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Epidemiology and Global Health
Department of Public Health and Clinical Medicine
Umeå University, SE-901 87 Umeå

Social Capital, Health and Community Action

- *Implications for Health Promotion*

Malin Eriksson

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Epidemiology and Global Health
Department of Public Health and Clinical Medicine
Umeå University, Sweden

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To my family

ABSTRACT

Background; The overwhelming increase in studies about social capital and health occurring since 1995 indicates a renewed interest in the social determinants of health and a call for a more explicit use of theory in public health and epidemiology. The links between social capital and health are still not clear and the meanings of different forms of individual and collective social capital and their implications for health promotion needs further exploration. The overall aims of this thesis are to explore the relationship between social capital and health and to contribute to the theoretical framework of the role of social capital for health and health promotion.

Methods; Data from a social capital survey were used to investigate the associations between individual social capital and self-rated health for men and women and different educational groups. Survey data were also analyzed to determine the association between collective social capital and self-rated health for men and women. A qualitative case study in a small community with observed high levels of civic engagement formed the basis for exploring the role of social capital for community action. Data from the same study were utilized for a grounded theory situational analysis of the social mechanisms leading to social capital mobilization.

Main findings; Access to individual social capital increases the odds for good self-rated health equally for men and women and different educational groups. However, the likelihood of having access to social capital differs between groups. The results indicate a positive association between collective social capital and self-rated health for women but not for men. Results from the qualitative case study illustrate how social capital in local communities can facilitate collective actions for public good but may also increase social inequality. Mobilizing social capital in local communities requires identification of community issues that call for action, a fighting spirit from trusted local leaders, "know-how" from creative entrepreneurs, and broad legitimacy and support in the community.

Conclusions; This thesis supports the idea that individual social capital is health-enhancing and that strengthening individual social capital can be considered one important health promotion strategy. Collective social capital may have a positive effect on self-rated health for women but not for men and therefore mobilizing collective social capital might be more health-enhancing for women. Collective social capital may have indirect positive effects on health for all by facilitating the ability of communities to solve collective health problems. However, mobilizing social capital in local communities requires an awareness of the risk for increased social inequality.

SAMMANFATTNING PÅ SVENSKA

Bakgrund; Sedan 1995 har det skett en avsevärd ökning av forskning om socialt kapital och hälsa, vilket visar på ett förnyat intresse för de sociala bestämningsfaktorerna för hälsan. Socialt kapital handlar om sociala nätverk och de normer av ömsesidig hjälp och stöd som uppstår ur dem. Tillgång till socialt kapital anses ha betydelse för förmågan att uppnå individuella och kollektiva mål. Sambandet mellan socialt kapital och hälsa är fortfarande inte helt klarlagt, och betydelsen av olika former av individuellt och kollektivt socialt kapital behöver utforskas ytterligare. Det övergripande syftet med denna avhandling är att undersöka sambandet mellan socialt kapital och hälsa samt att bidra till den teoretiska referensramen om betydelsen av socialt kapital för hälsa och hälsofrämjande arbete.

Metod; Data från en enkät om socialt kapital användes för att undersöka sambanden mellan individuellt socialt kapital och självskattad hälsa för kvinnor och män och olika utbildningsgrupper. Enkätdata användes också för att analysera sambandet mellan kollektivt socialt kapital och självskattad hälsa för kvinnor och män. En kvalitativ fallstudie i ett lokalsamhälle med högt civilsamhälleligt engagemang utgjorde basen för att utforska det sociala kapitalets betydelse för kollektiva aktioner. Data från samma studie användes även för att analysera de sociala mekanismer som kan leda till att socialt kapital mobiliseras i lokalsamhällen.

Resultat; Tillgång till individuellt socialt kapital ökar oddsen för god självskattad hälsa för både män och kvinnor och olika utbildningsgrupper. Sannolikheten att ha tillgång till socialt kapital skiljer sig dock åt mellan olika grupper. Resultaten visar på ett positivt samband mellan kollektivt socialt kapital och självskattad hälsa för kvinnor men inte för män. Den kvalitativa fallstudien visar hur existerande socialt kapital i ett lokalsamhälle kan möjliggöra kollektiva aktioner för det allmännas bästa, men riskerar också att bidra till ökad social ojämlikhet. Mobilisering av socialt kapital i lokalsamhällen kräver identifiering av gemensamma ”hot” som engagerar och kräver åtgärder, kämpaglöd från lokala eldsjälar, kunskap från kreativa entreprenörer och en bred legitimitet hos medborgarna.

Slutsatser; Avhandlingen ger stöd för tesen att individuellt socialt kapital är hälsofrämjande och att interventioner för att stärka det individuella sociala kapitalet kan anses vara en viktig hälsofrämjande strategi. Kollektivt socialt kapital kan ha en positiv effekt på självskattad hälsa för kvinnor men inte för män; att mobilisera kollektivt socialt kapital kan därmed vara mer hälsofrämjande för kvinnor. Det kollektiva sociala kapitalet kan dock ha indirekta positiva effekter på hälsa för alla grupper genom att möjliggöra kollektiva aktioner för att åtgärda lokala hälsoproblem. Mobilisering av socialt kapital i lokalsamhällen kräver dock en medvetenhet om risken för ökade sociala klyftor.

ORIGINAL PAPERS

This thesis is based on the following papers:

I Eriksson, M., Dahlgren, L., Janlert, U., Weinehall, L. & Emmelin, M. (2010). Social capital, gender and educational level – Impact on self-rated health. *The Open Public Health Journal.* 3, 1-12.

II Eriksson, M., Ng, N., Weinehall, L. & Emmelin, M. The importance of gender and conceptualization for understanding the association between collective social capital and health: A multilevel analysis from Northern Sweden. *Submitted*

III Eriksson, M., Dahlgren L. & Emmelin, M. (2009). Understanding the role of social capital for health promotion beyond Putnam: A qualitative case study from northern Sweden. *Social Theory and Health*. 7 (4), 318-338.

IV Eriksson, M., Dahlgren, L. & Emmelin, M. Collective actors as driving forces for mobilizing social capital in a local community: What can be learned for health promotion? Accepted for publication in; H. Westlund & K. Kobayashi (Eds.), *Social Capital and Rural Development*. Edward Elgar.

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INTRODUCTION

Before 1995, little had been written about social capital and health. During the last decades, an overwhelming increase in studies within this field has been seen. In 2006, 100 articles with "social capital and health" in the title were indexed in MEDLINE compared to less than five in 1995 (Kawachi, Subramanian & Kim, 2008). In 2010, the number of papers on social capital and health indexed in the same database had increased to 479. Several definitions of social capital have been used, and depend partly on the originating discipline, but all have in common that social capital concerns "*social networks, the reciprocities that arise from them and the value of these for achieving (mutual) goals*" (Schuller, Baron & Field, 2000, p. 2, original quote is without parentheses around "mutual"). The value of social cohesion and social networks for health was underlined by Émile Durkheim in his 1897 work on suicide (Ritzer, 2000). Since then many other studies have shown a significant influence of social ties on health. Sidney Cobb (1976) was one of the first epidemiologists to suggest a link between social resources and health by presenting a review of studies showing that social support can be considered a moderator for effects of various pathological states. Based on these findings, several other studies were conducted during the 1970s and 1980s that illustrated how lack of social ties can predict mortality from almost any type of disease (Berkman & Glass, 2000).

There are several reasons behind the growing interest in the links between social capital and health. Even if the environmental influence on health has been historically acknowledged, public health and epidemiology have long been dominated by research on individual health risk factors (Lomas, 1998). During recent decades there has been a renewed interest in the social determinants for health, moving away from a focus on individual lifestyle and behaviours. This represents a shift in health promotion theory and practice away from targeting individual behavioural change to a focus on community development and empowerment (Robertson, 1999). The 1986 Ottawa Charter led to an increased interest in developing health promotion

approaches that tackle the broader social and environmental determinants for health (Gillies, 1998). This was further highlighted and underscored with the 2005 launch of the WHO Commission on Social Determinants of Health. The renewed interest in the social determinants was influenced by results from evaluations of public health interventions. Several studies showed that identification of individual risk factors and health education to achieve behavioural change and improve health had very limited success (Merzel & DÁfflitti, 2003). According to Gillies (1998), individually focused behavioural health interventions at best have an impact on health behaviour in one of four participants.

Parallel to this "paradigm shift" within health promotion, new research results were published that further emphasised the importance of social connections for health and health promotion. Within health research, Richard Wilkinson published the book "Unhealthy Societies" (1996), were he showed that among developed countries health is not better in the richest societies but in countries with the smallest income inequality. According to Wilkinson (1996), income inequality influences health by the erosion of social cohesion in a society. Social cohesion is crucial for societal health. Outside health research, the political scientist Robert Putnam produced research results that also gained attention within the public health community. In 1993, he published "Making Democracy Work" wherein he concludes that social capital is essential for a working democracy. In "Bowling Alone", Putnam (2000) presented results from his studies of social capital at state level in the US and showed that public health is better and mortality is lower in high social capital states. Thus, the work by Wilkinson and Putnam helped to renew knowledge about social determinants for health and resulted in new, innovative interpretations of how this knowledge could be developed.

Despite more than a decade of research on social capital and health the picture remains unclear. Some important and clarifying pieces of the puzzle have been added but new questions about the role of social capital for health

and health promotion have also arisen. The distinction between different forms of social capital is essential for understanding which forms of social capital are health-enhancing, for whom, and in what context. Knowledge about unequal access to social capital among different societal groups and its implication for health promotion needs to be further elaborated. We also need to know more about the different meanings of individual and collective social capital. In addition, there is limited knowledge about how social capital functions and how it can be mobilized for health promotion in local communities. This thesis attempts to shed light upon some of these issues. Results from both qualitative and quantitative studies in Västerbotten County, Northern Sweden, are used to elaborate the role of social capital for health and health promotion. Data from a social capital survey are used to analyze the links between different forms of individual social capital and self-rated health for men and women and different educational groups, as well as to investigate access to social capital for these different sociodemographic groups. Survey data are used to construct two different measures for collective social capital: one "conventional" trust-and-participation-related measure, and one "place" neighbourhood-related measure. These measures are used to understand how different conceptualizations of social capital may influence the association between collective social capital and self-rated health for men and women. Data from an explorative case study in a small community with observed high levels of civic engagement are used to discuss the need for moving beyond Putnam's theoretical framework when attempting to design health interventions based on social capital. Finally a situational analysis is presented that illustrates the social mechanisms leading to social capital mobilization in a local community.

AIMS

The overall aims of this thesis are to investigate the relationship between social capital and health and to contribute to the theoretical framework on the implications of social capital for health and health promotion.

Specific Aims;

- To study the associations between various forms of individual and collective social capital and self-rated health (Papers I and II)

- To explore the role of social capital for community action and to understand the mechanisms for mobilizing social capital in local communities (Papers III, IV)

- To analyze how gender and social inequality influence access to social capital and its mobilization (Papers I, III, IV)

STUDY CONTEXT AND THESIS OVERVIEW

The research questions posed in this thesis emanate from our unit's involvement in the planning, design and evaluation of the "Västerbotten Intervention Programme" (VIP) in northern Sweden. The VIP was launched by the Västerbotten County Council with an overall aim to reduce morbidity and mortality from cardiovascular diseases and diabetes by influencing risk factors such as smoking, high cholesterol and high blood pressure in the whole population. Starting off as a pilot project in 1985, the small municipality of Norsjö was selected because of a high regional cardiovascular disease burden (Norberg, Wall, Boman & Weinehall, 2010). The design of the intervention was based on a combination of individual and population based approaches. The individual components included inviting all middle aged persons to participate in screening and health counselling that was conducted by health care providers. The population approach included broad community activities in collaboration with actors such as municipal employers, politicians, voluntary organizations and local shops. Study groups on health and physical activities, public meetings where people had the opportunity to discuss health problems, and school-programs consisting of changes in the lunch menus are examples of activities that took place (Norberg et al., 2010). The design of the process evaluation included detailed monitoring of the intervention process, questionnaire data from the participants collected in connection with the counselling visits (background, health-related behaviours, social networks, social support and civic engagement) and blood samples for cardiovascular risk factors. This made it possible to evaluate the pilot project from different aspects. Inger Brännström (1993) analyzed the participation processes and the risk factor outcome patterns, Lars Lindholm (1996) performed a health economic evaluation of the intervention and Lars Weinehall (1997) evaluated the programme from a primary health care perspective. Maria Emmelin (2004) analyzed participant's attitudes and experiences of the intervention and the influence of the intervention on self-rated health. The overall results of these theses showed a significant reduction of cardiovascular risk factors,

economic health benefits and an important trust in the primary health care system that increased the possibilities for behavioural change. Community participation was characterised by collective feelings of pride for community activities as well as individual feelings of involvement in the intervention. These were discussed as fundamental for the success of community-based health programmes. The scientific evaluations were closely followed by the Västerbotten County Council. Step by step, some components of the intervention were implemented in all 15 county municipalities.

Findings from the Norsjö VIP pilot project indicated a specific role of community participation, involvement and trust in the success of the intervention. This prompted my research interest. I wanted to use the theoretical concept of social capital to further explore the link between social participation, trust and health, as well as basics for community health promotion in a northern Sweden context. Initially, I planned to use VIP data to analyze the association between social capital and self-rated health for different sociodemographic groups in Västerbotten County. Since purposively selected "social capital data" were unavailable, I was limited to the use of survey data collected for other purposes. This has been the case for many other studies about social capital and health (Harpham, Grant & Thomas, 2002). However, a successful application to the Swedish Council for Working Life and Social Research, and additional financial support from the municipalities in the Umeå region, made it possible to develop an extensive social capital questionnaire adjusted to a northern Swedish context. This meant an opportunity to investigate various forms of social capital at both the individual and collective levels. The survey was distributed to 15 000 randomly selected individuals in the Umeå region which consist of six collaborating municipalities in the southern part of Västerbotten County. The Umeå region has approximately 140 000 citizens and 115 000 of them live in the biggest municipality, Umeå. Thus, the Umeå region in Västerbotten County constitutes the research setting for the quantitative sub studies presented in Papers I and II in this thesis.

Perhaps it would have been possible to retrospectively try to understand the role of social capital in the VIP pilot intervention. But since I started my PhD journey in 2004, nearly ten years after the active intervention period, I looked for other options. While writing my PhD proposal, I heard about a community located close to Norsjö that was in the middle of an exciting process. The politicians had decided to close down the primary health care centre due to a decreasing population. Instead of just "accepting the facts" the citizens had mobilized for a "Health Association", and planned to run their own association-driven health centre. In October 2005, this association-driven health centre opened. This was a unique event in Sweden where health care is primarily run by County Councils. While the community activities in Norsjö had been carried out in partnership with, and initiated by, the County Council, community actions in the neighbouring community were steered by the community itself and in opposition to the County Council. With my head full of "social capital theory", this community and the process of building the health association really caught my interest. Could this community be described as a place rich in social capital? Could the process of building the health association be seen as a process of mobilizing social capital? What could be learned from this community about the role of social capital for community health promotion? Since the community was situated within the VIP intervention area and had recent successful experiences of mobilizing for a health centre, it was considered a suitable case for exploring the role of social capital for community action as well as the mechanisms for mobilizing social capital. Data from this case community were used for the sub studies presented in Papers III and IV in this thesis.

Before going into the theoretical basis for the relation between social capital, health, and health promotion (chapters 4 and 5), table 1 gives an overview of the thesis in terms of aims, study design, data sources, analytical approaches and corresponding papers. A more thorough account for the material and methods used in this thesis is provided in chapter 5.

Table 1. Overview of the thesis. Research questions, study design, data sources, analytical approaches and corresponding papers.

