

ERASMUS UNIVERSITY ROTTERDAM

Social exclusion of the residents of the City of Rotterdam

*Defining, measuring and explaining the socially excluded position in which
residents of the City of Rotterdam live*

Master thesis

Sociology: Urban Issues and Policy (GVB)

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PREFACE

In front of you, you find my master thesis concerning social exclusion of the residents of the city of Rotterdam. Commissioned by the Centre for Research and Statistics of the Municipality of the city of Rotterdam I examined the nature, the extent and the causes of social exclusion of the residents of the city of Rotterdam for approximately a year. The first months of the research project were characterised by several meetings between a delegation of the Erasmus University Rotterdam and a couple of delegates of the Municipality of Rotterdam, and the Centre for Research and Statistics of the city of Rotterdam in particular. During these seminars knowledge about the subject of social exclusion was exchanged and the research goals of both parties were discussed. Moreover, during this first period of the research a literature study about social exclusion was carried out. The second period of the study was characterised by an internship at the Centre for Research and Statistics in which several analyses were performed on the “Neighbourhood Survey Rotterdam 2011”. Besides, in this period I visited the Netherlands Institute for Social Research several times in order to perform some of the analyses that were required to find answers on the research questions. I used the last and longest part of my thesis to interpret the results, to rewrite the theoretical framework, to document about the main research findings and to give some critical reflections on this study.

Despite the fact that the study needed a very extensive approach that took much longer than was expected beforehand and in which the interests of the two stakeholders clashed from time to time, I have discovered the whole process of writing this thesis to be extremely instructive and I am delighted that I challenged this project. Off course, there are many things that I would do different the next time I have to carry out a detailed study again. What I for example gained from this experience is that it is of considerable importance to start a research with an extremely specific research question. Otherwise I cannot see the wood for trees anymore. Moreover I learned that when several stakeholders are represented in the research project it is absolutely important to be resolute in addressing the research goals of the study and that it is not directly wrong to disappoint one of the stakeholders to some extent, since it is simply not possible to realise all objectives.

In addition I want to employ this preface in order to make some acknowledgements. First of all, I want to thank the Centre for Research and Statistics of the Municipality of the city of Rotterdam for their hospitality and the facilities they provided me with in order to conduct the research about social exclusion of the residents of the city of Rotterdam. I am also

greatly indebted to my supervisor Dr. Erik Snel for all the support he has given me over the past year. Despite I got some setbacks during the process of writing the master thesis, Erik Snel searched for solutions while he always remained his trust in me. Of course I would also like to thank my co-reader Dr. Jeroen van der Waal, who provided me with some critical notes which was certainly in favour of the quality of the thesis. Moreover, I would like to thank Dr. Stella Hoff for the methodological instructions and time for discussion concerning the research I performed. I would like to end by thanking the persons close to me, and in particular my father Jack Julicher, for their encouragement and critical remarks regarding my work.

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SUMMARY

While most previous studies focused on social exclusion of the population of a Western country in general (e.g. the Netherlands, the UK, France, the USA), the focus in this study is mainly on the city-level, as the socially excluded position of the residents of the city of Rotterdam is investigated. The aim of the study is three-fold. First of all, it is endeavoured to define the concept of social exclusion (of the residents of the city of Rotterdam). Secondly, it is attempted to get insights into the extent of social exclusion experienced by the residents of the city of Rotterdam. Therefore a measurement instrument needs to be developed that indicates which part of the population of Rotterdam is socially excluded. Thirdly, it is strived for to explain the degree of social exclusion of the residents of the city of Rotterdam on the basis of several individual level characteristics. The three aims of this report are emphasised in the central research question of this study: *What is the extent and nature of social exclusion of the population of the city of Rotterdam and what is the role of various individual level characteristics on the degree of social exclusion of the residents of the city of Rotterdam?* The study is being carried out by the Erasmus University Rotterdam at the request of the Municipality of the city of Rotterdam. Based on an extensive literature review about social exclusion in general and based on a secondary analysis of the “Rotterdam Neighbourhood Survey 2011” – the dataset that is used in this study which includes information of 7.144 residents of the city of Rotterdam – an answer to the research question can be given. The dataset has been made representative for the residents of the city of Rotterdam by applying weight factors based on age, ethnicity and neighbourhood.

In this summary I briefly set out the answers I found to the sub- questions that collectively provide an answer to the central research question, viz.:

- (1) *What is social exclusion and how is it related to poverty – another multidimensional concept which has been frequently used in the literature – that indicates the personal state of deprivation?*
- (2) *What does social exclusion of the residents of the city of Rotterdam mean and how can it be measured?*
- (3) *To what extent is the population of Rotterdam in a socially excluded position?*
- (4) *What is the role of individual level characteristics on the degree of social exclusion of the residents of the city of Rotterdam?*

The answers on these sub-questions are summarised in the following paragraphs (S1, S2, S3 and S4).

S1 Social exclusion: theoretical concept

In this section of the summary, an answer is provided to the first sub-question of this report. Despite the term ‘social exclusion’ has been used many times in the policy debate, the theoretical meaning of the concept has not yet been fully established in the scientific literature and is to some extent controversial. Several studies of the Netherlands Institute for Social Research have carried out literature reviews on this subject (see Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2009). The conclusion is that social exclusion can be best interpreted as a relative and multidimensional phenomenon. The multidimensionality of the aspect refers to the experience of deprivation on various dimensions; though the theoretical and empirical distinguished dimensions differ among studies, every study discerns material and immaterial dimensions. With social exclusion as a relative phenomenon it is meant that the individual’s life situation should be compared with the situation of others in a given society instead of perceiving social exclusion as an absolute notion. Besides, it was concluded in these previous studies that a distinction should be made between factors that influence the risk on social exclusion (an indirect definition of social exclusion) and features that describe the actual state of social exclusion (a direct definition of social exclusion).

According to the literature reviews of the Netherlands Institute for Social Research an economic-structural dimension of social exclusion, that has got a distributional character, and a socio-cultural dimension that reflects the relational character of the concept should be distinguished. These main dimensions each exist of two specific dimensions:

- Economic-structural exclusion
 - Material deprivation
 - Inadequate access to social rights
- Socio-cultural exclusion
 - Insufficient social integration
 - Insufficient normative/cultural integration

Within this definition of social exclusion no distinction is made between poverty and social exclusion. Instead, the poverty dimension is integrated in the concept of social exclusion. In the past, two approaches were dominant in the research field concerning poverty and social

exclusion: the Anglo-American approach had a main focus on distributional aspects and was therefore associated with the concept of poverty, whereas the French tradition paid special attention the relational aspects and thus was more in line with the concept of social exclusion. The result is that the old poverty concept differed to great extent from the concept of social exclusion, which always has been more relative and multidimensional. Over the time, the old assumptions of poverty were banished; poverty could no longer be perceived as a strict concept. Instead poverty refers to a broad concept that next to its multidimensionality and relativity also refers to relational aspects (Jehoel-Gijsbers 2004; Jehoel-Gijsbers 2009). This broad poverty concept can thus be noticed as a synonym for the concept of social exclusion. The only difference between poverty in a broad sense and social exclusion, that still stands up in the literature, is that the causes of poverty are always financial, whereas this is not the case for the concept of social exclusion. Thus, it can be concluded that poverty in a strict or unidimensional sense (i.e. as how it was defined in the past) differs from social exclusion, while a more broad definition of poverty refers to social exclusion, with exception of the causes).

S2 Social exclusion of the residents of the city of Rotterdam: theoretical concept and measurement instrument

One of the aims of this study was to define social exclusion of the residents of the city of Rotterdam. In order to provide this definition, the definition of social exclusion that is proposed in the studies of the Netherlands Institute for Social Research is more or less followed. This definition of the Netherlands Institute for Social Research is largely followed, since this is the most clear and complete definition of social exclusion that is provided in the literature, and because this definition is based on the general consensus in the literature that social exclusion is a multidimensional and relative phenomenon in which the distinction between a direct and indirect definition can be made. The direct definition points out the status of being socially excluded. The indirect definition refers to the process (risk factors) leading to being socially excluded. In this study, a direct definition of social exclusion of the residents of the city of Rotterdam is preferred, and therefore only the traits that describe the actual state of social exclusion are important in defining the phenomenon of social exclusion of the residents of the city of Rotterdam.

