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SOCIAL CAPITAL AND REGIONAL HEALTH GOVERNANCE IN SASKATCHEWAN, CANADA

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A Dissertation

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Abstract

The relationship between social capital in a community and effective political governance by regional health boards in Canada was explored. A model was proposed that identified components of social capital such as trust, commitment and identity, associational and civic participation and collaborative problem-solving. These concepts were theoretically linked to effective governance - in particular to reflection of health needs, policy making and implementation, fiscal responsibility and the integration and coordination of services. The theoretical model was then tested empirically in Saskatchewan, Canada, where district health boards (DHBs) have been in operation since 1993. We found little evidence of a relationship between social capital in health districts and the performance of corresponding DHBs. Using a survey of randomly selected citizens from eight districts (n=534) we explored relationships among the individual-level components of social capital delineated in the model. The behavioural components of the model - associational and civic participation and past experience collaborating to solve community problems - were significantly and positively related to one another. After controlling for socio-demographic characteristics we found that certain forms of trust, identity and commitment were positively and significantly related to these social capital behaviours.

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Preface

This dissertation was inspired by a political theory advocated by Robert Putnam, from Harvard University, that explores the relationship between "social capital" in communities to the performance of regional-level political institutions. Putnam tested his theory empirically with data collected in Italy, using social capital and effective governance indicators at the regional level. I have further explicated the theory, describing a theoretical model that links social-psychological, behavioural and community-level social capital dimensions (trust, identity, commitment, civic participation, associationalism and collaborative problem-solving ability) with effective health governance dimensions (reflection of health needs, policy making and implementation, fiscal responsibility and integration and coordination of services).

Jonathan Lomas, Professor in the Department of Clinical Epidemiology and Biostatistics, McMaster University, provided the inspiration for the choice of thesis topic. I have worked with him on a study in Ontario that assessed community members' attitudes toward local health governance, and on a survey to devolved authority health board members in five Canadian provinces (including Saskatchewan). Together we fleshed out a theoretical model for the relationship between social capital and the effectiveness of regional health authorities in Canada, and the published paper is the result. Jonathan was also involved with other aspects of the thesis: data collection, data analysis and interpretation, and write-up. The theoretical process was also generously assisted by the resources of the Centre for Health Economics and Policy Analysis (CHEPA, McMaster) which provided me with a CHEPA Studentship Award in Health Policy, under Jonathan's direction, in the summer of 1995.

Jonathan joined the Network Centres of Excellence project in health (HEALNet), in its Regional Health Planning Theme, as a principal investigator, and secured funding for my empirical test of the theory in Saskatchewan from them. The RHP Theme was located in Saskatoon, Saskatchewan, and was conducting its own research on devolved health care in that province, and so I joined them in Saskatoon for four months where I began the data collection. Most of the costs of data collection, including a survey to 1600 people, were covered by HEALNet. I was assisted there by Denise Kouri, Steven Lewis, Jackie Dutchak, Harley Dickinson and, especially, Barb Crockford.

David Ralph Matthews, Professor Emeritus of Sociology, McMaster, and Professor of Sociology, University of British Columbia, guided me through some of the social-psychological literature, in courses and in conversation, that contributed to the inclusion in the social capital model of such perspectives, and aided in the creation of the research design and the survey instrument. He was also a resource when it came time for writing the thesis, with numerous comments on style and content. David Streiner, professor of psychiatry, McMaster, was a statistical resource person who assisted in the areas of survey question and scale creation and validation/reliability testing. John Fox, professor of sociology, McMaster, was another statistical resource who assisted in the data collection process and especially in the data analysis process (multiple regressions).

The research was also facilitated by a SSHRC doctoral fellowship in 1995/96 and 1996/97.

Chapter 1. Social capital and regional health governance: Literature review and theoretical model

1.1 Introduction

In Canada nine provincial governments have created devolved regional health boards responsible for making many health-related decisions in their regions (Hurley et al, 1994; Lomas, 1997; Lomas et al, 1997). These governments likely hope that the new boards will be effective; i.e., able to tailor the delivery of health care to the needs of particular regions, implement innovative policy, ensure an efficient delivery of services, and thus create a cost-contained health-care system serving a healthier population. The move to devolution of health care planning responsibility in Canada has been fast and widespread, with the majority of provinces instituting the new structures during the past seven years. What is unknown is whether some boards are (or will be) more effective than others, and, if so, why. What characteristics of governing bodies and their regions might make some boards more effective than others? The performance of regional health boards is the primary dependent variable in this research project.

Researchers have focussed on several issues in an attempt to explain effective governance. One focus has been the organizational design of the political body (e.g., March & Olsen, 1989). With this focus, the debate centres on the functions and responsibilities of particular geographic bodies (should regional or should local governments be responsible for decisions?), whether two-tier systems are better than single-tier ones, and whether and to what extent existing community structures (e.g., hospital boards) should be incorporated into or excluded from the new structures. Another focus is the representativeness versus the expertise of the members of the political body who are making the decisions (e.g., Pitkin, 1967). Should we include providers or exclude them, and do we want an appointed governing body, an elected one or some combination? Other analysts claim that because decision-making depends in part upon the available information, the quality and nature of this information is especially pertinent for good governance (e.g., Hurley et al, 1995; Weiss, 1983).

This research project explores the perspective suggested by work (Putnam et al, 1993a) linking the civic nature of a community to effective governance in Italy - a community-focussed perspective. Rather than placing the effectiveness of governance entirely on the shoulders of available information, on those making

decisions or on the political structure, Putnam suggests that 'social capital' in the community being governed is an, if not the most, important influence on governance. In a similar vein, Cohen and Rogers (1992) advocate a new form of democratic theory, called associative democracy, focussing their attention upon secondary associations in society that perform various roles. Cohen and Rogers claim that secondary associations provide 1) information to policy makers about preferences and the impact of legislation, 2) equalizing representation, 3) citizen education, helping citizens to develop competence, self-confidence and broader interests, and 4) alternative governance (as an alternative to markets or public hierarchies, fostering communication among members citizens). They claim that a politics of association can improve both economic performance and government efficiency.

But what exactly *is* social capital, does it really exist, can it be defined and isolated, and can it influence effective governance by regional health authorities in Canada? What kind of secondary associations contribute to social capital? These are the broad questions that this research study addresses, all of them theoretically and some of them empirically, in the province of Saskatchewan, Canada.

Putnam's work does not, however, provide us with enough detail for a sophisticated theory of social capital. Moreover, we cannot easily determine from it whether this theory is applicable to a relatively homogeneous place like Saskatchewan. Can we determine how various aspects of social capital interact with and affect one another? Does the theory apply to all types of governing institutions, and, in particular, to the regional health boards of Saskatchewan? In an attempt to answer these questions we will, in this chapter, 1) briefly touch upon the social capital, civil society and social cohesion literatures and pull relevant concepts from these, 2) explicate what *we* consider to be essential components of social capital, creating a model with individual-, aggregate- and community-level characteristics and both behavioural (action) and attitudinal (social-psychological) dimensions, 3) construct a working definition of effective governance in health care, and 4) theoretically link the model of social capital to the effective health governance constructs of health needs reflection, policy making and implementation, fiscal responsibility and integration and coordination of services. We will then 5) discuss the generalizability of our (and others') perspective, and 6) describe some current research on social capital occurring elsewhere in the world. Finally, we will 7) introduce how some of the social capital and effective governance concepts are measured (and linkages tested) empirically in this study, using data collected in Saskatchewan, Canada.

If the theory put forward here - that social capital is a crucial element in effective local governance - turns out to be supported by the data gathered in Saskatchewan, then a significant shift will be needed in what governments and others choose to focus on when designing local governance. This is compelling because it entails moving some attention from the political institutions of health care to the poorly understood

interactional and participatory qualities of the community. If the theory is not supported by the data gathered in Saskatchewan, then the viability of an increasingly popular political theory will be questioned.

1.2 The setting

As mentioned, nine of Canada's provinces have instituted devolved health authorities since 1991, although Quebec already had a regional structure which underwent reform in 1991. Because we are researching whether social capital in regions has an influence upon the performance of these regional governments, and because we speculate that the longer a government is in operation the more it will reflect the levels of social capital in a region, we sought a province with regional authorities as established as possible. Quebec's regional governance structure is the oldest and best established in the country, but the language difference made research in that province not possible. Of the remaining provinces, New Brunswick, Saskatchewan and Prince Edward Island are the most established; the former implemented in 1992 and the latter two in 1993. The remainder of the provinces implemented devolution of health care in 1994 or later (Lomas et. al, 1997, p. 372). However, because regional health board performance is the dependent variable that we hope to predict statistically with empirical data, the provinces New Brunswick and PEI are poor choices, since they have only seven and five health regions, respectively, which are too few for meaningful statistical comparison. Saskatchewan has 30 regions (called health districts), making this province a good choice for further study. Because the boundaries of the districts in Saskatchewan were created with input from community leaders it is also more likely they reflect bottom-up social capital.

The province of Saskatchewan has a population of just under one million and primary industry in agriculture. Because of the history of strong cooperative movements in the past - Saskatchewan was the birthplace of the Cooperative Commonwealth Federation (CCF), precursor to the NDP - we thought Saskatchewan would be a good place to explore social capital, a theory that emphasizes cooperative action by individuals and groups. Are there areas in Saskatchewan with high social capital? Lipset pointed out that

> "the factors in the Saskatchewan social structure that made for a high level of rural political activity were declining with the improvement in communication and transportation facilities. Cars and good roads meant the breakdown of the significance to the rural community of the network of political and social communications that once were so necessary, and the increased domination of the growing urban centres over the cultural and political life of the farm areas" Lipset (1971:xviii).

The continued growth of the urban centres in Saskatchewan suggest, then, that social capital may vary in the province. It is also fitting that the birthplace of Medicare in Canada be the place where a research project is conducted investigating the relationship between cooperative action and the performance of governing bodies in the health care arena.

The Saskatchewan Ministry of Health created 30 District Health Boards and corresponding health districts in 1992. Outside of Saskatoon and Regina, the two largest urban settings in the province, the average population of a district is approximately 18,000 people. The Saskatoon and Regina DHBs each have approximately 220,000 people within their jurisdiction. The DHBs are responsible and make decisions for hospitals, long term care, other health institutions, public health, home care, ambulance services, mental health services, drug and alcohol services, community health centres and other community health services. They are not responsible for physician payments and drug plans (Ontario Premier's Council, 1995:8). They are also not responsible for raising revenues, although they do have responsibility for local planning, setting priorities, allocating funds and managing services (Lomas et. al, 1997:373).

Each DHB has 12 board members. When the districts were created the Ministry of Health appointed the board members; in October, 1995, elections were held in each district for eight new board members, and four appointed members from the first board continued in their role as board members.

A population needs-based method of funding DHBs was introduced in 1994-95. As described in the planning document,

> "[i]n the past Saskatchewan Health provided funding to specific facilities and agencies, based mainly on past service use. Beginning in 1994-95 district health boards will receive funding by broad service areas based on a population needs-based method of funding. This involves the allocation of funds by service area according to the population of the district and adjusted for age, gender and health needs of the district. Variations in the cost of services will also be factored into the approach" (Saskatchewan Health, 1995).

The DHBs receive a budget by broad service areas and are responsible for allocating funds to programs, agencies and institutions within the district. How well the DHB enacts its responsibilities is the primary dependent variable in this research project.

1.3 Putnam's theory of social capital and its relevance to studying regional governance

Putnam et. al. (1993a) have related aspects of community relations to political governance. Following de Tocqueville, Putnam defined a "civic" community to be one that is marked by active participation in public affairs, and where the pursuit of the public good supersedes the pursuit of private and individual ends. The citizens in this community are not necessarily altruists, but pursue "self-interests properly understood"; i.e., in the context of broader public needs. The civic community is bound by horizontal relations of reciprocity and cooperation rather than vertical ones of authority and dependency. Tolerance and especially trust (interpersonal and mutual) are virtues that help to surmount opportunism. This community tends to form many civil associations, a dense network of secondary associations that serve to instil cooperation and solidarity in citizens, which then contributes to effective social collaboration and adds to the store of social capital (Putnam et al,

1993a, pp. 86-91).

Social capital was measured in each of twenty Italian regions by combining the following four indicators into an index: the vibrancy of associational life (looking at membership in sports clubs, cultural and scientific activities, music and theatrical activities, technical or economic activities, health and social services and leisure time activities); newspaper readership (the percentage of households in which at least one member read a daily newspaper); referendum turnout; and electoral candidate preference voting.

To measure effective governance over a period of more than twenty years Putnam explored three dimensions, 1) policy processes, 2) policy pronouncements and 3) policy implementation. For the first he looked at cabinet stability, budget promptness and information services. For the second he tested reform legislation and legislative innovation. For the third he investigated regional uptake of centrally-offered opportunities for day care centres, family clinics, industrial policy instruments, agricultural spending capacity, local health unit expenditures, housing and urban development, and bureaucratic responsiveness.

The social capital index correlated extremely well with the measures of effective regional governance, performing better, in Putnam's opinion, as an explanation of effective governance than socio-economic modernity or social and political strife. Based on this and an extensive historical analysis in each region, Putnam concluded that social capital is not easily generated but once it exists in large amounts in a community it remains for long periods of time, serving as a resource for community endeavours. When he traced levels of social capital back to the Middle Ages, he concluded that regions scoring high in social capital today corresponded to those high in social capital through history. The implications of these findings have been extended to the U.S. in more recent work by him (Putnam, 1993b; Putnam, 1995).

Putnam's conclusions have not been entirely well-received by all critics. For example, Goldberg (1996) questioned the methodological and statistical methods used by Putnam, Sabetti (1996) questioned the path dependency model and historical interpretations used, Tarrow (1996) questioned the mix of quantitative and qualitative methodologies, and Levi (1996) questioned the extent of concept clarity (especially with respect to trust) and the links between social capital and governance.

From our point of view, we are interested in the conclusion that Putnam's social capital index correlated with effective governance, but are unclear why this conclusion should ring true. Does it make theoretic sense that the components of the index correlate with one another? Is an assessment of peoples' actions (e.g., voting, newspaper readership, participation in clubs) enough, or should we consider motives for action as well? Are there important distinctions between aggregate- and community-level characteristics (the

whole is more than the sum of its parts)? Even given an adequate understanding of social capital on behavioural, attitudinal, and level-of-analysis issues, *why* do these characteristics lead to effective governance? These are the main issues that we will address theoretically and empirically in this work, and that Putnam did not always directly address (at least empirically) in his. The broader social capital, civil society and social cohesion literature informs some of these issues.

1.4 Social capital

Like physical and human capital, social capital should have capital-like qualities to live up to its name. This suggests something durable or long-lasting that can be used up, destroyed, maintained or accumulated (SCIG, 1998). Questions that follow from the capital-like nature of social capital are: who controls it and where does it reside (SCIG, 1998)?

We can differentiate between two approaches to social capital: the embeddedness perspective and the rational choice perspective. The first, a Durkheimian perspective, treats rational action quite differently from rational choice theorists. The Durkheimian view considers that

> "all behavior (including rationality) [is] socially derived; different groups may have different definitions of rationality. Rational choice advocates [on the other hand,] either define rationality in terms of individual self-interest, or assume that individual self-interested rationality is superior to other types of rationality" (Flora, 1998).

If purposive action by individuals is a necessary part of social capital, as we shall consider later, then the means by which people make action choices is important. The rational choice perspective purports that individuals use rationality to choose action, a rationality that is generalizeable to all persons. The embeddedness perspective purports that most behaviour is embedded in social relationships. "Social theorists who adhere to the embeddedness perspective are interested in the sources of norms of trust and group reciprocity. Rational-choice theorists take such norms as input into rational-choice decisions" (Flora, 1998, p73).

James Coleman popularized the term social capital in the 1980's, although Jane Jacobs was already talking about it in the 1960's and Pierre Bourdieu in the 1970's. Although social capital discussions are currently occurring in several disciplines (political science, geography, social work, sociology and rural studies, for example), none of which can claim ownership of the concept, Coleman's definition has perhaps been the most influential:

> "[S]ocial capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors - whether persons or corporate actors - within the structure. Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible. Like physical capital

> and human capital, social capital is not completely fungible but may be specific to certain activities ... Unlike other forms of capital, social capital inheres in the structure of relations between actors and among actors. It is not lodged either in the actors themselves or in physical implements of production" (1988, p. S98).

Thus social capital facilitates ends. Coleman specified three forms of social capital. The first is "obligations, expectations, and trustworthiness of structures". "If A does something for B and trusts B to reciprocate in the future, this establishes an expectation in A and an obligation on the part of B" (Coleman, 1988:S102). This form of social capital rests upon trustworthiness of the social environment (meaning that obligations will be repaid) and the extent of obligations held (S102). The second is "information channels". Information is important in providing a basis for action, and can be acquired through the use of social relations that exist for another purpose (S104). The third is "norms and effective sanctions":

> "When a norm exists and is effective, it constitutes a powerful, though sometimes fragile, form of social capital ... A prescriptive norm within a collectivity that constitutes an especially important form of social capital is the norm that one should forgo self-interest and act in the interests of the collectivity ... [S]upported by internal or external sanctions, norms of this sort are important in overcoming the public goods problem that exists in collectivities" (S104-105).

According to Coleman there are two forms of social structure that facilitate social capital (Coleman, 1988). The first is "closure of social networks". "In general, one can say that a necessary but not sufficient condition for the emergence of effective norms is action that imposes external effects on others" (S105). Networks that have closure (all participants are connected to all other participants) can better impose sanctions and maintain adherence to norms. The second is "appropriable social organization". Existing organizations can be used for other purposes (the exchange of information for example). Coleman distinguished between simplex and multiplex relations, the latter of which is a relation where persons are linked in more than one context, while in the former they are linked by only one relation. The "central property of a multiplex relation is that it allows the resources of one relationship to be appropriated for use in others" (S109).

Coleman is one of the principal proponents of rational choice in sociology (Flora, 1998). Social capital, for him, is a public good that is arrived at inadvertently; inadvertent because the rational choice in a situation may not be the choice that increases social capital:

> "The public goods quality of most social capital means that it is in a fundamentally different position with respect to purposive action than are most other forms of capital ... because the benefits of action that bring social capital into being are largely experienced by persons other than the actor, it is often not in his interest to bring it into being. The result is that most forms of social capital are created or destroyed as a by-product of other activities. This social capital arises or disappears without anyone's willing it into or out of being and is thus even less recognized and taken account of in social action than its already intangible character would warrant" (Coleman, 1998, S118).

Portes and Sensenbrunner (1993) defined social capital to be those expectations for action within a collectivity that affect the economic goals and goal-seeking behaviour of its members, even if these expectations are not oriented toward the economic sphere. They specified four types of social capital: 1) value introjection, which reflects an underlying moral order and prompts people to act in ways other than naked greed (similar to Coleman's norms and effective sanctions), 2) reciprocity exchanges, a social capital that is an accumulation of "chits" gathered in previous good deeds to others, backed by the norm of reciprocity (similar to Coleman's obligations and expectations), 3) bounded solidarity, a social capital that arises out of the situational reaction of a class of people faced with common adversities which leads to the observance of norms of mutual support (similar to what Coleman might presume about "closed social networks"), and 4) enforceable trust, where individuals subordinate their present desires to collective expectations in anticipation of long-term market advantages by virtue of group membership.

Granovetter (1985) explained how social relations guide, influence and direct economic action, claiming that peoples' attempts at purposive action are embedded in concrete, ongoing systems of social relations. Similarly Coser (1991) described how webs of weak ties can lead to problem-solving, innovative solutions and reduced conflict. Jacobs (1994) identified social capital as those social relations, institutions and networks that occupy the social space between individual and state. Social capital includes civic memberships and trust as well as neighbourliness, spontaneous sociability (the spontaneous eruptions of informal social networks and activities), forums for learning about and discussing issues, projects to work on, and recreational opportunities. Jacob's social capital also included cultural amenities, health care, safety and an active street life. Cox (1995), when describing social capital, focussed upon the nature of the associations and clubs in a community. Communities low in social capital form cliques and resist change - their structure is top-down and hierarchical, and they have an in-group/out-group mentality.

Generally, in other social capital studies and discussions, social capital is viewed as the dimension[s] of social life that improves the effectiveness or productivity of some sector of society, such as the economy or the government (O'Connor, 1997). Ahern et al (1996) found that a lower sense of community was significantly associated with higher levels of choice, cost and satisfaction problems in peoples' interactions with the health-care sector. Helliwell (1995), using Putnam's data from Italy, and therefore Putnam's measure of social capital, concluded that social capital contributes to and facilitates economic progress and success; however, in a comparison of Canadian provinces and US states Helliwell found that interpersonal trust was not related to economic performance (1996, p. 20). Similarly, Knack & Keefer (1997) found that rates of membership in formal groups is associated with neither levels of trust nor economic performance.

There is some evidence of a link between social capital and health outcomes of individuals. Kawachi et. al. (1997) found strong correlations, in the U.S.A., between levels of economic inequality and health outcomes, but also that the variable social capital mediates the relationship; when social capital is controlled the correlation between income inequality and health is almost entirely removed. Thus economic inequality appears to undermine social capital, which in turn has adverse effects upon health. Kawachi measured social capital by using aggregate responses to the questions 'Most people would try to take advantage of you if they got a chance', 'You can't be too careful in dealing with people', and 'People mostly look out for themselves', along with the rate of participation in civic associations. Egolf et. al. (1992) found mortality differences between Roseto and Bangor, Pennsylvania, during a time when there were many indicators of greater social solidarity and homogeneity in Roseto.

In summary, we conclude that social capital's function is inextricably tied into its nature; what it achieves or facilitates is an important part of its definition. That is, social capital makes possible certain ends. The particular ends in question vary, however. Some theorists are concerned with economic goal-seeking behaviour, others with purposive action, the productivity of government, economic success in regions, or the health of individuals. Some are interested in where norms come from, and others in the effect norms have on the actions of rational individuals. These varied ends beg the question: are there, therefore, different social capitals, some that facilitate some ends and others that contribute to success in other dimensions, or is the same social capital appropriable for all of these ends?

The elements of social capital, its components, are contentious. Coleman told us that social capital (obligation and trustworthiness of structures, information channels and norms and effective sanctions) can be found in closed social networks and is facilitated by appropriable social organizations. The aspects of social capital suggested by other theorists beg the questions: are closed social networks and/or appropriable organizations found in communities with strong senses of community, much participation in civic associations, high levels of trust, and/or dense webs of weak ties? Are they found in the social space between individuals and the state, an active street life, or in horizontally (but not vertically) inclined associations? Perhaps the networks in communities with dense networks are more likely to be closed, to instil obligation and trust in participants, to transmit information among persons, or to effectively police sanctions, for example. These propositions are not empirically demonstrated, however.

The level of analysis when defining social capital is contentious. Coleman was clear that social capital resides within social structure, not within individuals. Thus he described networks and types of organizations that facilitate social capital. Yet his understanding of trust included both individual-level and system-level components (Coleman, 1991:175). Portes and Sensenbrunner similarly specified concepts that are the property

of groups rather than of individuals, as did Jacobs, Granovetter, and Cox. Putnam, however, measured the actions of individuals, in part (voting and newspaper readership, for example), Ahern measured sense of community (presumably in individuals), and Kawachi measured trust (of individuals). Are these measures proxies for group-level phenomena, or does social capital reside, in part, in individuals? And what size and level of group is most relevant: the entire space between the individual and the state or the smallest networks among family members?

What group sizes are most pertinent to social capital? We can think of differently sized groups who may possess a social capital that works toward the good of that group. For example, neighbourhood gangs may have social capital, as may the neighbourhoods themselves, or the greater community (the city), or, in Saskatchewan, districts that encompass a number of cities, towns and rural areas. Social capital may also be conceptualized at the level of nation. Thus, for example, one might compare levels of trust in an institution, say the federal government, between citizens in Canada and the United States. Does social capital at the level of community translate into social capital at the nation level? This is also a question unanswered empirically.

If the rational choice approach to social capital is adopted, then the level in question may be less relevant, since rational behaviour does not then vary greatly from social context to social context. Individuals are looking out for their best interest in all situations. The embeddedness approach to social capital, however, implies that the level of analysis may be very important. If most behaviour is embedded in social relationships, then the norms of trust and group reciprocity that influence behaviour may vary between social contexts, and shared norms within a small group (say, a neighbourhood) may not be shared by all other small groups in a large group (say, all neighbourhoods in a city). Helliwell (1996) and Kawachi et. al. (1997) found varying levels of interpersonal trust among US states, which suggests that norms of trust do vary among scenarios, and that the embedded approach may be relevant. These measures of trust are aggregated results from questions asked to individuals and are not measures of strength of norms of trust, but variance in aggregated scores suggest variance in the norms that may influence individual-level scores.

In this research project we will focus on using social capital in health districts to explain variance in the effectiveness of District Health Boards in Saskatchewan. Thus, like Putnam, our dependent variable is governmental performance and our independent variable is social capital in the governed regions. We are less concerned with economic goal-seeking behaviour of individuals (as were Coleman, Portes and Sensenbrunner, and Granovetter) than we are with all behaviours that translate into social capital serving as a resource for governing bodies. When we explore people's motives for action we will focus upon social-psychological reasons rather than rationalistic self-interested ones, demonstrating our commitment to the embeddedness perspective on social capital. In a later section of this chapter we will attempt to define a social capital that is

hypothetically related to governing performance. Before doing this we will explore some of the citizenship, civil society and social cohesion literature for further clues toward identifying some important elements of social capital.

1.5 Citizenship and civil society

Like the social capital literature, the civil society literature focusses on the social activities, networks and formations that are outside of, and distinct from, the state. The role of citizen is important to this discussion and is relevant to an understanding of social capital. Marshall (1976) defined three dimensions of citizenship: the civil (legal rights, rights of property, rights to a fair trial), the political (right to vote, rights of association, right to participate in the central organs of government), and the social (social entitlements institutionalized in the welfare state). Kalberg (1993) traced the cultural forces that created modern citizenship. In pre-modern times citizenship included legal individualism, political rights for city residents, free pursuit of economic interests, universal standards, legal universalism, enforced legal contracts, and universal political and civil rights against personal and class-based biases. Modern citizenship, however, requires civic responsibility (obligation to involve oneself in political decision-making processes) and social trust (which confronts the saturation of the public sphere by particularistic group values, allowing civic responsibility to flourish in the face of powerful elites). Kalberg argued that attempts to mandate citizenship from above will confront severe obstacles; it must come from below and must have cultural support (1993). Could social capital be stronger where the civic responsibility component of the cultural understanding of citizenship is stronger, or where social trust flourishes?

Walzer (1980) defined five expectations for the modern (US) citizen: 1) some degree of commitment or loyalty (to the US republic), 2) a willingness to defend the country (abiding by the law more than being dedicated to the country, however), 3) dedication to obeying the law and maintaining some decorum, 4) tolerance (along racial, political, religious lines more than along sexual and counter cultural lines, however) and 5) an interest in political life. Walzer claimed that most US citizens nowadays care more about their private life than the public life, since they have moulded themselves around liberalism, individualism, secularism and toleration, and these make solidarity difficult. Watson & Barber (1988) claimed that the "citizen is not a mere subject - nothing more than an obedient servant of a monarch - nor the passive client of government bureaucracies that service the people, although we often take the citizen to be little more than this. The true citizen is an active participant in politics, someone engaged in self-government" (p. 141). Is strong social capital associated with a politically active populace?

Civil society discourse often concerns itself with the historical struggle to wrest some dimensions of social life from autocratic state power (O'Connor, 1997); wresting power from the state and placing it in the hands of civicly responsible citizens governing themselves. Cohen & Rogers (1992), for example, argued for a new form of democratic governance theory - an associative democracy rather than a neo-liberal constitutionalism, civic republicanism or egalitarian pluralism.

Barber argued that the social space becomes civil society only when

> "members of organizations in that space understand their memberships not merely as private activities that serve them or others of their choosing, but as non-governmental public activities that in some way speak to public interests and the common good" (quoted in O'Connor, 1997:13).

High political participation makes it more likely that people will gain the ability to look beyond their own personal good and pursue public interests, if the political participation is of the kind that encourages deliberation and the genuine exchange of ideas. Thus Barber's view of civic engagement is more specific than Putnam's: only certain kinds of participation work to produce a social space that works and achieves the public good (a rather generic end that conceivably includes effective governance, economic performance and the health of individuals, for example). Putnam focussed solely upon networks and concluded that a social space with dense networks produced the necessary social capital, regardless of the participants' intent, although he did note that participation breeds an interest in the common good.

Walzer believed that the multiplicity and uncoordinatedness of networks keep state power in check and work toward the public good (O'Connor, 1997:13). Like Putnam, then, diverse, dense, complex and far-ranging networks are what count most, not necessarily the intentions of members of the networks. These theorists are concerned with bringing some power into the hands of participating individuals and organizations from the state. We are not concerned precisely with the issue of democracy and community empowerment in this research project, but rather with the question of whether an "empowered" community (i.e., a community with certain characteristics, to be defined later) facilitates effective governance. We take from the civil society debate an interest in the motivation and associational activity of individuals and groups: is a desire to further the common good a necessary component of social capital? Does egoistic participation in the political and associational arenas breed perceptions of and a commitment to the common good? Unlike the civil society focus, however, we are less concerned about norms for citizen behaviour at the level of the nation, since we are focussed on the performance of District Health Boards and levels and types of social capital in health districts within a single province in Canada.

1.6 Social cohesion

It is difficult to identify a shared definition of social cohesion, which is seen to be more than the opposite of a breakdown of social order. O'Connor (1997:18) defined it to be "the presence of basic patterns of co-operative social action, and core sets of 'collective values'. To 'values' will be added feelings of attachment, sense of identity, and shared sense of purpose". Although much of the talk around common values in Canada's social cohesion landscape centres on national values and national cohesion, the same concerns can be addressed at the regional level.

Shared or collective values are often considered to belong to one of two camps. "Thick" values are typically substantive, such as shared religious beliefs or secular values about how life should be lived and what actions are appropriate. Presumably these thick values propel members of society to seek similar ends for themselves and for society, provide the source for a shared sense of purpose and a shared identity, and structure the patterns of cooperative social action (O'Connor, 1997). "Thin" values are values about the way people should treat each other as they each pursue their own private ends, such as individual freedom, equality, democracy, peace and toleration, civility and ability to compromise (O'Connor, 1997).

The questions that arise are: which of these thick and thin values does cooperative behaviour that benefits effective governance rest upon and are these values characteristics of individuals or groups? Are such shared values (e.g., shared identity, ability to compromise) essential for social capital? For example, Coleman, and Portes and Sensenbrunner, suggested that the norm of altruism is important. Kymlicka (1998) suggested that social unity is based not upon shared values but rather upon shared identity. In this work we investigate the motive of identification specifically to answer this question.

Therefore, while the citizenship, civil society, social cohesion and social capital literatures seem to be concerned with somewhat similar issues, only the social capital literature has focussed directly upon differences between regions in a country. Also, while the citizenship literature seems concerned with empowering individuals and dis-empowering the state, and the social cohesion literature with fostering cohesion (toward any number of ends, or as end in itself), only the social capital literature has focussed explicitly, in places, on the end of governmental performance. Thus we have taken most of the contributing elements of our conception of social capital from the social capital literature *per se*.

1.7 Understanding social capital

In this section we will delineate some constructs that make up a definition of social capital that may contribute to effective governance. To do this we will introduce several macro-level concepts and several micro-level behavioural and social-psychological processes. Clearly there is an interconnectedness between these levels of analysis - the individual affects his/her social environment and is in turn affected by that environment. We believe, however, that the whole, the community, is more than just an aggregation of its individual parts, and we attempt to show sensitivity to this, as Coleman did. Unlike Coleman, however, we suspect that either a) certain measurable characteristics of individuals facilitate social capital (be it trust, or a sense of community, or a sense of obligation), or that b) certain measurable characteristics of individuals are proxies for characteristics of groups (such as trustworthy networks, for example). Either way measuring individual characteristics is a relevant pursuit.

We will explore cooperative action and the nature of networks, at the community, or system, level; at the individual-level we will explore action (associational and civic participation, and collaborative problem-solving) and social-psychological concepts (trust, identity and commitment). We hypothesize that these components of social capital, as we will define them, are related to one another and have an effect upon the effectiveness of regional health governance.

1.7.1 Cooperative action

In essence, we hypothesize that a community with social capital can draw upon this resource to achieve goals, even if the goals are not explicit or identified (such as economic performance). An obviously identifiable component of social capital, therefore, is the ability of persons and groups within the community to cooperate and work together. If persons and groups work at cross-purposes to one another then community-level "common goods" will not be easily achieved. This can be demonstrated by the "tragedy of the commons", a game theory scenario that shows how when persons do not work together with some common good in mind then everyone loses (the "prisoner's dilemma" is a similar scenario). Farming communities understand the importance of barn raisings, where everyone gets together to help one of their number raise a barn, each understanding that when their turn comes, the neighbours will help them to raise their new barn. The farmers resolve differences and cooperate with one another, achieving good for everyone. We also hypothesize that past experience collaborating with others facilitates further collaboration, and increases an individual's or group's skill at collaboration.

These examples deal with individuals, but we hypothesize that the same holds true for groups. Communities high in social capital have many groups (be they clubs and informal networks or established groups like libraries or hospital boards) with experience in cooperating with other groups. The groups are not isolated but see themselves as part of a greater picture, and have realized the benefits of extending helping hands out to others, and receiving help in turn.

Taylor and Singleton (1993) identified three phases that a community undergoes when solving a collective action problem. The parties must 1) identify the possibilities for cooperation (which are generally numerous), 2) agree on one scheme of cooperation, through bargaining, and 3) once agreement has been reached, monitor the others to ensure that everyone is doing their part. A community that is high in social capital has experience overcoming these phases and hence the ability to do so again in the future. Cooperative group action may realize many ends that are addressed in the social capital debate, such as the effectiveness of political institutions (when groups in the community can work together, perhaps policy can be implemented more effectively with fewer costs from conflict), or economic success (everyone has a barn).

1.7.2 Networks and associating

What is the associational life of the community like? Are people involved in the public sphere, playing baseball, taking aerobics classes, interacting and networking with many other members in the community? Are the networks that they belong to highly hierarchical or are lines of authority horizontal and diffuse? Do the associations cross ethnic, religious, class and other boundaries? Are the networks dense, in that people belong to many of them, and that many of the networks overlap? Many social capital theorists emphasized the importance of a dense system of networks in a community, particularly in the voluntary dimension; the workplace has networks of association, as does the family, but these are often limited to the company or to relatives, whereas voluntary memberships in clubs and associations often traverse the community and bring together people from many places within the community. Therefore we follow Putnam, Kawachi, Granovetter, Jacobs, Cox, Barber, and Walzer in emphasizing the importance of networks of association, although unlike Barber we do not require that motivation for such membership necessarily be altruistic.

The concern about exclusionary forms of association was expressed well by the Australian social policy analyst, Eva Cox:

> "Communities which reduce social capital share certain characteristics. They turn inwards, form cliques, resist change and exclude those who criticise. The structures of such groups are usually top-down, though the power may be informally held. Too often, allocation of rewards is based on patronage ... We need communities but not ones which exclude" (Cox, 1995:33).

> "There are many examples of closed groups whose survival depends on the maintenance of power structures and who lack the capacity therefore to deal with change ... Most closed groups use distrust to maintain control and so reduce social capital" (Cox, 1995:62).

We hypothesize that the attitude and character of the divided groups will, therefore, influence the creation (or repression) of social capital. Exclusionary groups are formed to fight with other groups or interests and, equipped with formally designated powers or informally maintained informational and status advantages, can dominate or overpower opponents more mindful of inclusionary processes. Inclusionary groups, however, grow outwards to incorporate progressively more members of the community and serve to dilute or de-legitimize excessive concentrations of exclusionary power. Some have claimed that networks and groups are easier to form in opposition to a person, cause or creed than in support; thus exclusive groups form more readily than do inclusive ones (SCIG, 1998).

In a study of associational life in Hamilton-Wentworth, Ontario, Abelson & Veenstra (1996) found that "members of many groups in this region interact with each other in a variety of settings (e.g. work, socially, in other groups) and collaborate with other organizations on issues of importance to them. This implies that organizations are not insulated from each other but are engaged in the establishment of multiple networks throughout the community" (p. 16). Thus, in this region at least, dense networks of association appear to be related to collaboration between groups.

1.7.3 Civic participation

Can we isolate individual actions (other than collaborating to solve a community problem or participation in formal and informal networks, mentioned above) that may contribute to a community with dense networks and with collaborative action potential? Civic participation was thought to be important by several theorists.

Are many citizens participating in civic affairs? Do they have knowledge about the importance of legislation proposed by governing bodies (knowledge gained through interaction with other members of the community)? Is the public realm where policy implementation takes place one in which they feel comfortable acting and have acted before (circulating a petition or campaigning in a local municipal election)? Putnam's voting and newspaper readership statistics are examples of such civic participation.

Civic participation was an essential component of social capital for Putnam, and of civil society for Barber, but did not appear to be essential (or at least easily measureable) to Walzer, Cox, and Kawachi. We are interested in testing whether communities high in civic activity facilitate effective governance and whether these actions correlate with high involvement in dense, horizontal networks of association. That is, do civic

actions undertaken for the good of others and society stem from an altruistic perspective bred within more "egoistic" networks of associating?

1.7.4 Social-psychological attributes; trust, commitment and identity

First, we hypothesize that associational activity, civic participation, and collaborative behaviour are built on **trust** (for analyses of the role of trust in present society, see Gambetta, 1988; Giddens, 1990; Kasperson et al, 1992; Fukuyama, 1995; Cox, 1995; Misztal, 1996). The Oxford English Dictionary defines trust as "confidence in or reliance on some quality or attribute of a person or thing, or the truth of a statement". Giddens (1990) claimed trust is involved in a fundamental way with modern institutions and in the lives of present-day individuals. "Trust, in short, is a form of "faith", in which the confidence vested in probable outcomes expresses a commitment to something rather than just a cognitive understanding" (p. 27). It presupposes awareness of circumstances of risk (p. 31) and operates within and between all people in every social situation. Trust is a set of expectations shared by those in an exchange (Mizsthal, 1996:16); it reduces complexity and increases tolerance for ambiguity (p. 73).

According to Kasperson et al (1992), the different definitions of social trust share 1) expectations about others and orientation to the future, 2) a notion of chance or risk taking, and 3) subjective perceptions about others and situations. Social psychology generally focusses on behavioural and cognitive aspects of trust. Personality theorists have conceptualized it as something internal in an individual, whereas sociologists have generally seen it as a property of groups or collectives. In our investigation we explore trust empirically with questions to individuals, and so can only test whether trusting attitudes are held by these individuals. Kasperson defined three types of trust: 1) cognitive trust, which provides a foundation upon which the individual can discriminate between trustworthy and non-trustworthy, and involves a cognitive leap, 2) emotional trust, which provides a basis for this leap, consisting of an emotional bond among those participating in a relationship, and 3) behavioural trust, where one acts as if the uncertain future actions of others were certain and predictable.

Giddens (1990, table p. 102) claimed that the pre-modern environments of trust were 1) kinship relations (stabilizing social ties across time-space), 2) the local community (providing a familiar milieu), 3) religious cosmologies (providing an interpretation of human life and of nature) and 4) tradition (as a means of connecting the present and the future). These environments, while still important today, are being slowly replaced by modern environments of trust, such as 1) personal relationships of friendship or sexual intimacy (stabilizing social ties), 2) abstract systems (to stabilize relations across time-space), and 3) future-oriented, counter-factual thought (to connect past and present). Similarly, Kasperson et al (1992) believed that the basis of trust in modern society has moved from interpersonal trust to system trust.

We are interested in determining what forms of individually-held trust are most prevalent in Saskatchewan and how these different forms of trust contribute to (or take away from) the formation of social capital. There is evidence that different countries, at least, foster differing levels of trust. For example, Italian society has lower levels of interpersonal trust than the Scandinavian countries (Mizsthal, 1996:193). We speculate that the trust environments of community of place and personal relationships, as well as trust in governmental institutions, are important contributors to associational and civic participation activities and collaborative problem-solving in the community sphere.

Trust in political institutions may be integral for some forms of civic participation, although as Miszthal (1996) showed, this presupposition is unproven. In fact, there is some evidence that declining trust in government is not correlated with decreased civic participation (Miszthal, 1996:258). We will explore whether the act of voting presupposes at least some belief in the importance and relevance of the election process and the system of governance that sponsors the vote. Does participating in a political event presuppose trust in the political structure of the community?

Individual trust is integral for solving problems collaboratively (Miszthal, 1996:17). As we saw earlier, Taylor and Singleton (1993) identified three phases that a community undergoes when solving a collective action problem. Because each of these phases entails transaction costs (search costs, bargaining costs and enforcement costs respectively), communities high in trust will be better able to overcome the costs (or, more accurately, the costs to be overcome will be lower). Bargaining and the enforcement of responsibility (and thus collaborative problem-solving) are, therefore, easier in a community where individuals are willing to invest their trust in a wider and more comprehensive range of the disparate groups that comprise "the community".

Second, developing common community-level goals and participating in civic issues often requires a perspective beyond an entirely egoistic one. Following Matthews (1983), Putnam and Tocqueville, we hypothesize that such activity requires a **commitment** to take the common good into consideration. That is, a community with individuals looking out for more than their own personal interests are more likely strongly committed to their community and participate more readily in civic affairs. For example, Knack (1992) found that a sense of civic duty influences voter turnout. "Commitment ... will involve conviction as to what is right and proper as well as their converse: what is worth striving for, fighting for, what is to be avoided, abhorred, considered cheap and sinful, and so on" (Strauss, 1959:39-40).

We also claim that this commitment to the common good, to the community itself, stems from an important social-psychological process - an **identification** with the community that occupies a significant

position within an individual's hierarchy of identities. As members of a social world humans have identities and roles corresponding to the specific relationships and social communities to which they belong (McCall & Simmons, 1966; Burke & Tully, 1977; Stryker, 1980). Thus an individual may classify herself as female, Catholic, a committed member of her nuclear family and a long-time resident of her community. These make her who she is. Another individual may feel strongly Canadian but not tied to any single community. The strong identification of the first with her regional or local community results in a stronger commitment to that community's good.

We hypothesize that commitment is closely interconnected with trust. In fact, Giddens (1991) claimed that commitment *is* a form of trust, and that commitment to an outcome lies at the heart of trust. Commitment serves as motivation for activity contributing to the common (in this case regional) good (Matthews, 1983), whereas trust is necessary when engaging in activity (thereby acting on the motivation). Thus, individuals sharing common goals will be more likely to overcome conflict in the interests of reaching some solution to a community problem. They will be more likely to participate in those civic activities that involve themselves with the collective life of the community. Associational activity can also serve to increase an individual's commitment to the larger community, if the people one associates with represent a broad spectrum of the community's disparate groups.

In summary, we hypothesize that the social-psychological processes of trust, identification and commitment underlie the more behavioural-level processes and attributes of associational activity, civic participation and collaborative problem-solving. Increased levels of trust facilitate collaboration and participation. The identities that people hold dear manifest in commitment, whether that commitment be to the self, the family, one's ethnic group, or, in this case, to the community or region. Thus, communities that value the common good, foster trusting relationships between individuals, and where people are committed to the community itself can better facilitate associationalism, civic participation and collaborative action, and thereby build social capital that becomes available as a resource for governance. We predict that formal organizations emphasizing these ideals and informal ones facilitating these ideals contribute to a community's social capital.

Figure 1 summarizes the social capital concepts described above, as well as the effective governance concepts we will explore in the next section. Our version of social capital is composed of both system level (i.e. community or group level) and individual level concepts. Trust, identity and commitment, associational and civic participation, and individuals' past experience collaborating, and ability to collaborate, are conceived to be individual-level phenomena. The networks formed by individuals associating, and the history of collaboration between groups, and the ability of groups to collaborate, built up in communities, are conceived

to be system-level phenomena.

Figure 1. Summary of social capital and effective governance concepts

SOCIAL CAPITAL CONCEPTS	*EFFECTIVE GOVERNANCE CONCEPTS*
s y s t e m l e v e l	1. reflection of health needs
networks of association	2. policy making and implementation
experience/skills of community in collaboration	3. fiscal responsibility
i n d i v i d u a l l e v e l	4. integrating and coordinating services
trust	
commitment	
identity	
associational participation	
civic participation	
experience collaborating with others	

1.8 Social capital and effective regional health board governance in Canada

Devolution of health care in Canada has been implemented in nine of Canada's provinces. A summary of the "devolution experiment", conducted by the Ontario Premier's Council in 1995, described some of the goals held in common by all nine provinces: better health of the population; cost containment and spending control; improved service delivery through integration or coordination of services, community planning and development of community-based services; enhanced public participation and community involvement; greater flexibility and responsiveness to users through local innovation, needs-based planning and reduction of barriers; increased equity in resources; and improved accessibility (Ontario Premier's Council, 1995, p. 1).

The Saskatchewan Ministry of Health proposed guidelines for change in their "Working Together Toward Wellness" document, in 1993 when the district health boards were created. They focussed on two key concepts: 1) that health services should contribute to wellness, not just treat illness, and 2) that communities can be empowered to plan and deliver integrated health services that meet local needs. From these concepts they developed five guidelines for health reform in the province: 1) develop public policies that promote good health, 2) emphasize health promotion and disease prevention, 3) integrate and co-ordinate health services, 4)

support community-based services, and 5) use health resources better.

We have chosen to define four dimensions of effective governance by district health boards. We define that a board does well a) *reflecting health needs* when it is aware of district residents' health needs, preferences, and perceptions of health needs, and incorporates these meaningfully (paying more than lip-service to them) into decision-making. A board does well in the dimension of b) *policy making and implementation* when it makes good decisions, effectively implements decisions, identifies solutions to meet needs, creates effective services, broadens the range of potential services that can be utilized to meet needs, problem-solves between community groups, voluntary organizations, individuals and the board, has an effective board process, has good relations with staff, has organizational clarity and has well-spelled out rules and operating procedures. A board does well in the dimension of c) *fiscal responsibility* when it operates and achieves goals within a constrained budget, passes its budget on time, allows the community to know the choices that have been made, and handles monies well and properly. Finally, a board does well in the dimension of d) *integrating and coordinating services* when it identifies and rationalizes duplicated services and provides integrated links between disjointed and non-duplicated services.

These four dimensions of performance capture most of the elements of effective governance defined by Putnam (1993a) but are tailored specifically to governance in health care. Putnam's first category of policy processes and internal operations is captured by the policy-making and implementation category, where we defined several process-related concepts such as effective board processes, good relations with staff, organizational clarity and well-spelled out rules and operating procedures. Putnam's second category, policy pronouncements, that explored the content of policy decisions, is also captured by policy-making and implementation, where we defined concepts such as good decision-making, problem-solving between groups, and identifying solutions. Reflecting heath needs and integrating and coordinating services are also related to the content of policies. Finally, Putnam's third category, policy implementation, is again addressed by a concept within the policy-making and implementation category - effectively implementing decisions. Part of Putnam's third category involves how effective regional governments are at using available funds, which is covered by our fiscal responsibility dimension. We chose to separate reflection of health needs, fiscal responsibility and integrating and coordinating services from other aspects of effective governance because of the importance of these goals in the regionalization rationale.

We do not require, nor even expect, that these dimensions are necessarily related to one another. A board may efficiently integrate services but be deaf to the voice of the community, for example, or it may enact the community's wishes, in general, but use excessive resources when doing so. Our investigation will attempt

to determine which of these categories social capital is related to, if any.

Thus, if social capital is to improve the effectiveness of regional health board governance in Canada we should be able to provide at least theoretical reasons why it will improve performance on one or more of these dimensions. There are other facets of health care system "culture" and practice that may influence these dimensions, such as the talent and experience of the bureaucrats in the system, the attitude of health care providers toward higher-level decisions-makers, the quality of available information, etc, but the health system culture operates within the broader social capital milieu. Social capital may influence these factors and may also independently influence the objectives we delineated above. If the goals of the dimensions of governance we have delineated are negatively related to one another (improving health and maintaining fiscal responsibility may be, for example), then social capital may work to lessen one and strengthen the other. Thus we attempt in the following to draw theoretical links between a community's social capital and the end product - effective regional health governance in four dimensions, and will gather empirical data to explore which dimensions are improved by social capital in Saskatchewan, Canada. If we find that social capital does seem to explain some variability we should then collect data for the other possible causes and, after controlling them away, see whether the relationship between social capital and governmental performance remains.

1.8.1 Social capital and reflection of health needs

In order to reflect health needs in their regions, board members require not only technical data on health needs but also information on perceptions of health needs. As Pitkin has stated,

> "The more [a board representative] sees interests (or welfare or whatever) as objective, as determinable by people other than those whose interest it is, the more possible it becomes for a representative to further the interest of constituents without consulting their wishes ... But if such a view is pushed too far we leave the realm of representation altogether, and end up with an expert deciding technical questions and taking care of the ignorant masses as a parent takes care of a child" (Pitkin, 1967:211).

We hypothesize that social capital works to supplement the experts' objective information with constituents' wishes, thus making the board member a representative of rather than a parent to the community.

How does it do this? The horizontal networking implicit in associationalism distributes community members' perceptions of their important needs. Needs and desires are shared, circulated and given visibility, with two implications. First, people are more aware of each other's needs, which they can balance against their own to develop a more shared community perspective on health needs.

> "One elementary measure of democracy is whether a people have a lively sense of themselves as citizens: as members of a body politic rather than just as self-interested individuals - as men and women capable of expressing public judgement rather than just voicing private needs and wants" (Watson & Barber, 1988:142).

Second, persons can therefore form alliances with like-minded others that can lead to more coherent representation of these particular needs, expressed through civic participation.

Civic participation works to bring needs information to the governing body's attention, as well as to the general community's attention, through avenues such as lobbying, petitioning, publishing newspaper articles and disseminating information. As well as confronting populace needs from civic/political fronts, members of regional governance boards, who themselves are part of their community's social world, can through their own associational activity come into contact with a wider and deeper sense of people's health needs. Social capital, through civic participation and board members' own associational habits, may insert needs information into the public domain and place it before board members prior to, during, and after other deliberations.

1.8.2 Social capital and policy making and implementation

Once policies have been formulated and services devised to meet actual and perceived needs, we hypothesize that social capital helps make these services effective and broadens the range of potential services that can be utilized to meet these needs. Voluntary groups can be depended upon to provide some services. Trust-filled communities will more readily permit strangers to bring meals-on-wheels to other strangers' homes, who will more likely open the door (and in any event, fewer of the people in the community will *be* strangers). Traditional service providers can relinquish some tasks or share them with the community.

Persons and community groups who perceive needs will be better able to collaborate with one another to propose and implement solutions and services to meet these needs. At its most basic level, service implementation and provision *is* collaborative problem-solving: a collaboration between community groups, voluntary organizations, individuals and regional governments. The identification of solutions to meet community difficulties and needs is not only in the hands of the regional board - collaboration within the community and between it and the regional authority can bring about innovations that the regional legislators alone are not capable of producing.

1.8.3 Social capital and fiscal responsibility

A regional health board can be said to demonstrate fiscal responsibility when it operates and achieves its goals within a constrained budget, passes this budget on time, and allows the community to know the choices that have been made. Making difficult choices, and funding some programs but not others, requires some resolution of conflict among the special interest groups in the community who have a stake in the budget allocation exercise. We hypothesize that social capital helps to resolve these in the community, through increased lines of communication among the interest groups and a better understanding of one another. Fewer

irreconcilable differences among interest groups will also contribute to a more timely presentation of the budget.

Community members who trust one another may be willing to forego benefits in this round of allocations if they believe (trust) redress may occur in future allocations. Similarly, community members with commitment to the region may be more willing to let this override their (or their group's) short-term interest. Conversely, however, social capital may enable citizens to band together to provide a more unified and effective front when campaigning *against* such things as hospital closure.

1.8.4 Social capital and integration and coordination of services

In health care in Canada many service organizations have developed with circumscribed missions and ideologies, some of which provide overlapping services. A big challenge for regional health boards is the identification of these duplicated services and the provision of integrative links among them. For example, a community may have three unconnected organizations delivering care for troubled street children who might be better served by an integrated system.

When different administrations and structures are working at cross-purposes we can speak of non-integrated sub-cultures. When a community has a rich store of social capital, it shares an influential *common* culture (a common commitment) bridging the mini-cultures. We hypothesize that a shared common community-wide culture facilitates communication and cooperation, hence allowing better integration and coordination of services. The different administrations can find recourse in the shared culture to achieve common goals in concert rather than in isolation, and the networks of interaction in the community may facilitate such concerted action.

1.9 Caveats

First, if the theoretical linkages between components of social capital and the outcome of effective governance are supported empirically, we caution against interpreting the chain of causation prematurely. Individuals trusting one another may collaborate more easily, but formerly untrusting individuals might develop a trusting attitude themselves after entering into high social capital environments. As Miszthal (1996:9) said, social relations and the obligations inherent within them produce trust. Participation in networks and organizations will also increase commitment. There are interconnecting relationships between all these processes - society shapes the individual and the individual shapes society (Berger & Luckmann, 1966). Thus, for example, when we try to discover what types and levels of trust exist in some communities, we want to look

both at individuals (who manifest the trust) and at the social contexts and institutions where this trust was developed and learned, such as in schools, churches, families and kinship networks (Matthews, 1983).

However, even keeping in mind the dialectical relationship between the individual and society, we cannot be sure that social capital causes effective governance; perhaps a political institution can shape the nature of associational life in a community, for example, or foster trusting relations between people. Or perhaps some important social, political or economic characteristic of the community causes both the nature of social capital and the nature of political life in a community. Careful longitudinal study is required to tease out the lines of causality. We hypothesize social capital to be a causal variable that affects the *process* of health governance directly and its *goals* indirectly. In the other direction, an effective government can contribute to and increase a community's store of social capital, by enlisting community participation and providing opportunities for network affiliations in people's lives. The causal direction to focus on will depend on context and goals. In Saskatchewan we suspect that the short life of the regional health boards precludes much effect on social capital, since the networks and trust in the communities likely existed for longer than the five years since the inception of the boards. Even so, we are limited by a cross-sectional design in this study and cannot, therefore, make conclusions about causality.

Second, the description of social capital we offer is a highly consensual one. Conflictual class divisions may stand in the way of collaboration, as may power, ethnic, religious and occupational differences that often serve to divide communities into distinct groups with their own agendas and political goals. The version of social capital we present would appear to flourish with homogeneity, a scenario seldom found in a country such as Canada. The relationships (and lack thereof) between such groupings will be extremely important for the development and expression of social capital. We do not write off the importance of conflict, however. Perhaps communities high in social capital do not have *less* conflict, but rather have mechanisms in place for *resolving* conflict.

These divisions likely interfere with the expression of social capital at a regional level. If the associational networks only operate and exist *within* classes, for example, then the entire community may not be able to mobilize for problem-solving. But we wonder if class divisions can be overcome by some communities. We speculate that some communities have stronger shared identities and common lines and directions in which association occurs, such as a shared concern for a public education system in a community without private education venues. Other communities may have developed entirely separate worlds (cultural, social, political and economic) where the lines of shared interests joining strata are few. The work of Duncan, in the Mississippi Delta, Central Appalachia, and in northern New England, illustrated this. In Appalachia and the Mississippi Delta class differences are distinct and the civic culture cannot bridge the gaps, whereas in the

northern mill town it can and has. Even so, however, the social capital literature has been criticised for ignoring class conflict and power imbalances and would do well to consider them, especially since there are findings that class divisions in values are increasing in Canada (Jenson, 1998:1).

The issues raised by social capital are as old as sociology, evidenced by the above discussion on causality, the interconnectedness between individual and society, conflict and consensus, and class divisions, implying that we may have bitten off more than we can chew. As quoted in Jenson (1998):

> "[C]ohesion and conflict [and, indeed, the other issues just discussed,] are sub-categories of one of the most significant debates in sociology (and indeed philosophy), namely that on social order. The basic question is: in view of the constant competition between human beings for scarce resources, what makes it possible for people to live together peacefully in a civil society?" (Cope et al, 1995:39).

1.10 Generalizability

Putnam's strong correlations between social capital and effective governance were found in an ethnically and religiously homogeneous society. He found continuity in civic behaviour in the Italian regions that extended back beyond the Middle Ages. Canada has an aboriginal population with a long history in Canada, but the majority of the population is composed of European and Asian "newcomers" with a history in Canada stretching back less than two hundred years. It is by no means clear how long it would take for the positive governance and health impacts of social capital to manifest. The impact of social capital on health and health governance may take far longer than the five years the boards have been in operation.

There are attributes of Canada's multicultural society that would seem to make a conceptualization of social capital difficult. Our concepts are sufficiently general, however, to apply to almost any setting. The multicultural nature of Canada *will* be an issue when attempting to determine the contextual nature and manifestation of the concepts, but we hypothesize that trust and commitment, for example, are elemental enough to provide the foundations for all civic societies. The referent of trust is important, though. Stanfield (1993) found that differing ethnic communities in the U.S.A. have different traditions of civic responsibility, for example. Multicultural Canada may have pockets of social capital which, in turn, may or may not contribute to a regional-level social capital.

Putnam evaluated governing bodies that differ substantially from the regional health bodies in Canada. The regional governments in Italy are responsible for almost all aspects of political life - including health, social services, agriculture and education. Is there reason to believe that social capital affects the governing quality of comprehensive governments but not specific ones? In our opinion, there are important parallels

between the two government forms that suggest the difference may not be very important. Both forms of government have an entire region under their jurisdiction, making decisions and enacting legislation that affect nearly all members of the region. If a comprehensive government depended upon trust, commitment, public participation and subsequent collective problem-solving skills in the governed community to govern well, then a government making decisions for only a portion of the governing envelope (those decisions related to health) would depend upon the same processes. Reflecting community needs, implementing innovative policy, and demonstrating fiscal responsibility and efficiency are relevant for all substantive governing areas. In fact, social capital's direct influence on the population's health, independent of the health care system, may mean that its impact on health care governing bodies is stronger than on other governing bodies, and operates through subtler pathways.

1.11 Current research

Although regionalization has been a part of health care in Quebec since 1971, Canada's other provinces (all but Ontario) have instituted regional health boards only recently. There have, therefore, been few systematic attempts to evaluate how well the boards are doing and link their performance with social capital. This dissertation has undertaken the task in Saskatchewan, Canada. In Prince Edward Island, Canada, Lomas and colleagues are investigating regional governance and, as part of this, the present activities of the displaced ex-hospital board members. That study explores the link between regionalization and social capital by attempting to discover if valuable resources for collaborative problem-solving - i.e., hospital and other health care institution board members - have been lost in the move toward regional governance which may, therefore, contribute to "dis-empowering" the regions (Lomas & Rachlis, 1996; Lomas, 1997). Elsewhere in Canada, the CPRN group (based in Ottawa) is exploring the nature of social cohesion in Canada, preparing policy recommendations for public officials interested in fostering societal cohesion in Canada. Helliwell is exploring the nature of trust in Canada and the U.S.A. and relating it to economic performance.

A number of groups around the world are struggling with how to measure social capital and whether it can be done in a way that is generalizable and comparable across cultures and/or jurisdictions. A multi-country project called "The Decline of Social Capital - Political Culture as a Condition of Democracy", headed by Putnam, has enlisted cooperation from the UK, Australia, Japan, the U.S.A., Spain, France, Sweden and Germany. The Health 2000, Atlanta, group, supervised by Kreuter, is exploring the relationship between the effectiveness of a community-sponsored health intervention and social capital in that community. Several universities (Iowa State University, Michigan State University and the University of Maryland in collaboration with the World Bank) have created social capital groups or research centres, drawing researchers together from

across the university to study social capital issues. The measurement of social capital welcomes further investigation into regional composition along class, status and other lines and how these have an impact upon a region's ability to recognize problems, mobilize forces and overcome conflicts to solve these problems.

1.12 Summary and introduction to empirical testing

In this chapter we have described the problem that we are exploring: does social capital in Saskatchewan health districts contribute to the effective performance of the district health boards? We scanned the social capital, civil society and social cohesion literature in search of relevant concepts which we then incorporated into a definition of social capital. This definition, or working model, of social capital includes both community-level phenomena (cooperative action and dense voluntary networks) and individual-level phenomena (associational and civic participation, past experience collaborating, trust, identity and commitment). We have hypothesized how these defined elements of social capital relate to one another. We also defined effective governance by district health boards, isolating four dimensions of interest, each of which we attempted to link theoretically to social capital; that is, we hypothesized that a community high in social capital, as we have defined it, will facilitate better performance by a district health boards in these four dimensions.

Along the way we noted many contentious issues. Does social capital have an individual-level component, or is it entirely the property of social structures? Do social-psychological attributes (such as trust) measured in individuals point to the existence of certain types of networks or norms? Do people's motives for participating associationally or civicly matter? How do social class and power dynamics factor into this causal scenario? Can we make any conclusions about causality? Are the nature of associations (hierarchical or horizontal and diffuse) important? Is Saskatchewan too homogenous for differing levels of social capital across districts? Have the district health boards been in operation long enough to manifest differences in performance that, in turn, reflect different levels of social capital?

We decided to empirically test the theory in Saskatchewan. The remainder of this study is concerned with these empirical tests. For the first stage of testing, results from which we will describe in chapter four, we collected sociodemographic and social capital data for nearly all 30 of the health districts, along with board performance indicators for the corresponding DHBs, and conducted statistical significance tests between social capital and board performance, controlling for the sociodemographic character of districts. To supplement findings from the first stage, in a second stage of testing we focussed attention upon eight districts in particular. The eight districts were chosen to create comparison groups where the districts in a comparison group are

similar sociodemographically. Having roughly controlled for sociodemographic characteristics in this way, we attempted to determine whether districts with high levels of social capital also have highly performing DHBs. In this stage, to supplement the existing data already collected, we conducted a survey of randomly selected citizens in the eight health districts, data from which addresses many of the social capital concepts and their linkages. The results from these tests we will describe in chapter four as well.

After completing this exploration into the relationship between social capital and effective governance we continued exploration into the individual-level components of the social capital portion of the theoretical model, results from which we will describe in chapter five.

Before running statistical tests of significance we must describe, however, how and where our data was obtained, the subject of the next chapter, Chapter 2, and must also explain the creation of the indices used in our tests, the subject of Chapter 3.

Chapter 2. Methods

2.1 Introduction to the research design and this chapter

In the previous chapter we delineated a theoretical model linking social capital to effective governance by regional health authorities (see Figure 1 for a summary of the selected concepts). We briefly touched upon the plan of analysis undertaken in later chapters.

To repeat, in more detail, the research plan involved a search for a relationship between social capital in health districts and the performance of corresponding District Health Boards. We collected a number of social capital measures in the districts and performance measures for their boards and explored the relationship between these measures in two stages, the results of which will be described in chapter four. In the first stage of investigation we conducted statistical significance tests between social capital scores and board performance scores. We also controlled for some sociodemographic characteristics of districts to determine whether found relationships were possibly spurious. This stage replicated the main portion of Putnam's analysis in Italy, and utilized most of the 30 districts in the province.

The first stage of investigation used several measures of social capital in districts when exploring the relationship between social capital and DHB performance. The second stage of investigation focussed attention upon eight districts in particular, but utilized many more measures of social capital than did the first stage. The eight districts were chosen to form comparison groups where the districts in a comparison group were similar sociodemographically. Having roughly controlled for sociodemographic characteristics in this way, we attempted to determine, within each comparison group, whether districts with high levels of social capital also had highly performing DHBs. This served as an additional exploration of the relationship between social capital and effective governance, although it was a non-statistical exploration. At best, it could give some evidence that there *may be* a relationship between the concepts. To supplement the data already collected for most of the districts in Saskatchewan we conducted a survey of randomly selected citizens in the eight districts that addressed many of the concepts in the theoretical model and their linkages and provided the additional measures of social capital used in stage two.

The procedure used in the second stage of investigation may appear ad hoc, but there is support for it:

> "When the social scientist wants to explain a particular difference among a limited number of cases - for instance, the prevailing political values in two or three countries - the problem of "too few cases, too many variables" can be mitigated somewhat by the selection of countries for analysis. That is, by choosing countries for comparison so that the range of variables on which the chosen cases are similar is maximized, the researcher can increase the certainty with which the variation in the phenomenon being studied can be attributed to those variables on which the two cases differ from one another. While obviously not as stringent as laboratory procedures, a careful selection of cases can allow the investigator to control for a large number of variables, and hence greatly enhance the analytic rigor of the research" (Lipset, 1986:116).

Thus in stage two we controlled for, as best we could, a number of sociodemographic characteristics of districts. Unlike Lipset's comparison of Canada and the US, however, we had three comparison groups within which to explore relationships, which somewhat increased our confidence in our findings.

The analysis conducted in stages one and two related to the central question posed in the theoretical chapter (about an hypothesized relationship between social capital and effective governance) and results from it will be described in chapter four. These results stimulated further investigation into the nature of social capital, as we have defined it, and how the elements of it cohere to one another. In chapter five, therefore, we will focus on the individual-level elements of social capital - trust, identity, commitment, associational and civic participation, and individual experience collaborating with others - and will explore interrelationships among the elements. More specifically, did the social-psychological concepts have positive relationships with the behavioural concepts described in the first chapter? The answers to this question will be described in chapter five.

Before explaining the analysis results contained in chapters four and five we should, however, describe the instruments, methods and materials used in the tests. In this chapter we will, therefore, 1) describe the sampling frame for the second stage of investigation in more detail - including how we selected the eight districts, in particular, 2) provide an overview of the concepts measured and the hypotheses the concepts address, for both stages one and two, and 3) describe where and how we collected the data used for testing in the first and second stages. Finally, we will 4) explain the statistical methods used in analysis in chapters four and five. Chapter three will describe the indices used in subsequent analyses and the reliability analyses conducted upon them.

2.2 Overview of concepts, data collected to measure concepts, and hypotheses concepts were involved in

Tables 2.1 and 2.2 give a brief overview of the concepts measured empirically in this project, the data collected to measure concepts, used in the two chapters of investigation, and the hypotheses the concepts address. The remainder of this chapter will describe in detail the data collected and the means by which it was obtained.

Table 2.1. Overview of data collected to measure social capital concepts

Concept being measured	*Source of data collected to measure concept*	*Research questions (analytical technique used)*
Trust, by individuals, in groups of people, in government, and in other concepts	Questions asked in survey of randomly selected citizens in eight districts	Is the level of trust in a district related to DHB performance? *(responses aggregated in eight districts; comparison group method)*
		Is trust related to associational participation, civic participation, and/or experience collaborating on community problems? *(individual-level regression analysis)*
	Questions asked in 1995 National Population Health Survey	Is the level of trust in a district related to DHB performance? *(district-level regression analysis in 30 districts)*
Identification, by individuals, with various types/levels of communities	Questions asked in survey of randomly selected citizens in eight districts	Is the level of identification in a district related to DHB performance? *(responses aggregated in eight districts; comparison group method)*
		Is identity related to commitment? *(individual-level correlational analysis)*
		Is identity related to associational participation, civic participation, and/or experience collaborating on community problems? *(individual-level regression analysis)*
Commitment, of individuals, to the success of various types/levels of communities	Questions asked in survey of randomly selected citizens in eight districts	Is the level of commitment in a district related to DHB performance? *(responses aggregated in eight districts; comparison group method)*
		Is commitment related to associational participation, civic participation, and/or experience collaborating on community problems? *(individual-level regression analysis)*

Table 2.1 continued.

Concept being measured	*Source of data collected to measure concept*	*Research questions (analytical technique used)*
Associational participation, by individuals, in formal and informal groups/networks	Questions asked in survey of randomly selected citizens in eight districts	Is the level of associational participation in a district related to DHB performance? *(responses aggregated in eight districts; comparison group method)*
	Questions asked in 1995 National Population Health Survey	Is the level of associational participation in a district related to DHB performance? *(district-level regression analysis in 30 districts)*
Density of associations in a district	Count of number of clubs in a district that are subsidiaries of 12 specified umbrella organizations	Is the density of associations in a district related to DHB performance? *(district-level regression analysis in 30 districts)*
Civic participation, by individuals	Questions asked in survey of randomly selected citizens in eight districts	Is the level of civic participation in a district related to DHB performance? *(responses aggregated in eight districts; comparison group method)*
	Voting statistics from federal, provincial and DHB governments	Is the level of civic participation in a district related to DHB performance? *(district-level regression analysis in 30 districts)*
Experience of individuals and/or groups collaborating to solve a community problem	Questions asked in survey of randomly selected citizens in eight districts	Is the level of experience collaborating in a district related to DHB performance? *(responses aggregated in eight districts; comparison group method)*
	Existence of community disaster plans	Is the level of collaboration experience in a district related to DHB performance? *(district-level regression analysis in 30 districts)*

Table 2.2. Overview of data collected to measure effective governance concepts

Each concept was involved in the two waves of tests; when the measure was quantitative it was used in regression analysis of the relationship between social capital and the measure; when it was categorical it was used in ANOVA and cross-tabs analysis of the same relationship

Description of concept being measured	*Description of data collected to measure the concept*
Reflecting health needs	Analysis of DHB minutes for 1995/96; did the board hear any representations from the public?
	Questions asked in survey of board members, 1995; availability of population needs, citizens' preferences and key informants' opinion data; commitment to reflecting community wishes
	Questions asked in survey of board members, 1997; reflect district members' values and wishes and is involved in assessing community needs
	Provincial Auditor's evaluation of DHBs, 1995; did boards hold the two required public meetings?
Policy making and implementation	Analysis of DHB minutes for 1995/96; did the board have a systematic review or development process?
	Questions asked in survey of board members, 1995; confidence in decisions, effective board making good decisions, personal influence on board
	Questions asked in survey of board members, 1997; involved in board evaluation, long range planning, creative solution creation; confident board makes good decisions and meetings are run well
	Bureaucratic efficiency test; time taken by board to respond to request for information
Fiscal responsibility	Provincial Auditor's evaluation of DHBs, 1995; are the board's financial accounts in good standing and did they submit required documents on time?
	Provincial Auditor's evaluation of DHBs, 1996; did the board safeguard assets and uphold responsibilities?

Table 2.2. continued	
Description of concept being measured	*Description of data collected to measure the concept*
Integration and coordination of duplicated and/or overlapping services	Question asked in survey of board members in 1995 and 1997; involvement in ensuring effectiveness and efficiency of services
	Provincial Auditor's evaluation of DHBs, 1995; did the board have proper service agreements with all providers?
	Provincial Auditor's evaluation of DHBs, 1996; did the board have written service agreements with all providers?

2.3 Sampling frame for selection of districts

In the first stage of investigation, presented in chapter four, we focussed on all 30 of the health districts and thus collected social capital measures and DHB performance indicators for as many of these districts as we could. For most of the social capital measures we were able to obtain indicators for all 30 districts, but for some of the DHB performance measures we sometimes had to settle for data in as few as 19 of the districts. We also obtained sociodemographic descriptors for all 30 districts.

In the second stage we investigated some of the sociodemographic characteristics of the districts (characteristics provided by Census '91, for the most part) and placed districts together with similar districts into comparison groups, for a total of eight districts in three comparison groups. We wanted the sample of eight to cover the differently sized districts in the province; that is, we wanted a large district (with respect to population), a mid-sized one and a small one. We required, therefore, two urban, two mid-sized urban/rural and two rural districts. The limited number of choices in the first two categories led us to include four rural districts instead of just two and restricted our selection in the first two categories. We chose the districts judiciously, therefore, rather than randomly. The sociodemographic characteristics in which the health districts in comparison groups are similar and different are summarized in Appendix J.

