

Chapter 9

Healthy Communities

Inequality in Population Health

There is a considerable body of scientific literature about inequalities in population health, reporting on regional, socio-economic, environmental, cultural, and ethnic differences in population health. However, very few studies have focused on the inequality in social capital as a possible explanation for health disparities between minority and majority populations.

In Canada, some surveys have outlined the perspectives of social capital regarding health inequality between minority and majority language groups. The vitality, social determinants of health, and social capital within the French-speaking minority communities were analyzed and discussed in a recent paper (Bouchard et al. 2006). Although little is known about the health of French-speakers in a minority position, a number of studies have shown that there are inequalities in health between the various ethnic groups in Canada. For instance, the mortality rates of the British, French and Native Indian populations have been studied over several census periods. While a marked downward trend in the death rates of all populations is seen, the mortality among Native Indians still exceeds the intermediate and lowest levels of the French and British ethnic subpopulations, respectively. The multivariate analyses provide strong support for the minority status effect on inequalities in survival.

Studies among the French-speaking minority and English-speaking majority have showed gaps in health between the two language groups. In Ontario, French-speakers reported less frequently excellent health and more limitations in their functional capacity due to chronic health problems. Significant differences between French-speakers and English-speakers were noted in pain, and emotional and cognitive functions. Also, higher average stress levels and use of medication were found among the French-speaking minority than among the English-speaking majority. In Canada, 55.3% of English-speakers and 52.9% of French-speakers were classified as healthy, whereas 16.4 and 18.1%, respectively, were classified as dysfunctional (Kopeck et al. 2000).

The Canadian observations concerning differences between language groups reflect the global rule of thumb according to which minorities usually have poorer health in comparison to the relevant majority populations. Except for Quebec, French-speaking Canadians form a linguistic minority (4.4%), which is scattered

throughout the predominantly English-speaking country, and health disparities cannot be explained entirely by geographic and socio-economic factors. Differences in cultural and social capital may, at least, partly explain why these two language groups differ in terms of population health.

In Israel, a recent study on social capital and population health compared health and survival in the Arab minority (19.5%) and Jewish majority communities. Individual levels of social capital seem to be lower among the Arab minority than the Jewish majority. Additionally, individual-level social capital was associated with better self-rated health in the Jewish population and less so in the Arab population. The results showed that there was a 3-year difference in life expectancy between the Arab minority and the Jewish majority populations. Accordingly, the survival rate favored the majority, but interestingly, no community-level difference in the subjective health between the majority and minority was found (Baron-Epel et al. 2008).

Two Famous Exceptions

Historical descriptions and earlier scientific reports of two extremely healthy communities allow the interpretation that they are rich in social capital, even though this particular concept was not explicitly used in the studies concerning these communities. Social character and group dynamics were investigated in Roseto, an Italian-American town in eastern Pennsylvania, with approximately 1,600 residents. Between the years from 1955 to 1965, the population showed strikingly low death rates in comparison to Bangor, an immediately adjacent town (Bruhn and Wolf 1979). Mortality rate from myocardial infarction, in particular, was in Roseto lower than in the neighboring communities, although the common risk factors were, at least, as prevalent in Roseto as in the neighboring communities (Bruhn et al. 1966). Over the next following 50 years, a decrease in social cohesion was observed, accompanied by an increase in total mortality. The researchers explained the “Roseto Effect” by the high level of ethnic and social homogeneity, close family ties, and cohesive community relationships (Egolf et al. 1992) – in other words – by social capital.

Another famous story is the case of Okinawa in Japan, published and thoroughly explained in the form of a non-fiction book entitled “The Okinawa Program. How the World’s longest-lived people achieve everlasting health – and how you can too” (Willcox et al. 2001). Life expectancy in Okinawa is the highest in the whole world in spite of the fact that, for their SES, the Okinawans are ranked at the bottom in Japan. The researchers argue that the social gradient hypothesis does not apply in Okinawa, suggesting that the healthy lifestyle and social context (social network of family and friends, ethnic social solidarity, and get-together gatherings) are more important than the SES as contributors to longevity among the Okinawans (Cockerham et al. 2000, Willcox et al. 2001, 2007, see also <http://www.okicent.org/> and Chapter 10).