Next to the general guidelines that are given by the Netherlands Institute for Social Research for defining social exclusion, in this study the definition of social exclusion of the city of Rotterdam is also based on 1) the theoretical dimensions that have been distinguished

by the Netherlands Institute for Social Research, 2) the empirical dimensions that have been discerned by the studies of the Netherlands Institute for Social Research, 3) the empirical dimensions that have been discerned by other studies with a focus on social exclusion, 4) statements in the literature that pragmatic choices based on the available dataset need to be made by researchers for distinguishing dimensions of social exclusion, 5) a comparison of the items that are present in the “Rotterdam Neighbourhood Survey 2011” and the items that were included in the dataset that is used by the studies of the Netherlands Institute for Social Research and other previous studies about social exclusion, and 6) the request of the Centre for Research and Statistics of Rotterdam to strive to incorporate the dimensions of social exclusion that have been discerned by the Netherlands Institute for Social Research as far as possible with the available dataset and to distinguish one or more additional dimension(s) of social exclusion based on the “Rotterdam Neighbourhood Survey 2011”.

A combination of these aforementioned guidelines leads to the following definition of social exclusion of the residents of the city of Rotterdam: social exclusion of the residents of the city of Rotterdam refers to a multidimensional and relative concept, in which several (sub-)dimensions that describe the actual state of social exclusion are distinguished:

- Dimension 1: Material deprivation
- Dimension 2a: Social rights: insufficient access to institutions and provisions
- Dimension 2b: Social rights: insufficient access to an adequate housing
- Dimension 2c: Social rights: insufficient access to an adequate residential environment
- Dimension 3: Insufficient social participation
- Dimension 4: Insufficient cultural participation

Within this definition, both material and immaterial dimensions are theoretically distinguished, which implies that the Anglo-American and French scientific traditions are combined. In fact, the definition differs slightly from the definition of social exclusion that is provided by the Netherlands Institute for Social Research, because of a varying distinction of theoretical dimensions. This is mainly due to pragmatic decisions that have been made as a consequence of the use of an already existing dataset that differs considerably from the dataset that has been used by the studies of the Netherlands Institute for Social Research.

For the measurement of social exclusion several research methods can be used. In this study the bottom-up approach is applied to create a general index for social exclusion of the

residents of the city of Rotterdam. The bottom-up approach has been used in many studies of the Netherlands Institute for Social Research about social exclusion (see Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Roest et al. 2010). In the first step of the bottom up approach it is tested whether the theoretical dimensions of social exclusion of the residents of the city of Rotterdam that have been distinguished can be statistically perceived. These statistical tests are performed by using Principal Component Analysis (PCA). After the construction of the (sub-)dimensions of social exclusion, it is endeavoured to construct a general index for social exclusion by applying the second step of the bottom-up approach. With help of the Overals technique it is investigated whether the statistically distinguished (sub-)dimensions of social exclusion of the inhabitants of Rotterdam can be aggregated within a single measure of social exclusion. More concrete this means that concerning the measurement of social exclusion of the city of Rotterdam it was expected that:

- the concept of social exclusion of the residents of the city of Rotterdam exists of the dimensions ‘material deprivation’, ‘social rights’ – which exists of the three sub-dimensions ‘insufficient access to institutions and provisions’, ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential environment’ –, ‘insufficient social participation’ and ‘insufficient cultural participation’.
- A general index for social exclusion of the residents of the city of Rotterdam can be constructed that comprises all four main dimensions that have been theoretically distinguished.

For the selection of possible indicators that can be used for the empirical construction of the theoretically assumed (sub-)dimensions of social exclusion of the residents of the city of Rotterdam, I perceived the possibilities that exist with the “Rotterdam Neighbourhood Survey 2011” on the one hand and the operationalisation of the dimensions of social exclusion (or other multidimensional poverty concepts) of other studies, such as the studies of the Netherlands Institute for Social Research on the other hand.

It turned out that due to a lack of possible indicators for the dimension material deprivation, it was not possible to submit this theoretical dimension of social exclusion of the residents of the city of Rotterdam to a statistical test. The other five (sub-)dimensions have been empirically tested. The PCA’s showed that the theoretical assumed dimension ‘social rights’ – which exists of ‘insufficient access to institutions and provisions’, ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential

environment’ – is empirically verified. However, the outcomes are not completely in accordance with the expectations as it is found that the three theoretical sub-dimensions of social rights each consist of two or three empirical sub-dimensions (see table S1) which are measured by many subjective indicators and other indicators of which can be argued whether they indeed measure ‘social rights’ (see paragraph 4.1.2 and the discussion in chapter 5 for more details). Besides, the PCA’s showed that the theoretical assumed dimension ‘insufficient social participation’ also empirically exists, though, again, it was signified that more sub-dimensions should be discerned (see table S1). Furthermore, it was ventilated by the PCA’s that the theoretical dimension of ‘insufficient cultural participation’ indeed comprises one single empirical dimension, as was expected (see table S1). These results that are summed in table S1 are only partially in line with the first expectation concerning the measurement of social exclusion of the residents of the city of Rotterdam, as the dimension material deprivation could not empirically be proved, the other dimensions – with exception of ‘insufficient cultural participation’ – needed to be subdivided into more sub-dimensions than was presumed, and because especially the sub-dimensions of social-rights were operationalised with help of some arguable and subjective indicators, whereas a more objective and less controversial operationalisation was needed to support the theoretical assumed sub-dimensions entirely.

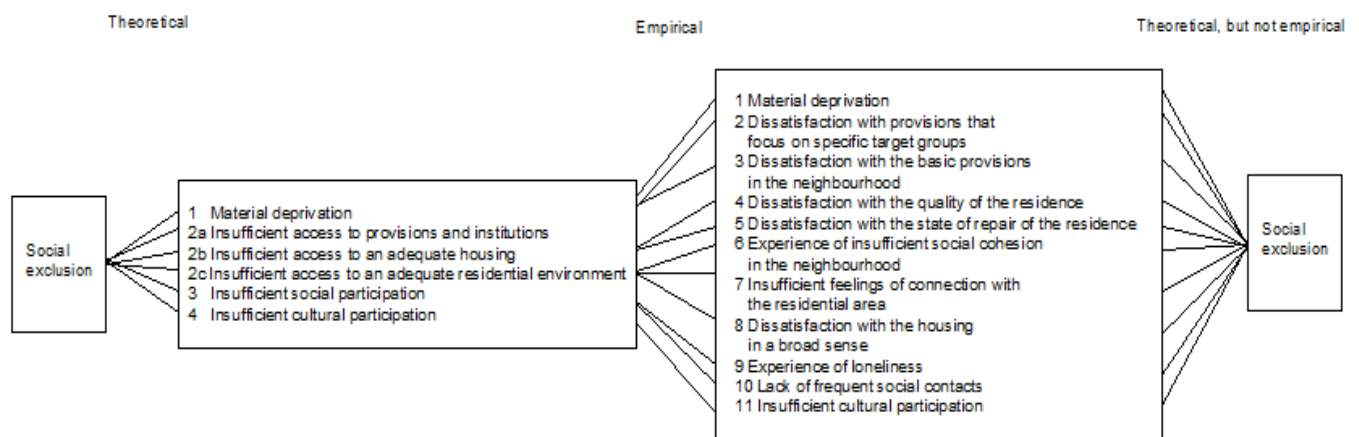
Table S1 Overview of the theoretical and empirical dimensions of social exclusion of the residents of the city of Rotterdam

Theoretical concept	Theoretical dimensions	Empirical dimensions
Social exclusion	1 Material deprivation	1 -
	2a Social rights: insufficient access to provisions and institutions	2 Dissatisfaction with provisions in the neighbourhood that focus on specific target groups 3 Dissatisfaction with the basic provisions in the neighbourhood
	2b Social rights: insufficient access to an adequate housing	4 Dissatisfaction with the quality of the residence 5 Dissatisfaction with the state of repair of the residence
	2c Social rights: insufficient access to an adequate residential environment	6 Experience of insufficient social cohesion in the neighbourhood 7 Insufficient feelings of connection with the residential area 8 Dissatisfaction with the housing in a broad sense
	3 Insufficient social participation	9 Experience of loneliness 10 Lack of frequent social contacts
	4 Insufficient cultural participation	11 Insufficient cultural participation

Theoretically social exclusion of the residents of the city of Rotterdam exists of four main dimensions. However, the empirical results showed that eleven (sub-)dimensions of the concept of social exclusion of the residents of the city of Rotterdam need to be distinguished

that collectively cover the four theoretical main dimensions. While applying the second step of the bottom-up approach it was attempted to create a general index for social exclusion of the residents of the city of Rotterdam that comprises the eleven sub-scales that are shown in figure S1. A general index comprising social indicators can be valuable in understanding and analysing complex and multidimensional phenomena, such as social exclusion (Boelhouwer 2010:88). For creating the general index, the research method Overals has been used. Unfortunately, it is signified in this report that it is empirically impossible to construct a total index that refers to the concept of social exclusion of the residents of the city of Rotterdam. Instead, the total index only refers to one of the theoretical main dimensions of social exclusion of the residents of the city of Rotterdam, and that is ‘social rights’. Therefore the total index does represent the concept of ‘lack of connection with the residence and the residential area’ instead of the concept of social exclusion. Thus it can be concluded that it is impossible to construct a valid general index for social exclusion of the residents of the city of Rotterdam based on the dataset “Rotterdam Neighbourhood Survey 2011” (see figure S1).