There are only two large urban districts, Regina and Saskatoon, in Saskatchewan. These made a good pair for comparisons because they have many sociodemographic characteristics in common. From Appendix J we see that these districts have similar populations, dependency ratios (the ratio of middle-aged people to the young and old), percentages of families who are single-parent families, and percentages of the population who live in an urban setting. Important differences that may be related to the performance of the boards or social capital in the districts are that Saskatoon has a higher rate of population change (more people are moving into

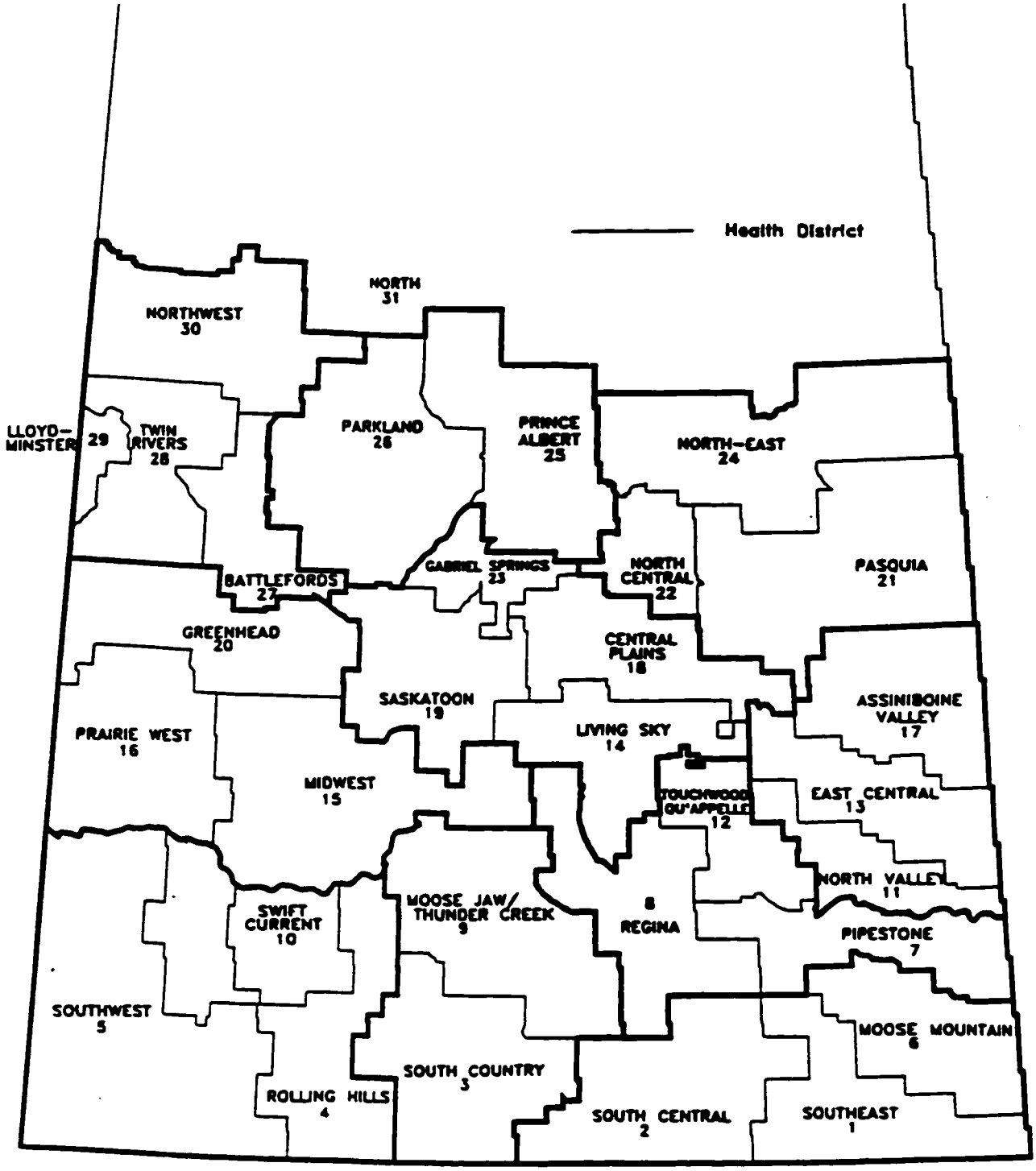
Saskatoon than into Regina) and that more people in Regina own their home. If we find that social capital and DHB performance are related, tentatively, in this comparison group, then these sociodemographic differences should be explored more fully.

The East Central and Prince Albert Health Districts are similar sociodemographically and are the most similar of the four mid-sized districts in Saskatchewan (which also include the Swift Current and Moose Jaw-Thunder Creek districts). In particular they have similar population densities and percentages of the population living in urban settings. Important sociodemographic differences that may be related to the performance of the boards or to social capital differences between the two districts are 1) that East Central has fewer working aged people compared to the young and the old than does Prince Albert, which may be related to the birthrate and the average income of families as well as population change (if more of the youth are leaving East Central), where differences were also found, and 2) Prince Albert's population is greater than East Central's, which may explain the differences in the percentage of religious nones (people without a stated religious affiliation, who are more often found in cities), number of physicians and number of other health care workers.

Finally, we chose the Living Sky, Moose Mountain, North-East and North Valley Health Districts as the four rural districts in the final comparison group. They have similar mobility statistics, dependency ratios and average incomes. North-East appears to be the most dissimilar of the four relatively similar districts, perhaps due to the high concentration of native-Canadians living in Indian bands, which may explain differences in death and birth rates, crime rates, population change, average age, wealth and religious affiliation. Again, if we find that social capital and DHB performance are related, tentatively, in this comparison group, then these differences should be explored more fully.

Figure 2 shows the location of the districts in the province. The Saskatoon and Regina health districts are centrally located; the former a little north-west of the centre, and the latter a little south-east of the centre. The Living Sky health district connects the two, and adjoins the East Central health district which lies directly east of it. The North Valley health district is directly south of East Central, and Moose Mountain is a little south of that. Far north of East Central lies the North-East health district, and directly west of it is Prince Albert. Thus the first comparison group has two centrally located urban districts, the second comparison group has a northern district to compare with an eastern one, and the third has three eastern districts and one centrally located district.

Figure 2. Map of Saskatchewan showing health district boundaries



2.4 Data collected to measure social capital

As we saw in Table 2.1, there are social-psychological concepts (trust, identity and commitment) in our definition of social capital (individual-level data), behavioural concepts (also with respect to individuals, such as civic and associational participation and experience collaborating with others), and system level concepts such as the character of the networks of association in a community and the past experience of communities collaborating to solve community problems. We collected indicators of the social-psychological and behavioural concepts in a survey of individuals in the eight selected districts, and collected some indicators from other sources (such as the National Population Health Survey, for example). In this section we will describe what and from where empirical indicators were obtained.

2.4.1 Survey of randomly selected citizens (individual-level social capital data)

A survey was administered to randomly selected citizens from the health districts Living Sky, Moose Mountain, North-East, North Valley, East Central, Prince Albert, Regina and Saskatoon. A list of all items included in the survey, organized alphabetically by corresponding variable name, is in Appendix C. The items on the survey addressed the individual-level components of social capital specified in the theoretical model (Figure 1); in particular, trust, identity and commitment, in the social-psychological dimension, and civic participation, associational participation and collaborative problem-solving experience in the behavioural dimension. These items are described next, followed by a description of the preparation undergone before creating the survey instrument, lessons learned from a pilot study, how respondents were selected within districts and how the survey was administered, response rates, and, finally, how respondents differ in age, gender and income distribution from Census '91 and 1996 sociodemographic descriptions of districts.

2.4.1.1 Survey items

Most of the items in the survey questionnaire were either questions requiring a yes or no response or statements with response categories that form a seven point Likert scale (agree strongly, agree moderately, agree a little, neutral, disagree a little, disagree moderately, and disagree strongly). Again, the questions are listed in Appendix C with response categories attached.

Trust people from the parts of Saskatchewan respondent lived in:

To assess respondents' trust in people from the parts of Saskatchewan in which they lived we included the following items: "Most of the people who live in my part of Saskatchewan are honourable," "It would take a lot to get me to move from the part of Saskatchewan in which I live," "When I speak to people from other places I am proud of the part of Saskatchewan that I live in," "When it comes down to it, you can always trust the people in my part of Saskatchewan," and "Although I live here, I do not feel that I truly belong here."

Trust people from the community:

To assess trust in people from the respondents' communities, after defining the community to be "the city, town or rural area in which you live," we included the following items: "I feel accepted as a member of this community," "Most people in my community are willing to help if you require assistance," "In this community I feel free to be myself," "I do not pay much attention to the opinions of others in the community," "I enjoy talking to people in my community that I have never met before" and "Most people in this community can be trusted."

Trust neighbours:

To assess trust in neighbours, after defining neighbours to be "those people who live near you," we included the following items: "Do any of your close friends live in your neighbourhood?", "Is there a neighbour to whom you would: lend $50/help when he or she was sick/lend your car for an hour?", "Do you know the names of most of the adults living in the nearby homes?", "Is there a neighbour whom you would allow to: help you when you were sick/lend you $50/keep and eye on your home while you were away?" and "Most people in my neighbourhood can be trusted."

Trust governments:

To assess trust in various forms and levels of government we included the following items: "I think that many politicians get into politics for personal gain," "How would you rate the performance of the current federal government in solving problems in Canada?", "The local government will tell the public what they need to know about relevant issues in my community.," "How would you rate the performance of the current provincial government in solving problems in Saskatchewan?", "How would you rate the performance of your District Health Board (the Saskatoon DHB) in solving problems in your district?", "How would you rate the performance of your local government in solving problems in your community?", "When the Saskatoon District Health Board decides what policies to adopt, how much attention do you think they pay to what the general public think?", "In general, how much of the taxpayers' money, if any, is wasted by your local government?", "Although I may have some complaints about some decisions the federal government makes, I trust it to make good decisions," "The provincial government has the publics' best interests at heart" and "Although I may have some complaints about some decisions the District Health Board makes, I trust it to make good decisions."

Other trust:

There were several other referents of trust covered by survey items. These items were "Most people in my ethnic group can be trusted," "Most people in my religious-spiritual group can be trusted," "Most people can be trusted," "In general, I believe that my vote in elections is influential," "Sometimes politics and

government seem so complicated that a person like me can't really understand what's going on," "Experts and other professionals can help solve problems in my community" and "I am pleased with the provincial educational system in Saskatchewan." These items assess trust in other entities not covered by the above categories, such as people from the respondent's religious group, or experts, or the efficacy of one's vote.

Commitment:

To assess commitment to various entities we included these items: "It is very important to me that I /my close family members/my relatives am/are personally happy" and "How important to you is the success of the following: my neighbourhood/my community/ Canada/my ethnic group/my part of Saskatchewan/Saskatchewan/my religious or spiritual community?"

Identity:

To assess the relative strength of the respondents' various identifications we included the following item:

Please rank the following identities: ***Rank them from 1 to 8 if you can, where 1 is the most important and 8 is the least. You may allow for ties or omissions.***

Canadian
resident of Saskatchewan
resident of my part of Saskatchewan
member of my ethnic group
member of my religious community
my job or major activity
resident of my city, town or rural area
resident of my neighbourhood

Experience collaborating to solve community problems:

To assess experience collaborating with others we asked two questions: "Have you ever helped organize a group in order to solve a community problem?" and "Have you ever worked with others to solve a community problem?"

Associational participation:

To assess respondents' associational habits we asked: "How often do you attend religious services?", "Are you currently involved in a small group that meets regularly and provides support or caring for those who participate in it?" and "How often do you meet socially with: friends/neighbours/work-mates/extended family members?". We also asked respondents to list the groups they currently participate in, up to ten, and then counted the number listed.

Civic participation:

To assess civic participation we asked the following: "Did you vote in the District Health Board

elections in October 1995?", "Did you vote in the last local municipal government elections?", "Did you vote in the last provincial elections?", "Did you vote in the last federal elections?", "Have you ever contacted a locally-based government official about an issue that concerned you?", "Have you ever been on the board of a community organization?", "Have you donated blood in the past year?", "Have you ever written a letter to the editor of a newspaper?", "Do you read a local newspaper regularly *(at least once a week)*?", "Have you ever belonged to a neighbourhood improvement association?", "Have you volunteered regularly in the past year?" and "Do you watch the local news on television regularly *(almost every day)*?"

2.4.1.2 Preparation

The theoretical basis for the items in the survey came from the first chapter of this thesis. We prepared a draft of questions which were then passed by three of the committee members (Matthews, Lomas and Streiner), all of whom provided comments and suggestions. We revised the questions and passed them by three colleagues at the University of Saskatchewan (Kouri, project leader of the HealNet - RHP Theme, Dutchak, researcher with HealNet, and Dickinson, sociologist and investigator with HEALNet) who acted as members of the public upon first pass and as experienced researchers on a second pass of the questionnaire. Finally, we passed the questions by three members of the public in Saskatoon who provided additional insights. We incorporated the proffered suggestions and prepared a final version of the survey for a pilot study.

2.4.1.3 Pilot Study

We had hoped to obtain 50 completed questionnaires from the pilot study, and therefore mailed 205 surveys using a single-pass approach. The names and addresses were chosen arbitrarily from the phone book. We chose 102 names from the Saskatoon district (all from the City of Saskatoon), 66 from the South East district (38 in Estevan, 13 in Oxbow and 15 in Lampman), and 37 from the South Central district (25 from Weyburn and 12 from Ogema). These districts were chosen because they represent both urban (the first district) and rural (the second and third districts) areas of Saskatchewan. Since we chose names arbitrarily from the telephone book, we likely did not include many farmers in the sample. This is because people living on farms have "Farm" as their mailing address, and we did not mail any pilot surveys to such addresses. All respondents were, therefore, from either a small town or a large city. Thirty-eight questionnaires were received by Dec 19th, 1996 (one month after mailing) and were entered into an SPSS/PC database. We omitted one question where the response rate was low (Have any of the following ever let you down?). For some items the responses clustered on one end of the scale (How important are the following to you?), but since they were our only measure of commitment we chose to keep them and accommodate the clustering during analysis with the use of non-parametric tests of significance.

2.4.1.4 Sampling citizens within the eight districts

We selected eight districts in which to conduct the survey to citizens, the process and rationale for which is described above. We obtained a CDROM from the company Pro-CD with phone numbers, names, addresses and postal codes of the people/households in Saskatchewan with a telephone. The version we obtained in March, 1997 was current, containing listings taken from the latest phone books published by SaskTel. We isolated residential listings by district using the postal codes in each district (thus including only those Pro-CD listings with a postal code provided), and took a random sample from each, excluding fax numbers and persons where an address was not provided. In each of the four larger districts we took a random sample of 220 households, and in each of the four smaller ones we sampled 180 households.

The survey was then sent to the name and address accompanying the phone number, and the recipient was asked to give the questionnaire to a member of the household, 18 years or older, selected randomly. The random respondent was chosen by the recipient of the survey, who was asked to list the members of the household, 18 or older, in order of birthday within the year, and select the person whose birthday falls earliest in the year. A copy of the cover letter outlining the request can be found in Appendix B. After a week reminder postcards were sent to all recipients. About six weeks after that we remailed the entire survey to recipients from whom we had not received any word, followed by another reminder postcard one week later.

The population that this sample is taken from was, therefore, only those households with a telephone and with phone number, address and postal code listed in the SaskTel printed listings. We also do not have any assurances that recipients complied with our request for a randomly selected member of the household, or that the request was comprehensible to all recipients. We suspect that the complicated nature of the cover letter request may have decreased our response rate. It would have been easier to ensure such things in a telephone interview, but with a mailed questionnaire we have no assurances. Even so we did the best we could to get a random sample of citizens aged 18 and older.

Table 2.3. Number of listings found in the PRO-CD telephone directory, by health district

The percentage in brackets, in the second column, is the percentage of listings with postal code that also had a listed address.

	total number of PRO-CD listings with postal code (n)	total number of PRO-CD listings with address (n, %)	number of names chosen randomly for the survey
East Central (EC)	10111[1]	9914 (98.1%)	220
Living Sky (LS)	5777	5276 (91.3%)	180
North-East (NE)	5151	4894 (95.0%)	180
North Valley (NV)	6239	5957 (95.5%)	180
Moose Mountain (MM)	5526	5019 (90.8%)	180
Prince Albert (PA)	16148	15217 (94.2%)	220
Regina (RG)	72154	70103 (97.2%)	220
Saskatoon (SK)	72487	71850 (99.1%)	220

2.4.1.5 Response rates

Table 2.4: Response rates for the survey of randomly selected citizens in eight districts

Response rate 1 is the number of respondents divided by the number of surveys mailed.
Response rate 2 is the number of respondents divided by the number of surveys assumed delivered (eliminating the return to senders from the denominator).
RTS = mail returned to sender (i.e. undeliverable)

		Health District							
	Total	NE	NV	LS	MM	EC	PA	RG	SK
# respondents	534	61	54	73	60	86	54	73	73
# surveys mailed	1599	179	180	180	180	220	220	220	220
# RTS	274	23	70	15	32	27	57	17	33
response rate 1 (%)	33.4	34.1	30	40.6	33.3	39.1	24.5	33.2	33.2
response rate 2 (%)	40.3	39.1	49.1	44.2	40.5	44.6	33.1	36	39

NE=North East; NV=North Valley; LS=Living Sky; MM=Moose Mountain; EC=East Central; PA=Prince Albert; RG=Regina; SK=Saskatoon

[1] We do not know what percentage of PRO-CD listings had a postal code

The goal was to reach 100 respondents per district, which was estimated to be the minimum number acceptable to infer findings to the district. As well, the goal was to get at least a 50 percent response rate. Neither of these goals was reached - the second response rate was only 40% overall[2]. All conclusions based upon these responses must, therefore, be qualified with the realization that the sample may be biased.

To attempt to correct for bias during individual-level analysis we controlled for sociodemographic characteristics when conducting regression and correlation analysis. When aggregating responses to the level of district we weighted the data by age, gender and income to match the descriptions of the district provided by the Community Profile Database and Census '91. Age and gender characteristics of the districts in the Community Profile Database are from 1996, while the income figures are from the 1991 Census. In Appendix E are descriptions of the sociodemographic character of the eight districts, as well as the aggregated sociodemographic characteristics of survey respondents, by district. Table 2.5 summarizes the amount by which our "random" sample over- or under-sampled in the dimensions age, gender and income, in comparison to descriptions of the districts collected from the Community Profile Database and Census '91.

Most of our samples were biassed toward high income, female and older respondents. More specifically, it appears that we under-sampled the lowest income group, and the over-sampling in the remaining income groups may reflect this, although it also appears that we often over-sampled the highest income group beyond their due. In some districts we had more females respondents than is representative, and in others we had fewer. Moose Mountain stands out, with 22 percent more female respondents than sought, and Saskatoon with 11 percent more than sought. With respect to age it appears that, in general, we under-sampled the youngest age category and over-sampled the middle-aged age categories.

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We used bulk mailings for the survey instrument (mailed two times) and the reminder post-cards (also mailed two times). Canada Post's policy re. bulk mailings is to destroy undeliverable items at the final post-office rather than return them to the sender; however, we did receive some survey instruments and post-cards returned to the sender. We suspect, however, that the second response rate is under-estimated.

Table 2.5: Differences between our sample of randomly selected citizens and descriptions of districts from the Community Profile Database (age and gender) and Census '91 (income)

e.g. +6.0 means we over-sampled by 6 percent
e.g. -12.0 means we under-sampled by 12 percent

		Health District							
		NE	NV	LS	MM	EC	PA	RG	SK
age	18-29	-11	-2	-5	-6	-12.5	-11	-8.5	-7
	30-39	7	-3.5	1	-6.5	-2.5	-7	5	-10
	40-49	-5.5	8.5	15	1	6	3	-11	5
	50-59	12.5	4	10	-3	9	3.5	9	6.5
	60-69	4	-1	-5	7	2	6	1	2
	70 plus	-7	-5.5	-6.5	9	0	5.5	4.5	4
gender	females	4	-2	-5	22	-1	-6	7	11
income	< $20,000	-14	-18	-9	-15	-11	-6	-5	-9
	20-29	2	2	-3	4	4	-2	-4	-4
	30-39	-6	-1	-6	2.5	3	-3	-7.5	0
	40-49	9	5	7.5	-4	5	2.5	4	0
	50-59	1	1.5	0	4	4	-6	5.5	2
	> $60,000	7.5	10	10	9	4	14	7	12

NE=North East; NV=North Valley; LS=Living Sky; MM=Moose Mountain; EC=East Central; PA=Prince Albert; RG=Regina; SK=Saskatoon

We weighted the aggregate responses by district in an attempt to account for these biases. If we find that age, gender and/or income are related to social capital attributes, then weighting by these characteristics is essential if we are to obtain an accurate measure of social capital characteristics for a district, since our low response rate gives cause for non-representativeness concerns. Unfortunately, due to a lack of data, we were unable to weight by other characteristics. We were also forced to assume the three variables were independent from one another when weighting.

The supposed bias introduced by a response rate of 40% is a serious concern. Although we cannot know in which respects our sample differed from a truly random sample of the population, we suspect that we may have under-sampled employed persons (who may be too busy to complete the survey), under-sampled poorly-educated and/or new Canadians (whose skill with English may be challenged by the survey) and under-

sampled people who had moved recently (and may be high-mobility persons in general), along with the demonstrated bias toward high income, female and older respondents just described. Accommodating income, gender and age by weighting the data may assist toward minimizing the biases associated with these characteristics, but there are an unlimited number of characteristics that may be relevant in addition to the ones just speculated about. For example, the native community in Saskatchewan is large but was not represented in our sample. We may have, therefore, missed a very important perspective that may temper trust, identity and commitment scores, for example; the native community may possess a coherent pocket of social capital that we cannot explore. The same general argument holds for other characteristics we have under- or over sampled. Weighting was a first attempt to deal with the problem. Comparing eager respondents to those who needed several prompts to participate in the study was a second attempt.

2.4.1.6 Comparison of survey waves one and two

Because our response rate was low (less than 50%), we attempted to assess (albeit crudely) how non-representative our sample may be. Our method was to compare the respondents from the first wave (eager respondents) to those from the second wave (less eager respondents who replied to the survey after receiving it a second time). If we assume that non-respondents were the least eager to fill out the questionnaire, then perhaps trends from first wave to second wave respondents can be extrapolated to non-respondents.

We chose to compare waves one and two on the following sociodemographic characteristics: place of residence (i.e. rural, small or large town), highest level of education achieved, gender, household income, marital status, religious affiliation (i.e. Roman Catholic, Protestant, orthodox, other, or none), age and number of children living at home. In addition we arbitrarily selected several questions and indices: whether the respondent voted in the last provincial election, the number of clubs they currently participate in, importance of ethnic identity, amount of civic participation, amount of trust in community, amount of trust in government and amount of trust in people in general.

The results of the comparison are in Appendix D. In summary, there were 389 respondents in wave one and 145 in wave two, and no statistically significant differences were found between them with respect to the aforementioned variables. We have not, therefore, found evidence which would suggest differences between respondents and non-respondents, though, of course, some may exist.

2.5.1 Trust (aggregate-level social capital data)

The preceding section described the survey of randomly selected citizens in eight districts. In stage one of analysis we focussed upon all 30 of the districts and so obtained additional indicators of trust, associational and civic participation, and experience collaborating to solve community problems. Some of

these indicators were aggregate in nature, whereas a few were system-level.

We obtained from Statistics Canada, by health district, the results from several questions in the National Population Health Survey 1995 that pertain to trust in people. The questions were: 1) "How often have people you counted on disappointed you?" *(1=always/.../7=never happened)*, 2) "How often do you have the feeling you are being treated unfairly?" *(1=very often/.../7=very seldom or never)* and 3) "Do you have someone you can really count on in a crisis situation?" *(yes/no)*. We also obtained a derived social support index from the NPHS, a combination of 1) "Do you have someone you can confide in/talk to about your private feelings?", 2) "Do you have someone you can really count on in a crisis situation?", 3) "Do you have someone you can really count on when you make personal decisions?" and 4) "Do you have someone who makes you feel loved and cared for?"

These aggregated responses to questions served as indicators of the levels of interpersonal trust held by individuals in the districts, on average. We note from Table 2.3 that these trust indicators were used in a regression analysis of the relationship between social capital and DHB performance, in almost 30 of the districts, but were also used in the second stage of testing, in comparison group analysis. The same holds true for the additional associational and civic participation, and experience collaborating indicators described in subsequent sections of this chapter.

The number of responses per district in the NPHS ranged from 231 and 209 in Saskatoon and Regina, respectively, to only four in Living Sky, seven in North-East, ten in Moose Mountain, 17 in North Valley, 25 in East Central and 53 in Prince Albert[3]. This means that, for most of the districts, the standard errors were quite large for the district summaries on these questions, and the data should be interpreted with this limitation in mind; that is, we have little confidence that our estimate for the true amount of interpersonal trust in most of the districts lies close to the estimated mean. Even so, however, in the absence of other data we used the estimate, qualifying our conclusions.

2.5.3 Associational activity (aggregate- and district-level social capital data)

We were unable to obtain a listing of *all* clubs and associations in the province, so instead we contacted parent associations with subsidiary groups scattered throughout the province and counted the number

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Statistics Canada should take note of these numbers. In the National Population Health Survey the researchers sampled in Saskatchewan by population, not by health district. If they had tried for a sample that traversed the geography of the province a little more comprehensively we would have larger n's for the smaller health districts and fewer for the large cities which are more than well-represented.

of such subsidiary groups within each health district as a proxy measure for the number of clubs and associations in a district. We received responses from 13 parent associations: arts and crafts festivals, music companies, theatre companies, arts councils, choral companies, multicultural councils, ringette clubs, scouts clubs, 4-H clubs, squash clubs, girl guide clubs, boxing clubs and Women's Institutes. Unfortunately we found that this measure of the number of clubs and associations in a district correlated almost perfectly with population size ($r=.977$, $p<.001$), suggesting two possibilities: either 1) there were no systematic differences between districts in Saskatchewan with respect to associational membership per capita, or 2) this measure cannot differentiate adequately among districts. This measure is also limited in usefulness because it likely over-represented formal clubs and associations and under-represented informal ones.

We obtained from Statistics Canada, by health district, the results from several questions on the National Population Health Survey 1995 that pertain to associational membership and social contact. The questions were: 1) "Are you a member of any voluntary organizations or associations?" *(yes/no)*, 2) "How often did you participate in meetings/activities sponsored by these groups?" *(at least once a week/at least once a month/at least 3 or 4 times a year/at least once a year/not at all)*, 3) "How often did you attend religious services/meetings in past 12 months?" *(at least once a week/at least once a month/at least 3 or 4 times a year/at least once a year/not at all)*, and 4) "How often do you have contact with your neighbours?" *(don't have any/every day/at least once a week/2 or 3 times a month/once a month/a few times a year/once a year/never)*. We also obtained a derived index from the NPHS 1995: 5) Derived social involvement index - an index created using the first two questions cited above, combining membership in voluntary organizations with the number of times respondents participated in meetings.

2.5.4 Civic participation (aggregate-level social capital data)

We obtained, by health district, the percentage of eligible voters who voted in the following elections: 1) the federal election of 1993 (the information was provided by the federal government; we determined which district a polling station fell in, and then summed by district), 2) the provincial election of 1995 (the information was provided by the provincial government; we determined which district a polling station fell in, and then summed by district) and 3) the District Health Board elections of 1995 (the information was provided by the Saskatchewan Ministry of Health). We also obtained the percentage of the tax levy, in 1994, in arrears, considering it a civic act to pay one's taxes on time.

2.5.5 Collaborative problem-solving ability (district-level social capital data)

We obtained the percentage of communities in a district with disaster plans, which refer to orchestrated responses to large scale crises that involve numbers of persons. Disaster plans are coordinated by the Provincial Emergency Measures Association and indicate that a community has experience collaborating

in the face of disaster, or, at least, has plans in place for such collaboration.

2.6 Data collected to evaluate health board effectiveness

The dependent variable in the research design is the performance of the DHBs and enters into both stages one and two of district-level analysis, wherein we replicated Putnam's analysis in Italy. In chapter one we described four dimensions within which we can evaluate board performance. In this section we will summarize the four dimensions of effectiveness and will then describe the indicators we collected to measure performance in these dimensions. The concepts measured empirically and their relation to specific hypotheses were summarized earlier in Table 2.2.

2.6.1 Four dimensions of board effectiveness

To summarize, we defined that, in general, a board will score highly in the dimension 1) *reflecting health needs* if it accurately reflects health needs, preferences, and perceptions of health needs of district residents. A board will score highly in the dimension 2) *policy making and implementation* if it makes good decisions; effectively implements decisions; creates effective services; broadens range of potential services that can be utilized to meet needs; problem-solves among community groups, voluntary organizations, individuals and the board; identifies solutions to meet needs; has an effective board process; has good relations with staff; has organizational clarity; and has well-spelled out rules and operating procedures. A board will score highly in the dimension 3) *fiscal responsibility* if it operates and achieves goals within a constrained budget; passes the budget on time; allows the community to know the choices that have been made; and handles monies well and properly. Finally, a board will score highly in the dimension 4) *integration and coordination* when it identifies duplicated services and provides integrated links between duplicated services.

2.6.2 Analysis of board minutes (from HEALNet - RHP Theme, Saskatoon)

In 1995 the federal government in Canada created a Networks Centre of Excellence (NCE) project to study health care, called HEALNet (Health Evidence and Application Linkages Network). HEALNet has six themes, one of which is the Regional Health Planning Theme, based in Saskatoon, Saskatchewan. The RHP Theme is led by Steven Lewis, the director of the Health Services Utilization and Research Commission (HSURC), housed at the University of Saskatchewan. The theme is currently investigating regional health authorities in Saskatchewan, evaluating the devolution experiment in the province and creating decision-making tools for DHB board members.

Two members of the HEALNet team, Dutchak and Tonita, conducted an analysis of the minutes of DHB board meetings held in 1995/96. Two of the criteria were relevant to two of the four dimensions of effectiveness. Pertinent to the dimension *reflecting health needs* they asked 1) "Did the board hear/receive any representations from the public?" A board can indicate a desire and willingness to assess health needs in their jurisdiction by hearing and receiving representations from the public. Pertinent to the dimension *policy making and implementation* they asked 2) "Did the board have a systematic policy review or development process?" Part of the policy-making process may include ensuring that the policy making process is effective, and having a review process in place demonstrates commitment to the creation of good policies.

2.6.3 Survey responses by board members in the Devolved Health Authority Survey, 1995 (from CHEPA, McMaster University)

In 1995, this author, with two colleagues (Lomas and Woods), conducted a survey of board members in five provinces, including Saskatchewan. Of the 30 boards in the province, 27 of them participated in the survey (90%), with 200 respondents in total (a response rate of 63.7% for the 27 boards). The DHBs at the time were composed of 12 appointed members. The survey was a first attempt to understand the devolution of health care decision making in Canada, and investigated the adequacy of training and information prior to decision-making, respondents' stated affiliations and claimed representations, and respondents' perceptions of where the board spends much energy and where it should spend more than it does. Ten of the questions asked in the survey were pertinent to the dimensions of effectiveness. We aggregated responses by board to obtain board members' perception of their board's effectiveness. The number of respondents per board varies from four to ten; to compensate, in analysis, we at times performed weighted least squares regression where the number of respondents per board provides the weight for that data point.

Pertinent to the dimension *reflecting health needs* we isolated five items: 1) percent agreeing with "Most times or always we have been given population needs data prior to making decisions," 2) percent agreeing with "Most times or always we have been given citizens' preferences information prior to making decisions," 3) percent agreeing with "Most times or always we have been given key informants' opinions prior to making decisions," 4) percent claiming their board is at least quite involved in assessing community needs and 5) percent who agreed with "I would go with the right decision over community's decision." Part of the reflecting health needs responsibility includes knowledge of population and community needs data, citizens' preferences information and key informants' opinions. We scored DHBs more highly when board members are more likely to have claimed that they had such information available before decision-making. In addition we scored boards more highly when board members were more likely to take the community's views into account than their own views, or their board's views, which demonstrates sensitivity to citizens' perceptions of their needs. In essence this last item demonstrates board members' felt accountability to the citizenry.

Pertinent to the dimension *policy making and implementation* we isolated four items: 1) percent agreeing with "I am confident that our board generally makes good decisions," 2) percent agreeing with "I think I influence the decisions made by my board," 3) percent agreeing that they "are confident that their board will make better decisions than those previously made by the province" and 4) percent who responded with "the board not being effective" when asked "what are your biggest concerns (if any) about sitting on this local or regional board?" The first, third and fourth items address the quality of policies, and the second board process, both aspects of the policy making and implementation dimension of DHB performance.

Finally, one question addressed the dimension *integrating and coordinating services*: 1) percent claiming their board is at least quite involved in ensuring the effectiveness and efficiency of services. Ensuring the effectiveness of services belongs most squarely in the policy-making and implementation dimension, but ensuring the efficiency of services can include integrating duplicated services. Because of the paucity of items addressing this last dimension of DHB performance we included it there.

2.6.4 Survey responses by board members in the Saskatchewan Devolved Health Authority Survey 1997 (from HEALNet - Regional Health Planning Theme, Saskatoon, SK)

In 1997 the HEALNet - RHP theme (with the author's assistance in the earlier stages) conducted a follow up survey of board members in Saskatchewan. All 30 boards participated and 275 responses were gathered (for a 77% response rate overall). This survey was designed to contribute to the evaluation of devolution of health-care decision-making in Saskatchewan and to determine whether changes in direction and focus had occurred in the province since the 1995 Devolved Health Authority survey to board members. Twelve of the items are pertinent to the dimensions of board effectiveness. We aggregated responses by board.

Pertinent to the dimension *reflecting health needs* we isolated four items: 1) percent agreeing with "Our board's values reflect the values of the district," 2) "Our board has an accurate understanding of what district residents want for the health care system," 3) "Our board is responsive to wishes of district residents" and 4) percent choosing "needs to increase" or "needs to increase a great deal" when questioned about the amount of time and energy the board spends on "board involvement in assessing community need."

Pertinent to the dimension *policy making and implementation* we isolated seven items: 1) percent agreeing with "Our board has adequate mechanisms for board evaluation" and 2) "Our board is good at long range planning," 3) percent choosing "needs to increase" or "needs to increase a great deal" when questioned about the amount of time and energy the board spends on "board involvement in planning programs and services," 4) percent agreeing with "Our board can be considered creative in addressing problems," 5) "It appears to me that most other health boards in Saskatchewan are doing a better job than our board is," 6) " I

am confident that our board generally makes good decisions" and 7) "Board meetings are run efficiently and effectively." These items address the decision-making process and policy outcomes and thus fall in the dimension policy-making and implementation.

Pertinent to the dimension *fiscal responsibility* we isolated five items: 1) percent agreeing with "Our board effectively communicates the rationale for our decisions to district residents," 2) "Even if they don't agree, most district residents generally understand and respect our board choices" and 3) "Our board manages its money well," 4) percent choosing "needs to increase" or "needs to increase a great deal" when questioned about the amount of time and energy the board spends on "board involvement in allocating funds" and 5) on "board involvement in raising revenue." The dimension fiscal responsibility includes communicating rationale for decision-making to district residents and managing finances well, and these five items address these two themes.

Pertinent to the dimension *integration and coordination* we isolated one item: 1) percent choosing "needs to increase" or "needs to increase a great deal" when questioned about the amount of time and energy the board spends on "board involvement in ensuring service effectiveness and efficiency."

2.6.5 Bureaucratic efficiency test

On November 7, 1997 we sent a letter to each of the thirty DHBs requesting some information (contact names and addresses for several small towns in the district) and recorded the date at which we first received a reply from the board. When they mailed a package we noted the date on the postmark; when they called or emailed we noted the date of communication. A board's score was the total number of days beyond Nov. 7 at which we first heard from the board - the lower the score the better the DHB performed in this bureaucratic efficiency test. This replicated Putnam's bureaucratic efficiency test conducted in Italy, in which he approached the regional governments and noted how long it took them to fulfil an administrative request. For two of the DHBs we mailed the request to an incorrect address (the addresses changed after the publication of the Health District Map). We heard from 19 DHBs, giving us a 68% response rate in this bureaucratic efficiency test.

The dimension *policy-making and implementation* includes internal processes within DHB operation. A board will contribute toward scoring highly in this dimension when it has organizational clarity and has well-spelled out rules and operating procedures. We assumed that these attributes would contribute toward swift bureaucratic response within an organization, and so have used the bureaucratic responsiveness test as an indicator of success in this dimension.

2.6.6 Revenue versus expenses

Pertinent to the dimension *fiscal responsibility* we calculated the percent in which there was an excess of revenue over expenses, or vice versa, for the fiscal year ending on Mar. 31, 1995. How well was the board able to conduct business while staying within the parameters dictated by revenues? The greater the surplus of available funds the higher a board scored on this indicator, and the more a board went into debt the lower the score.

2.6.7 Audit 1995 (evaluated by local auditors, summarized by the Provincial Auditor)

In Saskatchewan, every DHB is responsible, each year, for hiring an auditor from their district to audit the DHB's financial situation. The reports from these auditors are collected by the Provincial Auditor - W. K. Strelioff's office in Regina. The Provincial Auditor gives guidelines to the independent auditors to guide the audits. In 1995/96 the Provincial Auditor chose to focus on 1) the adequacy of management systems and practices related to financial reporting, compliance with authorities and safeguarding assets, 2) compliance with key legislative authorities, 3) the reliability of the financial statements issued publicly, 4) whether DHBs use an adequate process to assess the health needs of district residents, and 5) whether DHB annual reports provide the public and the Minister of Health the information they need to assess DHB performance. These evaluations conducted by the Provincial Auditor's office were pertinent to the four dimensions of effectiveness. The Provincial Auditor's office was kind enough to grant us access to these confidential results, provided we promise to maintain the confidentiality of DHBs in this research study when presenting results from the Provincial Auditor's analysis.

To maintain confidentiality, therefore, the scores that were produced from these results are masked in this research project. We used the results to make conclusions about the performance of the DHBs in the four dimensions of effectiveness, but have included indicators from other sources in the conclusion-making which ensure that the reader cannot determine how a particular DHB fared in the 1995 and 1996 audits. Maintaining confidentiality meant that sometimes our conclusions must be taken by the reader on faith and cannot be verified by the reader referring directly to the relevant data.

At the end of the 1995 fiscal year the Provincial Auditor made available to us observations for 18 boards. We collected the observations under the following five areas: 1) were the board's written rules and procedures adequate? *(policy-making and implementation)*, 2) were the accounts, records, banking and investments done properly? *(fiscal responsibility)*, 3) did the board have proper written service agreements with its providers? *(integration and coordination)*, 4) did the board hold two public meetings as prescribed in the Health District Act *(reflecting health needs)* and 5) was the board late submitting required documents to the Ministry of Health *(fiscal responsibility)?*

One component of the dimension policy-making and implementation is organizational clarity with well spelled out rules and operating procedures, and item one addresses this component. Item two addresses financial practice, and item five addresses upkeep of responsibilities to the Ministry of Health, both of which are responsibility issues. We placed item three in the integration and coordination of services dimension, because part of identifying duplicated services and integrating them is clear and concise operating relationships with providers. Finally, we decided that item four indicates a board's attempt to gain input on decision-making from the public, although it could also be rightly placed in the fiscal responsibility dimension if these meetings were also used to inform the public of the rationale for decisions already made.

For items 3), 4) and 5) the evaluation of the Auditor's conclusions was straightforward. We determined whether a board had written service agreements with all institutions in its service area, had held the required number of public meetings, and had submitted the required documents on time, scoring a board either yes or no on each dimension. For areas 1) and 2) we collected all observations by all boards and subjectively scored each board as follows: 1. well below average, 2. below average, 3. average, 4. above average and 5. well above average. This author and Lomas did subjective evaluations, independently, and the scores between these two researchers were averaged. The scores granted by these two researchers were very similar: Pearson's $r=.7339$ ($n=15$, $p=.002$) and $r=.9036$ ($n=16$, $p<.001$), for areas 1) and 2), respectively.

2.6.8 Audit 1996 (evaluated by local auditors, summarized by the Provincial Auditor)

After the 1996 fiscal year the auditor made observations for 20 boards. We collected the observations under the following four areas of investigation: 1) did the board adequately safeguard assets? *(fiscal responsibility)*, 2) did the board have written service agreements with all providers? *(integration and coordination)*, 3) did the board uphold its accountabilities to residents and Minister of Health? *(fiscal responsibility)* and 4) was the board late submitting required documents to the Ministry of Health? *(fiscal responsibility)*. As in the evaluation of the 1995 audit, we used a five-point subjective evaluation (averaging evaluations from this author and Lomas) for the first area, scoring areas 2), 3) and 4) as yes/no. The scores granted by the two researchers in area 1) were similar (Pearson's $r=.8961$ ($n=15$, $p<.001$)).

2.6.9 Annual Report (evaluated by the Provincial Auditor)

The auditor's office had a number of criteria with which they evaluated the Annual Reports for seven boards (a sample of the 30 DHBs). For each criterion pertinent to the four dimensions of effectiveness we gave the board a score of 0 (failed to meet the criterion), 1 (met the criterion partially), or 2 (met the criterion fully), and then summed the scores by effectiveness dimension. In the dimension *reflecting health needs* we focussed on two criteria: 1) did the report show population demographics? and 2) did the report describe acceptance by recipients for major programs, services and activities? These items demonstrate success in assessing

population need. In the dimension *policy making and implementation* we focussed on five criteria: 1) did the report describe organizational structure?, 2) did the report describe major new strategies?, 3) did the report describe major new programs?, 4) did the report describe the DHB's plans and strategies? and 5) did the report outline major programs, services and activities? These items reflect organizational clarity and well-defined plans for service provision. In the dimension *fiscal responsibility* we focussed on three criteria: 1) did the report give a summary of methods used to safeguard assets?, 2) did the report provide information on financial choices made? and 3) how many months past the deadline was the annual report submitted to the minister?

2.6.10 Needs Assessment Document (evaluated by the Provincial Auditor)

The auditor's office had a number of criteria with which they evaluated the needs assessment process and report for seven boards. For each criterion pertinent to the four dimensions of effectiveness we gave the board a score of 0 (failed to meet the criterion), 1 (met the criterion partially), or 2 (met the criterion fully), and then summed the scores by effectiveness dimension.

In the dimension *reflecting health needs* we isolated two criteria: 1) did the DHB collect information, as planned, about the health needs of the population to be served (demographic and other statistics, consult with the public, consult with service providers, list district services and resources)? and 2) did the DHB analyse the collected health needs assessment data (trends in statistics, significant district findings, long term action, recommend actions)? In the dimension *policy making and implementation* we isolated one criterion: 1) did the DHB report to the Board, service providers, the public and the Minister (plus obtain feedback)? This demonstrates problem-solving among various groups.

In summary, then, we collected numerous indicators of board performance in four dimensions. We did not require nor expect that these dimensions necessarily be positively related to one another, although, overall, if a board scored highly in all four they were performing at the highest level, as we have conceptualized and measured performance.

2.7 Sociodemographic characteristics of districts (aggregate- and district-level data)

When we conducted analysis in chapter four into the relationship between social capital characteristics and effective governance we controlled for sociodemographic characteristics of the districts. That is, when a relationship was found between a social capital variable and a board performance variable, we explored whether this relationship "went away" after controlling for some sociodemographic characteristic of the district. If the relationship did go away, then we had a potentially spurious relationship between the two variables. Perhaps social capital and DHB performance reflected the sociodemographic nature of the district,

rather than one "causing" the other. We cannot ever be sure of causality in a cross-sectionally designed study, but a relationship that disappeared after controls are introduced would effectively negate the possibility with certainty.

Thus we obtained the following from the Ministry of Health, Saskatchewan, for each of the 30 districts: 1) the number of physicians and other health professionals, 2) the death rate, crude and standard, 3) the birth rate and 4) the crime rate (from 1993).

From the Community Profile Database, a database provided by the Ministry of Health to the DHBs that summarizes characteristics of the health districts, we obtained for each of the 30 districts: 1) the percentage of families with a single parent, 2) the percentage of residents who own their dwelling and the percentage who rent their dwelling, 3) the district population, 4) the population percent change over 10 years, from 1984 to 1994, 5) the dependency ratio (number of residents under 15 and over 65 divided by the number of the remainder), 6) the population density, 7) the percentage of the population with English as their mother tongue, 8) the percentage of the population aged 65 and over, 9) the percentage of the population who live in Indian bands, 10) the percentage of the population who live in rural municipalities, 11) the percentage of the population claiming Catholic/Protestant/other/no religious affiliation, and 12) the percentage of the population living in communities larger than 1000 persons.

We can imagine reasons why some or most of these characteristics may be related to either social capital and/or DHB performance. For example, the number of physicians in a district may reflect the size of the health-care system, and we can imagine that a larger system is more difficult to govern. A high crime rate could undermine social capital by reducing trust and could also increase the number of wounded and thus have an effect on the health-care system. We did not use any such imagined reasons for choosing which sociodemographic characteristics of districts to collect - we simply collected as many as we possibly could.

2.8 Statistical methods used in analysis

In chapters four and five, we conducted bivariate and multivariate tests of significance. The measurement scale and distribution of the variables involved in each analysis determined the type of statistical test used. In this section we will, therefore, describe the various analysis scenarios and techniques used in analysis.

2.8.1 Bivariate analysis techniques used

When the independent and dependent variables were categorical we generally provided a table of counts and row or column percents and used the chi-square test for statistical significance. When the independent variable was categorical and the dependent variable was quantitative and normally distributed, we generally provided a table of mean scores by category and used the one-way ANOVA test of significance (sometimes including tests for linear and non-linear components when the independent variable is at least ordered). We included only results from these significance tests when the largest standard deviation was no more than twice the size of the smallest. In those cases where the independent variable can be construed as a quantitative variable as well as a categorical one we also provided Pearson's correlation.

When the independent variable was categorical and the dependent variable was quantitative and heavily skewed, we explored a box-plot with the median and quartiles displayed for each category, a table with mean ranks by category, and used the Kruskal-Wallace one-way ANOVA non-parametric test of significance. The mean ranks by category were from the Kruskal-Wallace test and allowed us to assess trends from category to category. In those cases where the independent variable could be construed as a continuous variable as well as a categorical one we also provided the Kendall's tau measure of association, which, unlike Pearson's correlation, allows for a significantly skewed dependent quantitative variable.

We used Pearson's r and Kendall's tau for measures of association; the former when the independent and dependent variables are roughly normally distributed and the latter when they are not. It was not appropriate to compare the magnitude of r to the magnitude of tau, since they use different techniques to arrive at their correlation results. Therefore we only compared the magnitude of a Kendall correlation with other Kendall correlations, and similarly we only compared a Pearson correlation with other Pearson correlations.

2.8.2 Multivariate analysis techniques used

Once statistically significant bivariate relationships were explored we often conducted multivariate analysis, incorporating several independent variables at once to determine which independent variables carried the most predictive weight and which independent variable contributions to variability in the dependent variable are also accounted for by other independent variables.

When the dependent variable was quantitative and symmetric we used multiple regression techniques with quantitative and categorical independent variables. In these cases, when the independent variable was ordinal (such as a seven-point Likert scale question ranging from strongly agree to strongly disagree), we treated it as both a quantitative and a categorical variable in subsequent regressions and performed incremental F-tests between the models to determine whether the treatment as a quantitative variable was appropriate (i.e.

we did not find a significant non-linear component). If it was not appropriate we retained the independent variable as a set of dummy variables. Finally, we performed diagnostic tests to assess whether any assumptions had been violated in the multiple regression. This entailed a normal Q-Q plot and a histogram of the residuals to check normality; scatter plots of the quantitative independent variables by the dependent variable while holding the other independent variables constant (partial regression plots, which SPSS/PC calls partial residual plots) and computed partial residual plots to check for linearity; and Cook's Distance, leverage and Studentized residual plots to check for unusual points. We retained only those independent quantitative variables that provided a linear contribution to the regression model (sometimes transforming the independent variable to make the relationship linear) and removed potentially influential points to determine whether their removal changed the B-values to any great extent.

When the dependent variable was quantitative and non-symmetric we dichotomized it and performed logistic regressions using both quantitative and categorical independent variables; this was also our chosen technique when the dependent variable was naturally dichotomous. We created models using relevant independent variables and then checked the ordinal independent variables for linear effects. When the linear contribution of the variable did not differ significantly from the categorical contribution of the variable (as a set of dummy variables) we retained the quantitative version of the variable, otherwise retaining the set of dummy variables. We conducted the significance tests between models using the differences in the log likelihoods, which produces a chi-square statistic with degrees of freedom equal to the difference in degrees of freedom between the two models. We performed diagnostics on the final model to check that the assumptions were met, calculating Cook's Distance and leverage scores to determine unusual points and plotting partial residual plots to check for linearity.

Every one of the described statistical techniques described above was used in the analysis of data conducted in this research project. In stage one, chapter four, for example, wherein we explored the relationship between the social capital index and the DHB performance scores we conducted linear regressions. In chapter five, wherein we explored relationships among social-psychological and behavioural social capital concepts we used both parametric and non-parametric bivariate techniques, and both multiple and logistic regression multivariate techniques.

2.9 Summary and conclusions

In this chapter we explained how we chose the eight districts to focus our attention upon, how we created the three comparison groups and the logic behind the upcoming analysis that utilized the comparison groups in the second stage of analysis. We also described the data collected in the course of this research

study. To measure social capital we conducted a survey of randomly selected citizens in the eight districts, results from which were aggregated. We also obtained statistics from the NPHS, by health district, for most of the 30 districts, that are aggregate statistics as well. Voting statistics from three elections were obtained (aggregate-level), as were a proxy measure for the number of clubs and associations in the districts (community-level) and a count of communities with a disaster plan (community-level).

To measure sociodemographic characteristics of health districts we obtained data from the 1991 Census and other sources that were collected together in the Community Profile database.

Finally, to measure board performance and effectiveness, we obtained board member responses to two surveys, one from 1995 and another follow-up one from 1997. We also obtained data from the Provincial Auditor, from the 1995 and 1996 audits in particular, that allowed us to collect additional indicators for most of the four dimensions of effectiveness. The final sources for measuring board effectiveness came from an analysis of DHB minutes, evaluated by the HEALNet group, and from a bureaucratic efficiency test we conducted ourselves.

Some of the social capital measures, at the district level, were aggregate in nature, while two were community-level. Our theoretical model specified some aggregate and some community-level characteristics of social capital, but aggregate data was easier to obtain, and we found ourselves, therefore, with few community-level measures of social capital. In subsequent analysis we worked with what we had, but recognize the paucity of applicable community-level variables. In the next chapter we will continue with our set-up prior to analysis, in which we created some indices and conducted reliability analysis upon them.

Chapter 3. Indices

3.1 Introduction

In the previous chapter we described the methods used for collecting data as well as the concepts measured. This chapter is the logical next step - what have we done with the data prior to analysis? Rather than conducting thousands of tests between single variables we chose to collect similar variables together into indices. Thus, for example, if we were interested in the construct "trust in people", and if we had seven items that differently assess trust in people, we could collapse the seven items together into an index. This simplified analysis by reducing the number of variables to work with and reducing the number of statistical tests. It also provided us with quantitative variables, even when the items in an index are dichotomous; quantitative variables are easier to work with in multivariate analysis and provide greater differentiating power.

In this chapter, therefore, we will describe the indices created for use in the testing of hypotheses. The indices fell into two categories: 1) those that sum attributes but do not necessarily intend to capture all relevant dimensions of an identified theoretical construct, and 2) those that do attempt to capture some identifiable concept. Thus, for an example from category one, we lumped together variables that capture individual-level civic participation behaviours, but did not expect to capture all dimensions of civic behaviour, and did not expect or require that these variables correlate highly with one another. We needed only to sum them in an attempt to separate those who participate a great deal in civic behaviours from those who do not. In another example, from category two, we put together two variables that assessed individuals' trust in the federal government, and required that the two variables correlate with one another (to give confidence that we were, in fact, capturing trust in the federal government, and not two entirely different concepts). In indices from category two we generally required that the items that make up the index should correlate with the remainder of the index (where Pearson's measure of association is greater than r=0.20) but should not duplicate one another too much (never correlating by more than r=0.80) (Streiner and Norman, 1989:39-53). Thus the indices in category one might be called "scores", and the indices in category two, that have internal coherence, might be called "scales". In this project we called them all indices, however, to reflect the fuzziness of the distinction.

The conceptual distinction between these two approaches to index-creation is not clear. Even within category two we struggled with whether a concept (trust in people in general, for example) is coherent and whether we captured the relevant dimensions. We came to the creation of the index with a predetermined idea of the dimensions of the concept (when choosing the variables with which to create the index), but we also ran scale tests to see whether certain elements (and therefore dimensions) of the index should be removed. Thus we both deduced (using common-sense and our theoretical model) and induced (using empirical results) the concept of trust in people in general. We used this approach to index-creation because of the paucity of relevant and tested scales in the literature. The empirical results of the scale analysis for an index gave us an indication of whether the theoretical construct was coherent, at least as captured in our measures.

More specifically, the scale-reliability analysis conducted in SPSS/PC gave us the following empirical results, which we present in tabular form, for each index: 1) the Pearson's correlation among the items (we added the Kendall's tau correlation as a supplement), 2) the mean of these correlations, 3) the Pearson' correlation between each item and the remainder of the index minus that item, and 4) Cronbach's alpha for the index. Together these tell us about the internal consistency of the index. Alpha can be between zero and one, where one represents a perfectly reliable index. A reliable index is one that would yield similar results when different people administer it and when alternative forms of the test are used. Indices for which alpha is greater than 0.66 are considered reliable enough for use in analysis in later chapters. We have also included some indices that "failed" and were not used in subsequent analyses.

Most of the created indices were quantitative in nature. Because of the multivariate uses to which they were put, we attempted to make the indices symmetric, through transformation, if necessary. The assumptions of multiple regression, for example, are best met with a symmetric dependent variable and symmetric independent variables. Some of the variables have ceiling (or floor) effects; rather than having tails in the distribution that fade away to nothing the distribution reaches an abrupt final value, with a number of cases at that value. Sometimes these indices could not be transformed to remove the effect, and so were retained with the ceiling effect. Histograms and/or stem-and-leaf plots of the final indices are in Appendix H.

There are three broad conceptual areas within which we have created indices. We created two district-level social capital indices. The first combined results from three elections (percentage of eligible voters who actually voted). The second combined together our various measures of social capital characteristics for a district, one of which measures was the voting index just described. This second index was used to explore the relationship between social capital (the independent variable) and effective governance, the dependent variables, in stage one of investigation in chapter four. Second, we created two district-level DHB performance indices. Again, these were used to explore the relationship between social capital and

effective governance. We did not put all of the board performance measures together into an index because the final number of cases would have been too low (due to missing cases). Rather, each index combines together relevant items from the surveys to board members. Finally, from the survey of randomly selected citizens in eight districts we created individual-level indices. For example, for every respondent we have defined a civic participation index that collects responses to a number of civic behaviour items such as voting in elections and donating blood.

Thus we have two social capital indices and two DHB performance indices, at the level of the district, that were used in the exploration of a relationship between social capital and effective governance by DHBs in stage one of investigation, found in chapter four. We also have many indices created from the individual-level data obtained from the survey to randomly selected citizens in eight districts. These latter indices were used in stage two of investigation, where we compared social capital attributes of districts in a comparison group to the performance of the corresponding DHBs. To use the indices in stage two we aggregated index scores by district to produce district scores for the index. However, we also used the individual-level indices in the individual-level analysis found in chapter five, wherein we explored the relationship between the individual-level attributes of social capital. The following section of this chapter describes the district-level board performance indices followed by the two district-level social capital index, used in chapter four, and ends with descriptions of the individual-level indices, used in chapters four and five.

3.2 District-level indices

The individual-level indices described later were used in stage two of investigation, found in chapter four, where we utilized the comparison groups, and in the individual-level exploration into the elements of social capital and their interrelationships, found in chapter five. The district-level indices described in the following section were used in stage one of investigation, wherein we explored the relationship between social capital and DHB performance in the health districts.

We created two performance indices and two social capital indices. Both of the performance indices were total score indices, each collapsing all relevant items for the four dimensions of performance, obtained from a survey to board members. The first social capital index combined three voting questions, and the second combined seven social capital measures.

3.2.1 Board performance total score index (*surv_tot*) ('95 survey to board members)

This index used the variables *assess* (we have sufficient needs assessment information), *citpref* (we have sufficient citizens' preferences information), *inform* (we have sufficient key informants' opinions), *popneeds* (we have sufficient population needs information), *confiden* (I am confident board decisions are better than the province's were, *good* (I am confident my board makes good decisions), *influen* (I influence my board's decisions) and *efficien* (our board is at least quite involved in ensuring effectiveness and efficiency of services). This index was, therefore, made from eight items from the 1995 survey to board members to assess perceptions of how well the board was performing in all areas. The alpha coefficient was quite high.

Table 3.1 Correlation matrix for index *surv_tot* (total performance 1)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	assess	*citpref*	*inform*	*popneeds*	*confiden*	*good*	*influen*	*efficien*	*rest*
assess	1	*0.486*	*0.304*	*0.213*	*0.303*	*0.377*	*0.180*	*0.442*	0.621
citpref	0.539	1	*0.264*	*0.300*	*0.283*	*0.213*	*0.040*	*0.502*	0.560
inform	0.359	0.297	1	*0.283*	*0.293*	*0.351*	*0.272*	*0.189*	0.541
popneeds	0.314	0.369	0.401	1	*0.040*	*0.187*	*0.040*	*0.260*	0.379
confiden	0.392	0.382	0.453	0.080	1	*0.260*	*0.413*	*0.280*	0.568
good	0.340	0.377	0.432	0.261	0.444	1	*0.447*	*0.427*	0.587
influen	0.265	0.080	0.354	-0.100	0.523	0.398	1	*0.030*	0.342
efficien	0.642	0.584	0.189	0.361	0.350	0.433	0.020	1	0.547

Table 3.2 Summary for index *surv_tot* (total performance 1)	
number of responses used for this analysis	27
mean response in scale	558.71
standard deviation of responses	89.55
Cronbach alpha	0.7945
mean of inter-item correlations	.347 *(.274)*

3.2.2 Board performance total score index (*sur2_tot*) ('97 survey to board members)

This index used the variables *distvalu* (our board's values reflect the values of the district), *accurate* (our board has an accurate understanding of what district residents want for the health care system), *respons* (our board is responsive to wishes of district residents), *brdeval* (our board has adequate mechanisms for board evaluation), *longrang* (our board is good at long range planning), *ensuring* (the level of board involvement in ensuring service effectiveness and efficiency should not increase), *planprog* (the level of board involvement in planning programs and services should not increase), *creative* (our board can be considered creative in addressing problems), *gooddesn* (I am confident that our board generally makes good decisions), *meetings* (board meetings are run efficiently and effectively), *allofund* (the level of board involvement in allocating funds should not increase) and *rational* (our board effectively communicates the rationale for our decisions to district residents). This index was, therefore, made from fourteen items from the HEALNet survey to board members to assess perceptions of how well the board was performing in all areas. The alpha coefficient was very high.

Table 3.3 Correlation matrix for index *sur2_tot* (total performance 2)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation).
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	distvalu	*accurate*	*respons*	*brdeval*	*longrang*	*ensuring*	*planprog*	*creative*
distvalu	1	*0.294*	*0.278*	*0.177*	*0.388*	*0.003*	*0.224*	*0.382*
accurate	0.437	1	*0.403*	*0.121*	*0.193*	*0.115*	*0.111*	*0.127*
respons	0.444	0.578	1	*0.217*	*0.308*	*0.123*	*0.050*	*0.333*
brdeval	0.316	0.220	0.348	1	*0.382*	*0.246*	*0.258*	*0.352*
longrang	0.584	0.294	0.425	0.552	1	*0.137*	*0.452*	*0.483*
ensuring	0.020	0.221	0.183	0.350	0.175	1	*0.318*	*0.212*
planprog	0.326	0.080	0.136	0.422	0.632	0.413	1	*0.389*
creative	0.582	0.334	0.457	0.460	0.748	0.245	0.516	1
gooddesn	0.484	0.454	0.398	0.576	0.736	0.311	0.505	0.609
meetings	0.152	0.378	0.308	0.292	0.563	0.262	0.388	0.421
allofund	0.292	0.080	0.364	0.326	0.513	0.380	0.513	0.388
manages	0.595	0.461	0.496	0.584	0.677	0.205	0.380	0.692
rational	0.477	0.342	0.506	0.337	0.688	0.119	0.298	0.679
resident	0.458	0.142	0.491	0.480	0.279	0.113	0.206	0.430

Table 3.3 continued

	gooddesn	*meetings*	*allofund*	*manages*	*rational*	*resident*	*rest*
distvalu	*0.445*	*0.110*	*0.155*	*0.338*	*0.197*	*0.254*	0.588
accurate	*0.334*	*0.302*	*0.050*	*0.249*	*0.106*	*0.050*	0.427
respons	*0.389*	*0.263*	*0.239*	*0.408*	*0.334*	*0.269*	0.572
brdeval	*0.345*	*0.213*	*0.273*	*0.444*	*0.232*	*0.396*	0.596
longrang	*0.610*	*0.379*	*0.375*	*0.425*	*0.415*	*0.188*	0.806
ensuring	*0.249*	*0.171*	*0.290*	*0.114*	*0.192*	*0.060*	0.345
planprog	*0.461*	*0.252*	*0.339*	*0.202*	*0.208*	*0.060*	0.554
creative	*0.346*	*0.260*	*0.227*	*0.368*	*0.390*	*0.289*	0.759
gooddesn	1	*0.492*	*0.404*	*0.502*	*0.211*	*0.140*	0.750
meetings	0.576	1	*0.350*	*0.403*	*0.243*	*0.144*	0.576
allofund	0.383	0.503	1	*0.271*	*0.386*	*0.374*	0.591
manages	0.791	0.565	0.368	1	*0.249*	*0.374*	0.782
rational	0.504	0.491	0.509	0.607	1	*0.255*	0.683
resident	0.165	0.168	0.495	0.372	0.380	1	0.487

Table 3.4 Summary for index *sur2_tot* (total performance 2)	
number of responses used for this analysis	30
mean response in scale	987.7
standard deviation of responses	184.18
Cronbach alpha	0.9019
mean of inter-item correlations	0.409

3.2.3. Percentage who vote index (*vote*)

This index used the variables *votedhb* (percentage of eligible voters who voted in the DHB election, Oct 1995), *voteprov* (percentage of eligible voters who voted in last provincial election) and *votefed* (percentage of eligible voters who voted in last federal election). The alpha is not high, but met our criteria of 0.66 (alpha was 0.68). Voting turnout in the DHB elections was the most dissimilar of the three voting turnouts.

Table 3.5 Correlation matrix for index *vote* (average of results from three elections)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	votedhb	*voteprov*	*votefed*	*rest*
votedhb	1	*0.383*	*0.341*	0.524
voteprov	0.530	1	*0.506*	0.665
votefed	0.425	0.706	1	0.590

Table 3.6 Summary for index *vote* (average of results from three elections)	
number of responses used for this analysis	29
mean response in scale	168.54
standard deviation of responses	15.05
Cronbach alpha	0.6863
mean of inter-item correlations	.554 (*.410*)

3.2.4 Total social capital score (*scs*)

This index used the variables *avgclub2* (number of clubs per capita, proxy measure), *dvssi194* (social support index, NPHS), *dvssi294* (social involvement index, NPHS), *displan2* (proportion of communities with a disaster plan), *rundhb* (number of people running for DHB elections), *taxarrea* (100% - percent of tax levy, in one year, in arrears) and *vote* (average proportion of eligible voters for three elections (DHB, provincial, federal)). For the 27 districts that had scores for all of these variables we created an index that averaged the scores of the seven variables. We gave each of the variables a range from zero to ten by subtracting the lowest score from each case, then dividing by the new highest score, and finally multiplying each score by ten. Zero was the lowest score, therefore, and ten the highest, for each variable. We felt this was the best approach given that the scales for the variables were quite different from one another. The final index ranged from a low score of 3.00 to a high of 7.04.

Table 3.7 Correlation matrix for index *scs* (social capital score)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	avgclub2	*dvssi194*	*dvssi294*	*displan2*	*rundhb*	*taxarrea*	*vote*	*rest*
avgclub2	1	*-0.100*	*0.181*	*0.050*	*-0.440*	*-0.037*	*0.499*	0.275
dvssi194	0.020	1	*-0.120*	*0.080*	*0.112*	*-0.150*	*-0.100*	0.131
dvssi294	0.166	-0.100	1	*-0.120*	*-0.100*	*0.213*	*0.349*	-0.017
displan2	0.020	0.124	-0.200	1	*0*	*0.1490*	*-0.100*	-0.130
rundhb	-0.470	0.139	-0.220	0.113	1	*-0.130*	*-0.330*	-0.257
taxarrea	-0.160	-0.150	0.149	0.180	-0.280	1	*0.210*	0.011
vote	0.689	-0.100	0.459	-0.280	-0.560	0.241	1	0.016

Table 3.8 Summary for index *scs* (social capital score)	
number of responses used for this analysis	27
mean response in scale	38.33
standard deviation of responses	6.86
Cronbach alpha	0.0049

This index would make a poor scale. The alpha coefficient for this index was extremely low, meaning the index did not have internal coherence. In fact, several of the inter-item correlations were negative. Thus the social capital elements that we found indicators for, assuming that the indicators validly capture the concept they appeared to measure at face value, were not, in general, positively related to one another. Without intruding upon the content of chapters four and five, it appears that social capital may not be a coherent concept. Either this or our indicators were invalid, and, as we saw in the methods chapter, this is a viable option.

3.3 Individual-level indices

3.3.1 Overall civic participation index (*indcivp*)

The variables used in this index were *nimprove* (ever belonged to a neighbourhood improvement association), *voll* (volunteered regularly in the past year), *donblood* (donated blood in the past year (if had opportunity to donate blood)), *news* (reads local newspaper regularly), *editor* (has ever written a letter to the editor of a newspaper), *tvnews* (watches tv news regularly, almost every day), *comboard* (ever been on the board of a community organization, *civpar1* (voted in DHB election, Oct. 1995), *civpar3* (voted in last provincial election) and *civpar5* (ever contacted a local government official about an issue).

This index was a collection of responses to all items in the survey that address civic participation; that is, behaviours that demonstrate 1) a desire to serve the greater good (as in volunteering, donating blood and serving on the board of a community organization), 2) an interest in affairs in the public realm (reading the local newspaper, watching the local tv news and writing letters to the editor), and 3) an interest in participating in political life (belonging to a neighbourhood improvement association, voting in elections and contacting a local official). We collected these dimensions together because they deal with public life and participation in the public sphere, However, as noted earlier, we did not expect nor require that they correlate with one another.

Because three of the electoral voting questions (voting in the federal, provincial, and local elections) were strongly skewed to the positive side, and highly correlated with one another, we chose to include only one of the three. We chose *civpar3* (voting in the provincial election) by correlating each of the three with the eight remaining items averaged together, and *civpar3* gave the smallest Pearson correlation (.2378 versus .3282 (local) and .2617 (federal)). The smallest was chosen because it captures most of what the other two offer, but seems to give more untapped dimensionality as well. Because the Red Cross holds blood donor clinics in the rural parts of the province only infrequently (if ever) we included the donated blood variable response only if they had the opportunity to donate blood (which we also asked them). Thus for many respondents the index was made of ten items, whereas for many others the index was composed of nine items. The distribution was symmetric.

3.3.2 Trust in government in general index (*indtrgov*)

This index used the variables *pergov1* (rate the performance of the federal government in solving problems in Canada), *pergov2* (rate the performance of the provincial government in solving problems in SK), *pergov3* (rate the performance of your DHB in solving problems in your district), *pergov4* (rate the performance of the local government in solving problems in your community), *pergov5* (the DHB pays attention to what the general public thinks when making decisions), *pergov6* (the local government does not

waste taxpayers' money), *pergov7* (although I have complaints, I trust the federal government's decisions), *pergov8* (the provincial government has the publics' best interests at heart), *pergov9* (although I have complaints, I trust the DHB to make good decisions) and *pergov10* (the local government tells the public all it needs to know about relevant issues in the community). It tapped into trust in four levels of government, although since some levels had three relevant items and some had only two these levels were not equally represented in the greater index. The distribution was symmetric and the alpha coefficient was high.

Table 3.9 Correlation matrix for index *indtrgov* (trust in governments in general)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	pg1	*pg2*	*pg3*	*pg4*	*pg5*	*pg6*	*pg7*	*pg8*	*pg9*	*pg10*	*rest*
pg1	1	*0.49*	*0.25*	*0.27*	*0.24*	*0.15*	*0.51*	*0.36*	*0.25*	*0.22*	0.520
pg2	0.55	1	*0.37*	*0.36*	*0.34*	*0.20*	*0.31*	*0.60*	*0.33*	*0.28*	0.645
pg3	0.29	0.45	1	*0.43*	*0.55*	*0.22*	*0.25*	*0.37*	*0.60*	*0.33*	0.641
pg4	0.30	0.42	0.5	1	*0.29*	*0.34*	*0.22*	*0.30*	*0.30*	*0.42*	0.550
pg5	0.30	0.43	0.64	0.39	1	*0.17*	*0.24*	*0.36*	*0.52*	*0.31*	0.611
pg6	0.20	0.25	0.26	0.41	0.20	1	*0.11*	*0.20*	*0.22*	*0.27*	0.364
pg7	0.59	0.39	0.30	0.24	0.32	0.17	1	*0.48*	*0.41*	*0.28*	0.571
pg8	0.42	0.69	0.43	0.35	0.47	0.25	0.59	1	*0.50*	*0.39*	0.712
pg9	0.29	0.41	0.69	0.37	0.61	0.28	0.5	0.59	1	*0.44*	0.709
pg10	0.27	0.34	0.40	0.49	0.38	0.32	0.37	0.47	0.53	1	0.581

Table 3.10 Summary for index *indtrgov* (trust in governments in general)	
number of responses used for this analysis	426
mean response in scale	38.19
standard deviation of responses	10.0
Cronbach alpha	0.8711
mean of inter-item correlations	.402 (*.334*)

3.3.3 Trust in people from respondents' parts of Saskatchewan index (*indtrpar*)

This index used the variables *ptrust* (when it comes down to it, you can always trust the people in my part of Saskatchewan) and *phonour* (most of the people who live in my part of Saskatchewan are honourable). This index was, therefore, made from two items that assess trust in people from the respondent's part of the province. One item addressed this directly. The other addressed the character of such persons: are they honourable or not? Presumably honourable people are more trustworthy since they have a code that governs their relationships with others, this code will make their behaviours predictable, and predicting behaviour is a component of trusting others. The distribution was skewed (most respondents expressed high levels of trust) and had a floor effect. Because there was a limited number of values in the index it could not be easily corrected by transformation. The alpha coefficient was high.

Table 3.11 Correlation matrix for index *indtrpar* (trust in people from respondents' parts of SK)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation).

	ptrust	*phonour*
ptrust	1	*0.682*
phonour	0.695	1

Table 3.12 Summary for index *indtrpar* (trust in people from respondents' parts of SK)	
number of responses used for this analysis	528
mean response in scale	5.11
standard deviation of responses	2.21
Cronbach alpha	0.8174

3.3.4 Trust in people from respondents' communities index (*indtrcom*)

This index used the variables *ctrust* (most people in my community can be trusted), *chelp* (people from my community are willing to help if you need assistance) and *csafe* (my community is a pretty safe place). This index was, therefore, made from three variables to assess trust in people from my community. One question asked this directly: are most people in your community worthy of trust? Another assessed the degree to which community members are solicitous of others' welfare: most people are willing to help you when you need assistance. The third item assessed the perceived safety of the community, which tapped into the degree to which others in the community would resort to violence. The distribution of this index was heavily skewed with a strong floor effect. The alpha coefficient was quite high. The three variables were strongly correlated with one another which contributed to the strong alpha, but many respondents expressed high levels of trust in community members which created the skew and floor effect. We attempted transformations to correct for the skew but the limited number of potential responses, and the high number of persons with the highest score (lowest trust) prevented adequate correction. Even so, we went with the transformed index *indtcom2* (a log transformation) in subsequent analysis.

Table 3.13 Correlation matrix for index *indtrcom* (trust in people from respondents' communities)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	ctrust	*chelp*	*csafe*	*rest*
ctrust	1	*0.535*	*0.553*	0.649
chelp	0.635	1	*0.375*	0.683
csafe	0.515	0.553	1	0.589

Table 3.14 Summary for index *indtrcom* (trust in people from respondents' communities)	
number of responses used for this analysis	528
mean response in scale	6.63
standard deviation of responses	3.27
Cronbach alpha	0.7953
mean of inter-item correlations	.568 (*.488*)

3.3.5 Trust people in general index (*indtrpeo*)

This index used the variables *indtrpar* (trust people from respondents' parts of Saskatchewan index), *indtrcom* (trust people from respondents' communities index), *ntrust* (most people in my neighbourhood can be trusted), *trustall* (most people can be trusted), *reltrust* (most people in my religious group can be trusted) and *ethtrust* (most people in my ethnic group can be trusted). This index was, therefore, made from four items and two indices to assess trust in people in general. These items and indices captured trust in people from the neighbourhood, community, religious group, ethnic group, part of Saskatchewan and people in general (*trustall*). This index did not capture trust in institutions (political or otherwise). We included the two indices, rather than the specific items that comprise the indices, in an attempt to equate the weight of these various dimensions in the final index. The distribution of this index was skewed (many people expressed high levels of trust) and had a floor effect, although the alpha coefficient was very high. We transformed the index by squaring it twice (see *indtrpe2*) but retained a skew in the same direction. Even so we used the transformed index in subsequent analysis.

Table 3.15 Correlation matrix for index *indtrpeo* (trust in people in general)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	indtrpar	*indtrcom*	*ntrust*	*trustall*	*reltrust*	*ethtrust*	*rest*
indtrpar	1	*0.549*	*0.503*	*0.672*	*0.453*	*0.513*	0.750
indtrcom	0.668	1	*0.547*	*0.556*	*0.424*	*0.437*	0.696
ntrust	0.601	0.648	1	*0.591*	*0.552*	*0.537*	0.756
trustall	0.764	0.637	0.674	1	*0.533*	*0.566*	0.805
reltrust	0.525	0.494	0.606	0.618	1	*0.660*	0.715
ethtrust	0.574	0.504	0.621	0.638	0.729	1	0.740

Table 3.16 Summary for index *indtrpeo* (trust in people in general)	
number of responses used for this analysis	503
mean response in scale	13.57
standard deviation of responses	6.27
Cronbach alpha	0.9058
mean of inter-item correlations	.620 (*.539*)

3.3.6 Trust in general index (*indtrust*)

This index used the variables *indtrpar* (trust people from respondents' parts of Saskatchewan index), *indtcom2* (trust people from the community index), *ntrust* (most people in my neighbourhood can be trusted, *reltrust* (most people in my religious group can be trusted), *ethtrust* (most people in my ethnic group can be trusted), *indtrgov* (trust governments in general index) and *vote2* (my vote in elections is influential). This index was, therefore, made from four items and three indices to assess trust in general. It was transformed with a log to make it symmetric. The alpha coefficient was quite high, even though the last item pertaining to the influence of one's vote was not highly related to the remainder of the items.

