Using socio-economic differences in knowledge and attitudes to shape community alcohol programmes: experiences from the Kirseberg Project

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SUMMARY
Community-based public health projects have become increasingly important as a tool for health promotion. This approach has been considered appropriate also in addressing socio-economic differences in health, although little is known about socio-economic differences in perception of health as a community issue. Our aim was to study socio-economic differences in awareness and knowledge about the Kirseberg Project and in attitudes towards the concept of health as a local community issue. The Kirseberg Project was initiated in 1988. The primary prevention aims are to reduce alcohol consumption in the population in order to decrease the incidence of alcohol-related problems. Kirseberg is an area with ~10,000 inhabitants in the north-eastern part of the city of Malmö (population 230,000), Sweden. A sample of 400 people in the area between the ages of 20 and 75 years of age was randomised from the population register and interviewed by telephone. Of the sample, 73.3% responded. Of the respondents, 65.2% were aware of the project and 38.6% had knowledge about it. Socio-economic differences were found both regarding knowledge and attitudes. Individuals in the high socio-economic status (SES) group were better informed about the project than the low SES-group, more often associated the project with the promotion of the community spirit, tended to give more positive answers to the questions about important local health issues, demonstrated higher adherence to the social environment issues and were more interested in local health promotion activities. Our conclusion is that the socio-economic knowledge differences which were found in the Kirseberg Project should be seen as shortcomings in the health educational campaign rather than as a first step in a determined social process. The issue of how the explicit notions and the hidden agenda of a health promotion campaign correspond with central attitudes and values in different population groups in the target community must be carefully investigated.

Key words: alcohol; attitudes; community-based prevention; knowledge; socio-economic differences

INTRODUCTION
Socio-economic differences in health have remained and in some aspects even increased during recent decades (Laheima and Valkonen, 1990; Smith et al., 1990; Marmot et al., 1991; Lundberg, 1992; Helmer and Shen, 1994). Health promotion and disease prevention have been suggested as an approach to decrease socio-economic differences in morbidity and mortality. However, the question has been raised as to whether health promotion and disease prevention might rather preserve or even increase socio-economic differences in health (Calnan, 1986; Freimuth, 1990; Carstairs, 1991).

Community-based public health interventions have become increasingly important as a strategy for health promotion, most notably in the
prevention of cardiovascular diseases, but also in the prevention of smoking, accidents and alcohol-related problems (Matarazzo et al., 1984; Bracht, 1990). They are based on a 'principle of partnership', meaning that the community should become involved in defining problems and priorities, in planning action and in the maintenance of the preventive activities (Bracht, 1990; Thompson et al., 1993). This implies a process of mobilisation, for example that the community becomes aware of the health risks, defines them as prioritised community issues and decides to act upon them. This approach has been considered appropriate, even when addressing socio-economic differences in health.

However, little is known about socio-economic differences in perception of health as a community issue, although such differences have been studied in relation to health as an individual concept (d'Hotaud and Field, 1984; Calnan, 1987; Blaxter, 1990; Worsley, 1990). Ong et al. (1991) reported differences in priorities of local health issues between professionals and lay people in a local community, but differences between subgroups in the population were not studied. Generally, the importance of socio-economic factors for the impact of health promotion in a target population has not been given much attention. Of all articles in Medline on health promotion or health education between 1990 and 1993, only 2.9% (111/3867) were also indexed under the MESH-term 'socio-economic factors' (Medline on Silver Platter 1990–1993, CD-ROM, Silver Platter Information).

The Kirseberg Project is a public health project aiming at reducing alcohol consumption in a specific urban area in Malmö, Sweden. It is based on a model that defines community organisation as a planned process to activate a community to use its own social resources and any available resources (internal or external) to accomplish community goals, decided primarily by community representatives and consistent with local values. Purposive social change interventions are organised by individuals, groups or organisations from within the community to attain and then sustain community improvements and/or new opportunities. (Bracht, 1990)

This study focuses on one part of the mobilisation process, the public health education campaign in the Kirseberg Project. The aim is to test the hypothesis that socio-economic factors play a role in awareness and knowledge about the project and in attitudes towards the concept of health as a local community issue.

The project
Kirseberg (population 10 000) is a geographically well-defined area in the north-eastern part of the city of Malmö (population 230 000) in southern Sweden. Demographically the area does not differ substantially from the city as a whole. There are, however, higher morbidity and mortality rates, especially among men, which is partly explained by alcohol-related disorders (Hanson et al., 1991). This is the reason why the area was chosen for this project.