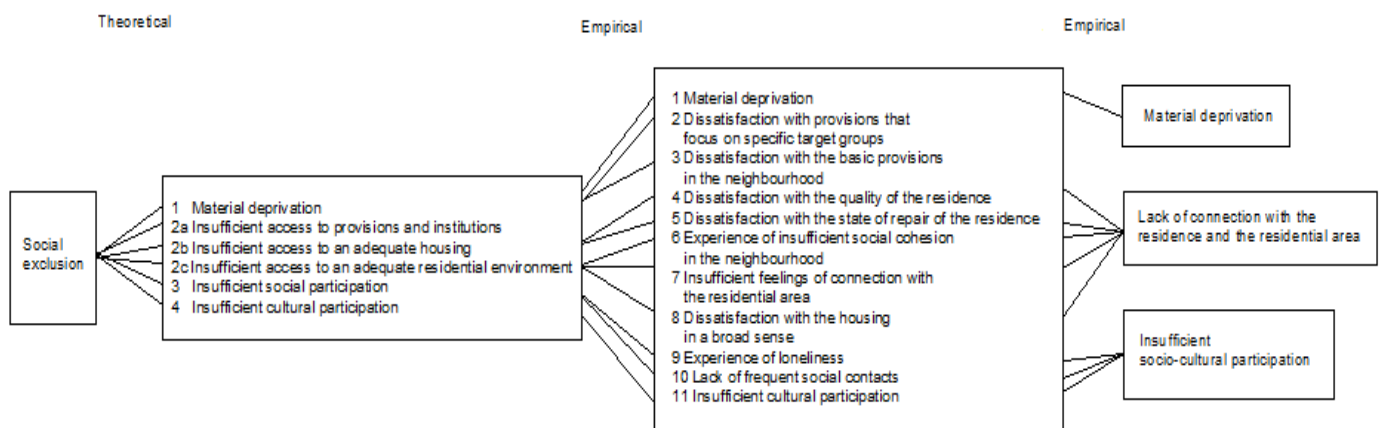
Figure S1 Conceptual model that displays the paths that have been entered to create a general index for social exclusion of the residents of the city of Rotterdam



Although it is demonstrated that it is not possible to measure social exclusion of the residents of the city of Rotterdam as a single concept, the Overals analyses showed that two meta-scales that indicate the main aspects of social exclusion of the residents of the city of Rotterdam can be constructed. The first meta-scale is labeled as ‘the degree of lack of connection with the residence and the residential area’, whereas the second meta-scale is called ‘the degree of insufficient social-cultural integration’. The results demonstrated that the

sub-scale ‘material deprivation’ does not fit to the meta-scale ‘insufficient social-cultural integration’. Since material deprivation is an important aspect of social exclusion, it has been decided to additionally use the scale about ‘material deprivation’ in order to provide information about the overall social position of the residents of the city of Rotterdam, even though it has become impossible to refer to the concept of social exclusion based on these three scales. Figure S2 illustrates the (meta-)scales that refer to the social position of the residents of the city of Rotterdam.

Figure S2 Conceptual model that displays the paths that have been entered in order to create meta-scales that indicate the social position of the residents of the city of Rotterdam



S3 Degree of social exclusion of the residents of the city of Rotterdam

Because in this study it turned out that it is impossible to create a general index for social exclusion of the residents of the city of Rotterdam, no indication can be given of how many residents of the city are in a socially excluded position. Nevertheless, based on the two meta-scales ‘lack of connection with the residence and the residential area’ and ‘insufficient social-cultural integration’ and the sub-scale ‘material deprivation’ it is possible to estimate the extent to which the residents of the city of Rotterdam have an insufficient score on these aspects of social exclusion. The sample was raised to Rotterdam city totals applying a weight factor¹. As a result, the proportion of the vulnerable population of the city to live in an alarming social position can be mapped out. The measurement scales developed are based on a great number of indicators. Only if on all items of the scales an answer is given that refers to

¹ In reality, the degree to which the residents of the city of Rotterdam have an insufficient score on these aspects of social exclusion varies slightly, since the weighted sample represents 487.840 residents of Rotterdam for the scale ‘insufficient social-cultural integration’, 459.661 for the scale ‘lack of connection with the residence and the residential area’ and 446.761 for the scale ‘material deprivation’ instead of the city population of approximately 612.000 residents.

the presence or absence of the aspect of social exclusion it can be stated with certainty whether someone lives in a precarious social situation. For most persons it is not possible to announce that they are living in a complete critical or a complete carefree social situation, since persons mostly have a score in between the two extremes. However, there is no natural or logical absolute threshold below which it can be described that persons score insufficiently in a social-cultural sense, in a material sense or concerning their connection with the residence and the residential area. Therefore more pragmatic choices are made while assessing the degree of inhabitants of the city of Rotterdam who have insufficient scores on the essential aspects of social exclusion.

Dependent on where we set the boundary between being and not being in a critical situation based on the index of ‘insufficient social cultural integration’ it is determined how many residents of the city of Rotterdam are insufficiently active in social and cultural life (see table S2).

Table S2 Schematic overview of % and number of residents of the city of Rotterdam that participate insufficiently in the social-cultural domain of the society, based on several critical values on a 0-10 scale.

Score on 0-10 scale	% of weighted population of the city of Rotterdam	Number of residents of the city of Rotterdam (weighted)
(<)5	-	-
6.0	7,4	36.100
7.0	3,4	16.587
8.0	1,1	5.366
9.0	0,4	1.951
10.0	0,0	0

When insufficient social-cultural integration is perceived in a more strict sense, which means that the boundary between insufficient and sufficient social-cultural integration is put at scale score 10, 9 or 8 of the index for insufficient social-cultural integration, then between 0 (0 %) and 5.366 (1.1%) residents of the city of Rotterdam are insufficiently socially and culturally integrated. A scale score of 8, 9 or 10 on the ten-point scale corresponds to at least the mean plus 2.8 times the standard deviation in the standard normal distribution). When we perceive insufficient social-cultural integration in a broad sense, which means that for setting a boundary between sufficient and insufficient social-cultural integration the scale scores 7 and 6 (which correspond to the mean plus subsequently 2.2 and 1.6 times the standard deviation) on the index for insufficient social-cultural integration are additionally possible, then in between 16.587 (3.4%) and 36.100 (7.4%) residents of the city of Rotterdam are insufficiently socially and culturally integrated. The percentages deviate slightly from the

percentages that can be expected based on a standard normal distribution, since the frequency distribution of the scale ‘insufficient social-cultural integration’ is not completely similar to a standard normal distribution.

Dependent on where we put the limiting value above which someone is in a critical situation based on the index of ‘lack of connection with the residence and the residential area’, it is estimated how many residents of the city of Rotterdam are insufficiently connected with their residence and their residential area (see table S3).

Table S3 Schematic overview of % and number of residents of the city of Rotterdam that experience a lack of connection with the residence and the residential area, based on several critical values on a 0-10 scale.