Table 3.17 Correlation matrix for index *indtrust* (trust in general)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation),
the column labelled "rest" is the Pearson's correlation between the row item and the remainder of the index.

	indtrcom	*indtrgov*	*indtrpar*	*reltrust*	*ntrust*	*ethtrust*	*vote2*	*rest*
indtrcom	1	*0.187*	*0.549*	*0.424*	*0.547*	*0.437*	*0.177*	0.647
indtrgov	0.264	1	*0.243*	*0.223*	*0.200*	*0.228*	*0.301*	0.438
indtrpar	0.660	0.309	1	*0.453*	*0.503*	*0.513*	*0.180*	0.642
reltrust	0.503	0.274	0.523	1	*0.552*	*0.660*	*0.169*	0.650
ntrust	0.626	0.273	0.596	0.605	1	*0.537*	*0.185*	0.665
ethtrust	0.516	0.282	0.575	0.734	0.621	1	*0.183*	0.678
vote2	0.217	0.428	0.214	0.165	0.204	0.180	1	0.291

Table 3.18 Summary for index *indtrust* (trust in general)	
number of responses used for this analysis	492
mean response in scale	16.63
standard deviation of responses	5.75
Cronbach alpha	0.7908
mean of inter-item correlations	.416 *(.355)*

3.3.7 Voting behaviour index (*indvote*)

This index used the variables *civpar1* (voted in DHB election, Oct. 1995), *civpar2* (voted in last local election), *civpar3* (voted in last provincial election) and *civpar4* (voted in last federal election). This index was, therefore, the average of responses to four questions that ask whether the respondent had voted in a particular election. Unfortunately the index created from these four questions was heavily skewed, since most of the survey respondents claimed to have voted in all of the last federal, provincial and local elections. We did not use this index in subsequent analysis.

3.3.8 Trust in voting efficacy index (*indtrvot*)

This index used the variables *vote2* (my vote in elections is influential) and *vote4* (voting is the only way people like me have a say about how government runs things). This index was, therefore, made from two items to assess peoples' trust or faith in the efficacy of their vote and in the voting institution. We found a low positive correlation between the two items comprising this index; the relationship between the perceived influence of a vote and perceived opportunities for personal political influence was small. We concluded that these two variables were not aspects of a larger phenomenon and did not use this index in analysis.

Table 3.19 Correlation matrix for index *indtrvot* (trust in voting efficacy)

Correlations below the diagonal are Pearson's r (parametric correlation),
correlations above the diagonal are Kendall's tau (non-parametric correlation).

	vote2	*vote4*
vote2	1	*0.160*
vote4	0.172	1

Table 3.20 Summary for index *indtrvot* (trust in voting efficacy)	
number of responses used for this analysis	517
mean response in scale	6.73
standard deviation of responses	2.83
Cronbach alpha	0.2937

3.3.9 Trust people from the neighbourhoods index (*indtrnei*)

This index used the variables *nsick1* (is there a neighbour whom you would allow to help you when sick), *nhome1* (is there a neighbour you would allow to keep an eye on your home when away), *ndollar2* (is there a neighbour to whom you would lend $50), *ncar* (is there a neighbour to whom you would lend your car for an hour) and *ntrust* (most people in my neighbourhood can be trusted). We created an index, composed of four dichotomous variables and one Likert scale item, but almost every respondent answered "yes" to the four yes/no questions, and thus the index did not provide us with discriminatory power. For analysis in subsequent chapters we did not use this index, but rather used *ntrust* alone to assess trust in people from the neighbourhood.

3.4 Summary

In this chapter we described two DHB performance indices, each combining a number of items pertinent to the four dimensions of effectiveness into a total score. Both indices were coherent, with high alpha coefficients. We did not put all of the performance indicators together into one index because the missing values would leave us with a small n=19. The performance indices were followed by a description of two district-level social capital indices, the first a combination of three voting variables and the second a combination of all district-level social capital measures at our disposal. The first made a satisfactory scale, since the alpha coefficient was quite high, but the second made a poor scale. These four indices were used in stages one and two of investigation in chapter four. Because the total social capital index was so poor, in chapter four we also broke the index apart and explored relationships between each single social capital measure and the DHB performance dependent variables.

We also created nine individual-level indices, using data drawn from the survey of randomly selected citizens in eight districts. Of the nine, six were considered worthwhile for use in subsequent analysis. The indices that demonstrated high levels of internal coherence were trust in government in general, trust in people from the respondent's parts of Saskatchewan in which they live, trust in people from the respondents' communities, trust in people in general, and trust in general. In chapter five, in particular, we put these indices to good use, exploring how different forms of trust, in particular, are related to various social capital behaviours (associational and civic participation and past experience collaborating with others). Before this analysis, however, comes chapter four, in which the relationship between social capital in districts and the performance of DHBs is explored.

Chapter 4. Relationship between social capital and governance

4.1 Introduction

In the first chapter we described a model of social capital and an hypothesized relationship with effective governance by district health boards in Saskatchewan. The social capital portion of the model was composed of social-psychological constructs: trust, commitment and identification (characteristics of individuals); behavioural constructs: associational and civic participation, and experience collaborating with others to solve common problems in the community (also characteristics of individuals); and community characteristics: dense networks of association and cooperative group action.

We then hypothesized how a community rich in social capital might have an effect upon the governing body responsible for making health care decisions for the community. In particular, we hypothesized how social capital may be related to how well the district health board reflects the needs and preferences of the populace, creates and implements policy, performs its tasks while remaining fiscally responsible to the Ministry of Health, and integrates and coordinates services. The important concepts in this theoretical model were summarized in Figure 1. We also hypothesized how the individual-level attributes of social capital may be related to one another.

In the second chapter we described how the eight districts were selected for further exploration of the relationship between social capital and effective governance, how the comparison groups were formed from the eight and how data were then collected to test the theoretical model. We also described the data collected and how the indicators fit the various constructs of the model. In the third chapter we completed our preparation for analysis, describing the indices created to summarize various constructs. Some of these indices were indicators of board performance and some indicators of social capital. In the third chapter we also provided results from scale-reliability analysis upon the indices.

In this chapter we will describe some results from empirical tests of the theoretical model. The task in stages one and two, described in this chapter, is to determine whether there is a relationship between communities rich in most of these social capital components and district health boards operating effectively

in one or more effectiveness dimensions. In systematic terms, is the left side of Figure 1 (the social capital side), treated as a coherent whole, related to the four elements of the right side (the effective governance side)? The nature of available data necessitates a two-stage process.

In the *first stage* we will use our social capital score for the districts (an index that collects all of the social capital measures together) and determine whether it is related to one or more of the board effectiveness scores. The dependent variable will determine the number of cases in each analysis; the range is n=19 to n=29.

In the *second stage* we will focus on the selected sample of eight districts for which we have data from the survey of randomly selected citizens, and for which we have placed the districts into comparison groups based on sociodemographic characteristics of the districts. The selection of the eight districts, and the creation of the comparison groups, was described in chapter two. In this second stage of investigation, results from which are presented in this chapter, we will determine which districts were high, and which low, in various social capital and district health board dimensions, and will then search for an indication that social capital and board effectiveness are related. The second stage has more data available for measuring social capital in the districts (using the survey responses aggregated by district), but will utilize a smaller number of districts (n=8) than will stage one.

As we shall see the results from the first two stages of analysis provoked further exploration; exploration conducted in the 30 districts for which we have a more limited supply of data, but in which we could conduct statistical tests of significance. Thus, in *stage three*, also described in this chapter, we will dismantle the social capital index used in stage one and determine whether and which items from that index are related to the effective governance measures. In an effort to find some additional variables related to board performance we will also relate the sociodemographic variables to effective governance and control for the significant ones in the statistically significant social capital relationships. This exercise will assist with hypothesis generation.

Thus, this chapter will investigate the relationship between social capital, as we have defined and measured it, and the performance of the DHBs. Chapter five will investigate the social capital side of the model exclusively to determine whether the individual-level elements of social capital, as we defined and measured them, are related to one another, and in what way. If they are highly related then we were justified in treating social capital as a coherent whole. If they are not then we have reason to think that only certain elements of our model of social capital may be related to effective governance by DHBs.

4.2 Stage One: Predicting DHB performance with social capital, in 30 districts

We chose to conduct separate analyses for each of the following effective governance dependent variables, since putting them together into a single index would reduce the number of cases available to only 19, which is lower than we would like for statistical inference purposes. The dependent variables were: 1) a bureaucratic efficiency indicator, in which we sent an information request to each board and recorded the number of days it took to receive a response from the board, 2) a fiscal responsibility indicator, where we determined how well a board kept its expenses within the boundary prescribed by its revenues, 3) a total score index from the survey of board members conducted in 1995, 4) a total score index from the survey of board members conducted in 1997, 5) two indicators derived from an analysis of board minutes, and 6) several indicators derived from an evaluation of the boards conducted by the Provincial Auditor's office. Some of these dependent variables fell directly within one of the four effective governance dimensions, while some were total performance scores. The total performance indices were described in chapter three.

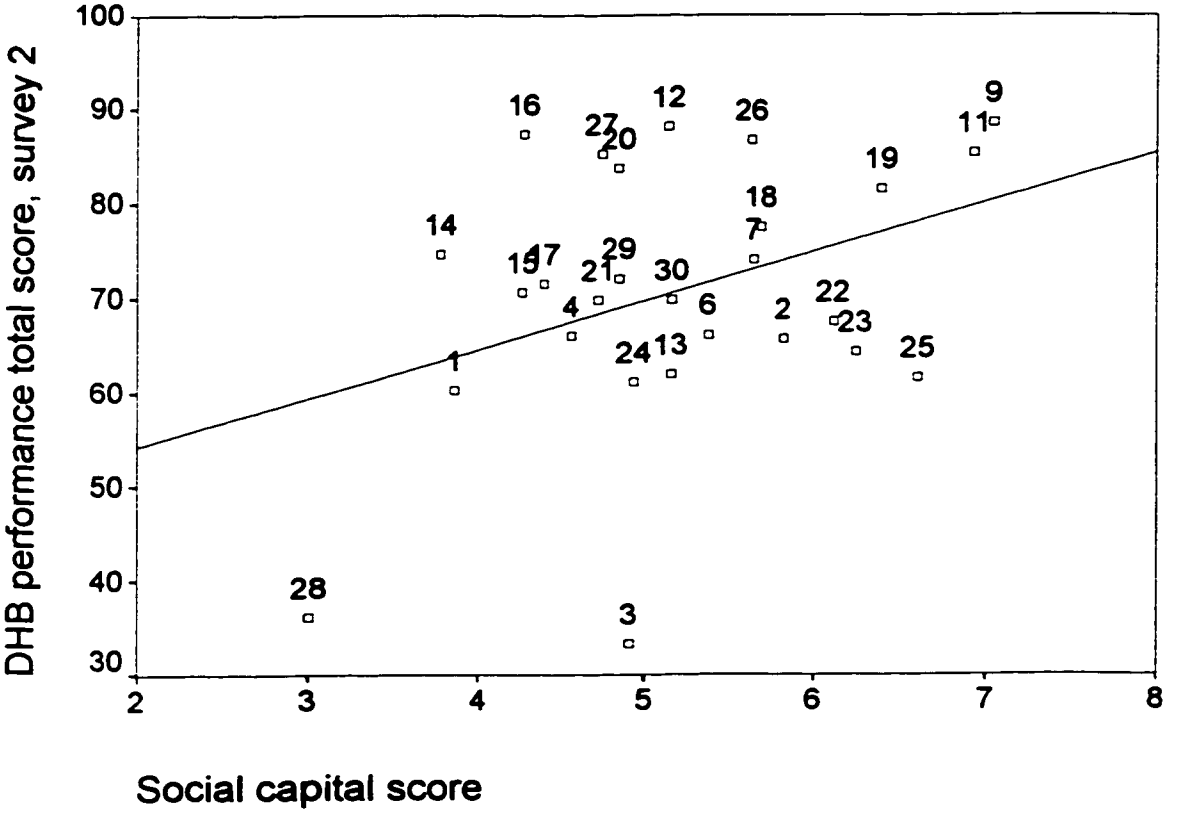
The independent variable in each analysis was the social capital index (also described in chapter three). This was an index that combined: 1) the average percentage of eligible voters who voted in three elections, 2) social support and 3) social involvement indices obtained from the National Population Health Survey, 4) the percentage of towns in the district who have a disaster plan in place, 5) the percentage of taxpayers in arrears, 6) the average number of clubs per capita (proxy measure), and 7) the number of people who ran in the DHB election of Oct, 1995.

We found that the bureaucratic efficiency test score was positively correlated with the social capital score, but was not significant ($r=.1640$, $p=.502$; $tau=.0352$, $p=.834$). The fiscal responsibility indicator based on revenues versus expenses was negatively correlated with the social capital score, but was also non-significant ($r=-.1531$, $p=.446$; $tau=-.1255$, $p=.359$). The total score from the first survey to board members was negatively correlated with the social capital score, but was not significant ($r=-.0648$, $p=.764$; $tau=-.0145$, $p=.921$). The total score from the second survey to board members was positively correlated with the social capital score, but was not significant ($r=.3658$, $p=.061$; $tau=.1225$, $p=.370$). The scatter plot (Figure 3) shows two unusual points, the DHBs Swift Current (28) and Central Plains (3), which have unusually low scores on the survey score. The remainder of the districts do not conform to any recognizable and/or linear pattern. When the two influential points were removed, the relationship "went away" ($r=.1733$, $p=.408$).

We found that the fiscal responsibility indicator, based on how late a board submitted required documents in 1995, was not significantly related to the social capital score ($p=.446$ in the ANOVA; $p=.482$ in the K-W test); neither was the variable that measured if the board submitted documents late in 1996 ($p=.368$

in the ANOVA; p=.4214). The fiscal responsibility indicator, based on how well a board safeguarded its assets and kept its accounts in good order, in 1995, was not significantly related to the social capital (p=.695 in the ANOVA; p=.770 in the K-W test), nor was the safeguarding assets in 1996 indicator (p=.582 in the ANOVA; p=.847 in the K-W test). We found that the fiscal responsibility indicator, based on whether a board had written rules and procedures in place as required by the auditors, was not significantly related to the social capital score (p=.865 in the ANOVA; p=1.00 in the K-W test).

Figure 3.



The integration and coordination indicator, based on whether a board has proper written agreements with all service providers in the district, in 1995, was not significantly related to the social capital score (p=.438 in the ANOVA; p=.482 in the K-W test); neither was the indicator based on whether a board had proper written agreements in 1996 (p=.926 in the ANOVA; p=.920 in the K-W test). Finally, we found that the policy making and implementation indicator, based on whether a board had an adequate policy making and development self-review process in place, was not significantly related to the social capital score (p=.946 in the K-W test); neither was the reflecting health indicator, based on whether a board heard representations from the public (p=.417 in the ANOVA).

An investigation into the scatter plots of these relationships, where applicable, showed that the lack of statistically significant relationships found above accurately captures the nature of the relationship between the two concepts; there were no visually identifiable relationships between the social capital index and any of the board effectiveness dependent variables.

In summary, then, we did not find support for our hypothesis that social capital and board performance are related. If we trust our measures of both social capital and DHB effectiveness, then we can only conclude that social capital does not have the same relationship with governance in Saskatchewan as it appeared to in Italy. However, it may that social capital was not measured sufficiently well. In the following section, in stage two, we will focus on eight specially chosen districts within which we collected a much greater supply of social capital indicators.

4.3 Stage Two: Further testing of the relationship between social capital and effective governance, in eight districts[1]

In chapter two we described the creation of the comparison groups, in which we described the sociodemographic nature of the eight districts. In this stage of investigation we will continue with this in-depth exploration by summarizing, within each comparison group, the social capital nature of the districts and the performance of the DHBs. We will conclude by determining whether the DHB in a comparison group with the best performance scores also had a health district with the greatest amount of social capital. If this pattern holds true in all three comparison groups then we have indication of a relationship between social capital and DHB performance, although we remember that the sociodemographic differences between districts in a comparison group may be relevant, and that the pattern could have occurred by chance. If the pattern does not hold true in all three comparison groups we have additional support for the conclusion reached in stage one

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[1] Specific results from analysis can be found in Appendix J

that social capital and board performance are not related in Saskatchewan.

4.3.1 Summary of social capital characteristics of the districts

a. Regina and Saskatoon Health Districts

Looking at the summary paragraphs and tables in Appendix J, in comparing the Regina health district to the Saskatoon health district, we made the following conclusions. We only present results from items in the survey to randomly selected citizens in eight districts that had statistically significant differences ($p<.05$) between members of the comparison group, for the weighted data.

1. We could not find reason to choose between Saskatoon and Regina, overall, in the area of political activity (*civic participation*). The voting statistics favoured Regina (48.95% of eligible voters in Regina voted, compared to 46.12% in Saskatoon, averaging the DHB, provincial and federal election results). A greater number of people ran for DHB election in Saskatoon (44 versus 33), and a greater percentage of survey respondents from Saskatoon would contact a government official about a concern (52.9% versus 41.7%).

2. We scored Saskatoon more highly than Regina in the area of social involvement (*associationalism*). This category included among its measures: the NPHS social involvement (3.02 versus 2.91) and social support (3.81 versus 3.71) index scores, contact with neighbours (104.63 average contacts per year compared to 81.18, from the NPHS) and attendance at religious services (15.13 attended yearly, on average, versus 13.78, from the NPHS), but with a contradictory result coming from the number of clubs per capita (.0011 versus .0013 on our proxy measure). Because most of the measures favoured the Saskatoon district we concluded that Saskatoon performed better in this category of social capital.

3. We scored Saskatoon more highly than Regina in the area of *neighbourliness*. This category included among its measures: willingness to lend a car to a neighbour (82.8% versus 66.2%, from our survey), help a neighbour when sick (93.0% versus 87.5%, from our survey), and the average number of contacts with neighbours per year (104.63 versus 81.18, from the NPHS).

4. We scored Saskatoon more highly in community problem-solving experience. This category included the percentage of communities with disaster plans (96% versus 41%).

5. Finally, we concluded that Regina residents had more *trust in the federal government* (2.89 versus 3.25 on a seven-point scale, where one equals the highest level of trust and seven the least).

Overall, collapsing these categories of social capital together, we concluded that there was more social capital, as we have conceptualized and measured it, in Saskatoon than in Regina, since Saskatoon scored more highly in the categories social involvement, neighbourliness and problem-solving experience, whereas Regina scored higher than Saskatoon in only one category (trust in the federal government).

b. East Central and Prince Albert Health Districts

Again looking at the summary paragraphs and tables in Appendix J, in comparing the East Central and Prince Albert health districts, we made the following conclusions. Again, we only present results from items in the survey to randomly selected citizens in eight districts that had statistically significant differences ($p<.05$) between members of the comparison group, for the weighted data.

1. We scored East Central more highly than Prince Albert in the area of *civic participation*. This category included among its measures: voting (55.37% versus 47.38%, averaging the DHB, provincial and federal election results), reading the local newspaper (95.2% versus 85.2%, from our survey), and belonging to a voluntary organization (56.0% versus 26.4%, from the NPHS), although Prince Albert scored more highly when it came to contacting a government official about a concern (44.4% versus 42.2%, from our survey). Because all but one of these measures favoured East Central we concluded that East Central outscored Prince Albert in this category.

2. East Central scored somewhat more highly than Prince Albert in the area of social involvement (*associationalism*). This category included among its measures: the NPHS social involvement (4.24 versus 2.23) and social support (3.84 versus 3.75) indices, attendance at religious services (21.60 visits per year, on average, versus 8.68, from the NPHS), and belonging to a voluntary organization (56.0% versus 26.4%, from the NPHS) , although Prince Albert scored more highly with respect to number of contacts with neighbours (110.3 contacts per year, on average, versus 42.7, from the NPHS) and with respect to number of clubs per capita (.0013 versus .0011, on our proxy measure). We concluded that East Central scored somewhat more highly, overall, than Prince Albert, because it scored more highly on four of the six relevant measures in this category.

3. We were unsure how to rank East Central and Prince Albert in the area of *neighbourliness*. This category included the measures: trust in neighbours (2.41 for East Central versus 2.77 for Prince Albert on a seven-point scale, where one equals highest trust, from our survey), willingness to lend a car (93.6% versus 77.8%, from our survey) or $50 (93.9% versus 83.0%, from our survey) to a neighbour, let a neighbour them help when sick (90.5% versus 79.6%, from our survey), and knowing the names of neighbours (86.0% versus 70.4%, from our survey), although Prince Albert scored more highly with respect to average number of

contacts with neighbours (110.3 average contacts, versus 42.7, from the NPHS). East Central did score more highly than Prince Albert in four of the five measures, but the one Prince Albert scored higher on is an important one, and is the only action measure of the five measures. We reserved judgement, therefore, in this category of social capital.

4. Prince Albert scored more highly in *community problem-solving experience*. This category included the measure: percentage of communities with disaster plans (100% versus 32%).

5. East Central residents had more *trust in people*. This category included the measures: trust in people from the community (p=.010, from our survey), people in general (p=.040, from our survey) and neighbours (2.41 versus 2.77 on a seven-point scale, where one equals the highest trust, from our survey).

6. Finally, East Central residents were more *committed to their community* (i.e. are more likely to be living here in 5 years) (96.7% versus 68.6%, from our survey).

Overall, there appeared to be more social capital, as we have measured and defined it, in the East Central health district than in the Prince Albert health district, since East Central scored more highly than Prince Albert in all but two categories. The community problem-solving experience indicator contradicted this conclusion and the neighbourliness category gave inconclusive results.

c. Living Sky, Moose Mountain, North-East and North Valley Health Districts

Again looking at the summary paragraphs and tables in Appendix J, in comparing the Living Sky, Moose Mountain, North-East and North Valley health districts, we made the following conclusions. Again, we only present results from items in the survey to randomly selected citizens in eight districts that had statistically significant differences (p<.05) among members of the comparison group, for the weighted data. For specific details of scores on social capital items in this comparison group please see Appendix J.

1. In the area of *social involvement* we gave Moose Mountain the highest ranking, North Valley and Living Sky the next highest (tied), and North-East the lowest.

Moose Mountain ranked second on the NPHS social involvement index, first on the NPHS social support index, third with respect to the average number of contacts with neighbours per year (NPHS), and third with respect to belonging to a voluntary organization (NPHS). It had the second highest number of clubs per capita (proxy measure), ranked second with respect to attending religious services (our survey) and first with respect to belonging on the board of a community organization (our survey). These high placements convinced

us to rank Moose Mountain first in the category social involvement.

North-East was ranked lowest in this category. It ranked third for social involvement (NPHS), second for social support (NPHS), first for number of contacts with neighbours (NPHS), fourth with respect to belonging to a voluntary organization (NPHS), third for the average number of clubs per capita (proxy measure), fourth with respect to attending religious services (our survey), and fourth with respect to serving on the boards of community organizations (our survey). These low rankings convinced us that North-East ranked fourth in social involvement.

2. In the area of *civic participation* we ranked Living Sky the highest and North-East the lowest. Living Sky had the highest voting turnouts, on average, and ranked second with respect to organizing a group to solve a community problem. North-East had the lowest voting turnouts, and the lowest rank with respect to serving on the boards of community organizations (our survey), although more people ran for election in Oct, 1995, in North-East, than in any of the others. The importance of the voting index, and the fact that it averaged results from three elections, however, led us to rank North-East fourth in the area civic participation.

3. In the area of *community problem-solving experience* we ranked Moose Mountain the highest and North Valley the lowest. Moose Mountain ranked first with respect to towns with disaster plans and first with respect to organizing a group to solve a community problem (our survey). North Valley ranked fourth on the same two items.

4. Living Sky and Moose Mountain had the highest *trust in people* from the community and in people in general.

5. We were not able to choose rankings for the districts in the category *neighbourliness*. Living Sky had the fourth rank in number of contacts with neighbours (NPHS) (Moose Mountain the third), the fourth socializing with neighbours score (our survey) (Moose Mountain the first), the second rank in trust in neighbours (our survey) (Moose Mountain the first) and the first with respect to having close friends among the neighbours (our survey) (Moose Mountain the second). These two districts appear to have had a little more neighbourliness than the other two districts, but not much. We reserved judgement in this category.

Overall, we concluded, very tentatively, that Living Sky and Moose Mountain had slightly more social capital, as we measured it, than North Valley and North-East, because Living Sky and Moose Mountain had the highest levels of trust in people in general, as well as quite high social involvement (for Moose Mountain), problem-solving experience (for Moose Mountain) and civic participation (for Living Sky). We concluded

that North-East had the lowest levels of social capital since it scored poorly on social involvement and civic participation.

4.3.2 Summary of board performance indicators

a. Regina and Saskatoon DHBs

Again referring to Appendix J, and without mentioning results from analysis of data obtained from the Provincial Auditor, we were unable to conclude that either the Regina or Saskatoon DHB performed better than the other. In the first survey to board members, in 1995, Saskatoon respondents rated the total performance of their board more highly than did Regina respondents (82.5% versus 63.9%). In the second survey, in 1997, the direction was reversed (69.9% versus 64.4%). In the comparison of performance when balancing the budget we found that Regina scored a little more highly (6.13 versus 4.50 on a 0-10 scale). We did not, therefore, find evidence that either DHB outperformed the other.

b. East Central and Prince Albert DHBs

Comparing the East Central and Prince Albert DHBs, we found that Prince Albert scored more highly than East Central in self-reported evaluation of total performance in the first survey to board members, in 1995 (75.7% versus 50.4%) and in the second survey, in 1997 (83.7% versus 66.1%). Prince Albert also scored more highly in the area of policy-making and implementation. We concluded the same in the area of fiscal responsibility, since Prince Albert scored higher when balancing the budget (7.59 versus 3.44 on a 0-10 scale). Overall we concluded, then, that Prince Albert out-scored East Central in board performance.

c. Living Sky, Moose Mountain, North-East and North Valley DHBs

Finally, comparing the four DHBs in the rural comparison group, we concluded that the Moose Mountain and North Valley DHBs scored more highly, overall, than did the other two. These two had the highest self-evaluation of total performance in the first survey to board members and Moose Mountain the highest in the second survey. Both were best able to keep expenses within revenues (fiscal responsibility). We concluded, then, that Moose Mountain and North Valley performed better, overall, than the other two.

4.3.3 Conclusions from the comparison groups

It was difficult to draw conclusive statements from three comparisons since any perceived pattern could easily have transpired by chance. Even so, if we found that districts high in social capital, with similar sociodemographic characteristics, had well-performing DHBs, in each of the three comparison groups, then we have some support for our theory. If we did not find the expected relationship, then we can only conclude that the conclusions reached in stage one are supported here - there is no relationship between social capital

and DHB performance in Saskatchewan.

The Saskatoon and Regina Health Districts were very similar sociodemographically, as we saw in Chapter 2. We concluded that Saskatoon had more social capital, overall, but that DHB performances were similar. It does not appear, therefore, that the social capital in the Saskatoon Health District was related to DHB performance surpassing that of its counterpart.

The East Central and Prince Albert Health Districts differed from one another sociodemographically, particularly in that Prince Albert had a higher population and that East Central had a greater elderly population. We concluded that East Central had a higher amount of social capital, as we have measured and defined it, in most areas and potentially in the area of associational activity, but not in collaborative problem-solving experience. East Central had more trust, civic participation, social involvement, neighbourliness and commitment to the area. We also concluded that the Prince Albert DHB performed better than did the East Central DHB. It does not appear, therefore, that social capital in East Central was related to DHB performance surpassing that of the Prince Albert DHB, although the sociodemographic differences between the districts may be relevant.

In our comparison of the four rural districts we concluded that North-East was the most dissimilar sociodemographically, probably because of its high native population. In addition we noted that North Valley had the highest population density. We concluded that Living Sky and Moose Mountain had the highest amounts of social capital, overall, and that North-East had the least, as we have defined and measured it. More specifically, we noted that Moose Mountain had the highest levels of social involvement, Living Sky the highest level of civic participation and North-East the least, Moose Mountain the most collaborative problem-solving experience and North Valley the least, and Living Sky and Moose Mountain the most trust in people.

We also concluded that Moose Mountain and North Valley had the best DHB performance scores, overall and in the area of fiscal responsibility in particular. We note, therefore, that Moose Mountain was high in both social capital and DHB performance, that Living Sky and North Valley were both high in one and low in the other, and that North-East was low in both. This is moderate support for the theory.

In conclusion, then, we found the theory unsupported in two of the comparison groups, and only moderately supported in the third. This result supports our conclusion in the first stage, where we were unable to find any evidence of a relationship between social capital and effective governance by DHBs. It appears that our theoretical model is unsupported by the data.

4.4 Stage Three: Exploration of the relationship between social capital and effective governance, in 30 districts[2]

In this section we will explore the relationships between social capital attributes of districts and effective governance by DHBs, and between sociodemographic attributes of districts and effective governance. In stage one we collected the social capital indicators together into an index, but did not find statistically significant relationships between this index and any of the effective governance dependent variables. This lack of relationships remained after controlling for all of the sociodemographic variables.

In this stage we will explore these relationships more fully, breaking the social capital index into its constituent parts and determining whether each part was related to one or more effective governance measures. We suspect this may be the case, since the social capital measures at the district level were barely correlated with one another and together made a poor index (low reliability) for board performance. Perhaps some elements of social capital *are* related to certain dimensions of effectiveness, and looking at social capital more carefully may tease out significant relationships. We will also explore whether the sociodemographic variables explained some of the variability in the effectiveness measures. Results from this exploration are for hypothesis generation only, however; since we would expect a number of statistically significant relationships to emerge by chance given the large number of statistical tests.

The social capital items collected together into the social capital index were 1) the average number of clubs (proxy measure), 2) a social support index from the NPHS aggregated to the district, 3) a social involvement index from the NPHS, 4) the number of people running in the DHB elections in 1995, 5) the percentage of tax revenue in the district in arrears, 6) the percentage of communities in the district with a disaster plan, and 7) the percentage of eligible voters who voted in three elections (one federal, one provincial, one DHB, and averaged together).

The DHB effectiveness indicators were 1) *total board performance*, measured by board members responses in the 1995 and 1997 surveys, 2) the bureaucratic efficiency indicator (*fiscal responsibility*), 3) the *fiscal responsibility* indicator based on the extent to which a board kept its expenses within the boundary prescribed by its revenues, 4) the *fiscal responsibility* indicators based on whether a board submitted financial statements late in 1995 and 1996, 5) the *fiscal responsibility* indicator based on whether a board adequately safeguarded assets in 1996, 6) the *policy making and implementation* indicator based on whether the board had a systematic policy review and development process, 7) the *reflection of health needs* indicator based on

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[2] Data used to generate conclusions found in this section can be found in Appendix I

whether the board heard representations from the public, and 8) the *integration and coordination* indicators based on whether a board had adequate written service agreements with all providers, in 1995 and in 1996.

4.4.1 Sociodemographic predictors of effective governance

A number of the effective governance indicators were not significantly related to any of the sociodemographic characteristics. These were 1) the *policy making and implementation* indicator based on the bureaucratic efficiency test, 2) the *fiscal responsibility* indicator based on the lateness of submitted documents in 1996, 3) the *fiscal responsibility* indicator based on a board's performance safeguarding assets in 1996, 4) the *fiscal responsibility* indicator based on whether a board had kept its accounts in good order, 5) the *integration and coordination* indicator based on whether a board had written service agreements with all service providers, and 6) the *policy making and implementation* indicator based on whether a board had a systematic policy review and development process.

Total board performance, measured by the indexed responses by board members in the first survey (1995), was positively related to the rate of population change in the district (r=.4876, n=27, p=.010; weighted least squares p=.010; tau=.3229, p=.018; see Figure 4). *Total board performance*, measured by the indexed responses in the second board members survey (1997), was negatively related to the death rate in the district (board performance increases as the death rate decreases) (r=-.3424, n=30, p=.064; weighted least squares p=.053; tau=-.2598, p=.044; see Figure 5). Without the two unusual points, Swift Current (28) and Central Plains (3), the relationship was even more significant (r=.407, p=.032; see Figure 6). After removing the high leverage point, Lloydminster (8) as well, the relationship lost some strength (r=-.373, p=.056).

We found that boards were more likely to have contained costs (*fiscal responsibility*) when the percentage of the population who had not moved in the past 5 years was higher (r=.4801, n=26, p=.013; tau=.2958, p=.034; see Figure 7). They were more likely to have submitted their financial statements on time in 1995 (*fiscal responsibility*) when the percentage of people in the district who had not moved in the past year was higher (91.7% vs 87.3%, on average; p=.0393 (1) in K-W test), and when the percentage of the population who were single parents was lower (5.3% vs 11.6%, on average; p=.017 (1) in K-W test).

Figure 4.

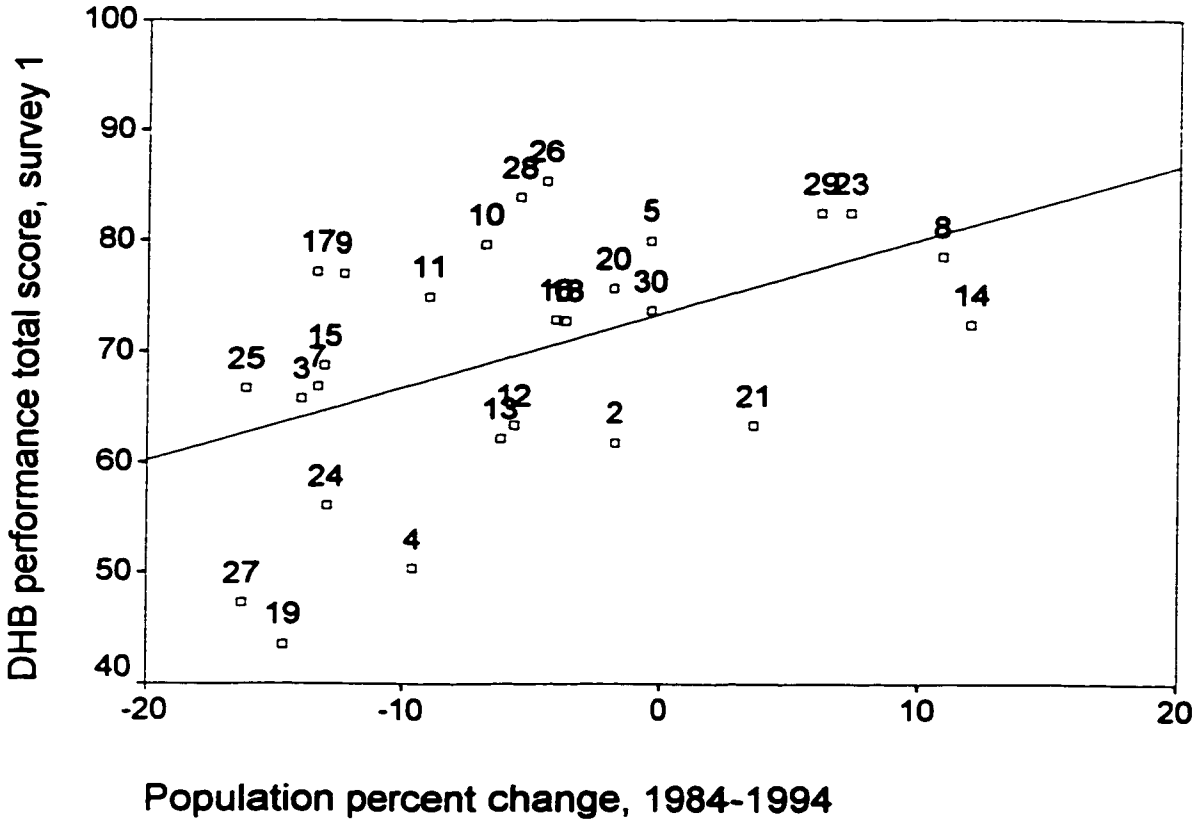

DHB performance total score, survey 1
100
90
80
70
60
50
40
-20
-10
0
10
20
Population percent change, 1984-1994

Figure 5.

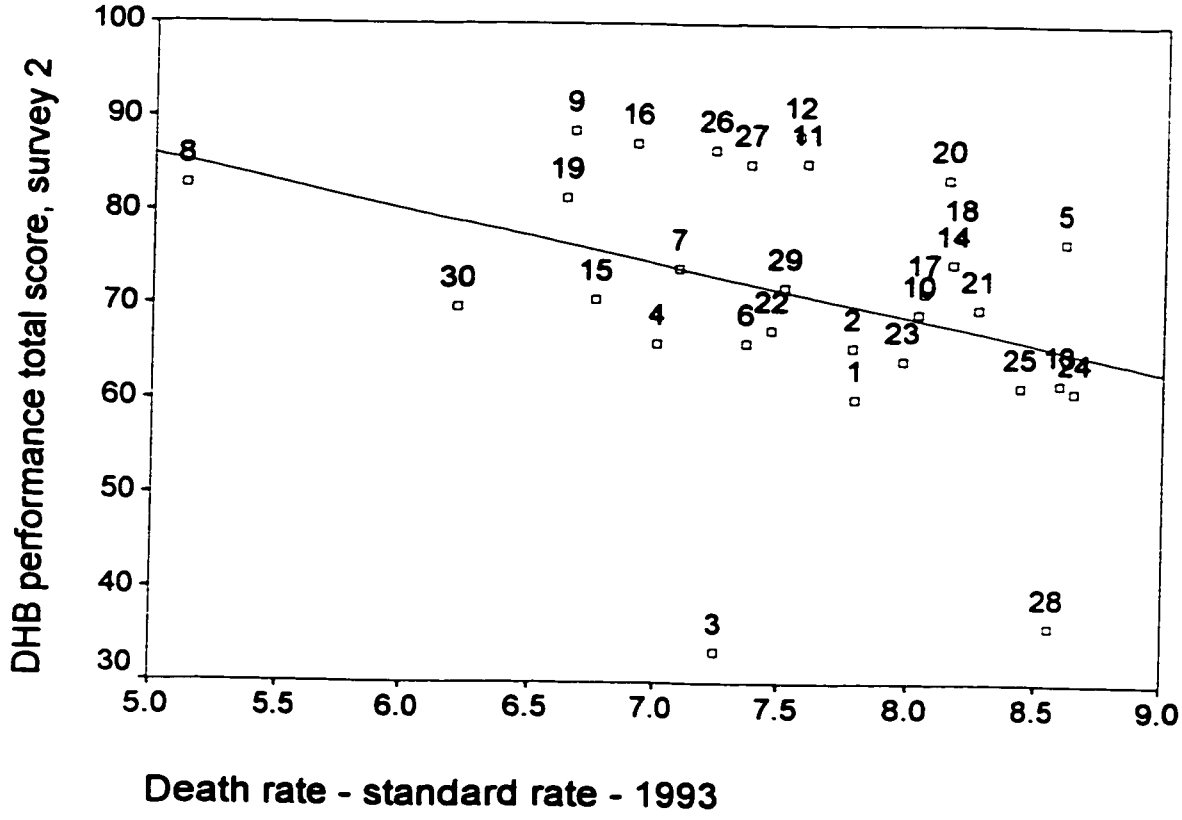

DHB performance total score, survey 2
100
90
80
70
60
50
40
30
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
Death rate - standard rate - 1993
8
9
16
26
27
12
11
19
20
18
5
14
7
30
15
29
17
10
21
4
6
22
2
23
1
25
18
24
3
28

Figure 6.

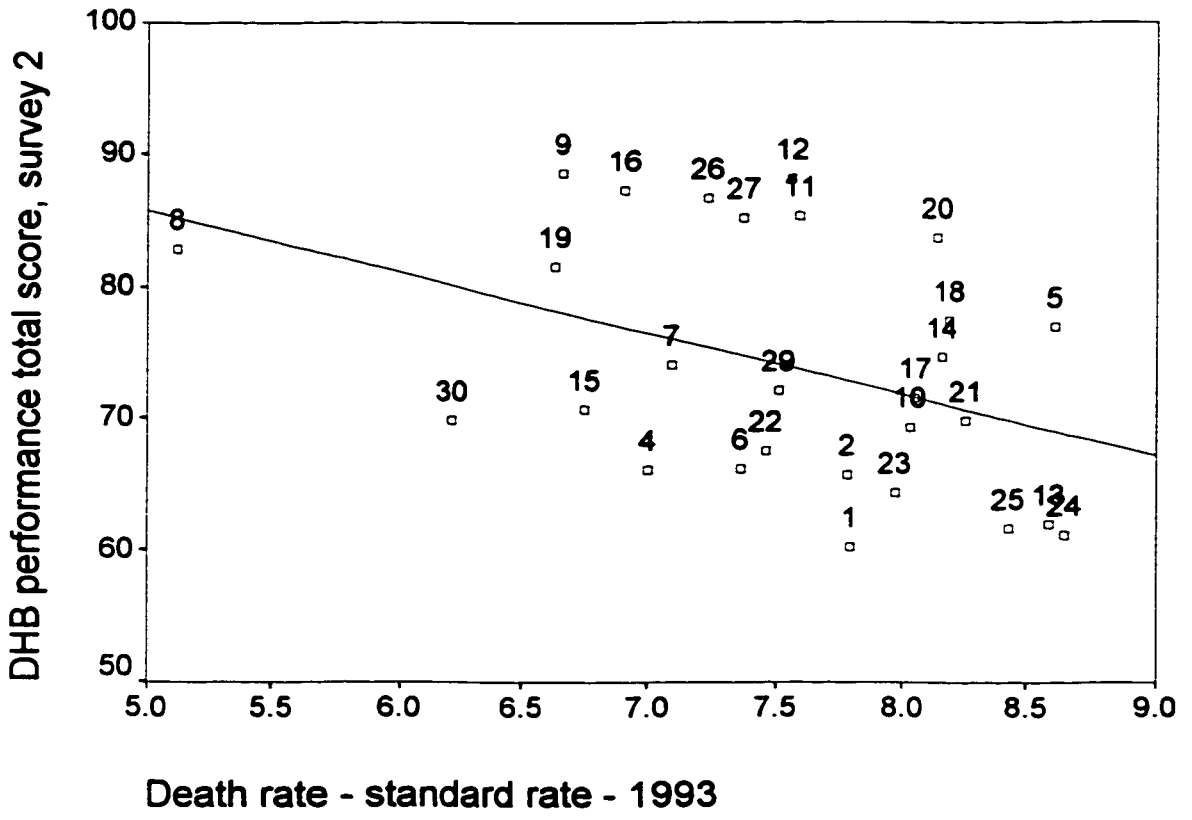
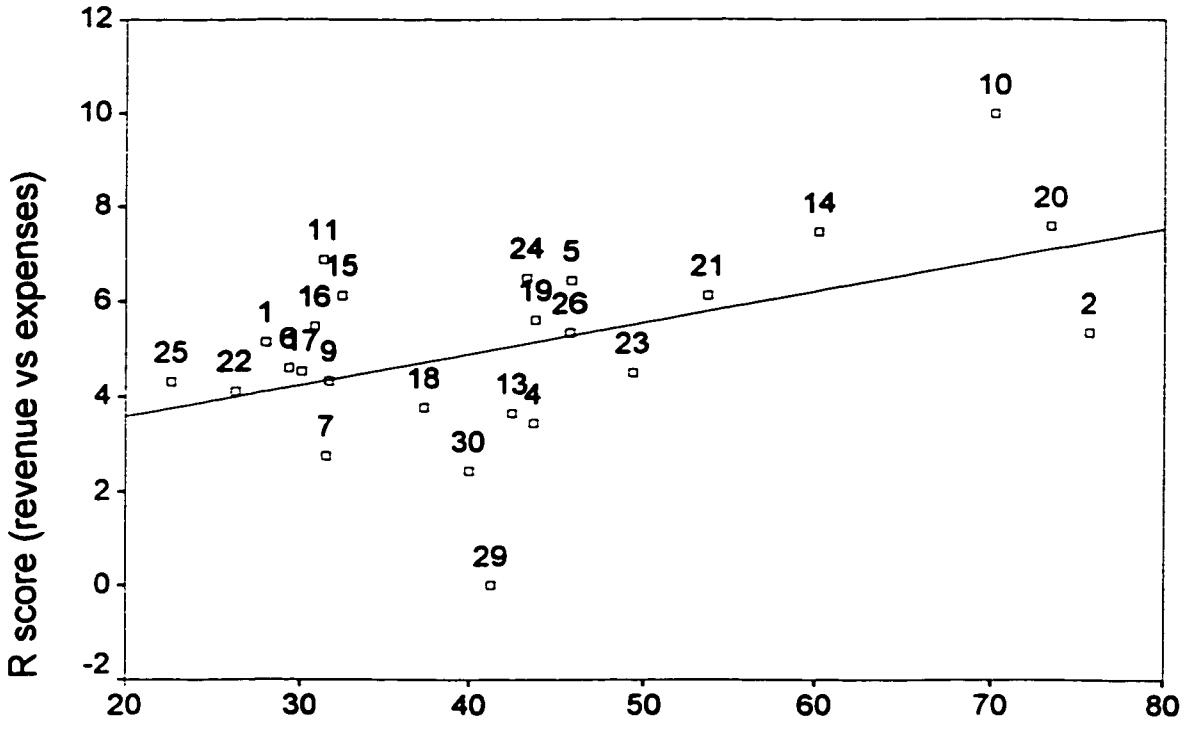

DHB performance total score, survey 2
100
90
80
70
60
50
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
Death rate - standard rate - 1993
9
16
26
27
12
11
20
8
19
18
5
14
7
29
17
30
15
10
21
22
4
6
2
23
25
13
24
1

Figure 7.


R score (revenue vs expenses)
12
10
8
6
4
2
0
-2
20
30
40
50
60
70
80
Percent non-movers in past 5 yrs
10
14
20
11
15
24
5
21
16
19
26
1
2
25
22
23
18
13
4
7
30
29

Boards were more likely to have written rules and procedures in 1995 where the percentage of the district population living in a rural setting was lower (36.2% vs 27.3%, on average; p=.047 (1) in the K-W test). Boards were more likely to have written service agreements with all provider institutions (*integration and coordination*) in 1996 where the population density was lower (1.82 vs 6.83, on average; p=.039 (1) in the K-W test). Boards were more likely to have heard representations from the public (*reflection of health needs*), as prescribed in the guidelines for DHB activity, where the percentage of the population claiming Protestant affiliation was lower (58.0% (no representations) vs 58.9% (one representation) vs 45.9% (two representations), on average; p=.041 (2, 21) in the ANOVA).

In summary, then, we found few relationships between sociodemographic characteristics of districts and effective governance. The rate of population change, the death rate, percentage of the families with a single parent, and religious affiliation each had a significant relationship with one effectiveness indicator, and the degree of urbanization in the district (similar to population density) and mobility each had a significant relationship with two effectiveness indicators.

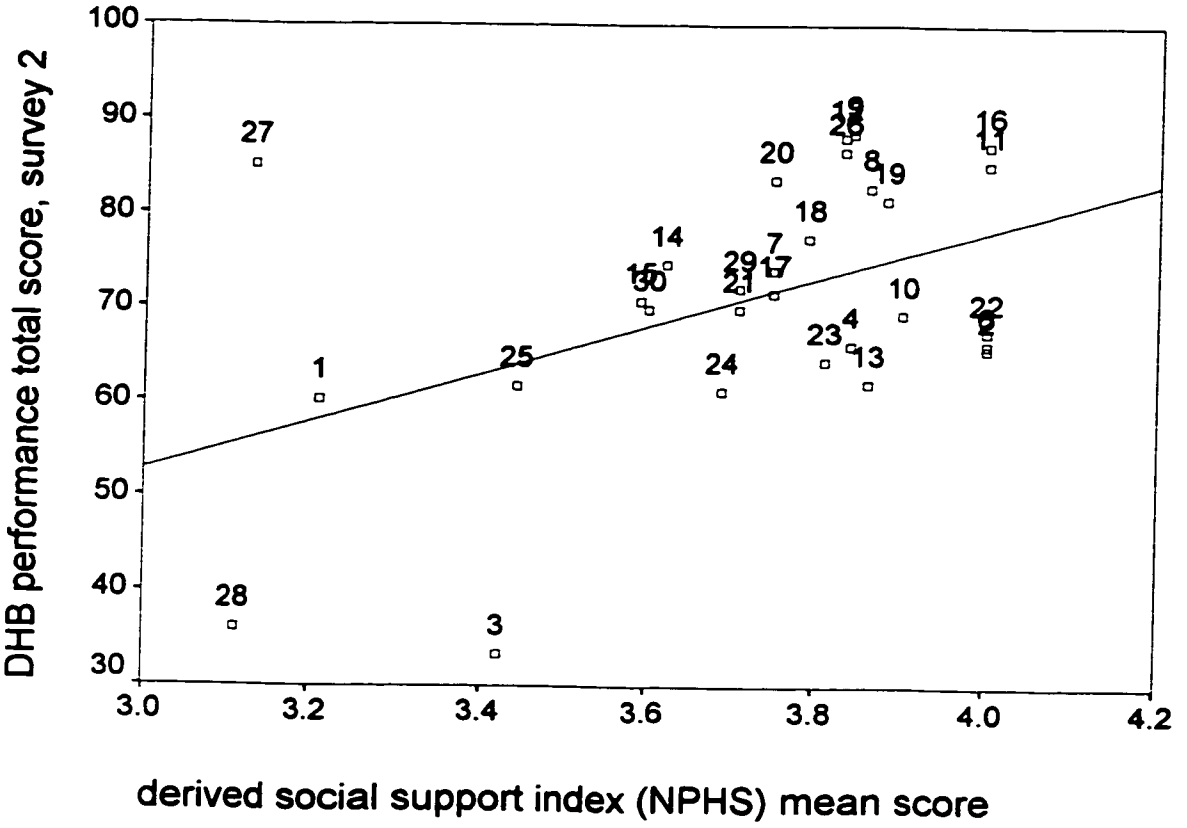
Collecting these findings by effectiveness dimension we conclude that *total board performance*, at least from the perspective of the board members themselves, may be related to population change and the death rate. In Saskatchewan many youth are leaving the rural areas for the cities; thus the urban districts are increasing in population size at the expense of the rural districts, and the rural districts, therefore, have a more elderly population that may influence the death rate. These two sociodemographic characteristics may, then, be part of the same phenomenon - youth leaving rural areas. *Fiscal responsibility* may be influenced by mobility and by the percentage of the families with a single parent. *Integration and coordination* may be easier in a district with a sparse rural population (perhaps because there are fewer services to integrate). Finally, *reflection of health needs* may be easier in districts with fewer Protestants. These findings are interesting in and of themselves, but they do not directly address the research hypotheses. They are more useful as controls when we investigate further the relationship between social capital and effective governance, attempting to generate hypotheses about the relationship between social capital and DHB performance. This is the subject of the next section.

4.4.2 Social capital predictors of effective governance

Most of the DHB effectiveness indicators were not related significantly to any of the seven social capital variables. We did find that boards were more likely to have their accounts in good order (*fiscal responsibility*), in 1995, when the percentage of the tax revenue in a district in arrears was lower (16.8% vs 11.0%, on average; p=.018 (1, 16) in an ANOVA). We also found that boards were more likely to have proper written rules and procedures (*fiscal responsibility*) in 1995 when the percentage of the population's taxes in

arrears was lower (16.7% vs 11.7%, on average; p=.044 (1, 16) in an ANOVA). Finally, we found that a board's *total performance*, as measured by board members' responses to the second survey (1997), was positively related to the social support index of the NPHS (r=.4678, n=29, p=.011; tau=.2541, p=.057; see Figure 8). Without the two unusual points, Swift Current and Central Plains, the relationship "went away" (r=.170, p=.396). Thus, of the 84 tests conducted, only these three were statistically significant, and the latter was unduly influenced by two unusual DHBs.

Figure 8.



There were, therefore, only two meaningful and significant relationships between social capital and effective governance indicators. In the latter instance, the effective governance indicator also had a significant relationship with a sociodemographic characteristic; the percentage of the population living in a rural setting. When we controlled for the percentage of the population living in a rural setting, in a logistic regression between the percentage of a district's taxes in arrears and whether a board had proper written rules and procedures in 1995, we found that the statistically significant relationship between the social capital indicator and the effective governance indicator changed very little. We were reluctant to add additional controls because the number of cases in the regression was small (n=18).

Thus we have some candidates for refinement of the theoretical model described in chapter one. Even so, the main thrust of conclusions garnered in the three stages of investigation is this: we did not find any evidence to support our hypothesis that social capital and DHB performance, in Saskatchewan, are related.

4.5 Summary

In stage one we looked at the relationships between the social capital index and the individual effective governance indicators. None of the measures were related. In stage two we focussed more closely on the eight districts for which we have data from a survey of randomly selected citizens. Again, little support emerged for a relationship between social capital in the districts and effective governance by the DHBs.

Finally, in stage three we looked more closely at the relationship between social capital and effective governance in the 30 districts by breaking apart our social capital index into its constituent parts. We found that fiscal responsibility scores may be related to the alacrity with which the population of a district pays its taxes, in general. When controlling for relevant sociodemographic characteristics, we found that this relationship remained significant.

Overall, our model failed to predict how well DHBs function. There are many possible reasons for this, from measurement error to the fact that the boards were only in operation for a few years which may not be enough time for a board to manifest social capital differences. However, perhaps the model itself is lacking in conceptual clarity or the hypothesized lines of causality are incorrect. We will continue in the next chapter with exploration into the verity of the model. This will involve an investigation into the individual-level components of the social capital portion of the model and their interrelationships. Chapter six, the conclusions chapter, will discuss, in detail, some implications of the results found in chapters four and five.

Chapter 5. Relationships among social capital concepts

5.1 Introduction

Putnam measured social capital using a mix of individual- and community-level variables. The number of clubs and associations in a region was a community-level measure and the voting and newspaper readership measures were individual-level behaviours. He found a strong correlation between an index combining these measures and an evaluation of the performance of regional governments. In the preceding chapter we also collected together individual- and community-level measures of social capital but were unable to find a relationship between this and the performance of DHBs in Saskatchewan. Although we were unable to replicate Putnam's results, we can explore in more detail the nature of his, and our, measures. Are the individual-level variables related to one another? Can we find support for Miszthal's (1996) and Cox's (1995) contention that social-psychological concepts, such as trust, for example, are an integral part of social capital?

This chapter explores the linkages between the individual-level elements of social capital theorized in the model; that is, how do the individual-level constructs pictured on the left side of Figure 1 relate to one another? In particular, we will investigate: 1) how the social capital behaviours related to one another; 2) whether different kinds and levels of trust claimed by individuals correlated with the social capital behaviours civic participation, associational participation, and experience collaborating to solve a community problem; 3) whether different kinds and levels of commitment were correlated with the same behaviours; 4) whether different kinds and levels of identification were correlated with these kinds and levels of commitment; and, 5) whether the kinds and levels of identification correlated with social capital behaviour.

The analysis generally was done bivariately - was there a relationship between the two variables? - after which we controlled for sociodemographic characteristics. We had two reasons for doing this. First, the non-representativeness of the sample caused concern, and controlling for sociodemographic characteristics of the respondents mitigated this difficulty somewhat. If a relationship remained significant after controlling for all sociodemographics, then we have increased confidence that the relationship exists in the population. If it does not, then, although we have some indication that a relationship exists, there is some doubt about whether this relationship holds only for one sector of the population (e.g. the generally older and wealthier residents)

but does not hold overall in Saskatchewan.

Second, we controlled for sociodemographic characteristics to remove as much spuriousness as possible from the relationship. We assumed that the sociodemographic characteristics being controlled preceded, causally, both the social-psychological and attitudinal attributes of individuals we were exploring. That is, we assumed that an individual's education, for example, preceded his/her expressed identification with the province and his/her associational habits in the community. If this assumption was correct, and we qualify our conclusions with the recognition that it may not be, and that a cross-sectional design cannot adequately determine causality, then by controlling for education we have clarified a potentially spurious relationship between identification with the province and associational activity. Appendix K describes the process by which we created sociodemographic "packages" for each of the four dependent variables, for the purpose of controlling for sociodemographic characteristics.

In this chapter we will explore how the hypothesized elements of the social capital model, described in Figure 1, relate to one another. Chapter six, the conclusions chapter, will discuss, in detail, some implications of our results.

5.2 Relationships among social capital activities

The four social capital behaviours we are investigating are not conceptually equivalent to one another. Participation in clubs and associations (which may be recreational as well as political or civic) is not necessarily the same as civic participation (actions taken expressing interest in community affairs and/or actions that are meant to benefit the community), which in turn is not equivalent to experience collaborating to solve a community problem (since civic participation can be solitary, such as donating blood or voting). There are no strong reasons to believe that trust, for example, if it is related to one form of social capital behaviour, is necessarily related to another. Thus we conducted separate analyses, in this chapter, using these distinct dependent variables.

The four behavioural social capital dependent variables that were our focus for many of the following sections *were* positively related to one another, however. We found that civic and associational activity were correlated (tau=.3149, $p<.001$), and that there were statistically significant relationships between experience working with a group and associational activity ($p<.0001$), experience working with a group and civic participation ($p<.0001$), experience organizing a group to solve a community problem and associational activity ($p=.0002$) and such experience and civic participation ($p<.0001$). Experience working with and organizing a group to solve a community problem were related as well ($p<.0001$). We conclude that the behavioural

aspects of our model (see Figure 1) were related to one another and may, therefore, belong to a cohesive model of social capital.

5.3 Trust

*Does **trust** predict social capital action (civic, associational or collaborative)?*[1]

We gathered indicators pertaining to several different trust referents. Giddens differentiated between different environments of trust: the pre-modern ones (kinship relations, the local community, religious cosmologies and tradition) and the modern ones (personal relationships of friendship and sexual intimacy, abstract systems and future-oriented, counter-factual thought). We had indicators for some of these. Although we could not determine whether the modern environments of trust play a greater role in people's lives than they did previously, we *could* compare the relative influence of these different forms of trust on the social capital behaviours that place people within the public realm.

Although we could not adequately differentiate between Giddens' pre-modern and modern environments of trust, we did distinguish between people-trust (trust in people) and non-people-trust (trust in governments, the educational system and the institution of voting). We also distinguished between trust in people from different levels or types of community: 1) trust in neighbours (the smallest geographical community, defined to be 'people in the homes nearest to where you live'), 2) trust in people from what we will, subsequently, call the community (where community was defined to be 'the city, town or rural area in which you live'), 3) trust in people from respondents' parts of Saskatchewan and 4) trust in people in general. We also investigated trust in people from 5) religious and 6) ethnic communities.

Before looking into how these types of trust relate to social capital behaviours, we determined the relative strengths of the types of trust. Aggregating all survey responses to selected questions, each a 7-point Likert scale ranging from 1 (agree strongly) to 7 (disagree strongly), we found, in decreasing order of trust:"Most people in my neighbourhood can be trusted" had a mean response of 2.135, "Most people in my religious/spiritual group can be trusted" had 2.345, "Most people in this community can be trusted" had 2.437, "Most people can be trusted" had 2.598, "Most people in my ethnic group can be trusted" had 2.614, "When it comes down to it, you can always trust the people in my part of Saskatchewan" had 2.667, "In general, I believe that my vote in elections was influential" had 3.441, "Although I may has some complaints about some decisions the District Health Board makes, I trust it to make good decisions" had 3.681, and "Although I may has some complaints about some of the decisions the federal government makes, I trust it to make good

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[1] Specific results from analysis can be found in Appendix L

decisions" had 3.866.

It appears, then, allowing for differences in how the questions were worded, that of the different levels of community, trust in neighbours was highest, followed by trust in people from respondents' religious groups, trust in people from respondents' communities, trust in people in general, trust in people from respondents' ethnic groups, and finally trust in people from respondents' parts of Saskatchewan. It appears that the smaller environments were a little more trustworthy to our respondents than were the larger ones. It was also clear that people-trust was stronger than non-people trust; in particular trust in government was low.

Table 5.1 shows that among the non-people-trust referents, only trust in governments had a significant bivariate relationship with associational activity, whereas among the people-trust referents, all but trust in experts had a significant bivariate relationship with associational activity. Of the different levels of community the community ('your city, town or rural area') was one of the best predictors of associational activity. After controlling for sociodemographic characteristics, which may serve as pre-causal influences upon both trust and associational activity, Table 5.2 shows that the community still carried the most predictive weight for associational activity of all the levels of community. As well, the people-trust referents carried more weight than did the non-people-trust ones.

Table 5.1 Summary of statistically significant trust predictors of four social capital behaviours, bivariate relationships

Relationships were direct unless indicated to be inverse

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
types of trust with a statistically significant bivariate relationship with the social capital behaviour dependent variable	*trust people from community (p<.001)*	*trust people from community (p<.001)*	*trust people from community (p<.001)*	*trust people from community (p<.001)*
	trust people in general (p<.001)	*trust people in general (p<.001)*	*trust people in general (p<.001)*	*trust people in general (p=.028)*
	trust people from their part of SK (p=.001)	*trust people from their part of SK (p<.001)*	*trust people from their part of SK (p=.003)*	*trust people from their part of SK (p=.009)*
	trust governments (p=.016)	*trust people from religious group (p<.001)*	*trust people from religious group (p=.005)*	
	trust people from religious group (p<.001)	*trust people from ethnic group (p<.001)*	*trust people from ethnic group (p=.012)*	
	trust people from ethnic group (p=.001)	*trust neighbours (p<.001)*	*trust neighbours (p=.008)*	
	trust neighbours (p=.006)	*trust institution of voting (p<.001)*	*trust institution of voting (p=.033)*	

Table 5.2 Summary of statistically significant trust predictors of four social capital behaviours, after controlling for sociodemographic variables

Relationships were direct unless indicated to be inverse

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
types of trust with a statistically significant relationship with the social capital behaviour dependent variable, after controlling for socio-demographic characteristics	*trust people from community (p=.001)*	*trust people from community (p=.010)*	*trust people from community (p<.001)*	*trust people from community (p=.034)*
	trust people in general (p=.012)	*trust people in general (p=.015)*	*trust people in general (p<.001)*	
	trust people from religious group (p=.011)	*trust people from their part of SK (p=.004)*	*trust people from their part of SK (p=.010)*	
	trust neighbours (p=.026)	*trust people from religious group (p=.029)*	*trust people from religious group (p=.002)*	
		trust people from ethnic group (p=.040)	*trust people from ethnic group (p=.005)*	
		trust institution of voting (p=.025)	*trust neighbours (p=.003)*	
			trust institution of voting (p=.048)	

As we found in the relationship between trust and associational participation, the people-trust referents were strong predictors of civic activity. The non-people-trust referents were not. Of the differing levels and types of community, the community ('your city, town or rural area') was among the strongest predictors, again, although the other levels were also influential. Of the people-trust referents, only trust in neighbours did not retain significant predictive capacity after being added singly to the sociodemographic package. The people-trust referents were good predictors of civic participation. Trust in people from the larger communities (the community, the parts of Saskatchewan and people in general) were better predictors than trust in people from the smaller communities.

Of the levels of community, trust in people from the community ('your city, town or rural area'), in people in general and in people from respondents' parts of Saskatchewan were the strongest predictors of

experience collaborating (and/or organizing) to solve a community problem, although all levels were strong. We found that some of the trust-people referents retained their predictive capacity when controlling for the sociodemographic package. Trust in people from the community was the strongest predictor of such experience.

In summary, we can see that the non-people-trust referents were not important predictors of the social capital behaviours. On a limited basis trust in governments and trust in voting efficacy entered into the picture, but trust in experts and the school system did not. There are many dimensions of non-people trust that remain unexplored, and many of these may have turned out to be significant when predicting social capital behaviours, but our best guesses about relevant non-people-trust referents have, for the most part, proven non-significant.

On the other hand we see that trust in people was an important predictor of social capital behaviour (although the percentage of variability explained never exceeded 3.79%). In particular, trust in people from the community was an important predictor that retained its predictive capability when sociodemographic characteristics were controlled for. Trust in ethnic groups, religious groups and neighbours were not as significant when it came to predicting social capital behaviour.

The most important predictors of our four social capital behaviours were trust in people from the community and trust in people in general. These two dimensions were highly correlated with one another ($r=.7837$) -- to be expected since they shared some variables in their construction. Did trust exist with respect to referents, as we hypothesized in the theory chapter, or did respondents either have trust, in general and toward all referents? The relevance of trust in people in general for predicting the four social capital behaviours suggests the latter, but the somewhat influential role played by trust in people from ethnic and religious groups and neighbourhoods supports the former. Implications of these results will be discussed, in detail, in chapter six, the conclusions chapter.

We put the indicators for the different forms of trust together into an index and performed reliability analysis to determine which of the forms of trust relate and which do not (see chapter three, the indices chapter). Trust in the institution of voting was the least related to the other forms of trust, and trust in governments was also related weakly. The people-trust referents were related to one another very strongly. We conclude that the referent is important when exploring trust but that there is a tendency for respondents to have a general tendency to trust or to distrust most people.

5.4 Commitment

*Does **commitment** predict associational, civic or collaborative problem-solving behaviours?*[2]

Before exploring which types of commitment were related to social capital behaviours, we determined the relevant strengths of the types of commitment. Aggregating all survey responses to selected questions, each a 6-point Likert scale ranging from 1 (extremely important) to 6 (not important), we found, in decreasing order of strength of commitment, that: "How important is the happiness of your family to you?" had a mean response of 1.246, "How important is your own happiness to you?" had 1.468, "How important is your relatives' happiness to you?" had 1.750, "How important is the success of your country to you?" had 1.841, "How important is the success of your province to you?" had 2.002, "How important is the success of your part of Saskatchewan to you" had 2.261, "How important is the success of your community to you?" had 2.343, "How important is the success of your neighbourhood to you" had 2.553, "How important is the success of your religious group to you?" had 2.887 and "How important is the success of your ethnic group to you?" had 3.506.

Thus we found that, of the different levels of community, commitment to the country was strongest, followed by commitment to the province, then to respondents' parts of Saskatchewan, to respondents' communities, to the neighbourhoods, to respondents' religious groups and finally to respondents' ethnic groups. The largest community, the country, garnered the strongest commitment, and the smallest communities (neighbourhood, ethnic and religious communities) garnered the least. This order differs from our findings with respect to communities of trust, where, for the most part, people from the larger communities were trusted less and people from the smaller ones were trusted more.

From Tables 5.3 and 5.4 we see that only commitment to the communities had a statistically significant relationship with social capital behaviours after controlling for sociodemographic characteristics. Commitment to other groups or concepts (such as families, neighbourhoods, religious groups, ethnic communities, province or country) had little or no relationship. The amounts of variability in the dependent variables explained (0% to 1.7%) were small.

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[2] Specific results from analysis can be found in Appendix M

Table 5.3 Summary of statistically significant commitment predictors of social capital behaviour

Relationships were direct unless indicated as inverse

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
types of commitment with a statistically significant bivariate relationship with the social capital behaviour dependent variable	*commitment to community (p<.001)*	*commitment to community (p<.001)*	*commitment to community (p=.003)*	
		commitment to part of SK (p=.016)		

Table 5.4 Summary of statistically significant commitment predictors of social capital behaviour, after controlling for sociodemographic variables

Relationships were direct unless indicated as inverse

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
types of commitment with a statistically significant relationship with the social capital behaviour dependent variable, after controlling for sociodemographic characteristics		*commitment to community (p=.020)*	*commitment to community (p<.001)*	

5.5 Identity and commitment

*Does an **identification** with something predict a person's **commitment** to it?*[3]

Table 5.5 Correlations among identification and commitment variables

Correlations were Kendall's tau (n, p); *italicized correlations were the statistically significant ones.*

	commitment to country	*commitment to province*	*commitment to part of SK*	*commitment to community*	*commitment to ethnic group*	*commitment to religious group*	*commitment to neigh-bourhood*
identify with Canada	*.2322 (465, <.001)*	*.1297 (463, .001)*	.0668 (464, .084)	.0282 (465, .464)	-.0569 (451, .134)	-.0572 (460, .126)	.0079 (462, .837)
identify with SK	*.1496 (466, <.001)*	*.1641 (464, <.001)*	*.1220 (465, .001)*	.0294 (464, .429)	-.0029 (453, .937)	*-.1011 (461, .005)*	-.0195 (462, .597)
identify with part of SK	*.0760 (461, .046)*	*.1420 (459, <.001)*	*.1468 (460, <.001)*	.0527 (460, .156)	.0122 (449, .738)	*-.1038 (456, .004)*	.0349 (458, .344)
identify with ethnic group	-.0188 (423, .773)	.0134 (422, .741)	.0477 (423, .234)	.0063 (423, .875)	*.2616 (414, <.001)*	-.0458 (421, .237)	-.0098 (421, .805)
identify with religious group	-.0463 (433, .237)	-.0699 (432, .072)	-.0154 (433, .689)	.0494 (432, .197)	.0212 (423, .572)	*.4987 (431, <.001)*	-.0068 (430, .858)
identify with city/town /rural area	*-.0877 (465, .021)*	-.0642 (463, .089)	.0259 (464, .487)	.0687 (463, .065)	.0113 (452, .757)	-.0440 (460, .223)	.0701 (461, .058)
identify with neigh-bourhood	-.0650 (463, .086)	-.0415 (461, .268)	.0615 (462, .097)	*.1270 (462, .001)*	.0353 (451, .331)	-.0032 (458, .929)	*.1750 (459, <.001)*

[3] Specific results from analysis can be found in Appendix N

From Table 5.5 we see that identification with an entity was positively and significantly correlated with commitment to the success of that entity, for all but identification with community. We conclude, then, that identification did underlie commitment for our respondents, or, at least, was correlated with it, as postulated in the theoretical model. Commitment to religious groups and ethnic groups had the strongest relationship with their corresponding identities, followed by commitment to Canada with identification as a Canadian. In a subsequent section we will explore how identity and commitment work singly and together (and also with trust) to predict social capital behaviours. In the next section we will explore how well identity predicts social capital behaviour on its own.

5.6 Identity

Does identity predict associational, civic or collaborative problem-solving behaviours?[4]

Before determining whether different identities were related to social capital behaviours we explored the overall strengths of these identities, aggregating all survey responses and finding mean responses (respondents were asked to rank eight identities from most important (1) to least important (8)). We found that the identity "Canadian" had a mean rank of 2.562, "my job or major activity" had 3.425, "resident of Saskatchewan" had 3.624, "resident of my city, town or rural area" (community) had 4.058, "resident of my neighbourhood" had 4.118, "resident of my part of Saskatchewan" had 4.276, "member of my religious group" had 5.216 and "member of my ethnic group" had 6.325.

Thus being Canadian was most important, on average, to respondents, followed by the identities granted them by their jobs or major activities and by being a resident of Saskatchewan. Identification with communities, parts of Saskatchewan and neighbourhoods were of middling importance, and ethnic and religious identities were weakest, on average.

Table 5.6 shows that the strongest bivariate predictors of associational activity among the identification variables were 1) identification with being residents of their parts of Saskatchewan (the higher such identification the *less* associational activity) and 2) identification with being members of their ethnic groups (the higher such identification the *less* associational activity). When added singly to the sociodemographic package, only identification with respondents' parts of Saskatchewan retained a statistically significant relationship with associational activity.

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[4] Specific results from analysis can be found in Appendix O

Table 5.6 Summary of significant relationships among identity variables and social capital behaviours

Relationships were direct unless indicated as inverse

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
types of identification with a statistically significant bivariate relationship with the social capital behaviour dependent variable	*identification with part of SK (p=.002) (inverse)*	*identification with ethnic group (p=.024) (inverse)*	*identification with Canada (p=.042) (inverse)*	
	identification with ethnic group (p=.004) (inverse)	*identification with neighbourhood (p=.015)*	*identification with ethnic group (p=.012) (inverse)*	
			identification with community (p<.001)	

Table 5.7 Summary of significant relationships among identity variables and social capital behaviours, after controlling for sociodemographic variables

Relationships were direct unless indicated as inverse

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
types of identification with a statistically significant relationship with the social capital behaviour dependent variable, after controlling for socio-demographic characteristics	*identification with part of SK (p=.036) (inverse)*		*identification with community (p<.001)*	

The best predictors of civic participation were identification with one's ethnic groups (another inverse relationship) and identification with the neighbourhoods. Neither relationship was significant, however, after controlling for sociodemographic characteristics.

Finally, the best predictor of experience collaborating was identification with the communities, the only one that remained important after the controls were added. Of lesser importance were identification as a Canadian (in an inverse way) and identification with one's ethnic groups (also in an inverse fashion).

Different identifications appeared to be associated with different social capital behaviours, reinforcing our choice to treat the dependent variables separately. It is interesting that identification with respondents' parts of Saskatchewan could predict associational activity (the percentage of explained variability increased by four percent with its addition) but identification with the communities could not. Presumably most networks were in the communities, so why would the larger identification be more influential than the smaller?

Finding that ethnic group identification was negatively correlated with associational activity, civic participation and experience collaborating was also surprising. We would have predicted otherwise, given that many informal and formal groups are organized by ethnic organizations around ethnic lines. Even so ethnic group identification fell away when sociodemographics were introduced, maybe because the relationship was spurious. Finally, the issue raised earlier has a different answer when it comes to experience working with a group to solve a community problem; identification with the community *was* important here (although adding only 1.5% to the explained variability), more so than identification with respondents' parts of Saskatchewan.

In our theoretical model we postulated that identity and commitment are related to one another. In the preceding section we saw that this was supported. In the section before that we saw that only commitment to the community was related to social capital behaviour. It was not surprising, then, that in this section we found few statistically significant relationships between identity and social capital behaviours, and that the only significant relationships, after controlling for sociodemographic characteristics, were identification with communities and parts of Saskatchewan. We did find that trust was important, as was commitment to the success of the community; in the next section we will look at how neighbourliness is related to social capital behaviours.

5.7 Trust, identity and commitment at the level of neighbourhood

Does neighbourliness correlate with social capital behaviour?[5]

In this section we chose representative variables from the conceptual categories of people-trust, identity and commitment, all three referencing the neighbourhood. In our survey we asked questions related to trust in neighbours, commitment to the neighbourhood, identification with being a resident of the neighbourhood, willingness to do things for neighbours and allow neighbours to do things for them, knowledge of neighbours' names and whether respondents have close friends among the neighbours. We have not yet explored bivariate relationships between most of these neighbourliness indicators and the four social capital behaviours and so present these relationships in the following table.

Table 5.8 Summary of significant neighbourliness predictors of social capital behaviour (bivariate relationships)

All relationships were direct.

