of community and a descriptive and explanatory understanding of First Nation population outcomes.

We propose the following differentiation as a basic conceptual separation.

Social Cohesion is the *outcome* of the accommodation of socio-economic and political difference through institutions. It is the *identity* created through institutional unity of difference. It is observed and hence measured through institutions that manage the diversity that is created by a community with social capital, physical capital and human capital. For example a First nation community with the necessary business training and access to commercial capital and the proximately located transportation might develop lacrosse stick makers , uniform makers and wholesaling outlets. The development of a business association to regulate, lobby and coordinate small enterprise would be indicative of social cohesion. That association would be the outcome of a growing trust and obligation among the entrepreneurs or family groups that established these enterprises. Another example might be the growth of a fishing cooperative in a community. The skills (human capital)

around fishing combine with the fish stocks to generate fishers that develop a trust, a set of operating norms and mutual obligations in the course of their endeavours. This social capital generated can combine with the educational abilities learned in school lets say accounting and the knowledge of the outside markets to push this fishery past subsistence and communalism to form a marketing co-op. The co-op is an outcome of the growth of the social capital which comes about through the combination of the resources and the relationships that can development because of the mix. The co-op builds cohesion within the community. We hypothesize it will enhance the population outcomes.

Institutions are different from networks or even non-regulating organizations. This difference is crucial to the differentiation of social capital and social cohesion. An institution is a complex of norms and behaviours that persists over time by serving collectively valued purposes (Uphoff, 1993). It may arise originally to play the role of an organization, i.e. simple coordination of resource allocation, but it has a special place in that it cements some activity of the collective. Institutions create the frame of the social corpus, like a skeleton. The organization may operate as part of an institution or may evolve into an institution as the social capital generated in process of interaction grows. For example in Belize a group of Garfuna fisherman formed a small fish marketing co-op in Dangriga. Their purpose was to share labour so some could fish while others took the fish in quantity to market. The fishers organization became an institution as the fishers up and down the coast began to flock to it and it became a marketing board to stabilize prices, set limits, regulate off shore (Taiwanese) fishing , set income re-distribution mechanisms. (White, 1998).

Social capital are those elements that contribute to the construction of institutions that can build social cohesion. They are generated in association i.e. through relationships and they are held only

in association but can be called on by either individuals or groups. Trust for example is created in the interaction of individuals and groups, but it can be experienced individually. Groups can interact in ways that generate inter-group trust, which also generates social capital.

An Example

Trust between family members can lead to the creation of clan political activity. We can say that the clan has generated social capital. Political activity may create institutions of governance that cohere a community or ones that create division and suspicion. If the clans compete for resources and these resources are manipulated through governance structures to the detriment of the certain clan groups then the institution is not one that accommodates but one that divides. If the governance structures manage difference, i.e. accommodate then, there is cohesion in the community.

Conclusion

This working paper presents a conceptual model that is not complete, has yet to be verified through evidence and leaves many questions unanswered. It is however, a powerful model that extends the basic paradigm in the area and provides a relatively clear road forward for both empirical investigation and theoretical development. We welcome any and all comments, criticisms and queries. We have attached a very brief appendix that looks at two communities that have been the subject of public controversy. They may provide some anecdotal context to think about the basic concepts we have developed here. We also invite the readers to look at some of our initial empirical and theoretical work on this enormous puzzle. The next working papers concern income disparity

,community capacity, urban settlement patterns and the cost of early death to First Nation's Communities (Personal Years of Lost Life Analysis).