Score on 0-10 scale	% of weighted population of the city of Rotterdam	Number of residents of the city of Rotterdam (weighted)
(<)5	-	-
6.0	5,3	24.362
7.0	2,2	10.113
8.0	0,6	2.758
9.0	0,1	460
10.0	0,0	0

When lack of connection with the residence and the residential area is perceived in a more strict sense, which means that the limiting value above which someone has insufficient feelings of connection with the residence and the residential area is set at scale score 10, 9 or 8 (which is similar to a scale score of at least the mean plus more than 3.5 times the standard deviation in the standard normal distribution) of the index for lack of connection with the residence and the residential area, then between 0 (0%) and 2.758 (0.6%) residents of the city of Rotterdam have insufficient feelings of connection with the residential area. When lack of connection with the residence and the residential area is noticed in a more broad sense, which means that the limiting value above which some has insufficient feelings of connection with the residence and the residential area might additionally be set at the scale score 7 or 6 (which is in agreement with the mean plus subsequently 2.8 and 2.0 times the standard deviation) on the index for lack of connection with the residence and the residential area, then in between 10.113 (2.2%) and 24.362 (5.3%) of the residents of the city are characterised by inadequate feelings of connection with the residence and the residential area. The percentages deviate slightly from the percentages that can be expected based on a standard normal distribution, since the frequency distribution of the scale ‘insufficient social-cultural integration’ is not completely similar to a standard normal distribution.

Dependent on where we put the limiting value above which someone is in a critical situation based on the scale for ‘material deprivation’, it is estimated how many residents of the city of Rotterdam are materially deprived (see table S4).

Table S4 Schematic overview of % and number of residents of the city of Rotterdam that live in a material deprived situation, based on several critical values on a 0-10 scale.

Score on 0-10 scale	% of weighted population of the city of Rotterdam	Number of residents of the city of Rotterdam (weighted)
(<)5	-	-
6.0	21,1	94.267
8.0	7,9	35.294
10.0	1,6	7.148

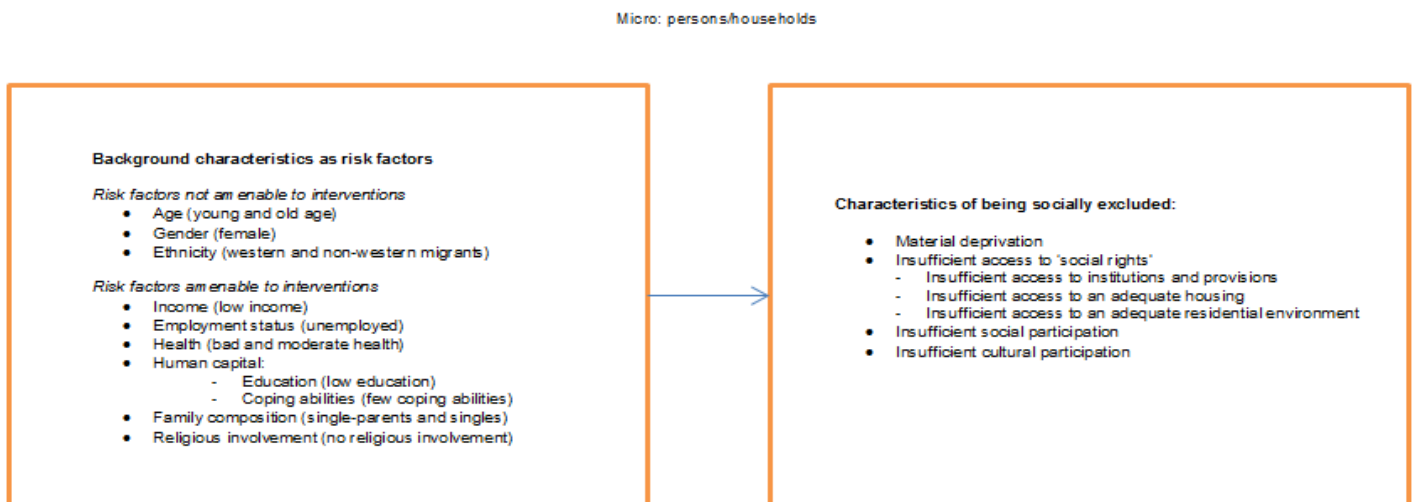
When material deprivation is perceived in a more strict sense, which means that the limiting value above which someone is living in a deprived material position is set at scale score 10 or 8 (the mean plus at least 2 times the standard deviation) of the scale for material deprivation, then between 7.148 (1.6%) and 35.294 (7.9%) residents of the city of Rotterdam deal with a deprived material position. When material deprivation is noticed in a more broad sense, which means that the limiting value above which someone is in a material deprived position might additionally be set at the scale score 6 (corresponding to the mean plus 1 time the standard deviation) on the scale for material deprivation, then 94.267 (21.1%) of the residents of the city are possibly materially deprived.

It can be concluded that irrespective of the limiting value that is applied above which residents of the city of Rotterdam have an insufficient score on one of the three indices, the index for material deprivation indicates the highest number of residents of the city of Rotterdam that are in a critical or vulnerable social position based on their material situation. Also precarious is the situation of the residents of the city of Rotterdam when their social and cultural integration is perceived, though the relative proportion of residents that is insufficiently culturally and socially integrated is lower than the relative proportion of the residents that is subject to material deprivation, – regardless of the cut-off point of the limiting value. For the inhabitants of the city of Rotterdam, the relative proportion of inhabitants scoring high on the scale concerning lack of connection with the residence and the residential area is the lowest as compared to the other scales. In this study, it has not been investigated to what extent the same residents are hit simultaneously by material deprivation, insufficient social-cultural integration and lack of feelings of connection with the residence and the residential area, which would suggest that these residents are confronted with the most severe circumstances concerning the social situation.

S4 Causes of social exclusion of the residents of the city of Rotterdam

In addition to a direct definition of social exclusion of the residents of the city of Rotterdam, in which the phenomenon of social exclusion is considered as a state, in this report also attention is paid to the process of social exclusion (indirect definition). This implies that social exclusion of the residents of the city of Rotterdam is explained by various micro level explanations. On the individual level several risk factors that underlie social exclusion are presented. The risk factors that are taken into account in this study concern income, labour market participation, health, human capital (existing of education and coping abilities), age, family composition, gender, ethnicity and religious involvement (see figure S3). With the exception of age, gender and ethnicity, these risk factors for social exclusion are amenable for policy intervention.

Figure S3 Conceptual model of social exclusion of the residents of the city of Rotterdam



Note the risk factors of social exclusion are shown in brackets in the left column of figure 2.18

Many foregoing studies, and especially the studies of the Netherlands Institute for Social Research, with a focus on explaining social exclusion on the micro level did not – at least not with emphasis – include underlying mechanisms for the assumed relationship between risk factors of social exclusion and social exclusion itself. This means that the theoretical models about explaining social exclusion are not – explicitly – based on scientific theories. So, in the literature about social exclusion a rather limited developed theoretical framework exists. Therefore, in this study a theoretical framework has been developed that takes into account

the main individual level risk factors of social exclusion. Special attention is devoted to the underlying mechanisms for these relationships between risk factors of social exclusion and social exclusion itself. This means that it is assumed that the effect of many individual level characteristics on the degree of social exclusion operates (partly) indirect via other individual level characteristics. Since this study is about the socially excluded position of the residents of the city of Rotterdam, the theoretical model has got a particular focus on the residents of the city of Rotterdam.

From the empirical analyses it turned out that it was impossible to create an index for social exclusion of the residents of the city of Rotterdam, which should have been the dependent variable of the study. For that reason, explaining the degree of social exclusion became impossible as well. However, an explanatory analysis has been performed with the meta-scale ‘insufficient social-cultural integration’ as the dependent variable. Though the causes of social exclusion cannot be given, the individual level determinants of important aspects of social exclusion (i.e. the social and cultural domains) are presented in this report. With multiple regression analyses that included almost 5.000 cases (unweighted) the influence of the individual level characteristics that are displayed in figure S3 on the degree of insufficient social-cultural integration is examined.

The results of the regression analyses showed that direct effects as well as indirect effects of several individual level determinants seem to occur on the degree of insufficient social cultural integration, as:

- It is empirically supported that a low income is a risk factor for insufficient social-cultural integration. This means that income is a determinant in explaining insufficient social-cultural participation.
- It is also empirically confirmed that the effect of not performing paid work on insufficient social-cultural integration is partly direct and partly indirect via income. This means that being unemployed is a determinant in explaining insufficient social-cultural integration.
- Based on the indirect positive effect of poor / moderate health via inter alia employment status and based on the direct effect of health on the degree of insufficient social-cultural integration, health can be seen as an important determinant in explaining insufficient social-cultural participation.
- Next to the positive indirect effect of low education via inter alia employment status and health status on the degree of insufficient social-cultural participation there also

exists a direct effect of low education on the degree of insufficient social-cultural integration. Therefore, educational level should be viewed as a determinant in explaining insufficient social-cultural integration.