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
neighbourliness indicators that had a statistically significant bivariate relationship with the social capital behaviour dependent variable	*willingness to lend car (p<.001)*	*willingness to lend car (p<.001)*	*willingness to lend car (p<.001)*	*willingness to lend car (p<.001)*
	willingness to lend $50 (p=.010)	*willingness to lend $50 (p<.001)*	*willingness to lend $50 (p=.013)*	
	have close friends among neighbours (p<.001)	*have close friends among neighbours (p<.001)*	*have close friends among neighbours (p=.002)*	
	commitment to neighbourhood (p=.002)	*know names of neighbours (p=.004)*	*know names of neighbours (p=.004)*	
	trust neighbours (p=.006)	*commitment to neighbourhood (p<.001)*	*commitment to neighbourhood (p=.004)*	
		trust neighbours (p<.001)	*trust neighbours (p=.008)*	
		identification with neighbourhood (p=.005)		

[5] Specific results from analysis can be found in Appendix P

Table 5.9 Summary of significant neighbourliness predictors of social capital behaviour, after controlling for sociodemographic variables

All relationships were direct.

	social capital behaviour			
	associational activity	civic participation	experience collaborating	experience organizing a group
neighbourliness indicator with a statistically significant relationship with the social capital behaviour dependent variable, after controlling for socio-demographic characteristics	*trust neighbours (p=.026)*	*willingness to lend car (p=.003)*	*willingness to lend car (p<.001)*	*willingness to lend car (p=.002)*
		have close friends among neighbours (p=.003)	*commitment to neighbourhood (p<.001)*	*commitment to neighbourhood (p=.020)*
		commitment to neighbourhood (p=.022)	*trust neighbours (p=.002)*	

Most of the neighbourliness indicators were bivariately related to associational activity, although identification with the neighbourhood was not. When we controlled for sociodemographic characteristics, the neighbourliness variables vanished in importance, however, for all but trust in neighbours, which appears to be the strongest predictor, among the neighbourliness variables, of associational activity.

Every neighbourliness variable we isolated was bivariately related to civic participation. Adding the neighbourliness variables to the sociodemographic package singly, we found that having close friends among the neighbours, being committed to the neighbourhood, and willingness to lend the car retained significant predictive power when sociodemographics were controlled for. Thus, knowing the names of neighbours was not enough to significantly predict civic activity, but having close friends among them was. Being willing to lend $50 was not enough, but willingness to lend a car (presumably a bigger risk) was. Having trust in neighbours was not enough, yet being committed to the success of the neighbourhood was.

Every neighbourliness indicator we isolated, but for identification with the neighbourhood, was significantly related in a bivariate way to experience collaborating to solve a community problem. Of these, willingness to lend the car, trust in neighbours and being committed to the neighbourhood remained significant after controlling for sociodemographics. Thus neighbourliness did have a relationship with collaboration experience in solving community problems, but only in an extreme form (willingness to lend a car remained significant but willingness to lend $50 did not; commitment to the success of the community remained significant but friendships and casual acquaintances did not).

Neighbourliness did not appear to be very related to experience in organizing a group for collaborative problem-solving in our bivariate analysis. We found that commitment to the neighbourhood and willingness to lend the car had significant predictive capacity when added singly to the sociodemographic package, but the remainder of the neighbourliness indicators did not. Interestingly, commitment to the neighbourhood did *not* have a significant bivariate relationship with experience in organizing a group to solve a community problem, yet *was* significant when sociodemographic characteristics were controlled for. Thus neighbourliness did have a relationship with experience organizing a group to solve a community problem (a more committed and arduous version of the first kind of experience solving a community problem we explored just above), but some of the relationship was a suppressed one that surfaced after controlling for potentially confounding sociodemographic variables.

In summary, then, we found that certain of our neighbourliness indicators (willingness to lend the car, willingness to lend $50, having close friends among the neighbours and commitment to the neighbourhood, in particular) were bivariately related to all (or most) of the social capital behaviours, and certain of them

(willingness to lend the car, commitment to the neighbourhood and trust in neighbours in particular) were significantly related to the behaviours after controlling for sociodemographic characteristics.

Thus, the aspects of neighbourliness that carry the strongest predictive capacity were 1) willingness to do something risky for a neighbour (i.e. lend them your car), 2) commitment to the good of the neighbourhood, and 3) trust in neighbours. Of middling strength were 1) having close friends among the neighbours and 2) willingness to lend a neighbour $50. Least strong were 1) knowing the names of the neighbours and identification with the neighbourhood. Where does willingness to do something risky for a neighbour fit in? Why did this retain predictive capacity but having close friends among the neighbours did not? Perhaps respondents would lend their car to their close friends but not to the *other* neighbours (and our question implied all neighbours). Perhaps they would be more willing to lend $50 to any neighbour, no matter how well known, because the potential loss would be smaller than should they lend their car.

In conclusion we found that the social-psychological variables accessing neighbourliness did, in part, predict social capital behaviour. However, for the four social capital behaviours, the percentage of explained variability increased by only a small amount (the increase ranging from 1.27% to 5.53%) from the sociodemographic predictive package to the larger models of sociodemographic package with the neighbourliness indicators. We urge caution in comparing R-square values from one model to another where the n changes (because of missing data), but even so we conclude that neighbourliness did not have a *strong* relationship with social capital behaviour. Perhaps this was because neighbourliness was restricted to the neighbourhood, and much participation may be in groups and areas outside of the neighbourhood.

5.8 Summary

In this chapter we explored how the individual-level social-psychological and behavioural concepts in the theoretical model related to one another. Were they all part of a unified entity we call social capital, or were there elements of the model that were disparate and isolated from one another (but not necessarily unrelated to effective governance)? In this chapter, then, we focussed on individual-level analysis, but were unable to relate this analysis to the community-level concepts in the model.

The first finding was that the behavioural aspects of the model were related to one another, in a statistically significant fashion ($p<.001$ in all significance tests). Thus individuals who participated a lot in clubs and associations were generally also ones who participated in civic matters and have had experience collaborating to solve community problems. However, the variability in one was still not entirely explained by another, which means that the social-psychological concepts may have differing relationships with the different

behaviours and we were justified in including all three behaviour categories in our theoretical model of social capital.

We found that, overall, trust was highest for neighbours and third highest (of six) for people from the community. Trust in people (in general, from respondents' parts of Saskatchewan, from the communities, religious groups or ethnic groups, neighbours and experts) was generally higher than was trust in non-people referents (governments, power of an individual's vote, the school system).

We found that, overall, commitment to the country was the highest form of commitment measured, followed by commitment to the province, respondents' parts of Saskatchewan, and the communities. Last were commitment to the neighbourhoods and religious and ethnic groups. Thus our respondents were more concerned with the success of Canada and Saskatchewan than concerned with the success of their neighbourhoods and other sub-communities.

We found that identification with a concept was related to commitment to that concept. Thus we were not surprised to find that, overall, since commitment to Canada was the strongest commitment, that being Canadian was the most important identity for our respondents. This was followed by the identities given them by their jobs or major activities and by being citizens of Saskatchewan. Least important, overall, were ethnic and religious identities.

Thus we have results from three social-psychological dimensions: 1) identity and 2) commitment both point to strong social-psychological ties with Canada and Saskatchewan, compared to weak ties with the neighbourhood, religious and ethnic communities, and middling ties to the community, whereas 3) the strongest trust was directed to neighbours, people from respondents' religious groups and people from the communities. We were led to suspect that trust was a different concept, empirically, than the other two, as we hypothesized theoretically.

Exploring how well the various trust, commitment and identity referents predict associational and civic participation, and past experience collaborating to solve community problems, we found that trust in people was more important than were the non-people-trust referents. In particular, trust in people from the community and trust in people in general had the strongest relationships with behaviour after controlling for the sociodemographic characteristics of respondents. We also found that of the commitment referents, only commitment to the success of the community had a significant relationship with behaviour after controlling for sociodemographics, and with only two of the four behaviours. We concluded that identity had little relationship with behaviour, overall, noting that identification with the community was only related to past experience

collaborating. Finally, exploring the relationships between various indicators of neighbourliness we found that willingness to lend a car to a neighbour, trust in neighbours and commitment to the neighbourhood were the strongest predictors of social capital behaviour.

In the following chapter we will summarize our findings from both results chapters and incorporate them into a revised model of social capital, also discussing implications from the findings for the literature.

Chapter 6. Summary and conclusions

In this final chapter we will summarize our empirical findings, address the theoretical model and its limitations, revise the model and address some questions/hypotheses raised in the literature. In particular, we will: 1) summarize the theoretical model described in the theory chapter, with its accompanying hypotheses and 2) summarize results from deductive tests of the relationship between social capital in districts and the performance of district health boards, in all 30 districts (regression analysis) and in eight districts (comparison group analysis). In addition, we will summarize results from 3) some exploratory analysis of the relationship between social capital and institutional performance. This exploratory analysis generated hypotheses in an inductive fashion. We will subsequently 4) discuss implications for the relationship between social capital and regional governance. These insights will be supplemented by 5) a discussion of the methodological difficulties encountered in our district-level analysis, where the data took various forms (aggregate- and community-level) and was often difficult to obtain.

Furthermore, as we followed the district-level analysis with an investigation of the individual-level social capital elements of the model and their interrelationships, we will, therefore, 6) summarize findings from our investigation into how well trust, identity and commitment predict associational participation, civic participation and experience of individuals in collaborative problem-solving efforts and discuss implications of these findings for 7) our own theoretical model and 8) hypotheses found in related literature. Again, these insights are followed by 9) a discussion of the analytical difficulties encountered by an individual-level analysis that does not incorporate the context of the community, along with some suggestions for analytic techniques that do. To conclude the chapter we will step back a little from the immediacy of the issues at hand (that is, what is social capital, how can it be measured and what is its effect upon the performance of regional health governments in Saskatchewan?) and will 10) speculate about social capital in general. This final section will include a discussion about levels of social capital (at the local community or national level, for example) and the importance of other concepts (income inequality, for example) for the development and presence of social capital.

6.1 Summary of the theoretical model

In the theoretical model described in chapter one we postulated a relationship between social capital in health districts and effective governance by district health boards in Saskatchewan, as well as relationships among components of social capital. The concepts in the model are summarized below in Figure 1. We isolated three broad spheres of individual-level social capital activity: associationalism, civic participation and experience in (and hence, hopefully, ability to) collaborate with others to solve community problems. The first and third can be conceptualized and measured at the community-level (dense networks of association and institutionalized norms that facilitate collaborative action, for example), and at the individual-level (individual actions measured by survey questions, for example).

Figure 1. Summary of social capital and effective governance concepts

SOCIAL CAPITAL CONCEPTS	*EFFECTIVE GOVERNANCE CONCEPTS*
s y s t e m l e v e l	1. reflection of health needs
networks of association	2. policy making and implementation
experience/skills of community in collaboration	3. fiscal responsibility
i n d i v i d u a l l e v e l	4. integrating and coordinating services
trust commitment identity associational participation civic participation experience collaborating with others	

In our model we identified social-psychological attributes that may contribute to the three spheres of social capital activity; the attributes of trust, identity and commitment. These social-psychological concepts exist in reference to groups of people, or communities. In the course of analysis we focussed particularly on the levels of neighbourhood (trust in and commitment to neighbours and identification with the neighbourhood) and community ('city, town or rural area') (trust in and commitment to community members and identification with the community).

We hypothesized that commitment to a concept, such as commitment to one's ethnic group or commitment to one's community, is related to an identification with that concept. We argued that people have

internal identities arrayed in a salience hierarchy; some identities are more central than others, and those people with strongly held identification with a group will necessarily be committed to the success of that group. We argued that commitment to the good of the community, for example, is related to social capital activity such as civic participation that is geared toward the good of the community, and/or associational activity in networks in the community, and/or collaborative problem-solving of community problems.

We hypothesized that trust is related to social capital activity; in particular, trusting people from the community facilitates participation in community networks, civic participation and collaborative problem-solving done for the good of the community. We noted that trust has a referent, that there are, therefore, many forms of trust, and that some forms of trust may be more salient for community-type social capital behaviours than others. We claimed that trust and commitment are related to one another but are not necessarily the same thing; thus we expected to find that trust and commitment are related to social capital behaviour partially independently of one another. We also expected that identity's relationship with social capital behaviours operated through, not independently of, commitment. We noted that causality is difficult because a cross-sectional design does not allow one to assess direction, and that we were, therefore, unwilling to claim that social-psychological attributes "cause" behaviour; rather, they are related to one another.

Finally, then, and most importantly, we hypothesized that a community rich in social capital, as we just defined it, would have a positive relationship with the governing process and governance outcomes; in particular, on the governing process and outcomes of the District Health Boards in Saskatchewan. We isolated four dimensions of DHB effectiveness: reflecting health needs, creating and implementing policy, demonstrating fiscal responsibility and integrating and coordinating services. We obtained some measures for these dimensions, although scale analysis on the measures sometimes indicated that our measures did not adequately differentiate between them (the surveys to board members, in particular). We also collected indicators for social capital in the districts, some of them aggregate in nature and others community-level.

6.2 Summary of findings of the relationship between social capital and the performance of DHBs

Starting with the relationship between social capital and effective governance by DHBs we conducted tests of significance between our index for social capital in all 30 health districts and the effective governance indicators, one by one. This is a deductive portion of the study, wherein we hypothesized a relationship and then tested it empirically. We chose to collect our social capital indicators for the districts and put them into an index to simplify analysis and to replicate Putnam's approach, but explored the relationship between the social capital index and the effective governance indicators singly (due to the missing values that would arise

were we to put the governance indicators together into an index). There did not appear to be a relationship between social capital, as we measured it, and the performance of the boards, as we evaluated it; every test was non-significant. This may be because a) we failed to adequately measure the concepts, b) social capital, as we defined it, is not related to governance in general, or c) the District Health Boards in Saskatchewan are too new to reflect social capital influences. Because we cannot rule out possibilities a) and c), we do not conclude that social capital and effective governance are necessarily unrelated in general. We have, however, failed to confirm Putnam's findings of a relationship between social capital and effective regional governance.

Continuing our deductive test of the relationship between social capital and effective governance by DHBs, we focussed more closely upon the eight specially chosen districts from which we created three comparison groups. The first comparison group had two urban districts, the second had two mid-sized districts, and the third had four rural districts. Each comparison group was composed of districts as similar to one another, sociodemographically, as we could find. Having roughly controlled for sociodemographic influences in this way, in each comparison group we determined which of the group members had the highest social capital score and which the lowest, which of the group members had the highest DHB performance score and which the lowest, and whether these rankings matched. This *ad hoc* test was potentially informative because we had many more social capital indicators for the eight districts than we had for all 30 districts. This was possible because we conducted a survey of randomly selected citizens in the eight districts, results from which we aggregated to summarize the social capital character of the district. However, once again we found very little support for the theory; social capital scores did not appear to be related to DHB performance scores.

6.3 Inductive exploration into the relationship between social capital and effective governance by DHBs

The deductive testing stage of the study led us to conclude that either our conceptualization of social capital was inadequate, our measures of social capital and/or institutional performance were inadequate, or social capital and effective local health governance (at least in Saskatchewan) were unrelated. Assuming that improvements to the model might be possible, we chose to explore the linkages in the model more closely and generate further hypotheses. Returning to the relationship between social capital and effective governance, in 30 districts, we ran numerous tests of significance to see which sociodemographic and social capital characteristics of districts were related to the various effective governance indicators. Among the sociodemographic predictors, we found that total board performance may be related to the rate of population change and the death rate, fiscal responsibility by DHBs may be related to mobility and the percentage of the families that have single parents, and integration and coordination may be easier in rural districts. Among the social capital predictors, we found that fiscal responsibility by DHBs may be related to the alacrity with which

taxpayers in the district pay their taxes.

6.4 Implications for the relationship between social capital and effective regional governance

This research project was intended to be a replication of Putnam's (1993a) empirical study in a different setting (Canada rather than Italy), on a different scale (health districts within one small Canadian province rather than regions in all of Italy), and with performance of a different kind of governmental institution as the dependent variable (District Health Boards rather than regional governments). Along the way we also concentrated upon the nature of social capital, as theorized by Putnam but not empirically explored in depth in his 1993 work. Discussion about the nature of social capital, and Putnam's subsequent work in that area, will follow in a later section. In this section we will focus on the original work by Putnam and colleagues, presented in 1993, that explored the relationship between civicness (social capital) and institutional governmental performance in Italy.

There were similarities between our project and Putnam's. As part of his measure of institutional performance Putnam conducted 700 interviews with regional councilors, in two waves, to gain their perspective on regional governance; we conducted two surveys of board members to gain their perspective on DHB governance. Putnam conducted six nationwide surveys of the general populace; we conducted one survey of randomly selected citizens in eight districts. Putnam collected additional empirical measures of institutional performance, such as the number of different cabinets installed, delay in approving budgets, and the number of regionally supported day care centres implemented by the government, for example; we collected additional measures as well, such as a comparison of expenses versus revenues, an analysis of DHB minutes and an analysis of the Provincial Auditor's report on each board's financial performance. Putnam performed a bureaucratic efficiency test using a simple information request from a citizen, by mail; we conducted a similar test, requesting information from the DHBs, also by mail. Putnam began his investigation in six regions, and then expanded to all 20, but with the most intensive analysis in these six regions; we collected some social capital scores for all 30 health districts in Saskatchewan, with most intensive analysis in eight districts.

There were differences between our work and Putnam's, however, that may be relevant to our failure to replicate his results. The interviews with regional councillors conducted by Putnam were likely more informative than our surveys of board members, although our surveys likely provide better comparative data. Putnam also spent a lot of energy interviewing community leaders (non-politicians, for the most part) - three waves of interviews with community leaders in the six regions, and one mailed survey of community leaders in all 20 regions; we did not obtain any similar information or perspectives. Putnam collected his data over

the course of 15 years; we collected it in one, and, although our data sources span a range of approximately six years, the majority of our measures are from 1996 and 1997.

The scenarios for the tests of the relationship between social capital and the performance of political institutions were also quite different, as mentioned. However, in both settings the regions were created in an attempt to match historical regions. Putnam (1993a) claims that "the borders of the new governments largely corresponded to the territories of historic regions of the peninsula, including such celebrated principalities as Tuscany and Lombardy" (p. 5). In Saskatchewan community leaders were asked to be part of the district creation process so that the districts might reflect historical regions in the province. Sabetti (1996) questions the region creation process in Italy, however. He claims that some of the southern regions encompass several natural regions, contrary to Putnam's assertion, and that the Italian experiment is not a natural experiment as claimed. If this is true then the Saskatchewan experiment may have had an advantage over the Italian one.

The approaches taken to measuring institutional performance and social capital differed as well. Putnam took great pains measuring performance, starting with variation in such, attempting to explain it, and discovering that his social capital index did the best job of doing so. His social capital index was simple, however. We paid more attention to measuring social capital with broader measures than did Putnam and less to evaluating performance. Thus, while we feel that we evaluated social capital scores for the districts more comprehensively than did Putnam, at least in the eight districts for which we conducted our survey of citizens, we have less confidence in the performance indicators. Thus, in a sense, and in contrast to Putnam's work, we started with variation in social capital and sought to see whether such variation explains anything, rather than finding variation and seeing how it might be explained. Also, Putnam's regional governments were evaluated over the course of 15 years whereas we evaluated over only three years, and only two years after the conception of the DHBs.

Putnam's institutional performance indicators were highly correlated with one another. When the 12 measures were collected into an index, each item in the index correlated highly with the index - the range of correlations was from a low of 0.468 to a high of 0.874 (all statistically significant). Our measures of DHB performance were not well correlated with one another. For example, among the quantitative measures our highest correlation was only Pearson's r=0.2125, and some of the correlations were negative (by as much as r=-0.1081). We explained in the theory chapter that we did not require them to be related since we are focussing on four dimensions of effective governance that may or may not necessarily be related to one another, but found that even within dimensions there was little coherence. In fact, it appeared to make more sense, in some cases, to focus on total score indices rather than on scores by effectiveness dimension. The incompatibility between performance measures may be because 1) the DHBs are new enough that differences

in performance have not manifested themselves in any recognizable way, 2) our measures are inaccurate, 3) our four theoretical dimensions of effectiveness do not scale, together and/or individually, in reality, or 4) we had too few districts with which to perform meaningful correlations.

When attempting to explain variability in institutional performance, before looking to the civicness index, Putnam correlated such performance with education levels (not correlated), socioeconomic modernity (strongly correlated, although maybe representing a North-South split) and urbanism (not correlated). We could not replicate the first two tests but did find support for the third - population density was not related in any significant way to the performance of the DHBs, although we found an indication that integrating and coordinating health care services may be easier in rural districts. Putnam found that social stability was not a good predictor of performance; we, however, found that total performance may be related to population change (whether a district is growing or shrinking, a kind of population stability) and fiscal responsibility may be related to mobility (a measure of residential stability).

Putnam found the civicness index to be the strongest predictor for institutional performance, stronger even than socio-economic modernity. Putnam's index was made of only four items, three aggregate in nature and one community level. The community-level variable was a count of the number of clubs and associations in a region; the other three were newspaper readership and two voting statistics. Putnam found that the four items were highly correlated with one another at the level of region - the lowest correlation between items was 0.73 and the highest was 0.91. We, however, were less fortunate. Our social capital index also contained voting statistics (a variable averaging results from three elections) and a measure of the number of clubs and associations (a proxy measure based on umbrella and subsidiary groups) but did not include newspaper readership statistics. We were able, however, to gather additional measures to capture social capital, such as social support, social involvement, experience of communities in problem-solving, and alacrity with which citizens pay their taxes. Our measures were not well correlated with one another, however. The highest correlation was r=0.6889, and, in fact, some of the items were negatively correlated with one another, by as much as r=-0.5622. When the items were correlated with the remainder of the index the correlations ranged from r=.2745 to r=-.2569. The scale may have been poor because 1) there aren't any real differences in social capital between the health districts, and, thus, observed differences vary among the items merely by chance, 2) our measures were inaccurate, or 3) our theoretical model of social capital does not scale. Evidence for the first and second possibilities was provided by the results from our individual-level analysis, where we found that civic participation and associational participation *were* related to one another significantly, among individuals. This relationship was not captured by our district-level social capital scale, however, suggesting that our measures were not valid and/or there are no measurable differences in social capital between districts.

Putnam found a strong correlation between his civicness index and institutional performance. We did not. However, Goldberg's (1996) argument that social capital does not explain institutional performance in the North of Italy, or in the South, when considered separately, is pertinent. In the scatter plot between social capital and institutional performance (Putnam, 1993a:98), within the North, the Italian regions were scattered rather randomly, as in the South. In both cases two regions may have had undue influence on the slope of a regression line. This is a problem with analysis at the level of region - too few cases and results easily influenced by one special case. In our analysis in Saskatchewan we sometimes found similar results - several influential districts sometimes produced significant results in a regression, but once removed results were non-significant.. According to Goldberg's analysis the non-parametric correlations (that remove undue influence by outliers) within the North and South of Italy, between civicness and institutional performance, is as low as -0.25 (in the South), although Goldberg had to estimate scores from Putnam's scatter plot and so his calculations were rough. In such an interpretation, then, our findings support Putnam's findings, in that we found little relationship between social capital and institutional performance, although they certainly do not support Putnam's interpretation.

In summary, we have reservations about the accuracy of Putnam's conclusions, the reliability of our indices, and whether there actually was variability in Saskatchewan (with respect to both social capital and effective governance). Suspending disbelief in the latter two instances and addressing the first, we conclude that social capital and institutional performance were not truly related to one another as postulated in our theoretical model. This does not, however, invalidate further investigation into the nature of social capital, which has been found to be related to other outcomes such as economic performance and the health of individuals, for example.

In our theoretical model we hypothesized about connections between specific elements of social capital and specific dimensions of effective governance. Did any of these prove significant, even if the overall tests did not? We predicted that networking in communities would facilitate better reflection of health needs but found only one result that may support this contention - the NPHS social support index, aggregated by district, was significantly related to the total performance of boards. The social involvement index, perhaps more closely related to networking as we theorized it, was *not* related to performance. Could it be that familial relationships and close friendships (the web of strong ties) is more important than the web of weak ties? We also hypothesized that civic participation makes policy making and implementation by DHBs more effective, but did not find any support for this hypothesis. We predicted that experience in collaborative problem-solving, and thus a propensity to engage in it again when needed, is related to policy making and implementation by DHBs - another unsubstantiated prediction. Finally, we predicted that trust and commitment are related to both policy making and implementation and to fiscal responsibility - we could not

test whether commitment was related to total board performance, but trust was not. We did not, therefore, find strong support for any of the hypotheses.

6.5 Methodological and analytical issues raised by the district-level analysis

When group-level independent variables are used to predict group-level dependent variables the study is called ecologic (Diez-Roux, 1998:217). One interpretive error to avoid is the ecological fallacy, which is "the fallacy of drawing inferences at the individual level based on group-level data" (p. 218). We avoided the ecologically fallacy since our dependent variable was DHB performance measured in several different ways, and there are no ways of drawing conclusions about individuals from board performance indicators. Group-level variables come in two types: derived variables, which summarize the characteristics of individuals in the group (means, proportions, measures of dispersion), and integral variables, which describe characteristics of the group that are not derived from characteristics of its members (p. 218). Our district-level measure of social capital, and the sociodemographic characteristics of districts used in the district-level analysis, incorporated both derived and integral variables. What we called aggregate-level variables are derived, and community- or district-level variables are integral.

> "Although derived and integral variables are sometimes presented as conceptually distinct, they are closely interrelated. Derived variables often operate by shaping certain integral properties of the group. For example, the composition of a group may influence the predominant types of interpersonal contacts, values and norms or may shape organizations or regulations within the group that affect all members" (Diez-Roux, 1998:218).

The way in which derived variables may shape integral properties depends on the variables in question, of course, but is often unclear and empirically unexplored. We included derived and integral measures of associationalism in our social capital index but did not explore how they interrelate.

> "A researcher investigating how community participation (a characteristic of the social environment) is related to health outcomes could measure (1) the number of community organizations to which each individual belongs (an individual-level variable), (2) the percentage of persons in the community who belong to at least one organization (a group-level derived variable), and (3) the number of organizations in the community (a group-level integral variable). Each variable would be measuring a slightly different aspect of the concept of community participation" (Diez-Roux, 1998:218).

Social capital, as we defined it, includes group-level concepts. However, most of the available data was collected at the individual-level, and as such contribute only group-level derived variables to the district-level analysis. Group-level integral variables were much harder to find. Their scarcity may be due to the fact that the size or definition of the group determines the nature of the variable; it is much easier to aggregate individuals into whatever group the researcher wants than to collect group-level data for the "group of the day". We suggest, however, that if Saskatchewan is committed to the DHBs they consider earnest collection of

district-level integral data, such as the number and type of community organizations, the linkages between these, past histories of collaboration among organizations, and even racial and class divisions in the communities. The districts have already compiled an impressive database of group-level derived characteristics but have collected few group-level integral characteristics. When and if they collect intgeral characteristics we may then be better able to determine how the derived and integral measures of community participation interrelate. Also, because of the importance of social context for the health of individuals, the DHBs may gain a deeper understanding of the determinants of health in their communities.

6.6 Interrelationships among social capital concepts

In earlier sections we accumulated some generated hypotheses on how the model may be modified by changes to the individual-level variables - civic duty (paying taxes on time) in particular. So how did this variable relate to the remainder of the concepts in the model? We defined community- or system-level social capital concepts, such as collaborative abilities between community groups or the density of networks, as well as social-psychological attributes of individuals, that may be important parts of social capital too. Were these potential components related to civic participation? If they were, perhaps we should retain them in the model, since they are related to a concept that appeared to be related to governance and hence may be an indirect indicator of such. In essence, in this section, having concluded that the model did not work, we are attempting to rescue certain elements of the model that *may* be related to DHB performance and could be explored further in subsequent research.

To explore some of the linkages between elements of the model we conducted in-depth analysis on the individual-level concepts (for which we have rich data, from the survey of individuals in eight districts). We collapsed the districts, putting all respondents together, and explored how the social-psychological attributes and social capital behaviours of our individual respondents were related to one another. We found that the three social capital activity dimensions were positively and significantly related to one another. Thus, because we are keeping civic participation in the model, we choose to retain associational activity and collaborative problem-solving experience and ability as well. So, which social-psychological attributes of individuals are related to these three behavioural concepts?

We found that almost every dimension of trust we explored was related to social capital activity; the people-trust referents more so than the non-people-trust referents. In particular, trust in people from the community was an important predictor of our three social capital activity variables, even after we controlled for sociodemographic characteristics of respondents.

We found that identity was related to commitment, as postulated, except perhaps for identification with the community (with commitment to the community) but especially for identification with ethnic or religious groups (with commitment to ethnic or religious groups). Interestingly, commitment to a religious group was negatively related to identification with the province or respondents' parts of the province, and commitment to Canada was negatively related to identification with communities. This suggests that perhaps people have only a limited pool of commitment (i.e. that commitment is a limited personal resource) and make choices between levels (e.g. committing to the success of their particular religious community at the expense of caring about the success of the province), or that some of the different types of commitment are antithetical to one another. This, in turn, suggests that different communities can have varying proportions of individuals committed to the success of Canada, rather than to sub-pockets of the community, thus potentially leading to some communities with greater amounts of social capital (community-level) than others. Variability among communities, with respect to community-level social capital measured with social-psychological concepts, is possible.

We found that commitment to the community had a bivariate relationship with most of the social capital activities we isolated, but commitment to the other entities did not. Even so, commitment to the community was only related to civic participation and experience collaborating after controlling for sociodemographic characteristics.

We found that certain identities had a relationship with activity. It appeared that identification with community had little relationship with activity, which is not surprising since commitment to the community did, and identification with and commitment to community were not strongly related. It also appeared that national and ethnic identities had negative relationships with activity, supporting our claim that there are levels of social capital in a community, and communities with strong ethnic schisms, for example, do not contribute as much to a community-level social capital as might a more ethnically homogenous community. Even so, identity's relationship with activity, like commitment's and contrary to trust's, was slight.

Exploring the social capital behaviours individually, when *participation in clubs and associations* was the dependent variable, we found that trust in people in general, from the community, from the religious group and from the neighbourhood were related to it, bivariately and when we controlled for sociodemographic characteristics. Commitment to the community had only a significant bivariate relationship with participation, and identification with the community had none. Identifying with one's part of Saskatchewan and one's ethnic group were inversely related to associational participation, the former when controlling for sociodemographic characteristics as well. When we focussed on the referent of the neighbourhood we found that trust in neighbours was related to the dependent variable, bivariately, when controlling for sociodemographic

characteristics. Commitment to the neighbourhood had only a significant bivariate relationship with participation, and identification with the neighbourhood had none. Thus, overall, trust in people in general and from the community, identification with the community and trust in neighbours are the important social-psychological concepts related to associational activity and should be retained in a revised model of social capital.

When *civic participation* was the dependent variable we found that trust in people in general, from the respondents' communities, from their parts of Saskatchewan, from their religious and ethnic groups, from their neighbourhoods, and in the institution of voting were significantly related to participation, bivariately and when we controlled for sociodemographic characteristics. Commitment to the community and to one's part of Saskatchewan were related to civic participation, the former when controlling for sociodemographic characteristics as well. Identification with the community was not significant, although identification with the neighbourhood was positively, and identification with ethnic groups negatively, bivariately related to civic participation. Thus, overall, trust in most communities (the neighbourhood, community, part of the province, people in general and people from respondents' religious and ethnic groups), commitment to the success of the community, and trust in the institution of voting are the important social-psychological concepts related to civic participation that should be retained in the revised model.

When the dependent variable was *experience collaborating to solve community problems*, we found that trust in people in general, from respondents' communities, from their parts of Saskatchewan, from their religious and ethnic groups, from their neighbourhoods, and trust in the institution of voting were important bivariately and after controlling for sociodemographic characteristics. Commitment to the community, to the neighbourhood, and identification with the community were also related, bivariately and with the sociodemographic controls. Identification with Canada and ethnic groups were inversely related, although only bivariately. Thus, overall, we found that trust in people from the larger communities, trust in people from the neighbourhood, trust in the importance of one's vote, commitment to both the community and neighbourhood, and identification with the community were the important concepts that should be retained in the model, since they are related to this important dimension of social capital activity.

Figure 9. Summary of concepts retained in a revised theoretical model of social capital

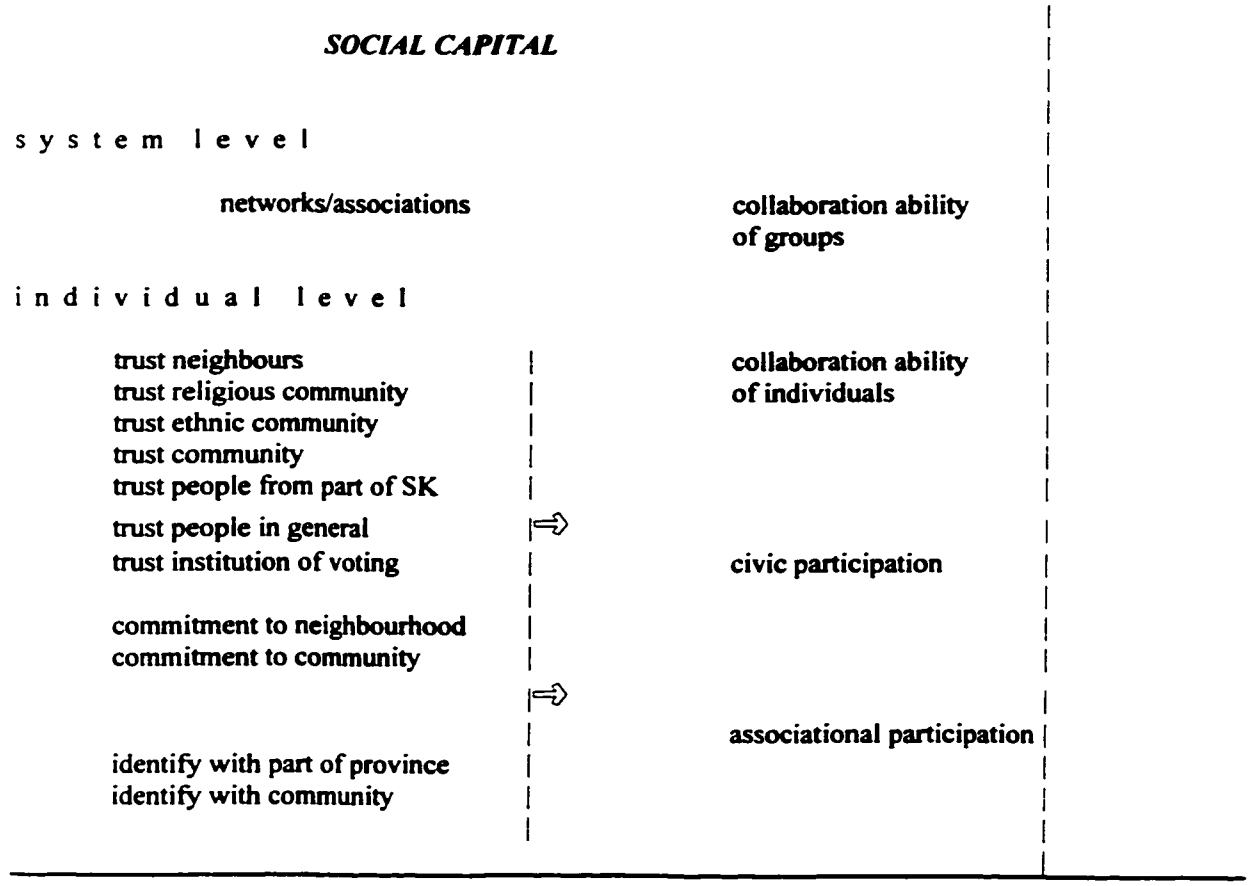

Figure 9 summarizes the concepts retained in a new model of social capital. In our explorative work we found that civic participation (paying taxes on time) may be related to the pattern of effective governance and so is retained; associational activity and experience collaborating were related to this (at the individual-level) and so are retained. We specified various specific forms of trust, commitment and identity that we found were related to these behavioural elements of the model, and so are retained. Other forms of trust, commitment and identity, with their various referents, were removed. If our lack of found relationships between DHB performance and social capital was due to the youth of the boards, rather than to intrinsic problems with the theoretical model, or inaccurate measures, then this revised model may be worthy of further investigation.

6.7 Implications of results for conclusions/hypotheses in the social capital literature

In this research project we placed a lot of emphasis upon trust, both theoretically and empirically. Levi (1996) criticizes Putnam for failing to define trust adequately, and notes that Putnam, after the publication of his 1993 book, admitted that his theoretical analysis focussed on interpersonal trust rather than on trust in

governmental institutions. We have attempted to rectify this in our work, addressing a number of trust referents and further exploring the nature of trust.

Aguilar (1984) differentiated between rational and psychological trust in interpersonal settings. Rational trust, according to Aguilar, is a form of behaviour, a calculated choice to extend or withhold confidence in an exchange partner or situation. Psychological trust denotes relatively stable dispositions to experience emotionally directed perceptions of the absence or presence of danger - what is usually called a trusting personality. We collected responses from people relative to a number of different kinds of trusts - trust with various referents, such as friends, family, people from the neighbourhood, community, or province, people from one's ethnic or religious group, scientists and experts and governments. If there were strong positive correlations between an individual's scores on all or most of these trust-referents, than we have support for the prevalence of psychological trust - a tendency to trust. If the forms of trust were mostly unrelated we have support for the contextual nature of trust - the nature of trust may be based on evidence gleaned from past experiences with the referent or may be contextually based and reflect prevailing norms of trust. We found that the various trust in people dimensions (trust people from the province, the community, neighbourhood, ethnic or religious group) were highly and positively correlated with one another and that the political forms of trust (in the efficacy of one's vote, and in governments) are also positively correlated with one another. Finally, we found that the people-trust dimensions were also positively correlated with the political forms of trust, although the correlations were less strong. Our conclusion is that our respondents definitely did have dispositions to trust (or distrust) that manifested themselves in many trust-referents, and that there was a tendency for people who trust other people to do so in general. This suggests that future measures of social capital including interpersonal trust may be justified in utilizing a single trust question asked of individuals. A more sophisticated analysis, however, would access trust of various kinds.

In his analysis of the nature of modernity Giddens (1990) claimed that the traditional environments of trust (kinship networks, the local geographic community, religious cosmologies and tradition) are being supplanted by the modern environments of trust (personal relationships of friendship or sexual intimacy, abstract systems and future-oriented thought). Similarly Kasperson et al (1992) claimed that the premodern environments of interpersonal trust are being supplanted by more abstract ones. Our measures of trust in people and in non-people entities (such as governments, the efficacy of one's vote) showed that trust in people was stronger than the other forms of trust. We did not measure trust in friendships or family members, but still conclude that trust in people was not supplanted entirely yet by more abstract forms of trust, although a longitudinal study is needed to determine whether the levels of trust are changing.

How was trust related to the other elements of social capital we isolated at the individual level? Greider et al (1991), in a study of rural communities, found that trust in people from the community was positively related to strength of local identity, but was not related to population growth and recent immigration, demographic factors such as social class, life cycle change or ethnicity, or behavioural factors such as participation in local organizations or likelihood to count on neighbours in time of need. We found evidence confirming their first finding (trust was related to identity in our sample as well), but evidence disconfirming some of the other results. For example, we found that trust in people from the community was positively related to demographic factors such as being a farmer, retired, self-employed, married, widowed or separated (versus common-law, divorced or single), Protestant or Orthodox (versus no religious affiliation), older, with more kids, and having lived longer in the province, district and neighbourhood , although the latter three may be confounded by age. Trust in people from the community was negatively related to demographic factors such as being full-time employed and a student. Finally, trust in people from the community was positively related to activities such as associational participation and neighbourliness, as we saw in chapter five.

We also found support for Miszthal's (1991) and Kasperson et al's (1992) claim that individual trust is related to collaborative problem-solving or cooperative behaviour, and answer Levi's (1996) question about whether trust is related to associational participation (it is). Taylor and Singleton's (1993) claim that communities high in trust are better able to overcome the costs of transaction cannot be addressed by individual-level results (the atomistic fallacy). We need better community-level data to test this proposition, an issue we will explore subsequently.

The issue of identity in Canada is one of the country's most prevailing and important items in its political landscape. The federal government cared deeply enough about the issue to form a group in Ottawa to study it - the Canadian Policy Research Network's Sub-Committee on Social Cohesion. Can Canadians pledge allegiance to both the country and their specific ethnic group, or to Canada and Quebec, for example? Some previous research has suggested that the answer to these questions is 'yes'. For example, the Angus Reid group in 1991 found that 95% of Canadians were proud to be Canadian and proud of their ancestry at the same time. Berry and Kalin (1990) found that ethnic identity leads to greater tolerance and an increase in identification with a larger national identity. Research in England (Policy Studies Institute; 1997) concluded that ethnic identities do not necessarily compete with a sense of Britishness. We found results that directly contradict these conclusions. In our survey of Saskatchewan citizens, ethnic identity was negatively correlated with national identity ($r=-.1255$, $p=.010$), leading us to conclude that nationalism was not concurrent with strong ethnic identity; that, in fact, they were antithetical to one another. The negative correlation between ethnic and national identities was not the strongest, however. National identity was also negatively correlated with religious group identification ($r=-.1740$, $p<.001$), respondents' main occupation ($r=-.3700$, $p<.001$),

identification with community (r=-.3095, p<.001) and identification with neighbourhood (r=-.3419, p<.001). We found that identification with Canada was positively correlated with identification with the province (r=.5196, p<.001) and identification with one's part of the province (r=.1600, p=.001).

In a related vein, Williams (1995) claimed that Canadians have failed to demonstrate enthusiasm for national identity and experience, at least in comparison to the United States. We found that in a comparison of various identities, identification with Canada was stronger than any of the others, which included identification with the province, community, neighbourhood, ethnic and religious communities, and identification with respondents' major activity. US citizens may have stronger national identities, but we were unable to find an identity stronger than nationalism in Saskatchewan.

These findings also address Jensen's (1998) questions about whether citizen identities can be both varied and multiple, and whether adherence to one national vision is necessary. Among our respondents identities were multiple, although it appeared that identification with larger communities (Canada, the province and/or the part of one's province that one lives in) precluded strong identification with smaller communities (neighbourhood and/or community, for example). Even so the correlations were not perfect, suggesting that many respondents did hold the various identities in some form of salience hierarchy - some identities were more important than others.

Our final comments about identity address Jensen's speculation, grounded in the social economy perspective, that individual identities are fashioned from relationships to economic activity. That is, paid work (or the lack of it) is, presumably, the primary source of one's identity. Selecting Canadian identity and identification with the community as examples, we found that the latter was not related to employment status at all. Canadian identity was, however, stronger for retired persons (p=.001) and unemployed persons (p=.089), and weaker for farmers (p=.012) and part-time employed people (p<.001). Thus, we have some support that identity is related to employment status, but doubt that it is the only cause for the strength of such identities, or even the strongest cause.

We now turn our attention more specifically to the social capital activities that we focussed upon in our research project. As mentioned earlier, Putnam (1993a) found strong correlations among the four items in his civicness index, but, at the district level anyway, we did not. At the individual level, however, we did find strong correlations among civic and associational participation and experience collaborating to solve community problems, answering Levi's (1996) question about and supporting Heunk's (1991) claim that associational and civic participation are related. We will now turn to the three arenas of activity, one by one, to see how well our results match results and predictions made in the relevant literature.

In later works Putnam (1993b; 1995a; 1995b) explored social capital, *per se*, and whether or not it has declined in the US in recent decades. Thus he has focussed much attention on social capital, its nature and components, and how to measure it, something his original research neglected to do in depth. One issue he raised are the relationships between networking and coordination, and between networking and trust (Putnam, 1993b), claiming that networking causes both of these outcomes. Networking is, however, an ambiguous term, supporting Levi's (1996) contention that Putnam needs a better definition of participation in clubs and associations. By equating networking with our measure of how many clubs and associations our respondents belong to we can address these issues, which are part of our theoretical model as well. We found that associational participation *was* related to experience collaborating to solve community problems, although which came first in any causal chain is unclear. We also found that trust in people from the community, and from the neighbourhood, were related to associational participation as well, although again the causal chain is unclear.

In a provocative essay, Putnam (1995b) explored some "causes" of civic engagement, where civic engagement encompassed what we have called civic participation *and* associational participation. He was mostly concerned in this essay with explaining the decline of engagement in the US, but some of his arguments relate to causes of engagement *per se*, which we can address with our cross-sectional design. Putnam rejected the busy-ness argument (that Americans are too busy with work and raising children to be engaged) and, in fact, claimed that the relationship is a negative one. In support of Putnam's position, we did not find a relationship between participation and two busy-ness questions asked of respondents ("I find I am under a lot of time pressures and it's difficult to do anything outside my work and/or family" and "I wish I had more time to do the things I like to do").

Putnam claimed that residential mobility is related to engagement. That is, he claimed that people who have lived longer in a certain place are more likely to be civicly involved. We found positive significant relationships between length of time spent in the neighbourhood and both types of participation, supporting Putnam's contention.

Putnam cited the suburbanisation argument, and supports it, which claims that people living in urban settings have fewer memberships in groups than do people living in rural settings. We found that urban respondents participated less in civic activities, but did not have fewer (or more) associational memberships than rural respondents.

Putnam also claimed that women participate in fewer associations, but in the ones they belong to they spend more time than do men. We cannot address the second point but did not find support for the first. That

is, we found no differences between male and female respondents with respect to civic and associational participation. This also contradicts Sharp's (1998) finding that gender is related to individual activeness.

Putnam claimed that married people have higher amounts of associational and civic engagement. We found that married (or common-law) respondents belonged to a greater number of clubs, followed closely by widowed respondents - divorced, separated and single respondents belonged to the fewest. Similarly we found that married, common-law and widowed respondents had the highest rates of civic participation. However, of all the possible sociodemographic causes of participation cited and explored by Putnam, the biggest two, according to him, are education, first of all, and age; that is, highly educated and older people have higher levels of engagement, although the relationship between age and participation levels off and declines in later life (Putnam, 1995b, p.16). We found that education levels were related to engagement of both kinds, as hypothesized by Putnam and also Heunks (1991). We found that age was related to civic participation in the direction supportive of Putnam's claim - older respondents participated more than did younger ones. The same is true for associational participation, although the relationship is weak. Putnam claims that income is also related to engagement. We found that income was significantly related to associational participation and almost significantly related to civic participation (the direction was as predicted), although it appeared that the extremes (the very wealthy and the very poor) were the main contributors to the significance. This also supports Sharp's (1998) finding that income is related to individual activeness.

Putnam's (1995b) final claim, and the conclusion for which the entire essay appeared to have been written, concerns the big culprit for decreased engagement in America - television. According to Putnam, TV viewing is related to low social capital, even after controlling for the sociodemographic characteristics of individuals. We asked several questions of our respondents with respect to television watching, but found no relationship between them and any social capital activity. It appears that Putnam's culprit escaped culpability in Saskatchewan. Other big culprits that we identified were employment status (the unemployed participated in far fewer associations, although their civic participation scores were similar to the rest; farmers participated more than non-farmers in both forms of engagement), ownership of home (owners professed more engagement), religious affiliation (Protestants belonged to more associations than Roman Catholics, who in turn belong to more than others or those without a religious affiliation; Protestants and Roman Catholics participate most in civic affairs) and number of children (the more children the greater the associational and civic participation). Putting these sociodemographic characteristics together into multiple (or logistic) regressions, to compare the relative strength of these influences, we found that associational participation was predicted best by education, number of years lived in the province (which was correlated with age), religious affiliation, and employment status, in that order of importance. Civic participation was predicted best by age, religious affiliation, education, and marital status, in that order of importance.

Predicting civic participation we found support for Miszthal's (1996) point that the relationship between trust in political institutions and civic participation, often assumed to be true, and assumed to be true in our theoretical model, has not been demonstrated empirically. We did not find a relationship between trust in governments, in general, and our civic participation index. Even after making these many conclusions about civic and associational participation and possible causes for it we agree with Putnam's (1993a) assertion that we need better measures to account for participation, measures that differentiate between the quantity and the quality of participation. It may, in fact, turn out that the quality of civic (and associational) participation, may be more important for social capital than the actual quantity, and more sophisticated research is needed to explore this train of thought. For example, Bailey (1973) differentiated between two types of neighbourhood organizations, militant and conventional organizations, and found that the militant kind is more politically aware and more committed to civil liberties. We can imagine additional dimensions with which we could differentiate between associations, such as inclusiveness/exclusiveness, formality/informality and altruistic/egotistic, for example. In sum, the linkages between civic and associational participation are complex and require further research.

6.8 Methodological/analytical issues raised by individual- and community-level analysis

In this research project we conducted both district-level and individual-level analysis, and used the individual-level data obtained in a survey of randomly selected citizens in eight districts for both purposes. In our district-level analysis we exhausted the analytical techniques available to us - we collected some community-level (i.e. integral) indicators of social capital (a proxy measure for the number of clubs and associations in a district, for example), aggregated individual-level (i.e. derived) data (percentage of eligible voters who voted in a given election, for example) and used the numerical values given by these two approaches interchangeably. We did not, however, exhaust the analytical possibilities available in individual-level analysis. When exploring relationships among individual-level variables we merely collapsed the eight districts from whence the data was obtained, effectively ignoring the fact that the respondents lived in eight different districts.

Is there a way we could have incorporated the identity of the district a respondent came from in our analysis, or, in an even more sophisticated fashion, incorporate further characteristics of the eight districts into analysis? To understand more fully why our respondents did or did not participate in clubs and associations, for example, we may need to incorporate community characteristics. "A ... substantial problem, however, is whether a study focussed on a single level ignores information that is crucial to understanding the problem being investigated (i.e. whether the mechanisms operating at 1 level can be adequately understood without

reference to other levels)" (Diez-Roux, 1998:219). This would be a case of the psychologistic fallacy and may have been committed in our study of the relationships between social capital variables. We see a need for incorporating community characteristics into individual-level analysis.

Birch et al (1998) described some ways that this might be accomplished. In their discussion they were concerned with relationships among individual-level variables where the dependent variable is health status. In our work the dependent variables were social capital activities, but the arguments remain applicable. We have reason to believe that community-level variables may have a part to play in explaining why some people participate more than others in clubs and associations, for example. If there are differences among districts in levels of such participation (and our proxy measure indicated that this was so) then incorporating the identity of the community in regression analysis is appropriate. We did incorporate the population size of the respondent's community in analysis by use of a rural-urban variable for each respondent, but this variable could not differentiate between Saskatoon and Regina Health Districts, for example, where the main community in one is the same size as the main community in the other.

With respect to explaining health status, one approach is to introduce

> "an additional independent variable for the community of residence into a simple additive equation in order to explain observed variations in health care utilisation among individuals. Under this approach the effect of differences in community of residence on health care utilisation is modelled to be the same irrespective of the individual-level characteristics (i.e. the composition of the communities). The level of the community variable operates only to shift the vertical intercept of the otherwise common relationship between the dependent variable and the individual-level variables. Such models are therefore inappropriate where we either expect or seek to explore conditional relationships between individual variables and community context" (Birch et al, 1998, pp. 12-13).
> "Conditional relationships can be modelled using multiplicative terms based on interactions of independent variables in the equations being estimated. The relationship between a particular health determinant and health status then varies with the size of other specified determinants. In this way the slope of the relationship between the dependent variable and the individual level independent variable is dependent on the community level variable ... Empirical models can be used that include various forms of conditional relationships; interdependencies between individual-level variables (e.g., age and income); interdependencies between community level variables (e.g., level of unemployment and the level of spending on income support programmes in the community); and more complex combinations involving the above interdependencies" (Birch et al, 1998, p 13).

The incorporation of these ideas into a sophisticated analysis of the determinants of participation is a task for further investigation.

> "Recent developments in statistical modelling introduce explicit considerations of both variation at the community-level and covariation between community and person-level variables through the use of multi-level models. In particular the multi-level approach employs statistical models that reflect the hierarchical structure of individual and community-level data. As a result it relaxes the assumption that the community level

> variable fully explains between-community differences in the relationships between individual level variables" (Birch et al, 1998, p18).

In our further investigations we will, therefore, incorporate district-level variables into hierarchical models of civic, associational and collaborative participation, merging the two data-sets from which conclusions in this research project are taken. Thus the population size, rate of change and density, death, birth and crime rates, and density of associations in districts, for example, can be incorporated into an explanation of why people participate as they do, although, as noted before, causality is problematic in a cross-sectional design. We will, however, be able to get an idea of how these community characteristics, individual sociodemographic characteristics, and self-professed attitudes (like trust, commitment and identity) are interrelated and related to participation, results that we were not able to include in this dissertation.

6.9 Final speculations

To conclude this chapter we will 1) summarize some unanswered questions, 2) discuss levels of social capital, 3) discuss the logico-deductive approach employed in this research project, 4) situate the research on social capital in some of the larger discussions on democracy, individualism and community, and 5) discuss the fuzziness of the social capital concept.

As we conclude this analysis, we are left with more unanswered questions than answered ones. Putnam listed some of these (1993b) that remain unanswered from his research. They include: Why do communities differ in social capital? What kinds of civic engagement lead to economic growth or effective governance? Must specific types of social capital be matched to different public problems? How is social capital created and destroyed? What are the costs of social capital? We can add to these. What level of social capital is applicable and appropriable, and by whom? Does neighbourhood level social capital translate into community-level social capital, and does community-level social capital translate into national social capital, or are these levels of social capital antithetical? Does social capital require face-to-face interaction?

Let us start with some thoughts about levels of social capital. In our research we worked with geographical definitions of community, for the most part, comparing neighbourhood, obvious (city, town or rural area), religious, ethnic, district, provincial and national communities to one another. We did this because our dependent variable - DHB performance - is geographically contextual, and so it made little sense to measure social capital for communities that have little population over-lap with the health districts. As well it was easier to think about geographical communities. The relevant question asks whether social capital at a lower level is appropriable at an upper level.

How you conceptualize social capital is relevant to levels of social capital. We included three social-psychological processes - trust, identity and commitment. We concluded that people have a psychological predisposition to trust; that if they trust their neighbours they are also very likely to trust people from the community and from the province. This suggests that local-level social capital, measured by trust, can be transferred upwards. We also concluded, however, that national and provincial identities are negatively related to local identities (neighbourhood, community, ethnic and religious groups). This suggests that local-level social capital, measured by identity, is antithetical to a provincial or national social capital. The remaining components of social capital, as we conceptualized it, were not measured with respect to levels and so do not apply to the discussion. As mentioned above, further research into social capital should investigate the nature of associational and civic participation, differentiating between types of associations, for example. Hall (1997) suggests that social capital is a club good rather than a community good. Is what is good for the club also good for the community? For which clubs is this true?

Jensen's (1998) definition of social cohesion incorporated dimensions that our definition of social capital does not. Some of these dimensions are pertinent to the idea of various levels of social capital. For instance, she claimed that:

> "Social cohesion is related to economic institutions and especially the central institution of any modern society, that is markets. For any institution such as a market one can ask questions about who has access and who is excluded, who has effective opportunity and who is marginalised from full participation .. This is the dimension of *inclusion*. An absence of social cohesion is then associated with practices that result in exclusion" (p. 10).

If all members of a neighbourhood, for example, are excluded from access to economic institutions, but most members of another neighbourhood are not, then perhaps extrapolating up to the community is not appropriate. But if all neighbourhoods in a community have equal access to social assistance programs, for example, and use the services in similar numbers, then community-level social capital is likely equal to the aggregate of neighbourhood level social capital, in this dimension.

Another dimension isolated by Jensen (1998) is entitled *legitimacy* and refers to

> "the crucial role of mediation ... the intermediation necessary for living with the value conflicts of plural society does not happen at the level of individuals; it is the product of institutions, including the macro-institutions of a liberal democratic state. ... Therefore, social cohesion depends at least in part on maintaining the legitimacy of those public and private institutions which act as mediators and which maintain the spaces within which mediation can occur" (p. 12).

This dimension of social cohesion is not very relevant for local-level social capital, since all localities most likely share the same public and private institutions. The dimension becomes relevant when comparing provincial social capital, however: are there differences between the provinces in number and quality of institutions that serve mediating functions? In conclusion, then, we have enough "evidence" (theoretical and empirical) for supposing that the level of social capital is an important part of the picture, and that lower-level

social capital (at least, geographically, as we have been assuming) does not *necessarily* translate into goods appropriable at larger levels.

In this research project we performed, for the most part, a deductive approach, wherein we theorized about the components of social capital, how they interrelated with one another, and how they were related to the effectiveness of regional health boards in Saskatchewan. We then collected empirical data and conducted tests of significance that addressed the hypotheses. When the tests were unsubstantiated by the data we dismantled our indices and searched for relationships that might help us revise our (insufficient) theoretical mode. This second portion of the project was, therefore, an inductive approach to model creation.

We found results that matched our model, for the most part, when exploring the relationships among the elements of social capital, as we hypothesized it. That is, the individual-level social-psychological and behavioural aspects of social capital were related, for the most part, as we expected. A relationship between social capital and performance by DHBs was not found, however. We suppose this is not surprising, since associational and civic participation are concepts that have been well-explored in the literature, as are the social-psychological attributes of trust and identity, although we did not find much work linking the two areas. But the relationship of social capital to effective governance is largely unexplored - as far as we know, Putnam's work is the only such project. Thus, the elements of social capital in the model were based upon a large body of work, whereas the larger issue was based upon just one study. Were we premature in proposing a deductive test between effective governance and social capital? Would our time have been better spent exploring and hypothesis generating? We think so. As far as the relationship between social capital and effective governance is concerned, we agree with Glaser and Strauss (1967) who claim that logico-deductive theory can get lost in pride and short-sightedness and can become too dependent upon verification techniques as the only and most important goal of research work. With respect to the relationship between social capital elements, however, our pride, or, perhaps, our ability to incorporate results drawn from the literature, was justified.

We have attempted to empirically support our hypotheses about the workings of society. There are, however, greater theoretical discussions in the literature within which the social capital concepts have relevance. Of most direct relevance, Cohen and Rogers (1992) proposed a new form of democratic governance theory, in opposition to neo-liberal constitutionalism, civic republicanism and egalitarian pluralism, called associative democracy, that works because of secondary associations performing various roles. In their opinion civic consciousness in the US is deformed by ineffective government, gross inequalities, and weak parties that do not allow citizens to enter into discussion or self-government. In their view, then, high social capital would translate into better governance.

Kennedy et al (1998) found that income inequality, at the level of state, was related to firearm violent crime and to social capital, and that social capital was also related to firearm violent crime. They concluded that "income inequality is powerfully related to the incidence of homicide and violent crimes via the depletion of social capital" (Kennedy et al, 1998, p.15). That is, social capital was a mediating variable between income inequality and firearm violent crime. In a similar vein Kawachi et al (1997) found that social capital mediates the relationship between income inequality and health outcomes. Helliwell (1995), using Putnam's data from Italy, and therefore Putnam's measure of social capital, concluded that social capital contributes to and facilitates economic progress and success; however, in a comparison of Canadian provinces and US states Helliwell found that interpersonal trust was not related to economic performance (1996, p. 20). Similarly, Knack & Keefer (1997) found that rates of membership in formal groups is associated with neither levels of trust nor economic performance.

John Ralston Saul (1995) spoke of individualism and democracy. Corporatism has won, we have special interest groups, belief in the free market and love of economics, but have little citizen participation in the public realm and little reward for such participation. According to Saul we need a new ethic of individualism that includes more social obligation and is a combination of common sense, creativity, ethics, intuition, memory and reason. From this could come a truer democracy. Kumar (1986) talked of the separation of the public and private realms, and how to be an individual has come to mean being a private person - one cannot be an individual in the public sphere. Fulfilment can be found in private life, with family and friends, but not at work. Marquand (1991) talked about two models of citizenship - the liberal-individualist and the civic republican. The first focuses upon rights, and the obligation to support others' rights, the second upon duties. For the civic republican citizenship is a practice, not a status, active rather than passive, and public rather than private. Etzioni (1989) argued for the cause of communitarianism, an approach, like civic republicanism, that attempts to balance rights with obligations, the individual with the community good. Derber (1994) argued against Etzioni's PMC (professional middle-class) communitarianism, which, in his view, is blind to the major structural economic and political transformations that are needed.

Have we neglected major structural economic and political transformations needed for effective governance, social capital and/or a civicly minded public? The social capital literature relates social capital to effective governance, economic performance, violent crime and self-actualized and healthier individuals, among other outcomes. Is social capital an *en vogue* panacea for all woes? Is it truly related to these ends, or is the concept of social capital a smokescreen covering deep inequalities in society, perpetuated by the haves at the expense of the have-nots? Kennedy et al (1998) and Kawachi et al (1997) suggest that social capital mediates income inequality and crime or health. Income inequality is still, then, in their interpretation, a major cause of crime and of health.

Saul (1995) said corporatism has won. With respect to the politics of health care, Alford (1975) categorized dominant, challenging and suppressed structural interests; in the first two categories are professional monopolies, corporate rationalizers and bureaucratic reformers, with their accompanying ideologies. In the third category is the underpowered community voice, which hopes for equality but does not have the power. Can social capital really mobilize community power to overcome the entrenched dominant and challenging interests? Jensen (1998) noted that in the social cohesion literature there is little work on systematic discrimination in society (race, sex, language, poverty). According to Dahrendorf (1995) globalization has led to greater income equalities, and thus a larger underclass. The underclass has fallen through the net of citizenship altogether (p.24). Does social capital theory capture the underclass, or is it a professional middle-class theory as Derber claims? By focussing on social capital as the prime determinant of poor governance, health or economic success we ignore some deeper and stronger causes, and evidence that social capital in turn reduces structural divisions is scarce. The blame for poor outcomes can then be placed on citizens who are not participating enough. Treating social capital as a commodity that can be increased or decreased to serve societal ends may be a means of diffusing blame to communities from the state.

Is social capital theory merely part of the modern-day search for community? Have we grown disenchanted with the search for fulfilment in the private sphere and now need to stretch our wings into the community? For Taylor (1991) the malaise of modernity is captured by three processes: 1) individualism (which brings alienation between people), 2) instrumental reason (wherein people are powerless to shape themselves against big government and/or the free market, and 3) the political consequences of the first two (people are less capable of carrying out their common purposes). As devil's advocate we suggest that social capital theory, social cohesion, and communitarianism are attempts to discourage rampant individualism, increase social obligation and social ties, and restore happiness to individuals. This is probably a harking back to the glory days of community, but things were probably not then as glorious as they seem. There is nothing wrong with social ties, obligations and duties, and the links between individual health and happiness and social capital are well supported empirically, but to attempt to connect social capital with effective governance, and economic performance, and who knows what else, is likely going too far. Reducing economic inequalities between the upper and lower strata is a better and more efficacious plan towards democracy and utopia than is social capital research. But reducing such inequality is not easy and is not marketable to government and policy makers, who may feel responsible for action. It is much easier to lay responsibility on the shoulders of the people, who just are not associating enough, than to take money from the wealthy.

This negative view of social capital may be too harsh. Even if inequalities should be lessened, and even if the golden days of community were not so very golden, sociological inquiry still has a responsibility to study the space between individual and state, since, in fact, the study of civil society was where sociology

began.

> "In the same way that the "practical" sciences, commencing from their humble origins in the craft shop, the street and the marketplace, came to join the elevated traditions of inquiry, sociology began to coalesce as a field of inquiry outside of the university, in what ultimately came to be known as "civil society". The idea of civil society is ultimately linked to the rise of the urban bourgeoisie, denoting not only a venue of educated social communication beyond customary *Gemeinschaft* tradition, but also a form of society existing alongside instruments of power, notably the state ... Civil society was - as it still largely is - rooted in the social conditions of urban modernity, although its reach, ambition and scope were eventually broadened by transportation and communication technologies" (Bamyeh, 1998, p.180).

In this sense, then, social capital theory may be a way for sociology as a discipline to regain its lustre.

> "With disciplined thinking and prudent research, sociologists can refine and export an idea that is at once theoretically meaningful, broadly applicable, and widely discussed. Surely it is a good thing when the fruits of sociological research find themselves the basis of serious conversations in the White House and the coffee house, at ASA meetings, and even, most recently, the World Bank".
>
> "Not everyone welcomes these trends. Some fear that collapsing sociology into a "single variable" such as social capital in order to get it accepted beyond our discipline is too high a price to pay; others claim that even within sociology the term lacks precision; while still others express mild amusement that repackaging foundational sociological ideas under new labels suddenly makes them acceptable to economists. Perhaps all of these sentiments are warranted ... Social capital is not a panacea, and incorporating it into coherent development frameworks will be problematic, but thoughtfully and carefully pursued it has the potential to transform the way economic development is conceived and conducted. "Fuzzy and proud of it!" declared Ismail Serageldin, Vice President for Economically Sustainable Development at the World Bank" (Woolcock, 1998).

In this research project we have attempted to clarify the concept of social capital with respect to the effective governance of regional health authorities; we have deconstructed social capital into a number of different variables, trying to "unpack" the concept and determine how theoretically conceived elements may interrelate; we have tried to make the measurement of social capital a little more precise. We have succeeded at isolating some interrelationships within social capital but have not successfully connected it with political governance by health boards.

Appendix A: References

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HEALNet: *Searching for Canadian Healthcare Solutions*

Regional Health Planning

Health Services Utilization and Research Commission
Box 90 ı 103 Hospital Drive ı Saskatoon Saskatchewan ı S7N 0W8

June 28, 1997

I am a graduate student in sociology at McMaster University and am sponsored by the HEALNet project at the University of Saskatchewan in Saskatoon. HEALNet's aim is to produce and publish high quality independent research in health policy and make it available to decision-makers in the health field.

I am interested in people's perceptions of life in Saskatchewan, and have designed a questionnaire to explore their experiences. **The results of the study** will provide others in Canada with an opportunity to learn more about the people of Saskatchewan. **This study is important** because it explores the relationship between governments and communities. **The collection of this information is important to me** because it is the main part of my PhD research. Your household was selected randomly to represent your community and I have therefore sent the questionnaire to you a second time, hoping to enlist your cooperation.

I am hoping to obtain opinions from one member of your household. This person should be selected randomly, and I have, therefore, devised a simple method for selecting that person. Could you determine the appropriate person and give them the enclosed questionnaire? To do so, please fill in the following table, listing the members of your household (including yourself) who are 18 years of age or older, along with the month and day of their birthday. Then please select the person whose birthday is earliest in the year.

Eligible persons 18 years or older			
Name	Birthday Month	Birthday Day	Number
			1
			2
			3
			4
			5
			6
			7
			8
			9

Select the person whose birthday comes first in the year.
If there are two people with the same birthday in your home,
and their birthday is the earliest in the year, please flip a coin to select a person.

HEALNet: *Searching for Canadian Healthcare Solutions*

Regional Health Planning

Health Services Utilization and Research Commission
Box 90 | 103 Hospital Drive | Saskatoon Saskatchewan | S7N 0W8

To the selected person:

Your response is important since *you* represent the region in which you live, and this study aims to explore how people's perceptions vary from region to region in Saskatchewan. Because only a few people have been contacted in your region, your particular perspective is essential.

I guarantee to keep all responses strictly confidential - no one will ever know what you have answered. The results will only be reported when grouped together with those of other people. No individual will be named in the report and you will not be asked to write your name on the questionnaire. The reported results will be distributed to the District Health Boards, and if you would like to see the results of the study please feel free to contact your DHB.

The questionnaire (enclosed) is designed so that it can be completed in approximately 30 minutes. It contains mostly "check box" questions, many of which I believe you will find quite interesting. If you wish to participate please complete the questionnaire and return it to me in the envelope provided. **Please note that postage has already been paid.** Also please be aware that you may refrain from answering questions that request information you would rather not reveal. Thank you **very** much for your time and efforts.

Sincerely,

Gerry Veenstra
University of Saskatchewan/McMaster University

Appendix C - Alphabetical list of individual-level variables with coding scheme

<anyone1/2/3> Can anyone become a member?

1 *yes*
2 *no*

<attend> How often do you attend religious services?

1 *every day ...*
7 *never*

<born> In what year were you born?

<caccept> I feel accepted as a member of this community.

1 *agree strongly*
2 *agree moderately*
3 *agree a little*
4 *neutral*
5 *disagree a little*
6 *disagree moderately*
7 *disagree strongly*

<chelp> Most people in my community are willing to help if you require assistance.

1 *agree strongly ...*
7 *disagree strongly*

<chhome> How many children do you have who still live at home?

<children> How many children do you have?

<civpar1> Did you vote in the District Health Board elections in October 1995?

1 *yes*
2 *no*

<civpar2> Did you vote in the last local municipal government elections?

1 *yes*
2 *no*

<civpar3> Did you vote in the last provincial elections?

1 *yes*
2 *no*

<civpar4> Did you vote in the last federal elections?

1 *yes*
2 *no*

<civpar5> Have you ever contacted a locally-based government official about an issue that concerned you?

1 *yes*
2 *no*

<clubs> derived: number of clubs or associations listed

<cmyself> In this community I feel free to be myself.
1 *agree strongly ...*
7 *disagree strongly*

<comboard> Have you ever been on the board of a community organization?
1 *yes*
2 *no*

<complic> Sometimes politics and government seem so complicated that a person like me can't really understand what's going on.
1 *agree strongly ...*
7 *disagree strongly*

<coop1/2/3> Do group members cooperate and work well with one another?
1 *yes*
2 *no*

<copinion> I do not pay much attention to the opinions of others in the community.
1 *agree strongly ...*
7 *disagree strongly*

<coppor> Have there been opportunities for you to work with others to deal with any problems in your community, regardless of whether you actually participated or not? *(i.e. You knew of a group of people trying to deal with the problem)*
1 *yes*
2 *no*

<corgan> Have you ever helped organize a group in order to solve a community problem?
1 *yes*
2 *no*

<cothers> Have you ever worked with others to solve a community problem?
1 *yes*
2 *no*

<cprobs> Are there problems in your community?
1 *yes*
2 *no*

<numprobs> If yes, can you list several of them?

<cprosper> My community has prospered in the past five years.
1 *agree strongly ...*
7 *disagree strongly*

<csafe> My community is a pretty safe place.
1 *agree strongly ...*
7 *disagree strongly*

<cschool> If I was unhappy with the way kids were being taught in the local school, I would be very likely to talk to the principal or a teacher.

1 *agree strongly ...*
7 *disagree strongly*

<cstrange> I enjoy talking to people in my community that I have never met before.

1 *agree strongly ...*
7 *disagree strongly*

<ctrust> Most people in this community can be trusted.

1 *agree strongly ...*
7 *disagree strongly*

Describe the people who belong to the group:

<desrel1/2/3> most are from the same church

1 *yes*
2 *no*

<desage1/2/3> we have a wide variety of ages represented

1 *yes*
2 *no*

<descom1/2/3> most share a common interest

1 *yes*
2 *no*

<deseth1/2/3> most are from the same ethnic group

1 *yes*
2 *no*

<dessame1/2/3> most live in the same community

1 *yes*
2 *no*

<dlived> How many years have you lived in the Saskatoon District?

<donblood> Have you donated blood in the past year?

1 *yes*
2 *no*

<editor> Have you ever written a letter to the editor of a newspaper?

1 *yes*
2 *no*

<educ2> What is the highest level of education you have completed?

1 *post-graduate degree*
2 *university and/or first professional degree*
3 *community college diploma*
4 *technical/vocational program*
5 *high school*
6 *elementary school*
7 *none of the above*

Are you presently:

<empfull> **full-time employed**

1 *yes*
2 *no*

<empfar> **farmer**

1 *yes*
2 *no*

<emphful> **full-time homemaker**

1 *yes*
2 *no*

<emphpar> **part-time homemaker**

1 *yes*
2 *no*

<emppar> **part-time employed**

1 *yes*
2 *no*

<empret> **retired**

1 *yes*
2 *no*

<empself> **self-employed**

1 *yes*
2 *no*

<empstu> **student (full or part-time)**

1 *yes*
2 *no*

<empun> **unemployed**

1 *yes*
2 *no*

Describe the people who belong to the group:

<exec1/2/3> **Does the group have an executive?**

1 *yes*
2 *no*

<experts> **Experts and other professionals can help solve problems in my community.**

1 *agree strongly ...*
7 *disagree strongly*

<gain> **I think that many politicians get into politics for personal gain.**

1 *agree strongly ...*
7 *disagree strongly*

<gender> What is your gender?

1 *male*
2 *female*

<health> How would you describe your state of health compared to other persons your age?

1 *excellent*
2 *good*
3 *fair*
4 *poor*

<hlive> How many people currently live in your home, including yourself?

<hours1/2/3> Approximately how many hours per month do you spend with this group?

Please rank the following identities:
Rank them from 1 to 8 if you can, where 1 is the most important and 8 is the least. You may allow for ties or omissions.

<iden1> Canadian
<iden2> resident of Saskatchewan
<iden3> resident of my part of Saskatchewan
<iden4> member of my ethnic group
<iden5> member of my religious community
<iden6> my job or major activity
<iden7> resident of my city, town or rural area
<iden8> resident of my neighbourhood

<impmy> It is very important to me that I am personally happy.

1 *agree strongly ...*
7 *disagree strongly*

<impfam> It is very important to me that my close family members are happy.

1 *agree strongly ...*
7 *disagree strongly*

<imprelat> It is very important to me that my relatives are happy.