Aims	Study design	Data sources	Informants/information	Analysis	Paper
To study the association between various forms of individual and collective social capital and self-rated health	Quantitative Cross-sectional	Questionnaires	Random sample of citizens in the Umeå region aged 18-84 years (n= 8816) Random sample of citizens in the Umeå municipality aged 18-84 years (n = 5768)	Descriptive and analytical *confirmative factor analysis, multivariate regression* Descriptive and analytical *explorative factor analysis, multilevel regression*	I II
To explore the role of social capital for community action and to understand the mechanisms for mobilizing social capital in local communities	Qualitative Explorative case study	In-depth interviews Focus groups Field notes	Purposive sample of community members (n=20) Purposive sample of parents, school youths and pensioners (n=24, 6 groups) Methodological and analytical memos	Descriptive and analytical *grounded theory* Descriptive and analytical *grounded theory situational analysis*	III IV
To analyze how gender and social inequality influence access to social capital and its mobilization	Quantitative Cross-sectional Qualitative Explorative case study	Questionnaires In-depth interviews Focus groups Field notes	Random sample of citizens in the Umeå region aged 18-84 years (n= 8816) Purposive sample of community members (n=20) Purposive sample of parents, school youths and pensioners (n=24, 6 groups) Methodological and analytical memos	Descriptive and analytical *confirmative factor analysis, multivariate regression* Descriptive and analytical *grounded theory* Descriptive and analytical *grounded theory situational analysis*	I III IV

SOCIAL CAPITAL AND HEALTH

It is difficult to name the person who first launched the concept of social capital. Within sociology, the ideas behind social capital have roots dating back to Durkheim, but it was not until the 1980s that the term was used in sociological writings by the French sociologist Pierre Bourdieu. However, Bourdieu's view of social capital did not receive much attention within health research until recently. Instead, it was the work of the American political scientist Robert Putnam that initially became most utilized within health research. Both of these authors are considered to be influential theoretical contributors, with Bourdieu being a proponent of an individual approach and Putman having a more collective approach to social capital. Whether social capital is a collective or an individual attribute is one of the most debated issues within social capital research (Portes, 2000). Today social capital is often viewed as both an individual and a collective feature within health research, although the explicit choice of level of analysis requires different considerations and methods (Kawachi et al., 2008). These different views cannot be seen as totally independent of each other since they share a conceptual and theoretical basis (Son & Lin, 2008). In this section I will describe these approaches and how they are related to health.

Social capital as an individual asset – social network approaches

Social capital, seen as resources available to individuals through involvement in social networks, has its theoretical basis within sociology. Pierre Bourdieu (1986), James Coleman (1988) and Alejandro Portes (1998; 2000) are considered the main contributors to the theoretical development within these social network approaches. Social capital is broadly seen as "*the ability of actors to secure benefits by virtue of membership in social networks and other social structures*" (Portes, 1998, p. 6). Thus, by belonging to social networks, individuals can secure certain benefits or

"states" (such as health) that would not be possible in the absence of these networks.

Bourdieu defines social capital as "*the aggregate of the actual or potential resources which are linked to possessions of durable network of more or less institutionalized relationships of mutual acquaintance and recognition—or or in other words, to membership in a group—which provides each of its members with the backing of the collectivity-owned capital, a credential which entitles them to credit, in the various senses of the word*" (Bourdieu, 1986, pp. 248-249). According to Bourdieu, every member of a network accumulates resources, such as information, material assets, knowledge, and valuable social contacts, which function as a "bank" of resources available for all members in the group. As an example, Bourdieu states that having access to significant references when applying for a position is almost equally important to having a high degree (Broady, 2002). However, inclusion in social networks is not something naturally possessed, but a product of individual "investment strategies". Those with higher assets to invest, i.e., those with more resources, are more easily invited into powerful networks. According to Bourdieu, the acquisition of social capital often requires access to other forms of capital. Without investment of some material resources or cultural knowledge, the individual has difficulty establishing valuable relations with others (Portes, 2000). Thus, Bourdieu has a clear view of the role that power and inequality have on social capital when he says that the dominant groups in a society have more power to decide what networks are valuable and to include or exclude people from these networks (Bourdieu 1986).

Coleman (1988) views social capital as a resource for *action*. His views can be classified into the individual approach because of his focus on social capital as a resource for individuals, even if he also emphasizes the role of social structure and collective actors. Coleman defines social capital as "*a variety of entities with two elements in common: They all consist of some aspects of social structures, and they facilitate certain action 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" (Coleman, 1988, p. S98). Coleman (1998) identifies three forms of social capital: 1) *Obligations, expectations and trustworthiness in the social structure*; 2) *Information channels;* and 3) *Norms and effective sanctions.* According to him, these three features constitute the basis for human actions. Doing something for others establishes an obligation for these others to reciprocate. These obligations can be seen as debts to collect when needed. Individuals belonging to social structures with high obligations thus have more social capital. Further, information constitutes an essential basis for actions, but gaining information is costly. One vital form of social capital is therefore the potential information embedded in social relations. Existing norms also have powerful effects on actions by the rewards (in terms of status or honour, etc) that can be expected if one adheres to the norms or by effective sanctions (such as social exclusion) if one do not follow the norms.

Portes (1998) adds important perspectives to the individual approach of social capital when distinguishing between sources and effects of social capital. In accordance with Bourdieu and Coleman, he emphasizes that social capital describes resources obtainable to individuals by virtue of their social ties. These resources do not reside within the individual (i.e., intrapersonal resources) but in the structure of his/her social networks. In order to possess social capital, an individual must be related to others. Portes (1998) suggests that collective approaches to social capital often fail to distinguish between sources and effects, and this easily leads to a circular reasoning wherein social capital (such as information, trustworthiness and norms) is created by the same. Portes (1998) clearly distinguishes *characteristics of the networks* per se (i.e., motivations to make resources available) as the *sources* of social capital. Referring back to classical sociological theorists such as Marx, Simmel and Durkheim, Portes (ibid.) identifies different sources of social capital. People can be willing to make resources available due to *internalized norms* to behave in a proper way, or because of *solidarity* with people who

one can identify as sharing a "common fate". Further, *reciprocity norms* can make people willing to make resources available because of expectations of repayment, either directly from the recipient or by the whole community through status or a good reputation. Further, Portes (1998) defines the actual *resources* provided by these networks as the *effects* (such as information, support and opportunities) of social capital. Portes means that this was clear in Bourdieu's work, but indistinct in Coleman's writing, and this has contributed to confusion about the concept. Most research has focused on the positive effects of social capital, but Portes (1998) contributes further with valuable insights on the potential negative effects of social capital. The same strong ties that benefit members of a network may also lead to *restriction and exclusion of outsiders* from the same benefits. Strong supporting networks may result in an *overload of demands* on some (particularly successful) group members to make resources available for others. In addition, group participation necessarily demands a certain level of conformity which might produce strong social control and *restriction in individual freedom*.

Individual social capital and health

There are several hypotheses about the link between resources embedded in social networks and health. Berkman and Glass (2000) assert that the most obvious association is that involvement in social networks provides various forms of *social support* (such as emotional, instrumental and appraisal support) that affect health through psychosocial, behavioural and physical pathways. These forms of support may reduce stress by functioning as "buffering factors" (Bartley, 2004). The damaging effects of long term stress (such as loss of job, excessively heavy demands on the job or at home, social isolation, or economic deficit) on health are well documented. Stress triggers a "fight or flight" response in the body that raises blood-pressure. If the threat does not recede, it can result in risk factors such a rise in cholesterol and blood sugar (Bartly, 2004). *Social influence* is another pathway between social networks and health discussed by Berkman and

Glass (2000). The influence of peers on health behaviours such as smoking and diet is clearly documented in health promotion. In their review of 32 different community-based prevention programmes, Merzel and DÁfflitti (2003) found that an emphasize on changing norms was critical for the success of a programme, and that role modelling by trusted peers was an effective way of influencing norms. The importance of trust for health is not discussed in detail within this field. Thus, in line with Rostila (2008), one can assume that networks characterised by trust function more efficiently as a source of social support and social influence. Further, the role of *social participation* through involvement in social networks as influencing health is discussed by Berkman and Glass (2000). Gathering together with other people creates opportunities for participation, which provides opportunities to learn new skills, gives meaning to life, and confers a sense of belonging to one's community. Thus, social participation can influence health directly by activating physiologic and cognitive systems, and indirectly by giving a sense of coherence and meaningfulness (Berkman and Glass, 2000). Finally, Berkman and Glass (ibid.) discuss the importance of *access to material resources* for health. Group membership can provide access to resources and services with a direct bearing on health, such as job opportunities and high quality health service.

A more recent hypothesis linking social networks to health has to do with individual position or *status* in the social hierarchy of one's social network or community. The background to this hypothesis is the social gradient in morbidity and mortality that is visible in almost all wealthy countries. The gradient means that there is not "*a group of very poor people at the bottom of the income distribution who have poor health while everyone else is fine. Instead, what we see is a steady graduation from very top to the very bottom"* (Bartley, 2004, p. 79). Marmot (2005) discusses this in terms of the "status syndrome". The material resources in absolute terms do not matter, but what can be achieved with these material resources compared to others in the environment. Humans are social creatures and as such compare themselves with "significant others". Having more opportunities (in terms of

control over life and social participation) than others in the same environment gives status. Thus, status is believed to influence health by the positive feelings of being privileged as well as by decreasing stress.

However, social networks may also have negative effects on health by increasing stress for those that are expected to provide support to others, or by the oppressive consequences for individuals who do not conform to existing norms within their network (Kawachi & Berkman, 2001). Further, the *social influence* pathway described above might influence health behaviour in both a positive (i.e., health-enhancing) and damaging way depending on the norms that exist in each particular network.

Social capital as a collective attribute – social cohesion approaches

Within the social cohesion approaches, social capital is viewed as a collective feature characterising whole communities or states. These approaches have their theoretical base in the writings of the American political scientist, Robert Putnam. He describes social capital in this way: "*Whereas physical capital refers to physical objects and human capital refers to properties of individuals, social capital refers to connections among people—social networks and the norms of reciprocity and trustworthiness that arise from them" (*Putnam, 2000, p. 19). Like the individual approaches to social capital, Putnam emphasizes that social capital is inherited in the social relations between people. Contradicting "pure" individual approaches, Putnam suggests that social capital has both individual and collective characteristics. Besides being a "private good", social capital is also a "collective good" (Putnam, 2000, p. 20). Social capital is viewed as a non-exclusive collective good in that living in a high social capital area can be beneficial even for individuals with poor social connections, with "spill over" benefits gained from living in a high social capital community (Putnam, 2000). Putnam (1993; 2000) differentiates

between three essential forms of social capital: *networks of civic engagement, norms of reciprocity, and social trust*. These influence and reinforce each other insofar as networks foster norms of reciprocity which in turn create social trust. Reciprocity is created by the obligations that are almost always involved in social networks (Putnam, 2000). Putnam (1993) does not go into detail about how these norms emerge or are sustained but only briefly mentions the sanction capacity of networks by excluding those who do not follow the norms. The norm of "*generalized reciprocity*", i.e., doing something for someone without expecting something back from the same person but from *someone* within the network, creates trust between people. Trust is, according to Putnam (1993), essential for enabling cooperation for mutual benefit. The more people trust each other, the greater the chances are for a mutual interest in collaboration. Accordingly, trust can be seen as the desirable "consequence" of social capital which facilitates an efficient community. However, this reasoning is criticized for being circular and not separating between sources and effects when claiming that participating creates trust that in turn facilitates collaboration (Portes, 2000).

Following Putnam (1993; 2000), a community with a large stock of social capital is characterized by the existence of dense and strong associations, and citizens that are active participants in public affairs and are able to put public before private good. Further, citizens in a community rich in social capital act as equals with the same rights and obligations for all and horizontal relations of reciprocity and cooperation are common. Finally, levels of interpersonal and generalized trust are high, which encourages people to cooperate on the basis of expected reciprocity. According to Putnam, a community with these characteristics is more efficient than others as concerns democracy, economic prosperity, health and happiness.

Michael Woolcock's work can also be classified into a collective approach of social capital. His work emanates from a social and economic development perspective, and he defines social capital as "*norms and*

networks that facilities collective action" (Woolcock, 2001, p. 13). This focus on social capital as a facilitator for action can be related to Coleman's view of social capital. Further, just like Portes (1998), Woolcock (2001) underlines the importance of separating between the sources and the consequences of social capital. Woolcock (ibid.) suggests that a definition of social capital should focus on what it is, rather then what it does, i.e., on its sources rather than on its consequences. Thus, according to Woolcock (2001), trust is to be viewed as a consequence of social capital and therefore not a part of the concept itself. Even while distinguishing networks and norms as the sources of social capital, he does not go into detail about how shared norms of reciprocity are developed in a network. In a well cited paper, Szreter and Woolcock (2004) briefly discuss prerequisites for the emergence of trusting norms. For trust to develop there needs to be a minimum degree of understanding between the members; they need to share goals and purposes and work together towards a common end. In turn this requires a common base and a shared sense of fairness and respect, i.e., a shared social identity. This reasoning can be connected to Portes' (1998) distinction of norms, solidarity and reciprocity as sources of social capital. Szreter and Woolcock (2004) further add to Putnam's communitarian view by discussing the macro political prerequisites for the development of trusting norms. They emphasize not only the importance of social ties within and between members of a community, but also between citizens and various political institutions in a society's power hierarchy. By introducing these "linking" ties, they further emphasize the role of state-society relations for public health outcomes.

Collective social capital and health

While the empirical evidence basis for a positive association between individual social capital and health has become strong (Kim, Subramanian & Kawachi, 2008), the potential links between collective social capital and health is still debated and has a less solid empirical and theoretical grounding.

One possible pathway between collective social capital and health is that social capital has a mediating role between income inequality and health. This hypothesis was first developed by Richard Wilkinson in his book "Unhealthy Societies" (1996). His work built on studies that show that health is better and life expectancy longer in populations with low degrees of income inequality, i.e., in nations where the difference in income between rich and poor is small. Wilkinson's explanation is that equal societies are more socially cohesive than less equal societies. Thus, equal income distribution leads to a positive social environment characterized by trust and social cohesion among citizens. Correspondingly, unequal societies lead to great differences in status between citizens, creating mistrust and a decline in social cohesion as well as high levels of crime and social anxiety (Wilkinson 1999). Like Marmot (2005; 2006), Wilkinson underscores the importance of relative deprivation; it is not the absolute level of income that matters, but what you can do with your financial resources compared to others in your society. Both Marmot (2005; 2006) and Wilkinson (1996; 1999) discuss the influence of social status on health, but there are important differences in their perspectives. While Marmot (2005; 2006) discusses the health effects of the "status syndrome" at an individual level, (i.e., the social position of an individual influences the health of that individual), Wilkinson compares levels of inequality (i.e., the "gap" between rich and poor) between countries and connects that to population health. Both end up in the same explanations for the link between social status and health. Large income (and thereby) status differences in a society lead to poor average population health, through psychosocial and biological effects of long term stress among the high proportion of people who feel unprivileged (Wilkinson, 1999). Similarly, low status within a population (or group) leads to poor health on individual level via the same psychosocial and biological effects of long term stress on health (Marmot, 2006). It is important to note that Wilkinson's main focus is not the link between social capital and health, but important population level outcomes of income inequality such as mortality, mental illness, and homicide, as well as trust and social capital (Wilkinson & Pickett, 2007).

Ichiro Kawachi is one of the most influential epidemiologists within the field of social capital and health. In their early writings, Kawachi and Berkman (2000) viewed social capital as a collective feature and a public good. They clearly distinguished social capital from the research field of social networks. (However, in later writings, Kawachi et al. (2008) acknowledge that social capital is both a collective as well as an individual attribute.) According to Kawachi and Berkman (2000), social networks are most often measured at the individual level, while social capital should be viewed as a feature of the collective, i.e., the community or neighbourhood to which the individual belongs. When discussing how collective social capital can affect individual health, Kawachi and Berkman (2000) end up in similar explanations for social networks and health, namely that collective social capital influences health by influencing related behaviours, access to health services, and psychosocial processes. This reasoning is problematic since it seems reasonable that social capital as a "pure collective characteristic", distinct from social networks, would have more "pure collective consequences" on health. Woolcock (2001) and Grootaert and van Bastelaer (2002) offer a solution for this when they clearly distinguish "collective action" as the effect of (collective) social capital. In my opinion, this view clarifies how individual versus collective social capital is related to health in different ways. Thus, I agree with the view that social capital resides within the structure of social networks, and that the consequences of social capital can simultaneously have positive (and/or negative) effects for both individuals and entire communities. Thus, the sources of social capital might be the same, regardless of level of analysis (individual or collective), while the explanatory pathways for how social capital influences health must be different due to the level of analysis. Put another way, individual social capital can influence individual health through benefits secured by involvement in social networks; collective social capital can influence health via collective action. Therefore, the mechanisms explaining the links between individual and collective social capital and health must differ.