The Kirseberg Project was initiated in 1988 and the implementation of activities began in 1989. The primary prevention goal is to reduce alcohol consumption in the population in order to decrease the incidence of alcohol-related problems. The secondary preventive goal is to improve early diagnosis of heavy drinking and alcohol-related problems. The project initiators have striven to make alcohol prevention a community concern, with the long-term goal of having local institutions take over responsibility for the preventive activities. For this reason a local resource group was created in 1989. In a dialogue with local representatives a number of local needs were identified that expanded the project focus. Issues that the local representatives considered important were: drug abuse, including alcohol; loneliness among the elderly; the traffic situation; and the physical environment for the children in the area.

The public health education campaign
The campaign started during autumn 1989 and this study was performed in spring 1992. The health message has been about alcohol as a health risk, advocating moderation in drinking and introducing 'safe' drinking limits. The main channels for the health education campaign have been the local resource group, the local primary health care and social welfare institutions and mass media.

The resource group contains representatives from the local primary health care services, the social welfare services, the library, the youth leisure centre, the church and community leaders from the voluntary associations and popular movements, such as local political parties, a local cultural association, sports associations and tenant-owners housing societies. The resource group was established not only to improve the local anchorage and the feed-back to the project,
but also to utilise the participants as informers to their organisations, other associations and their informal social networks. The long-term goal has been to create a local leadership for the management of the project.

The primary health care and social welfare institutions have served as channels for the distribution of information in several ways. In 1990, health examinations were started at the primary health care centre. All inhabitants between the ages of 20 and 45 years were invited to attend during a 5-year period. The health examination includes screening of heavy drinking and alcohol-related problems, as well as cardiovascular risk factors. It focuses on individual information and advice regarding healthy living habits, such as dietary habits, physical activities, smoking and alcohol consumption. Almost 40% of the target population have been invited to the examinations at the time of the interviews of this study and about two-thirds have participated. At the child health care centre, parents of newborn children have received information about the benefits of reducing alcohol consumption. Through the school, parents of teenagers have been informed at parental meetings and have received mailed brochures about the importance of parental drinking habits and attitudes to alcohol for the alcohol habits of their adolescents.

Different alcohol prevention activities for children and young people have been organised in cooperation with the local youth leisure centre and the local theatre.

The most important mass media channel has been a newsletter, distributed by the project four times per year to all households in the area. Other media channels have been local newspapers, papers of local associations, public lectures, an information office in one of the shopping centres, a notice-board at the local pharmacy and health information booths at the local spring and autumn outdoor festivals.

The study population
A sample of 400 people in the area between the ages of 20 and 75 years of age, limited to one participant per household, was randomised from the population register that is updated every third week. Twenty-two persons (5.5%) could not be reached because of unknown addresses. The study population thus consisted of 378 persons.

METHODS

Data sampling
The respondents were interviewed by telephone. Telephone numbers were provided by the national telephone company, using names and addresses from the population register. All respondents in the telephone interview were given information about the purpose of the interview by letter, at least 1 day in advance. A questionnaire was mailed to those in the sample who had no telephone, who had an ex-directory number or who for other reasons were not available on the telephone (37.3%, n = 141). Two reminders were then mailed. In total, 221 people were interviewed by telephone and 56 answered the mailed questionnaire.

Data about age, sex and national background were obtained from the population register, while data about occupational status were obtained from the interviews.

A study of non-respondents was carried out with data from the population register and from the Swedish 1993 Census.

Qualitative methods
Open answers were analysed by an inductive method, which is described as a three-step process (Taylor and Bogdan, 1984). Firstly, the material is read several times and reflected over. Recurrent phrases and themes in the answers are noted down. On the basis of the notes, a tentative typology of emerging themes is constructed. Secondly, the themes are coded and sorted into empirically based categories. The coding procedure is repeated until all data have been coded and satisfactorily categorised. In the last phase, data are interpreted with the help of the categorisations while considering the context in which the data were collected. This may lead to the construction of further, theoretically based categories (Strauss and Corbin, 1993).

Definitions of outcome variables
‘Awareness’ was defined as an affirmative answer to the question ‘Had you heard about the Kirseberg project before we contacted you for this interview?’

‘Knowledge’ was defined as the ability to describe at least one aim or name at least one activity of the project.