The Third Exception

The Swedish-speaking population in Finland mainly descends from fishermen and peasants who settled the western and southern coastal regions and archipelago of Finland between 1000 and 1250 CE (Ivars and Huldén 2002). Historically, Finland was part of the Kingdom of Sweden for 650 years, and during this era, Swedish was the language used in administration, economy, education and other similar contexts, as well as by the upper classes. In the war against the Russia in 1808–1809, Sweden lost Finland, and it became an autonomous Grand Duchy under the reign of the Russian Empire. Swedish, however, remained the language of administration throughout the first half of the nineteenth century. Not until the year 1863 was Finnish recognized as the second official language in the Grand Duchy of Finland. After Finland became independent from Russia in 1917, Finnish became officially the main language of the country, and many Swedish-speakers changed their home language from Swedish to Finnish. Nowadays, the Swedish-speaking population amounts to 5.3% (295,000) of the total population in Finland.

Currently, the Swedish-speaking minority is backed up by constitutionally guaranteed rights, as well as, an extensive network of Swedish institutions and organizations, including a comprehensive Swedish educational system, several Swedish television and radio channels, local newspapers and magazines, and a Swedish episcopate within the Finnish Lutheran Church. Most of Swedish-speaking Finns reside in bilingual municipalities where Finnish-speakers constitute the majority. However, there are some monolingual Swedish municipalities in the western province of Ostrobothnia and in the southwestern archipelago. The province of the Åland Islands is comprised of monolingual municipalities with Swedish as the official language. Especially in Ostrobothnia and in the larger cities (Helsinki, Turku, Vaasa, Pietarsaari, and Kokkola), the Swedish-speaking residents intermingle with Finnish-speakers. See Fig. 9.1.

The Swedish-speaking minority in Finland meets the major criteria of ethnicity, i.e., self-identification of ethnicity, language, social constructions, and ancestry. Most important for the discussion on inequalities in population health is the fact that the two language groups in Finland are quite similar to each other in most health-related respects, including SES, education and health services (McRae 1997, Hyypä 2001a, b, 2007b). Finland is a relatively large and sparsely populated country, and the demographic characteristics and availability of health services vary between geographical regions to a greater extent than between these two language groups.

Ever since epidemiological health surveys have been published in Finland, the total mortality rates have favored Swedish-speakers. Life expectancy and disability-free life expectancy are significantly longer among Swedish-speakers than among Finnish-speakers (Hyypä and Mäki 2001a). The all-cause mortality contrast is manifest especially in men, whereas in women it is somewhat compensated by the higher cancer mortality among Swedish-speaking than Finnish-speaking women (Koskinen and Martelin 2003). In many recent health surveys, also the self-reported health is significantly better among the Swedish- than Finnish-speakers (Suominen



Fig. 9.1 Map of Scandinavia and Ostrobothnia in Finland

et al. 2000, Hyyppä and Mäki 2001b, 2003, Saarela and Finnäs 2004, Nyqvist and Martelin 2007).

The fact that Swedish-speakers are healthier and live longer than the Finnish-speakers in the same bilingual region is interesting from the inequality in health point of view. Register studies and epidemiological reports have repeatedly shown that the common nominator for the results is the insufficiency of the conventional health-risk factors, including SES, to explain the significant inequality in health between the language groups.

Before I turn towards the social (and other human science) explanations, I will briefly address the commonly presented question about genetics as the explanation for the health disparity between these two language groups in Finland. Could favorable population genetics explain the good health and better survival among the Swedish-speakers in Finland? Unfortunately, we do not know the right answer since population genetics is difficult and expensive to carry out in large population samples, requiring specimens for DNA analyses from thousands of individuals.

However, an earlier blood group survey found no significant differences in the genetic profiles between the language groups in Finland (Virtaranta-Knowles et al. 1991). No large-scale population genetic explorations have yet been carried out in order to compare the paternal and maternal DNA lines between the language groups in Finland, but some smaller and more specified community studies show interesting differences. In a study on Y-STR data in several communities, the population of Luoto, a Swedish-speaking community in Ostrobothnia, differed significantly from all the other studied populations in Finland. In another study, and in contrast to the above-mentioned, certain population genetic features were found that linked Swedish-speakers in Finland genetically with Swedes in Sweden. The study was carried out with the aid of allele frequencies (Geneland analyses) and it showed some similarities in the genotypes of Ostrobothnians in Finland and Swedes in Sweden (Hannelius 2008). However, being a part of a larger survey, that study was not primarily aimed at comparing the genetic profiles between Swedish- and Finnish-speakers in Finland. On the basis of these small-scale population genetic studies and other related observations, one cannot prove the hypothesis about genetic differences between the two language populations (Ivars and Huldén 2002). On the other hand, the role of genetic differences in explaining inequalities in health and survival may also be disputed in itself.