- Next to the positive indirect effect of many coping problems on the degree of insufficient social-cultural participation there also exists a direct effect of many coping problems on the degree of insufficient social-cultural integration. Therefore, the availability of coping abilities should be viewed as an individual level determinant in explaining insufficient social-cultural integration.
- Though the effect of young age on the degree of insufficient social-cultural integration is negative and therefore in the unexpected direction, it can be stated that due to the indirect and direct effects of young and old age as compared to being of middle age on the degree for insufficient social-cultural integration, and due to the considerable percentage of explained variance of age as the only determinant for insufficient social-cultural integration, age plays a role in explaining the degree of insufficient social-cultural integration.
- Based on the empirical analysis being a single-parent or being a single is not an important determinant in explaining the degree of insufficient social-cultural integration, because family composition does hardly contribute to the percentage of explained variance of insufficient social-cultural integration.
- Based on the empirical analysis being female is not an important determinant in explaining the degree of insufficient social-cultural integration, because the percentage of explained variance of insufficient social-cultural integration is hardly affected by the incorporation of gender as individual level determinant to the model.
- Despite it seems that ethnicity plays a little role in determining insufficient social-cultural integration due to its indirect and small direct effect, it should be stated that based on the empirical analysis ethnicity is not an important determinant in explaining the degree of insufficient social-cultural integration, because ethnicity does contribute to the percentage of explained variance of insufficient social-cultural integration only very scarcely.
- Based on the empirical analysis infrequent religious meeting attendance is not an important determinant in explaining the degree of insufficient social-cultural integration, because the frequency in religious meeting attendance does hardly

contribute to the percentage of explained variance of insufficient social-cultural integration.

Thus, direct effects of several individual level determinants as well as indirect effects of several individual level determinants seem to occur on the degree of insufficient social cultural integration. The indirect effects mainly operate via employment status, health status human capital, and income level. That these factors are important spills in the field of explaining social-cultural integration was already expected in the integral model in figure 2.17 in paragraph 2.2.2.10. Based on the direct effects and the indirect effects in combination with a considerable percentage of explained variance of insufficient social-cultural integration of each separate individual level characteristic, it can be concluded that income, employment status, health status, education, coping abilities, and age play a (considerable) role in explaining insufficient social-cultural integration of the residents of the city of Rotterdam. With exception of age, the main individual level determinants for insufficient social-cultural integration are amenable for policy intervention. Besides, it is an important finding that the factors employment status, health status, human capital and income level that influence the effects of many other individual level characteristics on the degree of insufficient social-cultural integration are open to policy intervention. For these reasons, policy measures of the central and the municipal government should focus on improvement of income and employment by stimulating economic growth and restructuring the economy, improving educational level and the improvement of the health status of the population.

CHAPTER 1: INTRODUCTION

1.1 Social exclusion: an underdeveloped concept

Over the last 20 years a lot of prominence has been given to the notion of ‘social exclusion’, especially at the European level. Within the scope of the EU policy to combat social exclusion, all European member states formulated their National Action Plans against poverty and social exclusion since 2001 (Jehoel-Gijsbers 2004: 7-8). Besides, the year of 2010 was denominated as the European year for combating poverty and social exclusion, in which also the Netherlands participated (Van der Klein et al. 2011:5).

Although the policies that exist on the national and the European level to reduce phenomena such as poverty and social exclusion in the member states of the European Union, the fight against poverty and social exclusion is mainly a local authorities responsibility (Van der Klein 2011:11). This is also acknowledged by the municipality of Rotterdam, as the municipality asked the sociology department of the Erasmus University to investigate the nature, the extent and the causes of social exclusion of the population of the city of Rotterdam in order to diminish the share of the cities’ population that is exposed to social exclusion. Subsequently, the policy to combat social exclusion in the city of Rotterdam has to be conducted and eventually evaluated. In order to do this, it is essential to return to the questions what social exclusion entails exactly, how this concept can be measured, and which factors influence it (Jehoel-Gijsbers 2004:11 and 167).

However, despite the frequent use of the concept of social exclusion, it seems hard to come up with simple answers on these latter questions, because no consensus has been reached among scientists and policymakers about the meaning and operationalisation of the concept (Dirven & Jehoel-Gijsbers 2004:56). This is because the notion of ‘social exclusion’ has been widely used without explicitly indicating what is meant by the term (Andress 1998:1; Jehoel-Gijsbers 2004:15; Jehoel-Gijsbers et al. 2008: 110; Jehoel-Gijsbers et al. 2009:13). The term itself is taken for granted and can be seen as a ‘topos’. A ‘topos’ refers to an image that can be invoked without further explanation, simply by using the word in question. (Godschalk 1985, in Jehoel-Gijsbers et al. 2004:15-16; Jehoel-Gijsbers et al. (2009:7).

Besides, it is complicated to define and measure social exclusion because the term is often associated with other concepts such as poverty and relative deprivation (Alcock 2006; Atkinson 2003; Jehoel-Gijsbers 2004; Jehoel-Gijsbers et al. 2009; Room 1995; Tomlinson et al. (2008); Vranken (2004); Whelan et al.(2002). According to Raeymaeckers and Dewilde

(2007:113) the lack of a general accepted conceptual framework resulted in an extensive amount of notions and definitions, such as poverty, social exclusion, (relative) deprivation, lifestyle deprivation and underclass, which, in turn, led to an arising disagreement about the measurement of poverty and the other concepts.

Furthermore, few studies have developed a theoretical model that helps to explain the phenomenon of social exclusion. For example, in the studies of the Netherlands Institute for Social Research, a theoretical framework that explains social exclusion in terms of risk factors is demonstrated. However, within these studies an elaborated theoretical framework with underlying mechanisms for the assumed relationship between the risk factors on the one hand and social exclusion on the other hand is absent (Jehoel-Gijsbers 2003; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008). The study of Fløtten (2006) is another study in which explanations of social exclusion are raised. Nevertheless, in this study, the explanations of social exclusion are mentioned very shortly. Besides, the part of this study that focuses on the explanations of social exclusion is less evident than the part of the study that focuses on the explanations of poverty and material deprivation.

Thus, it can be postulated that from a point of view of theory, methodology and explanations social exclusion is a concept that is underdeveloped in the literature (Jehoel-Gijsbers 2004: 167). Before starting the empirical study about the degree and causes of social exclusion of the residents of the city of Rotterdam, it is essential to previously ventilate a more clear definition of social exclusion, to demonstrate a general accepted method to measure social exclusion, and to generate a theoretical model that helps to explain social exclusion by identifying underlying mechanisms for the risk factors on the one side and social exclusion on the other side. By reviewing the literature on 'social exclusion' and its main related notion 'poverty', it becomes conceivable to conduct an empirical study about social exclusion of the residents of the city of Rotterdam.

1.2 Social exclusion as a multidimensional and relative concept

In this study it becomes clear that despite all obscurities in the conceptualisation of social exclusion a twofold unanimity exists about the notion of social exclusion: social exclusion has widely been seen as a multidimensional and a relative phenomenon (Dirven & Jehoel-Gijsbers 2004; Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers 2009; Roest et al. 2010). Social exclusion as a multidimensional concept refers to the general understanding that deficiencies occur at several dimensions of social life (e.g. deficiencies in social, cultural, material, environmental

and institutional respect) (Dirven & Jehoel-Gijsbers 2004; Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers 2009; Roest et al. 2010). Social exclusion being a relative concept indicates that social exclusion should not be perceived in absolute matters. Instead, it should be observed as a relative phenomenon, which means that social exclusion can be defined according to the living standards that are customary in the society in a certain time period (Dirven & Jehoel-Gijsbers 2004; Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers 2009; Roest et al. 2010) and therefore affect all countries (Szeles & Tache 2008:370).

