

The Social capital and Well-being In Neighbourhoods in Ghent (SWING)

Survey: technical report WAVE 1

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1 Introduction

This report describes the methodological background of the 2011 Social Ecology of Well-being In Neighbourhoods in Ghent (SWING) Survey. The SWING Survey 2011 is designed to provide information on the role of social processes, at both the neighbourhood and the individual level, to explain social disparities in health at both levels of analysis. The SWING Survey 2011 is part of a four year research project financed by the Research Foundation - Flanders (FWO) (in Dutch: Fonds Wetenschappelijk Onderzoek - Vlaanderen)¹. Data collection for the SWING Survey 2011 took place from October until November 2011 in Ghent (Belgium). This study is approved by the Ethics Committee of Ghent University Hospital (project number EC/2011/458 and registration number B670201111763).

2 Sample design and selection

2.1 Selection of neighbourhoods

Ghent is a densely populated city in the northern part of Belgium. Ghent is the fifth-largest city of Belgium and the second largest city of Flanders, and covers 158 km² with a population of approximately 247.000 residents. The city is divided into 201 'statistical sectors' (neighbourhoods). A statistical sector, which is comparable to the census tract level in the Anglo-Saxon system, is the smallest administrative level on which objective administrative data (demographic, social and economic indicators) are available.

For the current survey, 50 statistical sectors were selected, based on the following criteria:

- (1) a minimum population size of 200 inhabitants;
- (2) a representative selection of statistical sectors according to the population density in 2010;
- (3) a representative selection of statistical sectors according to the level of deprivation (based on the dynamic analysis of neighbourhoods in difficulties (Vandermotten et al., 2006))²;
- (4) minimizing the inclusion of adjacent neighbourhoods in order to keep the influence of 'spatial proximity' to a minimum. If bordering neighbourhoods were selected, preference was given to neighbourhoods which are separated by clear geographical boundaries such as big roads or bridges.

Table 1 gives an overview of the number of the selected neighbourhoods in regard to the criteria of population density and deprivation:

¹ Title of the research project: "The buffering effect of individual and community level social capital in the relation between socio-economic status and health".

² Deprived versus non-deprived statistical sectors.

<i>Population density (inhabitants/ km²)</i>	<i>N sectors with minimum population size of 200 inhabitants</i>	<i>N deprived sectors with minimum population size of 200 inhabitants</i>	<i>N selected sectors</i>	<i>N selected deprived sectors</i>
≤ 1000	27	0	9	0
1000-1999	21	1	7	1
2000-2999	18	0	6	0
3000-3999	13	4	5	1
4000-4999	13	3	5	1
≥ 5000	50	27	18	10
Total	142	35	50	13

Table 1: Criteria for the selection of neighbourhoods

Figure 1 gives an overview of the selected statistical sectors on a geographical map of Ghent:

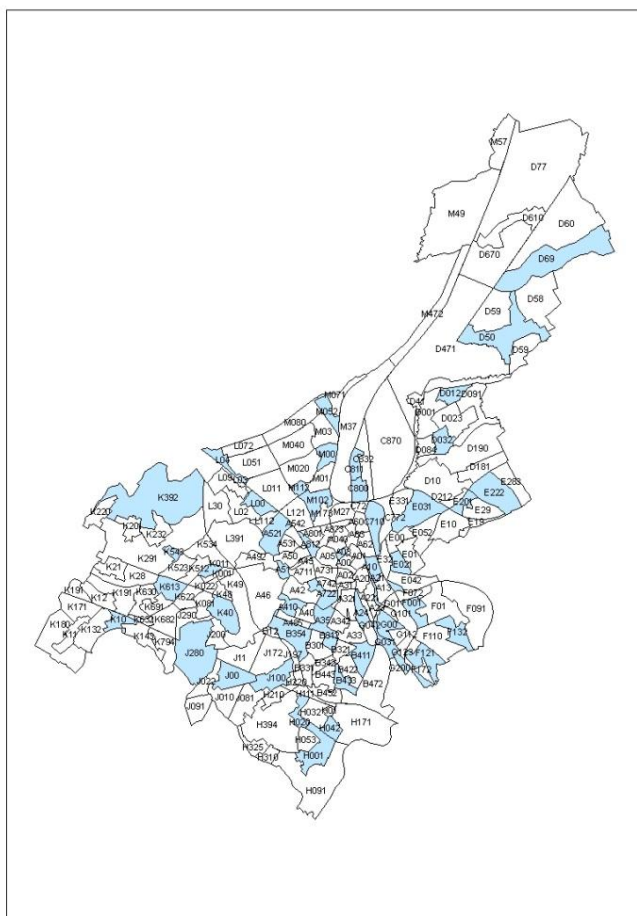


Figure 1: Geographical distribution of the selected neighbourhoods

Table 2 gives an overview of the selected neighbourhoods (statistical sectors), with information about population density, whether the neighbourhood is deprived or not, and the number of reached respondents (both neighbourhood inhabitants and key informants):

Neighbourhood	Population density	Deprived	N inhabitants	N key informants
'T Schaarken	4.106	no	14	16
Aaigem	1.326	no	17	13
Achtendries	916	no	19	11
Afrikalaan	1.503	yes	19	18
Baarle Dorp	1.326	no	16	14
Bijloke	5.060	no	11	9
Brug Zuidoost	804	no	14	15
Brugse Poort	5.773	yes	38	22
Coninxdonk	453	no	20	10
De Roos	1.939	no	20	10
De Smet - De Naeyer	4.374	no	16	14
Desteldonk – Dorp	394	no	20	10
Dierentuin	8.346	no	20	10
Drie Leien	748	no	19	10
Eikendreef	3.402	no	18	13
Eindeke	3.962	yes	18	12
Gentbrugge – Centrum	7.455	no	19	11
Groot Begijnhof	10.059	yes	18	12
Heie	83	no	19	10
Houtjen	1.301	no	20	10
Hutsepot	839	no	20	10
Kouter (Sint - Denijs - Westrem)	126	no	20	10
Ledeberg – Centrum	12.115	yes	15	12
Maalte	1.008	no	20	10
Malem	6.621	yes	26	15
Mariakerke Centrum	5.181	no	18	12
Mendonk	90	no	19	11
Merelbeke Station	4.233	no	15	15
Meulestede	4.847	yes	19	11
Muide	6.317	yes	38	20
Ottergemse Dries	2.630	no	19	10
Oude Bareel – Kern	3.061	no	17	13
Oude Wee	2.165	no	20	10
Patershol	8.994	no	20	10
Patijntje	2.728	no	18	12
Rabot	7.002	yes	35	22
Scheldeoord	8.025	yes	19	11
Sint - Denijs - Westrem – Centrum	2.334	no	20	10
Sint – Macharius	9.532	yes	30	20
Station	8.582	no	18	12
Steenakker	7.810	yes	40	17
Steengoed	3.994	no	19	11

Syngemkouter	3.910	no	16	14
Van Bevereplein	8.894	yes	35	24
Visserij	5.786	no	19	11
Vogelhoek	5.416	no	19	11
Walput	1.278	no	19	11
Wittewalle	2.866	no	20	10
Wondelgem Centrum	4.824	no	18	12
Zwijnaarde – Centrum	2.582	no	19	11