The observations as regards the very good health, longer disability-free active life, and low morbidity and mortality rates of the Swedish-speaking minority in Finland are internationally exceptional since, as mentioned earlier, the reported health status and mortality rates do not usually favor ethnic minorities. Because conventional health-related factors did not easily explain the significant disparity in health between the two language communities, the situation of the Swedish-speaking minority in Finland is, in my opinion, parallel with the two notoriously healthy communities, namely Roseto and Okinawa. Keeping probable similarities in mind, I and my research group initiated empirical studies on inequalities in health among Swedish-speakers and their Finnish-speaking neighbors to open new perspectives on the issues of social capital and population health.

A Community Rich in Social Capital

In order to test the assumption about social capital as a potential explanation for the public health advantage of the Swedish-speaking minority in Finland, we conducted comparative studies on individual-level social capital and self-reported health in bilingual Ostrobothnia (Hyypä and Mäki 2001b, 2003). In the western coastal province of Ostrobothnia, a total 100,000 Swedish-speakers and an almost equally large number of Finnish-speakers live intermingled in bilingual or monolingual (Finnish or Swedish) communities. See Fig. 9.1. In line with the definition of social capital by Bourdieu (1980) and Portes (1998), we measured social capital as an attribute of individuals.

The original study population consisted of randomly selected samples of Finnish-speakers ($N = 1,000$) and Swedish-speakers ($N = 1,000$) representing all adults

(aged between 16 and 65 years) living in the bilingual province of Ostrobothnia in Finland and including approx. 75,000 Finnish-speakers and 78,000 Swedish-speakers. Data on language, socio-demographics (age, gender, body mass index (BMI), family size and relations, marital/cohabiting status, education, family income, social status, and employment status), health status (self-rated health, diagnosed disease and disabling disease), health behaviors (smoking and alcohol drinking habits), and individual-level social capital were collected between December 1998 and February 1999 by means of a questionnaire, which was carefully translated, retested and controlled for to avoid any linguistic misapprehensions (Hyypä and Mäki 2001b). The response rate was 64.2% for the total sample (65.8% for Finnish-speakers and 62.6% for Swedish-speakers), which is in accordance with the average response rate in recent health surveys in Finland. Non-responders were not contacted for their demographics.

We also collected data on residential stability, a tentative proxy of social capital. To assess social engagement, the subjects were asked about their active participation in hobbies and clubs (singing in a choir, acting in a theatre group, dancing in a dancing club, playing in a music band, participating in a writers' club, or a film or video club, or others); attendance at various cultural, religious, political, sports, recreational, work-related, and community events; passive attendance at summer music festivals and art exhibitions; and memberships in a variety of voluntary associations (sports, political, social, fraternal, local, neighborhood-related, religious, education-related, school-related, recreational, work-related, and community organizations). For the purpose of identifying properly the nature of various clubs, voluntary associations and participation, examples of each item were given in the questionnaire. Three items on reciprocal and trustful friendship were included in order to cover close social ties. Social trust and mistrust were assessed by the two questions from the European Social Survey (2004): "Generally speaking, would you say most people can be trusted?" and "Do you think most people would try to take advantage of you, if they got a chance?" See also [Chapter 3](#).

The results showed statistically significant ($p < 0.01$) differences between the language groups in migration, unemployment, alcohol drinking habits, social mistrust, and art group participation. In other words, Swedish-speakers had stayed longer in Ostrobothnia and they participated more frequently in art groups (choir, drama, dance) (13.7% vs. 6.3%), whereas Finnish-speakers were more frequently heavy drinkers (14.7% vs. 5.1%), unemployed (13.6% vs. 7.1%), and mistrusting (29% vs. 17.1%). In order to examine which particular dimensions of individual social capital were relevant for health, we ran a factor analysis on the whole population sample with items of individual-level social capital. Four-factor models were found to be sufficient, and the factors were called associational activity, friendship network, religious involvement, and hobby group. Associational activity (neighborhood cooperation, participation in cultural and hobby groups, active participation in a volunteer organization, sports organization, school-related group, community meeting, or hunting association), friendship network (the number of close friends, friendship ties, and reciprocal trust), and religious involvement (church

attendance, visiting religious meetings, or membership in a religious association) were associated with good self-rated health regardless of language.

We assumed that the individual-level social capital enables people to gain and make use of various resources that promote health. The findings in Ostrobothnia supported also the original hypothesis that the Swedish-speaking community holds abundant social capital that is associated with their health and well-being (Hyypä and Mäki 2001b, 2003). Of the various dimensions of individual-level social capital, friendship networks (reciprocal trust) and hobby group activity were more frequent in the Swedish-speaking than in the Finnish-speaking community in Ostrobothnia. Furthermore, the results showed that some dimensions of individual-level social capital have stronger associations with health than some others, with congregational activities showing the strongest association with population health in Ostrobothnia. Recently, similar results were repeated and confirmed by a study in a small but nationally representative subpopulation of Swedish-speakers in whole Finland (Nygqvist et al. 2008).