1.3 The urgent need for a study about social exclusion of the residents of the city of Rotterdam

Within this research, there is a focus on the residents of the municipality of Rotterdam, which is the second largest city of the Netherlands, with more than 612.000 residents (Centre for Research and Statistics (COS) 2011). According to European figures, it turns out that in the Netherlands, poverty and social exclusion are persistent phenomena that deal with approximately ten percent of the Dutch population and this number is increasing (Van der Klein et al. 2011:11). In comparison to the last decade of the 20th century, there have been enormous declines in the levels of poverty and social exclusion from approximately 16 percent in the 1990s to 10 percent nowadays. However, compared to 2009, the level of poverty and social exclusion increased slightly from 7 percent to roughly 10 percent in 2011 (Van der Klein et al. 2011:30).

Besides, previous research shows that almost 25 percent of the people experiencing poverty or social exclusion in the Netherlands, reside in one of the four largest cities of the Netherlands: Amsterdam, Rotterdam, The Hague and Utrecht (Statistics Netherlands (CBS) 2009: 9). Not only in absolute terms, but even comparatively, the largest cities of the Netherlands contain the greatest share of households below the subsistence level (Van der Klein et al. 2011: 44). The results of these preliminary studies imply that poverty and social exclusion are phenomena that are highly concentrated in the big cities of the Netherlands. Due to the concentration of poverty and social exclusion in the cities, scientific research about the extent and nature of poverty and social exclusion on the city-level is imperative. However, most of the preceding studies about social exclusion and its related terms are characterised by their cross-national or national focus instead of a focus on the local level (i.e. city level) (Alcock 2006; Atkinson 2003; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007;

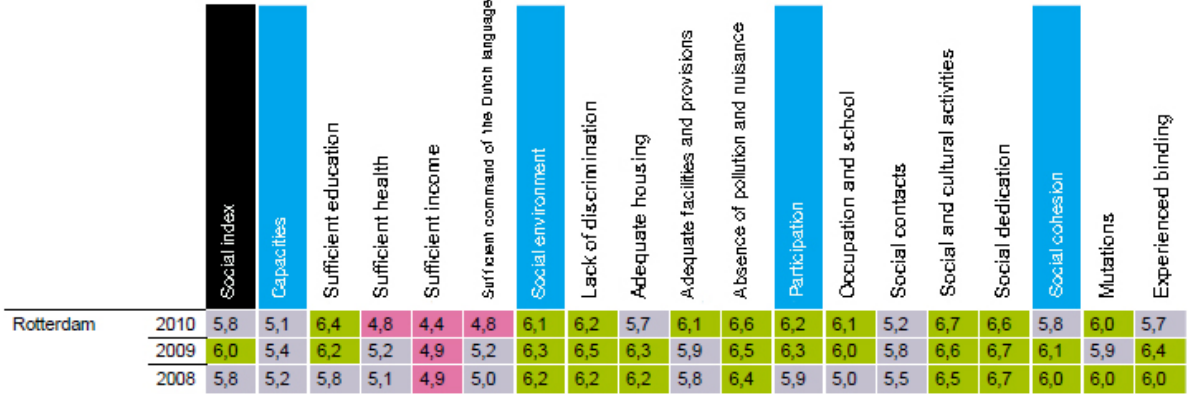
Jehoel Gijbers et al. 2009; Room 1995; Tomlinson et al (2008); Tomlinson & Walker 2009). Therefore, research on the city-level is required as well, in order to interfere in the deprived situation of some of the city-dwellers. Because of the undisputed feature that poverty and its related terms are commonly perceived as a problem or an unacceptable state of affairs, something needs to be done about the deprived situation, which makes the debate on poverty and its related notions a prescriptive one (Alcock 2006: 4; Engbersen & Snel 1996, in Dewilde 2008b: 28; Piachaud 1981, in Dewilde 2008b:28). The prescription that something needs to be done about the deprived situation of a relatively large part of the cities' residents, is also acknowledged by the municipality of the city of Rotterdam.

This is mainly because of the results that were ventilated by the Centre for Research and Statistics of the city of Rotterdam. In the year of 2008, the Centre for Research and Statistics developed the 'Social Index', which is a measuring-instrument that repeatedly¹ enabled the municipality to follow and improve several aspects of social quality of the city of Rotterdam (Municipality of Rotterdam 2010). The 'Social Index' provides insight into the social quality of the city in general and of the 64 districts of the city in particular. The index score is based on four aspects that each exist of several themes: personal capacities (command of the Dutch language, income, educational level, health), social environment (quality of the accommodation, the absence of pollution and nuisance, the lack discrimination, the adequateness of facilities and provisions), participation (current occupation or main activity, social contacts, social dedication, participation in social and cultural activities) and social cohesion (mutation - which measures the amount of removals - and experienced binding) (Municipality of Rotterdam 2010).

In the year of 2010 the city of Rotterdam scores a 5.8 (on a scale of 10) on the 'Social Index'. This was equal to the score in 2008, but compared to 2009, in which the city had a general score of 6.0, the city of Rotterdam experienced a little decline concerning its social quality. According to the municipality of Rotterdam (2010), this score is just too low to qualify the city as 'sufficient' on social aspects. Moreover, it turns out that the boroughs of 'Noord' (5.9), 'Kralingen-Crooswijk'(5.9), 'IJselmonde'(5.8), Feijenoord' (5.2), 'Delfshaven' (5.3) and 'Charlois'(5.2) got 'insufficient' scores on the 'Social Index 2010'. These relative low grades indicate the rather disturbing social quality in these boroughs. However, the other seven boroughs of the city of Rotterdam got sufficient scores for their social quality, with peak scores for the boroughs 'Pernis' (7.4) and 'Hoek van Holland' (7.7) (Municipality of Rotterdam 2010).

In figure 1, the scores on the ‘Social Index’ on index, aspect and theme level for the city of Rotterdam in general for the years 2008, 2009 and 2010 are shown.

Figure 1 Scores on the ‘Social Index’ on index, aspect and theme level for the city of Rotterdam (2008-2010)



Source Municipality of Rotterdam (2010:10)

From figure 1 it becomes clear that in 2010 the aspects participation and social environment get sufficient scores (respectively a score of 6.2 and 6.1), whereas the aspects personal capacities and social cohesion have scores that are too low to get the label ‘sufficient’ (respectively a score of 5.1 and 5.8). Especially problematic are the themes sufficient income (4.4), an adequate command of the Dutch language and sufficient health (both 4.8). In comparison with the years of 2008 and 2009 in 2010 the city of Rotterdam is characterised by decreasing scores on the aspects personal capacities, social environment, and social cohesion and an increasing score on the theme participation. Besides it should be remarked that the aspects and themes for which Rotterdam get sufficient scores are even just above the boundary of being characterised as sufficient. These outcomes together are kind of alarming.

Based on the grades that are exposed in figure 1, it becomes evident that the residents of the city of Rotterdam experience multidimensional arrears. Because the information that stems from the ‘Social Index 2010’ indicates that a part of the population of Rotterdam experiences multidimensional arrears, it seems plausible to assume that a part of the residents of the city of Rotterdam suffer from social exclusion, *whatever that exactly may be*. The situation of the residents of the city of Rotterdam needs further investigation, as well as the definition of the concept of social exclusion in order to state something about the deprived or socially excluded situation of the cities’ residents.

1.4 Research goals and research questions

The aim of this study is threefold. The first goal is to define social exclusion in an understandable way. This does not mean that in this study a new conceptual framework is presented. Instead, it is endeavoured to logically order the conceptual ideas about social exclusion in the hope that a clear definition of the notion of social exclusion can be given. The second goal of this study is to give insights into the extent of social exclusion experienced by the residents of the city of Rotterdam. In order to provide these insights a measuring instrument should be developed. In this study it is attempted to use one of the already existing techniques in order to create an index to measure the extent of social exclusion of the inhabitants of Rotterdam. The third goal of this study is to demonstrate the explanations of social exclusion of the residents of the city of Rotterdam. From the moment the municipality gets insights into the causes of the socially excluded position of its residents, it becomes imaginable to intervene in the deprived situation in which many residents of Rotterdam live in.