1 *agree strongly ...*
7 *disagree strongly*

How important to you is the success of the following:

<impneigh> my neighbourhood

1 *extremely important*
2 *very important*
3 *quite important*
4 *somewhat important*
5 *a little important*
6 *not important*
7 *not applicable*

<impcomm> my community

1 *extremely important ...*
7 *not applicable*

<impcoun> Canada

1 *extremely important ...*
7 *not applicable*

<impeth> my ethnic group

1 *extremely important ...*
7 *not applicable*

<imppart> my part of Saskatchewan

1 *extremely important ...*
7 *not applicable*

<impprov> Saskatchewan

1 *extremely important ...*
7 *not applicable*

<imprelig> my religious/spiritual community

1 *extremely important ...*
7 *not applicable*

<income> What was the approximate income of your entire household before taxes in 1996?

1 *under $20,000*
2 *20-29*
3 *30-39*
4 *40-49*
5 *50-59*
6 *60-74*
7 *75-99*
8 *$100,000 or more*

<indcivp> derived: civic participation index

<indtrcom> derived: trust people from my community index

<indtrdhb> derived: trust district health board

<indtrfed> derived: trust federal government index

<indtrgov> derived: trust in governments index

<indtrloc> derived: trust local government index

<indtrpar> derived: trust people frmo my part of SK index

<indtrpeo> derived: trust people in general index

<indtrpro> derived: trust provincial government index

<influen1/2/3> Do you feel that you personally influence decisions?

1 *yes*
2 *no*

<interest> How much interest do you generally have in what is going on in politics?

1 *very much*
2 *quite a lot*
3 *a fair bit*
4 *some*
5 *a little*
6 *none*
7 *no opinion*

<internet> Do you communicate regularly with others by computer? *(i.e. using email on the internet)*

1 *yes*
2 *no*

<marital> What is your marital status?

1 *married*
2 *common-law*
3 *divorced*
4 *separated*
5 *widowed*
6 *single*

<member1/2/3> Are you or have you been an executive member in this group?

1 *yes*
2 *no*

<nclose> Do any of your close friends live in your neighbourhood?

1 *yes*
2 *no*

Is there a neighbour to whom you would:

<ndollar2> lend $50?

1 *yes*
2 *no*

<nsick2> help when he/she was sick?

1 *yes*
2 *no*

<ncar> lend your car for an hour?

1 *yes*
2 *no*
3 *not applicable*

<news> Do you read a local newspaper regularly? *(at least once a week)*

1 *yes*
2 *no*

<nfive> Is it likely that you will be living in this neighbourhood five years from now?

1 *yes*
2 *no*

<nimprove> Have you ever belonged to a neighbourhood improvement association?

1 *yes*
2 *no*

<njoin> If the city were to announce a project that would hurt your neighbourhood, and some of your neighbours tried to organize a protest, would the others join?

1 *yes*
2 *no*

<nlived> How many years have you lived in your present neighbourhood?

<nnames> Do you know the names of most of the adults living in the nearby homes?

1 *yes*
2 *no*

Is there a neighbour whom you would allow to:

<nsick1> help you when you were sick?

1 *yes*
2 *no*

<ndollar1> lend you $50?

1 *yes*
2 *no*

<nhome1> keep and eye on your home while you were away?

1 *yes*
2 *no*

<ntrust> Most people in my neighbourhood can be trusted.

1 *agree strongly ...*
7 *disagree strongly*

<oppblood> Have you had the opportunity to give blood in the past year? *(i.e. the Red Cross held a blood donor clinic in your area during the past year)*

1 *yes*
2 *no*

<outside1/2/3> Does the group do things for people outside its own membership?

1 *yes*
2 *no*

<own1> Do you own or rent your home?

1 *own*
2 *rent*
3 *other*

<pbelong> Although I live here, I do not feel that I truly belong here.

1 *agree strongly ...*
7 *disagree strongly*

<people1/2/3> Approximately how many people are in this group?

<pered1> I am pleased with the provincial educational system in Saskatchewan.

1 *agree strongly ...*
7 *disagree strongly*

<pergov1> How would you rate the performance of the current federal government in solving problems in Canada?

1 *excellent*
2 *good*
3 *fair*
4 *neutral*
5 *poor*
6 *very poor*
7 *don't know*

<pergov10> The local government will tell the public what they need to know about relevant issues in my community.

1 *agree strongly ...*
7 *disagree strongly*

<pergov2> How would you rate the performance of the current provincial government in solving problems in Saskatchewan?

1 *excellent ...*
7 *don't know*

<pergov3> How would you rate the performance of your District Health Board (the Saskatoon DHB) in solving problems in your district?

1 *excellent ...*
7 *don't know*

<pergov4> How would you rate the performance of your local government in solving problems in your community?

1 *excellent ...*
7 *don't know*

<pergov5> When the Saskatoon District Health Board decides what policies to adopt, how much attention do you think they pay to what the general public think?

1 *very much ...*
7 *no opinion*

<pergov6> In general, how much of the taxpayers' money, if any, is wasted by your local government?

1 *very much ...*
7 *no opinion*

<pergov7> Although I may have some complaints about some decisions the federal government makes, I trust it to make good decisions.

1 *agree strongly ...*
7 *disagree strongly*

<pergov8> The provincial government has the public's best interests at heart.

1 *agree strongly ...*
7 *disagree strongly*

<pergov9> Although I may have some complaints about some decisions the District Health Board makes, I trust it to make good decisions.

1 *agree strongly ...*
7 *disagree strongly*

<phonour> Most of the people who live in my part of Saskatchewan are honourable.

1 *agree strongly ...*
7 *disagree strongly*

<place> In what kind of place do you live?

1 *a rural area*
2 *a small town of less than 1000 people*
3 *a town of more than 1000 but less than 5000 people*
4 *a town or city with more than 5000 but less than 25,000 people*
5 *a city with more than 25,000 people but less than 50,000 people*
6 *a city with more than 50,000 people*

<pmove> It would take a lot to get me to move from the part of Saskatchewan in which I live.

1 *agree strongly ...*
7 *disagree strongly*

<pproud> When I speak to people from other places I am proud of the part of Saskatchewan that I live in.

1 *agree strongly ...*
7 *disagree strongly*

<ptrust> When it comes down to it, you can always trust the people in my part of Saskatchewan.

1 *agree strongly ...*
7 *disagree strongly*

<religtyp> derived: religious affiliation

1 *Protestant*
2 *Roman Catholic*
3 *Orthodox*
4 *other*
5 *none*

<reltrust> Most people in my religious/spiritual group can be trusted.

1 *agree strongly ...*
7 *disagree strongly*

<rules1/2/3> Are there formal rules for making decisions? *(i.e. a constitution, by-laws, voting)*

1 *yes*
2 *no*

<satisfy> Are you satisfied that you have sufficient opportunities for participating in different activities?

1 *yes*
2 *no*

<settings1/2/3> Do the members of the group get together for other reasons in other settings?

1 *yes*
2 *no*

<slived> How many years have you lived in Saskatchewan?

<small> Are you currently involved in a small group that meets regularly and provides support or caring for those who participate in it?

1 *yes*
2 *no*

How often do you meet socially with:

<socfrien> friends

1 *every day*
2 *almost every day*
3 *once a week*
4 *a few times a month*
5 *a few times a year*
6 *less than once a year*
7 *never*

<socneigh> neighbours

1 *every day ...*
7 *never*

<socwork> work-mates

1 *every day ...*
7 *never*

<socfam> extended family members

1 *every day ...*
7 *never*

<time1> I find that I am under a lot of time pressures and it's difficult to do anything outside my work and/or family.

1 *agree strongly ...*
7 *disagree strongly*

<time2> I wish that I had more time to do the things I like to do.

1 *agree strongly ...*
7 *disagree strongly*

<trustall> Most people can be trusted.

1 *agree strongly ...*
7 *disagree strongly*

If you needed assistance in a personal matter, how likely would you be to turn to:

<turnrg> **someone from my religious group**

1 *extremely likely*
2 *very likely*
3 *quite likely*
4 *somewhat likely*
5 *a little likely*
6 *not likely*
7 *not applicable*

<turncol> **a colleague at work**

1 *extremely likely ...*
7 *not applicable*

<turneg> **someone from my ethnic group**

1 *extremely likely ...*
7 *not applicable*

<turnfam> **a family member outside my household**

1 *extremely likely ...*
7 *not applicable*

<turnfr> **a friend**

1 *extremely likely ...*
7 *not applicable*

<turnhc> **a health care practitioner**

1 *extremely likely ...*
7 *not applicable*

<turnn> a neighbour

1 *extremely likely ...*
7 *not applicable*

<tv4> How many hours of television did you watch yesterday?

<tvnews> Do you watch the local news on television regularly *(almost every day)*

1 *yes*
2 *no*

<voll> Have you volunteered regularly in the past year?

1 *yes*
2 *no*

<votel> When you vote, to what extent do you base your decision upon getting information about the issues and candidates? *(ex: from reading newspapers, attending meetings, talking to candidates, watching debates on television, etc)*

1 *very much ...*
7 *no opinion*

<vote2> In general, I believe that my vote in elections is influential.

1 *agree strongly ...*
7 *disagree strongly*

<vote3> If a person doesn't care how an election comes out he or she shouldn't vote in it.

1 *agree strongly ...*
7 *disagree strongly*

<vote4> Voting is the only way that people like me can have any say about how governments run things.

1 *agree strongly ...*
7 *disagree strongly*

Appendix D - Results from comparison of survey waves one and two

Table D1: Comparison of waves one and two on sociodemographic characteristics

When the table entries are column percents, the test of significance is the chi-square.
When the table entries are means, the test of significance is the one-way ANOVA.

		wave one	wave two	p
place of residence (column percents, n)	rural	20.4 (78)	22.5 (32)	p=.6864 (5)
	town < 1000 persons	16.0 (61)	14.1 (20)	
	1000 thru 5000	22.0 (84)	21.8 (31)	
	5000 thru 25000	9.7 (37)	14.1 (20)	
	25000 thru 50000	8.9 (34)	8.5 (12)	
	city > 50000 persons	23.0 (88)	19.0 (27)	
education (column percents, n)	post-graduate degree	3.1 (12)	2.8 (4)	p>.05
	university degree	15.6 (60)	19.1 (27)	
	community college diploma	5.7 (22)	6.4 (9)	
	technical-vocational diploma	16.7 (64)	13.5 (19)	
	high school	37.8 (145)	34.0 (48)	
	elementary school	13.3 (51)	13.5 (19)	
	none	1.3 (5)	2.1 (3)	
	other	0.8 (3)	0.7 (1)	
gender (column percents, n)	female	53.7 (208)	55.6 (80)	p=.7099 (1)

Table D.1 cont.				
		wave one	wave two	p
household income (column percents, n)	< $20,000	22.1 (75)	21.9 (28)	p=.7814 (7)
	20 thru 29	16.8 (57)	18.0 (23)	
	30 thru 39	12.1 (41)	10.9 (14)	
	40 thru 49	16.8 (57)	10.9 (14)	
	50 thru 59	9.4 (32)	11.7 (15)	
	60 thru 74	8.8 (30)	10.2 (13)	
	75 thru 100	8.2 (28)	7.8 (10)	
	> $100,000	5.9 (20)	8.6 (11)	
marital status (column percents, n)	married	67.4 (261)	66.9 (97)	p=.4505 (5)
	common-law	3.4 (13)	2.1 (3)	
	divorced	3.4 (13)	5.5 (8)	
	separated	2.6 (10)	0.7 (1)	
	widowed	10.1 (39)	13.1 (19)	
	single	13.2 (51)	11.7 (17)	
religious affiliation (column percents, n)	roman catholic	28.8 (89)	23.7 (28)	n.a.
	protestant	55.3 (171)	58.5 (69)	
	orthodox	1.6 (5)	3.4 (4)	
	other	0.6 (2)	3.4 (4)	
	none	13.6 (42)	11.0 (13)	
year born (mean, n)		45.0 (372)	45.2 (138)	p=.9010 (1, 508)
# of children home (mean, n)		0.79 (367)	0.88 (135)	p=.1525 (1, 500)

Table D2: Comparison of waves one and two on selected variables

When the table entries are column percents, the test of significance is the chi-square.
When the table entries are means, the test of significance is the one-way ANOVA.

	wave one	wave two	p
voted in provincial election (% yes, n)	92.0 (355)	87.5 (126)	p=.1141 (1)
# of clubs attending (mean, n)	2.28 (386)	2.59 (145)	p=.4355 in the Mann-Whitney test
importance of ethnic identity (mean, n)	6.37 (314)	6.19 (111)	p>.05
indcivp (civic part. index) (mean, n)	1.45 (389)	1.48 (145)	p=.2458 (1, 532)
indtrcom (trust community index) (mean, n)	2.21 (388)	2.20 (143)	p=.8995 (1, 529)
indtrgov (trust governments index) (mean, n)	3.74 (385)	3.81 (142)	p=.4189 (1, 525)
indtrpeo (trust people index) (mean, n)	2.23 (389)	2.24 (145)	p=.9266 (1, 532)

Appendix E - Sociodemographic characteristics of survey respondents and districts

Table E1: Sociodemographic characteristics of survey respondents

		Total	NE	NV	LS	MM	EC	PA	RG	SK
number of respondents		534	61	54	73	60	86	54	73	73
marital status (n, %)	*married*	358, 67.0	42, 70.0	40, 74.1	49, 68.1	38, 63.3	65, 75.6	34, 63.0	41, 56.2	49, 67.1
	com.-law	16, 3.0	4, 6.7	1, 1.9	5, 6.9	-	-	1, 1.9	3, 4.1	2, 2.7
	divorced	21, 3.9	2, 2.3	-	-	-	3, 3.5	4, 7.4	6, 8.2	6, 8.2
	sep.	11, 2.1	2, 3.3	1, 1.9	1, 1.4	1, 1.7	2, 2.3	3, 5.6	-	1, 1.4
	widowed	58, 10.9	7, 11.7	7, 13.0	5, 6.9	14, 23.3	8, 9.3	4, 7.4	7, 9.6	6, 8.2
	single	68, 12.7	3, 5.0	5, 9.3	12, 16.7	7, 11.7	8, 9.3	8, 14.8	16, 21.9	9, 12.3
gender (n, %)	*female*	288, 53.9	32, 53.3	26, 48.2	32, 44.4	42, 71.2	45, 52.3	24, 44.4	42, 57.5	45, 61.6

Table E1 cont.

		Total	NE	NV	LS	MM	EC	PA	RG	SK
income (n, %)	*under 20*	103, 22.0	13, 26.0	8, 17.4	16, 25.0	12, 22.6	18, 24.7	13, 25.5	12, 17.9	11, 17.2
	20-29	80, 17.1	11, 22.0	10, 21.7	10, 15.6	12, 22.6	16, 21.9	7, 13.7	7, 10.5	7, 11.0
	30-39	55, 11.8	4, 8.0	6, 13.0	6, 9.4	9, 17.0	12, 16.4	5, 9.8	4, 6.0	9, 14.1
	40-49	71, 15.2	9, 18.0	7, 15.2	13, 20.3	4, 7.6	12, 16.4	7, 13.7	11, 16.4	8, 12.5
	50-59	47, 10.0	4, 8.0	4, 8.7	4, 6.3	6, 11.3	8, 11.0	2, 3.9	11, 16.4	8, 12.5
	60-74	43, 9.2	4, 8.0	6, 13.0	4, 6.3	2, 3.8	3, 4.1	8, 15.7	11, 16.4	5, 7.8
	75-99	38, 8.1	4, 8.0	3, 6.5	6, 9.4	4, 7.6	2, 2.7	5, 9.8	7, 10.5	7, 11.0
	over 100	31, 6.6	1, 2.0	2, 4.4	5, 7.8	4, 7.6	2, 2.7	4, 7.8	4, 6.0	9, 14.1

Table E1 cont.

		Total	NE	NV	LS	MM	EC	PA	RG	SK
employ ment (n, %)	*full-time*	197, 37.5	20, 32.8	20, 37.0	31, 44.3	12, 20.3	28, 32.9	17, 32.1	38, 54.3	31, 42.5
	part-time	65, 12.4	8, 13.1	5, 9.3	11, 15.7	2, 3.4	11, 12.9	9, 17.0	7, 10.0	12, 16.4
	self-	73, 13.9	8, 13.1	9, 16.7	12, 17.1	16, 27.1	9, 10.6	5, 9.4	6, 8.6	8, 11.0
	retired	156, 29.7	18, 29.5	15, 27.8	13, 18.6	23, 39.0	34, 40.0	17, 32.1	19, 27.1	17, 23.3
	un-employ'd	23, 4.4	7, 11.5	2, 3.7	2, 2.9	1, 1.7	4, 4.7	4, 7.5	1, 1.4	2, 2.7
	FT home-maker	77, 14.7	13, 21.3	7, 13.0	9, 12.9	17, 28.8	18, 21.2	4, 7.5	3, 4.3	6, 8.2
	PT home-maker	23, 4.4	4, 6.6	3, 5.6	2, 2.9	3, 5.1	1, 1.2	3, 5.7	1, 1.4	6, 8.2
	student	14, 2.7	1, 1.6	1, 1.9	0	1, 1.7	2, 2.4	2, 3.8	1, 1.4	6, 8.2
	farmer	58, 11.0	7, 11.5	10, 18.5	12, 17.1	14, 23.7	10, 11.8	2, 3.8	2, 2.9	1, 1.4

Table E1 cont.

		Total	NE	NV	LS	MM	EC	PA	RG	SK
educ - highest level (n, %) *mean 4.25 n=525*	*post-graduate*	16, 3.0	1, 1.6	--	2, 2.9	1, 1.7	1, 1.2	--	2, 2.9	9, 12.5
	univ. and/or first prof. degree	89, 16.7	12, 19.7	3, 5.7	12, 17.1	14, 23.3	11, 12.8	10, 18.9	14, 20.0	13, 18.1
	comm'ty college diploma	42, 7.9	8, 13.1	3, 5.7	2, 2.9	6, 10.0	7, 8.1	3, 5.7	8, 11.4	5, 6.9
	tech./ voc.'al program	95, 17.8	11, 18.0	12, 22.6	12, 17.1	2, 3.3	18, 20.9	7, 13.2	15, 21.4	18, 25.0
	high school	198, 37.1	19, 31.2	26, 49.1	29, 41.4	24, 40.0	31, 36.1	23, 43.4	26, 37.1	20, 27.8
	elementary school	70, 13.1	8, 13.1	8, 15.1	11, 15.7	9, 15.0	16, 18.6	8, 15.1	5, 7.1	5, 6.9
	none of above	8, 1.5	1, 1.6	--	1, 1.4	3, 5.0	--	1, 1.9	--	2, 2.8
	other	4, 0.7	1, 1.6	1, 1.9	--	1, 1.7	1, 1.6	1, 1.9	--	--

Table E1 cont.

		Total	NE	NV	LS	MM	EC	PA	RG	SK
age (n, %)	*0-29*	45, 8.82	4, 7.41	6, 12.00	6, 8.70	5, 8.62	2, 2.35	5, 9.43	8, 11.27	9, 12.86
	30-39	95, 18.63	14, 25.93	7, 14.00	13, 18.89	7, 12.07	13, 15.29	9, 16.98	21, 29.58	11, 15.71
	40-49	105, 20.59	7, 12.96	13, 26.00	17, 34.69	11, 18.97	20, 23.53	12, 22.64	7, 9.86	18, 25.71
	50-59	100, 19.61	14, 25.93	9, 18.00	16, 23.19	6, 10.34	19, 22.35	8, 15.09	15, 21.13	13, 18.57
	60-69	72, 14.12	9, 16.67	7, 14.00	6, 8.70	12, 20.69	13, 15.29	9, 16.98	8, 11.27	8, 11.43
	70 plus	93, 18.24	6, 11.11	8, 16.00	11, 15.94	17, 29.31	18, 21.18	10, 18.87	12, 16.90	11, 15.71

Table E2: Sociodemographic characteristics of districts

		NE	NV	LS	MM	EC	PA	RG	SK
gender (1996)	% female	49.42	50.31	49.58	49.22	51.06	50.1	50.71	50.68
income (%) (1991)	under 10	9.3	8.31	7.16	8.82	7.15	9.38	6.58	9.06
	10 - 14.9	16.82	15.79	13.53	16.13	15.38	12.12	8.82	9.84
	15 - 19.9	14.14	11.5	13.23	12.76	13.29	9.69	7.06	7.71
	20 - 29	19.78	19.06	18.71	18.79	18.21	15.6	14.85	14.77
	30 - 39	13.75	13.85	15.12	14.5	13.07	12.81	13.46	14.2
	40 - 49	8.8	10.67	12.54	11.48	11.46	11.08	12.68	12.96
	50 - 59	6.92	7.05	6.47	7.19	7.28	9.94	10.88	10.4
	60 - 69	3.66	4.03	4.28	3.02	5.71	6.09	8.11	7.12
	over 70	6.82	9.74	8.96	7.31	8.45	12.9	17.56	13.94
	n	5055	5955	5025	4310	11475	17910	74870	81405
	average	30972	34880	35532	33338	34456	38395	45557	$41562
age (%) (1996)	0 - 19	31.76	26.23	26.61	29.97	25.95	31.96	28.35	28.82
	20 - 29	12.65	10.3	10.01	11.64	11.65	13.94	14.32	15.06
	30 - 39	13.07	13.0	12.91	12.98	13.28	15.11	17.62	18.02
	40 - 49	12.53	12.89	14.35	12.45	13.26	13.34	14.8	14.65
	50 - 59	9.07	10.46	9.74	9.1	10.15	9.19	8.94	8.53
	60 - 69	8.57	11.17	9.94	9.43	9.6	7.51	7.27	6.79
	70 plus	12.34	15.94	16.44	14.44	16.1	8.96	8.7	8.13

Appendix F: Alphabetical list of district-level variables with coding scheme

<a95acc> 1995 audit - accounts etc
- *1 = well below average*
- *2 = below average*
- *3 = average*
- *4 = above average*
- *5 = well above average*

<a95pub> 1995 audit - held public meetings as required?
- *1 = yes*
- *2 = no*

<a95rules> 1995 audit - written rules and procedures
- *1 = well below average*
- *2 = below average*
- *3 = average*
- *4 = above average*
- *5 = well above average*

<a95writ> 1995 audit - written service agreements with all provider institutions?
- *1 = yes*
- *2 = no*

<a96late> 1996 audit - lateness of statements?
- *1 = yes*
- *2 = no*

<a96safe> 1996 audit - safeguarding assets
- *1 = well below average*
- *2 = below average*
- *3 = average*
- *4 = above average*
- *5 = well above average*

<a96writ> 1996 audit - written service agreements with all provider institutions?
- *1 = yes*
- *2 = no*

<accurate> our board has an accurate understanding of what district residents want for the health care system, survey 2 *(% agree)*

<allofund> level of board involvement in allocating funds, survey 2
(100% - % of respondents choosing "board involvement should increase")

<ann_fr1> annual report - fiscal responsibility score 1 *(0-3, 3 high)*

<ann_fr2> annual report - fiscal responsibility score *(2.5-8.5, 2.5 high)*

<ann_pmi> annual report - policy making and implementation score *(0-10, 10 high)*

<ann_rhn>	annual report - reflecting health needs score *(0-2, 2 high)*
<assess>	percent claiming their board is at least quite involved in assessing community needs, survey 1
<avgclub>	average number of clubs per person in the district, for our selected subsidiary groups
<birthrat>	birth rate per 1000, 1993
<brdeval>	our board has adequate mechanisms for board evaluation, survey 2 *(% agree)*
<bureff2>	bureaucratic efficiency test *(number of days to respond)*
<bureff2>	transformation of *<bureff>*
<comneed>	level of board involvement in assessing community needs, survey 2 *(100% - % choosing "increase")*
<confiden>	I am confident board decisions are better than the province's were, survey 1 *(% agree)*
<creative>	our board can be considered creative in addressing problems, survey 2 *(% agree)*
<crimeass>	crime - assault - rate, 1993
<crimeliq>	crime - liquor - rate, 1993
<crimetot>	crime - total - rate, 1993
<density>	population density, 1994 (pop/km^2)
<deprat>	dependency ratio - under 14 and over 65 versus the rest, 1994
<dierate1>	death rate - crude rate, 1993
<dierate2>	death rate - standard rate, 1993
<displan2>	*<displans>* / *<numtowns>*
<displans>	number of communities with disaster plans
<district>	Health District
<distvalu>	our boards' values reflect the values of the district, survey 2 *(% agree)*
<dvhst94>	derived health status mean score (NPHS)
<dvssi194>	derived social support index (NPHS)
<dvssi294>	derived social involvement index (NPHS)
<efficien>	percent claiming their board is at least quite involved in ensuring the effectiveness and efficiency of services, survey 1

<elderly>	percent of population age 65 or older, 1994
<english>	percent of population with English as mother tongue, 1994
<ensuring>	level of board involvement in ensuring service effectiveness & efficiency, survey 2 *(100% - % of respondents choosing "board involvement should increase")*
<gh_q1>	how would you describe your health? (NPHS) *excellent/very good/good/poor*
<good>	I am confident that my board generally makes good decisions, survey 1 *(% agree)*
<gooddesn>	I am confident that our board generally makes good decisions, survey 2 *(% agree)*
<homeown>	percent own dwelling, 1991
<homerent>	percent rent dwelling, 1991
<homesin>	percent homes with single person only, 1991
<homratio>	ratio of home owned to home rented, 1991
<inform>	most times or always we have been given key informants' opinions prior to making decisions, survey 1 *(% agree)*
<longrang>	our board is good at long range planning, survey 2 *(% agree)*
<manages>	our board manages its money well, survey 2 *(% agree)*
<meetings>	board meetings are run efficiently and effectively, survey 2 *(% agree)*
<min_pmi>	did the board have a systematic policy review or development process? (minutes analysis) *(0-10, 10 high)*
<min_rhn>	did the board hear/receive any representations from the public? (minutes analysis) *(0-10, 10 high)*
<mob_1yr>	percent of population non-movers in last year
<mob_5yr>	percent of population non-movers in past 5 years
<na_pmi>	needs assessment - policy making and implementation dimension
<na_rhn>	needs assessment - reflecting health needs dimension
<noteff>	chose 'the board not being effective' when asked about major concerns about sitting on this board, survey 1
<numother>	number of non-physician health-care workers
<numphys>	number of physicians

<numtowns>	number of towns in district
<othrbrds>	it appears to me that most other health boards in Saskatchewan are doing a better job than our board is, survey 2 *(% agree)*
<over>	expenses over revenues, fiscal year ending March 1995 *(%)*
<planprog>	level of board involvement in planning programs and services, survey 2 *(100% - % of respondents choosing "board involvement should increase")*
<pop>	population of district, 1994
<pop1000>	percent population living in community of 1000 persons or more, 1994
<popchange>	population percent change, 1984-1994
<popind>	percent of population living in Indian bands, 1994
<poprur>	percent of population living in rural municipalities, 1994
<priority>	level of board involvement in setting priorities, survey 2 *(100% - % of respondents choosing "board involvement should increase")*
<rational>	our board effectively communicates the rationale for our decisions to district residents, survey 2 *(% agree)*
<relcath>	percent population Roman Catholic, 1991
<relnone>	percent population no religious affiliation, 1991
<relother>	percent population Other Religious Affiliation, 1991
<relprot>	percent population Protestant, 1991
<resident>	even if they don't agree, most district residents generally understand and respect our board choices, survey 2 *(% agree)*
<respons>	our board is responsive to wishes of district residents, survey 2 *(% agree)*
<revenue>	level of board involvement in raising revenue, survey 2 *(100% - % of respondents choosing "board involvement should increase")*
<rightdec>	right decision over community's wishes, survey 1 *(% agree)*
<rrevexp>	revenue vs expenses score, fiscal year ending March 1995 *(0-10, 10 high)*
<rundhb>	number of candidates running for office in the DHB elections
<scoh_q3>	how often have people you counted on disappointed you? (NPHS) *1 = very often ... 7 = very seldom or never*

<scoh_q4>	how often do you have the feeling you are being treated unfairly? (NPHS) *1 = very often ... 7 = very seldom or never*
<sinparen>	percent of families with single parent, 1991
<sup_q1>	are you a member of any voluntary organizations or associations? (NPHS) *(% yes)*
<sup_q2>	how often did you participate in meetings/activities sponsored by these groups? (NPHS) *(average number of meetings per year)*
<sup_q2a>	how often attend religious services in last year? *(average number per year)*
<sup_q4>	do you have someone you can really count on in crisis situation? (NPHS) *(% yes)*
<sup_q7h>	how often do you have contact with your neighbours? (NPHS) *(average # of contacts per year)*
<support>	residents support board choices, survey 2 *(% agree)*
<sur1n>	number of respondents to survey 1
<sur2_tot>	survey 2 total score index
<surv_tot>	survey 1 total score index
<surv2n>	number of respondents to survey 2
<taxarrea>	tax arrears as percent of tax levy
<vote>	voting index, average of *<votedhb>*, *<voteprov>* & *<votefed>* *(% voted)*
<votedhb>	percent eligible voters who voted in the Oct 1995 DHB elections
<votefed>	percentage of eligible voters who voted in last federal election
<voteprov>	percent of eligible voters who voted in last provincial election

Appendix G: Correlations among board performance indicators

The district health board performance variables are:

surv_tot: (TOT) total performance index, from survey 1
sur2_tot: (TOT) total performance index, from survey 2
bureff2: (PMI) bureaucratic efficiency measure (policy making and implementation)
rrevexp: (FR) revenue versus expenses score

Table G1: Correlations among quantitative DHB performance indices

Correlations below the diagonal are Pearson's r (n, p)
Correlations above the diagonal are Kendall's tau (n, p)

	surv_tot	*sur2_tot*	*bureff2*	*rrevexp*
surv_tot	1	*.1057 (27, .440)*	*.0296 (17, .869)*	*.0124 (26, .930)*
sur2_tot	-.0002 (27, .999)	1	*-.1214 (20, .455)*	*.1258 (29, .339)*
bureff2	-.0240 (17, .927)	-.1081 (20, .650)	1	*.2797 (20, .085)*
rrevexp	-.0959 (26, .641)	.2125 (29, .268)	.1727 (20, .467)	1

Appendix H: Stem and leaf plots and histograms

Figure 10. Stem and leaf plot of *surv_tot* (survey 1 total score)

```
Frequency   Stem & Leaf

   1.00      4 * 3
   1.00      4 . 7
   1.00      5 * 0
   1.00      5 . 6
   4.00      6 * 1233
   4.00      6 . 5668
   4.00      7 * 2223
   6.00      7 . 557789
   4.00      8 * 0223
   1.00      8 . 5

Stem width:    10.00
Each leaf:     1 case(s)
Valid cases:   27
```

Figure 11. Stem and leaf plot of *sur2_tot* (survey 2 total score)

```
Frequency   Stem & Leaf

   2.00 Extremes   (33), (36)
   5.00      6 * 01124
   7.00      6 . 5667999
   5.00      7 * 01244
   2.00      7 . 77
   3.00      8 * 123
   6.00      8 . 556788

Stem width:    10.00
Each leaf:     1 case(s)
Valid cases:   30
```

Figure 12. **Stem and leaf plot of *vote* (voting index)**

Frequency	Stem & Leaf
6.00	4 . 677789
4.00	5 * 2222
15.00	5 . 555777778888899
4.00	6 * 1222
1.00	6 . 6

Stem width: 10.00
Each leaf: 1 case(s)
Valid cases: 30

Figure 13. **Stem and leaf plot of *scs* (social capital score)**

Frequency	Stem & Leaf
1.00	3 * 0
2.00	3 . 78
3.00	4 * 224
7.00	4 . 5778899
4.00	5 * 1113
4.00	5 . 6668
3.00	6 * 123
2.00	6 . 69
1.00	7 * 0

Stem width: 1.00
Each leaf: 1 case(s)
Valid cases: 27

Figure 14.

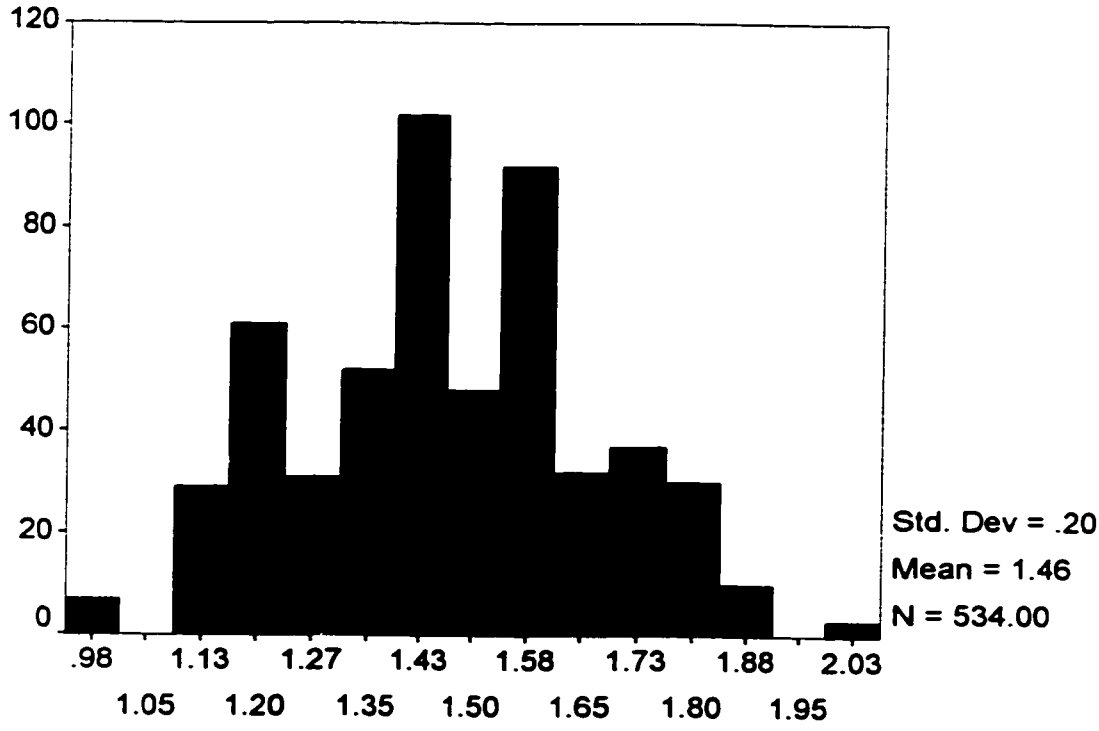

120
100
80
60
40
20
0
.98
1.05
1.13
1.20
1.27
1.35
1.43
1.50
1.58
1.65
1.73
1.80
1.88
1.95
2.03
Std. Dev = .20
Mean = 1.46
N = 534.00
Civic Participation index (1=most, 2=least)

Figure 15.

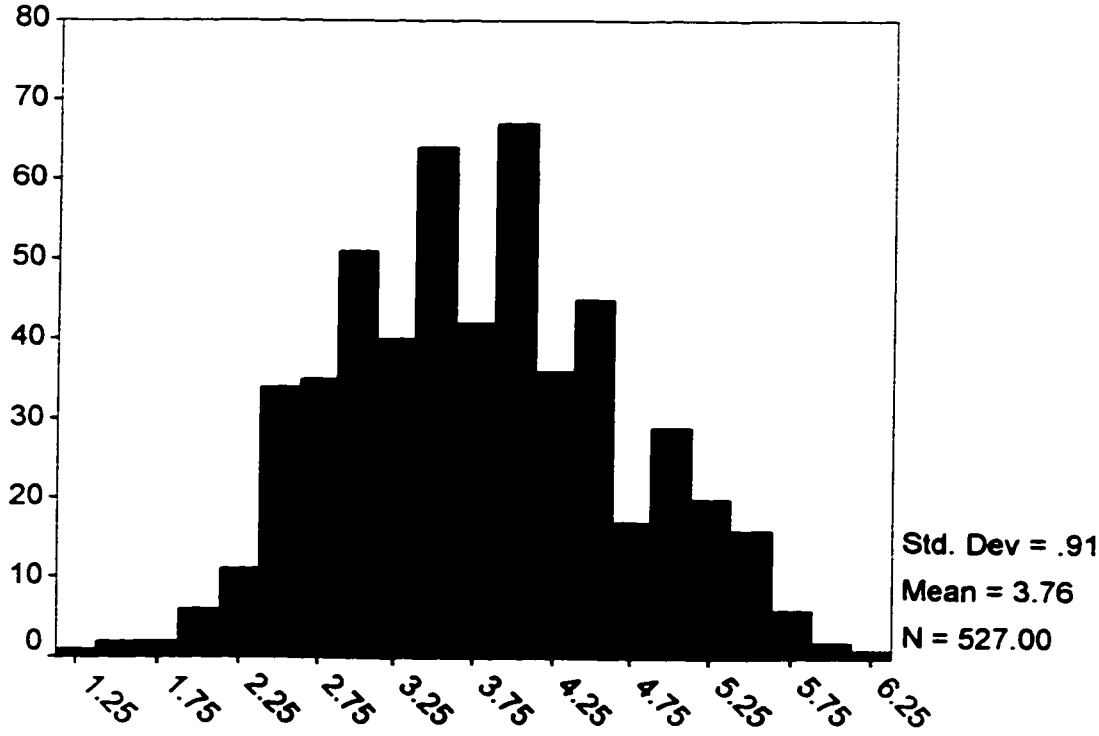
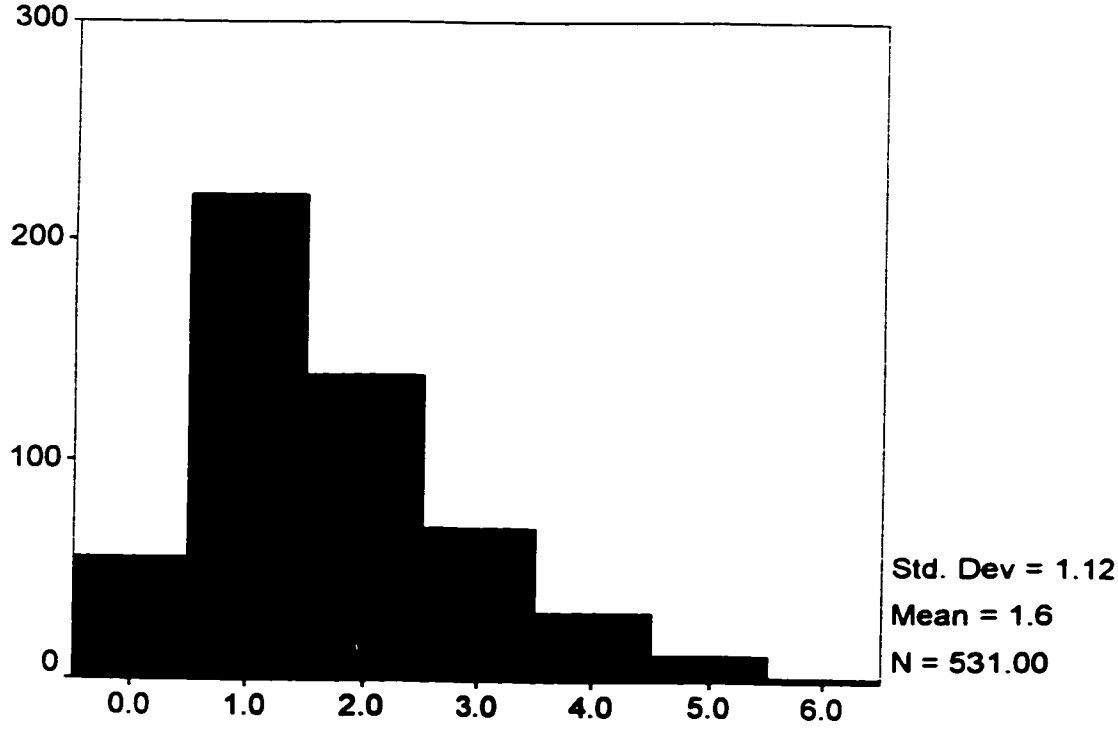

80
70
60
50
40
30
20
10
0
1.25
1.75
2.25
2.75
3.25
3.75
4.25
4.75
5.25
5.75
6.25
Std. Dev = .91
Mean = 3.76
N = 527.00
Trust government index (1=most, 7=least)

Figure 16.



Trust part of SK index (higher=less trust)

Figure 17.

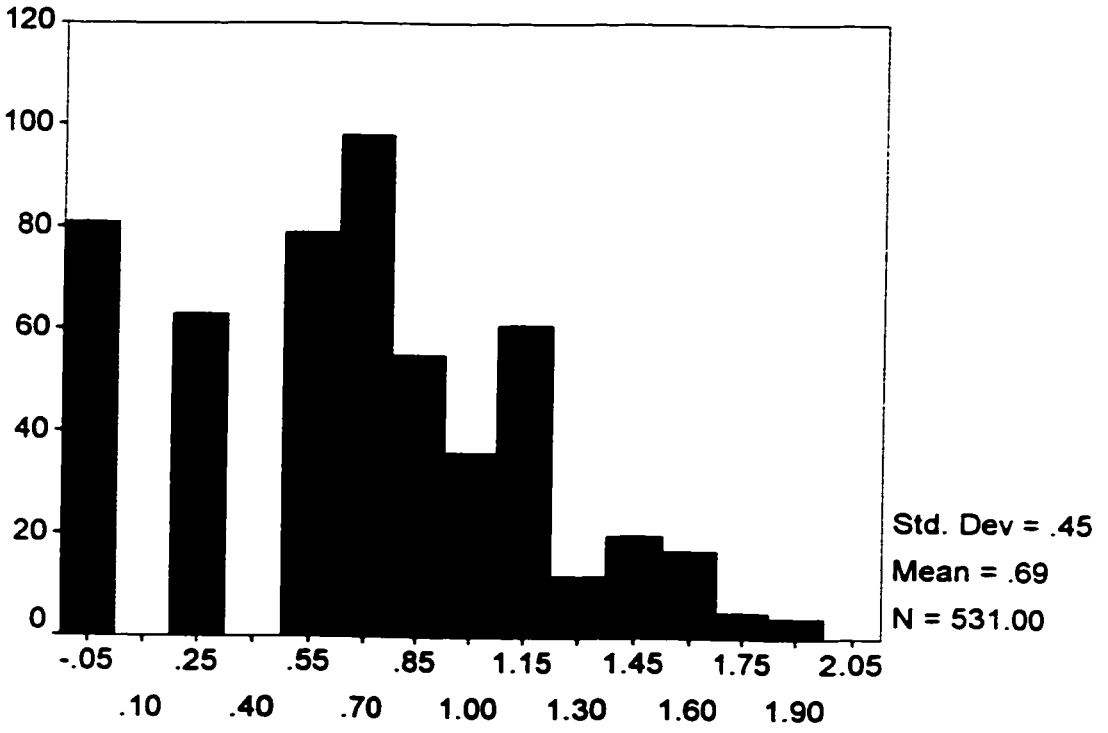
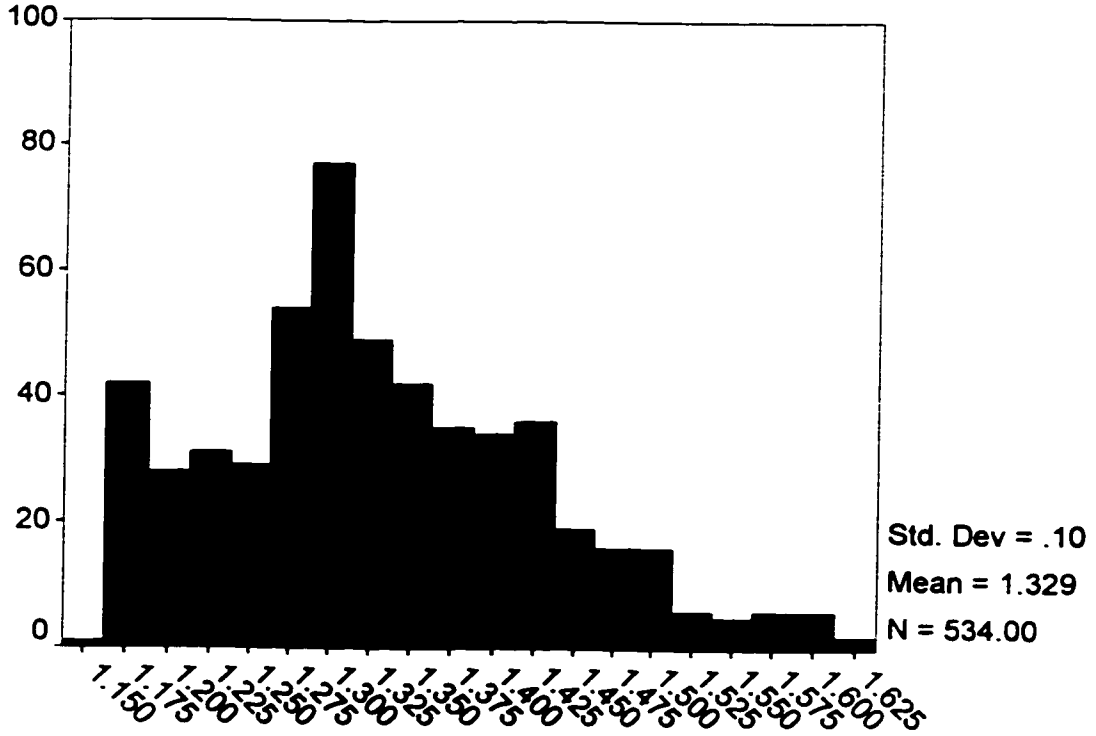
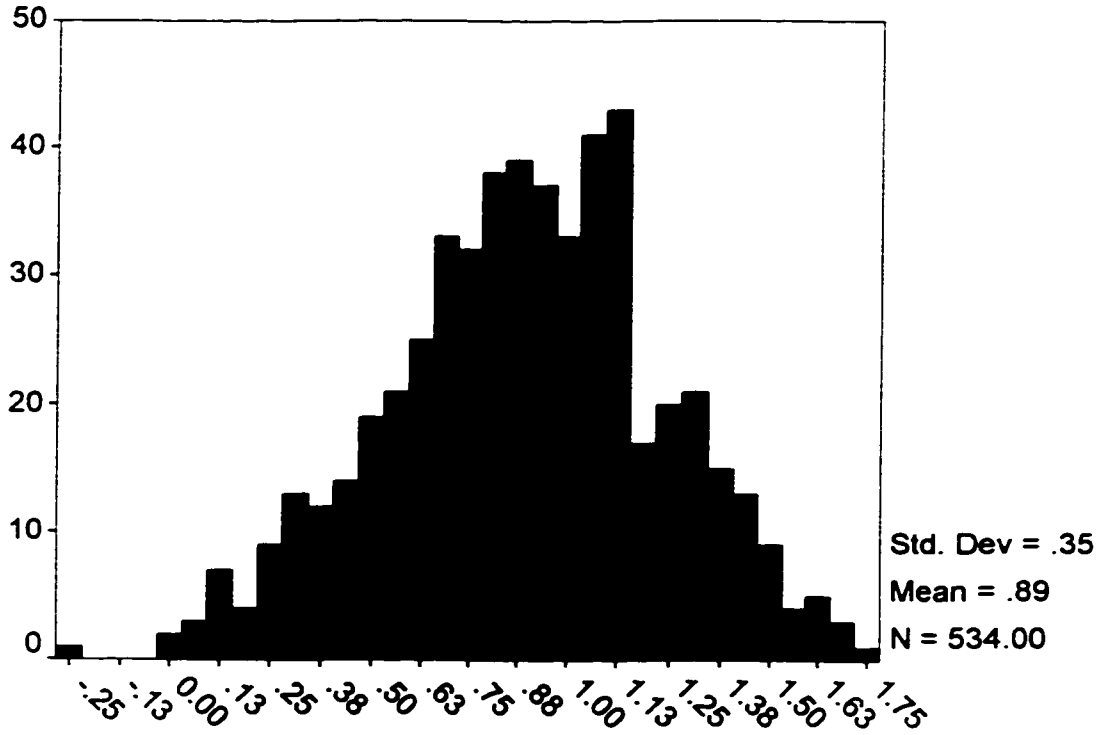

120
100
80
60
40
20
0
-.05
.10
.25
.40
.55
.70
.85
1.00
1.15
1.30
1.45
1.60
1.75
1.90
2.05
Std. Dev = .45
Mean = .69
N = 531.00
Trust community members index (higher=less trust)

Figure 18.



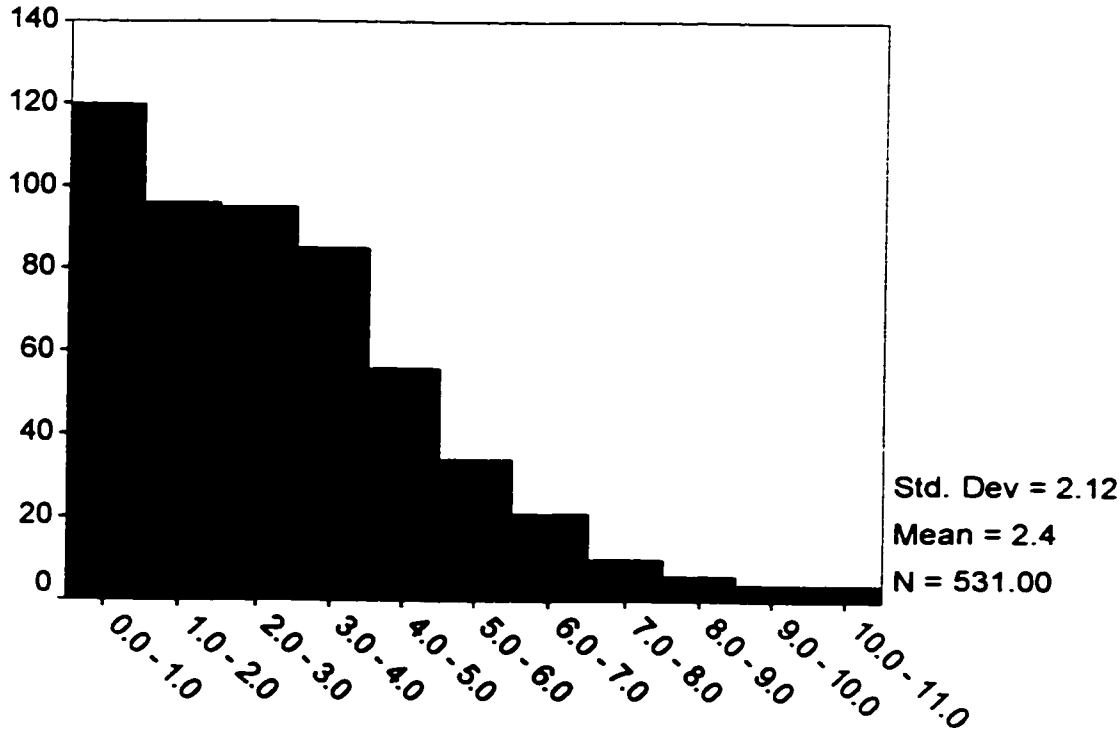
Trust people (higher=less trust)

Figure 19.



Trust in general (higher=less trust)

Figure 20.


140
120
100
80
60
40
20
0
Std. Dev = 2.12
Mean = 2.4
N = 531.00
0.0 - 1.0
1.0 - 2.0
2.0 - 3.0
3.0 - 4.0
4.0 - 5.0
5.0 - 6.0
6.0 - 7.0
7.0 - 8.0
8.0 - 9.0
9.0 - 10.0
10.0 - 11.0
Number of clubs listed (out of 10)

Appendix I: Results from social capital and board performance in 30 districts

The district health board performance variables are:

bureff2:	(PMI) bureaucratic efficiency measure (policy making and implementation)
rrevexp:	(FR) revenue versus expenses score (fiscal responsibility)
surv_tot:	(TOT) total performance index, from survey 1
sur2_tot:	(TOT) total performance index, from survey 2

The health district sociodemographic variables are:

birthrat:	birthrate
crimetot:	total amount of crime, measured in 1993
density:	population density - number of people per square kilometre
deprat:	dependency ratio - ratio of persons under 15 and over 64 years of age to the remainder
dierate2:	death rate
elderly:	percentage of the population 65 years of age and over (C '91)
english:	percentage of the population who hold English as their mother tongue (C '91)
homratio:	ratio of those who own their home to those who rent it
mob_1yr:	percentage of the population who have not moved in the past year
mob_5yr:	percentage of the population who have not moved in the past five years
numphys:	number of physicians in the district
numother:	number of (non-physician) health care workers in the district
numtowns:	number of towns in the district
pop:	population
pop1000:	percent of the population living in towns of size 1000 persons or greater
popchange:	rate of population change in the past five years
popind:	percent of the population who live in Indian bands
poprur:	percent of the population who live in a rural setting
relcath:	percent of the population who claim Roman Catholic affiliation
relprot:	percent of the population who claim Protestant affiliation
relother:	percent of the population who claim affiliation to some other religious tradition
relnone:	percent of the population who claim no religious affiliation
sinparen:	percent of the population who are single parents

The health district social capital variables are:

avgclub2:	proxy: average number of clubs per person in the district
dvssi194:	social support index (NPHS)
dvssi294:	social involvement index (NPHS)
displan2:	displan (number of communities with disaster plans) / numtowns
rundhb:	number of people running for the DHB elections, Oct 1995
taxarrea:	percentage of tax levy in arrears
vote:	voting index (average of federal, provincial and DHB election percentages)
scs:	total social capital score, an index of the above social capital variables

Table 11: Correlations among four DHB performance indicators and sociodemographic characteristics of districts

Correlations in regular font are Pearson's r (n, p); *correlations in italics are Kendall's tau (p)*

	rrevexp	*bureff2*	*surv_tot*	*sur2_tot*
birthrat	.0258 (29, .894) *.1060 (.420)*	.0176 (20, .941) *.0053 (.974)*	.3681 (27, .059) *.1629 (.235)*	.0113 (30, .953) *-.0299 (.817)*
crimetot	.1306 (29, .499) *.1235 (.348)*	-.1434 (20, .546) *-.1003 (.537)*	.2708 (27, .172) *.1602 (.243)*	.1198 (30, .528) *.0000 (1.000)*
density	.0230 (29, .906) *.0346 (.793)*	-.0405 (20, .865) *.0792 (.626)*	.1714 (27, .393) *.1946 (.156)*	-.0965 (30, .612) *-.0921 (.475)*
deprat	-.2867 (29, .132) *-.2909 (.030)*	-.1854 (20, .434) *-.1936 (.241)*	-.1606 (27, .423) *-.0731 (.601)*	-.0038 (30, .984) *-.0165 (.900)*
dierate2	.2836 (29, .136) *.1800 (.171)*	.0634 (20, .791) *.0053 (.974)*	.0632 (27, .754) *-.0200 (.884)*	-.3424 (30, .064) *-.2598 (.044)*
elderly	-.0619 (29, .750) *-.0964 (.464)*	.2472 (20, .293) *.1538 (.346)*	-.2857 (27, .145) *-.1660 (.226)*	-.2584 (30, .168) *-.1774 (.169)*
english	.0291 (29, .881) *.0570 (.666)*	.0886 (20, .710) *-.0851 (.603)*	-.1045 (27, .604) *.0086 (.950)*	.1684 (30, .374) *.1917 (.138)*
homratio	-.2551 (29, .182) *-.1652 (.209)*	-.0854 (20, .720) *.0475 (.770)*	-.1664 (27, .407) *-.1229 (.370)*	-.0058 (30, .976) *-.0023 (.986)*
homesin	-.0403 (29, .836) *.0373 (.778)*	.1150 (20, .629) *.0265 (.871)*	-.1595 (27, .427) *-.0317 (.818)*	-.3292 (30, .076) *-.2755 (.034)*
mob_1yr	-.3122 (26, .121) *-.1911 (.172)*	.0711 (18, .779) *.1373 (.426)*	-.2435 (24, .252) *-.1633 (.264)*	.0298 (27, .883) *.0028 (.983)*
mob_5yr	.4801 (26, .013) *.2958 (.034)*	.1164 (18, .645) *-.0065 (.970)*	.0912 (23, .679) *.0317 (.833)*	-.1671 (26, .415) *-.0092 (.947)*

Table 11 cont.

	rrevexp	*bureff2*	*surv_tot*	*sur2_tot*
numphys	.0594 (29, .760) *.0608 (.650)*	-.0421 (20, .860) *.2781 (.095)*	.1420 (27, .480) *.0439 (.753)*	-.0975 (30, .608) *-.0754 (.566)*
numother	.1099 (29, .570) *.1481 (.260)*	-.0363 (20, .879) *.2164 (.183)*	.1053 (27, .601) *-.0114 (.934)*	-.1012 (30, .595) *-.0967 (.454)*
numtowns	.0551 (29, .776) *.0279 (.835)*	-.1478 (20, .534) *-.1036 (.553)*	-.1552 (27, .439) *-.1051 (.451)*	-.0148 (30, .938) *-.0118 (.929)*
pop	.0852 (29, .660) *.0518 (.694)*	-.0502 (20, .833) *.2058 (.206)*	.1059 (27, .599) *.0543 (.692)*	-.0900 (30, .636) *-.1678 (.193)*
pop1000	.3404 (29, .071) *.2151 (.103)*	.3477 (20, .133) *.2434 (.135)*	.0198 (27, .922) *-.0201 (.884)*	-.2019 (30, .285) *-.1359 (.292)*
popchang	-.0404 (29, .835) *.0469 (.721)*	-.1674 (20, .480) *-.0475 (.770)*	.4876 (27, .010) *.3229 (.018)*	.1590 (30, .401) *.0851 (.509)*
popind	-.3696 (29, .048) *-.1046 (.443)*	-.3673 (20, .111) *-.1464 (.377)*	.2283 (27, .252) *.0513 (.717)*	.1750 (30, .355) *.1476 (.271)*
poprur	-.1358 (29, .482) *-.1185 (.368)*	.0184 (20, .938) *.0423 (.795)*	-.2206 (27, .269) *.1888 (.169)*	.1016 (30, .593) *.0598 (.643)*
relcath	-.1540 (29, .425) *-.0025 (.985)*	-.2701 (20, .249) *-.1108 (.495)*	-.0161 (27, .936) *.0029 (.983)*	-.2713 (30, .147) *-.1034 (.422)*
relprot	.1172 (29, .545) *-.0248 (.851)*	.1636 (20, .491) *.0529 (.745)*	-.0328 (27, .871) *-.0201 (.884)*	.2977 (30, .110) *.1384 (.284)*
relother	-.0972 (29, .616) *-.0299 (.822)*	.3133 (20, .180) *.0796 (.626)*	-.1670 (27, .405) *.0029 (.884)*	-.1579 (30, .405) *-.1391 (.274)*
relnone	.2078 (29, .279) *.1913 (.148)*	.0839 (20, .725) *.0319 (.845)*	.2493 (27, .210) *.1669 (.226)*	.0392 (30, .837) *.0116 (.929)*
sinparen	.1548 (29, .423) *.0842 (.523)*	-.0004 (20, .999) *.0317 (.845)*	.3259 (27, .097) *.2525 (.066)*	-.0243 (30, .899) *-.0554 (.668)*

Table I2: Correlations between four DHB performance indicators and social capital characteristics of districts

Correlations in regular font are Pearson's r (n, p); *correlations in italicized font are Kendall's tau (p)*

	rrevexp	*bureff2*	*surv_tot*	*sur2_tot*
avgclub2	-.0892 (29, .645) *-.1011 (.442)*	-.1393 (20, .558) *-.1530 (.347)*	-.2786 (27, .159) *-.1229 (.370)*	.1366 (30, .472) *.0667 (.605)*
dvssi194	-.1075 (28, .586) *.0135 (.921)*	.1490 (198, .543) *.2448 (.156)*	.0862 (26, .676) *.0345 (.808)*	.4678 (29, .011) *.2541 (.057)*
dvssi294	-.3121 (28, .106) *-.2021 (.133)*	-.1875 (19, .442) *-.0294 (.861)*	-.2041 (26, .317) *-.1426 (.310)*	-.0739 (29, .703) *.0124 (.925)*
displan2	-.0690 (29, .722) *-.1092 (.409)*	.0516 (20, .829) *.0847 (.603)*	.2354 (27, .237) *.1580 (.251)*	.2115 (30, .262) *.1156 (.372)*
rundhb	.0272 (29, .889) *.0280 (.836)*	-.0262 (20, .913) *.0161 (.922)*	-.0132 (26, .949) *-.1527 (.287)*	-.1599 (29, .407) *-.1574 (.242)*
taxarrea	-.2515 (28, .197) *-.1804 (.179)*	-.0378 (20, .874) *-.0897 (.581)*	.0704 (26, .732) *.0247 (.860)*	-.0486 (29, .802) *-.0321 (.807)*
vote	-.3076 (29, .104) *-.1554 (.237)*	-.1697 (20, .474) *-.1214 (.455)*	-.3142 (27, .111) *-.2486 (.070)*	.0204 (30, .915) *.0161 (.901)*
scs	-.1531 (27, .446) *-.1255 (.359)*	-.1640 (19, .502) *-.0352 (.834)*	-.0648 (24, .764) *-.0145 (.921)*	.3658 (27, .061) *.1225 (.370)*

Appendix J: Exploration of the relationship between social capital and effective governance in 8 districts

We post-weighted responses from the survey to randomly selected citizens by age, gender and income, assuming that the three were independent from one another. The tables in this appendix, and the statistics presented below, contain the unweighted results. We presented statistical significance results from tests conducted on both the unweighted data (p-values in regular type) and the weighted data (*p-values in italicized type*) when the results from the two scenarios differ; the latter were more interesting in such instances since, supposedly, they better represent the population. In no case did the weighted data differ from the unweighted results in direction of association; they differed only in extremity of association. In the section below where we compared the performance of the DHBs we refrained from presenting results obtained in analysis upon data obtained from the Provincial Auditor, to maintain confidentiality as promised to the boards. In the next section, where we summarized sociodemographic characteristics of the districts, the classification of degree of similarity between districts was based upon subjective judgement, in comparison to characteristics of the remaining districts in the selected sample of eight districts.

Sociodemographic characteristics of the districts

Regina and Saskatoon Health Districts

We found that Regina and Saskatoon were *extremely similar* in the areas of 1) population, 2) dependency ratio, 3) # of single parent families, and 4) percent of the population who lived in rural and urban settings. The two districts were *quite similar* in the areas of 1) overall health status, 2) mobility, 3) number of (non-physician) health-care workers, 4) death rates, 5) population density, 6) percent who had English as a mother tongue, 7) percent of the population who were elderly, 8) percent of the population who lived in Indian bands, and 9) religious affiliation. They *differed* in that 1) Regina had more towns in the district, 2) Saskatoon had more physicians, 3) Saskatoon had a higher birth-rate, 4) more folks in Regina owned their home, 5) Saskatoon had a higher (positive) population change and 6) Regina's citizens were a little bit wealthier, on average.

East Central and Prince Albert Health Districts

We found that East Central and Prince Albert were not *extremely similar* in any areas. They were *quite similar* in the areas of 1) population density, 2) percent who had English as a mother tongue and 3) percent of the population who lived in rural and urban settings. They *differed* in that 1) EC had a higher dependency ratio, 2) EC had higher overall health status, 3) PA residents had lived longer in their current homes, 4) EC had more towns, 5) PA had more physicians, 6) PA had more health-care workers, 7) PA had a higher birth-rate, 8) PA had more single parents, 9) a higher percent of the EC populace owned their homes, 10) EC had a higher

population change, 11) EC had a higher percentage of elderly folks, 12) PA had a slightly higher percentage of their populace living in Indian bands, 13) PA had more Roman Catholics and EC more Protestants, EC more others and PA more religious nones, 14) PA residents were slightly wealthier, on average and 15) PA had a larger population.

Living Sky, Moose Mountain, North-East and North Valley Health Districts

These four districts were *dissimilar* in the following ways (on the other dimensions listed above in the preceding paired comparisons the four districts were quite similar): 1) NE had residents who had lived the longest in their homes, on average, 2) NV had the most towns, 3) NE had the highest death-rate, and NV the lowest, 4) NE had the highest birth-rate, 5) NE had the fewest percentage of residents who owned their own homes, and MM the highest, 6) NE had the lowest population change, and LS and NV the highest, 7) NV had the highest population density, 8) NE had the lowest percent of the populace who were 65 or older, 9) NE, then MM, had the highest percentage of the populace living in Indian bands, 10) NE had the lowest percentage of Roman Catholics, and NV the highest; NV had the lowest percentage of Protestants; NE had the highest percentage of religious nones, 11) NE residents were the poorest, on average, 12) NE had the lowest percentage of the populace living in rural municipalities, and 13) NE had the highest crime rate (149.80), vs 124.00 (MM), 89.70 (NV) and 88.00 (LS).