Table 2: Neighbourhood selection, population density, level of deprivation and number of respondents

2.2 Selection of inhabitants

At the individual level, data were collected by means of a representative survey. A standardized questionnaire was used to collect data: we aimed to reach 20 inhabitants per neighbourhood³. In other words, for 50 neighbourhoods we needed a sample of 1.000 inhabitants. A randomized sample was drawn from the municipal registry, representative of the composition of each neighbourhood, stratified by age (18-24, 25-34, 35-44, 45-54, 55-64, 64-74, 75+), sex (male versus female) and origin (Belgian origin versus non-Belgian origin). For each selected inhabitant, three substitutes were selected within the same age category, sex and origin. Respondents who could not be reached or refused to participate were replaced by a randomly selected respondent from the same age, gender and ethnic background. In total, **1.025 neighbourhood inhabitants** were reached; 49.3% of the neighbourhood inhabitants from the original sample were reached, 26.9% were reached from the first substitutes sample, 14.9% were reached from the second substitutes sample, and 8.1% were reached from the third substitutes sample. Only 0.8 % of the respondents could not be reached after contacting the original selected respondent and three substitutes.

The inclusion criteria to participate in the study are (1) being older than 18; (2) having sufficient knowledge of the Dutch language to complete the questionnaire; (3) signing an informed consent form; (4) living in one of the selected neighbourhoods; and (5) not living in a residential setting (e.g. home for the elderly, prison, etc.).

Table 3 presents the distribution of the inhabitants sample for some important background characteristics:

	N sample	% sample	N population⁴	% population
Sex				
Male	494	48.2	121.603	49.2
Female	530	51.8	125.659	50.8
Nationality				
Belgian	915	89.3	217.072	87.8
Non-Belgian	110	10.7	30.175	12.2

³ Eight of the deprived neighborhoods were oversampled due to pragmatic reasons: Brugse Poort, Malem, Muide, Sint-Macharius, Van Bevereplein, Rabot, Steenakker, Afrikalaan.

⁴ Based on the official statistics of the city of Ghent in 2011 (see: <http://gent.buurtmonitor.be/>).

Educational level				
Low	198	19.4	---	---
Middle	378	37.0	---	---
High	445	43.6	---	---
Paid work				
Yes	603	59.4	---	---
No	412	40.6	---	---
Age				
18-24	100	9.8	---	---
25-34	213	20.9	---	---
35-44	185	18.1	---	---
45-54	179	17.5	---	---
55-64	136	13.3	---	---
65-74	102	10.0	---	---
75+	105	10.3	---	---

Table 3: Overview of respondent characteristics

2.3 Selection of key informants

At the neighbourhood level, data are gathered using the key informant technique. Previous research has demonstrated that this method is able to create ecologically reliable and valid measures of neighbourhood social processes (Pauwels, 2006; Pauwels & Hardyns, 2009). Key informants are defined as “persons who are in a ‘privileged’ position to provide detailed information on local area processes” (Pauwels & Hardyns, 2009, p. 404). Thus, a good key informant can be described as a privileged witness.

In this study, key informants are people who work professionally (or voluntarily) in one of the selected neighbourhoods, and therefore can observe and experience what is happening in these neighbourhoods. They often have more knowledge about the social processes under study than the ‘average’ inhabitant, and provide more useful and less biased information (Pauwels & Hardyns, 2009). Examples of good key informants are: family doctors, policemen on the beat, local community workers, postmen, managers of local shops, café/pub owners or staff of other local catering industry, etc.

In contrast to the sample of neighbourhood inhabitants, which are selected by random stratified sampling, the key informants are purposively chosen on the basis of their supposed knowledge about the studied social processes in the neighbourhood. Because we suppose key informants have an above average knowledge of the social processes under study, less key informants are needed to create ecologically sound measures (Pauwels & Hardyns, 2009). A heterogeneous set of key informants was striven for during the selection process, with the ambition to reach 10 key informants per neighbourhood. In total, **638 key informants** were reached.

To be included in the study, key informants had to meet the following inclusion criteria: (1) being older than 18; (2) having sufficient knowledge of the Dutch language to complete the

questionnaire; (3) signing an informed consent form; and (4) being in a work position that presumes an above average knowledge of the social processes in one of the studied neighbourhoods.

Table 4 presents the distribution of the key informants sample for some important background characteristics:

	N	%
Sex		
Male	268	42.0
Female	370	58.0
Age		
18-24	46	7.3
25-34	129	20.3
35-44	150	23.7
45-54	205	32.3
55-64	82	12.9
64-74	19	3.0
75+	3	0.5
Function		
Local shop	240	37.6
Catering industry	107	16.8
Medical sector	89	13.9
Social work	83	13.0
Service sector	58	9.1
Police and security	23	3.6
Financial sector	14	2.2
Commuters	10	1.6
Primary sector	8	1.3
Construction industry	6	0.9
Length of activity in neighbourhood		
< 1 year	69	10.9
> 1 year & < 5 years	150	23.6
> 5 years & < 10 years	118	18.6
> 10 years	298	46.9

Table 4: Overview of key informant characteristics

3 Measurement instrument

3.1 Development of questionnaire

The SWING survey was largely based on existing and validated surveys on social processes, both nationally and internationally, such as the Resource Generator (M. Van Der Gaag & Snijders, 2004), the Social Capital Community Benchmark Survey (Saguaro Seminar)⁵, the

⁵ More information on <http://www.hks.harvard.edu/saguaro/communitysurvey/index.html>

Mos Social Support Survey (Sherbourne & Stewart, 1991), the European Social Survey (ESS)⁶, the Project on Human Development in Chicago Neighborhoods (PHDCN) Community Survey⁷, the Survey on the Social Networks of the Dutch (SSND)(Flap et al., 2003), the Belgian Security Monitor⁸ and the Social Cohesion Indicators in Flanders Survey (SCIF)⁹.

Some of the used questions were not available in Dutch. For those questions, a fixed procedure for translation was followed. The original English items were translated to Dutch by an independent interpreter. The translated items were retranslated to English by a member of the research team. A third independent researcher compared the retranslated English items and the original English items, and finalised the Dutch translation which was as closely related to the original items as possible.

3.2 Cognitive pilot of the questionnaire for inhabitants

Before the questionnaire for neighbourhood inhabitants was completed, cognitive interviews were used as a method of question testing to explore the cognitive processes involved when people interpret and respond to the survey questions.¹⁰ This method, developed in the 1980's by survey methodologists and psychologists, is intended to evaluate sources of response error (Beatty & Willis, 2007). It aims to clarify how the questions are understood, how judgments about responses are made and to identify and explore any problems caused by the questions in the survey (Nuyts et al., 1997). The technique is recommended as a means to improve the validity of obtained results (Beatty & Willis, 2007; Collins, 2003; Jobe & Mingay, 1991). In total, 11 cognitive interviews were executed to refine and finalize the questionnaire (see Table 5).