Turner (2003) offers a hypothesis of the link between social capital and health that can be included among the more collective explanations. He accounts for an alternative explanation to the income distribution and health association and says that income equality not only increases social cohesion in a society but also influences the level of *public investment* in housing, health care, etc. which thereby has an effect on population and individual health. Other explanations are more related to how collective action can influence health. Kawachi, Kennedy and Glass (1999) discuss that cohesive neighbourhoods are more successful in *uniting for the best of their neighbourhoods*. Consequently, communities rich in social capital can be more successful in influencing political decisions and fighting cuts of local services such as health care, recreation areas, and schools. High levels of social capital in local communities can also influence health-related behaviours through the *spread of healthy norms by social control* over deviant behaviours in the community (Kawachi et at., 1999). This explanation can be connected to Coleman's (1988) reasoning of *norms and effective sanctions,* which influence not only the individual but also a whole community by encouraging certain behaviours while restricting others. However, the potential oppressive consequences of this form of collective social capital must not be neglected. The same mechanism that spreads healthy norms may simultaneously lead to social exclusion and segregation of groups that do not conform to the norms. Further, collective social capital is believed to facilitate *faster and wider diffusion of (health) information and knowledge,* which can thereby have an effect on health (Kim et al., 2008). In a community where neighbours trust and interact with each other, important information spread more quickly and effectively. Finally, collective social capital is believed to enable community "empowering processes" that facilitate health behavioural change (Campbell, 2000, p. 186). Environments characterized by trust, participation and mutual support (i.e., social capital) are believed to constitute "health-enabling communities", in that these communities are most likely to support *health-enhancing behaviour* (Campbell & Jovchelovitch, 2000). These beliefs are built on the concept that health behaviour is determined more by collective

social identities than by rational individual choice. In an environment rich in social capital, people feel more in control of their everyday life and this also facilitates health behavioural changes (ibid.). Community social capital is believed to guarantee "*collective efficacy",* i.e., the belief and confidence among community members that they have the capacity to achieve change.

Links between social capital and health – a summary

Figure 1 summarizes the hypotheses linking individual social capital and collective social capital to health. Following the thinking of Portes (1998), and Woolcock (2001), it separates sources of social capital (i.e., features of the social networks that facilitate availability of resources), and consequences (i.e., actual resources that becomes available or collective action). As previously mentioned, I believe that the sources are the same for both individual and collective social capital. Thus, the left column illustrates the sources and the middle and the right columns demonstrate consequences and the ways they are related to health. Adopting Portes' (1998) illustration of sources of social capital, these network characteristics can be described as internalized *norms,* group *solidarity*, and *reciprocity*. However, as underlined by Berkman and Glass (2000) and Woolcock (2001), these network characteristics are further influenced by social and political conditions such as income distribution, and can thus be seen as sources of social capital at the macro level. The upper part of figure 1 illustrates the links between individual social capital and health; the lower part of the figure illustrates the links between collective social capital and health.

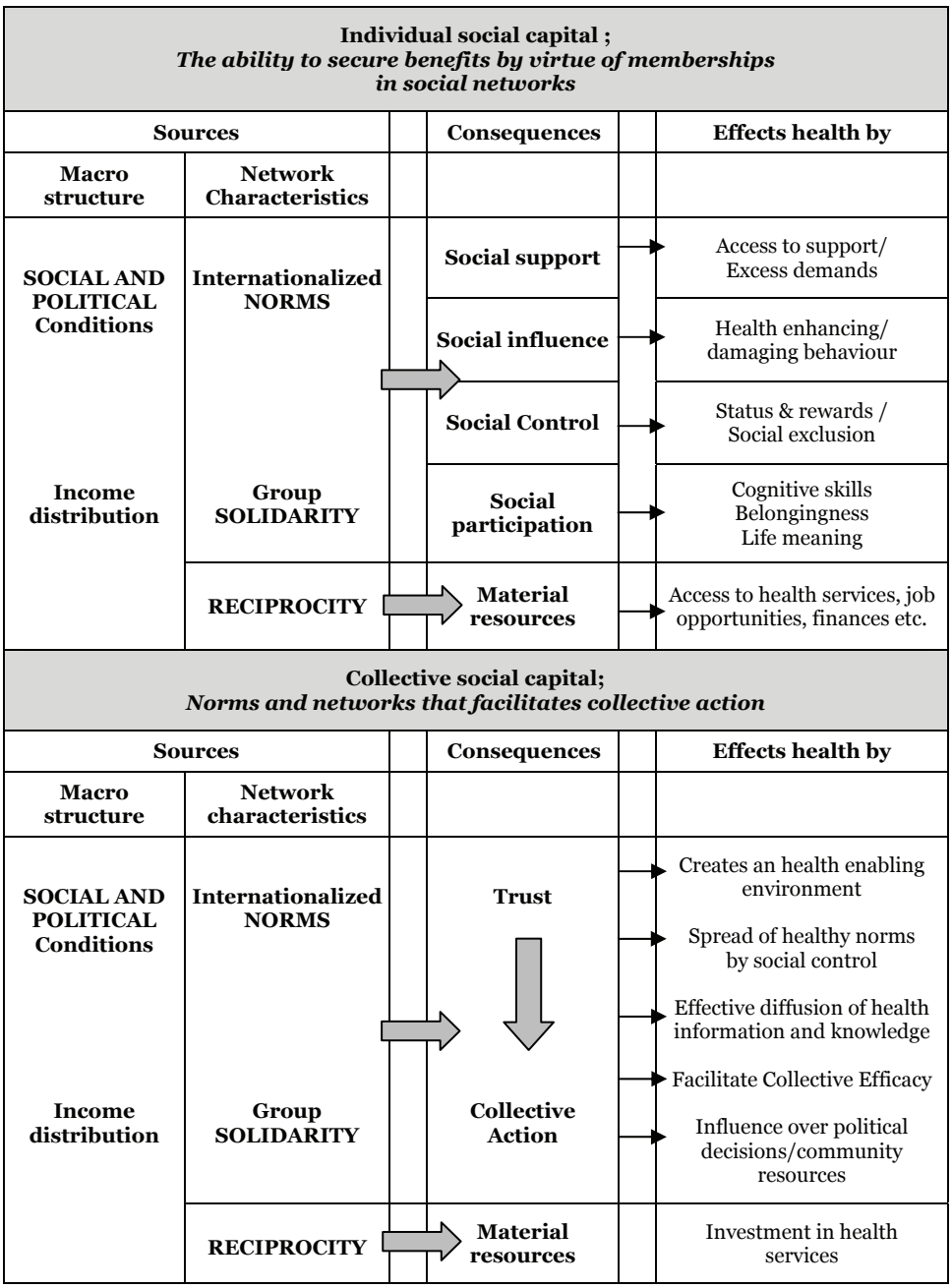

Figure 1. Individual and collective social capital; sources, consequences and how they are related to health.

Starting on the individual level, internationalized norms make people obliged and willing to "behave in the right manner". These behaviours are then available to others as resources. In addition, group *solidarity* can be a strong motivational force to make resources available. Thus, *norms* and *solidarity* can make people willing to *support* others. Further, social support positively influences health by reducing stress for those who obtain access to various forms of support. Social support can also have a negative effect on health by increasing stress due to excess demands on the provider of support. In addition, norms and solidarity can affect health by *social influence* between members of a network. Trusted peers may influence health behaviours in others by functioning as role models. This influence can be either health-enhancing or health-damaging depending on the existing norms in the network. Strong norms and solidarity may also lead to high *social control*. According to Coleman (1988), the capacity of a network to sanction those who do not follow the norms can function as a strong motivational force. Thus, those who follow the norms are rewarded with status, which has a positive effect on health. Those failing to adjust to the norms are "punished" or socially excluded. Finally, norms and solidarity can make people willing or obliged to *participate* in various social activities, which can positively influence health through feelings of belonging and life meaning, as well as by the achievement of cognitive skills. Norms and solidarity as a group characteristic have in common that people make resources available without expecting something in return (Portes, 1998). In contrast, *reciprocity* as a network characteristic is based on people's expectation to be repaid when they make resources available. Reciprocity can lead to possession of material resources, which can influence health through e.g. access to health services and job opportunities. It is important to note that the enumerated consequences of individual social capital are not mutually exclusive. In reality, social support, social influence, social control and social participation often work concurrently within social networks. The arrows between consequences of social capital and their effects on health are not "fixed" in that social influence is seen "only" as effecting health through

health behaviours; for example, social influence may also lead to acquisition of new skills and a sense of belonging.

The lower part of figure 1 is an attempt to clarify the pathways between collective social capital and health, even though it is clear that existing theory gives less guidance on this. Following Woolcock (2001) and Grootaert and van Bastelaer (2002), *trust* and *collective action* are defined as the outcomes of social capital at the collective level. In my view, the same network characteristics that make people willing to make resources available to others at an individual level may also result in collective outcomes such as generalized trust and collective actions. The arrow from trust to collective action illustrates that trust in turn is believed to facilitate collective action. An environment characterized by trust is believed to create an environment that supports health-enhancing behaviours (Campbell & Jovchelovitch, 2000). The diffusion of health information and knowledge can be more effective in an environment characterized by trust, which thereby can have a positive effect on health. In an environment where people trust each other, healthy norms are more easily spread since social control is high and trusted peers can be used as role models. In addition, collective action can have a direct influence on resource allocation in neighbourhoods. Community members can increase control over their lives and environment through collective actions, which, besides giving access to resources, may increase the capability of communities and individuals to change health-related behaviours. Finally, reciprocity norms at the societal/community level may lead to higher levels of public investments that can influence population health through access to health services.

Different forms of social capital

The theoretical development of social capital has led to important distinctions between different forms of social capital. The division between *structural* and *cognitive* social capital has proven essential (Harpham et al.,

2002). Krishna and Shrader (2000) describes cognitive social capital as the less tangible side of social capital; norms of trust, solidarity, and reciprocity. When shared among community members these values predispose an environment where the community can work together for a common good. Structural social capital, on the other hand, refers to the composition, extent and activities of local level institutions and networks (Krishna & Shrader, 2000). De Silva, Huttly, Harpham, and Kenward (2007) similarly state that cognitive social capital concerns perceptions of the *quality* of social relationships such as trust and social harmony, while structural social capital concerns the *quantity* of network memberships. In short, structural social capital refers to what people *do* while cognitive refers to what people *feel* with regard to social relations (Harpham et al., 2002). Cognitive social capital (in particular trust) can be seen as a result of structural social capital (Engström, Mattson, Järleborg & Hallqvist, 2008). This is in line with Putnam's concept that involvement in social networks leads to reciprocity and trust.

Another important construct is the distinction between bonding, bridging and linking social capital. *Bonding social capital* is characterised by strong ties within a network that strengthen common identities and functions as a source of help and support among members. *Bridging social capital* is described as weaker ties that link people from different networks together and become important sources of information and resources (Gittell & Vidal, 1998; Putnam, 2000). Szreter and Woolcock (2004) introduced the importance of *linking social capital* which consists of vertical ties between people in different formal or institutionalized power hierarchies. These two different constructs partly overlap in that bonding, bridging and linking fit in to the structural construct of social capital.

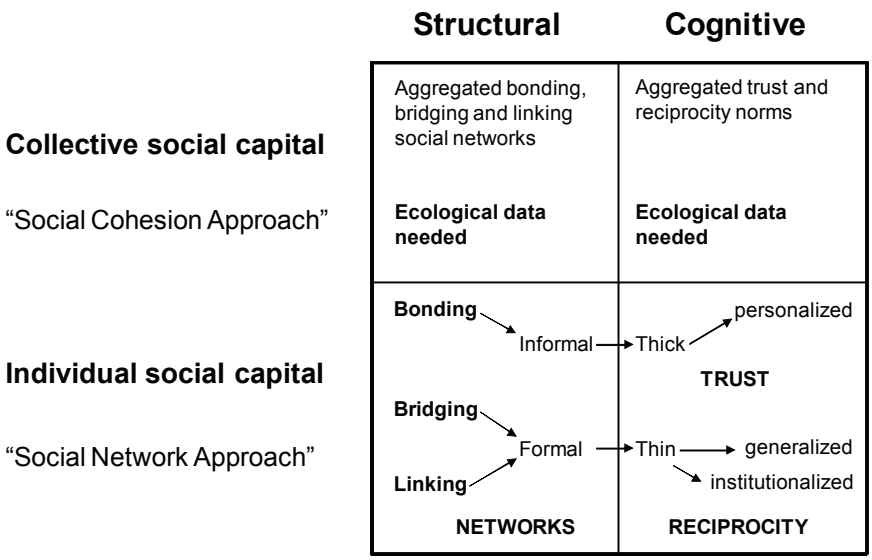

Figure 2. Distinction of structural and cognitive forms of collective and individual social capital.

Figure 2 illustrates the division between structural and cognitive social capital for individual as well as collective approaches to social capital. In my opinion, the distinction between different forms of social capital is clearer for individual than collective social capital. An individual can be involved in networks characterized by bonding, bridging and/or linking ties. Such individuals can be seen as having access to different forms of structural social capital. Involvement in these different networks results in the creation of reciprocity norms as well as trust between people. Being involved in close (i.e., informal) networks with strong ties between people who are similar to each other leads to "thick" trust - trust in people who you know personally (personalized trust). Alternatively, involvement in bridging and linking (i.e., formal) networks gathers together people with various backgrounds and may result in "thin" trust - trust between people who are not personally known to each other (see Putnam, 2000 for a discussion of thick and thin trust). Thin trust can further be divided into "generalized" - trust in people in general, and "institutionalized" - trust in public institutions (Harpham, Grant & Rodriguez, 2004).

On a collective level, the different forms of social capital are often defined and measured as aggregated levels of involvement, i.e., as the proportion of people involved in various types of networks in a certain area (bonding, bridging and linking). Similarly, collective cognitive social capital is often defined and measured as aggregated levels of trust, such as the proportion of trusting individuals in a certain area.

Measurements of social capital in health research

Quantitative studies

Within quantitative research, social capital has been utilized in individual, ecological and multilevel studies. Individual level studies of social capital investigate the association between individual social capital and individual health outcome. Ecological studies analyze the association between collective social capital and population health such as mortality rates or life expectancy. Multilevel studies analyze the association between collective social capital and individual health. Figure 3 is adapted from Kawachi et al., (2008, p. 8) and illustrates how social capital is applied in health research with regard to level of analysis.

		Outcome - Health	
		Individual	**Population**
Exposure - Social Capital	**Individual**	Individual study	
	Collective	Contextual/Multilevel Study	Ecological study

Adapted from Kawachi et at., 2008, p.8

Figure 3. Types of social capital studies in health research with regard to level of analysis.

The figure suggests vocabulary for differentiating types of social capital studies. Individual studies are those that investigate the link between individual social capital and individual health. Contextual or multilevel studies refer to those that investigate the association between collective social capital and individual health. Ecological studies are those analyzing the link between collective social capital and population health. There are examples of all three types of studies but studies on the association between individual social capital and collective health seem unfounded. Research on social capital and health has been dominated by contextual and ecological studies. Kim et al. (2008) conducted a systematic literature review of studies during 1996-2006 about the link between social capital and physical health. Of 51 reviewed studies, 15 applied an ecological approach, 28 applied a multilevel approach, and only 8 applied an individual level approach.

As previously mentioned, there is no clear consensus about the links between social capital and health. In a systematic literature review (42

papers in total) about the association between social capital and health across countries, Islam, Merlo, Kawachi, Lindström and Gerdtham (2006) conclude that significant associations between social capital and health are found in *individual* and *ecological* level studies, while studies investigating the link between *collective* social capital and health show inconclusive results. Similarly, in their systematic literature review of studies investigating the link between social capital and physical health, Kim et al. (2008) conclude that the strongest associations are found between *individual* social capital and health, particularly between some cognitive components of social capital and self-rated health (i.e., trusting individuals have higher odds for good self-rated health). While some researchers (for example, Muntaner & Lynch, 2002 and Lynch, Due, Muntaner & Davey Smith, 2000) suggest that these inconclusive results clearly show that social capital is inappropriate for understanding contextual effects on health, others state that the inconclusiveness is mainly due to lack of consistency in how (collective) social capital is measured and potential confounding is handled (Engström et al., 2008). In particular, the need for more area-based indicators of collective social capital has been stressed (Harpham et al., 2002). Today, aggregated measures of individual trust and participation are the most commonly used measures of collective social capital (see Kawachi, Kennedy, Lochner & Prothrow-Stith, 1997; Kawachi et al., 1999; Subramanian, Kawachi & Kennedy, 2002; Engström et al., 2008; Snelgrove, Pikhart & Stafford, 2009). This is problematic since individual access to trust and participation does not necessarily relate to the living area.