‘Attitudes’ were assessed by an open question ('According to your personal opinion, what are the most important things to do in order to
improve health and well-being in the area?’). The answers were dichotomised into two values, ‘positive’ and ‘negative’. A negative reaction was considered when the respondent did not suggest any local health action issues. The positive answers were categorised according to the character of the suggestions for improved local health and well-being in the Kirseberg area with the qualitative method described above.

Definitions of background variables
‘Age’ was dichotomised in the analysis into ‘younger’ (up to the age of 45) and ‘older’ (over the age of 45). The cut-off was set at 45 years as this was the highest age for being invited to the health examinations at the primary health care centre.

‘Nationality’ was defined according to country of birth, dichotomised into ‘Swedes’ or ‘immigrants’.

‘Socio-economic status’ (SES) was categorised according to the Swedish Socio-economic Classification (Statistics Sweden, 1982). ‘Low SES’ was defined as SEI-groups 11–36 (manual workers and assistant non-manual employees at lower levels). ‘High SES’ was defined as SEI-groups 46–89 (non-manual employees at high and middle levels and self-employed people). Retired people, housewives, students and unemployed people were defined as ‘unclassified’.

Statistical methods
Differences between groups were either calculated at odds ratios and 95% confidence intervals, or by Pearson’s chi-square test. Differences with a \( p \)-value < 0.05 were considered statistically significant. Adjustments of odds ratios for age, sex and nationality were made with logistic regression analyses. All calculations were made with the Statistical Package for Social Sciences, SPSS (SPSS Inc., 1990).

RESULTS

The overall response rate was 73.3% \((n = 277/378)\). Sixteen people, responding to the mailed questionnaire, did not answer the questions about attitudes.

The response rate was lower among younger respondents (68.6% compared to 78.3% for older; \( p = 0.03 \)) and immigrants (54.4% compared to 76.6% for Swedes; \( p < 0.001 \)). There were no statistically significant differences in response rates regarding sex or marital status. Participation rates for different SES-groups could only be estimated indirectly, by comparing the proportion of the low SES-group of all socio-economically classified among respondents with the proportion of the low SES-group of all socio-economically classified inhabitants in the area, 20–64 years old, according to the Swedish 1990 Census. The low SES-group was under-represented among the respondents (65.4% among responders compared to 74.3% in the population; \( p = 0.001 \)). The response rate was also lower among those without a telephone (40.2 versus 87.2%; \( p < 0.001 \)). The lack of telephone was more common among immigrants (49.1 versus 26.2%; \( p < 0.001 \)) and younger people (40.2 versus 18.5%; \( p < 0.001 \)).

‘Awareness’ was reported by 65.5% \((n = 182)\).

‘Knowledge’ was demonstrated by 38.5% \((n = 107)\). The knowledgeable respondents mostly associated the project with the preventive activities at the primary health care centre, especially the health examinations for cardiovascular risk factors and heavy alcohol consumption (73.8%; \( n = 79 \)). The main issues that the Kirseberg Project was associated with were alcohol (30.8%; \( n = 33 \)); the promotion of community spirit and local social or cultural activities (16.8%; \( n = 18 \)); traffic and environment (15.0%; \( n = 16 \)); dietary habits, prevention of smoking or other risk factors for cardiovascular diseases (14.0%; \( n = 15 \)).

With regards to ‘Attitudes’, a negative answer was given by 46.0% \((n = 120)\) of the respondents. We have distinguished between three sub-groups of negative answers. Each negative answer may have been referred to more than one category but categorisation as ‘no opinion’ excluded the possibilities of being referred to other negative categories.

- No opinions: 29.1% \((n = 76)\) of the respondents had no opinion (‘I don’t know’, ‘I’m sorry, but I don’t think my opinion would be of any value to you’, ‘It is so complicated’, ‘I can’t give you what you want to hear’).
- Health as a strictly private matter: 10.0% \((n = 26)\) of the answers did not suggest any local health issues because health was regarded as a strictly private matter (‘It is up to yourself whether you live healthily or not’, ‘It is my opinion that I should manage my health on my own. I don’t like it when everything is taken care of for you’, ‘I’m old enough to know what is good for me!’).
Defending the area: 9.6% \((n = 25)\) of the answers did not suggest any local health issues because they saw no need for such action. In some answers the question was even perceived as a hidden criticism of the area ('Why? Should it be more unhealthy here than in other places in the city? I like it here!', 'This is a good place to live in').

A 'positive' answer was given by 54.0% \((n = 141)\) of the respondents. The positive answers contained a broad range of issues where we distinguish between three main categories. Each positive answer may have been referred into more than one category.