	Sex	Age group	Educational level	Special characteristics
1	♂	18-21	Low	Student
2	♂	22-65	Low	/
3	♂	22-65	Middle	Hearing impairment
4	♂	22-65	Middle	Special education
5	♂	22-65	High	Immigrant/not-native speaker
6	♂	+ 65	Low	/
7	♀	18-21	Low	Student
8	♀	22-65	Low	/

⁶ More information on the European Social Survey (data access, instruments, methods, publications, etc.) can be found on <http://www.europeansocialsurvey.org/>

⁷ More information (data access, instruments, methods, publications, etc.) about this project can be found on the PHDCN website: <http://www.icpsr.umich.edu/icpsrweb/PHDCN/>.

⁸ Source: Board of the Operational Police Information, Police Policy Support, Department of Policy Data.

⁹ More information about the SCIF project can be found on the website: <http://www.socialcohesion.eu/>.

¹⁰ The questionnaire for key informants was largely based on previous studies of Hardyns and Pauwels in Antwerp neighbourhood clusters (2006), Ghent postcode areas (2007) and postal code areas along the Belgian coast (2008). Given the well-documented reliability and validity of the measurement instrument, a cognitive pilot was not necessary (Pauwels & Hardyns, 2009; Pauwels, Hardyns & Van de Velde, 2010).

9	♀	22-65	Low	/
10	♀	+65	Low	/
11	♀	+65	Low	/

Table 5: Cognitive interviews characteristics

Cognitive interviews are used to assess the comprehensibility and acceptability of the questions and the meaning respondents give to the used key concepts. Eleven individual cognitive interviews were conducted. A heterogeneous sample was striven for, in order to include people from different social groups for which higher rates of response error might be expected. The participants were purposely sampled, amongst others based on age, mother tongue and educational level. Based on the findings of these pretesting interviews, minor changes were made to the questionnaire before further use in the study, mainly on specific terms and expressions used in the questionnaire, as well as lay-out.

4 Procedure and fieldwork

160 Bachelor students of Criminology from Ghent University collected the data for this study as an assignment for a methodological course. The students were divided in groups of 3. Each group was responsible to collect data in one specific neighbourhood, and was asked to reach 20 inhabitants and 10 key informants.

An information letter containing background information and the rationale for the study was sent to all selected respondents by mail. This letter also announced that an interviewer wearing an identification badge would visit them at home. In the following weeks, respondents were visited at home by an interviewer and invited to participate. Respondents who were willing to participate and signed an informed consent form were asked to complete the survey. The questionnaire was partly administered face-to-face. Questions that were too sensitive and would likely lead to higher non-responses during a face-to-face administration (e.g. questions on income and financial difficulties, alcohol-and drug-use) were gathered in a short self-administered questionnaire, that was handed over to the respondents after completion of the face-to-face administration. Respondents who could not be reached or refused to participate were replaced by a randomly selected respondent from the same age, gender and ethnic background. For each respondent, three substitutes were randomly selected, with the intention to reach 20 participants per neighbourhood.

5 Questionnaire structure and content

Data are collected by means of two standardized questionnaires – one for the inhabitants of the selected neighbourhoods and one for the key informants working in these neighbourhoods.

Above this, an observation checklist was completed by the interviewers to evaluate the neighbourhoods and living conditions of the inhabitants and the proceeding of the questionnaire after each interview. The observation checklist is based on the questionnaire that was used in the research project ‘Vitamine G’, where attention was paid to the local green

facilities in urban neighbourhoods and the relation with health, well-being and social safety (van Dillen, de Vries, Groenewegen & Spreeuwenberg, 2011). After each interview, the interviewers were asked to fulfil the checklist, in the absence of the respondent, by positioning his back to the front door of the neighbourhood inhabitant. Each interviewer used the same manual to complete the observation checklist.

In this paragraph we discuss the content of each questionnaire.

All scale constructs are summative scales of several items; most of them can be regarded as Likert-type scales. Theoretical considerations as well as factor analyses (forced one-factor solutions in an exploratory principal axis factoring analysis) and reliability analyses were used to construct the final indices. In our striving for the highest reliability, we used the ‘cronbach’s alpha if item deleted’ function (except when the scale only consists of three items). Detailed information about the factor loadings and alpha values is available on request. A statistical technique, called imputation, was used to allocate acceptable values to missing data. The statistical method of EM-imputation was employed to optimize replacements¹¹. The imputation technique was applied when at least half of the questions within a scale construct were answered. Factor and reliability analyses are based on the imputed variables (results using non-imputed scores are virtually identical).

5.1 Neighbourhood inhabitant measurements

5.1.1 Social capital, social networks and social exclusion

Respondents were asked how often they met socially with friends, relatives or work colleagues to measure *frequency of social contacts*, using the same wording as in the European Social Survey Round 5. To answer, respondents could make use of a 7 - point Likert scale, ranging from ‘never’ to ‘daily’.

The number of confidants is measured by asking with how many of their personal friends, acquaintances or family members respondents can discuss important personal problems. This question is also used in the questionnaire ‘Social-cultural shifts in Flanders’ (‘Sociaal-culturele verschuivingen in Vlaanderen’) , a yearly survey on demand of the Flemish government.

Respondents could indicate how often they felt lonely, using a 5 - point Likert scale ranging from ‘never’ to ‘very often’. This measure of *feelings of loneliness* was used in earlier Flemish research (KANS-study).

¹¹ In general, imputation should be considered when item non-response on a scale construct is not completely at random and when item non-response on a variable is higher than 5 % of the survey respondents (Little and Rubin, 2003). When item non-response is lower, it is generally considered appropriate to continue bivariate and multivariate analyses with standard pair wise or list wise deletion methods. But also when item non-response is lower than 5% on all variables, which was the case in the present study, the percentage is higher in multivariate analyses, precisely because of the list wise deletion of variables procedure. Although the item non-response was extremely low due to the personal interviewing in small groups, we nevertheless decided to use imputation techniques to minimize loss of information in constructing the multiple-item scales and multivariate analyses.

Different questions were dedicated to membership and participation in organisations. Respondents were asked to indicate *the number of organisations* of which they are an active member. Furthermore, they were asked how frequently they participate in activities organized by an organisation of which they aren't a member, using a 7 - point Likert scale that ranges from 'daily' to 'yearly' (*frequency of participation*).

Volunteering: Respondents were asked how often they had volunteered in the past 12 months, using a 7 - point Likert scale ranging from 'never' to 'daily'.

To assess the general *volume/size of the social network*, respondents were asked to estimate the number of people they had contact with on an average day. Based on information of several large scale representative surveys, Fu (2005) concludes that this single-item measure is not only simple and straightforward, but also that the measure is highly correlated to more complex network measures.

A Resource Generator is used to map the social resources in respondents' network. The resource generator (Snijders, 1999; M. Van Der Gaag & Snijders, 2004; M. P. J. Van der Gaag & Snijders, 2005) lists a number of concrete resources across different life domains that are thought to contribute to goal attainment (Song, 2009). For each of these resources, respondents are asked to indicate whether a friend, family member or acquaintance could give them access to the specific resource. The Resource Generator is considered to be an easily interpretable and valid measure of social capital (M. Van der Gaag, 2005). Van der Gaag recommends to use a domain-specific resource generator in studies on the relationship between social capital and health and wellbeing (M. Van der Gaag et al., 2008). However, a Resource Generator developed for health research in the Belgian context was to our knowledge not available. Therefore, a new instrument was developed. The model proposed by Berkman and colleagues (2000), a conceptual model that describes how social networks are thought to influence health, was used as a starting point for development of the instrument. Berkman et al. distinguish four primary pathways linking social networks to health: (1) through the provision of social support (2), through social influence (3) by social engagement and attachment and (4) through access to resources and material goods. Items to measure these pathways were sought in literature and earlier versions of the Resource Generator such as the Resource Generator used in the Survey of the Social Networks of the Dutch (Flap et al., 2003), the Resource Generator developed by Lannoo & Devos and the MOS Social Support Survey (Sherbourne & Stewart, 1991). A draft version was presented to a panel of national and international experts, their feedback was used to finalise the instrument.