Multilevel approaches have proved useful in social capital and health research. They render analyzes of whether there is an independent contextual effect of collective social capital on individual health by controlling for access to social capital at the individual level (Kawachi et al., 2008). Engström et al. (2008) reviewed 14 multilevel studies about social capital and self-rated health (published from 1999-2007) and concluded that seven studies found that lack of collective social capital is associated with poor self-rated health for at least some groups in the society.

Harpham et al. (2002) discuss key issues for measuring social capital within health surveys. They conclude that many studies use a narrow measure for social capital with one or two indicators of trust and associational membership and they often use survey data collected for other purposes. Harpham et al. (2002) argue for a comprehensive measure that allows distinction between different forms of social capital, including cognitive and structural, as well as bonding, bridging and linking social capital. Bullen and Onyx (1998) provide an example of a comprehensive measure of social capital in five communities in Australia. These measurements included participation in the local community, neighbourhood connections, family and friend connections, work connections, and proactivity in social contexts as indicators for structural social capital. Feelings of trust and safety, tolerance and diversity, and value of life were used as indicators for cognitive social capital. In addition, Harpham et al. (2002) suggest several confounding factors that need to be considered in social capital and health survey research. These are socioeconomic status, education, length of residence in the community of interest, gender, and number of household members.

Qualitative studies

Qualitative research have the advantage of being open to people's perceptions and views of social capital, thus allowing for a deeper understanding of this broad and context-bound concept (Whitley, 2008). Whitley (2008) conducted a systematic literature review of articles that focus on social capital and health with a qualitative research approach. The search was limited to papers published during 2000-2006. Only 11 studies were identified. Six of these were conducted in the UK, two in Australia, one in the USA, one in Canada and one in Peru/Vietnam. Unlike the quantitative studies, all of these used data purposively collected for exploring social capital in relation to health. Most studies share the use of open research questions and simultaneously explored conceptualizations of social capital and perceptions of health and illness. Further, Whitley (2008) points to

future research needs for qualitative studies on social capital and specifically name studies focusing on the downside of social capital, studies in non-urban settings, studies in low-income countries and multi-site studies.

Qualitative research about social capital and health has been conducted by the UK Health Development Agency (HDA). As early as 1996, HDA initiated a programme to investigate the concept of social capital in relation to health. They conducted qualitative studies on people's perceptions and experiences of community networks in relation to children's health and wellbeing, ethnic identities, age and gender. Some of their key findings were identification of the barriers that different groups have to access community resources, and a need to consider diverse community context for different groups. In summary, Swann and Morgan (2002) conclude that translating research into practice of health promotion within deprived communities is important but not easy.

Most studies presented here have focused on the health *effects* of social capital. From a policy point of view it would be more important to know how social capital could be strengthened or *mobilized* (Hooghe & Stolle, 2003). Since this research area is largely unexplored, this thesis aims to contribute to knowledge about the mobilizing process.

Gender, social inequalities and social capital

Sociological theory, and in particular Bourdieu, has a clear power perspective underlining that the acquisition of social capital often requires other forms of capital to invest in social networks. The dominant groups in a society have more resources to invest in networks and therefore also have the power to include or exclude others from their networks (Bourdieu, 1986). Apart from Bourdieu, the social capital literature (and especially Putnam) has been criticized for being "gender and power blind" due to a lack of analyzes of how gender inequalities and power relations affect the

acquisition of social capital (Gidengil & O'Neill, 2006). A gendered analysis of social capital needs to involve questions about the distribution of social capital, the amount and forms of social capital that are available for different groups, and the balance between investments and returns of social capital for different groups such as men and women (ibid.).

In this thesis gender is viewed as a social construct and not as a biological and/or fixed role. Gender can be seen as "*an institutional system of social practices for constituting people as two significantly different categories, men and women, and organizing social relations of inequality on the basis of that difference"* (Ridgeway & Correll, 2004, p. 510). Ridgeway and Correll (2004) think that the gender system relies on cultural beliefs about gender and their effects in social relational contexts, i.e., situations where an individual defines oneself in relation to others. Due to cultural beliefs men and women are expected to behave differently, which affects men's and women's behaviours and acts upon almost all social arenas. Connell's (2002) writing distinctly illustrates that gender is relational. When describing a system of *gender relations* Connell (ibid.) outlines four dimensions of gender relations: 1) *power relations*, and in particular men's domination and power over women; 2) *production relations*, meaning a division of labour by gender so that certain tasks are primarily done by women and others by men; 3) *emotional relations*, implying there are different expectations of men and women to engage and commit in emotional relations; and 4) *symbolic relations*, controlled by cultural beliefs of how men and women should behave and act. Thus, applying Connell's (2002) reasoning on inequality in social capital, one could assume that power relations influence the degree of social networks available for men and women, while production as well as symbolic relations may steer the kinds of networks men and women are involved in. Finally, emotional relations could influence the costs and gains from social network involvement for men and women. Therefore, it is important to consider inequality in social capital through a gendered lens, since cultural beliefs about gender affect men's and women's degree of involvement in social networks, the type of networks that

are available for each group, and the costs and benefits gained from such involvement.

Controversies in the use of social capital in health research

The concept of social capital within health research has been heavily debated and criticised. Social capital research has been said to downplay the importance of material factors in public health in favour of psychosocial explanations (Lynch et al., 2000). As such, social capital risks being used as an alternative to health policy based on state driven redistribution of resources (Muntaner, Lynch & Davey Smith, 2000). Muntaner et al. (2000) suggest that a communitarian view of social capital represents a model of the social determinants of health without including analyses of structural inequalities in health such as class and gender. These inequalities may lead to blaming the victim of impoverished communities: “they are poor and ill because they can’t socialize and take care of their own community”. Szreter and Woolcock (2004) offers an intermediate view by saying that both material and psychosocial explanations are valid and do not contradict each other in explaining or targeting social inequalities in health. By adding the importance of state-society relations (i.e., linking social capital) Szreter and Woolcock (ibid.) integrate social capital into the macro political system and demonstrate how the formation and quality of social networks are shaped by political and structural factors. They (Szreter & Woolcock, 2004) state that material needs are required to improve health, but the capability to benefit from these material needs often goes through social relations. Muntaner (2004) criticizes the use of “capital” instead of the connected (and sometimes interchangeably used) terms social cohesion or social integration. Muntaner (ibid.) thinks that the rhetoric of “capital” implies an intended shift towards that capitalization (i.e., privatization) and social cohesion and integration go hand in hand. Hawe and Shiell (2000) similarly question the motives (particularly from global institutions such as the World Bank)

behind using the capital term. Navarro (2002) suggests that the popularity of Putnam's communitarian views of social capital in the USA is related to its use as a substitute for analysis of class and gender. However, while concluding that social capital may add little to what we already know about community health promotion, Hawe and Shiell (2000) see a possible advantage in the rhetoric of social capital since it may invite "new players" into the health promotion sector. In addition, Rostila (2008) argues that social capital is a useful concept that offers a comprehensive view of how social interactions operate by simultaneously focusing on several dimensions of social relations. As such, it may serve as an umbrella under which disparate interests and disciplines can unite in health promotion projects.

I believe in the power of rhetoric and think that labelling "old facts" in new terms can help us gain new knowledge within the complex research field on the social determinants of health. Finally, I agree with Wakefield and Poland (2005, p. 2829) in their concluding remark about the role of social capital in health promotion: "*A construction of social capital which explicitly endorses the importance of transformative social engagement, while at the same time recognizing the potential negative consequences of social capital development, could help community organizers build communities in ways that truly promote health*".

SOCIAL CAPITAL AND HEALTH PROMOTION

The starting point for my review of the role of social capital for health promotion is the definition given by WHO in the Ottawa Charter in 1986;

> "*Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capabilities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to wellbeing"* (WHO, 1986).

As stated in previous chapter, an environment characterized by trust and collaboration is believed to facilitate the spread of healthy norms since trusted peers can be used as role models. In addition, the diffusion of health information and knowledge can be more effective when people trust and interact frequently with each other. Thus, social capital could be seen as a resource (or/and as a prerequisite for success) in various health interventions such as smoking cessation programmes or interventions aimed at cardiovascular risk factor reduction. However, in this chapter I will focus more on the challenges involved in 1) how individual social capital can be strengthened as a health promotion strategy, and 2) how collective social capital can be mobilized as a health promotion strategy,

Strengthening individual social capital

There is growing evidence that individual social capital (i.e., involvement in social networks) can influence health and health behaviour in a positive way through social support, social influence, social participation and access

to material resources. Therefore, one key goal for health promotion projects may be to strengthen people's opportunities for social participation and involvement in social networks. The social epidemiologist Lisa Berkman (1995) is one of the leading advocates for social network interventions. She emphasizes that "*health promotion rests on the shoulders not only of individuals but also of their families and communities" (*p. 251). The improvement and maintenance of health is dependent not only on individual behaviour but also on the behaviours by significant others and the ability for fruitful communication within social networks. Therefore, to improve health among vulnerable and high-risk groups, health interventions need to promote social support and develop family and community strengths. Social support is health-enhancing to the extent that it both provides a sense of belonging and intimacy, and helps people to become more competent and self-efficacious. To this end, Berkman (ibid.) suggests that a combination of naturally occurring networks (such as family and friends) and constructed support networks are most effective.

Heaney and Israel (2002) state that any social network/social support-enhancing intervention needs to begin with an assessment of the networks that are available in the target population in order to diagnose the strengths and weaknesses of existing networks. Further, to effectively enhance the health-enhancing functions of social networks, one has to decide *who should provide what to whom*. Heaney and Israel (ibid.) suggest that emotional support often is best carried out by family and friends, while other social networks may be better suited for informational support. Effective provision of support is also most likely to come from people who are similar to each other or/and share the same kinds of experiences and stressors. In summary, Heaney and Israel (2002) underline the improbability of finding one social network intervention model that is effective for everyone. These kinds of interventions need to be tailored to the needs and resources of the particular target group, but are most likely to be effective if developed within an ecological framework that considers many levels of influence. However, there is a need for evaluations of carefully designed and theory-driven social

network interventions to gain more knowledge about the most effective strategies within this field of health promotion. Thus, I believe that the social network approach of social capital can contribute to new knowledge within this field.

Mobilizing collective social capital

Mobilizing collective social capital connects to the "community development approach" within health promotion. There are several concepts related to community development, such as community building, community mobilizing, community organization, or community empowerment. Regardless of the concept that is used, they all emphasize the participation of people in their own development, recognize and use people's own resources, empower people to take control over their situation, and involve people in political processes that affect their lives (Mittelmark, 1999). Health promotion programs that build on community development principles do not have as the main objective to prevent a specific disease or promote a specific health outcome in a community. Instead, the main purpose is to build community capacity to improve the basic foundation for a flourishing community (Mittelmark, 1999). These kinds of programs build on the principle of starting where the people are, the principle of participation and the "*importance of creating environments in which individuals and communities can become empowered as they increase their community competence or problem-solving ability*" (Minkler & Wallerstein, 2002, p. 305). Some researchers claim it is important to distinguish between community development concepts that involve *participation* from concepts that involve *action* (Laverack, 2007). According to Laverack (ibid.) a key point is whether communities are passive participants in activities determined by others, or if community members take an active role in identifying and resolving their own concerns. Hence, community action plays a central role in this thesis since it mirrors the community process described in Papers III and IV.

Community development initiatives were one of the key features in the Alma Ata declaration (1978) where it states that *"people have the right and duty to participate individually and collectively in the planning and implementing of their health care"* (WHO, 1978 p. 1). This was further strengthened by the Ottawa Charter in 1986 (WHO, 1986) that set up five action areas for health promotion: 1) Building Healthy Public Policy, 2) Creating Supporting Environments, 3) Strengthening Community Actions, 4) Developing Personal Skills, and 5) Reorienting Health Services. According to the charter, people need to feel in control over their living and working conditions to be able to develop healthy lifestyles. A *supporting environment* means a sense of reciprocal maintenance, an environment where people take care of each other, their communities and their natural environment (WHO, 1986). Supporting environments could thus be connected to what Campbell and Jovchelovitch (2000) call "health-enabling communities" characterized by participation, mutual support and trust. In accordance, health promotion should work through effective *community action,* where community members themselves set the priorities, make decisions, plan strategies and implement them for achieving better health (WHO, 1986). Apparently, these two goals for health promotion go hand in hand with the ideas behind collective social capital since community (i.e., collective) action is viewed as the consequences of social capital at the community level. Mobilizing social capital in local communities may therefore be seen as a key goal for health promotion.

MATERIALS AND METHODS

Methodological approach and general design

Initially, studies within the field of social capital often involved large scale surveys, used data collected for other purposes (e.g., General Household Survey in the USA) that were retrospectively fitted to the concept of social capital (e.g., Kawachi et al. 1997; Kawachi et al. 1999; Kennedy, Kawachi & Brainerd, 1998). The need for purposively constructed instruments to measure social capital in a comprehensive manner and the need for qualitative studies exploring social capital within various local contexts have been emphasized (Campbell, 2000; Harpham et at., 2002). Thus, this thesis is based on a multi-methodological approach where quantitative and qualitative methodologies have complemented each other in understanding the complex and multi-factorial relationship between social capital, health and health promotion (Johnson & Onwuegbuzie, 2004).

A questionnaire formed the basis for quantitative measurements of social capital in the Umeå region at both individual and collective (neighbourhood) levels. The extensive questionnaire allowed measurements of different forms of structural and cognitive social capital. To analyze the association between *individual* social capital and self-rated health, survey data was used from a random sample of individuals (aged 18-84 years) living in the whole Umeå region (Paper I). The association between *collective* social capital and self-rated health was based on the same survey but restricted to the sample from Umeå municipality (Paper II).

To explore the role of social capital in local communities, we employed a grounded theory approach with in-depth interviews and focus group discussions as the major data collection tools. The aim was to give a comprehensive description of existing social capital in our chosen case community. Putnam's view of social capital was used as an analytical frame (Paper III). The same data sources were used for a grounded theory

situational analysis to explore social mechanisms active in a process of mobilizing social capital in the case community (Paper IV).

The analyses of gender and social inequality in social capital utilized both quantitative and qualitative data. The questionnaire data were used to analyze how access to individual social capital differs by gender and educational level (Paper I). Qualitative data from the in-depth interviews and focus group discussions were used to explore if and how social capital (and mobilization of the same) in local communities may lead to increased social inequality and social exclusion (Papers III and IV).

Social capital and self-rated health (Papers I and II)

Data sources

A social capital questionnaire was mailed to a random sample of all citizens aged 18-84 years in the Umeå region, stratified for municipality in order to avoid overrepresentation from the capital municipality. The sampling frame from each municipality varied greatly due to municipality size, since the region contains the least populated municipality in Sweden (Bjurholm, sampling frame = 1932) as well as the most populated municipality in northern Sweden (Umeå, sampling frame = 85 840). A total of 14 793 questionnaires were sent out, of which around 10 000 were distributed in the capital municipality of Umeå. To guarantee equal contribution to the data set from each municipality, and to ensure later comparability between the municipalities, 1000 questionnaires were sent to each of the five other significant, smaller municipalities. The response rate was 59,6% (n=8816) with a higher response rate for women compared to men, older age groups compared to younger, and higher income groups compared to lower income groups.

Since there are no universally validated questionnaires to measure social capital (which might not even be possible, since social capital is context bound by necessity) we decided to develop our own social capital questionnaire. A thorough review of the existing measures was performed to be able to develop culturally appropriate questions that would fit into "*a framework of generic social capital themes*" as suggested by Harpham et al. (2002, p. 110). The review contained the following instruments:

- *Global Social Capital Survey* (Narayan & Cassidy, 2001). This instrument was developed based on a review of literature and 25 existing measure instruments, discussed and refined at a World Bank workshop, and piloted in the Republic of Ghana. It measures *dimensions* of social capital (group characteristics, generalized norms, togetherness, everyday sociability, neighbourhood connections, volunteerism and trust), *determinants* of social capital (communication and empowerment) as well as social, political and economic *outcomes* of social capital (government competence, government honesty and corruption, quality of government, peace and safety, and political engagement). The questionnaire aims to provide validated questions for measuring social capital in developing communities.