Social capital characteristics of the districts

Regina and Saskatoon Health Districts

From the Community Profile database, NPHS and other sources we found that:
1) more of the eligible voters in Regina voted
- 66.54% versus 62.46% in the federal election
- 64.50% versus 59.99% in the provincial election
- 48.95% vs 46.12% overall

2) the social involvement score for folks from Saskatoon were higher
- 3.02 versus 2.91 on the NPHS[1] social involvement index
- 3.81 vs 3.71 on the NPHS social support index
- 104.63 versus 81.18 average contacts with neighbours in a year, from the NPHS
- 15.13 versus 13.78 religious services attended yearly, on average, from the NPHS

although we also found that Regina had a greater number of clubs and associations per capita, of the clubs we investigated (perhaps because many provincial headquarters are based in Regina)
- .0013 vs .0011 on *avgclub2*

3) more people in Saskatoon ran for the DHB elections on Oct. 1995
- 44 versus 33

4) more towns in the Saskatoon District had disaster plans
- 96% vs 41%

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1. In the NPHS the SK n = 230 and the RG n = 209, so these results are equally reliable

From our survey to randomly selected citizens we found that:
1) Saskatoon respondents participated in more clubs and associations
- 2.44 vs 2.04, on average (p=.1964) on *clubs*
2) Regina respondents rated their work identity higher
- 2.91 vs 3.80 (p=.0252; *p=.0035*) on *iden6*
3) Regina respondents were more committed to their relatives
- 1.67 vs 1.93 (p=.0898; *p=.0058*) on *imprelat*
4) Regina respondents had more trust in the federal government
- 2.89 vs 3.25 (p=.1283; *p=.0462*) on *indtrfed*
5) Regina respondents rated federal government performance more highly
- 3.56 vs 3.86 (p=.1725) on *pergov1*
- 3.72 vs 4.07 (p=.1949) on *pergov7*
6) in a comparison of the clubs and associations that respondents belong to:
a) SK respondents claimed a greater variety of ages in their first group
- 90.2% vs 71.1 (p=.0168; *p=.0058*) on *desage1*
b) RG respondents claimed a greater variety of ages in their third group
- 85.7% vs 66.7% (p=.1245) on *desage3*
c) SK respondents claimed a greater ethnic homogeneity in their groups
- 30.4% vs 23.8 (p=.4858) on *deseth1*
- 31.4% vs 12.1% (p=.0550; *p=.0244*) on *deseth2*
- 29.6% vs 19.0% (p=.4010) on *deseth3*
7) Saskatoon residents were more likely to have voted in the last municipal election
- 88.6% vs 79.5% (p=.1379, *p=.0338*) on *civpar2*
8) Saskatoon residents were more likely to have contacted a government official about a concern
- 52.9% vs 41.7% (p=.1817, *p=.0069*) on *civpar5*
9) Saskatoon respondents were more willing to lend their car to a neighbour
- 82.8% vs 66.2% (p=.0289) on *ncar*
10) Saskatoon respondents were more likely to help a neighbours when the neighbour is sick
- 93.0% vs 87.5% (p=.2722; *p=.0234*) on *nsick2*
11) Saskatoon respondents were more likely to have organized a group to solve a community problem
- 26.8% vs 13.7% (p=.0507; *p=.0608*) on *corgan*

East Central and Prince Albert Health Districts

From the Community Profile database, NPHS and other sources we found that:
1) East Central had higher social involvement scores
- 4.24 versus 2.23 on the NPHS[2] social involvement index
- 3.84 vs 3.75 on the NPHS social support index
- 42.72 versus 110.25 average number of meetings with neighbours yearly, from the NPHS
- 21.60 versus 8.68 religious services attended yearly, on average, from the NPHS
- 56.00% versus 26.42% belong to a voluntary organization, from the NPHS
although we also found that Prince Albert had a greater number of clubs and associations per capita, of the clubs we investigated
- .0013 vs .0011 on *avgclub2*
2) more of the eligible voters in East Central voted
- 32.80% versus 24.20% in the DHB elections
- 67.08% versus 61.86% in the federal election
- 66.23% versus 56.078% in the provincial election
- 55.37% vs 47.38% overall

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[2] EC n = 25, PA n = 53, so the PA results are more reliable

3) more taxpayers in East Central went into tax arrears
   - 14.10% versus 10.20%
4) a greater percentage of towns in the Prince Albert District had disaster plans
   - 100% vs 32%

From our survey to randomly selected citizens we found that:
1) EC respondents attended more church services
   - 4.07 vs 4.87 (p=.0009) on *attend*
2) EC respondents participated in more clubs and associations
   - 2.41 vs 2.04 (p=.3638) on *clubs*
3) PA Canadian identity was higher
   - 2.13 vs 2.79 (p=.1340) on *iden1*
4) PA "part of SK" identity was higher
   - 3.61 vs 4.64 (p=.0036) on *iden3*
5) EC religious identity was higher
   - 4.46 vs 5.86 (p=.0022) on *iden5*
6) EC respondents were more committed to their religious communities
   - 2.64 vs 2.91 (p=.0745) on *imprelig*
7) EC respondents trusted people from the community more
   - .7413 vs .9524 (p=.0096) on *indtcom2*
8) EC respondents trusted people in general more
   - .6792 vs .8472 (p=.0396) on *indtpeo2*
9) EC respondents trusted people from their part of SK more
   - 1.55 vs 1.96 (p=.0529; *p=.0631*) on *indtrpar*
10) EC respondents trusted their neighbours more
   - 2.41 vs 2.77 (p=.0875; *p=.0434*) on *ntrust*
11) EC respondents rated the federal government's performance more highly
   - 3.48 vs 3.70 (p=.3302; *p=.0011*) on *pergov1*
12) EC respondents agreed more that voters not interested in the election shouldn't vote
   - 3.95 vs 4.59 (p=.1112; *p=.0002*) on *vote3*
13) EC respondents believed more strongly that voting is the only way to have voice
   - 2.95 vs 3.07 (p=.7025; *p=.0179*) on *vote4*
11) in a comparison of the clubs and associations that respondents belong to:
   a) EC respondents claimed their groups are more religiously homogenous
      - 39.7% vs 14.3% (p=.0098; *p=.0240*) on *desrel1*
      - 25.8% vs 8.0% (p=.0837) on *desrel2*
   b) EC respondents claimed to have more influence in their clubs
      - 78.0% vs 64.1% (p=.1327) on *influen1*
      - 71.0% vs 62.5% (p=.5069) on *influen2*
      - 81.0% vs 66.7% (p=.3570) on *influen3*
12) EC respondents were more likely to have sat on the board of a community organization
   - 52.4% vs 39.6% (p=.1453) on *comboard*
13) EC respondents were more likely to read the local newspaper
   - 95.2% vs 85.2% (p=.0408; *p=.0253*) on *news*
14) PA respondents were more likely to have spoken to a government official about a concern
   - 44.4% vs 42.2% (p=.7927; *p=.0063*) on *civpar5*
14) EC respondents were more willing to lend their car to a neighbour
   - 93.6% vs 77.8% (p=.0098) on *ncar*
15) EC respondents were more willing to lend $50 to a neighbour
   - 93.9% vs 83.0% (p=.0428; *p=.0028*) on *ndollar2*
16) EC respondents were more likely to be living here in 5 years
   - 96.7% vs 68.6% (p=.0111) on *nfive*

17) PA respondents felt more often that their neighbours would join a neighbourhood improvement campaign
- 93.9% vs 82.4% (p=.0647; *p=.0384*) on *njoin*

18) EC respondents were more likely to know the names of their neighbours
- 86.0% vs 70.4% (p=.0240; *p=.0049*) on *nnames*

19) EC respondents were more likely to let a neighbour help them when sick
- 90.5% vs 79.6% (p=.0711) on *nsick1*

20) PA respondents were more likely to have experience working with others to solve a community problem
- 49.1% vs 43.9% (p=.5573; *p=.0734*) on *cothers*

Living Sky, Moose Mountain, North-East and North Valley Health Districts

From the Community Profile database, NPHS and other sources we found that:

1) Living Sky had the lowest social involvement score (tentatively)
- 2.50 versus 2.86 (NE), 4.10 (MM) and 4.53 (NV) on the NPHS[3] social involvement index
- 3.75 vs 4.00 (MM), 3.86 (NE) and 3.59 (NV) on the NPHS social support index
- 26.50 versus 76.20 (MM), 80.76 (NV) and 117.71 (NE) average number of contacts with neighbours in a year, from the NPHS
- 2.63 average number of religious services attended in a year, from the NPHS
- 50.00% versus 28.57% (NE), 40.00% (MM) and 54.71% (NV) who belong to a voluntary organization, from the NPHS

2) Living Sky had the highest voting turnouts
- 41.20% versus 38.60%, 29.20% and 31.70% in the DHB elections
- 73.09% versus 68.58%, 66.84% and 68.68% in the federal election
- 73.34% versus 67.68%, 71.59% and 73.51% in the provincial election
- 62.54% vs 58.29% (MM), 57.96% (NV) and 55.88% (NE)

3) Living Sky (.0028) and Moose Mountain (.0026) had the highest number of clubs per capita
- versus NE (.0013) and NV (.0012) on *avgclub2*

4) more people ran for DHB election in North-East (political participation)
- 19 versus 11, 12 and 13

5) North-East had the highest level of crime activity
- a total crime score of 149.80 versus 88.00 (LS), 89.70 (NV) and 124.00 (MM)

6) Moose Mountain had the smallest percentage of folks in tax arrears
- 11.50% versus 15.00%, 15.70% and 15.80%

7) most towns in MM (88%) and NE (77%) had disaster plans
- vs LS (58%) and NV (35%)

From our survey to randomly selected citizens we found that:

1) NV (4.28) and MM (4.35) respondents attended more religious services
- vs LS (4.50) and NE (4.88) (p=.1388; *p=.0232*) on *attend*

1) MM (2.75) and NV (2.67) had the highest average # of clubs belonged to
- vs 2.38 (NE) and 2.26 (LS) (p=.5329) on *clubs*

2) MM (3.13) and NE (3.29) had the highest socializing with neighbours scores
- vs 3.51 (NV) and 3.58 (LS) (p=.3327) on *socneigh*

3) MM (2.41) and LS (2.52) had the highest Canadian identity scores
- vs 3.04 (NV) and 3.24 (NE) (p=.2167) on *iden1*

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[3] LS n = 4, MM n = 10, NE n = 7, NV n = 17, which means that the LS and NE scores, in particular, are suspect, although even an n of 17 is too low to represent an entire district

4) NE (5.82) had the highest ethnic identity score
   - vs 6.07 (MM), 6.33 (LS) and 6.57 (NV) (p=.4001) on *iden4*
5) MM (4.35) had the highest religious identity score
   - vs 5.15 (NV), 5.46 (NE) and 5.53 (LS) (p=.0712; *p=.0500*) on *iden5*
6) LS (2.21) had the highest ethnic trust score
   - vs 2.57 (NV), 2.58 (MM) and 2.87 (NE) (p=.0637; *p=.0136*) on *ethtrust*
7) LS (.4657) and MM (.4944) had the highest trust in people from the community scores
   - vs .6095 (NV) and .6654 (NE) (p=.0297; *p=.0606*) on *indtcom2*
8) LS (.5385) and MM (.5679) had the highest trust people in general scores
   - vs .6907 (NV) and .7384 (NE) (p=.0442) on *indtpeo2*
9) MM (1.20) and LS (1.25) had higher trust people from "my part of SK" scores
   - vs 1.57 (NE) and 1.64 (NV) (p=.0608; *p=.1491*) on *indtrpar*
10) MM (2.05) had the highest trust neighbours score
   - vs 2.27 (LS), 2.46 (NE) and 2.51 (NV) (p=.3613) on *ntrust*
11) MM (3.92) and NE (3.93) rated the federal government higher
   - vs 4.26 (LS) and 4.46 (NV) (p=.0716; *p=.1280*) on *pergov1*
12) NV (3.17) had the lowest score for the local government's performance
   - vs 3.67 (NE), 3.69 (LS) and 3.97 (MM) (p=.0771; *p=.0037*) on *pergov6*
13) in a comparison of the clubs and associations that respondents belong to:
   a) NV and MM respondents claimed to belong to ethnically homogenous groups
      - 51.4% (NV), 47.7% (MM), 30.0% (NE) and 28.6% (LS) (p=.0630; *p=.2946*) on *deseth1*
      - 59.3% (NV), 38.1% (MM), 28.6% (NE) and 38.6% (LS) (p=.1198) on *deseth2*
   b) MM and NV had more religiously homogenous groups
      - 58.1% (MM), 38.5% (NV), 27.5% (LS) and 15.4% (NE) (p=.0004; *p=.0061*) on *desrel1*
      - 29.0% (MM), 32.1% (NV), 21.6% (LS) and 25.9% (NE) (p=.8008) on *desrel2*
   c) LS group members met least often in other settings
      - 64.0% (LS) vs 68.1% (MM), 71.1% (NV) and 85.4% (NE) (p=.1368) on *setting1*
      - 50.0% (LS) vs 73.5% (MM), 69.0% (NV) and 67.0% (NE) (p=.1785; *p=.0204*) on *setting2*
      - 33.3% (LS) vs 63.6% (MM), 50.0% (NV) and 63.2% (NE) (p=.1161) on *setting3*
14) LS respondents were the least likely to vote in the DHB election
   - 31.0% vs 47.5% (MM), 49.0% (NV) and 50.8% (NE) (p=.0771; *p=.0374*) on *civpar1*
15) NE respondents were least likely to have served on the board of a community organization
   - 40.7% (NE) vs 57.4% (NV), 59.2% (LS) and 62.7% (MM) (p=.0741; *p=.0308*) on *comboard*
16) NE respondents were least likely to have close friends among their neighbours
   - 62.6% (NE) vs 74.1% (NV), 81.7% (MM) and 84.9% (LS) (p=.0441; *p=.1065*) on *nclose*
17) NV respondents were least likely to feel their neighbours would join a campaign
   - 81.5% (NV) vs 88.0% (NE), 93.8% (LS) and 94.2% (MM) (p=.0934; *p=.0077*) on *njoin*
18) MM (40.0%) and LS (31.0%) respondents were more likely to have experience organizing a group to solve a community problem (p=.0938; *p=.0230* on *cothers*) vs NE (23.7%) and NV (20.4%)

Performance of the District Health Boards

Regina and Saskatoon Health Districts

From the first survey to board members (1995) we found that:
1) Saskatoon board members rated the performance of their board more highly, overall
- 82.50% (n=5) vs 63.39% (n=8) on *surv_tot*[4]

From the second survey to board members (1997) we found that:
1) Regina board members rated the performance of their board (slightly) more highly, overall
- 69.85% (n=10) vs 64.36% (n=7) on *sur2_tot*[5]

From the review of board minutes we found that:
1) the Saskatoon DHB scored more highly on policy making and implementation
- 10 vs 0 on *min_pmi*
2) the Saskatoon DHB scored more highly on reflecting health needs
- 6 vs 2 on *min_rhn*

From a comparison of expenditures versus revenues we found that:
1) the Regina board was (slightly) better able to keep expenditures within the limits imposed by revenues
- 6.13 vs 4.50 on *rrevexp*

East Central and Prince Albert Health Districts

From the first survey to board members (1995) we found that:
1) the Prince Albert board members rated their board most highly, overall
- 75.71% (n=10) vs 50.40% (n=6) on *surv_tot*[6]

From the second survey to board members (1997) we found that:
1) the Prince Albert DHB rated their board most highly, overall
- 83.71% (n=9) vs 66.07% (n=8) on *sur2_tot*

From the review of board minutes we found that:
1) the East Central DHB scored (slightly) more highly on the reflecting health needs dimension
- 10 vs 8 on *min_rhn*

From a comparison of expenditures versus revenues we found that:
1) the Prince Albert DHB was better able to keep expenditures within the limits imposed by revenues
- 7.59 vs 3.44 on *rrevexp*

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[4] The SK n = 5 makes representation of board views somewhat problematic (the total number of board members is 12)

[5] The SK n = 7 makes representation of board views less reliable than for RG

[6] The EC n = 6 makes representation of board views problematic for this board

Living Sky, Moose Mountain, North-East and North Valley Health Districts

From the first survey to board members (1995) we found that:
1) MM (75.00%; n=4) scored their board's overall performance highest, followed by NV (68.76%; n=9), LS (66.84%; n=9) and NE (62.20%; n=7)[7]

From the second survey to board members (1997) we found that:
1) MM (85.33%; n=10) scored their board's overall performance highest, followed by LS (74.07%; n=10), NV (70.67%; n=10) and NE (62.00%; n=10)

From the review of board minutes we found that:
1) MM scored lowest (barely) on the reflecting health needs dimension
- 2 vs 4 for the other three

From a comparison of expenditures versus revenues we found that:
1) MM (6.88) was best able to keep expenditures within the limits imposed by revenues, followed by NV (6.13), NE (3.65) and LS (2.75)

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[7] The MM n = 4 makes results from this board problematic

Table J1: Comparison between districts on quantitative sociodemographic characteristics

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) within each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
year born (mean, n, s.d.)	45.05 (510, 16.98)	46.62 (69, 16.45)	40.47 (58, 18.37)	46.59 (54, 15.85)	45.88 (50, 17.13)	42.20 (85, 15.75)	44.06 (53, 17.67)	47.13 (71, 17.71)	47.61 (70, 16.75)	.1554 (7, 502)
		p=.1493 (3, 227)				.5217 (1, 136)		.8669 (1, 139)		
# of children (mean, n, s.d.)	2.31 (509, 1.67)	2.17 (69, 1.47)	2.41 (56, 2.03)	2.56 (59, 1.61)	2.42 (51, 1.70)	2.59 (83, 1.68)	2.63 (49, 1.73)	1.58 (69, 1.43)	2.22 (73, 1.61)	.0058 (7, 501)
		p=.6353 (3, 231)				.8901 (1, 130)		.0136 (1, 140)		
		Tukey's honestly significant results: RG versus NE, EC & PA								
dlived (years lived in district) (mean, n, s.d.)	31.21 (490, 19.59)	27.90 (62, 18.88)	40.19 (58, 23.19)	27.51 (56, 17.58)	28.26 (47, 16.91)	32.63 (75, 20.04)	33.94 (53, 18.78)	29.88 (70, 19.54)	29.34 (69, 18.47)	.0064 (7, 482)
		.0008 (3, 219) Tukey's: MM vs NE, LS & NV				.7092 (1, 126)		.8687 (1, 137)		
slived (years lived in SK) (mean, n, s.d.)	45.84 (518, 19.57)	43.80 (71, 19.70)	49.82 (60, 20.58)	44.44 (57, 19.07)	46.50 (52, 17.90)	48.80 (84, 19.59)	46.64 (53, 19.84)	44.24 (70, 20.22)	42.63 (71, 19.13)	.3346 (7, 510)
		.3062 (3, 236)				.5324 (1, 135)		.6289 (1, 139)		

Table J2: Comparison between districts on quantitative social capital behaviours

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) for each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
attend (religious services) (mean, n, s.d.)	4.58 (470, 1.42)	4.50 (64, 1.43)	4.35 (57, 1.46)	4.88 (51, 1.45)	4.28 (46, 1.22)	4.07 (75, 1.20)	4.87 (47, 1.39)	4.79 (63, 1.32)	4.97 (67, 1.60)	.0008 (7, 462)
		.1388 (3, 214) *(.0232 for weighted data)*				.0009 (1, 120)		.4964 (1, 128)		
clubs (# clubs belong to) (mean, n, s.d.)	2.37 (531, 2.12)	2.26 (73, 2.03)	2.75 (59, 1.94)	2.38 (60, 2.16)	2.67 (54, 2.43)	2.41 (86, 2.45)	2.04 (54, 2.15)	2.04 (73, 1.83)	2.44 (72, 1.91)	.5086 (7, 523)
		.5329 (3, 242)				.3638 (1, 138)		.1964 (1, 143)		
indcivp (civic participation index) (mean, n, s.d.)	1.46 (534, .2005)	1.43 (73, .2162)	1.41 (60, .2004)	1.44 (61, .2212)	1.44 (54, .1787)	1.46 (86, .1726)	1.49 (54, .1757)	1.51 (73, .2061)	1.50 (73, .2110)	.0270 (7, 526)
		.7833 (3, 244)				.2987 (1, 138)		.7495 (1, 144)		*.0646*
socneigh (socialize with neighbours) (mean, n, s.d.)	3.74 (459, 1.60)	3.58 (64, 1.33)	3.13 (56, 1.43)	3.29 (51, 1.46)	3.51 (45, 1.66)	3.72 (75, 1.56)	3.98 (46, 1.71)	4.32 (60, 1.64)	4.26 (62, 1.70)	.0001 (7, 451)
		.3327 (3, 212)				.3947 (1, 119)		.8467 (1, 120)		
		Tukey's: RG vs MM & NE; SK vs MM & NE								
socwork (socialize with work-mates) (mean, n, s.d.)	4.09 (375, 1.93)	3.93 (54, 1.99)	4.02 (44, 2.17)	3.90 (40, 2.10)	3.97 (37, 2.03)	4.59 (56, 1.62)	4.54 (41, 1.48)	3.76 (49, 2.10)	3.96 (54, 1.89)	.2839 (7, 367)
		.9931 (3, 171)				.8700 (1, 95)		.5981 (1, 101)		

Table J2 continued.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
socfrien (socialize with friends) (mean, n, s.d.)	2.98 (469, 1.19)	2.94 (64, 1.23)	2.91 (56, 1.30)	2.88 (52, 1.23)	2.93 (46, 1.10)	2.97 (76, 1.14)	3.00 (47, 1.16)	3.13 (61, 1.12)	3.06 (67, 1.27)	.9626 (7, 461)
		.9956 (3, 214)				.9020 (1, 121)		.7366 (1, 126)		

Table J3: Comparison between districts on quantitative ranking of identities questions

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) for each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
iden1 (Canadian) (mean, n, s.d.)	2.56 (468, 2.20)	2.52 (61, 2.21)	2.42 (50, 1.95)	3.24 (50, 2.57)	3.04 (51, 2.57)	2.79 (75, 2.44)	2.13 (46, 2.11)	2.32 (68, 1.89)	2.12 (67, 1.69)	.0616 (7, 460)
		.2167 (3, 208)				.1340 (1, 119)		.5097 (1, 133)		*.0198*
iden2 (SK) (mean, n, s.d.)	3.62 (468, 1.85)	3.45 (62, 1.88)	3.92 (50, 1.93)	3.41 (51, 1.78)	3.98 (49, 1.82)	3.87 (75, 2.01)	3.54 (46, 2.04)	3.28 (68, 1.52)	3.60 (67, 1.83)	.3322 (7, 460)
		.2512 (3, 208)				.3949 (1, 119)		.2756 (1, 133)		
iden3 (part of SK) (mean, n, s.d.)	4.28 (463, 1.80)	4.13 (61, 1.75)	4.08 (49, 1.79)	4.36 (50, 1.85)	4.29 (49, 1.59)	4.64 (74, 1.86)	3.61 (46, 1.81)	4.57 (68, 1.86)	4.24 (66, 1.71)	.0900 (7, 455)
		.8377 (3, 205)				.0036 (1, 118) *(.0125 weighted)*		.2862 (1, 132)		
		Tukey's: EC vs PA								
iden4 (ethnic) (mean, n, s.d.)	6.32 (425, 2.11)	6.33 (55, 1.98)	6.07 (46, 2.61)	5.82 (45, 2.29)	6.57 (46, 1.87)	6.48 (69, 1.85)	6.23 (44, 2.24)	6.62 (61, 1.97)	6.31 (59, 2.20)	.6004 (7, 417)
		.4001 (3, 188)				.5190 (1, 111)		.4054 (1, 118)		
iden5 (religious) (mean, n, s.d.)	5.22 (435, 2.47)	5.53 (58, 2.39)	4.35 (46, 2.58)	5.46 (50, 2.53)	5.15 (47, 2.33)	4.46 (70, 2.36)	5.86 (44, 2.29)	5.53 (60, 2.30)	5.52 (60, 2.66)	.0083 (7, 427)
		.0712 (3, 197)				.0022 (1, 112)		.9707 (1, 118)		

Table J3 continued.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
iden6 (work) (mean, n, s.d.)	3.43 (442, 2.30)	3.47 (59, 2.39)	3.64 (45, 2.23)	2.90 (49, 2.00)	3.20 (46, 2.31)	3.65 (68, 2.44)	3.82 (44, 2.40)	2.91 (65, 2.07)	3.80 (66, 2.43)	.1653 (7, 434)
		.3802 (3, 195)				.7158 (1, 110)		.0252 (1, 129) *(.0035 weighted)*		*.0436*
iden7 (community) (mean, n, s.d.)	4.06 (467, 1.67)	4.27 (62, 1.78)	3.67 (49, 1.82)	3.73 (51, 1.47)	3.96 (49, 1.80)	4.09 (75, 1.74)	4.20 (46, 1.69)	4.31 (68, 1.43)	4.07 (67, 1.60)	.3557 (7, 459)
		.2366 (3, 207)				.7505 (1, 119)		.3707 (1, 1330)		
iden8 (neighbourh'd) (mean, n, s.d.)	4.12 (466, 1.93)	4.27 (62, 2.14)	4.16 (50, 1.90)	3.90 (50, 2.02)	3.92 (50, 1.97)	3.91 (75, 2.05)	3.98 (46, 1.69)	4.12 (68, 1.87)	4.60 (65, 1.74)	.4557 (7, 458)
		.7136 (3, 208)				.8426 (1, 119)		.1267 (1, 151)		

Table J4: Comparison between districts on quantitative commitment variables

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) for each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
impcomm (importance of community) (mean, n, s.d.)	2.34 (522, 1.16)	2.22 (69, 1.16)	2.17 (60, 1.24)	2.38 (60, 1.06)	2.28 (54, 1.11)	2.28 (81, 1.08)	2.47 (53, 1.12)	2.45 (73, 1.19)	2.49 (72, 1.30)	.6559 (7, 514)
		.7521 (3, 239)				.3327 (1, 132)		.8695 (1, 143)		
impcoun (importance of country) (mean, n, s.d.)	1.84 (527, 1.05)	1.89 (71, 1.13)	1.93 (60, 1.19)	1.84 (61, 1.08)	1.89 (53, 1.12)	1.77 (83, .89)	1.74 (54, 1.07)	1.81 (73, 1.02)	1.88 (72, 1.02)	.9572 (7, 519)
		.9390 (3, 242)				.6164 (1, 136)		.6944 (1, 143)		
impeth (importance of ethnic group) (mean, n, s.d.)	3.51 (360, 1.58)	3.49 (47, 1.69)	3.53 (38, 1.70)	3.33 (43, 1.76)	3.53 (38, 1.77)	3.26 (57, 1.20)	3.51 (37, 1.45)	3.96 (53, 1.59)	3.43 (47, 1.56)	.4920 (7, 352)
		.7042 (3, 232)				.3247 (1, 123)		.4992 (1, 140)		
impfam (importance of family) (mean, n, s.d.)	1.25 (528, .5475)	1.23 (73, .5406)	1.17 (60, .4185)	1.27 (60, .6069)	1.38 (53, .7132)	1.20 (83, .5793)	1.22 (54; .4624)	1.22 (72, .5097)	1.301 4 (73, .5187)	.5546 (7, 520)
		.2673 (3, 242)				.8531 (1, 135)		.3557 (1, 143)		*.0564*
impmy (importance of personal happiness) (mean, n, s.d.)	1.47 (528, .8049)	1.45 (73, .7273)	1.47 (60, .8727)	1.55 (60, 1.016)	1.42 (53, .6631)	1.52 (83, .8462)	1.50 (54, .7203)	1.38 (72, .8125)	1.47 (73, .7469)	.9458 (7, 520)
		.8438 (3, 242)				.8973 (1, 135)		.4848 (1, 143)		
impneigh (importance of neighbourh'd) (mean, n, s.d.)	2.55 (515, 1.24)	2.38 (69, 1.24)	2.47 (58, 1.39)	2.55 (60, 1.19)	2.73 (52, 1.51)	2.57 (81, 1.21)	2.75 (52, 1.10)	2.46 (72, 1.24)	2.61 (71, 1.09)	.7104 (7, 507)
		.5245 (3, 235)				.3831 (1, 131)		.4526 (1, 141)		

Table J4 cont.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
imppart (importance of part of SK) (mean, n, s.d.)	2.26 (524, 1.14)	2.19 (70, 1.12)	2.12 (60, 1.28)	2.28 (60, 1.09)	2.25 (53, 1.09)	2.27 (82, 1.10)	2.13 (53, 1.09)	2.44 (73, 1.17)	2.36 (73, 1.21)	.7546 (7, 516)
		.7201 (3, 242)				.6336 (1, 135)		.6762 (1, 144)		
impprov (importance of province) (mean, n, s.d.)	2.00 (525, 1.08)	1.94 (70, 1.02)	1.98 (60, 1.26)	2.03 (60, 1.06)	2.00 (53, 1.14)	2.01 (82, 1.00)	1.94 (54, 1.09)	1.99 (73, 1.02)	2.10 (73, 1.12)	.9948 (7, 517)
		.9664 (3, 241)				.5138 (1, 135)		.5376 (1, 144)		
imprelat (importance of relatives' happiness) (mean, n, s.d.)	1.74 (526, .9555)	1.81 (73, .8922)	1.78 (59, 1.17)	1.70 (60, 1.08)	1.81 (53, .9619)	1.54 (83, .7208)	1.72 (53, .9880)	1.67 (72, .9038)	1.93 (73, .9622)	.3496 (7, 518)
		.8603 (3, 242)				.2357 (1, 134)		.0898 (1, 143) *(.0058 weighted)*		*.0031*
imprelig (importance of religious group) (mean, n, s.d.)	2.89 (434, 1.55)	2.95 (56, 1.60)	2.82 (51, 1.68)	3.11 (53, 1.73)	2.74 (47, 1.61)	2.64 (75, 1.24)	2.91 (44, 1.55)	3.15 (59, 1.54)	2.82 (49, 1.59)	.6124 (7, 426)
		.4680 (3, 238)				.0745 (1, 133)		.4766 (1, 143)		*<.000 1*

Table J5: Comparison between districts on quantitative trust variables

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) for each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
ethtrust (trust people from their ethnic group) (mean, n, s.d.)	2.61 (513, 1.36)	2.21 (70, 1.15)	2.58 (57, 1.52)	2.87 (60, 1.48)	2.57 (51, 1.36)	2.50 (82, 1.34)	2.71 (49, 1.34)	2.82 (72, 1.25)	2.71 (72, 1.42)	.1370 (7, 505) *(.0275)*
		.0637 (3, 234) Tukey's: LS vs NE *(.0136 weighted)*				.3783 (1, 129)		.6186 (1, 142)		
indtcom2 (trust people from the community index) (mean, n, s.d.)	.6876 (531, .4528)	.4657 (73, .3984)	.4944 (60, .4489)	.6654 (60, .4390)	.6095 (54, .4438)	.7413 (86, .4470)	.9524 (53, .4807)	.8070 (73, .4494)	.7705 (72, .3422)	.0000 (7, 523)
		.0297 (3, 243) Tukey's: LS vs NE *(.0606 weighted)*				.0096 (1, 137)		.5831 (1, 143)		
		Tukey's: EC, PA, RG & SK vs LS & MM; PA vs NE & NV								
indtpeo2 (trust people in general index) (mean, n, s.d.)	.7020 (534, .4564)	.5385 (73, .4569)	.5679 (60, .4638)	.7384 (61, .4631)	.6907 (54, .4689)	.6792 (86, .4786)	.8472 (54, .4438)	.7958 (73, .4273)	.7796 (73, .3788)	.0005 (7, 526)
		.0442 (3, 244)				.0396 (1, 138) *(.0510 weighted)*		.8087 (1, 144)		
		Tukey's: PA, RG & SK vs LS; PA vs MM								
indtrdhb (trust DHB index) (mean, n, s.d.)	3.32 (526, 1.38)	2.87 (72, 1.39)	3.30 (60, 1.36)	3.26 (61, 1.41)	3.31 (54, 1.58)	3.35 (84, 1.32)	3.28 (54, 1.37)	3.65 (72, 1.32)	3.54 (69, 1.25)	.0527 (7, 518)
		.2192 (3, 243)				.7648 (1, 136)		.5898 (1, 139)		*.0036*
		Tukey's: RG vs LS								

Table J5 cont.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
indtrfed (trust federal government index) (mean, n, s.d.)	3.20 (526, 1.47)	3.41 (72, 1.59)	3.09 (60, 1.29)	3.17 (61, 1.49)	3.63 (53, 1.34)	3.08 (84, 1.32)	3.20 (54, 1.80)	2.89 (72, 1.35)	3.25 (70, 1.52)	.1691 (7, 518)
		.1795 (3, 242)				.6385 (1, 136)		.1283 (1, 140) *(.0462 weighted)*		
indtrgov (trust governments index) (mean, n, s.d.)	3.76 (527, .9083)	3.66 (72, .9484)	3.78 (60, .7634)	3.76 (61, 1.03)	3.87 (54, .9630)	3.73 (84, .8882)	3.70 (54, .9853)	3.79 (72, .8739)	3.82 (70, .8451)	.9372 (7, 519)
		.6540 (3, 243)				.8698 (1, 136)		.8208 (1, 140)		
indtrloc (trust local government index) (mean, n, s.d.)	3.07 (526, 1.19)	2.91 (71, 1.20)	2.76 (60, 1.19)	2.98 (61, 1.21)	3.18 (54, 1.15)	3.14 (84, 1.18)	2.99 (54, 1.39)	3.33 (72, 1.07)	3.18 (70, 1.13)	.1521 (7, 518)
		.3054 (3, 242)				.5140 (1, 136)		.4251 (1, 140)		
indtrpar (trust people from their part of SK) (mean, n, s.d.)	1.56 (531, 1.12)	1.25 (73, 1.06)	1.20 (59, 1.00)	1.57 (61, 1.14)	1.64 (53, 1.14)	1.55 (85, 1.14)	1.96 (54, 1.31)	1.73 (73, 1.08)	1.64 (73, .9904)	.0036 (7, 523)
		.0608 (3, 242) *(.1491 weighted)*				.0529 (1, 137)		.5764 (1, 144)		*.0262*
		Tukey's: PA vs LS & MM								
ntrust (trust neighbours) (mean, n, s.d.)	2.45 (530, 1.14)	2.27 (73, 1.14)	2.05 (59, 1.06)	2.46 (61, 1.16)	2.51 (53, 1.28)	2.41 (85, 1.09)	2.77 (53, 1.23)	2.59 (73, 1.12)	2.58 (73, .9989)	.0290 (7, 522)
		.3613 (3, 242)				.0875 (1, 138) *(.0253 weighted)*		.8248 (1, 144)		*.0436*
ptrust (trust people from their part of SK) (mean, n, s.d.)	2.67 (529, 1.27)	2.22 (72, 1.10)	2.36 (59, 1.11)	2.72 (60, 1.28)	2.77 (53, 1.35)	2.69 (85, 1.35)	3.07 (54, 1.48)	2.88 (73, 1.27)	2.70 (73, 1.10)	.0043 (7, 521)
		.0273 (3, 240) *(.1110 weighted)*				.1206 (1, 137)		.3667 (1, 144)		*.0200*
		Tukey's: PA & RG vs LS								

Table J5 cont.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
reltrust (trust people from religous group) (mean, n, s.d.)	2.34 (519, 1.33)	2.13 (71, 1.12)	2.21 (58, 1.39)	2.57 (61, 1.45)	2.32 (53, 1.31)	2.19 (83, 1.31)	2.47 (51, 1.33)	2.49 (72, 1.36)	2.44 (70, 1.38)	.4232 (7, 511)
		.2460 (3, 239)				.2386 (1, 132)		.8512 (1, 140)		
vote2 (vote in elections is influential) (mean, n, s.d.)	3.44 (519, 1.79)	3.24 (70, 1.86)	3.58 (59, 1.78)	3.73 (60, 1.89)	3.65 (52, 1.76)	3.28 (83, 1.76)	3.00 (54, 1.73)	3.58 (71, 1.66)	3.51 (70, 1.87)	.3321 (7, 511)
		.4350 (3, 237)				.3651 (1, 135)		.8324 (1, 139)		

Table J6: Comparison between districts on quantitative goverment performance variables

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) for each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
pergov1 (rate performance of federal government) (mean, n, s.d.)	3.98 (524, 1.32)	4.26 (72, 1.45)	3.92 (60, 1.18)	3.93 (61, 1.29)	4.46 (52, 1.23)	3.88 (83, 1.18)	4.19 (54, 1.46)	3.56 (72, 1.28)	3.86 (70, 1.34)	.0046 (7, 516)
		.0716 (3, 241)				.1798 (1, 135)		.1725 (1, 140)		
		Tukey's: LS & NV vs RG								
pergov2 (local government will tell public what they need to know) (mean, n, s.d.)	3.60 (523, 1.38)	3.65 (72, 1.39)	3.88 (60, 1.26)	3.72 (61, 1.39)	3.98 (52, 1.45)	3.48 (82, 1.25)	3.70 (54, 1.45)	3.31 (72, 1.50)	3.27 (70, 1.25)	.0303 (7, 515)
		.5427 (3, 241)				.3302 (1, 139) *(.0085 weighted)*		.8832 (1, 140)		*.0019*
pergov3 (rate performacne of DHB) (mean, n, s.d.)	4.00 (526, 1.48)	3.65 (72, 1.50)	3.93 (60, 1.33)	3.84 (61, 1.45)	4.02 (54, 1.72)	4.07 (83, 1.41)	3.80 (54, 1.47)	4.28 (72, 1.51)	4.30 (70, 1.43)	.1198 (7, 518)
		.5503 (3, 243)				.2735 (1, 135)		.9284 (1, 140)		*.0228*
pergov4 (rate performance of local government) (mean, n, s.d.)	3.60 (522, 1.32)	3.51 (71, 1.35)	3.35 (60, 1.33)	3.47 (60, 1.26)	3.55 (53, 1.22)	3.62 (84, 1.28)	3.59 (54, 1.38)	3.96 (72, 1.38)	3.68 (68, 1.30)	.2661 (7, 514)
		.8583 (3, 240)				.9087 (1, 136)		.2156 (1, 138)		
pergov5 (how much attention to public does DHB pay?) (mean, n, s.d.)	4.47 (523, 1.40)	4.20 (71, 1.55)	4.18 (60, 1.38)	4.51 (61, 1.39)	4.49 (53, 1.51)	4.47 (83, 1.33)	4.54 (54, 1.44)	4.63 (71, 1.28)	4.76 (70, 1.36)	.2346 (7, 515)
		.4360 (3, 241)				.7799 (1, 135)		.5793 (1, 139)		

Table J6 cont.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
pergov6 (how much money is wasted by local government?) (mean, n, s.d.)	3.50 (521, 1.60)	3.69 (72, 1.74)	3.97 (59, 1.67)	3.67 (60, 1.70)	3.17 (54, 1.37)	3.42 (83, 1.65)	3.43 (54, 1.59)	3.23 (70, 1.48)	3.43 (69, 1.49)	.1185 (7, 513)
		.0771 (3, 241) *(.0037 weighted)*				.9881 (1, 135)		.4138 (1, 137)		*.0118*
pergov7 (trust federal government to make good decisions) (mean, n, s.d.)	3.87 (521, 1.71)	3.96 (71, 1.82)	3.68 (60, 1.58)	3.82 (60, 1.85)	4.17 (53, 1.72)	3.73 (83, 1.61)	3.83 (54, 1.96)	3.72 (71, 1.54)	4.07 (69, 1.67)	.7037 (7, 513)
		.4947 (3, 240)				.7489 (1, 135)		.1949 (1, 138)		
pergov8 (provincial government has publics' best interests at heart) (mean, n, s.d.)	3.86 (520, 1.76)	3.67 (70, 1.83)	4.07 (60, 1.76)	4.08 (60, 1.90)	3.98 (53, 1.78)	3.98 (83, 1.64)	3.63 (54, 1.87)	3.73 (70, 1.74)	3.73 (70, 1.63)	.6712 (7, 512)
		.5298 (3, 239)				.2546 (1, 135)		1.000 (1, 138)		
pergov9 (trust DHB to make good decisions) (mean, n, s.d.)	3.68 (520, 1.60)	3.29 (70, 1.51)	3.78 (60, 1.60)	3.55 (60, 1.63)	3.78 (54, 1.81)	3.58 (84, 1.56)	3.57 (54, 1.68)	3.97 (69, 1.56)	3.96 (69, 1.48)	.1933 (7, 512)
		.2766 (3, 240)				.9737 (1, 136)		.9555 (1, 136)		
pergov10 (local government will tell public what they need to know) (mean, n, s.d.)	3.80 (517, 1.53)	3.52 (69, 1.44)	3.68 (60, 1.46)	3.73 (59, 1.60)	3.98 (53, 1.54)	3.84 (82, 1.67)	3.56 (54, 1.68)	3.99 (71, 1.46)	4.04 (69, 1.36)	.3545 (7, 509)
		.4210 (3, 237)				.3307 (1, 134)		.8094 (1, 138)		

Table J7: Comparison between districts on quantitative attitudes towards voting questions

P-value (with degrees of freedom) for each sociodemographic variable is from a one-way ANOVA.
P-value (with degrees of freedom) for each comparison group is from a one-way ANOVA.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
We present significant results from Tukey's honestly significant test, in comparison groups and across all districts.

	Total	LS	MM	NE	NV	EC	PA	RG	SK	p
vote1 (extent to which base voting decision upon research on issues) (mean, n, s.d.)	2.96 (511, 1.54)	2.99 (70, 1.74)	2.91 (58, 1.49)	3.10 (58, 1.74)	3.25 (51, 1.44)	3.01 (81, 1.41)	2.70 (54, 1.42)	2.79 (71, 1.21)	2.97 (68, 1.77)	.6693 (7, 503)
		.7071 (3, 233)				.2165 (1, 133)		.4786 (1, 137)		
vote2 (believe vote in elections is influential) (mean, n, s.d.)	3.44 (519, 1.79)	3.24 (70, 1.86)	3.58 (59, 1.78)	3.73 (60, 1.89)	3.65 (52, 1.76)	3.28 (83, 1.76)	3.00 (54, 1.73)	3.58 (71, 1.66)	3.51 (70, 1.87)	.3321 (7, 511)
		.4250 (3, 237)				.3651 (1, 132)		.8324 (1, 139)		
vote3 (if a person doesn't care how election comes out shouldn't vote) (mean, n, s.d.)	4.12 (520, 2.19)	4.36 (72, 2.22)	4.17 (60, 2.16)	3.65 (60, 2.07)	4.34 (53, 2.22)	3.95 (81, 2.33)	4.59 (54, 2.19)	3.94 (71, 2.15)	4.10 (69, 2.11)	.3642 (7, 512)
		.2371 (3, 241)				.1112 (1, 133) *(.0015 weighted)*		.6619 (1, 138)		*.0049*
vote4 (voting is only way to have a say) (mean, n, s.d.)	3.28 (521, 1.90)	3.57 (72, 2.10)	3.05 (60, 1.85)	3.57 (60, 1.90)	3.35 (52, 2.00)	2.95 (82, 1.83)	3.07 (54, 1.83)	3.24 (71, 1.82)	3.47 (70, 1.87)	.3518 (7, 513)
		.4102 (3, 240) *(.0333 weighted)*				.7025 (1, 134) *(.1224 weighted)*		.4562 (1, 139)		*.0073*

Table J8: Comparison between districts on categorical characteristics of clubs/associations questions

Numbers in cells are column percents, with the n for the cell in brackets.
P-value (with degrees of freedom) for each sociodemographic variable is from the chi-square test.
P-value (with degrees of freedom) for each comparison group is from the chi-square test.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
N.a. means that the statistical test of significance was not appropriate (more than 25% of cells had an expected value of 5 or fewer).

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
anyone1	*yes*	72.1 (271)	78.0 (39)	72.9 (35)	74.4 (29)	71.8 (28)	75.9 (44)	72.5 (29)	66.0 (31)	65.5 (36)	.8373 (7)
			.9111 (3)				.7075 (1)		.9575 (1)		
anyone2	*yes*	67.8 (173)	73.0 (27)	64.7 (22)	76.9 (20)	67.9 (19)	90.3 (28)	58.3 (14)	54.3 (19)	60.0 (24)	.0542 (7)
			.7376 (3)				.0056 (1)		.6177 (1)		
anyone3	*yes*	68.6 (120)	64.3 (18)	72.7 (16)	72.2 (13)	65.0 (13)	77.3 (17)	83.3 (10)	66.7 (14)	59.4 (19)	.7887 (7)
			.8886 (3)				n.a.		.5922 (1)		
coop1	*yes*	97.1 (371)	94.2 (49)	97.9 (46)	95.1 (39)	94.9 (37)	100 (61)	97.4 (38)	100 (48)	96.4 (53)	.5056 (7)
			n.a.				n.a.		n.a.		
coop2	*yes*	92.2 (237)	88.9 (32)	85.3 (29)	92.9 (26)	85.2 (23)	100 (32)	95.8 (23)	94.3 (33)	95.1 (39)	.2880 (7)
			n.a.				n.a.		n.a.		
coop3	*yes*	94.2 (162)	92.3 (24)	90.9 (20)	95.0 (19)	78.9 (15)	100 (22)	100 (11)	100 (20)	96.9 (31)	.0889 (7)
			n.a.				n.a.		n.a.		
desage1	*yes*	82.7 (306)	88.2 (45)	91.8 (45)	71.8 (28)	73.7 (28)	90.0 (54)	75.7 (28)	71.1 (32)	90.2 (46)	.0079 (7)
			.0261 (3) *(.0030 weighted)*				.0581 (1) *(.1433 weighted)*		.0168 (1) *(.0058 weighted)*		

Table J8 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
desage2	*yes*	77.7 (202)	64.9 (24)	79.4 (27)	71.4 (20)	71.4 (20)	80.0 (28)	88.0 (22)	84.8 (28)	82.5 (33)	.3337 (7)
			.6044 (3)				.4124 (1)		.7876 (1)		
desage3	*yes*	77.4 (137)	78.6 (22)	68.2 (15)	89.5 (17)	75.0 (15)	76.0 (19)	91.7 (11)	85.7 (18)	66.7 (20)	.4320 (7)
			n.a.				.2547 (1)		.1245 (1)		
descom1	*yes*	91.2 (341)	94.1 (48)	87.8 (43)	97.5 (39)	97.4 (37)	86.4 (51)	89.2 (33)	91.5 (43)	88.7 (47)	.3980 (7)
			n.a.				.6919 (1)		.6401 (1)		
descom2	*yes*	94.6 (244)	86.5 (32)	97.0 (32)	100 (28)	96.4 (27)	100 (34)	87.5 (21)	93.9 (31)	95.1 (39)	n.a.
			n.a.				n.a.		n.a.		
descom3	*yes*	92.7 (164)	89.7 (26)	100 (23)	100 (19)	85.0 (17)	91.7 (22)	81.8 (9)	95.0 (19)	93.5 (29)	n.a.
			n.a.				n.a.		n.a.		
deseth1	*yes*	32.2 (110)	28.6 (14)	47.7 (21)	30.0 (12)	51.4 (18)	29.4 (15)	17.1 (6)	23.8 (10)	30.4 (14)	.0216 (7)
			.0630 (3)				.1932 (1) *(.0976 weighted)*		.4858 (1)		
deseth2	*yes*	32.3 (80)	36.8 (14)	43.8 (14)	28.6 (8)	59.3 (16)	25.8 (8)	20.8 (5)	12.1 (4)	31.4 (11)	.0064 (7)
			.1198 (3)				.6668 (1)		.0550 (1) *(.0244 weighted)*		
deseth3	*yes*	23.8 (40)	24.1 (7)	38.1 (8)	16.7 (3)	22.2 (4)	18.2 (4)	16.7 (2)	19.0 (4)	29.6 (8)	.7347 (7)
			.454 (3)				n.a.		.4010		

Table J8 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
desrel1	*yes*	31.1 (111)	27.5 (14)	58.1 (25)	15.4 (6)	38.5 (15)	39.7 (23)	14.3 (5)	19.0 (8)	30.0 (15)	.0001 (7) *.0014*
			.0004 (3)				.0098 (1) *(.0170)*		.2269 (1)		
desrel2	*yes*	21.4 (53)	21.6 (8)	29.0 (9)	25.9 (7)	32.1 (9)	25.8 (8)	8.0 (2)	15.2 (5)	13.9 (5)	.3042 (7)
			.8008 (3)				.0837 (1)		.8817 (1)		
desrel3	*yes*	11.8 (20)	14.3 (4)	20.0 (4)	5.3 (1)	30.0 (6)	13.0 (3)	8.3 (1)	0 (0 of 20)	3.6 (1)	n.a.
			n.a.				n.a.		n.a.		
dessame1	*yes*	78.6 (293)	79.6 (39)	87.5 (42)	85.0 (34)	81.6 (31)	91.7 (55)	82.1 (32)	63.8 (30)	57.7 (30)	.0001 (7)
			.7380 (3)				.1521 (1)		.5326 (1)		
dessame2	*yes*	75.1 (196)	73.7 (28)	85.3 (29)	71.4 (20)	89.3 (25)	94.1 (32)	79.2 (19)	48.6 (17)	65.0 (26)	.0003 (7)
			.2328 (3)				n.a.		.1513 (1)		
dessam3	*yes*	68.6 (121)	67.9 (19)	72.7 (16)	57.9 (11)	80.0 (16)	68.0 (22)	100 (12)	52.4 (11)	48.3 (14)	.0047 (7)
			.4941 (3)				n.a.		.7745 (1)		
exec1	*yes*	85.4 (328)	88.5 (46)	87.8 (43)	83.3 (35)	89.7 (35)	85.5 (53)	86.5 (32)	77.1 (37)	85.5 (47)	.7746 (7)
			.8299 (3)				.8898 (1)		.2745 (1)		
exec2	*yes*	85.4 (222)	83.3 (30)	84.8 (28)	96.4 (27)	72.4 (21)	90.9 (30)	87.5 (21)	80.0 (28)	88.1 (37)	n.a.
			.1031 (3)				n.a.		.3295 (1)		
exec3	*yes*	79.8 (142)	85.7 (24)	77.3 (17)	80.0 (16)	80.0 (16)	91.7 (22)	58.3 (7)	85.7 (18)	71.0 (22)	n.a.
			n.a.				n.a.		.2156 (1)		

Table J8 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
influen1	*yes*	73.8 (273)	80.0 (40)	76.6 (36)	73.0 (27)	86.1 (31)	78.0 (46)	64.1 (25)	64.6 (31)	68.5 (37)	.2299 (7)
			.5549 (3)				.1327 (1)		.6739 (1)		
influen2	*yes*	67.6 (171)	80.6 (29)	70.6 (24)	65.4 (17)	69.2 (18)	71.0 (22)	62.5 (15)	62.9 (22)	58.5 (24)	.6199 (7)
			.5706 (3)				.5069 (1)		.7009 (1)		
influen3	*yes*	73.5 (125)	66.7 (18)	81.8 (18)	88.9 (16)	66.7 (12)	81.0 (17)	66.7 (8)	76.2 (16)	64.5 (20)	.5049 (7)
			.2517 (3)				.3570 (1)		.3708 (1)		
member1	*yes*	47.9 (182)	51.9 (27)	57.1 (28)	42.5 (17)	50.0 (19)	44.3 (27)	52.6 (20)	39.6 (19)	46.3 (25)	.7087 (7)
			.5877 (3)				.4174 (1)		.4944 (1)		
member2	*yes*	48.2 (123)	48.6 (18)	50.0 (16)	60.7 (17)	50.0 (14)	58.1 (18)	50.0 (12)	38.2 (13)	36.6 (15)	.4669 (7)
			.7736 (3)				.5514 (1)		.8831 (1)		
member3	*yes*	41.7 (73)	46.4 (13)	40.9 (9)	31.6 (6)	45.0 (9)	57.1 (12)	41.7 (5)	33.3 (7)	37.5 (12)	.7740 (7)
			.7641 (3)				.3922 (1)		.7570 (1)		
outside1	*yes*	76.6 (288)	70.0 (35)	80.9 (38)	78.0 (32)	79.5 (31)	81.0 (47)	74.4 (29)	70.2 (33)	78.2 (43)	.8014 (7)
			.5878 (3)				.4338 (1)		.3573 (1)		
outside2	*yes*	68.5 (176)	63.9 (23)	81.8 (27)	74.1 (20)	75.9 (22)	68.8 (22)	58.3 (14)	52.9 (18)	71.4 (30)	.2309 (7)
			.3957 (3)				.4208 (1)		.0967 (1)		
outside3	*yes*	70.3 (121)	63.0 (17)	68.2 (15)	70.6 (12)	75.0 (15)	77.3 (17)	58.3 (7)	76.2 (16)	71.0 (22)	.9155 (7)
			.8467 (3)				.2468 (1)		.6770 (1)		
rules1	*yes*	82.0 (315)	78.4 (40)	78.0 (39)	73.8 (31)	87.2 (34)	86.7 (52)	82.1 (32)	83.3 (40)	85.5 (47)	.6607 (7)
			.5119 (3)				.5514 (1)		.7669 (1)		

Table J8 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
rules2	*yes*	78.3 (202)	75.7 (28)	70.6 (24)	85.7 (24)	71.4 (20)	87.5 (28)	76.0 (19)	73.5 (25)	85.0 (34)	.5158 (7)
			.5165 (3)				.2573 (1)		.2213 (1)		
rules3	*yes*	75.1 (130)	77.8 (21)	59.1 (13)	73.7 (14)	75.0 (15)	90.9 (20)	66.7 (8)	76.2 (16)	76.7 (23)	.4721 (7)
			.5023 (3)				n.a.		.9685 (1)		
setting1	*yes*	73.6 (279)	64.0 (32)	68.1 (32)	85.4 (35)	71.1 (27)	75.0 (45)	72.5 (29)	72.9 (35)	80.0 (44)	.3871 (7) *.0279*
			.1368 (3)				.7801 (1)		.3963 (1)		
setting2	*yes*	63.2 (163)	50.0 (18)	73.5 (25)	67.9 (19)	69.0 (20)	64.5 (20)	60.9 (14)	60.0 (21)	61.9 (26)	.6365 (7)
			.1785 (3) *(.0204 weighted)*				.7838 (1)		.8645 (1)		
setting3	*yes*	56.1 (97)	33.3 (9)	63.6 (14)	63.2 (12)	50.0 (10)	71.4 (15)	66.7 (8)	47.6 (10)	61.3 (19)	.1683 (7)
			.1161 (3)				.7746 (1)		.3301 (1)		

Table J9: Comparison between districts on categorical social capital behaviour questions

Numbers in cells are column percents, with the n for the cell in brackets.
P-value (with degrees of freedom) for each sociodemographic variable is from the chi-square test.
P-value (with degrees of freedom) for each comparison group is from the chi-square test.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
N.a. means that the statistical test of significance was not appropriate (more than 25% of cells had an expected value of 5 or fewer).

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
civpar1	*yes*	49.6 (259)	31.0 (22)	47.5 (28)	50.8 (31)	49.0 (25)	61.4 (51)	57.4 (31)	49.3 (36)	50.0 (35)	.0254 (7) *.0026*
			.0771 (3) *(.0374 weighted)*				.6375 (1)		.9347 (1)		
civpar2	*yes*	81.7 (429)	77.1 (54)	69.5 (41)	78.7 (48)	84.9 (45)	89.4 (76)	83.3 (45)	79.5 (58)	88.6 (62)	.0602 (7) *.0159*
			.2755 (3)				.2982 (1)		.1379 (1) *(.0338 weighted)*		
civpar3	*yes*	90.8 (481)	94.5 (69)	88.3 (53)	83.6 (51)	90.7 (49)	95.3 (81)	92.6 (50)	90.4 (66)	88.6 (62)	.3255 (7)
			.2220 (3)				n.a.		.7200 (1)		
civpar4	*yes*	90.9 (481)	93.2 (68)	86.7 (52)	85.2 (52)	92.6 (50)	94.0 (79)	90.7 (49)	90.4 (66)	92.9 (65)	.5801 (7)
			.3509 (3)				.4646 (1)		.5979 (1)		
civpar5	*yes*	49.2 (258)	54.9 (39)	50.0 (30)	50.8 (31)	60.4 (32)	42.2 (35)	44.4 (24)	41.7 (30)	52.9 (37)	.3805 (7) *.0014*
			.6765 (3)				.7927 (1) *(.0818 weighted)*		.1817 (1) *(.0069 weighted)*		

Table J9 cont.											
		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
comboard	*yes*	47.0 (247)	59.2 (42)	62.7 (37)	40.7 (24)	57.4 (31)	52.4 (44)	39.6 (21)	27.8 (20)	38.4 (28)	.0002 (7)
			.0741 (3) *(.0308 weighted)*				.1453 (1)		.1759 (1) *(.0062 weighted)*		
news	*yes*	89.0 (470)	87.5 (63)	96.6 (57)	93.4 (57)	90.7 (49)	95.2 (80)	85.2 (46)	83.3 (60)	80.6 (58)	.0186 (7) *.0040*
			n.a.				.0408 (1) *(.0410 weighted)*		.6648 (1)		
nimprove	*yes*	13.5 (71)	19.4 (14)	22.8 (13)	16.7 (10)	13.0 (7)	6.0 (5)	5.6 (3)	15.1 (11)	11.3 (8)	.0447 (7) *.0009*
			.5758 (3)				n.a.		.5004 (1)		
cothers	*yes*		50.0	62.7	56.7	50.0	43.9	49.1	38.4	40.8	
			.4326 (3)				.5573 (1)		.7601 (1)		
corgan	*yes*		31.0	40.0	23.7	20.4	21.3	22.6	13.7	26.8	
			.0938 (3) *(.0230 weighted)*				.8491 (1)		.0507 (1) *(.0608 weighted)*		

Table J10: Comparison between districts on categorical neighbourliness variables

Numbers in cells are column percents, with the n for the cell in brackets.
P-value (with degrees of freedom) for each sociodemographic variable is from the chi-square test.
P-value (with degrees of freedom) for each comparison group is from the chi-square test.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
N.a. means that the statistical test of significance was not appropriate (more than 25% of cells had an expected value of 5 or fewer).

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
ncar	*yes*		95.6 (65)	90.7 (49)	87.7 (50)	88.2 (45)	93.6 (73)	77.8 (35)	66.2 (45)	82.8 (53)	.0000 (7)
			.4019 (3)				.0098 (1)		.0289 (1)		
nclose	*yes*	66.2 (352)	84.9 (62)	81.7 (49)	62.6 (40)	74.1 (40)	65.1 (56)	60.4 (32)	47.9 (35)	52.8 (38)	.0000 (7)
			.0441 (3) *(.1065 weighted)*				.5734 (1)		.5606 (1)		
ndollar1	*yes*	70.9 (365)	76.1 (54)	86.4 (51)	80.4 (45)	75.5 (40)	76.8 (63)	69.2 (36)	52.8 (38)	54.3 (38)	.0000 (7)
			.4213 (3)				.3292 (1)		.8571 (1)		
ndollar2	*yes*	85.9 (444)	88.9 (64)	89.8 (53)	93.0 (53)	83.3 (45)	93.9 (77)	83.0 (44)	77.5 (55)	76.8 (53)	.0145 (7) *.0020*
			.4407 (3)				.0428 (1) *(.0015 weighted)*		.9267 (1)		
nfive	*yes*		85.7 (60)	86.0 (49)	89.8 (53)	76.9 (40)	96.7 (72)	68.6 (35)	82.2 (60)	74.3 (52)	.0399 (7)
			.2861 (3)				.0111 (1) *(.0036 weighted)*		.2514 (1)		*.0105*
nhome1	*yes*	93.8 (496)	95.8 (69)	93.2 (55)	95.0 (57)	94.3 (50)	96.5 (83)	94.4 (51)	90.4 (66)	90.3 (65)	n.a.
			n.a.				n.a.		.9783 (1)		

Table J10 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
nimprove	*yes*	13.5 (71)	19.4 (14)	22.8 (13)	16.7 (10)	13.0 (7)	6.0 (5)	5.6 (3)	15.1 (11)	11.3 (8)	.0447 (7) *.0009*
			.5758 (3)				n.a.		.5004 (1)		
njoin	*yes*	88.8 (429)	93.8 (61)	94.2 (49)	88.0 (44)	81.5 (44)	82.4 (61)	93.9 (46)	85.5 (59)	92.9 (65)	.0892 (7)
			.0934 (3) *(.0077 weighted)*				.0647 (1) *(.1484 weighted)*		.1626 (1)		
nnames	*yes*	81.6 (434)	91.8 (67)	93.2 (55)	86.9 (53)	90.7 (49)	86.0 (74)	70.4 (38)	65.8 (48)	69.4 (50)	.0000 (7)
			.6603 (3)				.0240 (1) *(.0007 weighted)*		.6349 (1)		
nsick1	*yes*	85.4 (452)	94.4 (68)	93.3 (56)	90.2 (55)	92.5 (49)	90.5 (76)	79.6 (43)	71.2 (52)	73.6 (53)	.0000 (7)
			n.a.				.0711 (1)		.7487 (1)		
nsick2	*yes*	96.2 (504)	100 (72)	98.3 (58)	100 (61)	96.2 (50)	98.8 (83)	96.2 (51)	87.5 (63)	93.0 (66)	n.a.
			n.a.				n.a.		.2722 (1) *(.0234 weighted)*		

Table J11: Comparison between districts on categorical sociodemographic characteristic variables

Numbers in cells are column percents, with the n for the cell in brackets.
P-value (with degrees of freedom) for each sociodemographic variable is from the chi-square test.
P-value (with degrees of freedom) for each comparison group is from the chi-square test.
P-value (with degrees of freedom) in italics is from the weighted data; only presented when results differ in an important way from the unweighted results.
N.a. means that the statistical test of significance was not appropriate (more than 25% of cells had an expected value of 5 or fewer).

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
empfar	*yes*	10.9 (58)	16.4 (12)	23.3 (14)	11.5 (7)	18.5 (10)	11.6 (10)	3.7 (2)	2.7 (2)	1.4 (1)	.0001 (7)
			.3823 (3)				.1030 (1)		n.a.		
empfull	*yes*	36.9 (197)	42.5 (31)	20.0 (12)	32.8 (20)	37.0 (20)	32.6 (28)	31.5 (17)	52.1 (38)	42.5 (31)	.0106 (7)
			.0489 (3)				.8944 (1)		.2459 (1)		
emphful	*yes*	14.4 (77)	12.3 (9)	28.3 (17)	21.3 (13)	13.0 (7)	20.9 (18)	7.4 (4)	4.1 ,(3)	8.2 (6)	.0006 (7)
			.0689 (3)				.0324 (1)		n.a.		
emphpar	*yes*	4.3 (23)	2.7 (2)	5.0 (3)	6.6 (4)	5.6 (3)	1.2 (1)	5.6 (3)	1.4 (1)	8.2 (6)	n.a.
			n.a.				.1289 (1)		n.a.		
emppart	*yes*	12.2 (65)	15.1 (11)	3.3 (2)	13.1 (8)	9.3 (5)	12.8 (11)	16.7 (9)	9.6 (7)	16.4 (12)	.3165 (7)
			.1423 (3)				.5235 (1)		.2187 (1)		
empret	*yes*	29.4 (157)	17.8 (13)	40.0 (24)	29.5 (18)	27.8 (15)	39.5 (34)	31.5 (17)	26.0 (19)	23.3 (17)	.0490 (7)
			.0446 (3)				.3351 (1)		.7010 (1)		
empself	*yes*	13.7 (73)	16.4 (12)	26.7 (16)	13.1 (8)	16.7 (9)	10.5 (9)	9.3 (5)	8.2 (6)	11.0 (8)	.0625 (7)
			.2411 (3)				.8169 (1)		.5740 (1)		
empstu	*yes*	2.6 (14)	0 (0 of 73)	1.7 (1)	1.6 (1)	1.9 (1)	2.3 (2)	3.7 (2)	1.4 (1)	8.2 (6)	n.a.
			n.a.				n.a.		n.a.		

Table J11 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
empun	*yes*	4.3 (23)	2.7 (2)	1.7 (1)	11.5 (7)	3.7 (2)	4.7 (4)	7.4 (4)	1.4 (1)	2.7 (2)	n.a.
			n.a.				n.a.		n.a.		
health	*ex*	27.8 (148)	33.3 (24)	21.7 (13)	29.5 (18)	27.8 (15)	20.9 (18)	22.2 (12)	35.6 (26)	30.6 (22)	.6206 (21)
	gd	54.7 (291)	50.0 (36)	55.0 (33)	55.7 (34)	57.4 (31)	62.8 (54)	57.4 (31)	50.7 (37)	48.6 (35)	
	fr	12.6 (67)	8.3 (6)	15.0 (9)	11.5 (7)	9.3 (5)	15.1 (13)	16.7 (9)	11.0 (8)	13.9 (10)	
	pr	4.9 (26)	8.3 (6)	8.3 (5)	3.3 (2)	5.6 (3)	1.2 (1)	3.7 (2)	2.7 (2)	6.9 (5)	
			.8142 (9)				.7448 (3)		.5955 (3)		
marital	*mar.*	67.3 (358)	68.1 (49)	63.3 (38)	70.0 (42)	74.1 (40)	75.6 (65)	63.0 (34)	56.2 (41)	67.1 (49)	n.a.
	c.l.	3.0 (16)	6.9 (5)		6.7 (4)	1.9 (1)		1.9 (1)	4.1 (3)	2.7 (2)	.0198 (21)
	div.	3.9 (21)			3.3 (2)		3.5 (3)	7.4 (4)	8.2 (6)	8.2 (6)	
	sep.	2.1 (11)	1.4 (1)	1.7 (1)	3.3 (2)	1.9 (1)	2.3 (2)	5.6 (3)		1.4 (1)	
	wid.	10.9 (58)	6.9 (5)	23.3 (14)	11.7 (7)	13.0 (7)	9.3 (8)	7.4 (4)	9.6 (7)	8.2 (6)	
	sin.	12.8 (68)	16.7 (12)	11.7 (7)	5.0 (3)	9.3 (5)	9.3 (8)	14.8 (8)	21.9 (16)	12.3 (9)	
			n.a. (p=.0645 (9) where married & common-law together, divorced & sep together)				n.a. (p=.3160 (3)		n.a. (p=.4523 (3)		
ownhome	*yes*	81.0 (425)	83.1 (59)	81.4 (48)	78.7 (48)	84.9 (45)	88.2 (75)	73.1 (38)	80.3 (57)	75.3 (55)	.3802 (7)
			n.a.				n.a.		n.a.		

Table J11 cont.

		Total	LS	MM	NE	NV	EC	PA	RG	SK	p
religtype	*r.c.*	27.4 (117)	21.4 (12)	30.0 (15)	6.5 (3)	44.9 (22)	28.6 (22)	32.5 (13)	35.8 (19)	19.6 (11)	n.a.
	prot.	56.2 (240)	60.7 (34)	64.0 (32)	73.9 (34)	40.8 (20)	62.3 (48)	50.0 (20)	49.1 (26)	46.4 (26)	
	orth.	2.1 (9)			2.2 (1)		5.2 (4)		5.7 (3)	1.8 (1)	
	oth.	1.4 (6)	1.8 (1)	2.0 (1)	2.2 (1)	2.0 (1)	1.3 (1)			1.8 (1)	
	non.	12.9 (55)	16.1 (9)	4.0 (2)	15.2 (7)	12.2 (6)	2.6 (2)	17.5 (7)	9.4 (5)	30.4 (17)	
			n.a.				n.a.		n.a.		

Table J12: Comparison between districts on sociodemographic characteristics

(from Census '91 and Community Profile Database)

	LS	MM	NE	NV	EC	PA	RG	SK
dvhst94 (derived health status, NPHS) (mean, n)	.8475 (4)	.9238 (10)	.9385 (10)	.8851 (18)	.9379 (26)	.8672 (54)	.8795 (216)	.8828 (239)
gh_q1 (general health, NPHS) (1=excellent, 5=poor) (mean, n)	3.50 (4)	2.60 (10)	2.20 (10)	2.67 (18)	2.27 (26)	2.44 (54)	2.38 (216)	2.32 (242)
mob_1yr (% non-movers in last year)	90.07	92.86	89.57	91.14	88.57	80.99	82.10	79.67
mob_5yr (% movers in last 5 years)	31.50	31.31	42.44	32.40	43.71	73.38	53.62	49.31
numtowns (number of towns)	19	16	13	23	19	11	37	23
numphys (# of physicians)	13	13	17	11	41	89	412	614
numother (# of other health-care workers; rn, pt/ot, etc)	71	76.5	100.5	129	271.5	518.5	2235	2532
dierate1 (crude death rate, '93)	10.29	9.88	11.33	9.82	9.50	7.15	6.88	6.43
dierate2 (standard death rate, '93)	7.09	7.59	8.59	6.75	7.00	8.14	8.26	7.97
birthrate per 1000, '93	9.15	8.87	16.31	8.91	10.51	15.45	14.03	15.43
sinparen (% single parents '91)	7.00	7.50	7.90	6.90	9.00	14.80	14.00	14.20
homesin (% homes with single person only '91)	29.00	29.80	28.00	29.40	29.80	26.50	29.90	31.70

Table J12 cont.								
	LS	MM	NE	NV	EC	PA	RG	SK
homeown (% own home '91)	80.70	81.20	78.40	80.60	76.70	65.50	67.10	61.80
homerent (% rent home '91)	19.20	16.50	22.00	19.30	22.50	32.80	32.70	38.20
homratio (ratio of home owned to rented)	4.20	4.92	3.56	4.18	3.41	2.00	2.05	1.62
popchange (% change, '84-94)	-13.49	-9.02	-6.26	-13.23	-9.60	-1.93	3.60	7.32
deprat (dependency ratio <14 & >65 versus rest, '94)	.70	.71	.71	.67	.67	.58	.51	.51
population '94	14763	13643	17197	16087	31416	50654	203971	215663
density (pop/km^2)	1.58	1.49	1.04	2.82	3.49	3.80	17.09	18.52
english (% english as mother tongue)	87.40	88.10	86.70	81.50	82.00	84.10	89.20	86.20
elderly (% 65 plus '94)	21.50	19.20	15.40	21.10	20.10	13.30	12.10	11.20
popind (% in Indian bands)	0	8.90	18.90	0	2.40	4.70	1.0	0.10
poprul (% in rural)	39.40	42.30	29.60	34.10	27.60	23.00	5.10	6.30
relcath (% Roman Catholic)	27.10	27.90	20.10	39.90	29.60	36.70	33.80	30.50
relprot (% Protestant)	64.40	63.00	66.80	52.00	53.00	50.30	49.50	52.00
relother (% other)	1.60	.80	2.10	4.00	10.60	2.70	3.60	3.70
relnone (% none)	6.90	8.30	11.00	4.10	6.80	10.30	13.10	13.80
inc_20 (% income < $20,000)	33.92	37.71	40.26	35.60	35.82	31.19	22.46	26.61
inc_70 (% income > $70,000)	8.96	7.31	6.82	9.74	8.45	12.90	17.56	13.94

Table J12 cont.								
	LS	MM	NE	NV	EC	PA	RG	SK
inc_avg (average income)	35532	33332	30971	34880	34455	38395	45557	41562
pop1000 (% pop in 1000+ communities '94)	36.80	16.40	33.50	47.80	57.50	64.80	90.30	90.30

Table J13: Comparison between districts on social capital behaviours

	LS	MM	NE	NV	EC	PA	RG	SK
dvssi294 (derived social involvement; higher=better) (NPHS) (mean, n)	2.50 (4)	4.10 (10)	2.86 (7)	4.53 (17)	4.24 (25)	2.23 (53)	2.91 (209)	3.02 (230)
sup_q7h (mean # contacts with neighbours / yr) (NPHS) (mean, n)	26.50 (4)	76.20 (10)	117.71 (7)	80.76 (17)	42.72 (25)	110.25 (53)	81.18 (208)	104.63 (230)
sup_q2a (# religious services / yr) (NPHS) (mean, n)	2.63 (4)	28.85 (10)	22.29 (7)	21.03 (17)	21.60 (25)	8.68 (53)	13.78 (209)	15.13 (230)
sup_q1 (member of voluntary groups?) (NPHS) (% yes, n)	50.00 (4)	40.00 (10)	28.57 (7)	64.71 (17)	56.00 (25)	26.42 (53)	38.28 (209)	38.70 (230)
sup_q2 (# participate / yr) (NPHS) (mean, n)	3.50 (4)	12.00 (10)	52.00 (7)	21.14 (17)	24.29 (25)	26.04 (53)	27.70 (209)	30.15 (230)
votedhb (% voted in dhb election)	41.20	38.60	29.20	31.70	32.80	24.20	15.80	15.90
votefed (% voted in federal election)	73.09	68.58	66.84	68.68	67.08	61.86	66.54	62.46
voteprov (% voted in provincial election)	73.34	67.68	71.59	73.51	66.23	56.08	64.50	59.99
vote (average)	62.54	58.29	55.88	57.96	55.37	47.38	48.95	46.12
rundhb (# running for DHB office)	11	12	19	13	20	18	33	44

Table J14: Comparison between districts on social capital social-psychological attributes

	LS	MM	NE	NV	EC	PA	RG	SK
scoh_q4 *(often treated unfairly, NPHS, 1=v.often, 7=never)* *(mean, n)*	5.00 (4)	5.60 (10)	6.14 (7)	5.93 (15)	5.56 (25)	5.78 (49)	5.55 (188)	5.59 (220)
dvssi194 *(derived social support)* *(higher=better)* *(NPHS) (mean, n)*	3.75 (4)	4.00 (10)	3.86 (7)	3.59 (17)	3.84 (25)	3.75 (53)	3.71 (208)	3.81 (226)
sup_q4 *(have someone to count on)* *(NPHS) (% yes, n)*	100 (4)	100 (10)	100 (7)	94.12 (17)	92.00 (25)	94.34 (53)	94.26 (209)	95.63 (229)
scoh_q3 *(how often people disappointed you, 1=never, 7=always)* *(NPHS) (mean, n)*	2.50 (4)	2.40 (10)	1.57 (7)	2.40 (15)	2.68 (25)	2.96 (49)	2.80 (188)	3.03 (220)

Table J15: Comparison between districts on social capital attributes

	LS	MM	NE	NV	EC	PA	RG	SK
avgclub2 (# clubs per capita, proxy measure)	.0028	.0026	.0013	.0012	.0011	.0013	.0013	.0011
displan2 (% of communities with disaster plans, '95)	.58	.88	.77	.35	.32	1.00	.41	.96
taxarrea (tax arrears as % of tax levy)	15.00	11.50	15.70	15.80	14.10	10.20	6.10	4.70
crimeass (assault; rate, '93)	5.20	5.00	14.20	6.10	6.90	15.80	8.70	11.00
crimeliq (liquor)	15.10	20.30	16.00	13.40	10.10	8.40	9.60	15.20
crimetot (total)	88.0	124.0	149.8	89.7	113.7	180.1	152.2	147.4

Table J16: Comparison between districts on District Health Board performance indicators

(we have not presented results from data obtained from the Provincial Auditor to maintain confidentiality as promised)

	LS	MM	NE	NV	EC	PA	RG	SK
rrevexp (0-10, 10 high)	2.75	6.88	3.65	6.13	3.44	7.59	6.13	4.50
min_pmi (policy review) (0-10, 10 high)	10	10	10	10	5	5	0	10
min_rhn (reps from public) (0-10, 10 high)	4	2	4	4	10	8	2	6
surv_tot (total score from survey 1)	66.84	75.00	62.20	68.76	50.40	75.71	63.39	82.50
sur2_tot (total score from survey 2)	74.07	85.33	62.00	70.67	66.07	83.71	69.85	64.36

Appendix K: Creating sociodemographic packages for social capital behaviour dependent variables

Introduction

For the analysis in this appendix the dependent variables were four social capital behaviour variables and indices. In the second results chapter we explored the relationship between social-psychological attributes of individuals and their social capital behaviours, using data obtained from the survey of randomly selected citizens. However, at times we wanted to also control for as many sociodemographic characteristics as we could, to determine whether the bivariate relationship between social-psychological and social capital behaviours was possibly spurious. Rather than adding every sociodemographic variable to the logistic or multiple regression in question we chose to create a package of sociodemographic variables, described in this appendix, for each dependent variable, that predicted nearly as much (and not statistically significantly less) variability in the dependent variable than did all sociodemographic variables together. We could then control for the smaller package instead of the larger one, creating simpler regressions that more readily satisfied the assumptions of logistic and multiple regressions. This appendix describes the creation of the sociodemographic packages for four social capital dependent variables.

The social capital behaviour variables were *clubs* (the number of clubs respondent participates in), *indcivp* (a civic participation index), *cothers* (worked with others on a community problem) and *corgan* (organized others to deal with a community problem). *Clubs* and *indcivp* were quantitative, whereas *cothers* and *corgan* were categorical. The distribution of *indcivp* was symmetrical and normal (Figure 14). The distributions of *clubs* was heavily skewed to the right (Figure 20). This influenced the choice of significance test administered.

We determined, first of all, which sociodemographic variables correlated significantly and individually with associational, civic and collaborative problem-solving participation and then, secondly, put all of the sociodemogaphic variables (significant and non-significant predictors) together into a predictive model. We then pared the model down to find the smallest package that does not account for significantly less variability in the dependent variable.

We urge caution when interpreting the sociodemographic packages themselves. We created the packages by running the regressions with all sociodemographic variables, noting which had significant t (or Wald) statistics, running a model with only these selected variables and comparing this model to the original to determine whether it predicts significantly less than the original. If it did not we retained this model as our "package". This technique was unsuccessful for the dependent variable *indcivp* (the new model was significantly less successful for prediction). In this case, therefore, we ran a backwards stepwise regression to

determine the final model. For all sociodemographic packages we could not get too involved in interpreting the variables and their B coefficients since we did not have a priori reasons for introducing variables in any order or removing them in a predefined way. Stepwise regression can sometimes lead to counter-intuitive results when trying to explain relationships. In this research project we used the packages for the purpose of controlling for sociodemographic influences only.

A. Do any of the sociodemographic variables predict participation in clubs and associations?

Bivariate Analysis:

We found that people participated **more**

1) whose household income was higher
   a) p=.0001 in the KW test for different mean ranks, the median number of clubs participated in increased as income increased, although in a staggered fashion, and the mean ranks increased as income increased, although also in a staggered fashion. The lowest income groups had the lowest participation and the highest had the highest, however.
   b) tau=.1620 (p<.001) in the measure of association, demonstrating a positive association between income and participation in clubs.
2) who were not unemployed
   p=.0054 in the KW test for different mean ranks, although there were only 23 unemployed respondents
3) who were farmers
   p=.0219 in the KW test for different mean ranks
4) who were married, common-law or widowed (versus divorced, separated or single)
   p=.0272 in the KW test for different mean ranks, where the married/common-law category had the highest mean, followed by widowed, divorced/separated, and single categories.
5) who own their own home (versus renting their home)
   p=.0197 in the KW test
6) who were more highly educated
   p<.0001 in the KW test, where those with university education participated the most, followed by community college, technical/vocational program, high school and elementary school categories.
7) who were Protestants, most of all, and then Roman Catholic believers (versus other and none)
   p<.0001 in the KW test
8) who were older
   tau=.0686 (p=.033), demonstrating that age influenced participation
9) who had more children
   tau=.0807 (p=.020)
10) who had lived longer in their neighbourhood
   tau=.0852 (p=.007)
11) who had lived longer in Saskatchewan
   tau=.0882 (p=.006)

Thus, assuming that these independent variables are unrelated and have additive effects, the (hypothetical) individual who is most likely to participate in clubs and associations has a high income, is an employed farmer, has (or had) a spouse, is educated, owns his/her home, professes some affiliation to a relatively mainstream Christian religious group, is older than the average, has children, and has lived for a long time in his/her neighbourhood and in Saskatchewan.

Multivariate Analysis:

We dichotomized the variables *clubs* into two categories: those who belonged to one or more clubs versus those who did not participate in any clubs or associations. The newly created variable was called *clubs2* and was the dependent variable in the logistic regressions described here. We created a logit model with all of the sociodemographic variables as independent variables, determined which of the ordinal variables could

be treated as quantitative ones (using likelihood ratio tests between models with sets of dummy variables and with quantitative ones replaced one by one), and created the model summarized in Table K1.

Table K1. Logistic regression for *clubs2* (# of clubs and associations currently participating in, transformed)

pseudo R-squared = 16.29%
n=409
-2 Log Likelihood =343.123
p>.05 in LR test versus model with all sociodemographic variables

independent variable	B	SE B	Wald statistic	df	p	R
educ2 (education)	-0.5076	0.1192	18.12	1	<.0001	-0.1983
FT employed (dummy)	-0.3592	0.1631	4.85	1	0.0277	-0.0833
un-employed (dummy)	0.6579	0.2734	5.79	1	0.0161	0.0962
place (rural..urban)	-0.1911	0.0784	5.93	1	0.0149	-0.098
religtyp			17.33	4	0.0017	0.1509
rel1 (Prot)	-0.4824	3.1253				0
rel2 (RC)	-0.7944	3.1216				0
rel3 (Ortho)	-2.3777	3.1669				0
rel4 (other)	5.609	12.4551				0
slived	0.0269	0.007	13.28	1	0.0003	0.1659
constant	3.5617	3.1816				

We found that, controlling for the other independent variables, the log odds of participating in one or more clubs increased for those who 1) had higher levels of education, 2) were not full-time employed, 3) were unemployed, 4) live in more rural settings, 5) claim religious affiliation with a non-Catholic, non-Protestant and non-Jewish group, and 6) had lived longer in Saskatchewan. Comparing the R-values we see that education had the largest contribution to the regression, followed closely by number of years lived in SK, religious affiliation, size of community lived in and finally the employment categories. These sociodemographic variables together accounted for approximately 16% of the variability in *clubs2*.

Checking Logistic Regression Assumptions

We calculated the Cook's Distance, leverage and Studentized residual plots to determine unusual points. From Figure 21 we isolated cases 380 and 267, and from Figure 22 case 3. We deleted the isolated cases and reran the regression, but found that the B coefficients changed little (less than 1 SE for all coefficients). The studentized residuals appear to be well-behaved (Figure 23.). Therefore we concluded that the model could be used for all cases in the sample. We also plotted a partial residual plot for the single quantitative independent variable *slived* (Figure 24). The fitted Lowess curve does not show any departure from linearity, suggesting that the linearity assumption has been met.