Based on a principal axis factor analysis, the information gathered by the Resource Generator makes up three subscales:

Social support and social influence measures the respondent's perception of received social support and ruling social norms in their network. The scale consists of 11 items, that ask how many of the respondents' friends, family members or acquaintances '(1) understand your problems?' '(2) would take you to the doctor/hospital when you are too sick to go there

yourself?’ ‘(3) would let you move into their house for a week if you temporarily could not stay at your house?’ ‘(4) would help you with a little job you couldn't do without help, e.g. moving heavy furniture in the house?’ ‘(5) would help with daily chores if you were sick’ ‘(6) would be able to give advice on the invoice if you would wonder why you had to pay so much at the doctor/dentist’ ‘(7) would be able to give you legal advice (e.g. when you have conflicts with your landlord, your boss, local authorities, etc.)’ ‘(8) would be able to give advice in case of a conflict within your family’ ‘(9) would encourage you to exercise (e.g. walking, dancing, riding your bike, doing sports)’ ‘(10) would encourage you to eat healthy’ ‘(11) would encourage you to go to the doctor if you experience health problems?’. Alpha is 0.93.

Social engagement and attachment assess the fulfillment and closeness associated with one's ties. The scale is made up by four items: people are asked how many of their friends, family members and/or acquaintances they ‘(1) feel very close to’ ‘(2) make you feel good (e.g. make you feel you are useful or make you feel they are glad to know you)’ ‘(3) make you feel at home’ ‘(4) make you feel loved’. The scale has a good internal consistency (alpha = 0.91).

The scale *access to resources* gathers information on health-specific resources in one's network. The scale consists of three items: respondents are asked how many of their friends, family members or acquaintances ‘(1) are a medical doctor?’, ‘(2) work in the health care sector, but are not medical doctors (e.g. nurse, physiotherapist,...)’ and ‘(3) work in the welfare sector (e.g. social worker)’. The scale has a fair internal consistency with an alpha-value of 0.74.

A Position Generator is used to measure respondents' access to social resources (Lin & Dumin, 1986). The instrument lists a number of occupations and asks whether the respondent knows someone having these specific professions. The occupations are purposely chosen to represent diverse economic disciplines and cover the whole socio-economic spectrum (M. Van der Gaag, 2005). The theoretical framework underlying this instrument is the social resource perspective on network social capital by Lin (Lin, 2000), Van der Gaag (M. Van der Gaag, 2005) and colleagues. One of the assumptions of this theoretical framework is that the occupational position of network members is associated with the social resources they possess; Lin et al state that people higher on the socio-economic ladder (as measured by their occupational position) have more and better social resources. Therefore, having access to occupational positions higher on the socio-economic ladder is believed to help individuals to reach their individual goals (Lin & Dumin, 1986).

The position generator in the current study is based on the 20 item Position Generator used in the Social Cohesion Indicators in Flanders (SCIF) study (Hooghe, Vanhoutte & Bircan, 2009), with some minor adjustments based on the performed cognitive interviews. Earlier research has suggested that the Position Generator is a valid and reliable instrument to measure social capital (M. Van der Gaag et al., 2008). The Position Generator contains information on both the volume and the composition of network resources. Different indicators of social capital can be calculated based on the information provided by the position generator:

First, the volume of network resources is measured by calculating the *total number of accessed positions* (M. Van der Gaag, 2005; M. P. J. Van der Gaag & Snijders, 2005). This measure, calculated by summing up the available occupational positions in the respondent's personal network (for each occupational position, a dummy variable was made that reflected whether or not the respondent knows someone with this occupation) refers to people's network size and shows to have a good reliability across two parallel occupational lists (P. P. Verhaeghe et al., 2013).

Besides the volume of one's network resources, the Position Generator can be used to analyse the composition of one's network with respect to the available resources (Lin & Erickson, 2008; M. Van der Gaag, 2005). The International Socio-Economic Index of occupational status (ISEI) (Ganzenboom et al., 1992) is used to determine the occupational prestige linked to each occupational group. The ISEI refers to the general income and educational level of people in a certain occupational position: each occupational group is given an ISEI score based on the result of a weighted sum of the average education and the average income of occupations of a sample of over 70 000 males aged between 21-64 in 16 countries (Ganzenboom et al., 1992; P. P. Verhaeghe et al., 2013). This measure of occupational status was chosen over available measures on occupational prestige (such as the Standard Occupational Prestige Scale by Treiman) as we believe that the ISEI more closely captures resources that might be helpful for individuals to maintain or reach good health: education and income. The ISEI-score is determined for each of the twenty occupations of the position generator. For the categories 'someone who is on welfare' and 'someone who is unemployed' the occupational prestige scores determined by the researchers of the SCIF-survey were copied (0 and 5 respectively). Three measures regarding the composition of one's network are calculated:

The *highest occupational position* reflects the upwards reach of the respondent's network, and corresponds to the highest ISEI score that is present in the respondent's network.

The *mean occupational position* represents the general level of resources that are available for the respondent through his/her social contacts. This measure is calculated by taking the mathematical mean of the ISEI-scores of all the 20 positions to which the respondent has access via his social network. The highest occupational position and the mean occupational position are thought to be important indicators of social capital, as the social resource theory assumes that the social resources in one's network are positively correlated to one's goal achievement (Lin, 2000; Lin & Erickson, 2008).

The *range in occupational status* reflects the difference between the occupation with the highest occupational status and the one with the lowest occupational prestige within the respondent's network. This measure assesses the diversity of one's social resources, it reflects whether "the contact network tended to cluster in a specific space or disperse throughout the entire occupational structure." (Lin & Dumin, 1986).

The ISEI classification can also be used to distinguish between alters from different socio-economic classes. The number of studies that have used the position generator to calculate measures that distinguish between different social classes is limited. However, measures that distinguish contact with people from different socio-economic classes are thought to

contribute to the study of social inequality, as they unravel the on the unequal relations of people with different economic resources.(P. P. Verhaeghe et al., 2013). Also, previous research has stressed that a class based measure of network resource best captures the relationship between social capital and self-rated health (P. P. Verhaeghe et al., 2012).

This enables two class-based measures of social capital: *the number of accessed positions in high social class* and *the number of accessed positions in low social class*. A categorisation that distinguishes between two broad social classes is found to have a good reliability across two versions of the Position Generator in a parallel-test experiment (P. P. Verhaeghe et al., 2013). These class-based measures also enable to look into which kind of network resources are specifically beneficial or detrimental for health (P. P. Verhaeghe et al., 2012).