- *An Integrated Questionnaire for Measuring Social Capital* (Grootaert, Narayan, Nyhan Jones & Woolcock, 2004). This instrument built on the above and aimed to generate quantitative data on various dimensions of social capital as a part of a larger household survey. The questionnaire contains six broad sections: groups and networks; trust and solidarity; collective action and cooperation; information and communication; social cohesion and inclusion; and empowerment and political actions.

- *Social Capital Module in the General Household Survey* (Coulthard, Walker & Morgan, 2001). This instrument investigates five areas of social capital: views about the local area; civic engagement; reciprocity and local trust; social networks; and social support. It was added to the General Household Survey which is an annual survey collecting data on a range of

topics from people who live in private households in the UK. The explicit purpose is to measure social capital and social support.

- *Social Capital Community Benchmark Survey* (The Saguardo Seminar, 2000) was developed by the Saguaro Seminar, a project of the John F. Kennedy School of Government at Harvard University in the USA. It builds on the work of Robert Putnam and aims to provide a tool for analyzing differences in civic engagement across places. The instrument contains 11 different facets of social capital; two dimensions of social trust, two dimensions of political participation, two measures of civic leadership and associational involvement, one measure of giving and volunteering, one measure of faith-based engagement, and one measure of the equality of civic engagement at the community level.

- *Social Capital Questionnaire* (Onyx & Bullen, 2001). This instrument was developed to measure social capital in five communities in Australia, and was constructed by a joint collaboration between academics and practitioners. The final questionnaire includes several elements to assess dimensions of attitudes, trust, perceived safety, participation in the local community, reciprocity, personal empowerment, diversity/openness, relations within the workplace, and attitudes toward government.

In addition, the Swedish Survey of Living Conditions (ULF), the Swedish National Survey of Public Health as well as the VIP questionnaire were reviewed for questions that relate to social capital to ensure that our survey questions could be compared with other Swedish studies.

Taken together these instruments formed the basis for developing appropriate measures of social capital in a northern Swedish context. The aim was to develop a comprehensive instrument allowing differentiation of various forms of social capital. The questionnaire included six content areas: 1) sociodemographic and socioeconomic background factors, 2) perceptions about place of living, 3) civic engagement 4) trust and reciprocity, 5) social

networks and social support, and 6) health and quality of life. Several questions contained follow-up questions resulting in a total of 116 questions. In addition, variables about country of birth, citizenship, age, sex and income were taken from the population register. Table 2 illustrates the variables that were used to separately measure different forms of individual cognitive and structural social capital (Paper I). Table 3 illustrates variables used to measure collective social capital (Paper II).

Table 2. Variables used to measure structural and cognitive individual social capital.

STRUCTURAL SOCIAL CAPITAL	COGNITIVE SOCIAL CAPITAL
Bonding 1) Have good social relations with neighbours 2) Have done a favour to a neighbour during the last 12 months 3) Have received a favour from a neighbour during the last 12 months	***Trust*** 1) *Generalized;* Trust in people in general, even if not personally known 2) *Personalized;* Trust in people in the neighbourhood 3) *Institutionalized;* Trust in at least 7 out of 13 enumerated public institutions
Bridging 1) Have social network consisting of more than 15 people 2) Have been engaged in at least one association during the last 12 months 3) Have participated in public events during the last 12 months	***Reciprocity norms*** Agree to the statement "If one help others, one can expect to get help when needed"
Linking 1) Have contacted authorities or politicians in order to influence local decisions during the last 12 months 2) Have participated in public meetings in order to influence local decisions during the last 12 months 3) Have been engaged in a political party during the last 12 months	***Sense of security*** Feel very or fairly secure when walking alone in the neighbourhood during evenings

Table 3. Variables used to measure collective social capital and their individual analogues.

CONVENTIONAL MEASURE **Trust-and-participation-related**	**PLACE MEASURE** **Neighbourhood-related**
Aggregated measures of: 1) Voting in the 2006 public elections 2) Participation in public events during the last 12 months 3) Trust in people in general	***Aggregated measures of:*** 1) Perceptions on how common it is that neighbours talk to each other 2) Perceptions on whether neighbours are willing to help each other 3) Perceptions on whether one is expected to be involved in issues that concerns the neighbourhood 4) Perceptions on whether neighbours care for each other
Individual analogues: 1) Voting in 2006 public elections 2) Participation in public events during the last 12 months 3) Trust in people in general	***Individual analogues:*** 1) Good social relations with neighbours, see them as part of social network 2) Have done a favour to neighbour during the last 12 months 3) Have received a favour from neighbour during the last 12 months

Self-rated health was used as the outcome variable in both Papers I and II. The respondents were asked to rate their health on a five grade scale, from very good to very poor: *How do you perceive your overall health during this last year?* (Very good, rather good, fair, rather poor, very poor). When dichotomizing the outcome measure in Paper I, the two first options were used to indicate "good health" (very good and rather good). When dichotomizing the measure in Paper II, the three first options were used to indicate good-fair health (very good, rather good, and fair).

The following sociodemographic and socioeconomic variables were considered as potentially important confounders and were included in the analyses:

- *Sex* (men/women) was used to indicate gender differences (Papers I and II).

- *Education* (higher/secondary/basic) was used to categorize educational level (Papers I and II). "Higher" education indicates university or college university education; "secondary" education indicates upper secondary, vocational or folk high-school education; "basic" education indicates 6-9 year compulsory school education.
- *Age* was coded into three groups (18-30, 31-64, and 65-84 years) (Papers I and II).
- *Marital status* was coded as living with a partner or living alone (Papers I and II).
- *Income* was coded into five groups of annual income; 0 - 102 999 SEK, 103 000 – 181 999 SEK, 182 000 – 236 999 SEK, 237 000 – 300 999 SEK and 301 000 and above SEK (Paper II).
- *Children at home* was measured as living with children below 18 years of age or not (Papers I and II).
- *Country of birth* was classified as Sweden or other (Papers I and II).
- *Level of urbanization was classified* into urban or rural based on the p*articipant's description of their liv*ing area. Those who described their living area as *small village or hamlet* were considered to be rural while those who des*cribed their living are*a as a district, street, block or housing area were considered to be urban (Paper I).

Analyses

Factor analysis is a "*set of techniques for determining the extent to which variables that are related can be grouped together so that they can be treated as one combined variable or factor rather than a series of separate variables"* (Cramer, 2003, p. 13). We used factor analysis to determine whether the responses to a set of variables used to measure a certain concept (i.e., a particular form of social capital) could be grouped together to form an index for that concept (ibid.).

Confirmative factor analysis was used to construct indexes of all forms of individual structural social capital, i.e., bonding, bridging and linking social capital (Paper I). This analytical tool can be used to test the probability that a hypothesized factor structure is confirmed by the data (Cramer, 2003). We selected variables that theoretically could be separately linked to the ideas of bonding (n of variables =9), bridging (n of variables =9) and linking (n of variables =6) social capital, and used a confirmative factor analysis to test if these variables also clustered statistically. To give each index equal weight, we kept the three variables with the highest factor loading for bonding, bridging and linking social capital respectively.

An *explorative factor analysis*, i.e., a principal component analysis, was used in Paper II to construct indexes for collective social capital. Explorative factor analysis is useful for determining the most likely factor structure for the relations between a set of variables (Cramer, 2003). We selected seven variables that could be linked to the theoretical ideas on collective social capital, both conventional trust-and-participation as well as neighbourhood-related variables, to see whether they clustered statistically. Only the first two components had an eigenvalue greater than 1, and were therefore retained for rotation. This resulted in two components explaining 48% of the overall variance. Variables with any factor loading of 0.3 or greater were included in the analysis (Fabrigar, MacCallum, Wegener & Strahan, 1999). Using these criterias, the analysis confirmed that four items loaded on the first component, measured aggregated perceptions of *neighbourhood relations* and represented a more *place-related measure* of collective social capital. Three items loaded on the second component, measured aggregated levels of *social participation, trust*, *and voting*, and represented a *conventional measure* of collective social capital. Figure 4 shows the factor loading after rotation for the two components.

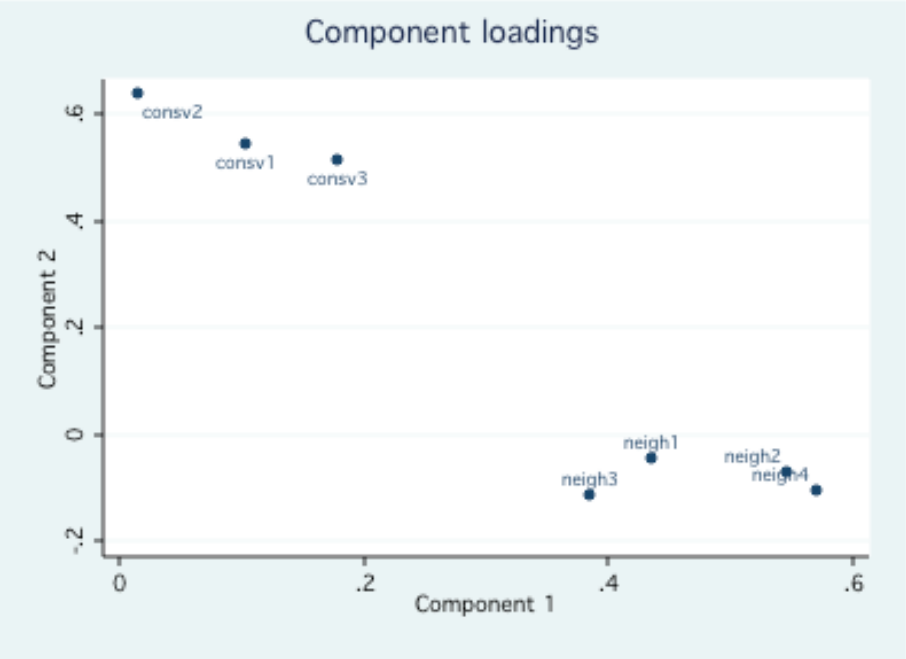

Figure 4. Factor loading for the conventional items and the neighbourhood items used to measure collective social capital.

Logistic regression analysis can be used to determine whether one or several explanatory variables significantly increase the probability of a category being present (Cramer, 2003). Therefore, in Paper I we used regression analysis to analyze if access to individual social capital (explanatory variables) increased the likelihood for good self-rated health (dependent dichotomous variable). By using multivariate regression analysis, several potential confounding factors were added stepwise to the statistical model. This allowed us to control for possible explanatory variables for likelihood of good self-rated health. In addition, we used access to social capital as a dependent variable when analysing the likelihood of having access to different forms of social capital given different sociodemographic background variables (explanatory variables). Logistic regression analysis calculates the odds ratio (OR) of a category (i.e., good self-rated health and access to social capital) occurring in one group (cases)

compared with another group (referents). The odds ratio is a relative measure of risk (or chance) that illustrates how much more likely it is that someone who is exposed to the factor under study (e.g., access to social capital) will develop the outcome (e.g., good self-rated health) as compared to someone who is not exposed (Crichton, 2001).

Multilevel analysis is an extension of standard regression analysis. Multilevel analysis with a dichotomous outcome variable (as in our case) is thus a logistic regression analysis in which additional corrections are made for categorical variables (such as neighbourhood) (Twisk, 2006). Multilevel modelling is an appropriate analytical approach when the analyses include units *at different levels*, such as individuals nested within neighbourhoods. It allows simultaneous assessment of the effects of group and individual level variables on individual health (Dies Roux, 2004). Multilevel analysis was used in Paper II to analyze the association between collective social capital and self-rated health. This method allowed analysis of whether there is an independent influence of collective social capital on self-rated health after controlling for sociodemographic factors and individual social capital (Kawachi et al., 2008). Put another way, it evaluates whether there is a pure contextual effect of collective social capital or if the effect is compositional, i.e., due to individual characteristics of people living in the particular place (Duncan, Jones & Moon, 1998). Results are presented as odds ratios, i.e., the probability of good self-rated health occurring in one group (i.e., cases—people living in high social capital neighbourhoods) compared with another group (i.e., referents—people living in very low social capital neighbourhoods).

Social capital and community action - mobilizing social capital (Papers III and IV)

Data sources

Papers III and IV were qualitative explorative case studies. This is a useful approach for exploring a "bounded system", such as a particular community or a "case", (e.g., a programme or event) through in-depth data collection involving several sources of information (Creswell, 1998). In Paper III, the chosen *community* was identified as the "case", due to its observed, distinctively high levels of civic engagement. In Paper IV, the *community action process* of establishing an association driven health centre was identified as the case, due to its uniqueness within the Swedish health care system. These identified cases were chosen for their suitability of bringing social capital theory and practice together in new and unexplored ways (Wieviorka, 1992).

The data collection involved field notes, in-depth interviews and focus group discussions conducted during recurring field visits over a period of 1,5 years, allowing for a "prolonged engagement" in the field (Dahlgren, Emmelin & Winkvist, 2007). In total, 19 in-depth interviews with 20 informants (one interview was conducted with two informants) and six focus group discussions with 24 informants were conducted.

The *in-depth interviews* were held with purposively selected community members. Initially, we met with people who were described as community leaders to get their view of the community and the process of establishing the health centre. Thereafter, a stepwise theoretical sampling procedure was followed. This means that the sampling procedure was steered by emerging ideas or theories (Draucker, Martsolf, Ross & Rusk, 2007). We interviewed people engaged in various associations, followed by leaders of private enterprises and representatives from the church and political parties. A need to interview people with prominent roles in the health association, as well as people who had left the process emerged next. Finally, we interviewed people

who never took part in establishing the health association. All interviews were performed as informal conversations with certain pre-determined themes to be discussed, including: *views of the community and the process of building the health association; associations in the community; motives for engagement; cooperation, trust and solidarity in the community; local political situation; spirit of private enterprise; power relations in the community; and motives for not joining the health association*. The interviews lasted 1,5 - 2 hours and took place in the informant's home or a suitable public place. All interviews were conducted by the research team and in most interviews we worked in a pair to allow for extensive note-taking.

The in-depth interviews were followed by *focus group discussions,* since the interviews revealed a need to further explore community norms and attitudes among "ordinary community members" of different ages and without official roles in the community. Thus, we met with two groups of young people (i.e., 15 year old school youths), middle-aged (i.e., parents of students in the local school), and older community members (i.e., pensioners). All groups except for the first were homogenous in terms of sex since that worked best to facilitate the discussions. The sampling procedure was guided by asking former informants to suggest participants for the discussions. Based on the list of suggestions, people who were believed to represent different community views were invited to participate. The group discussions started with an exercise during which all participants were asked to individually and anonymously complete a form with statements about the community and the process of building the health association (i.e., agree or not agree). These statements were constructed based on the preliminary analysis of the previous interviews. Individual responses were collected and summarized on a whiteboard. The results of this exercise formed the basis for the subsequent group discussion. The discussion lasted approximately 1-2 hours and was conducted in a conference room at the health centre or at the local school. All focus group discussions were moderated by the author

with the main supervisor as an assistant moderator. Table 4 illustrates examples of statements that participants were asked to take a stand on.

All interviews and focus group discussions were tape recorded and transcribed verbatim. After finalizing the data collection, data from the interviews, focus group discussions and field notes were used to construct two separate datasets. One set explicitly talked about the constitution of the community and was used in Paper III. One set explicitly talked about the process of establishing the health association and was used in Paper IV.

Table 4. List of statements that were used as a basis for the focus group discussions.

STATEMENTS about the community	Agree	Not Agree
This is a great place to grow up in		
In our community, we keep track on each other		
No one is left alone in our community		
In our community, one easily gets help when needed		
There exists a particular spirit in our community		
Public authorities spend no resources to support our community		
At this place all community members are equal, despite occupation, income, or education		
Solidarity towards local businesses would have saved shops from closing		
STATEMENTS about the health association	**Agree**	**Not Agree**
The health association was built because we felt violated by the county council		
Without real enthusiasts there would not have been a health centre		
There are only a few people who have worked for the health association, not the whole community		
It is not acceptable to oppose the health association		
The building of the health association has strengthened community spirit		

Analyses

The analyses followed different grounded theory approaches. Classical grounded theory offers a systematic way of processing the data into a more abstract form of information by following four distinct steps: open coding, selective coding, theoretical coding and integration with theory (Dahlgren et al., 2007; Starrin, Dahlgren, Larsson & Styrborn, 1997). The usefulness of grounded theory for developing theory is well known (Dahlgren et al. 2007; Starrin et al., 1997). However, recent grounded theory approaches have also emphasized "grounded theorizing", in which theoretical integration is viewed as an ongoing analytical process rather than having the development of substantive or formal theory as the final goal (Bryant 2009; Clarke, 2005).