Figure 21. Cook's Distance plot (dependent variable *clubs)*

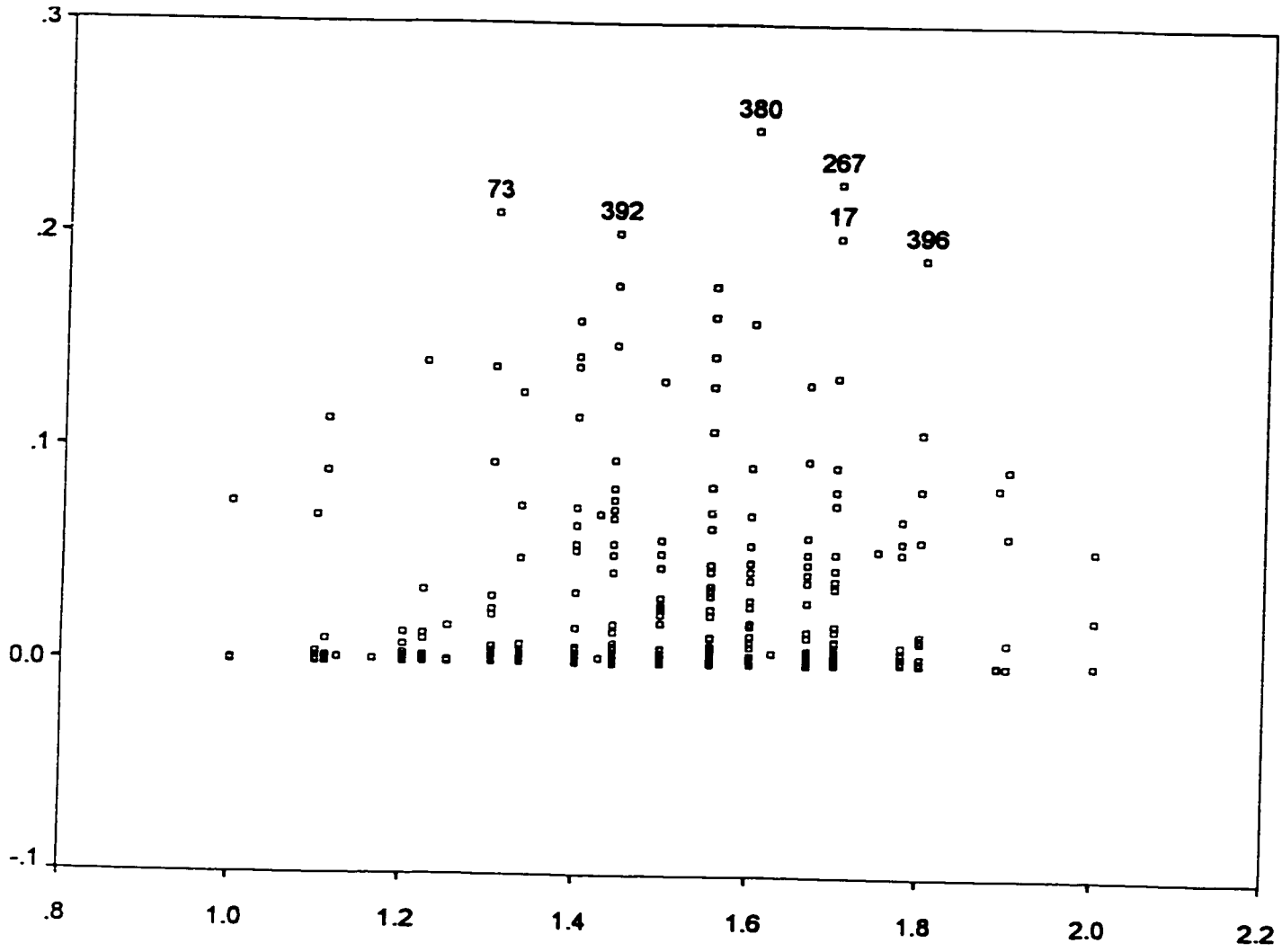


Figure 22. **Leverage plot (dependent variable *clubs*)**

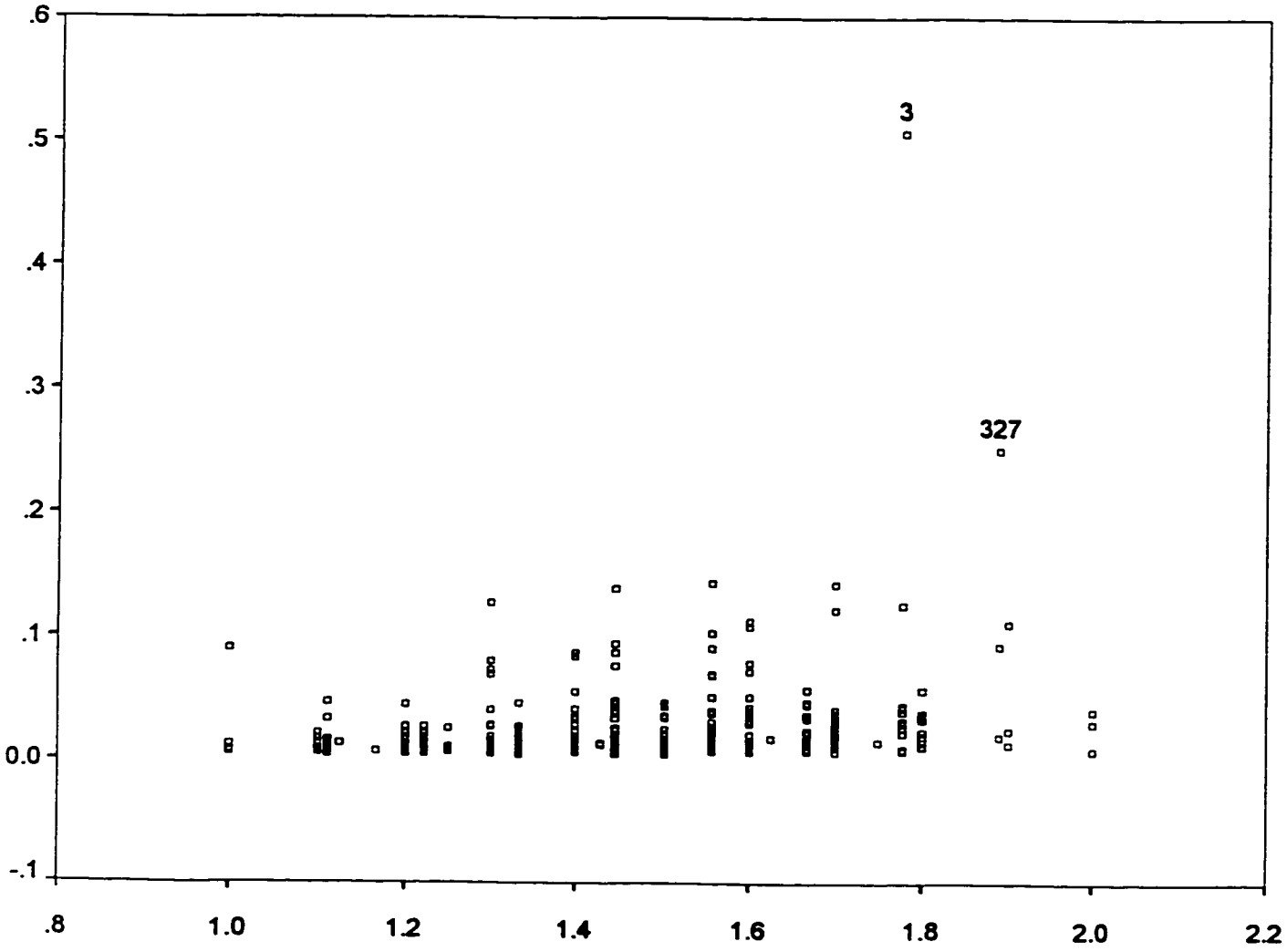


Figure 23. **Studentized residual plot (dependent variable *clubs*)**

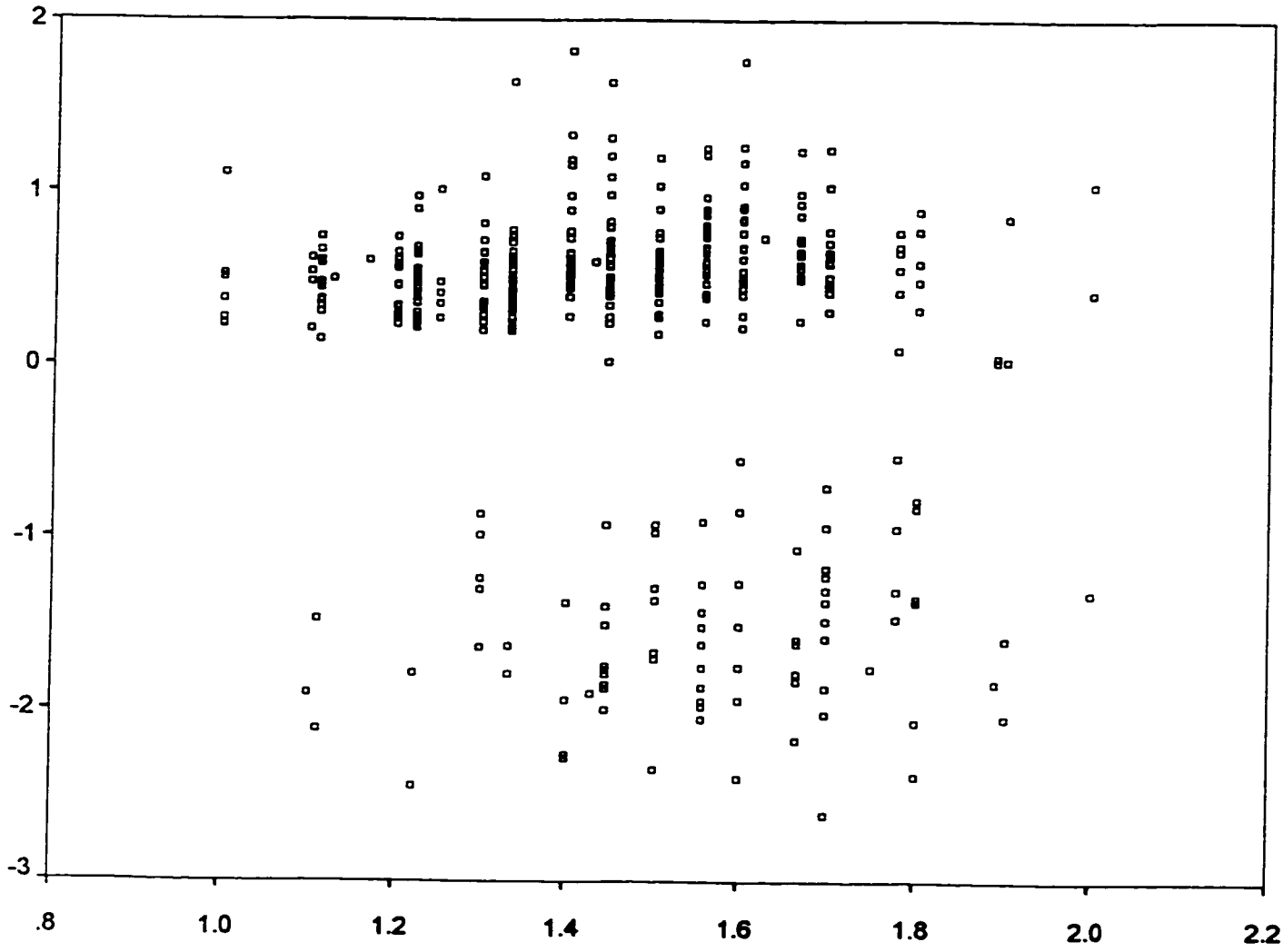
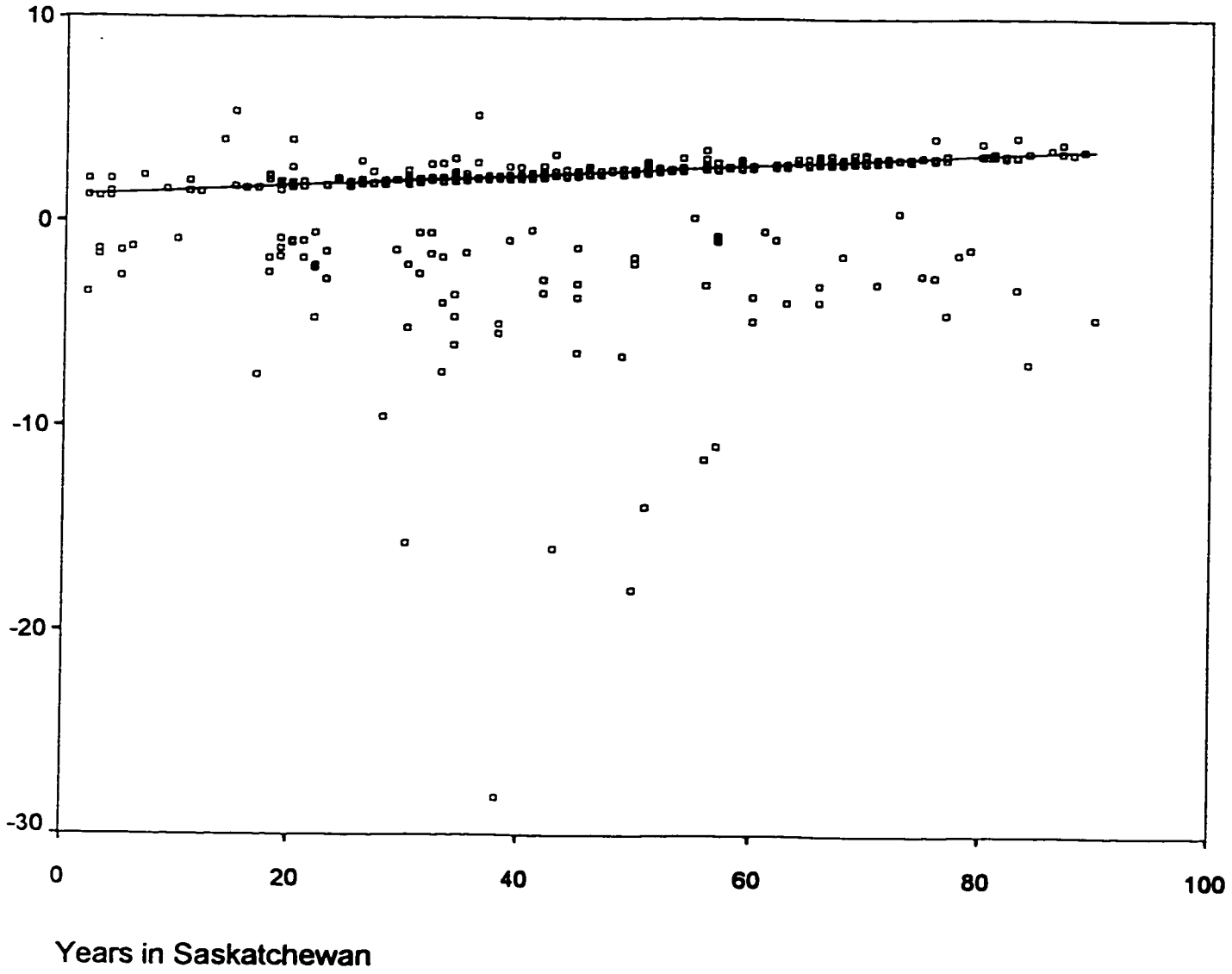


Figure 24. **Partial residual plot for years lived in SK (dependent variable *clubs*)**



B. Do any of the sociodemographic variables predict civic participation?

Bivariate Analysis:

We found that people participated **more**

1) who were retired
   p=.0017 in the one-way ANOVA
2) who were farmers
   p=.0106 in the ANOVA
3) who were widowed or married/common-law (versus divorced/separated or single)
   p<.0001 in the ANOVA between the four categories
4) who owned their own home
   p<.0001 in the ANOVA
5) who lived in more rural settings
   a) p=.0093 in the ANOVA, where people from towns smaller than 5000 participated more than those from towns greater than 5000 in size. The scatterplot shows a slight tendency for the means to increase as rurality increases
   b) r=.1564 (p<.001) in the measure of association, showing that people from more rural settings tended to participate more
6) who were more highly educated
   p=.0108 in the ANOVA, where the university and community college categories were higher than the others
7) who were Protestant or Roman Catholic (versus other or none)
   p<.0001 in the ANOVA between the four categories
8) who were older
   r=.2773 (p<.001)
9) who had more children
   r=.2082 (p<.001)
10) who had lived longer in their neighbourhood
   r=.2198 (p<.001)
11) who had lived longer in their district
   r=.1264 (p=.005)
12) who had lived longer in SK
   r=.2341 (p<.001)
13) who had higher incomes
   r=.0949 (p=.040), although a more detailed breakdown shows that the extremes were the contributing elements (household income less than $20,000 participated least, and income > $100,000 participated most)).

Thus, assuming that these independent variables are unrelated and have additive effects, the (hypothetical) person who is most likely to participate civicly is a retired farmer who has/had a spouse, owns his/her home and lives in the country, is educated, professes affiliation to a mainstream Christian religious group, is older than average, has children, has a high income and has lived for a fairly long time in the neighbourhood, district and in Saskatchewan.

Multivariate Analysis:

We created a multiple regression model with all of the sociodemographic variables as independent variables, determined which of the ordinal variables could be treated as quantitative ones (using incremental

F-tests between models with sets of dummy variables and with quantitative ones replaced one by one), and, using stepwise regression, created the model summarized by Table K2.

Table K2. Multiple regression for *indcivp (civic participation index)*

R-squared = 30.3%
n=412
p>.05 in the incremental F-test vs model with all sociodemographic variables

independent variable	B	SE B	beta	t	p
born (age)	0.004955	0.0008	0.4216	6.23	<.0001
educ2	0.034797	0.00625	0.2481	5.57	<.0001
empret (dummy)	0.053064	0.029479		1.8	0.0726
place (rural..urban)	0.01642	0.00483	0.1482	3.4	0.0007
marital status					0.0014
mar1 (married)	-0.074964	0.021267		-3.53	0.0005
mar2 (common-law)	-0.013739	0.055518		-0.247	0.8047
mar3 (divorced)	0.037077	0.051109		0.725	0.4686
mar4 (widowed)	0.00392	0.059484		0.066	0.9475
religious affiliation					<.0001
rel1 (Prot)	-0.11987	0.028209		-4.25	<.0001
rel2 (RC)	-0.112934	0.026208		-4.31	<.0001
rel3 (ortho)	-0.003762	0.061309		-0.061	0.9511
rel4 (other)	0.174676	0.081943		2.13	0.0336
constant	1.164452	0.063483			

We found that, controlling for the other independent variables, there was a direct relationship between civic participation and 1) age (older people participated more), 2) not being retired, 3) being more highly educated, 4) living in a more rural setting 5) being Protestant or Roman Catholic (versus Orthodox, other or none) and being married or common-law.

Checking Multiple Regression Assumptions

We calculated the Cook's Distance, leverage, studentized residuals and partial regression plots to determine influential points. From Figure 25 we isolated case 43, and in Figure 26 cases 3, 115 and 205. The studentized residuals appear to be well-behaved (Figure 27). We plotted a histogram of the standardized residuals (Figure 28) and a normal Q-Q plot of the studentized residuals (Figure 29) to check for normality. Neither showed any departures from normality. To check for linearity we calculated a partial regression plot and a partial residual plot for the one truly quantitative independent variable *born*. The fitted Lowess curve did not show any large departure from normality in the partial regression plot (Figure 30), but the computed partial residual plot (Figure 31) showed a curvi-linear relationship. To compensate we introduced a quadratic term (the square of *born*), but this term was non-significant. As a result we retained *born* alone, concluding that the departure from linearity was not significant enough to warrant intervention. We do not show similar plots for the ordinal variables that were treated as quantitative (*educ2* and *place*) because we checked for statistically significant non-linear components already (when deciding upon which version of the variable to include in the model).

Figure 25. **Cook's Distance plot (dependent variable *indcivp*)**

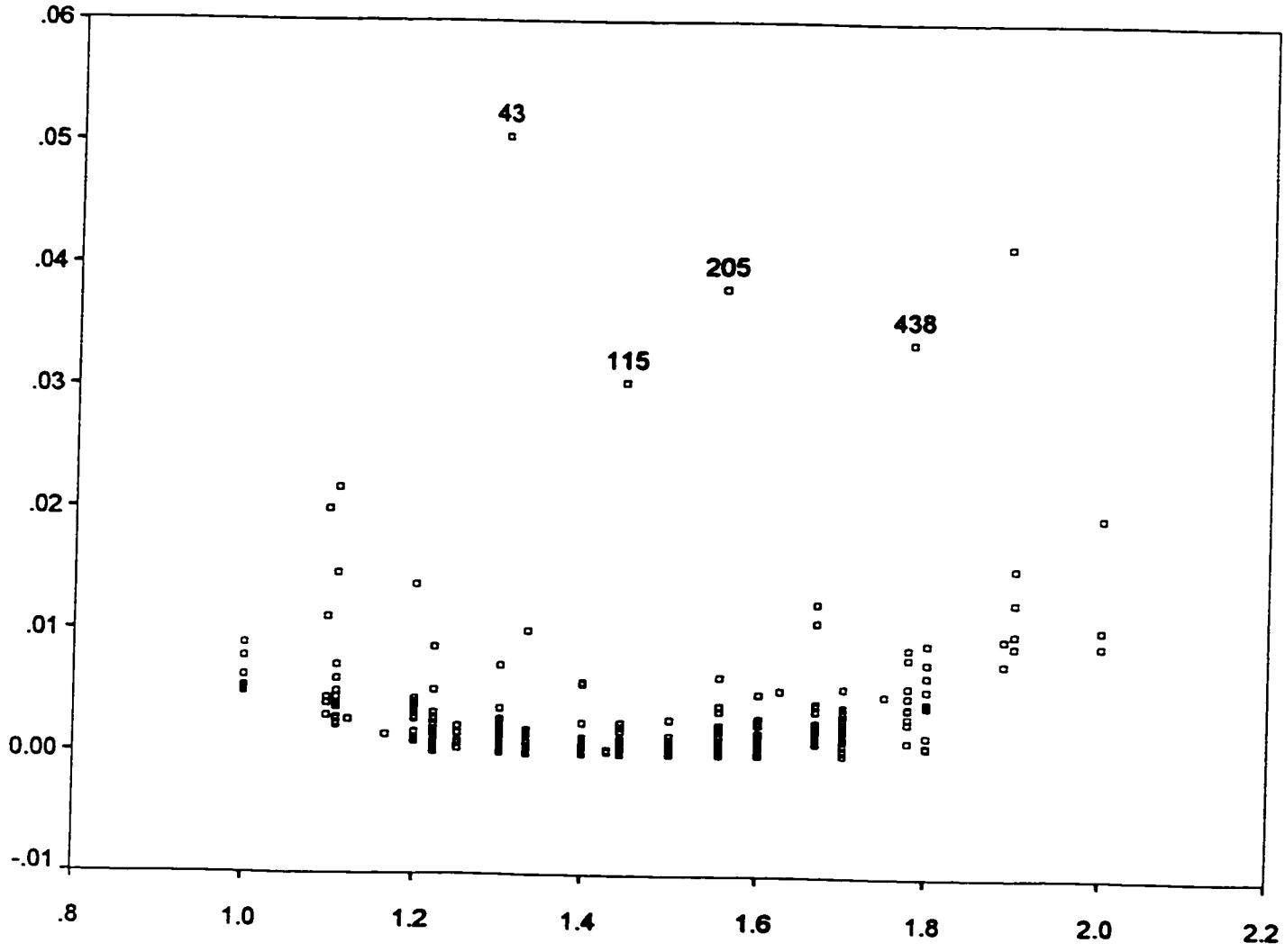


Figure 26. **Leverage plot (dependent variable *indcivp*)**

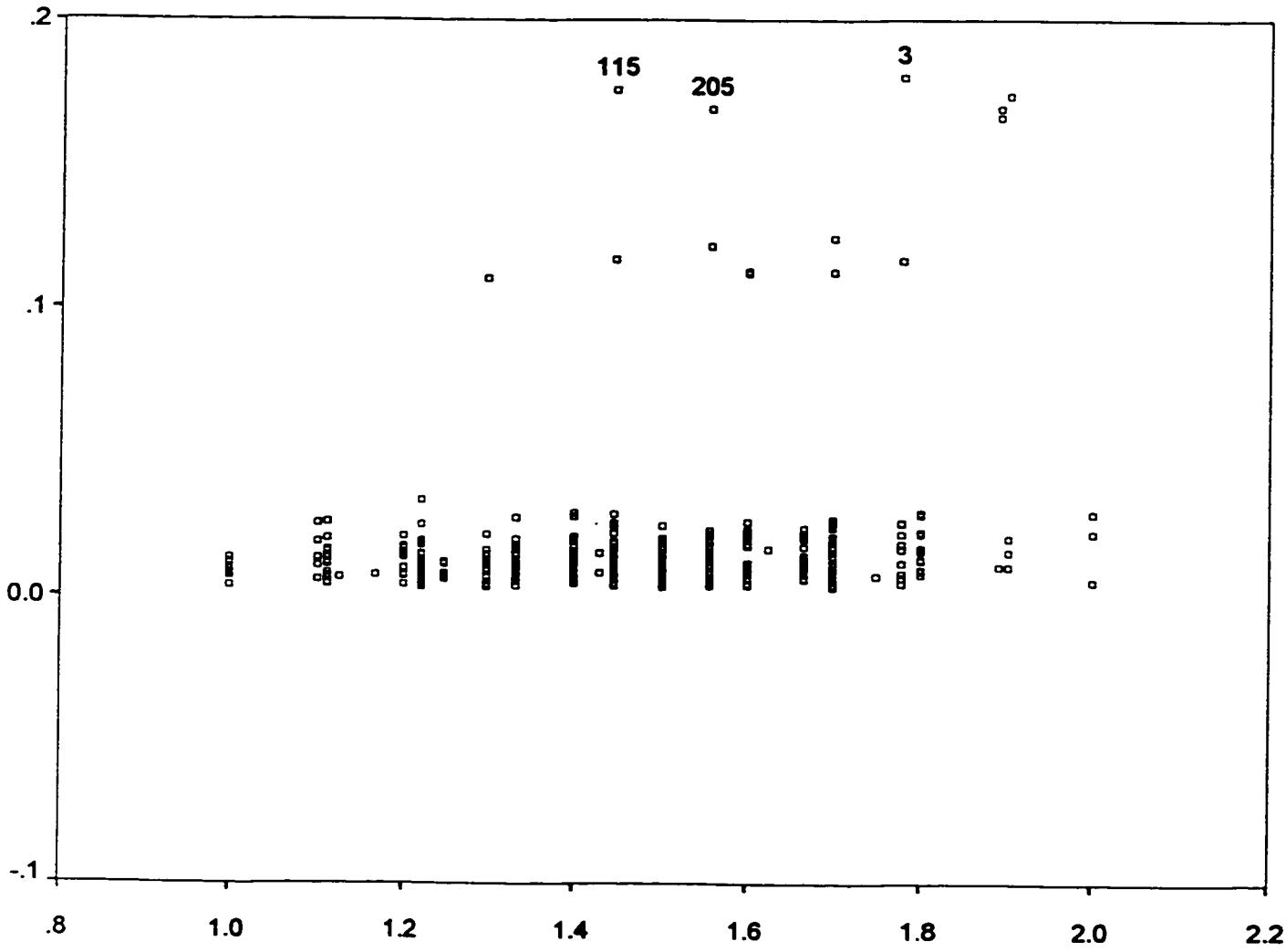


Figure 27. **Studentized residual plot (dependent variable *indcivp)***

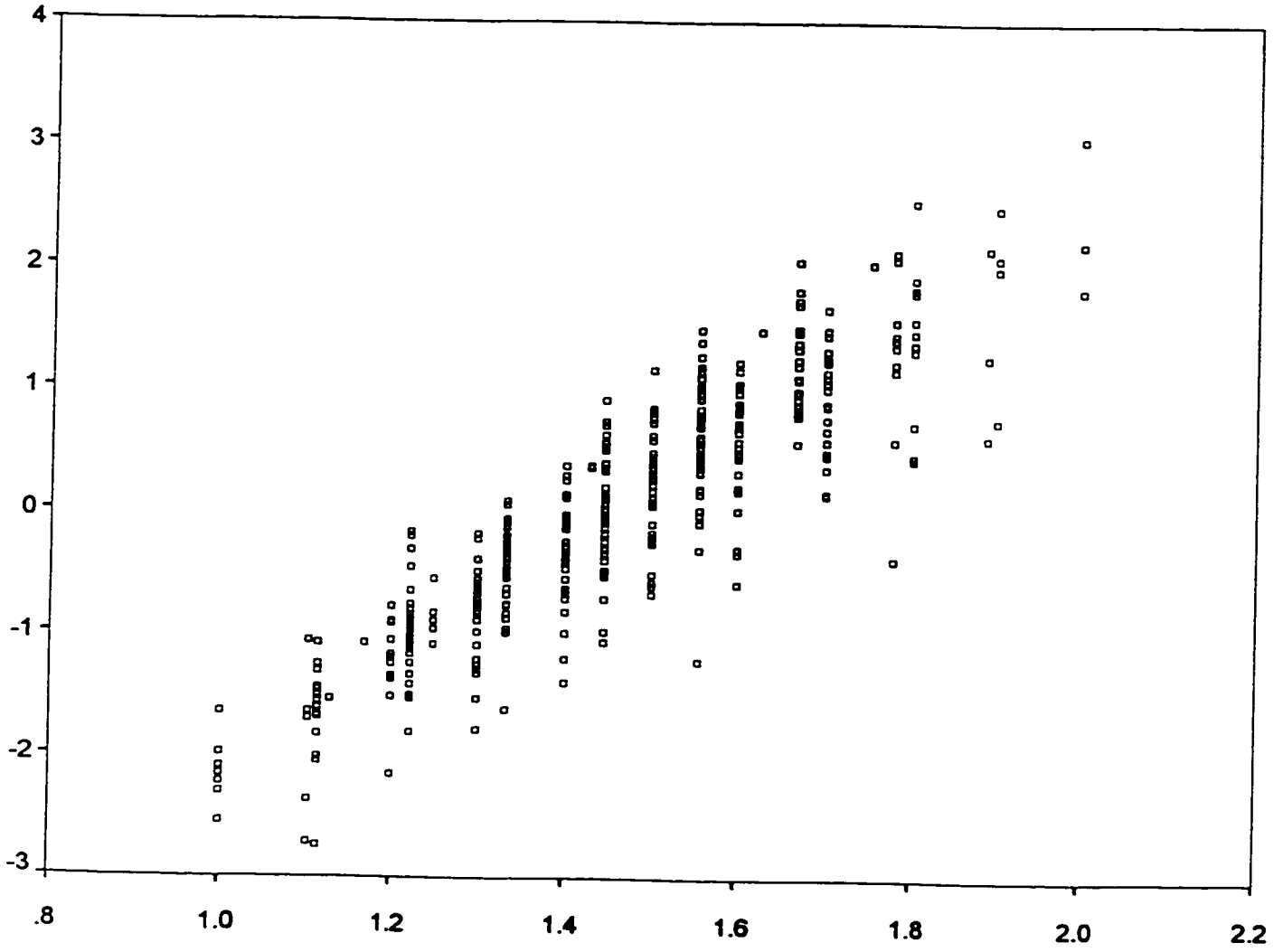


Figure 28. **Histogram of standardized residuals (dependent variable *indcivp)***

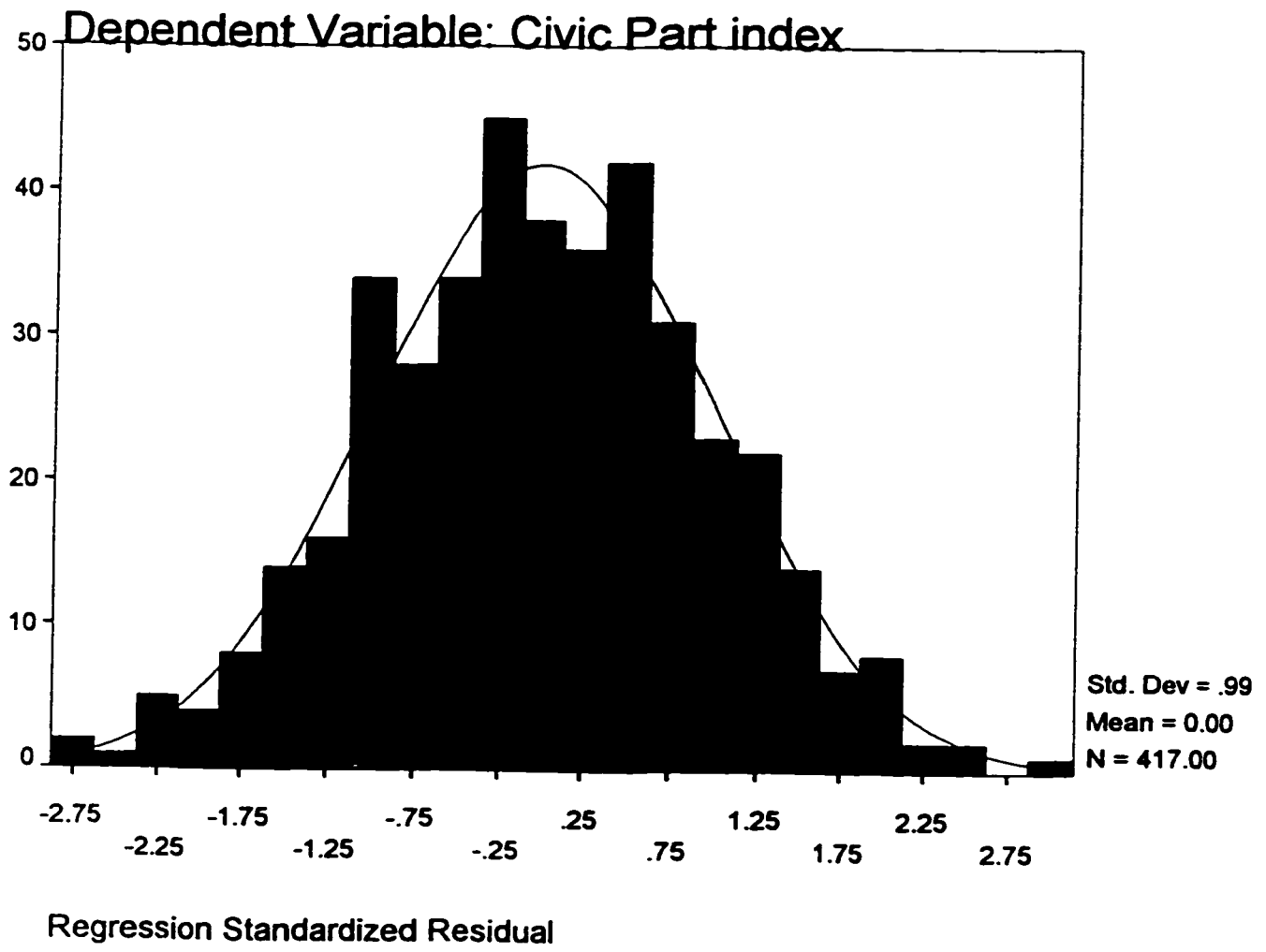


Figure 29. **Normal Q-Q plot of Studentized residuals (dependent variable *indcivp*)**

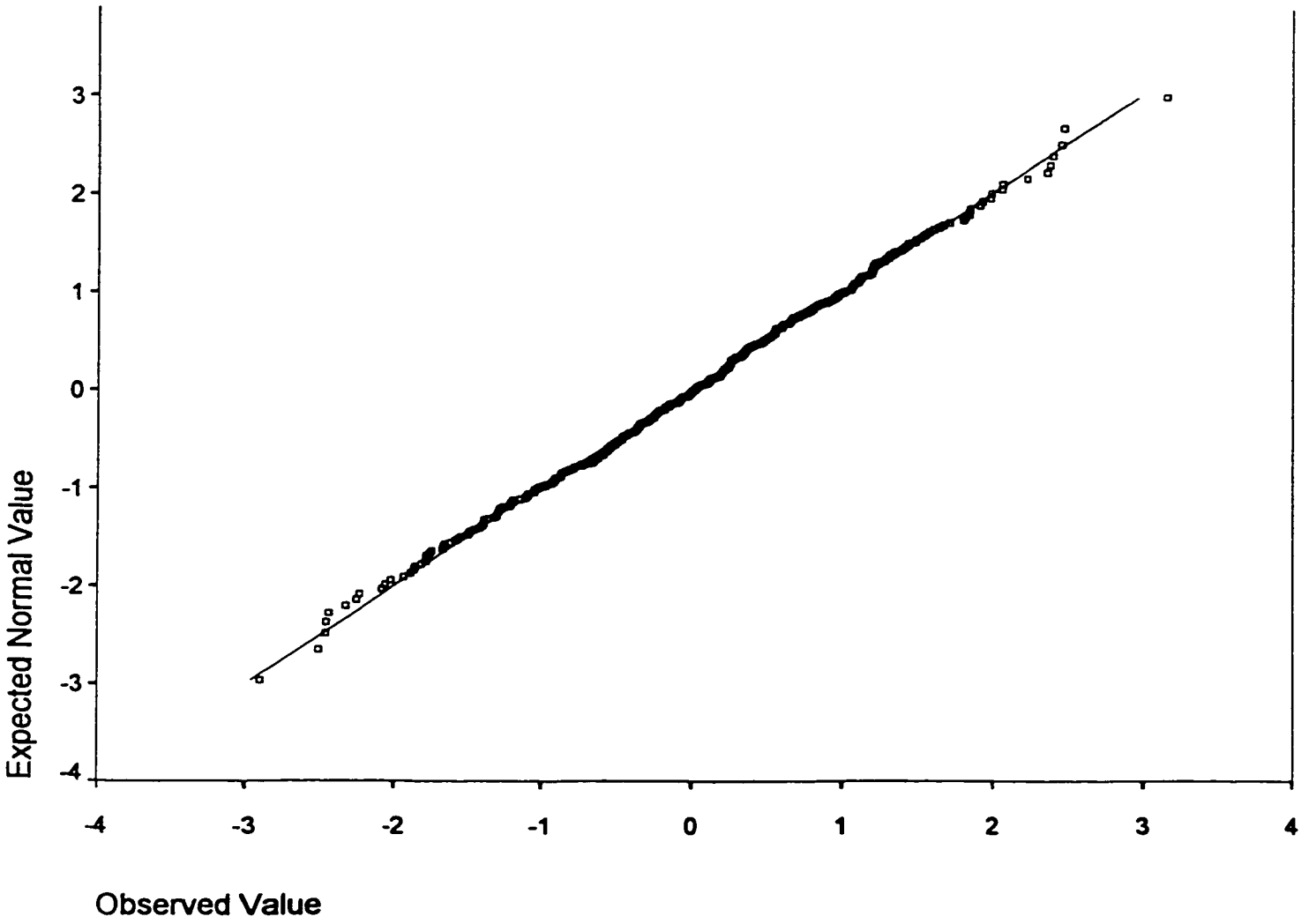


Figure 30. **Partial regression plot for year of birth (dependent variable *indcivp*)**

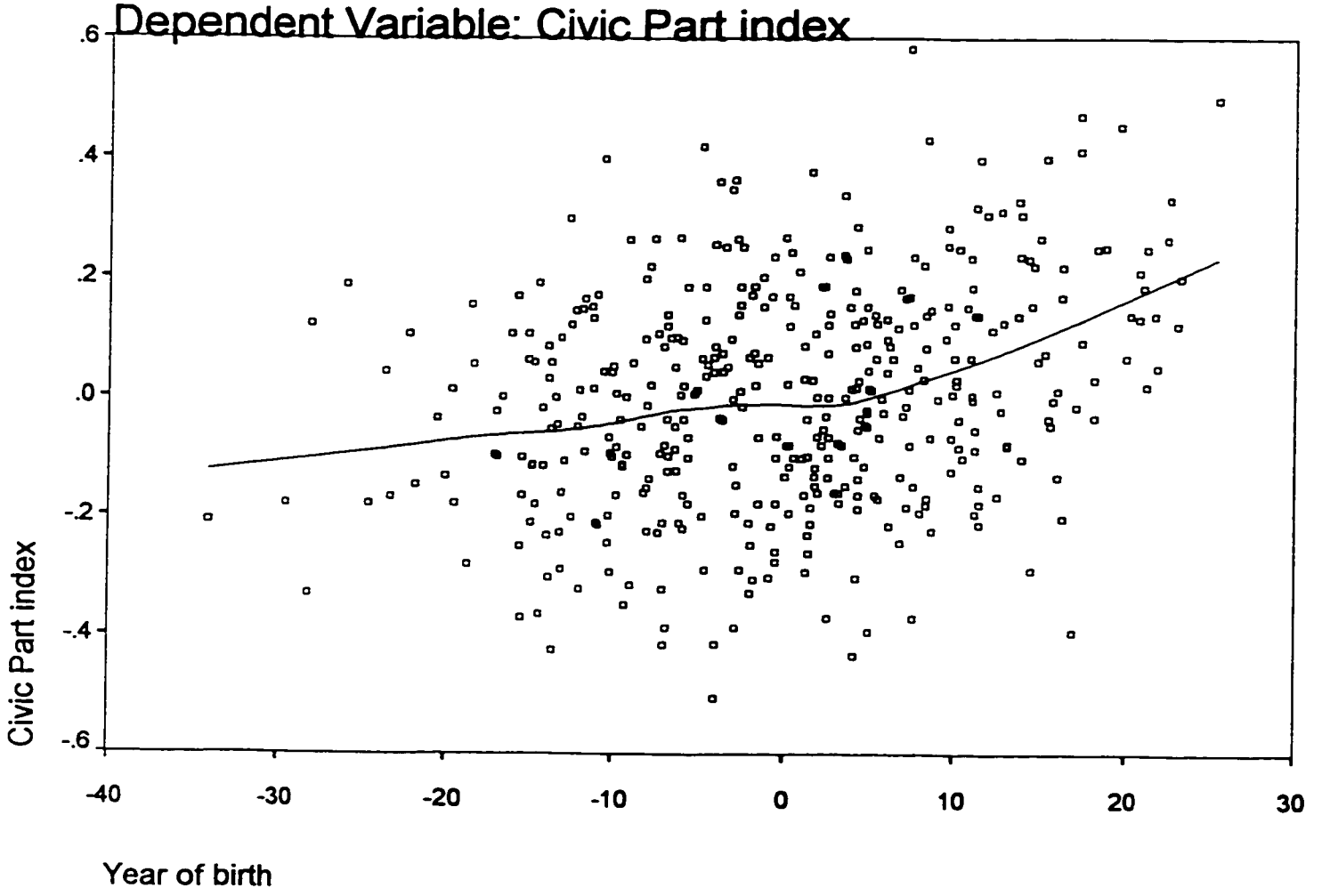
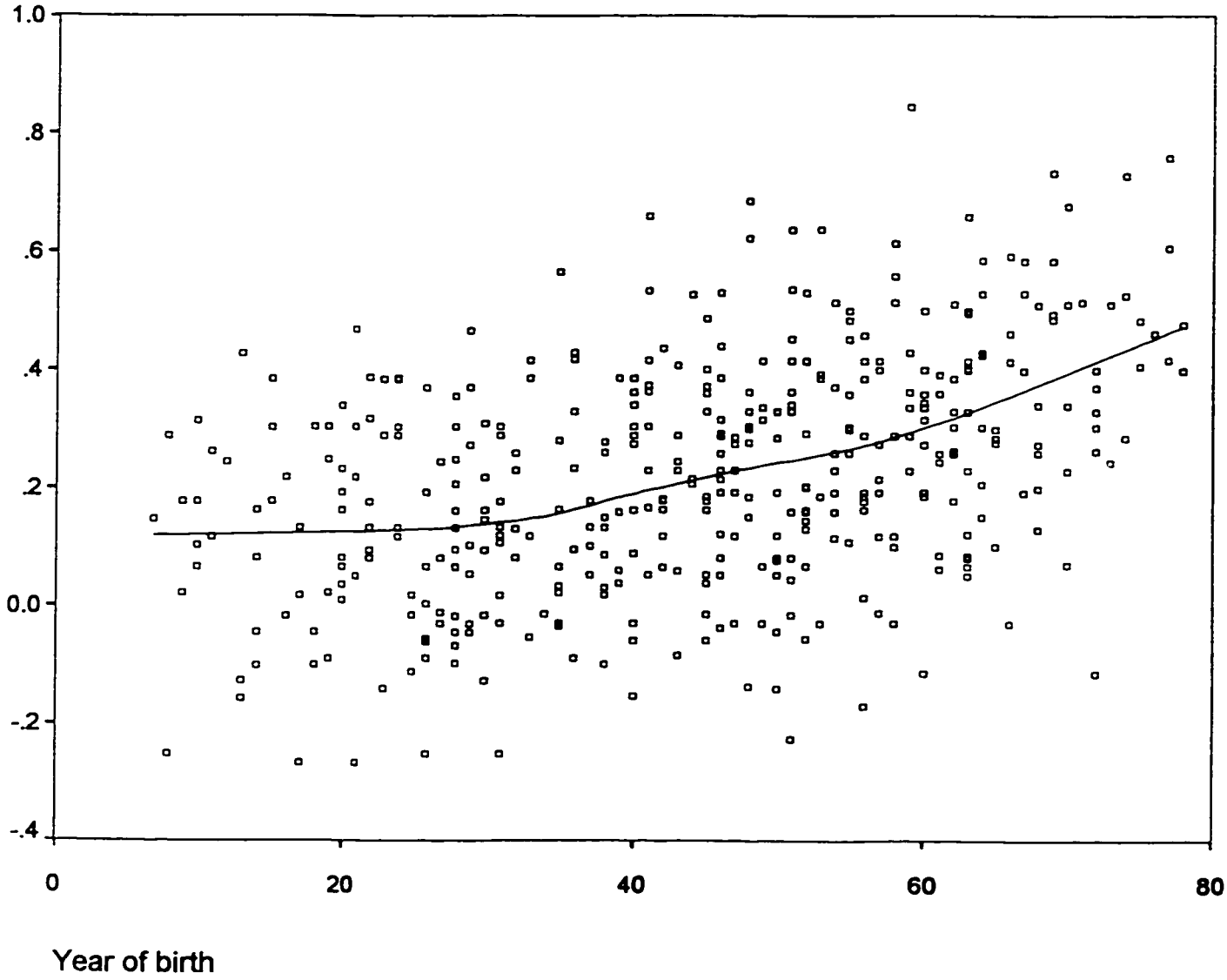


Figure 31. **Partial residual plot for year of birth (dependent variable *indcivp*)**



C. Do any of the sociodemographic variables predict experience collaborating on community problems: specifically, working with others to solve a community problem?

Bivariate Analysis:

We found that **more** people had collaborated to solve a community problem

1) who had higher incomes
   a) p=.0004 in the ANOVA between those who had and those who hadn't, treating income as a quantitative variable
   b) p=.0026 in the chi-square test; it appears that those with lowest incomes were least likely to have collaborated, and those with the highest were most. The relationship was not a steadily increasing one.
2) who lived in more rural settings
   a) p=.0006 in the ANOVA between those who had and those who hadn't, treating place as a quantitative variable
   b) p=.0049 in the chi-square test; it appears that those in the most rural places were most likely to have collaborated, and those in the most urban were least likely. The relationship was not a steadily decreasing one.
3) were more highly educated
   a) p<.0001 in the ANOVA between those who had and those who hadn't, treating *educ2* as a quantitative variable
   b) p=.0005 in the chi-square test; the university educated were most likely to collaborate, and those in the elementary school category were least; the relationship was not ordered between these extremes
4) had more children living at home
   p=.0008 in the ANOVA
5) had more people living in their home
   p=.0037 in the ANOVA
6) had lived in their neighbourhoods longer
   p=.0164 in the ANOVA
7) were male
   p=.0012 in the chi-square test
8) were a farmer
   p<.0002 in the chi-square test
9) were married or common-law (versus divorced, separated, widowed or single)
   p=.0125 in the chi-square between all categories
10) owned their home (versus rent or other)
   p=.0086 in the chi-square test

Multivariate Analysis:

The variable *cothers* (experience collaborating with others to solve a community problem) was the dependent variable in the logistic regressions described here. We created a logit model with all of the above listed sociodemographic variables as independent variables, determined which of the ordinal variables could be treated as quantitative ones (using likelihood ratio tests between models with sets of dummy variables and with quantitative ones replaced one by one), and created the model summarized in Table K3.

Table K3. Logistic regression for *cothers (experience collaborating to solve a community problem)*

pseudo R-squared = 10.63%
n=483
-2 Log Likelihood =598.231
p>.05 in LR test versus model with all sociodemographic variables

independent variable	B	SE B	Wald statistic	df	p	R
children	-0.1601	0.0592	7.32	1	0.0068	-0.0891
educ2			35.02	6	<.0001	0.1854
ed1 (post-gr)	-1.1721	0.5419				-0.0632
ed2 (univ)	-0.5248	0.2674				-0.0526
ed3 (coll)	0.3167	0.348				0
ed4 (tech.)	-0.1014	0.2601				0
ed5 (h.s.)	0.4448	0.227				0.0524
ed6 (e.s.)	1.5347	0.3281				0.1723
gender	-0.3821	0.102	14.03	1	0.0002	-0.134
place			21.32	5	0.0007	0.13
pl1 (rural)	-0.7807	0.2078				-0.1345
pl2	-0.094	0.231				0
pl3	-0.2268	0.2032				0
pl4	0.578	0.2763				0.0596
pl5	0.0664	0.2895				0
constant	0.204	0.2337				

We found that, controlling for the other independent variables, the log odds of having had experience working with others to solve a community problem increaseed for those who 1) had more children, 2) had higher levels of education (in an almost linear way), 3) were male, and 4) lived in more rural settings (in an almost linear way). Comparing the R-values we see that education had the largest contribution to the regression, followed closely by gender, size of community lived in and finally number of children.

Checking Logistic Regression Assumptions

We calculated the Cook's Distance, leverage and Studentized residuals plots to determine influential points. In Figure 32 we isolated cases 508 and 182, and in Figure 33, cases 508, 504, 178 and 167. The

studentized residuals appeared to be well-behaved (Figure 34). We deleted the isolated cases and reran the regression, but found that the B coefficients changed little (less than 1 SE for all coefficients). Therefore we concluded that the model could be used for all cases in the sample, although we did change one case (for whom the number of children was 15, far more than any other respondent; we replaced the number of children with 9, the highest score otherwise). We also plotted a partial residual plot for the single quantitative independent variable *children* (see Figure 35). The fitted Lowess curve showed what may be a departure from linearity. We transformed *children* using the square root function and reran the regression, finding that the B coefficients did not get substantially straighter. We therefore retained the original version of the variable since it was easier to interpret than the square root model, even though the latter model was a slightly better fit than the former.

Figure 32. **Cook's Distance plot (dependent variable *cothers)***

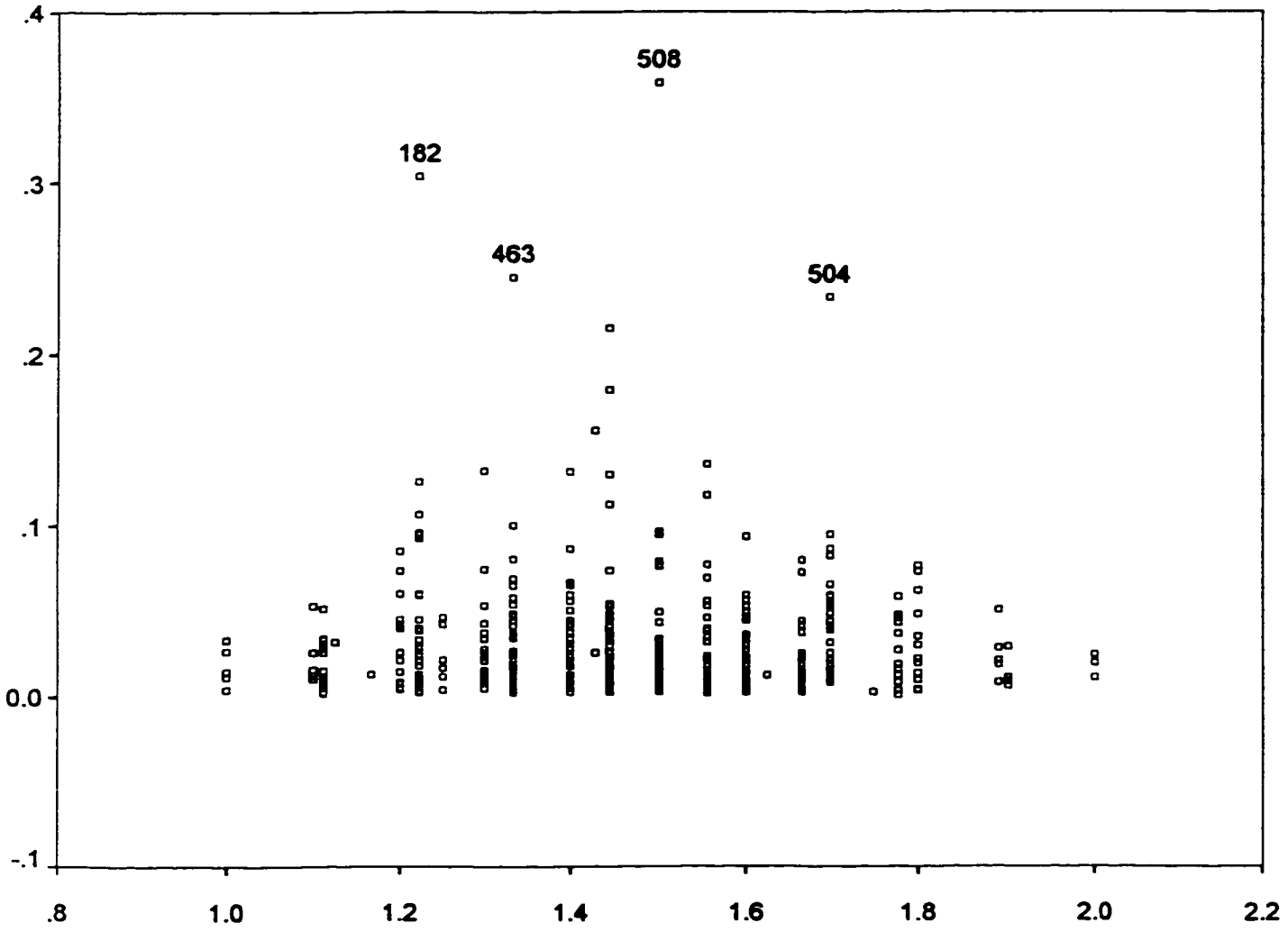


Figure 33. **Leverage plot (dependent variable *cothers)***

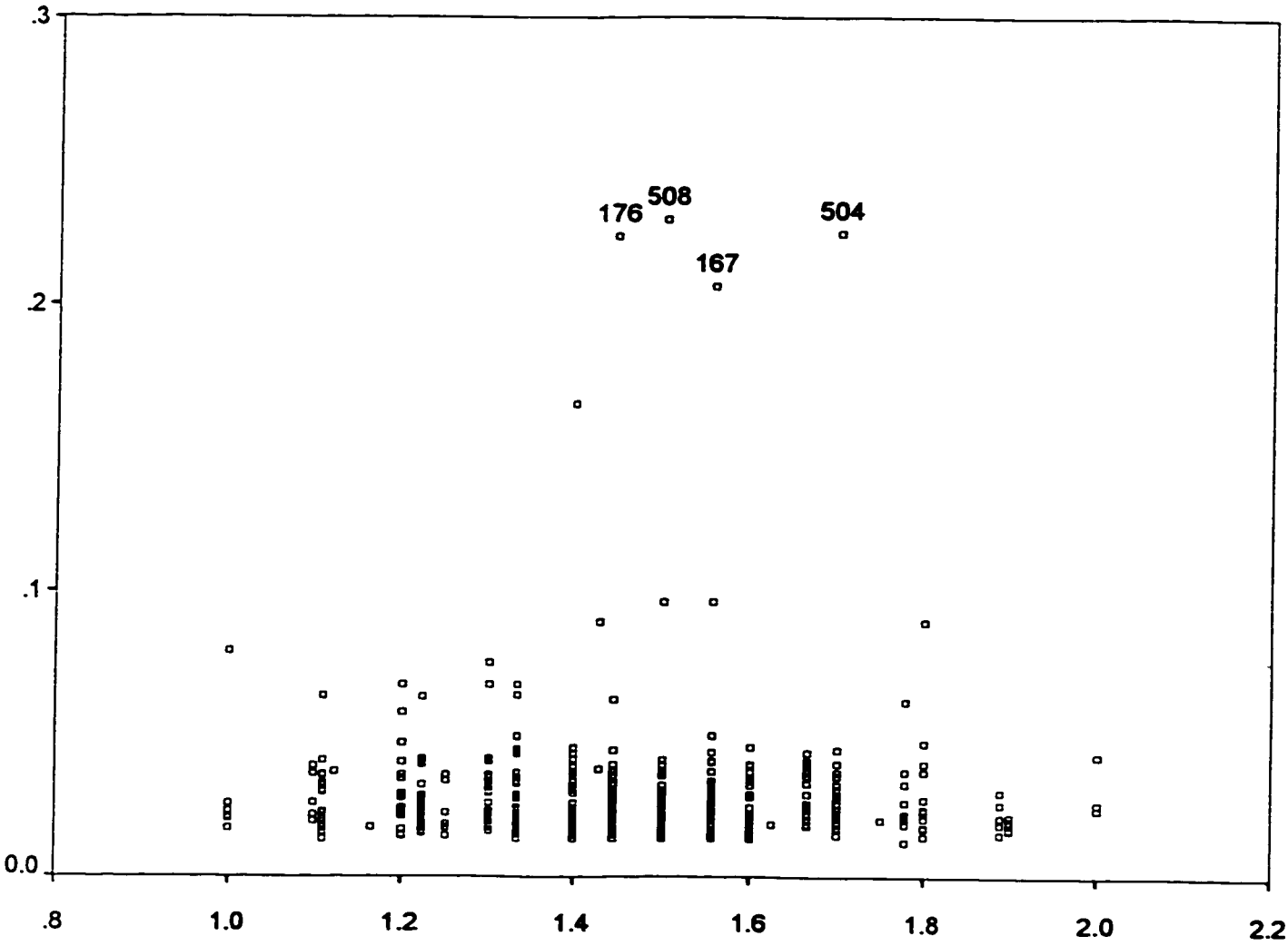


Figure 34. **Studentized residual plot (dependent variable *cothers*)**

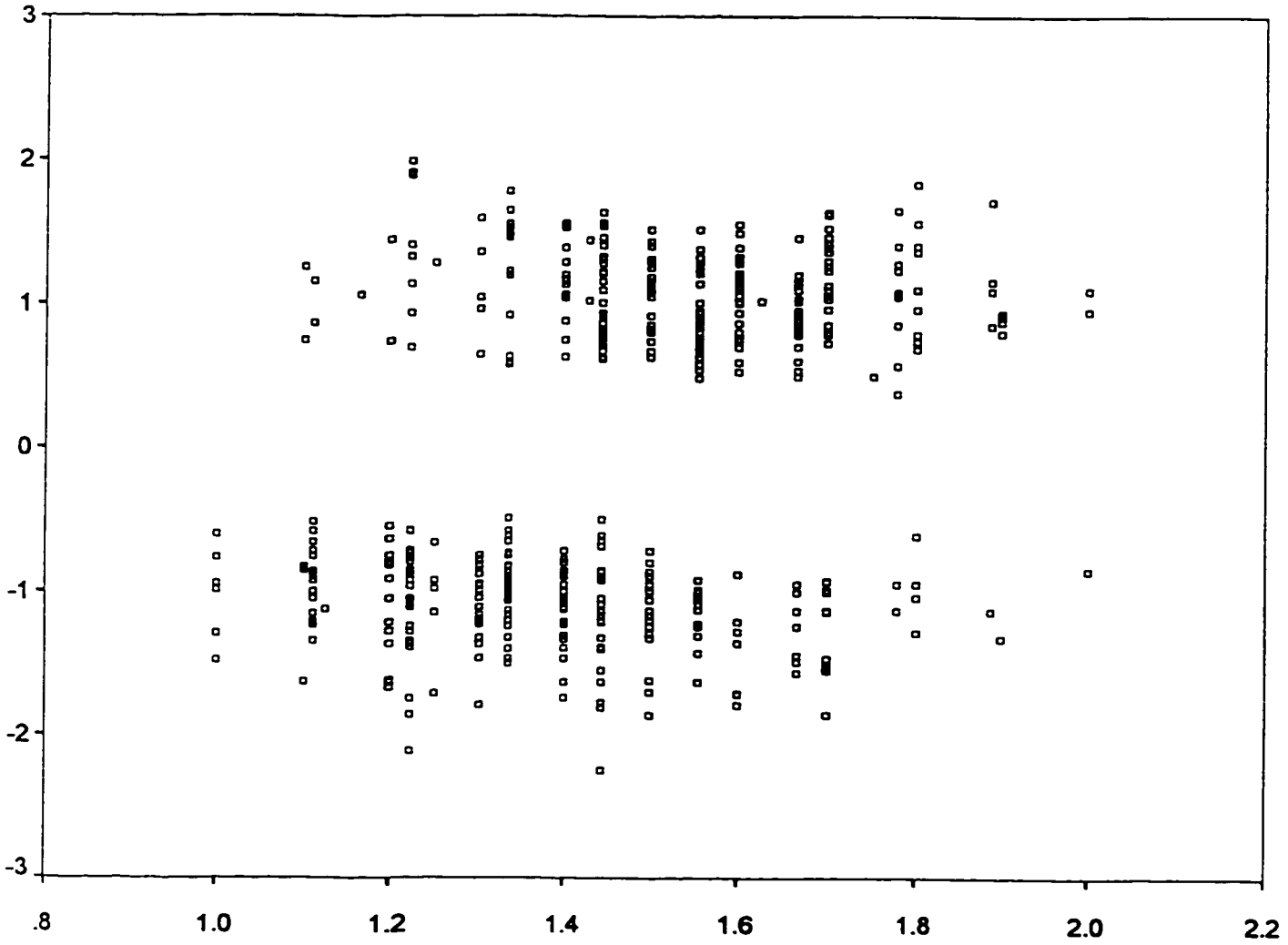
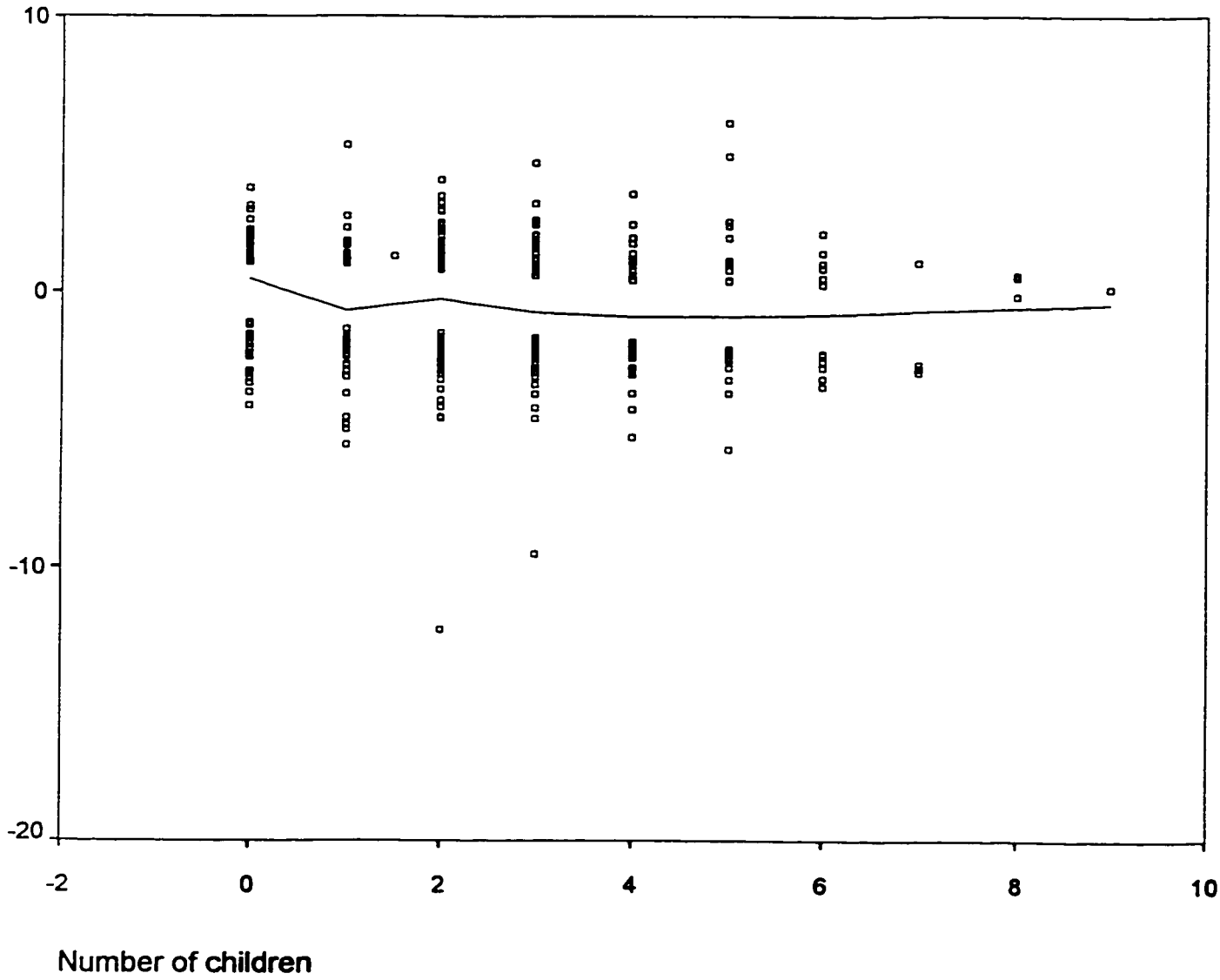


Figure 35. **Partial residual plot for number of children (dependent variable *cothers*)**



D. Do any of the sociodemographic variables predict experience collaborating on community problems; specifically, organizing a group to solve a community problem?

Bivariate Analysis:

We found that people were **more** likely to had organized a group to solve a community problem who

1) lived in a rural setting
   a) p=.0002 in the ANOVA, treating *place* as a quantitative variable
   b) p=.0047 in the chi-square test; respondents from the most rural setting were much more likely to have collaborated
2) were more highly educated
   a) p<.0001 in the ANOVA, treating *educ2* as a quantitative variable
   b) p=.0004 in the chi-square test; the university educated were most likely to have collaborated than the rest, and the two lowest categories were least likely
3) had more children
   p=.0247 in the ANOVA
4) had more children living at home
   p=.0265 in the ANOVA
5) had more people living in the household
   p=.0073 in the ANOVA
6) were not retired
   p=.0458 in the ANOVA
7) were farmers
   p=.0013 in the chi-square test
8) were married or common-law (versus the rest)
   p=.0375 in the chi-square test

Multivariate Analysis

The variable *corgan* (experience organizing a group to solve a community problem) was the dependent variable in the logistic regressions described here. We created a logit model with all of the above listed sociodemographic variables as independent variables, determined which of the ordinal variables could be treated as quantitative ones (using likelihood ratio tests between models with sets of dummy variables and with quantitative ones replaced one at a time), and created the model summarized in Table K4 (which was not significantly different from the original encompassing model, using a likelihood ratio test).

Table K4. Logistic regression for *corgan (experience organizing a group to solve a community problem)*

pseudo R-squared = 7.92%
n=497
-2 Log Likelihood = 514.180
p>.05 in LR test with model with all sociodemographic variables

independent variable	B	SE B	Wald statistic	df	p	R
educ2	0.4076	0.0773	27.78	1	<.0001	0.2148
gender	0.2274	0.1108	4.21	1	0.0402	0.0629
place	0.2833	0.0638	19.73	1	<.0001	0.1782
constant	-1.4479	0.4107				

We found that, controlling for the other independent variables, the log odds of having experience organizing a group to solve a community problem increased for those who 1) had higher levels of education, 2) were female, and 4) lived in more rural settings. Comparing the R-values we see that education has the largest contribution to the regression, followed by size of community lived in and finally gender.

Checking Logistic Regression Assumptions

We calculated the Cook's Distance, leverage and Studentized residuals plots to determine influential points. In Figure 36 we isolated case 462, and in Figure 37, case 98. The Studentized residuals appeared to be well-behaved (Figure 38). We deleted the isolated cases and reran the regression, but found that the B coefficients changed little (less than 1 SE for all coefficients). Therefore we concluded that the model could be used for all cases in the sample.