Table 6 gives an overview of the items of the Position Generator in the SWING Survey, the corresponding ISEI-score (measure for occupational status) and corresponding socio-economic status:

	ISEI-score	Socio-economic class
Engineer	76	High
Hairdresser	32	Low
Informatician	64	High
Construction worker	31	Low
Nurse	42	High
Lawyer	85	High
Foreman	44	Low
Secretary	58	Middle
Someone who is unemployed	5	/
Manager	67	High
Lorry driver	37	Low
Assembly line worker	24	Low
Scientist	72	High
Mailman	37	Low
Farmer	46	Middle
Teacher (in kindergarden of primary school)	69	High
Artist/musician	59	High
Accountant	54	Middle
Someone living on welfare	0	Low
Someone who works at the city/town hall (.e.g.	60	High

Table 6: Overview of the items of the Position Generator in the SWING-study, the corresponding ISEI-score (measure for occupational status) and corresponding socio-economic status.

Generalized trust is a routinely used indicator to measure social capital (Reeskens & Hooghe, 2008). Reeskens & Hooghe claim that the use of generalized trust to measure social capital is not free from theoretical critique, but' can be seen as a basic attitude allowing us to develop a better understanding of the prevalence of social capital' (Reeskens & Hooghe, 2008). Three items to measure social capital are used, corresponding to the European Social Survey and the

Social Cohesion in Flanders Study: People were asked to what extent they agreed to the following statements '(1) Most people can be trusted' '(2) Most people would try to take advantage of you' and '(3) Most people try to be helpful'. Respondents could make use of a 5 - point Likert scale ranging from 'absolutely agree' to 'absolutely disagree' to answer these questions. The scale has a fair reliability ($\alpha = 0.64$).

Respondents are asked to rate their feelings of *neighborhood attachment* (using the same question as the WoOn Onderzoek in the Netherlands) based on a 5 - point Likert scale, ranging from 'totally disagree' to 'totally agree'.

One of the pathways through which social status is believed to influence health is the psychosocial effect linked to belonging to a certain socio-demographic group (Dahlgren & Whitehead, 2006). Richard Wilkinson illustrates this effect as follows: "Social status differentials have a huge impact on whether people feel valued, appreciated, and needed or, on the other hand, looked down on, ignored, treated as insignificant, and humiliated." (Wilkinson, 2005) (pg 26). Living in a lower socio-economic position can lead to feelings of social exclusion. This source of psychosocial stress is associated to ill health and unwellbeing (Mackenbach, 2006). A scale measuring *perceived social exclusion* was developed, based on the 'social rejection' subscale of the Social Impact Scale by Fife & Wright. This scale was originally used to measure perceived social rejection for people living with HIV or AIDS (2000) and was adapted to measure stigma experienced by people with a mental illness by Verhaeghe (2008). The research team adapted this scale to be able to seize general perceived social exclusion, by generalizing the items to make them applicable for the general population. Respondents were asked whether they agree with five statements: (1) 'Some people make me feel like I am less than someone else', (2) 'Some people treat me with little respect', (3) 'Some people are not completely at ease around me', (4) 'Some people avoid me' and (5) 'Some people make me feel like I should be ashamed of myself'. Respondents could make use of a 5 - point Likert scale ranging from 'absolutely disagree' to 'absolutely agree'. This scale has a good reliability ($\alpha = 0.83$).

5.1.2 Avoidance behaviour

Avoidance behaviour is better known as the behavioural component of fear of crime and can be interpreted as a defensive reaction to an emotional state of mind when experiencing fear (Ferraro & LaGrange, 1987; Gabriel & Greve, 2003). This dimension of fear captures actual changes in human behaviour and illustrates the overt effect of fear of crime in citizens' everyday lives (Franklin, Franklin & Fearn, 2008). Following Hardyns (2010), avoidance behaviour is measured by an additive frequency index (on a five-point scale) consisting of three possible situations of avoidance behaviour: (1) 'avoiding certain areas in the neighbourhood because they are not safe', (2) 'avoiding opening the door to strangers because it is not safe', and (3) 'avoiding leaving home after dark because it is not safe'. The scale has an alpha of .77.

5.1.3 Health and well-being

Respondents were asked to rate their general health status, using a 5 - point Likert scale ranging from ‘very good’ to ‘very bad’ to assess *self-rated health*. A higher score refers to a better health status. The used wording is parallel to the one used in the Belgian Health Interview Survey.

Smoking behaviour is assessed by means of two individual items from the Belgian Health Interview Survey. First, respondents are asked whether or not they had ever smoked (almost) daily during a longer period (minimum 1 year in a row), with a code 0 given to people who never smoked daily for a long period, while code 1 was given to people who ever smoked daily for at least one year in a row (*lifetime daily smoking*). Second, respondents were asked about their *current smoking* behaviour, with the following answering categories: ‘I smoke every day (=code 2)’ ‘I smoke sometimes (=code 1)’ ‘I don’t smoke (=code 0)’.

As recommended by the US National Institute of Alcohol Abuse and Alcoholism (www.niaaa.nih.gov), three main questions were used to assess respondents’ alcohol consumption: a measure on the frequency of alcohol use, one on the quantity of alcohol and one on heavy drinking. To measure the *frequency of alcohol use*, respondents were presented with a 6 - point Likert scale ranging from ‘never’ to ‘daily’ to report how often they have drunk alcohol in the previous 12 months. Next, people were asked how much ‘standard drinks’ they generally consumed on a general drinking day. This was asked for weekend days and weekdays separately, as was suggested by the respondents in the cognitive interviews. To clarify what was meant by a ‘standard drink’, a figure representing one ‘standard glass’ of wine, beer, spiritus and a digestive was added to the question. The figure was constructed by the VAD, the Flemish association for alcohol and other drug-related problems and depicts standard drinks containing about 10 g of pure alcohol, which is the general level of alcohol in a standard alcoholic drink in Europe (ww.vad.be). The scientifically based criteria to evaluate the risk of acute problems due to alcohol consumption are used as a measure of *risk level of consumed alcohol*. This measure was calculated for both week days and weekend days separately based on the reported amount of alcoholic standard drinks consumed on a general drinking day. Table 7 displays the followed cut-off values, which are based on scientific evidence and differ for men and women.

Level of risk	Males	Females
Low risk	≤ 4 standard drinks	≤ 2 standard drinks
Medium risk	5 – 6 standard drinks	3 – 4 standard drinks
High risk	7 - 10 standard drinks	5 - 6 standard drinks
Very high risk	> 10 standard drinks	> 6 standard drinks

Table 7: Risk level of consumed alcohol amount, based on criteria by the WHO.

‘*Heavy episodic drinking*’ or ‘binge drinking’ is associated with both acute and long-term social and health problems; such as problems at the level of work or private life, problems of dependency, being involved in violence or crime, injuries, morbidity and mortality (Anderson,

2008; Gmel et al., 2011). For most harmful consequences of heavy episodic drinking (HED), there is a positive association between the frequency of HED and the severity of social and health problems (Anderson, 2008). Heavy episodic drinking was defined as drinking 6 or more standard alcoholic drinks within 2 hours for men, and drinking 4 or more standard alcoholic drinks within 2 hours for women. These cut off values were based on national (VAD, 2009) and international guidelines (WHO, 2000). Respondents could indicate how often they engaged in heavy episodic drinking by means of a 6 - point Likert scale ranging from 'never' to 'daily'.