Improvements of local environment: about one-third \((32.6\%; n = 85)\) of the answers in the positive category was about improvement of the local environment. Two sub-groups were recognised. One group included issues connected to the physical environment. The other group included issues connected to the social environment.

(i) Physical environment: 23.4% \((n = 61)\) of the answers dealt with environmental threats such as heavy traffic or air pollution. The emphasis was on feelings of insecurity and discomfort and only exceptionally were the environmental problems discussed as health hazards in a biomedical sense. As a young man expressed it: 'It is a good area to live in. The surroundings are quite good with a lot of vegetation and flowers and fresh air. But sometimes I worry about the traffic and the heavy trucks driving through the area. Sometimes I can imagine them coming straight at me.' The city authorities were mainly seen as the agents of change, but voices were also raised about the necessity of active local citizen groups.

(ii) Social environment: 15.3% \((n = 40)\) of the answers contained calls for a strengthening of the community spirit, either on a neighbour-to-neighbour basis or by organised local social and cultural activities, and for better use of the local social, commercial and cultural assets. The local voluntary associations and action groups, as well as other local cultural and social institutions, were seen as the main agents of change ('It is good that we have the project, and good that we have “We on the Hills” [the local cultural association] too! In big cities, a lot of people often don’t know each other, many live in isolation and that makes them sick. . . . Here it is more of a community spirit. This area is special, you feel proud of living here').

Improvements of health and social services: 16.5% \((n = 43)\) of the answers were about the situation of people dependent on health care and social welfare services, either formulated as a demand for more services or as demands for more welfare-oriented policies ('I think it is about doing something for those who have a bad life, socially . . . they need help, but today money is lacking everywhere', 'It is about everybody having a job and about accepting all children in the day-care centres'). The importance of having easy access to the health care services and to be met with a positive attitude by health care staff was particularly stressed ('Most important thing is to have good access to the doctor and to the district health nurses', 'I think that for the time being it is more important to improve the medical services'). The agents of change are here to be found in the political and administrative sectors of the city and, regarding the local primary health care, within the local primary health care centre.

More local health promotion activities: 11.5% \((n = 30)\) of responses in the category of positive answers were concerned with the lifestyle of the individual. It was identified as a community issue because of the demands on input from the health professions, such as health examinations and health education materials ('The most important things to do are to provide health examinations and to arrange physical activities in the area. Put up notice boards with information about how to eat right. That is what it is all about, diet and physical exercises').

Differences between groups in awareness, knowledge and attitudes

' Awareness' was lower among men (57.6 compared to 71.7% among women) and among immigrants (48.4 compared to 67.9% among Swedes) (Table 1). However, no statistically significant socio-economic differences were found. Adjustments for age, gender and nationality were made in a logistical regression analysis but did not change the univariate estimates.

'Knowledge' was also lower in the groups with lower awareness, among men (32.2 compared to 43.4% among women) and immigrants (19.4 compared to 41.1% among Swedes) (Table 2). The knowledge was, however, also lower in the low SES-group (36.5 compared to 63.5% in the
Table 1: Associations between awareness of the Kirseberg Project in the population \((n = 277)\) and age, gender, nationality and socio-economic status (SES), expressed as percentage (%), crude and adjusted odds ratios (OR) and 95% confidence intervals (95% CI)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
<th>Crude OR</th>
<th>95% CI</th>
<th>Adjusted OR*</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>young</td>
<td>133</td>
<td>67.4</td>
<td>1.0</td>
<td>0.7–1.8</td>
<td>1.1</td>
<td>0.7–1.9</td>
</tr>
<tr>
<td>old</td>
<td>144</td>
<td>64.6</td>
<td>1.1</td>
<td>0.7–1.8</td>
<td>1.1</td>
<td>0.7–1.9</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>159</td>
<td>71.7</td>
<td>1.0</td>
<td>0.7–1.8</td>
<td>1.1</td>
<td>0.7–1.9</td>
</tr>
<tr>
<td>male</td>
<td>118</td>
<td>57.6</td>
<td>1.9</td>
<td>1.1–3.1</td>
<td>1.9</td>
<td>1.1–3.1</td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swedish</td>
<td>246</td>
<td>67.9</td>
<td>1.0</td>
<td>0.7–1.8</td>
<td>1.1</td>
<td>0.7–1.9</td>
</tr>
<tr>
<td>immigrant</td>
<td>31</td>
<td>48.4</td>
<td>2.3</td>
<td>1.1–3.1</td>
<td>2.3</td>
<td>1.1–3.1</td>
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<tr>
<td>SES</td>
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<tr>
<td>high</td>
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<td>1.0</td>
<td>0.7–1.8</td>
<td>1.5</td>
<td>0.7–3.0</td>
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<tr>
<td>low</td>
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<td>1.6</td>
<td>0.8–3.5</td>
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<tr>
<td>unclassified</td>
<td>88</td>
<td>58.0</td>
<td>1.0</td>
<td>0.7–1.8</td>
<td>1.5</td>
<td>0.7–3.0</td>
</tr>
</tbody>
</table>