A recent cross-sectional health survey of 17,352 Finnish-speakers and 2,018 Swedish-speakers, aged 25–59 years, confirmed our earlier results regarding differences in drinking habits: Finnish-speakers reported drunkenness, hangovers, and alcohol-induced pass-outs significantly more frequently than Swedish-speakers. Alcohol consumption and drinking pattern have a direct impact on health differences between Swedish-speakers and Finnish-speakers, independently of demographic, social, or environmental factors. However, it seems unlikely that the effect of both individual and area-level (or collective) social capital on the observed health differences between the two language groups would be mediated through alcohol consumption. Individual and collective social capital (social participation, social engagement, and trust) were significantly related to drinking patterns only among Finnish-speakers, but not among Swedish-speakers (Paljärvi et al. 2009).

The local social and health service systems of small municipalities in Finland have been investigated from the area-level (or collective) social capital point of view (Ovaska 2003). The study investigated the correlations between three factors affecting municipal service systems: social capital, the structure of service systems, and demographic factors. The inhabitants of Swedish-speaking municipalities scored higher on the ecological measures of social capital and lower on the measures of negative social capital than the inhabitants of Finnish-speaking municipalities. Social capital appeared to work so that when a community is stable and functioning effectively, social trust increases and this in turn results in high level of coping and a low reliance on public services. People know and are confident that, should help be needed, they have access to support and services. In particular, the findings from the Swedish-speaking municipalities illustrated the beneficial effects of social capital on social service systems, since the Swedish-speakers say, not only that they get less help and give less help, but also that they need less help. Thus, high level of social capital (typical to the Swedish-speaking municipalities) is associated with lower use of and less need for social and local social and health services.

Assuming that social capital predicts survival in the genuine causal meaning, we recently initiated a follow-up survey among the previously studied Swedish- and Finnish-speaking populations (unpublished results as yet). In the follow-up survey, social trust, social mistrust, and trustful friendship network represented the cultural or cognitive/psychological dimension of social capital. The results showed that social mistrust was a very strong predictor of mortality in both language groups. A significant inverse association was observed between social mistrust and survival in both men and women, and the disadvantageous effect of social mistrust on survival was stronger in women than in men. Also, the association was independent of the other individual-level dimensions of social capital and several health-related factors (confounders in Cox proportional hazard models for survival). Our results suggested the significance of the cultural (cognitive/psychological) social capital for survival (Chapter 6).

Social (or generalized) trust can be considered to be a source, a mediating mechanism, or an outcome of social capital, as discussed previously in this book. To show the importance of trust vs. mistrust for the individual-level social capital of the Swedish-speaking minority in Finland and to prove the hypothesis of the linkage between trust and well-being, we recently investigated, in a cross-sectional survey, associations between social trust, social mistrust, language group, gender, age, family income, education, social networks, visiting church, medication, physical activity, and fatigue in bilingual communities located in western and southeastern Finland (Surakka et al. 2009). The population of the survey consisted of a sample of 4,800 randomized subjects, aged 25–75 years, of whom 50% were Finnish-speakers and 50% Swedish-speakers. Social trust and mistrust were assessed by two questions from the European Social Survey (2004).

To analyze the associations (between the variables), we used the Multiple Classification Analysis (MCA), which examines the relationships between several category-independent variables and the dependent variable. The dependent variable, social trust, ranged from 1 to 4 (mean 3.13, SD 0.53). The MCA analysis revealed a significant difference in the associations between social trust and language group (MCA 3.20 for Swedish speakers and 3.06 for Finnish speakers), adjusted for demographics, several health-related factors, family income, education, and physical activity. Swedish-speakers had also a significantly larger number of close friends. Furthermore, the multiple logistic regression analysis showed that Swedish-speakers had 2.5 times less mistrust than Finnish-speakers. The multiple regression analysis also revealed that family income after tax, Swedish language, visiting church, and visiting friends in their homes predicted generalized social trust highly significantly in the study population. As can be expected, social trust was positively associated with frequency of visiting friends, church attendance, and visiting the public library, as well as with family income (Surakka et al. 2009).