In Paper III, the grounded theory approach implied that an open coding was done, line by line, with open codes derived directly from the data. The subsequent selective and theoretical coding procedures were guided by Putnam's theoretical frame on social capital. Thus, the generation of categories was done by an abductive oscillation between the open codes and the theoretical frame. This procedure provided a detailed description of the existing social capital in our case community and facilitated an evaluation of the applicability of Putnam's theoretical view in our study setting.

In Paper IV, a grounded theory situational analysis was performed by constructing *analytical maps* of the community action process of establishing the health centre. Situational analysis is a regeneration of grounded theory developed by Adele Clarke (2005). It emphasizes the basic open coding procedures of grounded theory but highlights complexity and heterogeneity in the data. This is in contrast to classical grounded theory that strives for simplicity and "purity". Thus, after the open coding, we developed a situational map of the major elements involved in the process of establishing the health centre. In the next step, we used what Clarke (ibid.) calls "sensitizing concepts", i.e., theoretical concepts that suggest directions along which to look in the data, without defining exactly what should be

seen. Since we aimed to analyze mechanisms active in the process of establishing the health centre, we used "social mechanisms"—i.e., "*forces in terms of causes, motives considerations and choices together with collective social acts on groups or organizational level…operating through meso-level interactions*" as sensitizing concepts (Blom & Morén, 2007, pp. 53-54). These sensitizing concepts steered the selective coding procedure and resulted in the construction of categories that represented mechanisms underlying the community action process. Codes and categories were further used to illustrate how the social mechanisms active in the community process worked through several "collective actors"— individuals who performed a collective identity and acted for different social worlds, not just to represent themselves (Clarke, 2005). In the next step of the analysis, a social worlds/arenas map was constructed that illustrated interactions between the collective actors in the arena of mobilizing for a health centre.

The open coding in Papers III and IV was performed using the software OpenCode 2.1 specially designed to facilitate coding and sorting qualitative data (Open Code, 1997).

Gender, social inequalities and social capital (Papers I, III and IV)

Data sources

Data from both the quantitative survey and the qualitative case study were used to analyze how gender and social inequality influence access to social capital and its mobilization. Data from the questionnaire were utilized to analyze how access to individual social capital differs by gender and educational level (Paper I). Sex (men/women) was used to indicate gender differences and educational level (higher/secondary/basic) was used to indicate different social groups.

Analyses

Logistic regression analysis was used to calculate the odds ratio (OR) for having access to structural and cognitive social capital for men (cases) compared with women (referents), and for higher and secondary educated (cases) compared to basic educated (referents) individuals. Thus, the OR illustrates how likely it is that a man will have access to social capital compared to a woman, and how likely it is for someone with higher or secondary education to have access compared to an individual with basic education.

Qualitative data from the in-depth interviews and focus group discussions were used to explore whether and how social capital and its mobilization in local communities may lead to increased social inequality and social exclusion (Papers III and IV). The constant comparisons between codes and analytical frame in Paper III helped to explore the unequal distribution of social capital within the case community. In Paper IV, the social worlds/arenas map was utilized to illustrate how mobilizing for a health centre was influenced by gender and power relations in the community.

MAIN FINDINGS

Individual social capital and self-rated health (Paper I)

How does access to different forms of individual social capital influence self-rated health?

The overall aim of Paper I was to investigate the associations between different forms of individual structural and cognitive social capital and self-rated health. Univariate logistic regression analyses showed that those with access to each separate form of structural and cognitive social capital were significantly more likely to rate their health as good compared to those without access (Paper I, table 4). Since sociodemographic factors such as male sex, young age, higher and secondary education, and living with a partner also increased the odds for good self-rated health, multivariate logistic regression analysis included these factors in the explanatory model. A sex-stratified analysis showed that the pattern remained for both men and women for almost all forms of social capital (figures 5 and 6).

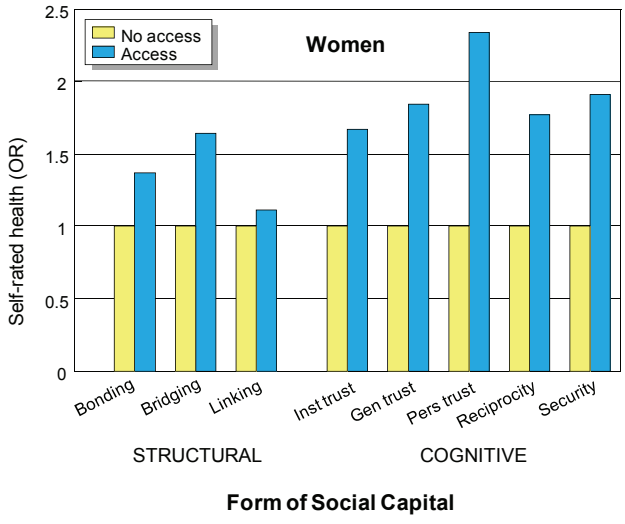

Figure 5. Odds Ratio (OR)* for good self-rated health among women by access to each form of social capital.

*Adjusted for age, education, marital status, children at home and level of urbanization.

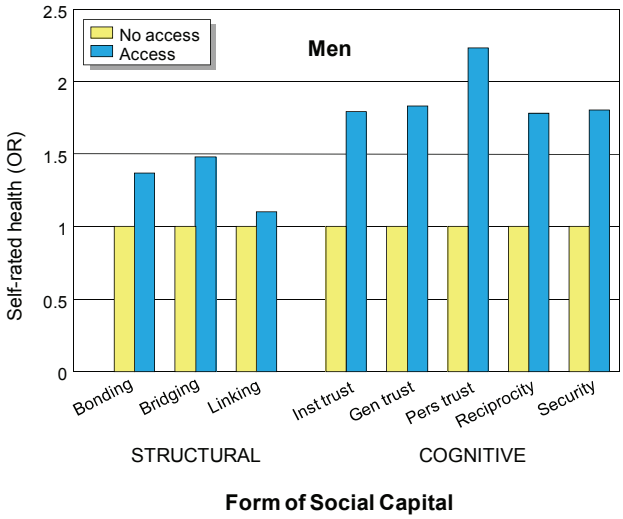

Figure 6. Odds ratios* for good self-rated health among men by access to each form of social capital.

*Adjusted for age, education, marital status, children at home and level of urbanization.

Figures 5 and 6 demonstrate that access to each form of social capital increases the odds for good self-rated health in a similar pattern for both men and women. Men and women who trust people in their neighbourhood, (i.e., have access to "personalized trust", a cognitive form of social capital) are twice as likely to rate their health as good compared to those who do not trust people in their neighbourhood. There is a clear pattern for both men and women showing that access to the cognitive forms of social capital might be more important for good self-rated health than structural ones. Access to trust, reciprocity norms and a sense of security increase the probability for good self-rated health more than access to bonding, bridging and linking social networks. Among the structural forms of social capital, access to bridging social networks, i.e., being engaged in an association and/or participating in public events and/or having a network consisting of more than 15 people are more important for good self-rated health than access to bonding (i.e., good social relations with neighbours) and linking (i.e., contacts with politicians and authorities) networks. These patterns are the

same when stratifying the analysis for education. Regardless of educational level, access to each form of social capital increases the odds for good self-rated health, and this is more pronounced for the cognitive forms than for the structural forms (Paper I, table 2). The results are statistically significant except in the case of access to "linking" social capital (see Paper I, table 2). The results indicate that some forms of social capital are more health-enhancing than others and the pattern is similar for women and men as well as for different educational groups.

Collective social capital and self-rated health (Paper II)

How do different measures of collective social capital influence the association with self-rated health?

The analysis of the association between collective social capital and self-rated health reveals a more complex picture. The initial analyses showed a small but significantly higher probability of rating the health as good-fair for those living in areas with very high social capital. This was true when using both the trust-and-participation-related and the neighbourhood-related measures of collective social capital. When the analyses were stratified by sex, the results showed that *women* living in very high social capital neighbourhoods were significantly more likely to rate their health as good-fair compared to women living in areas with very low social capital. No such pattern was found for men. Figures 7 and 8 give the crude odds ratios for good-fair self-rated health for women with regard to level of social capital in their neighbourhood.

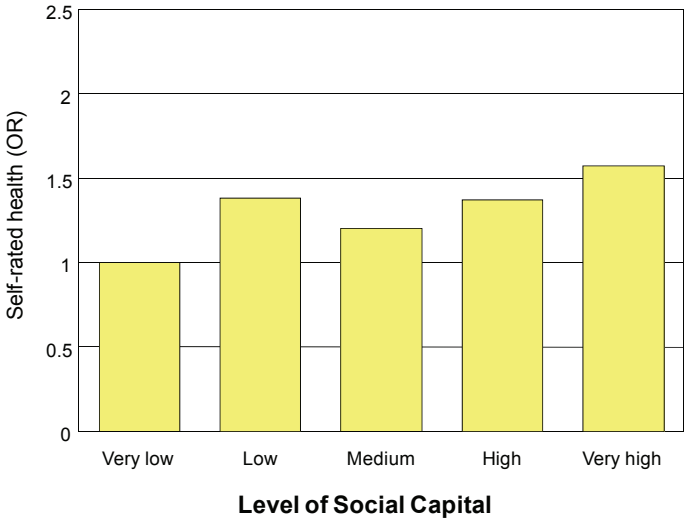

Figure 7. Crude odds ratios (OR) for good-fair self-rated health (SRH) by level of collective social capital among women, *conventional trust-and-participation-related measure*.

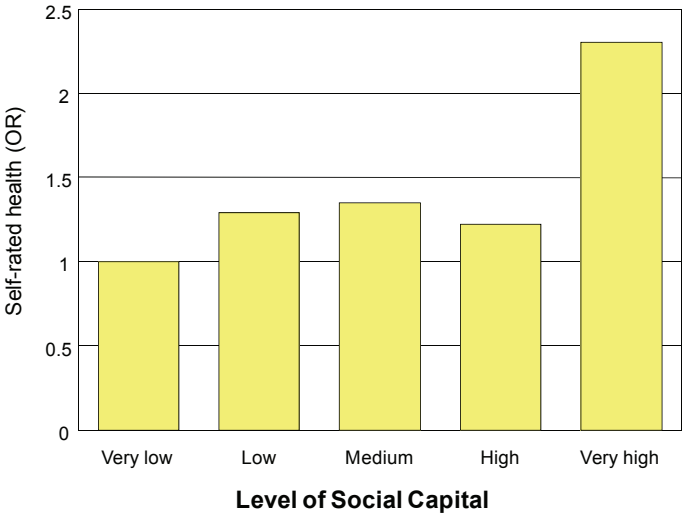

Figure 8. Crude odds ratios (OR) for good-fair self-rated health (SRH) by level of collective social capital among women, *neighbourhood-related measure*.

Figure 7 shows that women living in very high social capital neighbourhoods (i.e., characterized by high levels of trust and participation) had almost 60% higher odds (statistically significant) for rating their health as good-fair compared to women living in areas with very low social capital. No significant differences were found for women living in high, medium, or low social capital neighbourhoods (Paper II, table 4, model 1).

Figure 8 shows even higher odds for good-fair self-rated health for women living in very high social capital areas compared to women living in neighbourhoods with very low social capital when the neighbourhood-related measure of collective social capital was used. Women living in very high social capital neighbourhoods were more than twice as likely to rate their health as good-fair compared to those living in neighbourhoods with very low social capital. The observed higher odds for those living in areas with high, medium and low social capital did not reach significant levels (Paper II, table 5, model 1).

A multilevel analysis allowed us to control for individual sociodemographic and socioeconomic factors as well as access to individual social capital. Including age, income, and education did not influence the significance of the positive association between collective social capital and good-fair self-rated health for women living in very high social capital neighbourhoods compared to those living in an areas with very low social capital. This was the case regardless of the measures used (Paper II, tables 4 and 5, model 2c). When simultaneously adjusting for individual access to social capital, the OR for good-fair self-rated health remained significantly higher for women living in an neighbourhood with very high social capital compared to those living in an area with very low social capital if the *neighbourhood-related measure* was used. This was not true when the conventional trust-and-participation-related measure for collective social capital was used (Figures 9 and 10).

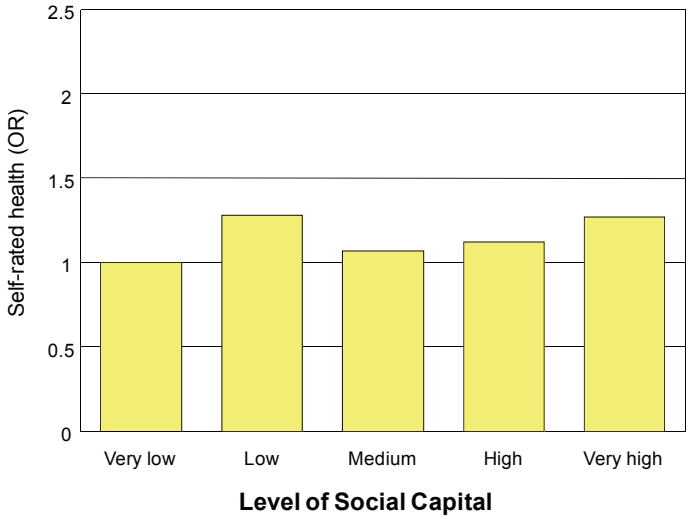

Figure 9. Odds Ratios (OR) for good-fair self-rated health (SRH) by level of collective social capital among women, *conventional trust-and-participation-related measure**.

*Adjusted for age, income, education, country of birth, marital status, children at home, generalized trust, civic participation and voting.

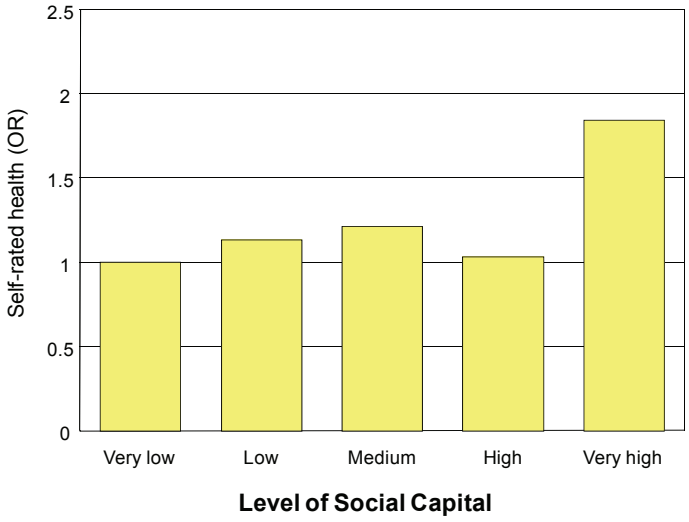

Figure 10. Odds Ratios (OR) for good self-rated health (SRH) by level of collective social capital among women, *neighbourhood-related measure**.

*Adjusted for age, income, education, country of birth, marital status, children at home, good social relations with neighbours, done favour to neighbour, received favour from neighbour.

The results indicate that "perceptions about neighbourhood relations" is an alternative measure to the conventional trust-and-participation-related measure when analyzing the health effects of collective social capital. In addition, the findings support an independent positive health effect of collective social capital (conceptualized as positive perceptions of neighbourhood relations) for women but not for men.

Social capital and community action - mobilizing social capital (Papers III and IV)

What are Putnam's contributions to the understanding of how social capital can facilitate community action?

In Paper III, Putnam's theoretical frame was used to explore the existing social capital in the chosen case community. The grounded theory analysis focused on whether Putnam's theoretical frame—*networks of civic engagements, fosters norms of reciprocity, that create trust, which facilitates cooperation*—was useful in the study context to understand how the community managed to work together to solve a collective problem, i.e., maintaining their health centre. The analysis resulted in 10 categories describing the existing social capital in the case community. Three of these were seen as supporting, while seven were perceived as supplementing Putnam's framework (Paper 3, figure 2).