In accordance to the Belgian Health Interview Survey 2008, respondents were asked to report whether or not they used (1) sedatives, (2) anti-depressants or (3) hypnotic medicines in the past two weeks. These items make up a scale that reflects the *use of psychofarmaca*, with scores ranging from 0 ('no psychofarmaca used in past two weeks') to 3 ('three categories of psychofarmaca used in past two weeks'). This scale has a good reliability ($\alpha=0.94$).

Respondents were asked whether or not they made *use of painkillers* during the past two weeks, with a score of 0 given to the respondents who didn't use any painkillers during this time period.

The MOS 36-Item Short-Form Health Survey (SF-36) is a multidimensional health survey, which incorporates different dimensions of health related quality of life that are believed to be relevant for the general population (Hays et al., 1995). One of the core measures of the survey is *mental health* (van der Zee & Sanderma, 2011). The 5-item index on symptoms of depression and nervousness from the SF-36 is used to measure mental health, with a higher score referring to a better mental health. The respondents are asked to rate how they felt during the past four weeks, using a 6 - point Likert scale to answer the following items: (1) 'Have you been a very nervous person', (2) 'Have you felt so down in the dumps that nothing could cheer you up?', (3) 'Have you felt calm and peaceful?', (4) 'Have you felt downhearted and blue?', (5) 'Have you been a happy person?'. Previous international research supports the construct validity of the SF-36 (Hays et al., 1995; Van der Zee & Sanderma, 2011). The mental health scale has a good reliability ($\alpha =0.79$), which is also supported by previous research (Hays et al., 1995).

Stress can be defined as the 'relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being' (Lazarus & Folkman, 1984) pg 21. The perception of stress is harmful for one's quality of life, mental and physical health (Cohen et al., 2007; Lazarus & Folkman, 1984; Thoits, 2010). *Perceived stress* was measured by two items from the Perceived Stress Scale (PSS) developed by Sheldon Cohen: (1) 'In the last month, how often have you felt that you were unable to control the important things in your life?' and (2) 'In the last month, how often have you felt that difficulties were piling up so high that you could not overcome them?'. The Perceived Stress Scale is developed to assess nonspecific appraised stress in the general population, and is said to have an adequate validity and reliability. Furthermore, earlier research that compared the PSS to a scale on depressive symptoms, showed that perceived

stress as measured by the PSS can clearly be distinguished from depressive symptoms. (Cohen et al., 1983). Respondents could indicate the levels of stress they perceived in the past 4 weeks using a 5 - point Likert scale ranging from 'never' to 'very often'. A response category 'I did not perceive any difficulties of personal problem' was added, after a suggestions of several respondents during the cognitive interviewing. Respondents that ticked this answering category were coded as missing for these variables. In our sample, the internal consistency of the scale is fair ($\alpha = 0.66$).

Resilience can be defined as the process through which individuals manage and adapt to sources of stress or trauma, or the ability to 'bounce back' after stressful and emotionally difficult events (Smith et al., 2008; Windle, 2010). Research has associated higher levels of resilience to better mental and physical health (Davydov et al., 2010; Eriksson & Lindström, 2006; Steptoe et al., 2009). Comparative research on different instruments to measure resilience identified the Brief Resilience Scale by Smith and colleagues (Smith et al., 2008) as a concise, reliable and valid scale to assess resilience. Two items from the Brief Resilience Scale are included in the current study: (1) 'It does not take me long to recover from a stressful event' and (2) 'I usually come through difficult times with little trouble'. These two items form a resilience scale with a good internal consistency ($\alpha = 0.75$). Respondents are asked to evaluate their ability to bounce back or recover from stress using a 5 - point Likert scale ranging from 'absolutely disagree' to 'absolutely agree'.

The degree to which someone experiences that the changes in life are under his own control is defined as mastery (Pearlin & Schooler, 1978). People who expect that their health is mainly determined by factors under their own control, are referred to as having an internal locus of control. People with an external locus of control believe that their health is mainly influence by determinants over which they do not have control: chance, fate or powerful others (such as doctors) (Wallston et al., 1978). To measure mastery, four items from a Dutch version of the Multidimensional Health Locus of Control scale (Wallston et al., 1978) by Halfens. & Philipsen (1988) are used. Based on a principal axis factor analysis, the *internal locus of control* subscale consists of the following two items: (1) 'The main thing which affects my health is what I myself do' and (2) 'If I get sick, it is my own behavior which determines how soon I get well again'. This scale has a poor internal consistency ($\alpha = 0.51$). *External locus of control* is measured by the following two items: (1) 'Regarding my health, I can only do what my doctor tells me to do' and (2) 'having regular contact with my physician is the best way for me to avoid illness'. This scale has a poor internal consistency ($\alpha = 0.56$). A 5 - point Likert scale ranging from 'absolutely disagree' to 'absolutely agree' was used to answer these questions.

5.1.4 Health care use

Respondents were asked whether or not they had a *regular GP*, with a code of 0 referring to not having a regular GP, whereas a code of 1 refers to having a regular GP.

A 'Global Medical File' (in Dutch 'Globaal Medisch Dossier') enables the regular GP to centralize all medical information of his/her patient. The costs associated with opening and maintaining this file are fully covered by the medical insurance. Patients who open a 'Global Medical File' with their general practitioner receive a discount of 30 % in the costs of consultations with their GP (<https://www.socialsecurity.be/>). Respondents are asked whether or not they have a *Global Medical File with their GP* (code 0 = 'no', code 1 = 'yes'). People could also answer that they did not know what the 'Global Medical File' is (code 3).

Respondents are asked whether or not it had occurred that they (or someone else within the household) had needed care, but could not pay for it. A scale referring to *postponed care due to financial reasons*, which includes (1) an item on medical care or an operation, (2) and item on prescribed medication as well as (3) an item on glasses or contact lenses was calculated. This scale has a good reliability ($\alpha = 0.76$)

5.1.5 Personality

There is a high variability in the extent, closeness and quality of people's social network. Recently, researchers have addressed the possible role of personality in the formation of social networks, as it seems likely that certain personality characteristics influence social behavior; extraversion for instance is believed to have a positive influence on networking (Vodosek, 2003; Wehrli, 2008). The 11-item version of the Big Five Inventory by Rammstedt & John (2007) is used to measure personality traits. Respondents were asked to indicate to what extent they agreed with 11 statements using a 5 - point Likert scale. A principal axis factor analysis confirmed that the 11 items formed five distinct scales:

Extraversion consists of two items: (1) 'I see myself as someone who is reserved' and (2) 'I see myself as someone who is outgoing'. This scale has a fair reliability ($\alpha = 0.67$).

Agreeableness is assessed by the following two items: (1) 'I see myself as someone who is generally trusting', and (2) 'I see myself as someone who is considerate and kind to almost everyone'. This scale has a poor reliability ($\alpha = 0.32$).

Two items make up the scale *conscientiousness*: (1) 'I see myself as someone who tends to be lazy' and (2) 'I see myself as someone who does a thorough job'. The reliability of this scale is poor ($\alpha = 0.35$).

The scale *neuroticism* consists of the items (1) 'I see myself as someone who is relaxed, handles stress well' and (2) 'I see myself as someone who gets nervous easily'. The internal consistency of this scale is fair ($\alpha=0.65$).