In Chapter 3, a special Finnish form of voluntary social action, called *talkoot*, was discussed in terms of social capital. A similar traditional social practice, called *yuimaru*, has been reported to exist in Okinawa (Willcox et al. 2001). The phenomenon can be used as a proxy of social capital. Accordingly, we have included the assessment of *talkoot* activity in our surveys on social capital and population health (Hyypä and Mäki 2001b, 2003, Surakka et al. 2009). Also, we found

Table 9.1 Multiple logistic regression analysis of demographic, economic and political status measures for the *talkoot* activity among the Swedish-speaking and Finnish-speaking Finns

<i>Talkoot</i> activity	Odds ratio	<i>P</i>
Gender		
Men	1.0	
Women	0.71	<0.001
Age groups (years)		
<36	1	
36–50	1.55	<0.01
51–64	1.21	
>64	1.38	<0.01
Family income (euros)		
<1,000	1	
1,001–2,000	1.86	<0.01
2,001–5,000	2.24	<0.001
>5,000	2.67	<0.001
Member of political party		
Yes	1	
No	0.38	<0.001
Language group		
Finnish	1	
Swedish	1.38	<0.01

Talkoot activity occurs statistically significantly ($P < 0.01$), and independently of gender, age, family income and political party membership, more frequently among the Swedish-speakers than among the Finnish-speakers residing in the same bilingual municipalities. Also, men, older people, people with higher income and political party members show significantly and independently more *talkoot* activity than respective reference (1.0)

that *talkoot* was significantly more frequent in the Swedish-speaking than in the Finnish-speaking community, independently of gender, age, family income, and political party membership. In the logistic regression analysis, the odds ratio for *talkoot* activity was 1.38 ($p < 0.01$) among Swedish-speakers if it was 1.0 among Finnish-speakers (see Table 9.1).

We conclude that the Swedish-speaking minority in Finland owns a higher level of social capital and social trust, and a lower level of social mistrust than the Finnish-speaking majority. The disparities are independent of several demographic and health-related factors.

Combining the Individual and Communitarian Approaches

The series of studies on social capital and population health in bilingual Finland offers a completely new view into the theories of social capital. Pierre Bourdieu conceptualized social capital as an individual-level quality emerging from an individual's "connections". He argued that an individual can gain benefit through the social network if he/she knows the right persons (e.g., well-educated friends in high social positions) (Bourdieu 1979, 1980, 1986). Individuals' chances to gain benefit

depend on their position on the social ladder. In contrast to Bourdieu's approach, Robert D. Putnam saw social capital "as features of social organization, such as networks, norms, and trust that facilitate action and co-operation for mutual benefit" (Putnam 1993). Although both of these social capital theorists – Bourdieu with his network approach and Putnam with his communitarian approach – emphasized benefit in social networks, the former claimed that the benefit from social capital accrued to individuals whereas the latter argued that the benefit diffuses throughout a community.

The Bourdieuan conceptualization of social capital stresses differences in the stock of social capital between individuals with different socio-economic backgrounds. Putnam's conceptualization, on the other hand, stresses differences between communities, which leads to investigating regional differences in the amount of social capital. In contrast to these two most eminent theories of social capital, our surveys in the Ostrobothnian populations have not involved comparisons between either individuals or geographic regions. Neither individual socio-economic differences (as in the network approach by Bourdieu) nor regional community differences (as in the communitarian approach by Putnam) were relevant in the study settings. We consider that our studies represent social capital in its real core sense, that is, independently of an individual's actual or potential qualities or access to resources, and without reference to particular geographic locations. Our findings about the inequality of social capital are based on groups of people residing in similar circumstances within the same blocks, villages, towns, and cities. Accordingly, we find that it is the basic or fundamental culture that distinguishes the two groups of citizens living side by side within the same community (see Portes 2000). Cultural differentials between the language minority and majority in Finland can be observed and studied without necessarily applying a qualitative research approach, but an anthropological approach could certainly help us to better comprehend social capital and its consequences, and to deepen our view over the social determinants of population health.

In his recent review of qualitative studies about social capital and health, Rob Whitley concludes that "narrowly focused studies utilizing social capital as a proxy for the social world may be missing important elements of the lived, communal experience influencing health and well-being amongst community members" (Whitley 2008, see p. 113). On the basis of the reviewed studies he further states that social experience is colored by economic, historical, social, and cultural factors that precede the principal definitions of social capital (Whitley 2008). Our results among Swedish-speaking Finns match well with the considerations of Whitley who fears that health inequalities may incorrectly be attributed to the lack (or stock) of social capital, which may simply be an epiphenomenon of a deeper current within communities and between neighbors. According to our hypothesis, social capital can only emerge from a favorable fundamental culture of the community (group or nation) infiltrated by we-attitude and sense of belonging. The healthy Swedish-speaking community in Finland has in quantitative and qualitative studies proven to be infiltrated by we-attitude, sense of belonging – and by individual-level social capital.