Five categories described **networks of civic engagement** in the community, of which only the two first were seen as supporting Putnam's view:

1) *A heritage*. Traditions of active participation in public affairs and collective actions were inherited from one generation to another in the case community

2) *Channelled through association*. The community hosted many lively associations that had an important role in uniting people for action.

The remaining three categories described networks of civic engagements that were better understood by adding Coleman's and Bourdieu's views of social capital:

3) *Reinforced by face to face invitation*. There existed an effective "system" of asking people in person rather than using general inquiries to get a person involved in community issues that underlies the importance of effective information channels.

4) *Fostered by strong leaders*. Strong community leaders had strong influence on the norms to be engaged. This also illustrates the power of dominant groups in the community.

5) *For survival*. Civic engagement and collective actions were viewed as necessary for the community to survive in this remote and depopulated area in Northern Sweden.

Three categories described **norms of reciprocity**, one of which was seen as supporting Putnam's theoretical view:

1) *General but specific*. Help in general was seen as a non-exclusive resource in the community. On the other hand, strong reciprocity relations were limited to small groups of well established community members.

The remaining two categories that refer to reciprocity norms supplement Putnam's view and relates more closely to Coleman's and Bourdieu's reasoning.

2) *Enforced by obligations*. Motives to engage in collective actions were not only seen as joyful but also felt as obligations. To be a responsible community member one was expected to engage in

public affairs. Those who did not do so risked being seen as deviants. This indicates the importance of obligations and effective sanctions.

3) *Unequally distributed*. Reciprocal relations were unequally distributed in that those who were viewed as "real community members" were more easily invited into networks, while others were excluded.

Two categories that described **social trust** in the community were both seen as supplementing Putnam's view of social capital.

1) *Created by social control*. Social trust was mainly created by social control and not by reciprocity norms as described by Putnam. High social control made people willing to follow community norms, but also created trust among community members since everyone knew each other.

2) *In transition*. Social trust was in transition with movement toward lower trust due to the uncertainty created by new, unknown people moving into the community.

In summary, the results indicate that existing social capital was mobilized and facilitated community action in the case community. Putnam's theoretical views helped understand the contextual basis for the existing social capital. However, there was a need to move beyond Putnam's theoretical concepts to get a comprehensive understanding on how social capital contributes to high civic engagement and community action.

What are the mechanisms for mobilizing social capital in local communities?

The community process of mobilizing social capital was further analyzed in Paper IV to explore which social mechanisms were active in the process. The grounded theory situational analysis resulted in structuring the analysis

into four categories representing mechanisms active in the process: *motives* (cognitive and emotive), *acts, explanations*, and *agency relations*. These mechanisms were found to work through seven collective actors who were active on the arena of mobilizing for a health centre (i.e., mobilizing social capital). These collective actors were seen as "ideal types" i.e. *a concept constructed by a social scientist… to capture the essential features of some social phenomenon* (Ritzer, 2000, p. 115). In line with Weber (1903/1949, quoted in Ritzer, 2000, p. 115), these ideal types were seen as *analytical constructs*, but contrary to Weber our ideal types were *generated from* our empirical findings. These collective actors were used to clarify the social mechanisms active in the mobilization process. Table 5 presents the collective actors, examples of how they were grounded in the data, and the main forces they provided to the process.

Table 5. Description of the collective actors and the forces they bring into the mobilization process.

Collective Actor	Grounded in the data	Contributing force
The enemy	*'We were at a meeting about the health centre and the place was packed. Then the politician showed up, a bit cocky and a little late. Amongst the first he said was that we were egoistical; then it started, you know. That no one had a heart attack surprised me. For six years we had taken care of refugees, and he should never have said that we were egoistical. That was very stupid.'*	**Trigger**
The enthusiast	*'There is a group that meets – these people are in charge. They sit and discuss about what needs to be done, then they contact others.'*	**Fighting spirit**
The entrepreneur	*'He is not a real enthusiast for the community's sake, but he is an enthusiast for what he does, so something good comes out of it. When he first came he began contacting amongst the county council. This was extremely valuable. In other words, without him nothing would have been done.'*	**Know-how**
The conformer	*'If there is actually someone who wants to try, of course we stand behind them.'*	**Legitimacy**
The patriarch	*'It wasn't the community members that started this; that's bullshit. There were some people that we never knew what they were doing. By withholding information you can make another person feel quite stupid.'*	**Power**
The hostage	*'We found out that the information didn't work. One had heard from others that something had happened or was going to happen. We had no idea. One becomes a little hesitant; then it comes as one shock after another about what they (the patriarch) had done without our knowledge.'*	**Sham Democracy**
The outsider	*'He's a bit rundown and he swears a lot – "Go to hell, I could not care less about this damn community.'*	**Group pressure**

The overall regional political policy of decreasing resources for the community was viewed as a threat in itself. When the health centre closed down, this threat became visible and took the shape of the politicians who actually closed the health centre. They became symbols of *"the enemy"*, a collective actor acting as a triggering force in the mobilization process. Trusted community leaders took the lead and got others involved, thus signifying "*the enthusiast*" and bringing fighting spirit into the process. Charismatic people from outside the community brought knowledge and significant resources into the process, symbolized in "*the entrepreneur*", a collective actor adding know-how to the process. Most people were not personally involved but were "carried away" by strong emotions in the process and supported their local leaders. This broad majority signify "*the conformer*", a collective actor offering broad support and legitimacy to the process. There were also "strong individualists" who took the lead and made things happen, even without actual support from the community. They are symbolized by "*the patriarch"*, a collective actor adding power to the process. Others were elected to represent the community in the process of establishing the health centre. They were believed to ensure a democratic process but in reality were forced into a situation where they were responsible but without having power and influence and represented by the collective actor *"the hostage"*. Finally, people who were not involved in the process at all still had a role in it by functioning as a pressure group on others. They are represented by "*the outsider",* a collective actor influencing the mobilization process by being a deterrent example holding the threat of social exclusion if not being supportive.

The social worlds/arenas map (Paper IV, figure 2) further illustrates which collective actors strengthened each other and stood out as the most influential in the mobilization process. They were *"the enthusiast"* who brought a fighting spirit, *"the entrepreneur"* who provided know-how, and *"the conformer"* who offered legitimacy to the process.

In summary, the results indicate that to be able to intentionally mobilize social capital in local communities for purposes of health promotion there is a need to:

1) identify what has to be overcome in the defined community (such as lack of safety, public services or a disease),
2) use fighting spirit forces from trusted local leaders,
3) allow know-how from people with significant resources and interests in the concerned issues,
4) strive for broad community support and legitimacy by reaching out to everybody with personal invitations to join the process.

Gender, social inequalities and social capital (Papers I, III, and IV)

Is individual social capital unequally distributed between social groups?

The analysis in Paper I revealed great disparities in access to social capital between different educational groups. The results suggest a graded relation between educational level and access to social capital; the higher the education, the higher the odds for access to social capital.

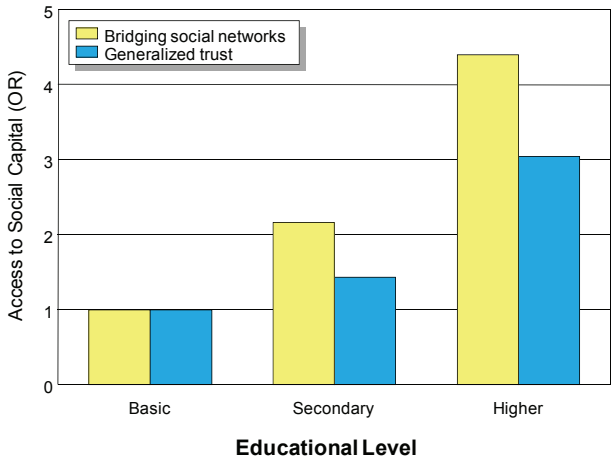

Figure 11. Odds ratios (OR) for access to bridging social networks and generalized trust by level of education*.

*Adjusted for sex, age, marital status, children at home, level of urbanization and country of birth.

Figure 11 shows the probability for access to bridging social networks (i.e., one form of structural social capital) and generalized trust (i.e., one form of cognitive social capital) for different educational groups. People with a higher education are four times more likely to have access to bridging social networks and three times more likely to have trust in people in general, compared to those with basic education. In addition, those with secondary education are two times more likely to have access to bridging social networks compared to those with a basic education. Figure 11 depicts those structural and cognitive forms of social capital with the greatest variation, but the results indicate significant differences in access to all forms of social capital between higher, secondary and basic education people. Hence, the results support the idea that social capital is unequally distributed between different social groups identified by their educational level.

Is individual social capital unequally distributed between men and women?

The results in Paper I also indicate disparities in access to social capital between men and women but this is to a lesser extent than for educational groups.

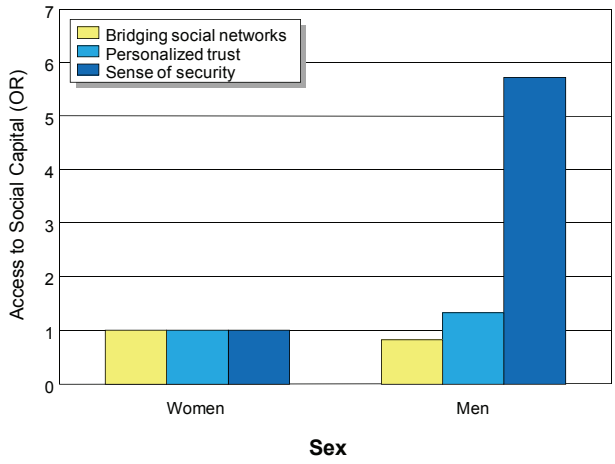

Figure 12. Odds ratios (OR) for access to bridging social networks, personalized trust and a sense of security by sex*.

*Adjusted for educational level, age, marital status, children at home, level of urbanization and country of birth.

As shown in figure 12, women have slightly higher odds than men for having access to bridging social networks, while men have higher odds than women for having access to personalized trust (i.e., trust in people in the neighbourhood). The most striking difference relates to the cognitive form of social capital indicated by "sense of security", where men have greater than fivefold higher probability of feeling safe when walking alone outside in their neighbourhood during evenings compared to women. These results indicate that some forms of social capital are unequally distributed between men and women, favouring men due to their significant higher odds for a sense of security.

Can social capital increase social inequality in local communities?

The analysis in Paper III indicated that our case community was characterized by strong bonding social capital, which created specific reciprocity relations. Engagement in collective actions was perceived as a prerequisite for being accepted as a worthy community member. Those who did not take part were looked down upon. In addition, those who followed the community norms by engaging in community activities became accepted and invited into reciprocal social networks. The norms that one should engage in community actions were mainly set by the dominant community groups who had the power to decide what should be done and by whom. The Paper IV analysis illustrate this by showing how powerful and resourceful actors collectively included each other in mobilizing for a health centre (i.e., mobilizing social capital) at the expense of excluding those who had fewer resources to invest in the process. In addition, Paper IV indicate that the collective actors, "the outsiders" who represented people not involved in the mobilization process, were further excluded during and after the establishment of the health centre. Thus, our results support the view that social capital—at least when characterized by strong bonding social networks—may not only lead to community actions for collective good, but also risk increasing social inequality in local communities.

METHODOLOGICAL CONSIDERATIONS

Strengths

The strength of the overall project is the use of a mixed method approach using quantitative and qualitative components. The quantitative components contribute a broad picture about the complex associations between different forms of social capital and health. The qualitative approach enables a deeper understanding of how social capital operates in local communities. The mixed method approach allowed us to seek convergence of results by different methods (i.e., triangulation) and ensured the expansion of results needed within this complex research field (Johnson & Onwuegbuzie, 2004). Efforts were made to increase the validity of the quantitative components. A thorough review of existing social capital measures was performed and was the basis for questionnaire development. Preliminary versions of the questionnaire were discussed at several meetings with local politicians and civil servants to facilitate appropriate "contextual wording" of social capital questions. Before finalizing the questionnaire, it was also subjected to validation by experts at Statistics Sweden. For the qualitative components, triangulation in methods using interviews, focus group discussion and field notes, as well as in researchers with continuous peer-debriefing sessions increased the studies' reliability. Prolonged engagement through 1, 5 years of recurrent field visits enabled us to "grasp the reality of those studied" (Dahlgren et al., 2007, p. 46). The extensive data collection process provided enough time for reflection and preliminary analysis before going further in data collection. However there are some methodological limitations that need to be considered.

Limitations

The cross-sectional design (Papers I and II) rules out the possibility of confirming a causal relationship between individual and collective social capital and self-rated health, i.e., the direction could be opposite and an

individual's self-rated health could influence individual and community levels of social capital. To study this aspect, longitudinal follow-up is needed. We have planned for this in forthcoming studies. Survey participants were asked to give their personal identification number, and 3 500 persons did so. This will allow studies on changes in self-rated health and social capital over time as well as follow-up of different health outcomes. Longitudinal studies within this research field are still rare, but those that exist (Rostila, 2007; Snelgrove et al., 2009) support a causal relation between social capital and health.

The higher response rate for women, older age groups, and high income groups in the social capital survey suggests the potential for selection bias if these groups differ with respect to self-rated health. There is a risk that we have underestimated the association between social capital and health when using good and good-fair self-rated health as outcome measures since women and older age groups are more likely to rate their health as poor. The overrepresentation of high income groups may, on the other hand, have created a risk for overestimating the association since this group is known to be more likely to rate their health as good. Since several studies (e.g., Hoeyman, Feskens, Van Den Boos & Kromhout 1998; Mattila, Parkkari,& Rimpelä 2007) have indicated that non-responders tend to have poorer health than responders, we do not think the observed associations are overestimated.

In Paper I, data from six municipalities in the Umeå region were used in a stratified sampling procedure to ensure later comparisons between the municipalities. This assumes that the smallest municipalities contribute a proportionally higher number of observations than they represent in the region. This may have biased the results if self-rated health differs significantly between the urban capital and the smaller neighbouring rural municipalities. However, since our multivariate logistic regression analyses indicate that individuals from the smaller (rural) municipalities were *less*

likely to rate their health as good, an overestimation of the association between access to social capital and good self-rated health is unlikely.

The social capital survey did not include data on health behaviours or risk factors such as smoking and physical activities. These are the factors that are most likely to correlate with self-rated health as well as access to social capital. However, the fact that other studies have found a positive association between access to social capital and self-rated health even after controlling for these potential explanatory factors supports our interpretation of the findings (Kawachi et al., 1999; Subramanian et al., 2001; Nyqvist, Finnäs, Jakobsson & Koskinen, 2008).

In Paper II, we used aggregated individual responses to assess measures of collective social capital while ecological measures of collective social capital could be viewed as more appropriate. However, ecological measures require observations of people's actual actions (e.g., measures of reciprocity based on if people stop and help in case of engine failure) (Harpham et al., 2002). Such validated ecological measures of collective social capital are rare and our study has the strength of being able to compare a conventional measure using aggregated data of generalized trust and social participation, as well as a more place-related measure using aggregated data of neighbourhood perceptions. This has been suggested as a more appropriate measure for collective social capital (Poortinga, 2006).

The administrative division of neighbourhoods based on geographical post code sectors (Paper II) may be too narrow and not reflect people's "true" perceptions of neighbourhoods (Campbell et al., 1999; Poortinga, 2006; Snelgrove et al., 2009). However, through the construction of 49 geographical neighbourhoods containing data from 26 to 291 individuals, we think the areas are sufficiently small compared to many other studies and thus increase the probability of genuinely reflecting neighbourhood perceptions. In future qualitative follow-up studies we will make efforts to

validate the results by further exploring what people include in their perceptions of neighbourhoods.

Self-rated health was chosen as the outcome measure in both Papers I and II. It is a subjective summary measure of how people perceive their overall health (Björner et al., 1996) and is a valid measure that is determined mainly by mental and physical health status and not by factors such as sociodemographic, early life or psychosocial factors (Sing-Manoux et al., 2006). In addition, self-rated health is a reliable predictor for mortality (Idler & Benyamini, 1997; Benyamini & Idler, 1999) and has been demonstrated to strengthen the effect of biomedical risk factors in prediction stroke (Emmelin et al., 2003). Despite being widely used in health research, there is no consensus on how to differentiate "good" from "poor", and the cut off points differ between different studies. We used "good" self-rated health as an outcome variable for Paper I and "good-fair" as the outcome in Paper II. Ideally, good self-rated health would have been used throughout to detect a "pure" health enhancing effect of social capital. However, in line with several other studies, we found that the association between self-rated health and collective social capital was weaker than between individual social capital and health. In order to elucidate the (weaker) association and to adjust for other potentially explanatory factors, we decided to broaden the outcome measure to good-fair self-rated health in Paper II. When conducting the analyses using "good" self-rated health as the outcome, the odds ratios were in the same direction but did not reach statistically significant levels.