Openness is measured by means of the following two items: (1) 'I see myself as someone who has few artistic interest' and (2) 'I see myself as someone who has an active imagination'. The reliability of this scale is poor ($\alpha = 0.46$).

Social desirability can be described as the tendency of a respondent to be less willing to admit attitudes and behaviour of a rather threatening character, i.e. attitudes and behaviours that are less socially acceptable (Pauwels and Pleysier, 2005). This validity problem can be actively studied with the help of social desirability scales, i.e. scales that are especially designed to measure this tendency. Very often this tendency is measured by asking respondents about

behaviours that almost all of us have at some time committed. To measure social desirability we have adopted a *lie scale* which is part of a well-known psychoticism scale in psychological sciences: the Abbreviated form of the Revised Eysenck Personality Questionnaire (EPQR-A). This scale consists of four scales of six items each (Eysenck, Eysenck and Barrett, 1985; Francis, Brown and Philipchalk, 1992). The lie scale is one of these four scales. The items in this scale refer to dichotomous (0=yes, 1=no) questions on which disagreement is socially desirable but highly unlikely to be true. The lie scale consists of an additive index of the following five items: (1) 'Have you ever taken advantage of someone?', (2) 'Have you ever blamed someone for doing something you knew was really your fault?', (3) 'Have you ever taken anything (even a pin or button) that belonged to someone else?', (4) 'Have you ever cheated at a game?', and (5) 'Were you ever greedy in terms of helping yourself to more than your share of anything?'. The more people respond with 'no' to these questions, the higher their score on the social desirability scale. Cronbach's alpha is 0,66, which is not very high but in line with the relatively low values in previous reliability tests based on this scale (Eysenck, Eysenck and Barrett, 1985; Francis, Brown and Philipchalk, 1992). Given that we are dealing with dichotomous items this was the best reliability parameter we could find. Future studies, however, might want to look for better or alternative scales of social desirability behaviour.

5.1.6 Sociodemographic variables

Gender is coded as zero for men and one for women. Respondents' *age* in years is calculated based on their birth year.

Immigrant background is coded zero when the respondent and both their parents had the Belgian nationality at birth, and one if either the respondent or at least one of his/her parents did not have the Belgian nationality at birth.

Respondents are asked whether or not they have a *partner*, with code 0 given to people that don't have a partner, and code 1 given to people that currently have a partner.

Educational background is based on the respondents' highest obtained degree. Low educational level refers to people whose highest obtained degree is the lower level of secondary education (similar to junior high school in USA). Middle educational level refers to people whose highest obtained degree is the highest level of secondary education (similar to high school in USA). People who have completed higher education/post-secondary education are referred to as having a high educational level.

It is likely that one's work situation has an important aspect on one's social network; as being involved in work or study implies that one has contact with other people during the day (colleagues, costumers, patients, ...). Therefore, two dummy's were made. One refers to *being a student or having paid work*, while the other refers to *being unemployed/on welfare*.

To measure *home ownership*, respondents are asked to indicate whether their home is 'rented, from a social housing company' (code 1), 'rented from a private landlord' (code 2) or 'owned by themselves/their family' (code 3).

With respect to family composition, two variables are available. Respondents are asked to indicate the *number of people in their household* (excluding themselves) as well as *the*

number of household members younger than 18 to capture the number of children within the household.

Length of residence was expressed in years living in the current home.

Respondents were asked to estimate their total net income (including wages, salaries, benefits, child support etc.) using 13 intervals of 500 euro, ranging from 0-499 € to 10.000 € or more. The *income per capita*, a measure for income that is weighted based on the household size, was calculated to be able to compare the income between the respondents. The OECD modified equivalent scale was used to calculate this measure, which weighs the income with a factor of 1 for the first member of the household, 0.5 for each extra household member that is 14 year of age or older, and 0.3 for extra members in the household younger than 14 (Atkinson et al., 2001). This method is in accordance with the followed procedure in the SCIF-survey.

To measure *perceived financial difficulties*, people are asked to report to what extent their household can make ends meet with the available monthly income, using a 5-point Likert Scale ranging from ‘very difficult’ to ‘very easy’.

To measure the perception of respondents on their social position, respondents were asked to place themselves on a depicted social ladder, considering that people higher on the social ladder enjoy higher levels of prestige. They could choose between 7 positions, ranging from ‘totally at the bottom’ to ‘totally at the top’. This measure was used to assess respondent’s *perceived social position*.

5.2 Key informant measurements

5.2.1 Social processes

The influential contribution of Sampson, Raudenbush and Earls (1997) brought the collective efficacy concept to the attention of social scientists all over the world. They define collective efficacy as “social cohesion among neighbors combined with their willingness to intervene on behalf of the common good” (Sampson et al., 1997, p. 918). Based on this definition, we can infer that collective efficacy is an area characteristic which consists of two components, i.e. social trust and informal social control:

Social trust involves patterns of social interaction and values (e.g., network formation and ties, familiarity, and mutual trust) (Carpiano, 2007; Sampson et al., 1997). Social trust is measured by five conceptually related items. Key informants were asked how strongly they agreed (on a five-point scale) that (1) ‘people around here are willing to help their neighbours’, (2) ‘this is a close-knit neighbourhood’, (3) ‘people in this neighbourhood can be trusted’, (4) ‘people in this neighbourhood generally don’t get along with each other’ (reverse coded), and (5) ‘contacts between inhabitants in this neighbourhood are generally positive’. The scale has an alpha of 0.82.

Informal social control concerns residents' ability to collectively maintain social order and keep the neighborhood safe from criminal and delinquent activity (Carpiano, 2007; Sampson, 2012; Sampson et al., 1997). Informal social control was represented by a six-item Likert-type scale. Key informants were asked (on a five-point scale) about the likelihood that their neighbours could be counted on to intervene in various ways if (1) 'children were skipping school and hanging out on a street corner', (2) 'children were spray-painting graffiti on a local building', (3) 'children were showing disrespect to an adult', (4) 'a fight broke out in front of their house', (5) 'children were making too much racket', and (6) 'children were using soft drugs (smoking weed, hash, etc.)'. The scale has an alpha of 0.84.

Social support refers to a social process that residents can draw upon to cope with daily problems (Carpiano, 2007; Sherbourne & Stewart, 1991). The measurement of social support is based on the social support survey that was developed in the Medical Outcomes Study (MOS), a two-year study of patients with chronic conditions. Following the MOS Social Support Survey, four functional dimensions of social support were measured: emotional/informational, tangible, affectionate, and positive social interaction. Social support was represented by a five-item Likert-type scale. Key informants were asked (on a four-point scale) how often (1) 'people in this neighbourhood do favours for each other', (2) 'people in this neighbourhood give information or advice to each other' (emotional/informational support: e.g., to help to understand a situation, to better deal with a personal problem, to share the most private worries and fears, etc.), (3) 'people in this neighbourhood give material aid and assistance to each other' (tangible support: e.g., to take someone to the doctor, to prepare meals, to help with daily chores, etc.), (4) 'people in this neighbourhood show affection for each other' (affectionate support: e.g., by hugging each other, by shaking hands, by giving a pat on the back, etc.), and (5) 'people in this neighbourhood can call on each other to do enjoyable things' (positive social interaction: e.g., having a good time, get together for relaxation, do something enjoyable together, etc.). The scale has an alpha of 0.82.