Bibliography

- Aday, L. 1997. Vulnerable Populations: A Community-Oriented Perspective. *Family and Community Health*, 19(4), 644-656.
- Amin, A., and Tomaney, J. 1995. *Behind the Myth of the European Union : Prospects for Cohesion*. New York: Routledge.
- Ashenfelter, O. 1978. Estimating the Effect of Training on Earnings. *R.E. Stats*, 63(Feb), 47-57.
- Avison, W., L. Davies, K. Speechely, & Grabb, E .1999. *Unemployment and the Mental Health of Families*. Technical Report, NRHDP Project no. 6606-5020-63. Centre for Health and Well-being, London:UWO.
- Beavon, D., and Norris, M.J. 2000. *Migration Patterns of First Nations Peoples in Canada: Data from the 1996 Census*. Talk delivered to the Sociology Department, University of Western Ontario (April 27).
- Becker, G. 1967. *Human Capital and the Personal Distribution of Income*. Ann Arbor, Michigan: Institute of Public Administration and Department of Economics.
- Becker, G. 1964. *Human Capital*. New York: The National Bureau of Economic Research.
- Bendahmane, D. 1994. The Quiet Revolution: Child Survival Comes of Age. *Grassroots Development*, 18(2), 2-12.
- Bendiktsson, H. 2000. *Social Cohesion and Population Health: Where do we go from here?* Presentation to the First Nations Cohesion Project , May 3rd London:University of Western Ontario.
- Bernier, R. 1997. *The Dimensions of Wage Inequality among Aboriginal Peoples Research Paper Series No. 109*. Ottawa: Statistics Canada, Analytical Studies Branch.
- Bobet, E. 1994. Indian Mortality in Canada in Keith Thompson and Craig McKie (Eds.), *Canadian Social Trends. Vol.2*. Toronto: Thompson Educational Press.
- Bourdieu, P. 1990. *Reproduction in Education, Society, and Culture*. London:Sage.
- Brenner, M.H. 1979. Mortality and the National Economy: A Review and the Experience of England and Wales. *Lancet*, 2, 568-573.
- Breton, R., J.G. Reitz, & Valentine, V.F. 1980. *Cultural Boundaries and The Cohesion of Canada*. Montreal: Institute for Research on Public Policy.

- Bullin, P., & Onyx, J. 1998. Measuring Social Capital in Five Communities in New South Wales. In The World Bank Group (Eds.), *Social Capital Methods and Tools. The World Bank Social Development Network Social Capital Working Paper Series*, Washington D.C.: World Bank.
- Callahan, S. 1996. The Capital that Counts. *Commonwealth*, 123(20), 7-8.
- Clatworthy, J. 1995. *Patterns of Employment, Unemployment and Poverty. Royal Commission on Aboriginal People: People to People, Nation to Nation*. Ottawa: Minister of Supply and Services Canada.
- Coleman, J. 1990. *Foundations of Social Theory*. Cambridge: The Belknap Press.
- Coleman, J. 1988. Social Capital in the Creation of Human Capital. *American Journal of Sociology*, 94 Supplement.
- Four Directions Consulting Group. 1997. *Implications of First Nations Demography: Final Report*. Ottawa: Department of Indian Affairs and Northern Development.
- Department of Indian Affairs and Northern Development. 1997. *Basic Departmental Data*. Ottawa: Department of Indian Affairs and Northern Development.
- Dooley, M. 1986. The Overeducated Canadian? Changes in the Relationships Between Earnings, Education and Age. *Canadian Journal of Economics*, 19(Feb), 142-159.
- Enright, D. 2000. *Social Capital: Its Contribution To Social Cohesion*. Presentation to the First Nations Cohesion Project, May 3rd London: University of Western Ontario.
- Fiscella, K., & Franks, P. 1997. Poverty or Income Inequality as Predictors of Mortality: A Longitudinal Cohort Study. *British Medical Journal*, 314, 1724-1728.
- Ford, G., G. Kinnoch., & McCarthy, A. (Eds.). 1996. *Changing States: a Labour Agenda for Europe*. Great Britain: Mandarin Paperbacks.
- Frideres, J. 1998. *Aboriginal Peoples in Canada* (5th ed.). Scarborough: Prentice Hall.
- Government of Canada. 1999. *Ten Years of Health Transfer First Nation and Inuit Control*. Ottawa: Ministry of Supply and Services.
- Granovetter, M. 1985. Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91(3), 481-510.