In the literature, three levels of explaining poverty and social exclusion exist; analytically, social exclusion is caused by actors on the macro, micro and meso level (Jehoel-Gijsbers 2004: 22 and 38-39; Jehoel-Gijsbers & Vrooman 2007: 15 and 19; Vranken 2004: 746. At the macro level national policies may be influencing poverty and social exclusion if these policies enhance the risk on social exclusion or poverty or if the measures that are mobilised in order to combat social exclusion and poverty seem to be ineffective (Jehoel-Gijsbers 2004: 22; Jehoel-Gijsbers & Vrooman 2007: 15). This makes the national government an actor of social exclusion. Moreover, the welfare state itself is perceived as an actor of causing poverty and social exclusion on the macro- level due to the fact that the welfare state makes its residents dependent and passive (Jehoel-Gijsbers & Vrooman 2007: 15). Besides, on the macro level, general socio-economic developments may result in social exclusion as well. Examples of these socio-economic developments are demographic transitions, rising unemployment on account of economic recession, changes in the labour supply and demand, or cultural changes such as a slackening of the work-ethic and mutations in the subcultures that exist in the societies (Jehoel-Gijsbers 2004:22; Jehoel-Gijsbers & Vrooman 2007:15-16). On the meso level, which is also referred to as civil-society (Vranken:746) also actors of social exclusion exist. Meso-level explanations that underlie poverty and social exclusion are for example policies on the municipality level (Jehoel-Gijsbers & Vrooman 2007:15). Besides, the intermediate organisations that carry out government policy in education, health and social security are actors of social exclusion on

the meso-level, since favours of individual employees, unclear goal-definitions, an inefficient work process, a high case load etc. are meso level characteristics that may lead to social exclusion (Jehoel-Gijsbers 2004:15). Also the fellow citizens may affect social exclusion by discriminating and morally rejecting people who are different (e.g. discrimination that occurs in hiring and firing employees by selecting them based on ethnicity, age, health status, gender etc.) (Schuyt & Voorham 2000, in Jehoel-Gijsbers & Vrooman 2007:15). Furthermore, on the micro level individual citizens can be perceived – to a certain extent - as agents of their own social exclusion. “Drug addiction or school dropout, for instance, may be important causes for shortages on several dimensions; and these are partly based on choices made by the individual person” (Jehoel-Gijsbers & Vrooman 2007:15).

In this study, only a focus exists on micro-level explanations for social exclusion. One of the reasons to solely include individual-level characteristics as possible causes for social exclusion is owing to the fact that macro-level characteristics do not contribute to explain differences in the degree of social exclusion experienced by the residents of the city of Rotterdam, as all the cities’ residents are exposed to the similar circumstances at the macro level. Another reason to have a sole focus on the micro level is because the ‘Rotterdam Neighbourhood Survey 2011’, the dataset that is used to perform the empirical study, does not contain many indicators that might represent meso-level characteristics that explain social exclusion. The only meso level determinant that can be used based on ‘Rotterdam Neighbourhood Survey 2011’ in explaining social exclusion is the socio-economic status of the neighbourhood. However, previous research showed that meso-level determinants such as the neighbourhood effect do not contribute a lot to the individual level determinants in explaining social exclusion (Jehoel-Gijsbers & Vrooman 2007:28). As the micro level determinants are commonly used determinants in the previous literature with a rather high explanatory power, a mere focus on the micro level determinants is sufficient to develop an understanding of the main determinants of social exclusion.

By looking for an answer on the following research-question(s) it is endeavoured to accomplish the three goals of this study (i.e. defining, measuring and explaining social exclusion of the residents of the city of Rotterdam):

What is the extent and the nature of social exclusion of the population of Rotterdam and what is the role of various individual level characteristics on the degree of social exclusion of the residents of the city of Rotterdam?

Four sub-questions are central in this study:

- (5) *What is social exclusion and how is it related to poverty – another multidimensional concept which has been frequently used in the literature – that indicates the personal state of deprivation?*
- (6) *While creating an index for social exclusion of the population of Rotterdam, which dimensions should be distinguished and can these distinct dimensions eventually be aggregated in a general index for social exclusion?*
- (7) *To what extent is the population of Rotterdam in a socially excluded position?*
- (8) *What is the role of individual level characteristics on the degree of social exclusion of the residents of the city of Rotterdam?*

Answers on these research questions might be essential for constructing policy in order to combat social exclusion in the city of Rotterdam.

1.5 A combination of a literature review and secondary analysis

In this study answers on the research questions are searched for by writing an extensive literature review about social exclusion and a secondary analysis of the dataset “Rotterdam Neighbourhood Survey 2011”. This dataset focuses on the resident’s perception of the social climate in the city of Rotterdam. The dataset stems from the Centre for Research and Statistics, the research and statistical institute of the municipality of Rotterdam.

1.6 Relevance

Apart from the fact that the municipality of the city of Rotterdam wants to gain insight into the degree in which the residents of the city of Rotterdam are in a social vulnerable position in order to eventually interfere into the problems, additional reasons can be given why it is socially and scientifically relevant to investigate the social vulnerable position of Rotterdam’s residents. First of all, in view of the possibility that long-term poverty or social exclusion might lead to a culture of poverty, in which the escape route becomes less and less discernible by time, it is essential to study the socially excluded position of the residents of the city of Rotterdam in order to prevent these city dwellers to get stuck in the culture of poverty (Reelick et al. 2008:8). Secondly, it is relevant to study the social excluded position of the residents of the city of Rotterdam, since this is one of the first Dutch studies about social

exclusion that focuses on a city in particular. As was already mentioned, previous studies mainly had a focus on social exclusion (in a specific country) in general. Thirdly, Jehoel-Gijsbers and Vrooman (2007) observed that despite the fact that there is a growing awareness in the literature that social exclusion is manifested at multiple dimensions, there is no consensus yet which dimensions are involved, how these dimensions are related to each other, how these dimensions can be best merged in order to create a general index of social exclusion, and what the causes are of high scores on indices related to poverty and social exclusion. This study provides help into ordering and measuring the dimensions, and structuring the individual level causes of social exclusion that have been distinguished in the previous literature.

1.7 Outline

This study, first, presents an extended literature review on the topic of social exclusion. This literature review that is demonstrated in chapter 2, can be considered as a theoretical framework on social exclusion and its related concept of poverty, as social exclusion is conceptualised by contrasting the concept to poverty. In the theoretical framework, the concept of social exclusion of the residents of the city of Rotterdam is conceptualised after reviewing the definition of social exclusion that is presented in the literature. Besides, the measurement of social exclusion in preceding studies comes up for consideration by illustrating which dimensions of social exclusion are distinguished in foregoing studies and how a general index for social exclusion is created in these studies. Besides, the theoretical framework focuses on the most important explanations of social exclusion on the individual level that have been ventilated in the literature. Based on theoretically constructed models the most important individual level determinants for social exclusion of the residents of the city of Rotterdam are ventilated. In chapter 3 attention is paid to the dataset that is used in this study and the methods that are applied in order to create a general index for social exclusion of the residents of the city of Rotterdam and to explain the socially excluded position of the cities' residents. Moreover, the chapter pays attention to the operationalisation of the key variables that are used in the study. Chapter 4 shows the results of the study. Both descriptive and explanatory results are demonstrated. In chapter 5 important matters concerning this study are concluded and discussed. Within this chapter both policy recommendations for the municipality of Rotterdam and recommendations for future research on the topic of social exclusion are ventilated.

CHAPTER 2: LITERATURE REVIEW: FROM DEFINITIONS, MEASUREMENT AND EXPLANATIONS OF SOCIAL EXCLUSION TO HYPOTHESES ABOUT SOCIAL EXCLUSION OF INHABITANTS OF ROTTERDAM

Even though the eradication of social exclusion has become a key objective in national and EU government policy, the best way of defining and measuring social exclusion is still disputed in the scientific literature. Due to this lack of unanimity in the definition and the measurement of social exclusion, the objective of reducing social exclusion is hampered (Jehoel-Gijsbers 2007:9; Jehoel-Gijsbers et al. 2008:109; Roest et al. 2010: 7; Fløtten 2006:7) In addition, the lack of a clear and complete theoretical model that helps to explain social exclusion in terms of risk factors can be seen as an obstacle in eliminating social exclusion.

Many foregoing studies focused on the definition and measurement of social exclusion. Besides, there are some studies that included explanations of social exclusion (see for instance Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Fløtten 2006). However, the abundance of studies with a focus on the definition, measurement and explanations of social exclusion led to enormous confusion. Based on a literature review, in which conclusions and outcomes of many of the previous studies about social exclusion are incorporated, it is endeavoured to come towards a definition and a general accepted measurement approach of social exclusion on the one hand, and a theoretical model that includes theories that explain social exclusion based on individual level risk factors on the other hand.