Including themes related to health in the qualitative interviews and focus group discussions would allow separate analyses of possible health effects of community social capital and mobilization of the same. While this was not done for the studies in this thesis, we will plan to explore how neighbourhood-specific social capital influences health for different groups in future qualitative follow-up studies of the social capital survey.

"Outsiders" in the case community were very difficult to reach and this limited the "negative case analysis". However, a prolonged engagement (i.e., 1,5 years) in the case community still allowed saturation in the data collection. Performing two additional interviews, after having finalized the focus group discussions, did not bring any further theoretical insights with regard to our research questions and to our emerging grounded theory.

DISCUSSION

Summary of findings

This thesis supports the idea that access to individual social capital is associated with good self-rated health and that strengthening individual social capital can become an important health promotion strategy. However, the distribution of social capital differs between different groups in society and this needs to be acknowledged. In addition, we found that collective social capital is positively associated with self-rated health for women but not for men. Mobilizing collective social capital may therefore be more health-enhancing for women. However, collective social capital might have an indirect positive effect on health for everyone by increasing the capabilities of communities to work together to solve collective health problems. The thesis demonstrates that social capital in local communities can facilitate collective actions for public good, but may also increase social exclusion. Thus, mobilizing social capital in local communities requires an awareness of the risk for increased social inequality.

Implications for health promotion

Strengthening individual social capital

This thesis provides additional evidence of a positive association between individual social capital and good self-rated health. Involvement in bridging social networks (i.e., participation in associations and public events) as well as bonding social networks (i.e., good and reciprocal relations with neighbours) increase the odds for good self-rated health. These results relate to the field of "*social network interventions*" within health promotion. Critics have questioned if social capital adds anything new to the field of social networks and health (Macinko & Starfield, 2001), or if it is like "pouring old wine into new bottles" (Kawachi, Kim, Coutts & Subramanian, 2004). There are several researchers who have stressed the need for developing "theory driven social network interventions" (Heaney & Israel,

2002). Within this view, social capital has the potential to add new aspects. In my opinion, the distinction of how different forms of social capital may influence health in various ways for different groups contributes to an increased understanding of how social networks interventions can best be tailored to meet the needs of the target group.

The conceptualization of *bonding*, *bridging* and *linking* social capital can guide the mapping of what kinds of networks are available for whom. We found that women in our context had higher odds for access to bridging social networks compared to men. Contrary to this, Campbell, Wood and Kelly (1999) examined community networks in two local communities in England and found that women were more involved in strong face-to-face local networks, often with other women (i.e., bonding networks, my comment), while men were more involved in non-local networks (i.e., bridging social networks, my comment). Campbell et al. (1999) also found that women were generally acknowledged as those "creating local community" and that this was possibly steered by gendered expectations on women to be the main responsible for the home and living environment. In addition, we believe that our finding that women have higher involvement in bridging social networks may as well be a result of existing gender relations with higher expectations on women to be involved in, for example, children's activities. Moss (2002) discusses how men and women may have access to different forms of social capital due to gender constructions such as different expectations on men and women in the formal labour market and at the household level. In addition, we found that those with higher education were more likely of having access to all forms of social capital. This was particularly true for bridging social networks, where those with higher education were more than four times more likely to have access to this form of social capital. Ziersch (2005) also found that those with greater resources and higher education had higher access to social capital in a social capital survey of Australian households. Following Bourdieu (1986), one could assume that the resources resulting from higher education (i.e., human and economic capital) also facilitate access to social capital. This could explain

why groups with high education have higher odds for access to all forms of social capital. Thus, designing and implementing health interventions targeting social networks requires an awareness of people's unequal opportunities to join social networks and mandates serious efforts to involve all groups in supporting network activities.

The distinction of bonding, bridging and linking social capital can further be utilized to map out which forms of social networks are health-enhancing or damaging (and for whom). Our results did not indicate that some forms social capital might be bad for health, although this has been found in other studies. Campbell, Williams and Gilligen (2002) investigated the links between sexual health and social capital in a South African mining community and found that membership in a range of networks could be either positive or negative for sexual health and that these effects differed for men and women. Other studies have indicated that bonding social capital is not necessarily good for health. Mitchell and LaGory (2002) investigated the link between individual bonding (community involvement) and bridging (trust and bridging ties) social capital and mental health in an impoverished neighbourhood in a southern US city. While bridging social capital showed a small inverse association with distress, community involvement seemed to *increase* the individual's levels of mental distress. A study on urban-rural networks during the 1997-1999 Indonesian economic crisis found that women's involvement in bonding social networks had protective effects for *families* during the time of crises, but had higher costs than benefits for the women themselves. This was due to gendered expectations that women should care for other family members (Silvey & Elmhirst, 2003). Kawachi and Berkman (2001) reviewed the literature on social ties and mental health and found that the supporting effects of social connections are not equally shared, but influenced by gendered expectations on women to be those who primarily provide support to others. Thus, social capital can advance "social network interventions" by acknowledging the risk for unequal distribution of investments and returns from social network involvement.

Heaney and Israel (2002) discuss different categories of social network interventions. *Enhancing existing social networks linkages* can be done by activities that aim to strengthen family-ties or train network members in skills for providing and receiving support. In social capital terms, this can be done by mapping out and strengthening existing bonding social networks. *Developing new social network linkages* relates to the importance of bridging social networks. According to Heaney and Israel (ibid.), this is a useful intervention strategy when existing networks are too small or unable to provide support. New social network linkages can be made by creating linkages to mentors or by developing "buddy-systems" in smoking cessation programs, schools or other settings, or by coordinating self-help groups. This thesis further underlines the importance of promoting participation in associations and public events as a way of developing new social network linkages.

As in other studies (Harpham et al., 2004; Kim et al., 2008; Nyqvist et al., 2008; Yip et al., 2007), this thesis shows that cognitive forms of individual social capital, i,e, trust, reciprocity norms, and a sense of security, increase the odds for good self-rated health more than the structural forms of social capital (Paper I). In particular, trust in people in the neighbourhood (i.e., personalized trust) and a sense of security when walking alone during nights increased the likelihood for good self-rated health. According to Putnam (1993; 2000), trust between people emanates from norms of reciprocity that develop (almost automatically) when people interact with each other in more or less formal social networks. Thus, getting people involved in network activities should by definition lead to trust and a sense of security. This premise has been criticized and is not supported by the results from our qualitative case study (Paper III). The Swedish political scientist, Bo Rothstein (2001), also disagrees that social trust is created by people's involvement in social networks, and suggests that interpersonal trust is generated by trust in public institutions, i.e., that trust in public institutions is a prerequisite for trusting people in general. Rothstein's view contributes a "top-down" or systemic policy view on social capital. Trust between people

and a sense of security in a neighbourhood is not something that "just happens" by involvement in social networks, but requires state and authority involvement in policies and actions to build safe neighbourhoods. Thus, I agree with Hawe and Shiell (2000) and Sampson and Morenoff (2002) that intervention strategies aiming at strengthening social capital cannot be adopted in isolation, but need to be linked to top-down approaches of improving public services and creating safe living environments

Mobilizing collective social capital

This thesis (Paper II) shows that access to collective social capital, i.e., living in neighbourhoods where one is expected to be engaged in issues that concern the living area, where it is common that neighbours talk to each other, and where people care for and help each other, increases the likelihood for good-fair health among women. Thus, these neighbourhood characteristics might constitute "supporting environments" (WHO, Ottawa Charter) and/or health-enabling communities (Campbell & Jovchelovitch, 2000), at least for women. Kavanagh, Bentley, Turrell, Broom and Subramanian (2006) made similar observations in their study from Tasmania, Australia, and showed that neighbourhood safety and political participation reduced the risk for poor self-rated health for women but not for men. Likewise Stafford, Cummins, Macintyre, Ellaway & Marmot (2005), found that living in a neighbourhood with low levels of trust and integration increased the odds for poor self-rated health for women but not for men. The possible explanation for gender differences in health effects of collective social capital needs to be explored further. Still, caution is needed in claiming that these neighbourhood characteristics do not create a health-supporting environment for men. Neighbourhood effects of social capital on men's health may not just influence *self-rated* health as an outcome measure but this needs to be further investigated.

This thesis suggests that health promotion should aim to build neighbourhoods that support neighbourhood connections and activities.

These ideas relate to a *community development approach* within health promotion; a field that so far has mainly been developed by practitioners. McQueen (2007) discusses several challenges for theory building in health promotion due to its close connection to practice. Modern health promotion is a recent development that does not yet have a "critical history". Currently there is no recognizable theoretical underpinning to many of the concepts and principles used in health promotion (Minkler & Wallerstein, 2002). Thus, the relevance of collective social capital relies on what it contributes to the theoretical (and empirical) development of community development approaches. Figure 13 illustrates how various concepts within a community development approach to health promotion are related to social capital theory.

Health promotion ingredient	Relates to	Social capital View
Supporting environment	⟺	Communitarian view (Putnam)
Community action	⟺	Action oriented view (Coleman) Sources and effects of social capital (Portes) Power perspective (Bourdieu)
Community empowerment	⟺	Communitarian view (Putnam, Szreter and Woolcock)

Figure 13. Concepts relating collective social capital to community development health promotion.

Creating health *supporting environments* is a key for health promotion. I agree with others (Campbell, 2000; Campbell & Gillies, 2001; Gillies, 1998) that Putnam's communitarian perspective of social capital can act as a useful framework and *starting point* for health promotion initiatives that aim to strengthen supportive environments. This perspective offers a description of what constitutes these environments as well as some guidance on how to

achieve them. However, our results (Paper III) are supported by others who claim that there is a need to move beyond Putnam's theoretical framework in initiatives to strengthen and mobilize social capital in local communities (Campbell, 2000; Campbell & Gillies, 2001; Campbell et al., 1999; Hawe & Shiell, 2000; Wakefield & Poland, 2005; Whitley, 2008). Based on a review of 11 qualitative studies on social capital and health, Whitley (2008) concludes that nearly all of these studies found Putnam's concept of social capital too narrow in capturing community social capital, and that his ideas need to be supplemented with Bourdieu's view of social capital. We found that Coleman's concepts of effective information channels and norms and effective sanctions add important perspectives to how social capital functions and can be mobilized in local communities, while Bourdieu's critical approach adds important perspectives about the power relations involved in these kind of community processes .

Community action is another important feature relating health promotion to the mobilization of social capital. Wakefield and Poland (2002) state that using Putnam's communitarian view of building social capital risks exclusion of marginalized groups since community activities are easily biased toward the interests of the dominant groups. A social action view is therefore needed to make use of social capital within a health promotion discourse. This implies a conflict view that aims to redistribute resources and achieve social justice (Wakefield & Poland, 2002). The risk of increased social exclusion during a process of mobilizing social capital was confirmed in Papers III and IV. We found that not everyone in our case community was included in the community networks and the establishment of the health centre. People representing the outsider (Paper IV) seemed to be further excluded during and after the establishment of the health centre and this may have had negative effects on their health. According to Wakefield and Poland (2002), strong community connections may also lead to increased social control, social exclusion and inequality. In addition, Kawachi and Berkman (2001) conclude that strong social connections do not always lead to better mental health. Instead, close ties may also have oppressive

consequences for individuals living in close-knit neighbourhoods who do not conform to existing community norms. We found Bourdieu's social capital perspective useful for understanding power relations and the social inequality inherent in these kinds of community processes. In addition, we found that Portes' (1998) distinction between sources and effects of social capital was useful for understanding collective motives for engagement and sharing of resources. Finally, Coleman's concept of social pressure as a motive for actions offered another explanation of the mechanisms underlying community action. These different theoretical perspectives of social capital are often viewed as incompatible in theory as well as in practise. However, I believe that a comprehensive and pragmatic view of collective social capital may offer significant contributions to the planning, design and implementation of health promotion projects that aim to support community action.

Community action is believed to promote *community empowerment*, i.e., "*a state that communities or community subgroups may attain…by participation in collective political action, that result in raised levels of psychological empowerment and the achievement of some redistribution of resources or decision making sought by a community or subgroup"* (Bracht, Kingsbury & Rissel, 1999, p. 87). Community empowerment thus relates to Putnam's communitarian view that social capital can improve the capacity of communities to work together for solving collective problems, even if his perspective needs to be supplemented by an awareness of the role of state and political institutions in these processes (as underlined by Szreter & Woolcock, 2004). The community process described in Paper IV can be seen as a community-empowering process in which the citizens managed to regain a health centre in their community despite a political decision to close it. According to Ferlander (2007), communities rich in bridging and linking social capital may have more power to influence political decisions concerning their community. Communities high in these forms of social capital are also more likely to provide access to public services for their residents. We concluded in Paper III that our case community was

characterised by high levels of bonding social capital, although this also risked increasing social inequality. The analyzes in Paper IV also revealed that our case community was dependent on bridging and linking social capital in terms of know-how from outside collective actors (i.e., *the entrepreneur)* as well as on negotiations with the County Council (i.e., *the enemy)* to be successful in establishing the health centre. Using the terminology of Macintyre, Ellaway and Cummins (2002), bridging and linking social capital in a neighbourhood might not only influence the "collective social functioning" of a neighbourhood but also the "material infrastructural resources" of the same neighbourhood, thereby facilitating community empowerment.

Concluding remarks

Social capital as a concept may seem incompatible with the basic philosophy of the Ottawa Charter because it "*assumes that all members of a partnership have equal interests and equal access to all resources needed for this collaboration, and in addition it assumes that all players will equally benefit from the collaboration"* (Erben, Franzkowiak & Wenzel 1999, p. 182). I do not see that social capital theory denies struggle and conflict. Undoubtedly, social capital cannot be used as a "cookbook" for how to smoothly achieve supportive environments and community action. However, it can shed some new light over the processes that influence interactions between people and facilitate cooperation and community action—processes that necessarily include conflicting components. An awareness of people's unequal opportunities to make their voices heard is required and can be used to strive for empowerment in social capital theory-driven health promotion.

THE RESEARCHER

Even though academic studies were never self-evident to me, I ended up at the university and took my bachelor's degree in social work in 1993. I really liked the academic environment, but had a desire for practical social work that might improve people's living conditions. During my years as a social work practitioner it became evident to me how much our social environment influences our lives. Changing an individual's situation can be very hard if the surrounding social environments and structures obstruct the desired changes. My main interest as a social worker was thus guided towards interventions that target the broader social environment. In addition, the need for research and evidence-based social work became clear to me. Accordingly, I searched for research opportunities within my field of interests. In 1999, I was fortunate to be employed as a teacher at the Department of Social Work at Umeå University. I enjoyed teaching but searched for research opportunities as well. I heard about Epidemiology and Global Health and their stimulating research environment, and after a maternity leave in 2002, I had the opportunity to join "Urban Design", a research project carried out within the Centre for Regional Science (CERUM) at Umeå University and in collaboration with Epidemiology and Global Health (among others). My first task was to review the concept of social capital and its implications for health and community development. I had never heard of the concept, but it immediately caught my research interest. The ideas behind social capital fit well with my interests in developing interventions targeting the broader social environment. In 2004 I was accepted as a PhD student at the unit of Epidemiology and Global Health and started my research journey with its focus on social capital and health promotion. The step from social work to public health was not a big one. I felt this gave me an opportunity to develop and deepen the knowledge of social theory and qualitative methodology that I had acquired within social work. In addition, it gave me the opportunity to become familiar with new research fields and new research methods, particularly in epidemiology. During my years as a PhD student I have also had the opportunity to teach

social theory and qualitative methodology within the master's degree program at Umeå International School of Public Health. This has been an enriching experience as well. I have learned a lot during all these years, but maybe most importantly, I have learned how few things we can be really sure about. Thus, I stick to a pragmatic view of knowledge—I see theories and methods as *tools* in knowledge development. The value of these tools are not their "*universal validity, but their usefulness in a specific context*" (Bryant, 2009, p. 24).

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