- Gray, J.(199, April 1). Innu Fear the Impact of Voisey's Bay. *The Globe and Mail*, p.A8.
- Grootaert, C. 1999. *Social Capital, Household Welfare and Poverty in Indonesia Local Level Institutions Study, Service Development Department Revised Working Paper*. Washington:The World Bank.
- Grootaert, C. 1998. Social Capital the Missing Link. In *Social Capital for Development: The Initiative on Defining, Monitoring and Measuring Social Capital, The World Bank Social Development Network Social Capital Working Paper Series*. Washington D.C.:World Bank.
- Gunderson, M. & Riddell, W. C. 1988. *Labour Market Economics : Theory, Evidence and Policy in Canada* (2nd ed.). Toronto:McGraw - Hall Ryerson.
- Hanson, W.L. 1970. *Education, Income and Human Capital*. New York: National Bureau of Economic Research.
- Health Canada. Forthcoming. *Cervical Cancer Screening and Prevention Study 1998*. Ottawa: Medical Services Branch, Health Information Data Base, FNIHP.
- Health Canada. 1997. *Basic Departmental Data*. Ottawa: Medical Services Branch.
- Ichiro, B., P. Kennedy, K. Lochner, & Prothrow-Stith, D. 1997. Social Capital, Income Inequality and Mortality. *American Journal of Public Health*, 87(1), 481-489.
- Jenson, J. 1998. Mapping Social Cohesion. *Policy Research: Creating Linkages* (October 1, 1998). Ottawa: Policy Research Secretariats Conference.
- Kaplan, G.E., E. Pauk, J. W. Lynch, R. Cohen, & Balfour, J. 1996. Income Inequality and Mortality in the United States. *British Medical Journal*, 312, 999-1003.
- Kaufmen, H. 1999. Associationalism. *American Journal of Sociology*, 106(1),1304-1305.
- Kawachi, I., & Kennedy, B.P. 1997. Socio-economic Determinants of Health: Health and Social Cohesion: Why care about Income Inequality? *British Medical Journal*, 314, 1037-1046.
- Kawachi, I., B.P. Kennedy, & Lochner, K. 1998. Long Live Community: Social Capital as Public Health. *Social Capital Database* [On-line], Available: <http://wbln0018.worldbank.org/PRM/PREMH0>.
- Kennedy,B., I. Kawachi & Prothrow-Smith, D. 1996. Income Distribution and Mortality: cross-sectional Ecological Study of the Robin Hood Index in the United States. *British Medical Journal*, 312, 1004-1007.

- Knack, S., & Keefer, P. 1997. Does Social Capital have an Economic Payoff?. *Quarterly Journal of Economics*, 112(4), 1251-1288.
- Krishna, A., & Shrader, E. 1999. Social Capital Assessment Tool. *Paper Presented at the Conference on Social Capital and Poverty Reduction*, (June 22-24,1999). Washington D.C.:The World Bank.
- Lilliard, Lee., & Waite, L. J. 1993. A Joint Model of Marital Childbearing and Marital Disruption. *Demography*, 30(4), 653-681.
- Link, B. G., & Phelan, J., 1995. Social Conditions as Fundamental Causes of Disease. *Journal of Health and Social Behavior, Special Edition, Extra Issue*, 80-94.
- Lomas, J. 1998. Social Capital and Health: Implications for the Public Health and Epidemiology. *Social Science and Medicine*, 47,1181-188.
- Massey, Douglas., & Besem, L. 1992. Determinants of Savings, Remittances, and Spending Patterns Among U.S. Migrants in Four Mexican Communities. *Sociological Inquiry*, 62,185-207.
- Narayan, D., 1999. *Bonds and Bridges: Social Capital and Poverty Research Working Paper 1896*. Washington D.C.:World Bank.
- Narayan, D. 1997. *Designing Community based Development, Environmental Department Paper No.7*. Washington D.C.: World Bank.
- Narayan, D., & Pritchett, L. 1997. *Cents and Sociability: Household Income and Social Capital in Rural Tanzania, Research Working Paper 1796*. Washington D.C.:World Bank.
- Oosthoek, S., & Nethercott, D. (1995, February 14). The Spirits of Davis Inlet. *The Hamilton Spectator*, p. A10.
- Oreja, M. 1987. *Social Cohesion and the Dangers Facing It*. Secretary General of the Council of Europe.
- Parent, P. 1995. *Comparason du nombre et des carateristiques des autochtone selon le Recensement de 1991 et selon l'Enquete aupris des peuples autochtones de 1991*. Interim Version, Employment Equity Data Program, September 27, 1995.
- Policy Research Committee. 1996. *Canada 20005 [sic] Growth Human Development and Social Cohesion, Draft Interim Report*. Internal Working Draft (no Identifiers)
- Portes, A. 1998. Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24, 1-24.