Social leverage is a social process that helps residents to access information, survive socioeconomically, and even potentially advance professionally (e.g., job referrals) (Carpiano, 2007). Social leverage offers information pertaining to employment, child care, and other opportunities that afford individuals the possibility to minimize or avoid socioeconomic hardships that can negatively impact health and well-being. Social leverage was represented by a five-item Likert-type scale. Key informants were asked (on a four-point scale) how often people in the neighborhood ask each other advice about personal things such as: (1) 'child rearing', (2) 'job openings', (3) 'relational problems', (4) 'health', and (5) 'finances'. The scale has an alpha of 0.83.

5.2.2 Social disorganisation

Disorder refers to the social and physical conditions in a neighbourhood that are considered troublesome and potentially threatening (Steenbeek, 2011). Social disorder includes undesirable behaviour of people (such as?), whereas physical disorder refers to physical

deterioration of the neighbourhood (Pauwels & Hardyns, 2009). Both dimensions of disorder were measured:

Social disorder was represented by a seven-item Likert-type scale. Following Hardyns' (2010) neighbourhood measures of disorder, social disorder is measured by asking key informants (on a five-point scale) how often they have observed each of the following seven occurrences in the neighbourhood: (1) 'adolescents hanging around on street corners', (2) 'groups of adolescents harassing people to obtain money or goods', (3) 'men drinking alcohol in public', (4) 'people selling drugs (hash, weed, etc.) on the streets', (5) 'people being threatened on the streets with weapons or knives', (6) 'fights between adolescents on the streets', and (7) 'men urinating in public'. The scale has an alpha of 0.87.

Physical disorder was represented by a four-item Likert-type scale. Key informants were asked (on a five-point scale) how often they have observed each of the following four occurrences in the neighbourhood: (1) 'litter on the streets', (2) 'exhaust gases', (3) 'noise pollution', and (4) 'bad smell'. The scale has an alpha of 0.74.

5.2.3 Neighbourhood satisfaction

The measurements of satisfaction about green, play areas, and other facilities in the neighbourhood are based on the living research 'WoON 2009' in the Netherlands (referentie/link?). Two scales were constructed based on the collected information:

Satisfaction about green and play facilities was represented by a three-item Likert-type scale. Key informants were asked (on a five-point scale) how satisfied they are with the neighbourhood presence of (1) 'play areas for young children in this neighbourhood', (2) 'facilities for young people between 12 and 18 years (e.g. soccer pitch, place to hang around, etc.)', and (3) 'green in this neighbourhood'. The scale has an alpha of 0.72.

Satisfaction about facilities was represented by a three-item Likert-type scale. Key informants were asked (on a five-point scale) how satisfied they are with the neighbourhood presence of (1) 'primary schools in this neighbourhood', (2) 'public transport in this neighbourhood', and (3) 'shops for daily purchases in this neighbourhood'. The scale has an alpha of 0.61.

5.2.4 Avoidance behaviour

Avoidance behaviour is better known as the behavioural component of fear of crime and can be interpreted as a defensive reaction to an emotional state of mind when experiencing fear (Ferraro & LaGrange, 1987; Gabriel & Greve, 2003). This dimension of fear captures actual changes in human behaviour and illustrates the overt effect of fear of crime in citizens' everyday lives (Franklin, Franklin & Fearn, 2008). Following Hardyns (2010), avoidance behaviour is measured by an additive frequency index (on a five-point scale) consisting of three possible situations of avoidance behaviour: (1) 'avoiding certain areas in the neighbourhood because they are not safe', (2) 'avoiding opening the door to strangers because it is not safe', and (3) 'avoiding leaving home after dark because it is not safe'. The scale has an alpha of 0.80.

5.2.5 Social desirability

Social desirability can be described as the tendency of a respondent to be less willing to admit attitudes and behaviour of a rather threatening character, i.e. attitudes and behaviours that are less socially acceptable (Pauwels and Pleysier, 2005). This validity problem can be actively studied with the help of social desirability scales, i.e. scales that are especially designed to measure this tendency. Very often this tendency is measured by asking respondents about behaviours that almost all of us have at some time committed. To measure social desirability we have adopted a *lie scale* which is part of a well-known psychoticism scale in psychological sciences: the Abbreviated form of the Revised Eysenck Personality Questionnaire (EPQR-A). This scale consists of four (sub)scales of six items each (Eysenck, Eysenck and Barrett, 1985; Francis, Brown and Philipchalk, 1992). The lie scale is one of these four scales. The items in this scale refer to dichotomous (0=yes, 1=no) questions on which disagreement is socially desirable but highly unlikely to be true. The lie scale consists of an additive index of the following five items: (1) 'Have you ever taken advantage of someone?', (2) 'Have you ever blamed someone for doing something you knew was really your fault?', (3) 'Have you ever taken anything (even a pin or button) that belonged to someone else?', (4) 'Have you ever cheated at a game?', and (5) 'Were you ever greedy in terms of helping yourself to more than your share of anything?'. The more a person responds with 'no' to these questions, the higher his/her score on the social desirability scale. Cronbach's alpha is 0.60, which is not very high but in line with the relatively low values in previous reliability tests based on this scale (Eysenck, Eysenck and Barrett, 1985; Francis, Brown and Philipchalk, 1992). Given that we are dealing with dichotomous items this was the best reliability parameter we could find. Future studies, however, might want to look for better or alternative scales of social desirability behaviour.

5.3 Observation checklist and interview evaluation

5.3.1 Observation checklist

The interviewers were asked to rate four aspect on *green in the street* using a 5 – point Likert scale ranging from 'very bad' to 'very good' : 'General impression of green in this street', 'Maintenance of green in this street', 'Variation of overgrowth in this street' and 'Total impression of green in this street'. This scale has a good reliability ($\alpha = 0.89$).

Furthermore, interviewers were asked whether *facilities in the neighborhood* are visible from the front door of the respondent's house (code 0 = no, code 1 = yes). Facilities in the neighborhood could, amongst others, refer to public benches, play facilities, a mailbox, shops, bus stops, railway stations and squares.

Regarding *type of housing*, four types of housing were distinguished: detached houses (code 1), semi-detached houses (code 2), linked or terraced houses (code 3) and (studio) apartments (code 4).

To assess the housing quality and living environment of the respondent, two items are available. The interviewers were asked to rate the following statements using a 5 - point Likert scale ranging from 'absolutely disagree' to 'absolutely agree' to assess the *state of housing*: (1) 'The house has a fresh smell' and (2) 'It is clean in the house'. This scale has a good reliability ($\alpha = 0.83$). Furthermore, the interviewers were asked to indicate whether or not there was an accumulation of garbage (including litter or garbage bags) in front of the residence (code 0= no, code 1= yes), to assess the *living environment*.

5.3.2 Interview evaluation

The proceeding of the interview was assessed using a two item scale. Interviewers were asked to rate the following statements using a five point Likert scale: 'I think the respondent understood everything' and 'Administering the questionnaire went smoothly'. This scale has a good internal consistency ($\alpha = 0.82$).

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