Figure 36. **Cook's Distance plot (dependent variable *corgan*)**

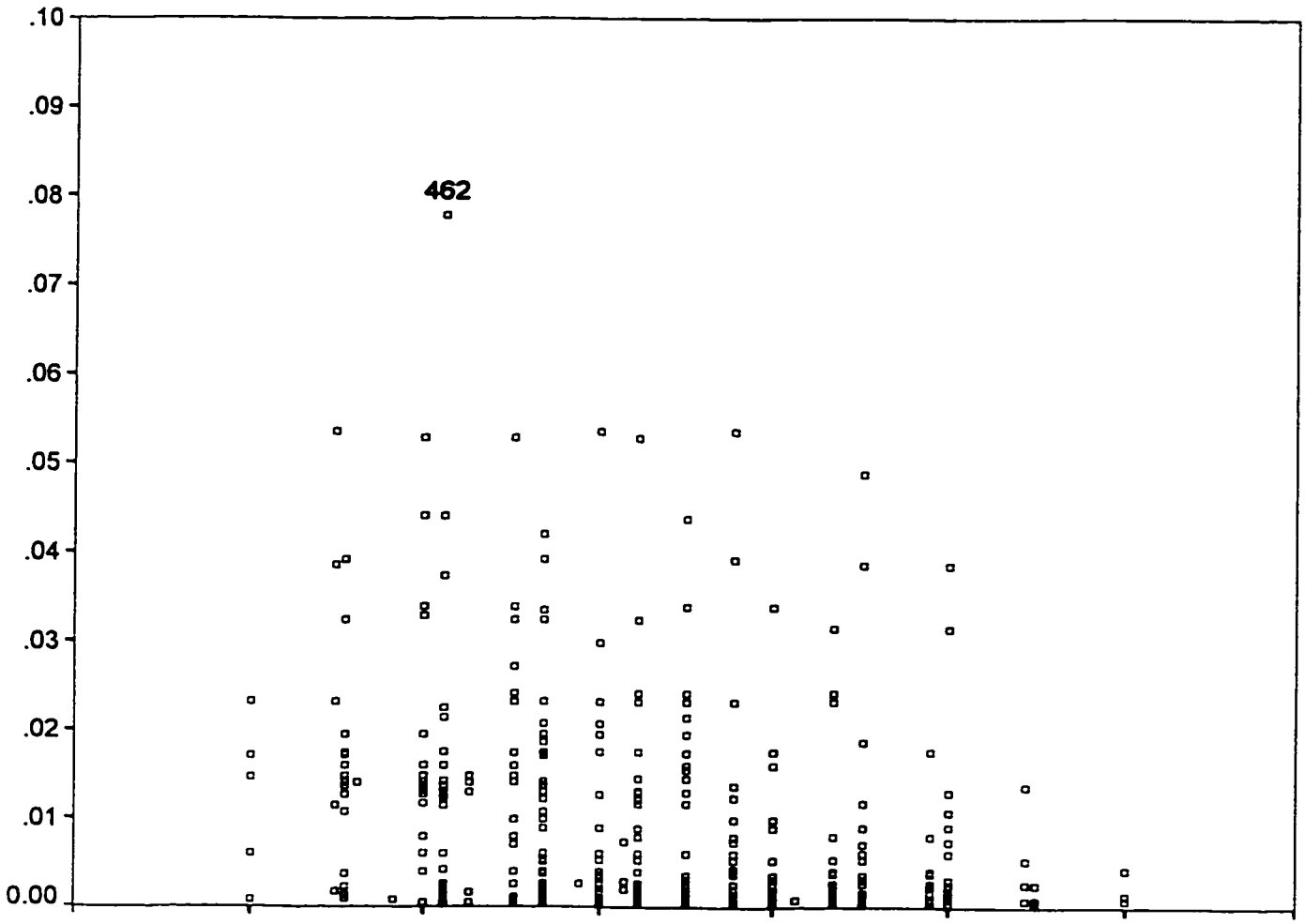


Figure 37. **Leverage plot (dependent variable *corgan*)**

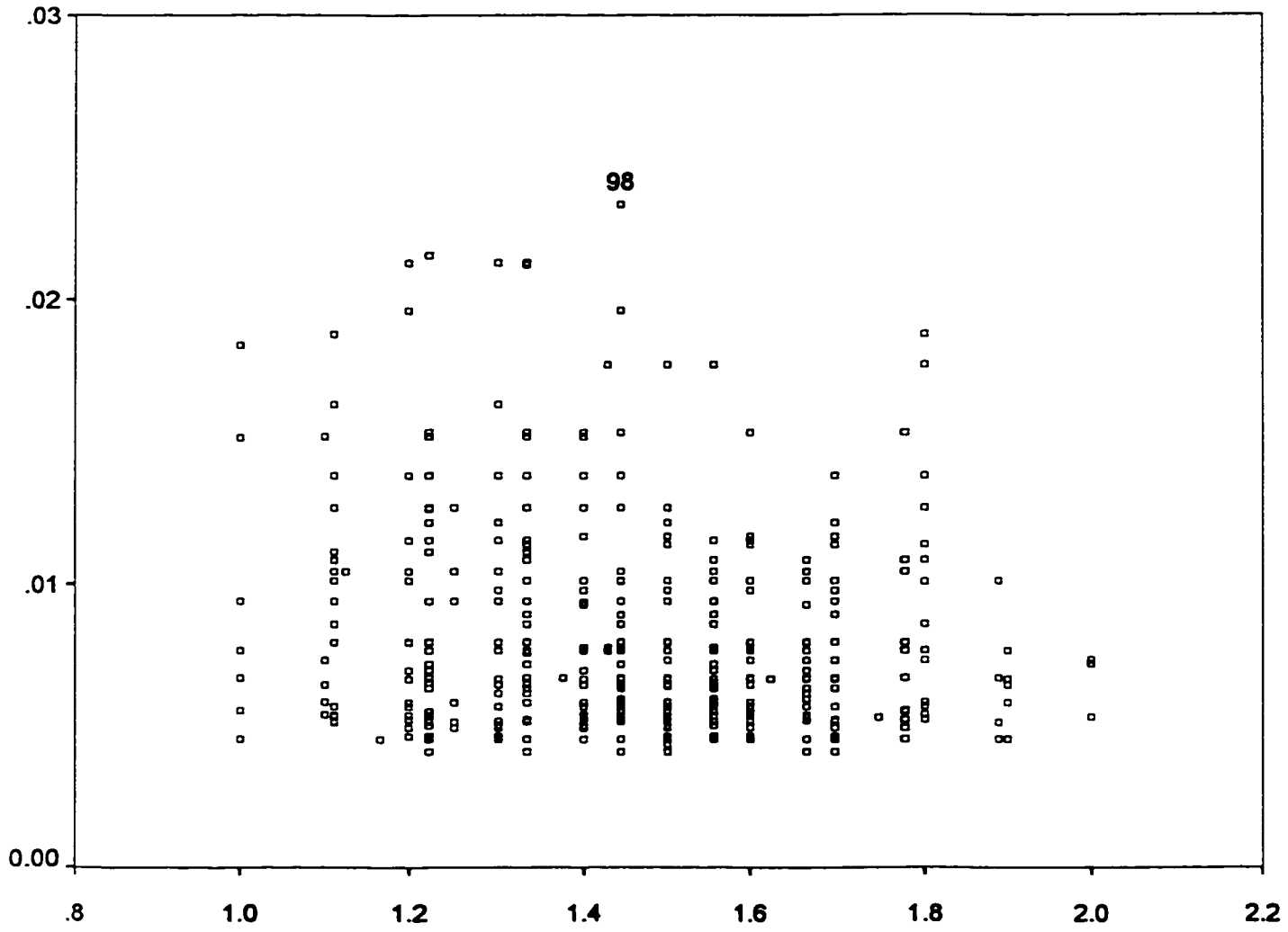
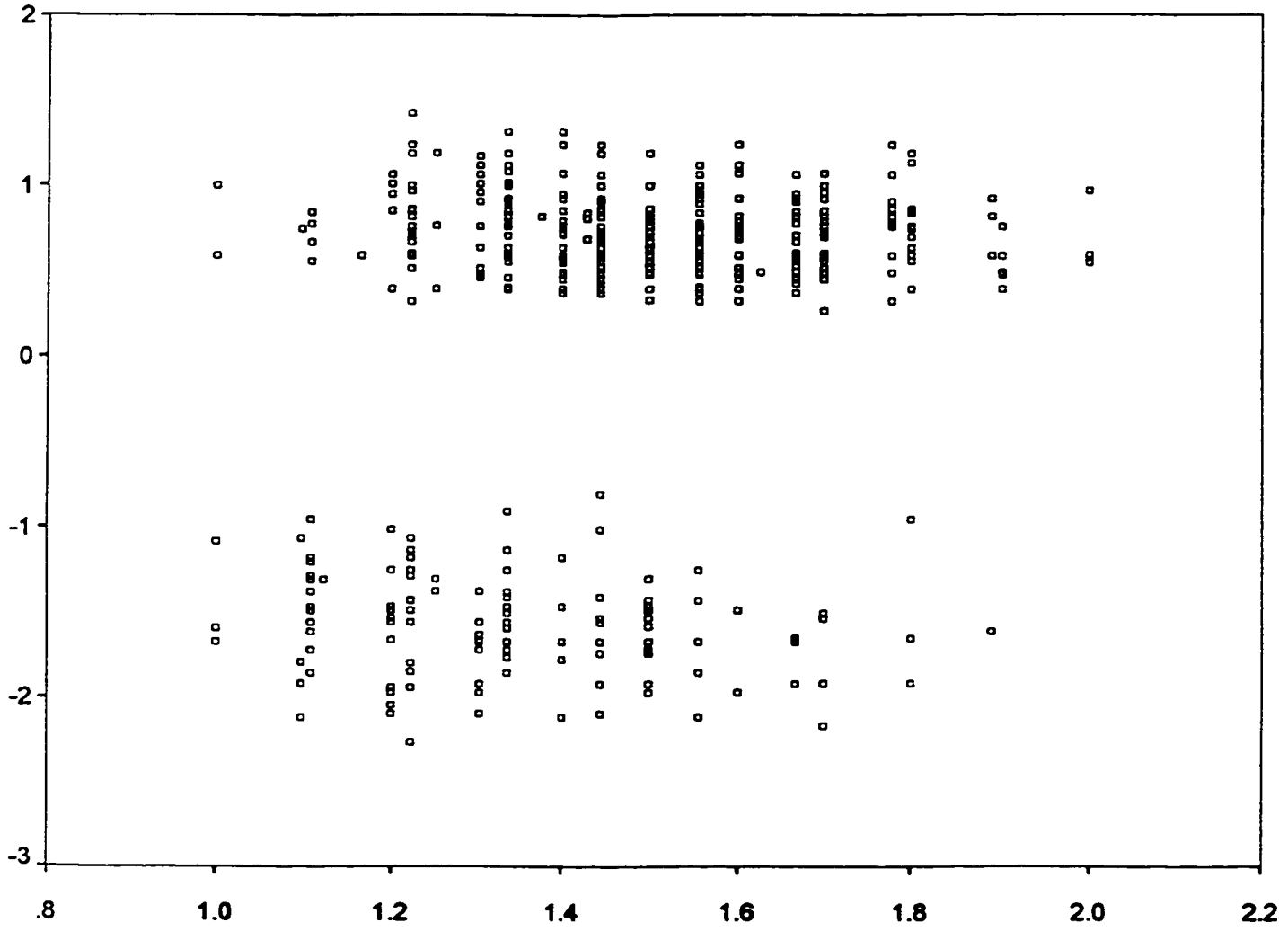


Figure 38. **Studentized residual plot (dependent variable *corgan*)**



TABLES:

Bivariate analysis: Sociodemographic variables and social capital behaviour variables

Participation Variables:

clubs:	number of clubs respondent participates in
indcivp:	civic participation index
cothers:	worked with others on a community problem
corgan:	organized others to deal with a community problem

Sociodemographic Variables:

children:	number of children
chhome:	number of children living at home
hlive:	number of people in the household
nlived:	number of years lived in this neighbourhood
dlived:	number of years lived in this health district
slived:	number of years lived in SK
time1:	I have many time pressures and can't do anything outside of work and/or family
time2:	I wish I had more time to do the things I like to do

as well as age (*born*), household *income*, *gender*, *employ*ment, *educ*ation, *marital* status, *place* of residence (size of town), perceived *health* status, whether they use the *internet*, whether they own or rent their home (*ownhome*), and religious affiliation (*religtyp*).

Table K5: Sociodemographic variables against *clubs* (participation in clubs and associations) and *indcivp* (civic participation)

Reported figures are mean ranks (n) when the dependent variable is clubs, and mean (n) when the dependent variable is indcivp.

Significance tests are the Kruskal-Wallace one-way ANOVA for k independent samples (non-parametric) when the dependent variable is clubs, and the one-way ANOVA for k independent samples when the dependent variable is indcivp. Sometimes we report three significance results in the latter situation; the ANOVA significance result for differences between means accompanied by a test of significance for a linear term and a test of significance for a non-linear term.

		clubs mean rank (n)	*indcivp* mean (n, sd)	*indvote* mean rank (n)
income (household)	< $20,000	195.48 (101)	1.51 (103, .1901)	268.82 (103)
	20-29	210.23 (80)	1.45 (80, .1855)	239.76 (80)
	30-39	246.80 (54)	1.43 (55, .2048)	203.25 (54)
	40-49	230.56 (71)	1.46 (71, .2153)	210.18 (71)
	50-59	268.82 (47)	1.46 (47, .2140)	252.42 (46)
	60-74	216.88 (43)	1.44 (43, .1863)	217.62 (43)
	74-99	270.26 (38)	1.47 (38, .1889)	232.64 (38)
	> $100,000	317.94 (31)	1.40 (31, .2055)	201.13 (31)
	p	.0001 (7df)	.0884 (7, 467) .0397 (1) .2239 (6)	.0121 (7 df)
gender	male	267.67 (241)	1.45 (243, .2007)	256.07 (242)
	female	261.84 (287)	1.47 (288, .1992)	270.74 (285)
	p	.6571 (1df)	.2533 (1, 529)	.2346 (1df)

Table K5 cont.

		clubs mean rank (n)	*indcivp* mean (n, sd)	*indvote* mean rank (n)
employed full-time	yes	275.01 (197)	1.48 (197, .2067)	269.63 (196)
	no	260.69 (334)	1.45 (337, .1960)	263.08 (334)
	p	.2919 (1df)	.0564 (1, 532)	.6082 (1df)
employed full-time home-maker	yes	249.49 (77)	1.45 (77, .1971)	252.58 (77)
	no	268.80 (454)	1.46 (457, .2013)	267.70 (453)
	p	.3002 (1df)	.7681 (1, 532)	.3877 (1df)
unemployed	yes	180.15 (23)	1.47 (23, .1712)	328.91 (23)
	no	269.89 (508)	1.46 (511, .2019)	262.62 (507)
	p	.0054 (1df)	.8779 (1, 532)	.0285 (1df)
retired	yes	270.34 (154)	1.42 (156, .1878)	236.26 (153)
	no	264.23 (377)	1.48 (378, .2032)	277.36 (377)
	p	.6727 (1df)	.0017 (1, 532)	.0025 (1df)
farmer	yes	309.38 (57)	1.40 (58, .2080)	267.98 (58)
	no	260.78 (474)	1.47 (476, .1984)	265.19 (472)
	p	.0219 (1df)	.0106 (1, 532)	.8877 (1df)

Table K5 cont.

		clubs mean rank (n)	*indcivp* mean (n, sd)	*indvote* mean rank (n)
marital status	married or common-law	274.50 (373)	1.44 (374, .1931)	249.94 (372)
	divorced or separated	242.67 (32)	1.54 (32, .2079)	295.36 (32)
	widowed	272.03 (57)	1.42 (58, .2016)	264.86 (56)
	single	216.82 (67)	1.59 (68, .1744)	329.33 (68)
	p	.0272 (3df)	<.0001 (3, 528)	.0002 (3df)
ownhome	own	257.39 (423)	1.44 (425, .1946)	241.32 (421)
	rent	216.37 (78)	1.54 (79, .2038)	299.40 (79)
	p	.0197 (1df)	<.0001 (1, 502)	.0004 (1df)
place	rural area	266.73 (109)	1.43 (110, .2073)	292.73, 110
	town < 1000	269.69 (81)	1.44 (81, .2114)	273.49 (81)
	1000 - 5000	278.57 (114)	1.43 (115, .2048)	253.41 (114)
	5000 - 25,000	249.54 (57)	1.49 (57, .1694)	219.85 (56)
	25,000 - 50,000	206.80 (46)	1.51 (46, .1857)	234.83 (46)
	> 50,000	259.37 (114)	1.50 (115, .1923)	257.56, 113)
	p	.1295 (5df)	.0093 (5, 518)	.0210 (5df)
use the internet	yes	276.60 (62)	1.43 (62, .2152)	261.11 (60)
	no	252.00 (447)	1.47 (450, .1973)	254.18 (449)
	p	.2108 (1df)	.1907 (1, 510)	.7117 (1df)

Table K5 cont.				
		clubs mean rank (n)	*indcivp* mean (n)	*indvote* mean rank (n)
perceived health	excellent	275.89 (148)	1.45 (148, .2014)	258.63 (147)
	good	267.62 (289)	1.46 (291, .2016)	266.61 (290)
	fair	251.11 (66)	1.49 (67, .1818)	266.22 (65)
	poor	209.15 (26)	1.45 (26, .2213)	269.88 (26)
	p	.1721 (3df)	.4494 (3, 528)	.9473 (3df)
educ	university	315.42 (105)	1.41 (106, .2033)	226.50 (104)
	community college	288.73 (42)	1.42 (42, .2087)	259.29 (42)
	technical/vocational program	248.99 (95)	1.48 (95, .2220)	256.75 (95)
	high school	237.48 (197)	1.47 (198, .1912)	266.20 (197)
	elementary school	197.15 (69)	1.49 (70, .1751)	253.59 (69)
	p	<.0001 (4df)	.0092 (4, 506)	.2024 (4df)
religtyp	Roman Catholic	213.15 (117)	1.44 (117, .1815)	204.68 (117)
	Protestant	231.85 (240)	1.42 (240, .1931)	201.46 (237)
	other	165.60 (15)	1.65 (15, .1786)	311.63 (15)
	none	140.75 (53)	1.57 (55, .1941)	249.68 (55)
	p	<.0001 (3df)	<.0001 (2, 409)	.0001 (3df)

Table K6: Correlations between quantitative sociodemographic independent variables and the dependent variables *clubs* (participation in clubs and associations) and *indcivp (civic participation).*

When the dependent variable is clubs we used the Kendall's tau correlation (a non-parametric statistic); when the dependent variable is indcivp we used the Pearson's r correlation (a parametric statistic).

Correlations	*clubs* *(Kendall's tau, n, p)*	*indcivp* *(Pearson's r, n, p)*	*indvote* *(Kendall's tau, n, p)*
born (year)	-.0686 (507, .033)	.2773 (510, .000)	.2214 (506, .000)
children	.0807 (506, .020)	-.2082 (509, .000)	-.1331 (505, .000)
chhome	.0448 (499, .225)	.0178 (502, .691)	.0691 (499, .080)
hlive	.0438 (513, .213)	.0234 (516, .596)	.0846 (512, .024)
nlived	.0852 (523, .007)	-.2198 (526, .000)	-.0915 (522, .007)
dlived	.0217 (487, .509)	-.1264 (490, .005)	-.0938 (487, .007)
slived	.0882 (515, .006)	-.2341 (518, .000)	-.2196 (514, .000)
income	.1620 (465, .000)	-.0949 (468, .040)	-.1033 (466, .006)
place	-.0411 (521, .229)	.1564 (524, .000)	-.0935 (520, .010)
time1	.0300 (511, .380)	-.0618 (514, .162)	-.0605 (511, .097)
time2	-.0438 (513, .204)	-.0214 (516, .628)	-.0278 (513, .452)

Table K7: Sociodemographic variables against *clubs* (participation in clubs and associations) and *indcivp* (civic participation)

Reported figures are mean ranks (n) when the dependent variable is clubs, and mean (n) when the dependent variable is indcivp.

Significance tests are the Kruskal-Wallace one-way ANOVA for k independent samples (non-parametric) when the dependent variable is clubs, and the one-way ANOVA for k independent samples when the dependent variable is indcivp. We report three significance results in the latter situation; the ANOVA significance result for differences between means accompanied by a test of significance for a linear term and a test of significance for a non-linear term.

		clubs mean rank (n)	*indcivp* mean (n, sd)	*indvote* mean rank (n)
time1	strongly agree	245.31 (89)	1.4836 (90, .2086)	266.59 (88)
	moderately agree	242.98 (114)	1.4564 (114, .1941)	257.77 (114)
	agree a little	306.44 (82)	1.4670 (82, .1975)	270.33 (82)
	neutral	213.57 (88)	1.5036 (90, .1845)	268.47 (90)
	disagree a little	277.66 (38)	1.3208 (38, .2063)	211.51 (38)
	moderately disagree	257.29 (46)	1.4476 (46, .2034)	240.86 (45)
	strongly disagree	277.31 (54)	1.4603 (54, .2025)	236.38 (54)
	p between, linear, non-linear	.0021 (6df)	.0005 (6, 513) .1548 (1) .0005 (5)	.2481 (6df)

Table K7 cont.				
		clubs mean rank (n)	*indcivp* mean (n)	*indvote* mean rank (n)
time2	strongly agree	264.31 (163)	1.4654 (164, .1877)	258.29 (163)
	moderately agree	260.76 (108)	1.4529 (108, .2213)	259.95 (108)
	agree a little	279.87 (82)	1.4654 (82, .2102)	270.73 (82)
	neutral	212.78 (76)	1.4849 (78, .1996)	260.34 (78)
	disagree a little	265.04 (24)	1.3764 (24, .2229)	222.13 (24)
	moderately disagree	249.63 (26)	1.4214 (26, .1711)	211.12 (25)
	strongly disagree	253.66 (34)	1.4752 (34, .1697)	258.58 (33)
	p between linear non-linear	.1424 (6df)	.3367 (6, 515) .6275 (1) .2528 (5)	.5083 (6df)

Table K8: Quantitative sociodemographic variables against *cothers* (experience working with others to solve a commnuity problem) and *corgan* (experience organizing a group to deal with a community problem).

Reported figures are means (n, standard deviation).

Tests of significance are the one-way ANOVA.

	cothers			*corgan*		
	yes	no	p	yes	no	p
income	4.05 (226, 2.21)	3.31 (233, 2.17)	.0004 (1, 457)	3.86 (114, 2.17)	3.63 (342, 2.24)	.3313 (1, 454)
place	3.09 (250, 1.80)	3.64 (266, 1.81)	.0006 (1, 514)	2.87 (128, 1.79)	3.55 (385, 1.81)	.0002 (1, 511)
health	1.90 (252, .7535)	2.00 (271, .7958)	.1600 (1, 521)	1.89 (129, .7314)	1.97 (391, .7931)	.3090 (1, 518)
educ2	3.89 (247, 1.49)	4.44 (263, 1.36)	.0000 (1, 508)	3.66 (125, 1.46)	4.34 (382, 1.40)	<.0001 (1, 505)
born	45.51 (245, 15.65)	44.97 (256, 18.11)	.7209 (1, 499)	46.20 (124, 13.60)	45.05 (374, 17.81)	.5085 (1, 496)
children	2.45 (246, 1.55)	2.18 (253, 1.90)	.0820 (1, 497)	2.61 (127, 1.59)	2.20 (369, 1.78)	.0247 (1, 494)
chhome	.9414 (239, 1.21)	.6107 (253, .97)	.0008 (1, 490)	.9524 (126, 1.25)	.7019 (364, 1.03)	.0265 (1, 488)
hlive	2.72 (246, 1.33)	2.38 (261, 1.29)	.0037 (1, 505)	2.82 (126, 1.37)	2.45 (379, 1.29)	.0073 (1, 503)
nlived	21.29 (252, 17.98)	17.72 (266, 15.71)	.0164 (1, 516)	19.89 (128, 17.10)	19.05 (387, 16.80)	.6261 (1, 513)
dlived	30.68 (233, 19.27)	31.60 (249, 19.73)	.6047 (1, 480)	28.11 (120, 18.72)	32.10 (361, 19.76)	.0527 (1, 479)
slived	45.27 (247, 18.45)	45.95 (262, 20.50)	.6965 (1, 507)	43.68 (125, 18.08)	46.46 (381, 19.87)	.0600 (1, 504)
time1	3.27 (246, 1.91)	3.60 (259, 1.91)	.0531 (1, 503)	3.40 (126, 1.89)	3.45 (377, 1.93)	.7743 (1, 501)
time2	2.69 (248, 1.81)	2.91 (259, 1.80)	.1676 (1, 505)	2.77 (125, 1.77)	2.82 (380, 1.87)	.7871 (1, 503)

Table K9: Categorical sociodemographic variables against *cothers* (experience working with others to solve a commnuity problem) and *corgan* (experience organizing a group to deal with a community problem).

Reported figures are row percents.

Tests of significance are the chi-square.

		cothers		*corgan*	
		yes	sig	yes	sig
agecat	18-64	50.5	.2032 (1 df)	27.1	.0667 (1 df)
	65 plus	44.2		19.1	
income	< 20,000	31	.0026 (7 df)	17.2	.5864 (7 df)
	20-29	51.3		29.5	
	30-39	56.4		27.8	
	40-49	47.9		24.3	
	50-59	58.7		30.4	
	60-74	53.7		26.8	
	75-99	52.6		21.6	
	>100,000	70		29	
gender	male	55.8	.0012 (1 df)	27.5	.2039 (1 df)
	female	41.6		22.7	
employed full-time	yes	51.8	.2168 (1 df)	24.9	.9643 (1 df)
	no	46.2		24.7	
full-time homemaker	yes	42.1	.2438 (1 df)	27.6	.5303 (1 df)
	no	49.3		24.3	
retired	yes	42.4	.0856 (1 df)	18.8	.0458 (1 df)
	no	50.7		27.2	
un-employed	yes	31.8	.1144 (1 df)	13.6	.2168 (1 df)
	no	49		25.3	

Table K9 cont.

		cothers		*corgan*	
		yes	sig	yes	sig
farmer	yes	74.1	<.0001 (1 df)	42.1	.0013 (1 df)
	no	45.1		22.6	
marital	married	53.7	.0125 (5 df)	29.1	.0375 (5 df)
	common-law	50		25	
	divorced	42.9		19	
	separated	36.4		10	
	widowed	36.4		16.4	
	single	32.8		13.4	
ownhome	own	52	.0086 (2 df)	27.1	.0525 (2 df)
	rent	33.3		14.1	
	other	42.9		23.8	
place	rural	61.1	.0049 (5 df)	38	.0047 (5 df)
	town< 1000	48.1		26.3	
	1000-5000	54.5		26.1	
	5000-25,000	35.2		15.1	
	25,000-50,000	43.5		19.6	
	>50,000	39.1		17.4	
internet	yes	53.2	.4675 (1 df)	30.6	.2639 (1 df)
	no	48.3		24.1	
health	excellent	51.7	.5672 (3 df)	25	.2189 (3 df)
	good	48.1		27.2	
	fair	44.8		14.9	
	poor	38.5		23.1	

Table K9. cont.		*cothers*		*corgan*	
		yes	sig	yes	sig
educ2	post-grad	76.5	.0005 (6 df)	47.1	.0004 (6 df)
	univ.	62.5		37.2	
	comm. coll.	42.5		22	
	tech/voc	52.6		30.9	
	high sch.	45.9		20.2	
	elem. sch.	29.4		11.8	
	none	37.5		0	
religtyp	Roman Catholic	49.1	.2733 (4 df)	22.4	.6988 (4 df)
	Protestant	53.6		27.1	
	Orthodox	33.3		11.1	
	other	33.3		16.7	
	none	40		27.3	

Appendix L : Trust

Trust indicators:

indtrcom:	trust in people from the community index
indtrpeo:	trust in people in general index
indtrgov:	trust in government index
indtrpar:	trust people from respondent's part of SK index
turnfam:	likely to turn to family member in difficult time
turnrg:	turn to religious group member
turneg:	turn to ethnic group member
turnn:	turn to neighbour
ntrust:	trust neighbours
reltrust:	trust people from ethnic group
ethtrust:	trust people from ethnic group
experts:	experts can solve problems in respondent's community
pered1:	the school system is good
vote2:	respondent's vote is influential

Participation variables:

clubs:	number of clubs respondent participates in
indcivp:	civic participation index
cothers:	worked with others on a community problem
corgan:	organized others to deal with a community problem

A. Participation in clubs and associations

Bivariate Analysis:

We found that respondents were **more** likely to participate

1) who trusted in people from the community
   tau=.1525 (p=.000) in the measure of correlation between *indtrcom* and *clubs*
2) who trusted in people in general
   tau=.1462 (p=.000) in the measure of correlation between *indtrpeo* and *clubs*
3) who trusted in government
   tau=.0768 (p=.016) in the measure of correlation between *indtrgov* and *clubs*
4) who trusted in people from their parts of SK
   a) tau=.1162 (p=.001) in the measure of correlation between *indtrpar* and *clubs*
5) who trusted in people from their religious groups
   a) tau=.1658 (p=.000) in the measure of correlation between *turnrg* and *clubs*
   b) p=.0003 in the KW test between *turnrg* and *clubs*, which showed an ordered decrease in participation as trust decreased, but for one category that was slightly higher than linearity would predict
   c) tau=.1315 (p=.000) in the measure of correlation between *reltrust* and *clubs*
   d) p=.0135 in the KW test between *reltrust* and *clubs*, which showed an ordered decrease in participation as trust decreased, for those categories with sufficient n's, and except for the neutral category which scored more highly than expected
6) who trusted in their neighbours
   a) tau=.1277 (p=.000) in the measure of correlation between *turnn* and *clubs*
   b) p=.0022 in the KW test between *turnn* and *clubs*, which showed an ordered decrease in participation as trust decreased, but for one category

c) tau=.0977 (p=.006) in the measure of correlation between *ntrust* and *clubs*
d) p=.0216 in the KW test between *ntrust* and *clubs*, which showed an ordered decrease in participation as trust decreased, for those categories with sufficient n's

7) who trusted in people from their ethnic groups
a) tau=.0756 (p=.032) in the measure of correlation between *turneg* and *clubs*
b) p=.0890 in the KW test between *turneg* and *clubs*, which showed a non-order
c) tau=.1198 (p=.001) in the measure of correlation between *ethtrust* and *clubs*
d) p=.0050 in the KW test between *ethtrust* and *clubs*, which showed an ordered decrease in participation, as trust decreased, for those categories with sufficient n's

We did not find a statistically significant relationship between *clubs* and *turnfam, experts, pered1* or *vote2.*

Multivariate analysis:

Within the people-trust category, when controlling for sociodemographic characteristics, we found that trust in people from their communities (*indtcom2;* p=.0011), trust in neighbours (*ntrust;* p=.0261) and trust in people from their religious communities (*reltrust;* p=.0112) retained significant predictive capacity, but trust in people from their ethnic groups (*ethtrust*) and people from their parts of SK (*indtrpar*) did not, when each was added singly to the sociodemographic package. When all trust-people dimensions were added together to the package, we found that only trust in people from their communities retained a significant contribution (p=.0100), but that the addition of the variables did not produce a significant contribution (p>.50) (with a change in pseudo-R-squared of 3.79%).

We found that trust in governments (*indtrgov*) was controlled away by the package (not surprising given that its relationship with participation was weak anyway) and that trust in people in general (*indtrpeo*, an index collapsing together the people-trust category) retained significant predictive capacity (p=.0115) (not surprising given that it subsumed trust in people from the community). Just for fun we explored the relation between trust in people in general and associational participation when controlling for trust in governments and sociodemographics; the relationship remained strong (p=.0048 after; b=-.8440 before and b=-.8220 after).

B. Civic participation

Bivariate Analysis:

We found that respondents were **more** likely to participate

1) who trusted in people from the community
tau=.2202 (p=.000)

2) who trusted in people in general
tau=.2517 (p=.000)

3) who trusted in people from their religious groups
a) tau=.1568 (p=.000) in the measure of association between *turnrg* and *indcivp*
b) p=.0009 in the ANOVA between *turnrg* and *indcivp*, which had a significant test of linearity (p=.0043) but also a significant non-linear component (p=.0178)
c) tau=.1497 (p=.000) in the measure of correlation between *reltrust* and *indcivp*
d) p=.0000 in the ANOVA between *reltrust* and *indcivp*, which had a significant test of linearity (p=.0000)

4) who trusted in their neighbours
   a) tau=.1849 (p=.000) in the measure of association between *turnn* and *indcivp*
   b) p=.0000 in the ANOVA between *turnn* and *indcivp*, which had a significant test of linearity (p=.0000)
   c) tau=.1317 (p=.000) in the measure of association between *ntrust* and *indcivp*
   d) p=.0001 in the ANOVA between *ntrust* and *indcivp*, which had a significant test of linearity (p=.0001) but also a significant non-linear component (p=.0431)
5) who trusted in people from their ethnic groups
   a) tau=.1291 (p=.000) in the measure of association between *turneg* and *indcivp*
   b) p=.0009 in the ANOVA between *turneg* and *indcivp*, which had a significant test of linearity (p=.0043) but also a significant non-linear component (p=.0119)
   c) tau=.1718 (p=.000) in the measure of association between *ethtrust* and *indcivp*
   d) p=.0000 in the ANOVA between *ethtrust* and *indcivp*, which had a significant test of linearity (p=.0000)
6) who trusted in people from their parts of Saskatchewan
   a) tau=.1822 (p=.000); r=.2400 (p=.000)
7) trusted in voting efficacy
   a) tau=.1911 (p=.000)
   b) p=.0000 in the ANOVA between *vote2* and *indcivp*, which had a significant test of linearity (p=.0000) but also a significant non-linear component (p=.0000)

We did not find a significant relationship between *indcivp* and *indtrgov, experts* or *pered1*.

Multivariate analysis:

Of the people-trust category, only trust in neighbours (*ntrust*) did not retain significant predictive capacity after being added singly to the sociodemographic package. The strongest predictors were trust in people from the communities (*indtcom2; p=.0104*) and trust in people from their parts of SK (*indtrpa2; p=.0042*), although this could be due in part to the fact that these variables were more obviously quantitative in composition than the others. Trust in people from their religious groups (*reltrust*; p=.0291), people from their ethnic groups (*ethtrust*; p=.0397), and trust in people in general (*indtpeo2*; p=.0145) also retained predictive capacity. The single non-people-trust dimension, trust in the institution of voting, retained some predictive capacity (*vote2*; p=.0249) after controlling for sociodemographic characteristics as well. When all people-trust indicators were added to the package together we found that although the new model was significantly better than the package alone for predicting variability in *indcivp* (p=.0320), every one of the trust variables was individually non-significant.

C. Working with others to solve a community problem

Bivariate Analysis:

We found that respondents were **more** likely to have worked with others on a community problem
1) who trusted in people from their communities
   p=.0000 in the KW test between *indtrcom* and *cothers*
2) who trusted in people in general
   p=.0002 in the KW test between *indtrpeo* and *cothers*
3) who trusted in people from their religious groups

a) p=.0021 in the ANOVA between *turnrg* and *cothers*
b) p=.0045 in the ANOVA between *reltrust* and *cothers*

4) who trusted their neighbours
a) p=.0000 in the ANOVA between *turnn* and *cothers*
b) p=.0079 in the KW test between *ntrust* and *cothers*

5) who trusted in people from their ethnic groups
a) p=.0000 in the ANOVA between *turneg* and *cothers*
b) p=.0115 in the ANOVA between *ethtrust* and *cothers*

6) trusted people from their parts of SK
p=.0033 in the ANOVA between *indtrpar* and *cothers*

7) trusted in voting efficacy
p=.0325 in the ANOVA between *vote2* and *cothers*

We did not find a significant relationship between *cothers* and trust in governments (*indtrgov*).

Multivariate analysis:

We found that all of the trust-people dimensions retained their predictive capacity when controlling for the sociodemographic package, as did trust in voting efficacy (*vote2*; p=.0482). Trust in neighbours (*ntrust*; p=.0028), trust in people from their religious groups (*reltrust*; p=.0016), trust in people from their ethnic groups (*ethtrust*; p=.0050), trust in people from their parts of SK (*indtrpar*; p=.0103), trust in people from their communities (*indtcom2*; p=.0005), and trust in people in general (*indtpeo2*; p=.0004) retained significant predictive capacity when added singly to the sociodemographic package. However when we put the people-trust dimensions together with the package, even though the larger model predicted significantly more than the package alone (p=.0050; change in pseudo-R-squared of 3.79%), neither of the people-trust dimensions remained significant (trust in people from the community was closest, with p=.0814).

D. Organizing others to solve a community problem:

Bivariate Analysis:

We found that respondents were **more** likely to have organized others to solve a community problem

1) who trusted in people from the communities
p=.0002 in the KW test in the ANOVA between *indtrcom* and *corgan*

2) who trusted in people in general
p=.0279 in the KW test in the ANOVA between *indtrpeo* and *corgan*

3) who trusted in their neighbours
a) p=.0005 in the ANOVA between *turnn* and *corgan*
b) p=.1804 in the KW test between *ntrust* and *corgan*

4) who trusted in people from their ethnic groups
a) p=.0442 in the ANOVA between *turneg* and *corgan*
b) p=.4118 in the ANOVA between *ethtrust* and *corgan*

5) who trusted in people from their parts of SK
p=.0092 in the ANOVA between *indtrpar* and *corgan*

We did not find significant relationships between *corgan* and trust in governments, experts, voting efficacy, and people from their religious groups, and the relationships between *corgan* and trust in neighbours and people from their ethnic groups were not convincing.

Multivariate Analysis:

We found that only trust in people from their communities retained predictive capacity (*indtcom2*; p=.0335) when added singly to the sociodemographic package, and only barely. Surprisingly the effect of trust in people in general (perhaps a more generic form of trust in people from their communities?) Was controlled away. However, when we added all of the people-trust dimensions to the sociodemographic package together, we found that trust in people from their ethnic groups (*ethtrust*; p=.0284) and from their communities (*indtcom2*; p=.0341) remained significant, and yet the new model was not significantly better than the package alone (p=.0765; change in pseudo-R-squared of 1.84%).

Table L1. Correlations between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some quantitative trust indices

	clubs (Kendall's tau, n, p)	*indcivp* (Pearson's r, n, p)
indtrcom - trust people from community index	-.1525 (528, .000)	.2202 (n=531, p=.000)
indtrpeo - trust people in general index	-.1462 (531, .000)	.2517 (n=534, p=.000)
indtrgov - trust governments index	-.0768 (524, .016)	.0580 (n=527, p=.184)

Table L2. Tests of significance between *cothers* (experience working with others to solve a community problem) and *corgan* (experience organizing others to solve a community problem) and some quantitative trust indices.

		cothers		*corgan*		*indvote2*	
		yes	no	yes	no	1	2
indtrcom - trust people from community index	mean rank (n)	233.11 (253)	289.94 (271)	217.95 (129)	275.17 (392)	258.79 (414)	275.74 (99)
	p	.0000 (1df)		.0002 (1df)		.3112 (1df)	
indtrpeo - trust people in general index	mean (n, sd)	2.08 (253, .9638)	2.41 (271, 1.07)	2.08 (129, 1.01)	2.31 (392, 1.03)	2.21 (427, 1.04)	2.39 (99, .9596)
	p	.0002 (1 df)		.0279 (1 df)		.1199 (1 df)	
indtrgov - trust governmen t index	mean (n, sd)	3.76 (252, .8730)	3.79 (266, .9391)	3.81 (129, .8806)	3.77 (386, .9169)	3.74 (423, .9093)	3.85 (99, .9196)
	p	.7466 (1 df)		.6872 (1 df)		.2784 (1 df)	

Table L3. Correlations between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some quantitative trust questions

	clubs *(Kendall's tau, n, p)*	*indcivp* *(Pearson's r, n, p) and* *(Kendall's tau, n, p)*
turnfam	.0177 (510, .741)	r=.0400 (n=509, p=.368) tau=.0053 (513, .876)
turnrg	-.1658 (506, .000)	r=.1448 (n=418, p=.003) tau=.1568 (509, .000)
turnn	-.1277 (506, .000)	r=.2474 (n=505, p=.000) tau=.1849 (509, .000)
turneg	-.0756 (487, .032)	r=.1475 (n=364, p=.005) tau=.1291 (490, .000)
ntrust	-.0977 (529, .006)	r=.1733 (n=532, p=.000) tau=.1317 (532, .000)
reltrust	-.1315 (516, .000)	r=.2031 (n=519, p=.000) tau=.1497 (519, .000)
ethtrust	-.1198 (510, .001)	r=.2143 (n=513, p=.000) tau=.1718 (513, .000)
indtrpar	-.1162 (528, .001)	r=.2400 (n=531, p=.000) tau=.1822 (531, .000)
experts	-.0553 (513, .113)	r=.0059 (n=516, p=.894) tau=.0308 (516, .359)
pered1	-.0209 (515, .542)	r=.0668 (n=518, p=.129) tau=.0505 (518, .125)
vote2	-.0766 (516, .025)	r=.2237 (n=519, p=.000) tau=.1911 (519, .000)

Table L4. A detailed breakdown of the relationship between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some ordinal trust questions.

For the dependent variable *indcivp*, the first test of significance is the one-way ANOVA, the second tests for a significant non-linear component, and the third for a significant linear component.

		clubs mean rank (n)	*indcivp* mean (n, sd)
turnfam	extremely likely	251.30 (201)	1.47 (202, .1999)
	very likely	252.12 (133)	1.44 (135, .1973)
	quite likely	262.17 (78)	1.47 (78, .1845)
	somewhat likely	279.06 (39)	1.44 (39, .2027)
	a little likely	201.75 (22)	1.47 (22, .2007)
	not likely	256.26 (33)	1.52 (33, .2338)
	p	.4908 (5df)	.3841 (5, 508) .3679 (1) .3477 (4)
turnrg	extremely likely	254.14 (60)	1.44 (60, .2065)
	very likely	225.20 (62)	1.38 (62, .1927)
	quite likely	223.07 (58)	1.44 (58, .1767)
	somewhat likely	186.52 (54)	1.47 (54, .1783)
	a little likely	229.87 (45)	1.40 (45, .1711)
	not likely	178.17 (138)	1.50 (139, .1997)
	p	.0003 (5df)	.0009 (5, 417) .0027 (1) .0178 (4)

Table L4. cont.			
		clubs mean rank (n)	*indcivp* mean (n, sd)
turneg	extremely likely	205.09 (28)	1.43 (28, .2065)
	very likely	183.62 (42)	1.42 (42, .2086)
	quite likely	190.12 (52)	1.43 (52, .1908)
	somewhat likely	181.34 (63)	1.44 (63, .2000)
	a little likely	208.69 (51)	1.38 (51, .1763)
	not likely	162.66 (127)	1.51 (128, .1939)
	p	.0890 (5df)	.0009 (5, 358) .0043 (1) .0119 (4)
turnn	extremely likely	291.53 (95)	1.41 (95, .2035)
	very likely	271.10 (89)	1.40 (89, .1830)
	quite likely	228.30 (80)	1.46 (82, .1966)
	somewhat likely	256.72 (74)	1.47 (74, .1906)
	a little likely	250.47 (56)	1.47 (56, .1888)
	not likely	214.28 (108)	1.54 (109, .1904)
	p	.0022 (5df)	.0000 (5, 504) .0000 (1) .4446 (4)
ntrust	strongly agree	278.00 (176)	1.42 (176, .1870)
	moderately agree	276.49 (217)	1.46 (218, .2018)
	agree a little	246.29 (77)	1.48 (77, .2114)
	neutral	189.00 (30)	1.60 (32, .1869)
	disagree a little	238.04 (14)	1.57 (14, .1760)
	moderately disagree	184.55 (10)	1.47 (10, .1802)
	strongly disagree	289.50 (5)	1.47 (5, .2288)
	p	.0216 (6df)	.0001 (6, 531) .0001 (1) .0431 (5)

Table L4. cont.

		clubs mean rank (n)	*indcivp* mean (n, sd)
reltrust	strongly agree	288.89 (161)	1.42 (161, .1926)
	moderately agree	260.92 (185)	1.44 (186, .1954)
	agree a little	235.50 (54)	1.48 (54, .1870)
	neutral	216.52 (82)	1.56 (84, .1986)
	disagree a little	232.50 (24)	1.46 (24, .2287)
	moderately disagree	288.88 (4)	1.45 (4, .1988)
	strongly disagree	232.92 (6)	1.60 (6, .2013)
	p	.0135 (6df)	.0000 (6, 518) .0000 (1) .0648 (5)
ethtrust	strongly agree	285.87 (114)	1.40 (114, .1883)
	moderately agree	264.52 (180)	1.44 (181, .1952)
	agree a little	253.79 (68)	1.49 (68, .1781)
	neutral	215.17 (108)	1.53 (110, .2185)
	disagree a little	208.88 (26)	1.52 (26, .1819)
	moderately disagree	329.71 (7)	1.45 (7, .2015)
	strongly disagree	266.86 (7)	1.52 (7, .2385)
	p	.0050 (6df)	.0000 (6, 512) .0000 (1) .2615 (5)

Table L4. cont.			
		clubs mean rank (n)	*indcivp* mean (n, sd)
experts	strongly agree	279.94 (55)	1.46 (55, .2002)
	moderately agree	268.29 (131)	1.44 (131, .2004)
	agree a little	253.80 (186)	1.48 (188, .1956)
	neutral	218.11 (71)	1.51 (72, .2133)
	disagree a little	212.32 (31)	1.44 (31, .1624)
	moderately disagree	343.09 (23)	1.46 (23, .1722)
	strongly disagree	258.31 (16)	1.39 (16, .2423)
	p	.0059 (6df)	.1734 (6, 515) .8937 (1) .1108 (5)
pered1	strongly agree	235.00 (30)	1.39 (30, .2000)
	moderately agree	278.10 (149)	1.45 (150, .1892)
	agree a little	248.57 (102)	1.48 (102, .0209)
	neutral	239.91 (83)	1.49 (85, .1997)
	disagree a little	253.67 (72)	1.46 (72, .1994)
	moderately disagree	255.71 (40)	1.45 (40, .2076)
	strongly disagree	272.38 (39)	1.49 (39, .1982)
	p	.4611 (6df)	.2859 (6, 517) .1289 (1) .4044 (5)

Table L4. cont.			
		clubs mean rank (n)	*indcivp* mean (n, sd)
vote2	strongly agree	274.25 (69)	1.39 (69, .1854)
	moderately agree	283.64 (98)	1.37 (98, .1779)
	agree a little	262.08 (154)	1.47 (155, .1879)
	neutral	218.00 (69)	1.56 (71, .1956)
	disagree a little	243.78 (37)	1.52 (37, .2165)
	moderately disagree	238.15 (36)	1.53 (36, .1942)
	strongly disagree	257.93 (53)	1.49 (53, .2066)
	p	.1222 (6df)	.0000 (6, 518) .0000 (1) .0000 (5)

Table L5. Tests of significance between *cothers* (experience working with others to solve a community problem) and *corgan* (experience organizing others to solve a community problem) and some quantitative trust questions.

When the independent variable (in rows) is symmetric, we provide the mean, with n and the standard deviation in brackets, with a one-way ANOVA test of significance. When it is not symmetric, we provide the mean rank, with n in brackets, with a Kruskal-Wallace non-parametric one-way ANOVA test of significance.

	cothers			*corgan*		
	yes	no	p	yes	no	p
turnfam	2.28 (245, 1.37)	2.33 (258, 1.58)	0.716	2.23 (125, 1.45)	2.33 (376, 1.50)	0.5248
turnfam	255.34 (245)	248.83 (258)	.6000 (1df)	244.40 (125)	253.20 (376)	.5383 (1df)
turnrg	3.63 (203, 1.77)	4.19 (207, 1.90)	0.0021	3.65 (103, 1.76)	4.01 (306, 1.88)	0.0866
turnn	3.11 (241, 1.66)	3.84 (256, 1.86)	<.0001	3.01 (124, 1.65)	3.66 (370, 1.82)	0.0005
turneg	3.87 (178, 1.65)	4.63 (182, 1.60)	<.0001	3.96 (90, 1.61)	4.36 (268, 1.66)	0.0442
ntrust	1.99 (251, 1.09)	2.29 (271, 1.30)	0.0048	2.03 (129, 1.16)	2.19 (390, 1.24)	0.1997
ntrust	244.29 (251)	277.44 (271)	.0079 (1df)	245.52 (129)	264.79 (390)	.1804 (1df)
reltrust	2.18 (245, 1.19)	2.51 (265, 1.43)	0.0045	2.22 (126, 1.28)	2.41 (381, 1.35)	0.1666
ethtrust	2.48 (244, 1.32)	2.78 (261, 1.39)	0.0115	2.55 (126, 1.41)	2.66 (377, 1.35)	0.4118
experts	2.95 (250, 1.39)	3.16 (257, 1.39)	0.0996	3.08 (127, 1.43)	3.07 (377, 1.40)	0.9314
pered1	3.60 (250, 1.71)	3.54 (259, 1.66)	0.7098	3.75 (128, 1.77)	3.52 (378, 1.65)	0.1794
vote2	3.29 (252, 1.77)	3.62 (258, 1.80)	0.0325	3.38 (129, 1.87)	3.50 (378, 1.77)	0.5028

Appendix M: Commitment

Commitment indicators:

impfam:	how important is your family's happiness to you?
impneigh:	how important is your neighbourhood's success to you?
impcomm:	how important is your community's success to you?
imppart:	how important is the success of your part of SK to you?
impprov:	how important is SK's success to you?
impcoun:	how important is Canada's success to you?

Participation variables:

clubs:	number of clubs respondent participates in
indcivp:	civic participation index
cothers:	worked with others on a community problem
corgan:	organized others to deal with a community problem

A. Participation in clubs and associations

Bivariate analysis:

We found that all of the commitment dimensions were positively correlated with such participation, but only commitment to the community (*impcomm*) was significantly correlated (tau=.1234, p=.000; p=.0031 in the KW test which showed a steadily decreasing trend for those categories with sufficient n's).

Multivariate analysis:

We found that the sociodemographic variables controlled away the influences of *impcomm* (p>.05 in a likelihood ratio test) on *clubs2* when added to the sociodemographic package.

B. Civic participation

Bivariate analysis:

We found that all of the commitment dimensions we checked were positively correlated with civic participation, but only commitment to community (*impcomm*) (tau=.1486, p=.000; p=.0000 in the ANOVA, which showed a steady increase in participation as commitment increases, and had a significant linear component (p=.0000)) and commitment to respondents' parts of SK (*imppart*) (tau=.0809, p=.016; p=.0000 in the ANOVA, which had a significant linear component (p=.0010) and a significant non-linear component (p=.0020)) were significantly correlated.

Multivariate analysis:

We found that the sociodemographic variables controlled away *imppart's* contribution to variance in *indcivp* (p>.50), but that *impcomm*'s contribution remaineded significant (p=.0198; change in R-squared of 0.40%).

C. Working with others to solve a community problem

Bivariate analysis:

We found that people who have worked with others to solve a community problem were **more** likely to have expressed commitment to the community (p=.0030 in the KW test). There were no significant differences in commitment between those who have organized a group to solve a community problem and those who have not.

Multivariate analysis:

We found that commitment to the community retained its significant predictive capacity (p=.0005) on experience collaborating to solve a community problem (*cothers*) (change in pseudo-R-squared of 1.68%) after controlling for sociodemographic characteristics.

Table M1. Correlations between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some quantitative commitment questions

Correlations	*clubs* *(Kendall's tau, n, p)*	*indcivp* *(Kendall's tau, n, p)*
impfam	.0352 (525, .351)	.0265 (528, .465)
impcomm	.1234 (525, .000)	.1486 (522, .000)
imppart	.0597 (526, .087)	.0809 (524, .016)
impprov	.0192 (525, .588)	.0534 (525, .118)
impcoun	.0330 (526, .355)	.0672 (527, .051)

Table M2. Relationships between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some quantitative commitment questions

		clubs mean rank (n)	*indcivp* mean (n, sd)
impfam	strongly agree	265.47 (421)	1.46 (422, .1955)
	moderately agree	266.40 (87)	1.46 (88, .2158)
	agree a little	191.67 (12)	1.50 (12, .2400)
	neutral	167.20 (5)	1.60 (6, .2001)
	disagree a little		
	moderately disagree		
	strongly disagree		
	p	.1759 (3df)	.3211 (3, 527) .1539 (1) .4808 (2)
impcomm	extremely important	285.82 (149)	1.42 (149, .1871)
	very important	258.76 (156)	1.45 (157, .1973)
	quite important	264.69 (129)	1.45 (130, .1894)
	somewhat important	203.52 (64)	1.54 (64, .2161)
	a little important	252.08 (18)	1.60 (18, .1752)
	not important	93.00 (3)	1.78 (4, .0914)
	p	.0031 (5df)	.0000 (5, 521) .0000 (1) .0659 (4)
imppart	extremely important	268.60 (163)	1.46 (163, .1988)
	very important	266.12 (164)	1.42 (165, .1936)
	quite important	261.22 (111)	1.48 (112, .1911)
	somewhat important	235.89 (68)	1.52 (68, .2118)
	a little important	253.63 (12)	1.48 (12, .1985)
	not important	159.17 (3)	1.81 (4, .0529)
	p	.5478 (5df)	.0000 (5, 523) .0010 (1) .0020 (4)

Table M2. cont.			
		clubs mean rank (n)	*indcivp* mean (n, sd)
impprov	extremely important	259.73 (218)	1.46 (218, .1998)
	very important	268.33 (158)	1.44 (159, .2052)
	quite important	265.53 (89)	1.46 (90, .1776)
	somewhat important	250.40 (47)	1.52 (47, .2207)
	a little important	225.28 (9)	1.56 (9, .1717)
	not important	58.00 (1)	1.83 (2, .0786)
	p	.6848 (5)	.0117 (5) .0143 (1) .0670 (4)
impcoun	extremely important	265.90 (266)	1.45 (266, .2014)
	very important	261.59 (137)	1.47 (138, .1985)
	quite important	268.57 (76)	1.45 (77, .1923)
	somewhat important	219.39 (36)	1.53 (36, .1980)
	a little important	307.50 (7)	1.54 (7, .1958)
	not important	260.50 (2)	1.59 (3, .4207)
	p	.5626 (5df)	.1513 (5, 526) .0253 (1) .5422 (4)

Table M3. Tests of significance between *cothers* (experience working with others to solve a community problem) and *corgan* (experience organizing others to solve a community problem) and some ordinal commitment questions.

	cothers (mean rank, n)			*corgan (mean rank, n)*		
	yes	no	p	yes	no	p
impfam	257.82 (251)	261.08 (267)	.7235 (1df)	256.74 (129)	258.42 (386)	.8736 (1df)
impcomm	237.66 (249)	275.24 (264)	.0030 (1df)	243.39 (128)	260.87 (384)	.2308 (1df)
imppart	250.32 (250)	264.30 (264)	.2683 (1df)	262.28 (128)	254.57 (384)	.5961 (1df)
impprov	261.81 (251)	254.38 (264)	.5491 (1df)	267.69 (129)	253.41 (384)	.3171 (1df)
impcoun	262.55 (252)	255.63 (265)	.5679 (1df)	270.02 (129)	253.30 (385)	.2302 (1df)

Appendix N: Identity and commitment

Identity/Commitment Hypothesis. Identification with the community predicts a person's commitment to the community.

Identity indicators:

iden1:	rank in a hierarchy of identities of "Canadian"
iden2:	rank in a hierarchy of identities of "resident of SK"
iden3:	rank in a hierarchy of identities of "resident of my part of SK"
iden4:	rank in a hierarchy of identities of "member of my ethnic group"
iden5:	rank in a hierarchy of identities of "member of my religious community"
iden7:	rank in a hierarchy of identities of "resident of my city, town or rural area"
iden8:	rank in a hierarchy of identities of "resident of my neighbourhood"

Commitment indicators:

impcoun:	importance to me of Canada's success
impprov:	importance to me of SK's success
imppart:	importance to me of my part of SK's success
impeth:	importance to me of my ethnic group's success
imprelig:	importance to me of my religious group's success
impcomm:	importance to me of my community's success
impneigh:	importance to me of my neighbourhood's success

Although identifying with the community was directly related to a person's commitment to the community (tau=.0687, p=.065), it was neither statistically significant nor strong. In further analysis of the relationship between identification with an entity and commitment to the success of that identity, we found that identification with being Canadian was significantly correlated with *impcoun* (tau=.2322, p=.000) and *impprov* (tau=.1297, p=.001). We found that identification with being a resident of SK was significantly and positively correlated with *impcoun* (tau=.1496, p=.000), *impprov* (tau=.1641, p=.000), and *imppart* (tau=.1220, p=.001), and significantly and negatively correlated with *imprelig* (tau=-.1011, p=.005). We found that identification with being residents of their parts of SK was significantly and positively correlated with *impcoun* (tau=.0760, p=.046), *impprov* (tau=.1420, p=.000), *imppart* (tau=.1468, p=.000), and significantly and negatively correlated with *imprelig* (tau=-.1038, p=.004).

We found that identification with being a member of their ethnic groups was significantly correlated with *impeth* (tau=.2616, p=.000). We found that identification with being a member of their religious communities was significantly correlated with *imprelig* (tau=.4987, p=.000). We found that identification with being residents of their cities, towns or rural areas was significantly and negatively correlated with *impcoun* (tau=-.0877, p=.021). We found that identification with being a resident of their neighbourhoods was significantly correlated with *impcoun* (tau=.1270, p=.001) and *impneigh* (tau=.1750, p=.000).

Table N1. Correlations among identification variables and commitment variables

Correlations are Kendall's tau (n, p).

	impcoun	*impprov*	*imppart*	*impcomm*	*impeth*	*imprelig*	*impneigh*
iden1 (Canada)	.2322 (465, .000)	.1297 (463, .001)	.0668 (464, .084)	.0282 (465, .464)	-.0569 (451, .134)	-.0572 (460, .126)	.0079 (462, .837)
iden2 (SK)	.1496 (466, .000)	.1641 (464, .000)	.1220 (465, .001)	.0294 (464, .429)	-.0029 (453, .937)	-.1011 (461, .005)	-.0195 (462, .597)
iden3 (part of SK)	.0760 (461, .046)	.1420 (459, .000)	.1468 (460, .000)	.0527 (460, .156)	.0122 (449, .738)	-.1038 (456, .004)	.0349 (458, .344)
iden4 (ethnic)	-.0188 (423, .773)	.0134 (422, .741)	.0477 (423, .234)	.0063 (423, .875)	.2616 (414, .000)	-.0458 (421, .237)	-.0098 (421, .805)
iden5 (religious)	-.0463 (433, .237)	-.0699 (432, .072)	-.0154 (433, .689)	.0494 (432, .197)	.0212 (423, .572)	.4987 (431, .000)	-.0068 (430, .858)
iden7 (comm)	-.0877 (465, .021)	-.0642 (463, .089)	.0259 (464, .487)	.0687 (463, .065)	.0113 (452, .757)	-.0440 (460, .223)	.0701 (461, .058)
iden8 (neigh)	-.0650 (463, .086)	-.0415 (461, .268)	.0615 (462, .097)	.1270 (462, .001)	.0353 (451, .331)	-.0032 (458, .929)	.1750 (459, .000)

Appendix O: Identity

Identity indicators:

iden1:	rank in a hierarchy of identities of "Canadian"
iden2:	rank in a hierarchy of identities of "resident of SK"
iden3:	rank in a hierarchy of identities of "resident of my part of SK"
iden4:	rank in a hierarchy of identities of "member of my ethnic group"
iden5:	rank in a hierarchy of identities of "member of my religious community"
iden7:	rank in a hierarchy of identities of "resident of my city, town or rural area"
iden8:	rank in a hierarchy of identities of "resident of my neighbourhood"

Participation variables:

clubs:	number of clubs respondent participates in
indcivp:	civic participation index
cothers:	worked with others on a community problem
corgan:	organized others to deal with a community problem

A. Participation in clubs and associations

Bivariate analysis:

We found significant measures of association between *clubs* and several of the identification variables, but when we broke down the identity variable and performed a K-W one-way ANOVA the significance disappeared. *Clubs* was related to *iden1* (Canadian; tau=.0929, p=.012; K-W p=.1493; relationship appeared curvilinear), *iden2* (resident of SK; tau=.0704, p=.049; K-W p=.2141; relationship appeared curvilinear), *iden3* (part of SK; tau=.1101, p=.002; K-W p=.0862; relationship appeared linear), *iden4* (ethnic group; tau=.1122, p=.004; K-W p=.0792; relationship appeared mostly linear) and *iden5* (religious group; tau=-.0995, p=.007; K-W p=.1286; relationship appeared somewhat linear).

Thus our strongest predictors of associational activity from the identification variables were 1) identifying with being residents of their parts of SK (the higher such identification the less associational activity) and 2) identifying with being members of their ethnic groups (the higher such identification the less associational activity).

Multivariate analysis:

We added *iden3* and *iden4* to the sociodemographic package singly; only *iden3* (part of SK) retained significant predictive capacity.

B. Civic participation

Bivariate analysis:

We found that people are more likely to participate civicly who did not identify highly with being members of their ethnic groups (*iden4*; tau=-.0839, p=.024; ANOVA p=.0831) and who did identify highly with being members of their neighbourhoods (*iden8*; tau=.0833, p=.015; ANOVA p=.0570).

Multivariate analysis:

We added *iden4* and *iden8* to the sociodemographic package singly, but neither retained any significant predictive capacity.

C. Working with others to solve a community problem

Bivariate analysis:

We found that people who have worked with others to solve a community problem were **more** likely to 1) have expressed less identification with being Canadian (*iden1*) (p=.0416 in the KW test), 2) expressed less identification with being a member of their ethnic group (*iden4*) (p=.0115 in the KW test) and 3) expressed more identification with being a resident of their community (*iden7*) (p=.0002 in the KW test). There were no significant differences in identification between those who have organized a group to solve a community problem and those who have not.

Multivariate analysis:

We added *iden1*, *iden4* and *iden7* to the sociodemographic package singly; only *iden7* (resident of my community) retained significant predictive capacity.

Table O1. Correlations between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some quantitative identification variables.

Correlations	*clubs* *(Kendall's tau, n, p)*	*indcivp* *(Kendall's tau, n, p)*
iden1	.0929 (468, .012)	.0133 (468, .711)
iden2	.0704 (468, .049)	.0302 (468, .379)
iden3	.1101 (463, .002)	-.0186 (463, .589)
iden4	.1122 (425, .004)	-.0839 (425, .024)
iden5	-.0995 (435, .007)	.0595 (435, .094)
iden6	-.0468 (442, .202)	-.0530 (442, .134)
iden7	-.0078 (467, .828)	.0346 (467, .316)
iden8	.0208 (466, .558)	.0833 (466, .015)

Table O2. Detailed breakdown of the relationships between *clubs* (participation in clubs and associations) and *indcivp* (civic participation index) and some ordinal identification questions.

		clubs mean rank (n)	*indcivp* mean (n, sd)
iden1	rank 1	219.54 (257)	1.46 (257, .1904)
	2	244.02 (52)	1.44 (52, .2227)
	3	255.20 (38)	1.46 (38, .2225)
	4	297.65 (20)	1.49 (20, .1832)
	5	265.94 (24)	1.41 (24, .1860)
	6	235.41 (32)	1.50 (32, .2291)
	7	239.27 (28)	1.53 (28, .2255)
	rank 8	257.09 (17)	1.41 (17, .1478)
	p	.1493 (7df)	.3497 (7, 460)
iden2	rank 1	199.11 (52)	1.45 (52, .2079)
	2	226.23 (124)	1.45 (124, .1926)
	3	237.88 (69)	1.47 (69, .2170)
	4	268.23 (58)	1.44 (58, .2102)
	5	231.38 (69)	1.49 (69, .2133)
	6	233.40 (63)	1.49 (63, .1969)
	7	261.80 (30)	1.44 (30, .1545)
	rank 8	281.67 (3)	1.46 (3, .1156)
	p	.2141 (7df)	.7202 (7, 460)

Table O2. cont.

		clubs mean rank (n)	*indcivp* mean (n, sd)
iden3	rank 1	200.68 (38)	1.48 (38, .1878)
	2	202.59 (37)	1.45 (37, .1819)
	3	225.81 (83)	1.44 (83, .2091)
	4	226.12 (102)	1.49 (102, .2175)
	5	231.66 (74)	1.48 (74, .1673)
	6	242.48 (75)	1.42 (75, .2031)
	7	285.89 (41)	1.44 (41, .2005)
	rank 8	264.46 (13)	1.52 (13, .1951)
	p	.0862 (7df)	.2315 (7, 455)
iden4	rank 1	185.38 (26)	1.47 (26, .2266)
	2	189.90 (15)	1.48 (15, .1430)
	3	171.32 (14)	1.52 (14, .1825)
	4	206.52 (27)	1.50 (27, .1799)
	5	218.82 (28)	1.40 (28, .1981)
	6	208.00 (30)	1.50 (30, .1985)
	7	194.92 (118)	1.48 (115, .2106)
	rank 8	236.62 (167)	1.43 (167, .1867)
	p	.0792 (7df)	.0831 (7, 417)
iden5	rank 1	232.50 (51)	1.48 (51, .2210)
	2	259.01 (40)	1.38 (40, .1820)
	3	223.03 (34)	1.42 (34, .1634)
	4	221.94 (41)	1.45 (41, .1692)
	5	226.26 (35)	1.49 (35, .2075)
	6	203.38 (37)	1.49 (37, .2005)
	7	221.40 (101)	1.43 (101, .1764)
	rank 8	188.80 (96)	1.51 (96, .2266)
	p	.1286 (7df)	.0136 (7, 427)

Table O2. cont.

		clubs mean rank (n)	*indcivp* mean (n, sd)
iden6	rank 1	230.80 (133)	1.47 (133, .2012)
	2	213.44 (70)	1.50 (70, .2258)
	3	238.75 (53)	1.44 (53, .1822)
	4	222.63 (42)	1.51 (42, .2037)
	5	214.20 (37)	1.45 (37, .2020)
	6	204.70 (49)	1.43 (49, .1755)
	7	246.17 (29)	1.38 (29, .1969)
	rank 8	178.14 (29)	1.47 (29, .1500)
	p	.3734 (7df)	.0853 (7, 434)
iden7	rank 1	251.00 (37)	1.41 (37, .2200)
	2	244.57 (50)	1.45 (50, .1701)
	3	232.78 (85)	1.50 (85, .2260)
	4	215.53 (101)	1.44 (101, .1742)
	5	233.09 (105)	1.47 (105, .2054)
	6	268.20 (57)	1.45 (57, .2004)
	7	175.60 (24)	1.52 (24, .2110)
	rank 8	278.94 (8)	1.52 (8, .1538)
	p	.0948 (7df)	.2489 (7, 459)
iden8	rank 1	231.45 (50)	1.40 (50, .2263)
	2	232.01 (65)	1.48 (65, .1989)
	3	232.10 (65)	1.44 (65, .1814)
	4	227.81 (89)	1.43 (89, .1955)
	5	226.00 (62)	1.46 (62, .1921)
	6	245.17 (81)	1.50 (81, .2078)
	7	228.65 (40)	1.50 (40, .1940)
	rank 8	269.96 (14)	1.54 (14, .1953)
	p	.9526 (7df)	.0570 (7, 458)

Table O3. Tests of significance between *cothers* (experience working with others to solve a community problem) and *corgan* (experience organizing others to solve a community problem) and some ordinal identification questions.

	cothers (mean rank, n)			*corgan (mean rank, n)*		
	yes	no	p	yes	no	p
iden1	242.59 (229)	219.56 (232)	0.0416	245.08 (119)	224.72 (340)	0.1145
iden2	231.81 (231)	220.15 (230)	0.0761	241.33 (119)	225.35 (339)	0.2495
iden3	236.29 (227)	220.78 (229)	0.2027	225.65 (118)	228.15 (336)	0.8569
iden4	224.21 (211)	195.59 (208)	0.0115	226.83 (111)	203.93 (308)	0.0744
iden5	210.53 (216)	219.53 (213)	0.4458	215.78 (112)	214.05 (316)	0.897
iden6	212.40 (219)	224.65 (217)	0.3011	211.78 (114)	220.88 (322)	0.4995
iden7	207.75 (230)	253.25 (230)	0.0002	214.67 (118)	233.99 (339)	0.1643
iden8	220.75 (230)	239.29 (229)	0.1301	225.63 (118)	229.50 (338)	0.7809

Appendix P: Trust, commitment and identity at the level of the neighbourhood

Neighbourliness variables:

ntrust:	my neighbours can be trusted
nclose:	do you have close friends among your neighbours?
nnames:	do you know the names of most of your neighbours?
ndollar2:	would you lend your neighbour $50?
ncar:	would you lend your neighbour your car?
impneigh:	how important is the success of your neighbourhood to you?

Participation variables:

clubs:	number of clubs and associations respondent belongs to
indcivp:	civic participation index
cothers:	worked with others on a community problem
corgan:	organized others to deal with a community problem

A. Participation in clubs and associations

Bivariate Analysis:

We found that people were **more** likely to have engaged highly in associational activities 1) who said yes to *nclose* (p=.0001 in the KW test), 2) who said yes to *ndollar2* (p=.0101 in the KW test), 3) who said yes to *ncar* (p=.0003 in the KW test), 4) who were more committed to the success of their neighbourhood (*impneigh*) (a) tau=.1080 (p=.002), b) p=.0407 in the KW test, which showed an (almost perfect) order from strongest importance to least importance) and 5) who claimed to trust their neighbours more (*ntrust*) (a) tau=.0977 (p=.006) in the measure of association, b) p=.0216 in the KW test, which showed a steadily decreasing amount of participation as trust decreases, for the categories that had sufficient n's (greater than 29)).

Multivariate analysis:

We created a logistic regression model on the dependent variable *clubs2* with the sociodemographic "package" and the neighbourliness variables (*nclose, nnames, ndollar2, ncar, impneigh* and *ntrust*) as the independent variables, but the new model did not perform significantly better than the sociodemographic "package" alone. We found that when we removed *ntrust* from the larger model there was a significant difference found (p<.05 in the LR test) but no difference was found when we removed any of the other independent variables. We also found when adding the neighbourliness variables to the control variables, one at a time, that only *ntrust* added significantly (p=.0261; change in pseudo-R-squared=1.27%) to the sociodemographic characteristics.

When we controlled for sociodemographic characteristics the neighbourliness variables vanished in importance for all such variables but *ntrust*, and the probability of even this relationship occurring by chance is quite high (p>.01), given the size of our sample. This demonstrates that the relationship between neighbourliness and associational activity was, for the most part, spurious. *Ntrust* retained its significance, although its R-value shows that it's contribution was among the smallest in the model.

B. Civic participation

Bivariate Analysis:

We found that people were **more** likely to have engaged highly in civic participation activities 1) who said yes to *nclose* (p=.0000 in the ANOVA), 2) who said yes to *nnames* (p=.0044 in the ANOVA), 3) who said yes to *ndollar2* (p=.0000 in the ANOVA), 4) who said yes to *ncar* (p=.0000 in the ANOVA), 5) who were more committed to the success of their neighbourhood (*impneigh*) (a) tau=.1428 (p=.000), treating *impneigh* as a quantitative variable, b) p=.0000 in the ANOVA, which showed a somewhat staggered order from extremely important to not important, although the not important category had a much lower rate of participation (albeit with a small n) than the others. - the test of linearity was significant (p=.0000), as was the test of non-linearity (p=.0089)), and 6) who had more trust in their neighbours (*ntrust*) (a) tau=.1317 (p=.000), treating *ntrust* as a quantitative variable, b) p=.0001 in the ANOVA, which showed an order from greatest trust to least trust for those categories with sufficient n's, and had significant tests of linearity (p=.0001) and non-linearity (p=.0431)).

Multivariate Analysis:

Adding the neighbourliness variables to the sociodemographic package singly, we found that *nclose* (p=.00335), *impneigh* (p=.0215), and *ncar* (p=.0028) retained some significant predictive power when sociodemographics were controlled for, and that *ndollar2*, *ntrust* and *nnames* did not. Adding all of the neighbourliness variables to the package together we found that the change in R-squared, with all neighbourliness variables added, was 1.6%.

C. Working with others to solve a community problem

Bivariate Analysis:

We found that people were **more** likely to have collaborated with others to solve a community problem (*cothers*) 1) who said yes to *nclose* (p=.00206 in the chi-square test), 2) who said yes to *nnames* (p=.00374 in the chi-square test), 3) who said yes to *ndollar2* (p=.01333 in the chi-square test), 4) who said yes to *ncar* (p=.00000 in the chi-square test), 5) who had higher levels of trust in their neighbours (*ntrust*)

(p=.0079 in the KW test) and 6) who rated the success of their neighbourhood as important to them *(impneigh)* (p=.0036 in the KW test).

Multivariate Analysis:

We found that *ncar* (p=.0001), *impneigh* (p=.0000) and *ntrust* (p=.0020) retained significant predictive power when added singly to the sociodemographic package, but *nnames, ndollar2* and *nclose* did not. When all neighbourliness variables were regressed together with the package, we found that the change in pseudo-R-squared, with all neighbourliness variables added, was 4.65%.

D. Organizing others to solve a community problem

Bivariate Analysis:

We found that people were **more** likely to have organized a group to solve a community problem 1) who said yes to *ncar* (p=.00008 in the chi-square test).

Multivariate Analysis:

We found that *impneigh* (p=.0198) and *ncar* (p=.0022) retained significant predictive capacity when added singly to the sociodemographic package, and *ndollar2, nclose, nnames* and *ntrust* did not. Interestingly *impneigh* did *not* have a significant bivariate relationship with experience in organising a group to solve a community problem, yet *was* significant when sociodemographic characteristics were controlled for. *Ncar* retained some bivariate predictive capacity when sociodemographic characteristics were controlled for. When all neighbourliness indicators were regressed together with the change in pseudo-R-squared, with all neighbourliness variables added, was 5.53%.

Table P1: Neighbourliness independent variables against *clubs* and *indcivp*.

Reported figures are mean ranks (n) for when the d.v. is *clubs* and mean (n, standard deviation) when the d.v. is *indcivp*.
Significance tests are the K-W one-way ANOVA when the d.v. is *clubs* and the one-way ANOVA when the d.v. is *indcivp*.

		clubs mean rank (n)	*indcivp* mean (n, sd)	*indvote* mean rank (n)
nclose	yes	283.52 (350)	1.42 (352, .1938)	251.88 (350)
	no	228.78 (179)	1.53 (180, .1940)	289.32 (178)
	p	.0001 (1 df)	.0000 (1, 530)	.0040 (1df)
nnames	yes	270.33 (432)	1.45 (434, .1985)	261.87 (431)
	no	241.26 (97)	1.51 (98, .2013)	276.16 (97)
	p	.0859 (1df)	.0044 (1, 530)	.3687 (1df)
ndollar2	yes	264.20 (442)	1.44 (444, .2011)	250.48 (441)
	no	216.37 (72)	1.57 (73, .1677)	299.92 (73)
	p	.0101 (1df)	.0000 (1, 515)	.0046 (1df)
ncar	yes	251.33 (414)	1.44 (415, .2014)	235.89 (412)
	no	186.04 (69)	1.58 (70, .1688)	274.49 (70)
	p	.0003 (1df)	.0000 (1, 483)	.0209 (1df)
impneigh		tau=-.1080 (521, .002)	tau=.1428 (524, .000); r=.2041 (515, .000)	tau=.0810 (520, .029)
ntrust		tau=-.0977 (529, .006)	tau=.1317 (532, .000); r=.1733 (532, .000)	tau=.0602 (528, .110)

Table P2: Neighbourliness independent variables against *clubs* and *indcivp*.

		clubs mean rank (n)	*indcivp* mean (n, sd)	*indvote* mean rank (n)
impneigh	extremely important	277.24 (123)	1.44 (123, .2024)	265.45 (121)
	very important	264.99 (137)	1.43 (137, .2003)	222.39 (137)
	quite important	260.66 (145)	1.44 (147, .1827)	255.16 (145)
	somewhat important	215.65 (75)	1.55 (75, .1978)	277.25 (75)
	a little important	228.17 (21)	1.52 (21, .1870)	304.38 (21)
	not important	196.73 (11)	1.65 (12, .1303)	337.13 (12)
	sig. between linear non-linear	.0407 (5df)	.0000 (5, 514) .0000 (1) .0089 (4)	.0036 (5df)
ntrust	strongly agree	278.00 (176)	1.42 (176, .1870)	257.65 (175)
	moderately agree	276.49 (217)	1.46 (218, .2018)	257.51 (216)
	agree a little	246.29 (77)	1.48 (77, .2114)	267.63 (76)
	neutral	189.00 (30)	1.60 (32, .1869)	343.59 (32)
	disagree a little	238.04 (14)	1.57 (14, .1760)	309.57 (14)
	moderately disagree	184.55 (10)	1.47 (10, .1802)	244.90 (10)
	strongly disagree	289.50 (5)	1.47 (5, .2288)	165.50 (5)
	sig. between, linear, non-linear	.0216 (6df)	.0001 (6, 531) .0001 (1) .0431 (5)	.0199 (6df)

Table P3: Neighbourliness independent variables against *cothers* and *corgan*.

		news		*cothers*		*corgan*	
		yes	p	yes	p	yes	p
nclose	yes	90.2	.2105 (1 df)	53.1	.0021 (1 df)	27.1	.0755 (1 df)
	no	86.6		38.9		20	
nnames	yes	90.9	.0024 (1 df)	51.2	.0037 (1 df)	25.9	.1396 (1 df)
	no	80.2		34.7		18.8	
ndollar2	yes	89.3	.4225 (1 df)	51.3	.0133 (1 df)	26.6	.1094 (1 df)
	no	86.1		35.6		17.8	
ncar	yes	89.8	.0895 (2 df)	55.3	<.0000 (2 df)	29.2	.0001 (2 df)
	no	81.2		24.3		7.1	
	not applic able	91.9		23.1		12.8	

Table P4. Neighbourliness independent variables against *cothers* and *corgan*.

	news		*cothers*		*corgan*	
	yes	no	yes	no	yes	no
ntrust	2.10 (468, 1.2055)	2.38 (58, 1.2681)	1.99 (251, 1.0936)	2.29 (271, 1.3046)	2.03 (129, 1.1588)	2.19 (390, 1.2357)
p	.1071 (1, 524)		.0048 (1, 520)		.1997 (1, 517)	
ntrust	259.64 (468)	294.68 (58)	244.29 (251)	277.44 (271)	245.52 (129)	264.79 (390)
p	.0793 (1df)		.0079 (1df)		.1804 (1df)	
impneigh	2.53 (453, 1.2256)	2.77 (56, 1.3881)	2.38 (247, 1.1121)	2.74 (258, 1.3424)	2.42 (127, 1.1087)	2.62 (377, 1.2893)
p	.1695 (1, 507)		.0010 (1, 503)		.1172 (1, 503)	
impneigh	252.24 (453)	277.37 (56)	234.27 (247)	270.93 (258)	239.06 (127)	257.03 (377)
p	.2138 (1)		.0036 (1)		.2151 (1)	