- Portes A. & Sensenbrenner, J. 1993. Embeddedness and Immigration: Notes on the Determinants of Economic Action *American Journal of Sociology*, 98, 1320-1350.
- Portes, A. & Landolt, P. 1995. The Downside of Social Capital *The American Prospect*, (May/June), 18-21.
- Putnam, R.D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Robinson, D., & Wilkinson, D. 1995. Sense of Community in a Small Mining Town: Validating a Neighbourhood Cohesion Scale. *American Journal of Community Psychology*, 23, 137-148.
- Royal Commission on Aboriginal Peoples. 1997. People to People, Nation to Nation [CD-ROM]. *For Seven Generations: An Information Legacy of the Royal Commission on Aboriginal Peoples Minister of Supply and Services Canada*. Ottawa: Libraxus Inc.
- Sandefur, R.L., and Lauman, E. 1998. A Paradigm for Social Capital. *Rationality and Society*, 10(4), 481-501.
- The Social Cohesion Network. 1999. *May 17th Workshop: What is Social Cohesion and Why Does it Matter?* [On-line]. Available: <http://policyresearch.schoolnet.ca/networks/cohsoc/socialco-e.htm>.
- The Social Cohesion Network. 1998. *Sustaining Growth, Human Development and Social Cohesion in a Global World* [On-line]. Available: http://policy_research.schoolnet.ca/keydocs/sustain99/ch4-e.
- Solicitor General Canada. 1997. *Basic Departmental Data*. Ottawa: Ministry of the Solicitor General.
- Teachman, J., K. Paasch, & Carver, K. 1997. Social Capital and the Generation of Human Capital. *Social Forces*, 75(4), 21-32.
- The World Bank Social Development Network. 1998. *Social Capital for Development: The Initiative on Defining, Monitoring and Measuring Social Capital, Social Capital Working Paper No.1*. Washington D.C.: World Bank.
- Toqueville, A. D. 1995. *The Old Regime and the Revolution*. Gardin City: Doubleday.
- Valpy, M. (1995, April 27). Where is CNN?. *Globe and Mail*, p.A4.
- Wall, E., G. Ferrazzi, & Schryer, F. 1998. Getting the Goods on Social Capital. *Rural Sociology*, 63(2), 300-322.

- Wolfson, M., G. Kaplan, J. Lynch, N. Ross & Backlund, E. 1992. The Relation Between Income Inequality and Mortality: An Empirical Demonstration, *British Medical Journal*, 319, 953-955.
- White, J.P., P. Maxim, P.C. Whitehead, & Beavon, D. 2000. *Dispersion and Polarization of Income Among Aboriginal Canadians, Working Paper FN. 00-02*. London, Ontario: Population Studies Centre, University of Western Ontario.
- Wilkinson, R. G. 1998. What Health Tells us about Society. *I-----D---S---* *Bulletin*, 29(1) 77-84.
- Wilkinson, R. G. 1997. Comment: Income, Inequality and Social Cohesion. *American Journal of Public Health*, 87, 1504-1506.
- Wilkinson, R. G. 1996. *Unhealthy Societies: The Afflictions of Inequality*. London:Routledge.
- The World Bank Group. 1999. *Social Capital Methods and Tools* [On-line]. Available: www.worldbank.org/poverty/scapital/methods/index.htm

Appendix One

TWO EXAMPLES : DAVIS INLET AND THE PORT HARRISON RELOCATION

This section of the working paper aims to illustrate how one would approach the assessment of particular communities using the framework of the model. We have chosen unusual cases as illustration as they give us intra community comparators. The two illustrations are Davis Inlet and Port Harrison. Both are remote settings and both illustrations involve the actual movement of a community that results in a change in the mix of our three forms of capital and subsequent differences in that community along such dimensions as the following: the sense of well-being in a community, be it economic, social or cultural; the polarization in a community; the income inequality in a community; the generated cultural life and consumption and exchange of cultural products; the governance structures, the civic life (e.g.voting, volunteering etc.); the conflict management and resolution mechanisms; the shared institutionalized perspectives on approaches to crime, the institutionalized reconciliation of the multiple identities of its members (Indian status for example); attachment and re-attachment mechanisms for those leaving and coming into the community ie. the institutionalized connectedness to community (migration); and identification with the symbols of the community.