*Adjustments made for age, gender and nationality in a logistic regression analysis.

Table 2: Associations between knowledge about the Kirseberg Project in the population \((n = 275)\) and age, gender, nationality and socio-economic status (SES), expressed as percentage (%), crude and adjusted odds ratios (OR) and 95% confidence intervals (95% CI)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
<th>Crude OR</th>
<th>95% CI</th>
<th>Adjusted OR*</th>
<th>95% CI</th>
</tr>
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<td>Age</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>young</td>
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<td>0.9–2.5</td>
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<td>1.0–2.6</td>
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<td>old</td>
<td>144</td>
<td>34.0</td>
<td>1.5</td>
<td>0.9–2.5</td>
<td>1.6</td>
<td>1.0–2.6</td>
</tr>
<tr>
<td>Gender</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>157</td>
<td>43.9</td>
<td>1.0</td>
<td>0.9–2.5</td>
<td>1.6</td>
<td>1.0–2.6</td>
</tr>
<tr>
<td>male</td>
<td>118</td>
<td>32.2</td>
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<td>1.0–2.7</td>
<td>1.7</td>
<td>1.0–2.8</td>
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<td>Nationality</td>
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<td>Swedish</td>
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<td>41.4</td>
<td>1.0</td>
<td>0.9–2.5</td>
<td>1.6</td>
<td>1.0–2.6</td>
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<tr>
<td>immigrant</td>
<td>31</td>
<td>19.4</td>
<td>2.9</td>
<td>1.2–7.4</td>
<td>3.4</td>
<td>1.3–8.7</td>
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<tr>
<td>SES</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td>62</td>
<td>64.5</td>
<td>1.0</td>
<td>0.9–2.5</td>
<td>1.6</td>
<td>1.0–2.6</td>
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<tr>
<td>low</td>
<td>120</td>
<td>36.5</td>
<td>2.9</td>
<td>1.5–5.5</td>
<td>3.4</td>
<td>1.7–6.8</td>
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<tr>
<td>unclassified</td>
<td>88</td>
<td>23.9</td>
<td>4.8</td>
<td>2.4–9.7</td>
<td>4.1</td>
<td>2.0–8.6</td>
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</table>

*Adjustments made for age, gender and nationality in a logistic regression analysis.

high SES-group) and in the unclassified SES-group (23.9%). After adjustments for age, gender and nationality, all differences remained statistically significant. Among the knowledgeable, it was more common in the high SES-group to associate the project with promotion of the community spirit and local social or cultural activities [25.0% \((n = 10)\) compared to 8.9% \((n = 4)\) in the low SES-group; \(p < 0.05\)]

Regarding ‘attitudes’, the high SES-group tended to give more positive answers to the question about important local health issues [65.0% \((n = 39)\), compared to 51.3% \((n = 59)\) in the low SES-group; \(p = 0.08\)] (Table 3). The same was found regarding the perceived need for improved social environment [25.0% \((n = 15)\) in the high SES-group compared to 9.6% \((n = 11)\); \(p = 0.006\)]. Similarly, demands for more local health promotion activities were made more frequently in the high SES-group [21.7% \((n = 13)\) compared to 7.8% \((n = 9)\) in the low SES-group; \(p = 0.009\)]. Differences in attitudes between the high SES-group and the unclassified SES-group were similar to those between the high and low SES-groups. The unclassified group tended to give less positive answers about local health issues [50.06% \((n = 430)\); \(p = 0.08\)] and made less demands for local health promotion activities [8.5% \((n = 7)\); \(p = 0.01\)]. There were, however, no statistically significant differences in demand for improved social environments between the unclassified group and the high SES-group.
Table 3: Association between socio-economic status and different local health issues (n = 277); each answer could be coded under more than theme