These dimensions of social cohesion are restricted to the *institutionalized* processes because as the observer can see the categories overlap with the those of social capital. A key feature of our model is the differentiation of social capital and social cohesion for this allows us to make break throughs on the question of measurement of the modelled relationships at the community level.

Davis Inlet

The **Innu** which means "human being" (not to be confused with the **Inuit**, an Aboriginal

people who live farther north) are a nomadic hunting people who have lived in the Québec-Labrador peninsula for thousands of years. Of the 10,000 Innu, most live in Québec, while the others live in Labrador in two small communities - Sheshatshit, near Goose Bay and the island of Davis Inlet, off the north coast of Labrador.

Davis Inlet is an example of the breakdown of social capital and community cohesion provides an example of how the elements in our model inter-relate. The following story is intended as a window to the model.

The community of Davis has undergone two distinct processes of disintegration of its accumulated cohesion through dramatic removal of institutional structure and capital resources. The first was at the behest of the Government of Newfoundland during the pre-confederation period. In 1948, the Newfoundland government, without asking or entering into any negotiations, loaded the Innu of Davis Inlet onto a boat and took them 400 km north to the Inuit town of Nutak. The government wanted to close the government depot at Davis Inlet. The Newfoundland government had decided that it would be “useful” for the Innu to become fishermen. The Innu were hunters, not fishermen, and there was no game at Nutak. There were no trees from which the Innu could cut poles from to pitch their tents, because Nutak is above the tree line. One year later, the Innu walked 400 km back to Davis Inlet.

The current community has 530 members and these people were also uprooted from their Davis Inlet home. The 530 Innu who live on the isolated island were forced to relocate there from the mainland by the Canadian government in 1967. The Innu themselves call Davis Inlet, *Utshimasits* or "place of the boss." Where once they were independent hunters who roamed the Québec-Labrador peninsula for caribou, the Mushuau Innu, "people of the barrens" have, for two generations, lived in

Davis Inlet (on the island) and watched their traditional way of life destroyed. Only a kilometre of water separates them from their traditional hunting grounds on the mainland, but during the winter freeze or spring thaw, the crossing is too dangerous for either snowmobile or boat.

If we examine some of the social and health population outcome patterns of the Davis Inlet we see that the tiny community has been plagued with alcoholism, gas-sniffing, physical and sexual abuse and suicide. The pinnacle may have come in 1992, when five brothers and sisters, along with an infant cousin, died in a house fire while their parents were out drinking. At the time, it is estimated that 75% of the 168 adults of Davis Inlet were alcoholic.

When the Innu were moved to Davis Inlet, the Canadian government had promised them houses, running water and sewers. After many years the infra-structure projects were still incomplete (Oosthoek & Nethercott, 1995). There are very few full-time Innu jobs in Davis Inlet, most of them service jobs with government agencies. In an average year, twenty Innu children enter kindergarten, yet only two students are left in a class by grade eleven and none ever enter grade twelve. Innu parents complain that the province-run school has little relevance for the children and teaches curriculum that does not help the Innu learn about their own culture.

After the deaths of the children in the fire, the community was sparked into forming new and functional organizations. Political organizations were formed that culminated in demands for controls over capital development, environmental protections from corporate mining developments, self policing and courts. In December 1993, the Innu evicted a circuit court judge from their community, complaining that “white justice” did their people more harm than good. For this, the chief of the Innu in Davis Inlet, Katie Rich, was sent to jail (Valpy, 1995). The Innu wished to end the military testing on their land and deal with the breaking of laws in their own councils. When the Newfoundland

government threatened to send in the RCMP and restore the court, the Innu formed a blockade on the airstrip. In February 1995, the Innu travelled to Voisey's Bay, 75 miles north of Davis Inlet, to stop a mining company from drilling on the site (Gray, 1997).

From the perspective of our model, the Innu community was trying to reestablish cohesion through the building of institutions that could manage the community's diversity. Reestablishing of norms of reciprocity, rebuilding of social capital and attempts to marshall control over physical capital – are all aimed at altering the population outcomes. During the rebuilding phase ie. 1993 through 1997 the rates of alcoholism fell to under 35%. The new community associations had some effect.

Under an agreement with the Federal government, the Innu will be leaving Davis Inlet sometime in the next few years and moving 15 km to a traditional hunting ground on the mainland at Sango Bay. Ottawa is expected to pay the estimated \$85 million it will cost to complete the move including infra-structure and Newfoundland will provide the site. The Innu name for Sango bay is *Nutuaiashish* or “place of good, clean water”. Sango Bay has a good water supply, a waterfall with potential for generating electricity, a good site for an airstrip, a harbour, abundant fishing and is close to traditional hunting grounds.

What we would predict is that the social cohesion of the community should rise dramatically in the first few years after relocation even given the disruption involved in the movement. There is an infusion of all forms of capital. The proximity of physical resources such as animals, fish and timber will combine with the financial capital infrastructure that is promised from the state to create the conditions for the rebuilding of cohesive institutions. This should hopefully potentiate the proposed revitalized schooling systems. The political movement that galvanized the community generated the social capital through associationalism and norm reconstruction. We should see drops

in suicides and other negative population.

Port Harrison (now called Inukjuak)

In 1953 Port Harrison was an Inuit community that most described as “thriving”. There were major establishments in place like a nursing station, police station, school, Catholic Church and Hudson’s Bay Company. The community was a mix of cultures with the white southerners and semi-nomadic Inuit sharing the social space in what was considered, at that point of history, relative harmony. The capital at the disposal of the Inuit community was reasonable. Physical resources included good fish stocks and animals for food and furs. Basic subsistence production was supplemented with furs and stone carvings sold to the Hudson’s Bay (HBC), for sugar, salt, tobacco and manufactured goods.

The school was well attended depending on the season, and the Inuit youth had levels of education that were higher than those of other Northern communities. Government involvement in the community was limited as there were no welfare recipients and little administration of Inuit communities beyond the Church and HBC decision makers. The Inuit had their own systems of traditional leadership.

In 1952 the fox fur market collapsed and the result was a decline in the trade price paid by the HBC to the Inuit. This shortfall created problems for the purchase of goods at the HBC and after a short period this necessitated the involvement of the Canadian Government in the delivery of assistance. That same year the Government decided to take a more active involvement in the administration of the North. This was prompted by two things. First there was increased US military presence due to the escalating cold war and the second the increasing financial dependency of the northern population due to the economic problems in the fur markets.

One of the first acts of the State was to relocate families from Harrison to Resolute Bay and Grise Fiord. The problem was that despite promises of infra-structure at these locations, none was forthcoming, therefore there were no school facilities. As well the fishing was very difficult due to the perpetual freezing near shore and the game was not plentiful. Snow was not suitable for “igloos so the Inuit had to live in canvass tents. What we see then is the skills that the community members had (their human capital) were not transferrable, the physical and natural capital was lacking and the result was a decline in the cohesiveness of the community. The community at Resolute began to engage in excessive alcohol consumption. The proximity of the military base led to a ready source of alcohol and degradation of family through interaction with armed forces members. The rates of illness went up, particularly tuberculosis, as did the rates of suicide. Stillbirths were far above the national average even the Northern averages and fertility rates dropped.

The social capital of the community had dropped as did the other forms of capital which led to severe problems in the cohesiveness of the community and the resultant decline in population well-being.

Had the Government permitted it, the population would have opted to return to Harrison. Unfortunately the option was denied. It would be the 1960s before the Inuit came back to their old homes and at that point much of their old life had died. The whole process indicates how the interaction of forms of capital have an effect on the population outcomes of a community. Many analyses of relocations like this point to the destruction of traditional ways, the negative effect of alcohol, the denial of work. The advantage of our model is that it gives a framework within which one may track all these factors in such communities.