<table>
<thead>
<tr>
<th>Suggested local health issues</th>
<th>Percentage in the total population</th>
<th>Distribution in different SES-groups</th>
<th>p-value (high/low SES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Group</td>
<td>n</td>
</tr>
<tr>
<td>Improvements of physical environment (n = 61)</td>
<td>23.4</td>
<td>high</td>
<td>14</td>
</tr>
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<td></td>
<td></td>
<td>low</td>
<td>30</td>
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<td></td>
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<td>16</td>
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<tr>
<td>Improvements of social environment (n = 40)</td>
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<td>high</td>
<td>15</td>
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<td></td>
<td></td>
<td>low</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>unclassified</td>
<td>14</td>
</tr>
<tr>
<td>Improvements of health and social services (n = 43)</td>
<td>16.5</td>
<td>high</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>low</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>unclassified</td>
<td>13</td>
</tr>
<tr>
<td>More health promotion activities (n = 30)</td>
<td>11.5</td>
<td>high</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>low</td>
<td>7</td>
</tr>
</tbody>
</table>

Internal missing = 16.

DISCUSSION

In all, 65.2% of the respondents were aware of the project and 38.6% had knowledge about it. Socio-economic differences were found regarding knowledge and in attitudes. The high SES-group was better informed about the project, associated the project with the promotion of the local community spirit more often, tended to give more positive answers to the question about important local health issues, demonstrated higher adherence to the perceived need for improved social environment and were more interested in local health promotion activities.

The overall response rate was 73.3%. It was lower among young people, immigrants and the low SES-group. Since immigrants and people in the low SES-group were less aware and knew less about the project, we cannot exclude the possibility of having somewhat overestimated the awareness and knowledge in the target population.

An important problem of precision and validity is the risk of misclassification. In order to decrease this risk, the statements regarding attitude were coded several times and repeatedly checked against the actual interviews with the intention of increasing the precision and validity of the categories (Taylor and Bogdan, 1984). Awareness and knowledge about the project have in this study been assessed with a self-report method. Studies in social psychology have demonstrated that respondents who have little or no knowledge about the topic asked about are more likely to give affirmative than negative answers (Ray, 1983). Some persons claimed knowledge about the project but identified it with activities to which the project had no connection. While those individuals were classified as not knowledgeable, we lacked the possibility of avoiding such a misclassification regarding the awareness variable. Therefore we cannot exclude the possibility of having somewhat overestimated the awareness variable. There was also a tendency to give more affirmative answers in telephone interviews than in the mailed questionnaires, but the differences were not statistically significant.

In order to adjust for potential confounding factors, we made multivariate analyses where age, gender and nationality were included in a logistic regression analysis. The adjustments left the observed socio-economic differences in awareness unchanged and slightly increased the socio-economic differences regarding knowledge.

An important issue which has been brought up in the discussion about socio-economic differences in health knowledge is the time perspective. It has been argued that such differences should be seen as part of a social process rather than as a shortcoming of the informational campaign. Our findings about socio-economic differences in knowledge are in agreement with a number of studies on public education campaigns in many
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different fields, including health education (Roger and Shoemarker, 1971; Gaziano, 1983; Freimuth and Mettger, 1990; Viswanath, 1990; Viswanath et al., 1991). Such findings have been the rationale for the so called ‘knowledge gap’ hypothesis (Tichenor et al., 1970). This hypothesis states that the acquisition of knowledge about a disseminated message will proceed faster in the high SES-group and will reach the lower SES-group in the community according to the ‘two-step’ or ‘trickle-down’ hypothesis (Viswanath, 1990). In consequence, socio-economic differences in health knowledge occurring in the first stages of a health education project could be expected to diminish over time more or less by themselves.

In contrast to the ‘trickle down’ hypothesis, we suggest that the socio-economic knowledge differences which were found in the Kirseberg Project should be seen as shortcomings in the health educational campaign rather than as a first step in a determined social process. This suggestion is based on our observation that the higher socio-economic group tended to express a more positive attitude towards the project’s basic idea than the lower socio-economic group. Since we presuppose that attitudes influence the process of selecting information, we define the socio-economic differences in knowledge as a logical consequence of the differences in attitude. By referring to a qualitative interview study carried out within the Kirseberg Project (Lindbladh and Hanson, 1994), we furthermore emphasise that attitudes guiding the perception of the messages of the project are firmly rooted in the social-class-bound practice of everyday life. In conclusion, we argue that the issue of how the explicit notions and the hidden agenda of a health promotion campaign correspond with central attitudes and values in different population groups in the target community must be carefully investigated.

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