It should be emphasised that this study does not present a complete new conceptual framework or a new measurement instrument of social exclusion. Instead, mainly the ideas about defining, measuring and explaining social exclusion that stem from preceding studies are demonstrated in a logical order in the hope that eventually the concept of social exclusion can be defined, measured and explained in an understandable way. Nevertheless, in the explaining part of this study, a small contribution is made to the existing literature about social exclusion. This is due to the fact that many foregoing studies with a focus on explaining social exclusion on the micro level did not – at least not with emphasis – include underlying mechanisms for the assumed relationship between the risk factors of social exclusion and social exclusion itself (see Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009; Roest et al. 2010). This means that the theoretical models that already exist in these studies are not – explicitly – based on scientific theories. Moreover, other studies (see for instance Fløtten 2006) *do* have a small focus on underlying mechanisms between individual level risk factors and social exclusion,

even though these studies solely focus on *some* of the individual level risk factors of social exclusion. Besides, the theories that lay behind the assumed relationships between risk factors and social exclusion cannot *directly* be found in these studies. As a scholar reading these studies while searching for theories or underlying mechanisms that explain social exclusion on the micro level, it is extremely important to read between the lines and link many paragraphs and sentences to each other in order to find the theoretical relationships between the risk factors of social exclusion and social exclusion itself.

For those reasons, in this study the already existing theories or underlying mechanisms that can be found in the literature between individual level risk factors of social exclusion and social exclusion are ordered in a logical order. Besides, the lacking mechanisms between the risk factors and social exclusion are completed by presenting new theoretical models in which information from previous literature that can be linked to the risk factors of social exclusion and social exclusion itself is incorporated. This eventually leads to a theoretical model in which many important risk factors of social exclusion are integrated. The final theoretical model has not been shown in the previous literature about social exclusion before, even though the information that is presented in the model is to great extent based on the previous literature about social exclusion or related topics.

This chapter or “the literature review on the topic of social exclusion” starts with a section in which the attempt to define social exclusion is central. Within the same section, attention is paid to the measurement of social exclusion. In the second section of this chapter, a theoretical model is presented that explains social exclusion on the micro level. This implies that several individual level determinants are demonstrated that are assumed to increase the risk of social exclusion. Also the possible underlying mechanisms for the assumed relationship between risk factors and social exclusion are ventilated. In both sections of the literature review an important contribution is made by the studies of the Netherlands Institute for Social Research, although many other studies are central in this chapter as well. Each section contains hypotheses that are tested in this study about the socially excluded position of inhabitants of the city of Rotterdam. These hypotheses are principally² based on the information that is introduced in the literature review.

2.1 Defining and measuring social exclusion

The first section of this chapter concerns the definition and measurement of social exclusion in general, and social exclusion of the residents of the city of Rotterdam in particular. In order to come to a definition of social exclusion, it is necessary to make a distinction between a

direct definition and indirect definition (see paragraph 2.1.1). Besides, in order to define social exclusion it is important to dwell on the distinction between poverty and social exclusion (see paragraphs 2.1.2 till 2.1.4). Furthermore, while defining social exclusion it is necessary to be aware of some basic assumptions about social exclusion that have been made in the literature, such as the multidimensionality of the concept (see paragraph 2.1.4 and 2.1.5). In paragraph 2.1.6 the focus is on the measurement of social exclusion, as in this paragraph attention is paid to the construction of dimensions of social exclusion. Based on this latter paragraph, some expectations about the dimensions of social exclusion of the residents of the city of Rotterdam are made in paragraph 2.1.7. Paragraph 2.1.8 again pays attention to the measurement of social exclusion. Within this paragraph it is explained how a general index of social exclusion can be constructed based on research methods that have been applied in prior research. Besides, results of previous studies about the general index for social exclusion that they have constructed are shown. At last, and based on the preceding paragraph, an hypothesis is introduced about the general index of social exclusion of the inhabitants of the city of Rotterdam in paragraph 2.1.9.

2.1.1. Confusion in defining social exclusion due to an indirect definition

In 2001 the British government defined social exclusion by the following definition: “a shorthand term for what *can* happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environment, bad health and family breakdown” (Social Exclusion Unit 2001, in Jehoel-Gijsbers 2004:168; Social Exclusion Unit 2001, in Jehoel-Gijsbers & Vrooman 2007:11). The definition illustrates the difficulty of providing a well-balanced definition of social exclusion: social exclusion is perceived as a possible result of a number of risk factors, without expounding that result. Merely the factors (on an individual-level) that affect the *risk* of social exclusion are being spelled out, whereas it has been left implicit what is meant by the term social exclusion itself (Jehoel-Gijsbers 2004:168; Jehoel-Gijsbers & Vrooman 2007:11). Like the British government, the European member states as well as many other studies define and operationalise social exclusion in this indirect way, by indicating the factors that influence the risk of social exclusion (European Commission 2002:10, in Jehoel-Gijsbers & Vrooman 2007:12; Jehoel-Gijsbers 2004:168; Jehoel-Gijsber & Vrooman 2007:11; Dirven & Jehoel-Gijsbers 2004:58). In these studies, the concept of social exclusion is not observed itself, but rather its potential causes or predicators (Jehoel-Gijsbers & Vrooman 2007: 11). In fact, the risk factors are presented as a proxy to indicate the extent of social exclusion (Jehoel-Gijsbers

et al. 2008:112). Examples of these risk factors are a low income, alcoholism and drug abuse, low education level, immigration, unskilled labour, poor health, old age, school dropout, gender inequality and living in a 'problem accumulation area' (Jehoel-Gijsbers 2007:12). Lack of labour market participation and a low income are widely seen as the factors that have the biggest negative influence on the prospect of social inclusion (Jehoel-Gijsbers 2007:12). In other words, these studies do not observe social exclusion itself, but rather its potential causes or predictors, with the focus being mainly or exclusively on individual risk factors

However, several studies show relative weak correlations between a low income or lack of labour market participation on the one hand and features of social exclusion on the other hand (Saraceno 2001:5 and 9, in Jehoel-Gijsbers & Vrooman 2007:12). According to these studies, a low income or unemployment does not always lead to social exclusion, which, in turn, means that people can be socially excluded without having a low income or being unemployed (De Koning & Mosley 2001:7, in Jehoel-Gijsbers & Vrooman 2007:12; Bailey 2006:180, in Jehoel-Gijsbers & Vrooman 2007:12; Levitas 2006:155, in Jehoel-Gijsbers & Vrooman 2007:12). It seems plausible to expect that if the low correlation holds for the main risk factors low income and unemployment, then this low correlation also holds for the other - less important - risk factors. Probably, the risk factors that are used as proxy variables for social exclusion are not close enough. Therefore, social exclusion can better be defined in a direct way (Jehoel-Gijsbers & Vrooman 2007:12).

The risk factors of social exclusion are presented in the second part of this study. Within this second section the individual level risk factors are ventilated as micro explanations of social exclusion. This means that in this study risk factors of social exclusion no longer act as a manner of defining social exclusion. Instead, risk factors can be perceived as determinants of social exclusion. Returning to the definition of social exclusion, a more direct definition is preferred (Jehoel-Gijsbers & Vrooman 2007: 11-12, 18). Before a clear direct definition of social exclusion can be provided, it is important to focus on the conceptual distinction between poverty and social exclusion.

2.1.2 Distinction between poverty and social exclusion

It has become clear that a lot of confusion exists in defining the concept of social exclusion. This is mainly because social exclusion is evolved from the concept of poverty (Dewilde 2008b: 26); the concept of social exclusion has been arised as an euphemism of poverty (Berghman 1995, in Jehoel-Gijsbers et al 2009:7). From the moment the term social exclusion was born, the notions of poverty and social exclusion have been used interchangeably and

alongside each other (Dirven & Jehoel-Gijsbers 2004:57). Before we ignore all distinctions between these concepts, these two concepts are studied separately.

At the end of the 19th century poverty was perceived as an absolute conception (Dewilde 2008b:26). The British pioneers in poverty research, Rowntree and Booth, defined poverty in terms of an emergency condition that arises from a lack of access to primary resources, such as nourishment and shelter. (Dewilde 2008b:26). According to Alcock (2006:67) absolute poverty is based on the idea of subsistence, which is the minimum that is necessary to sustain life. Someone below the subsistence level does experience absolute poverty, since the person is in lack of necessities to live on. The absolute poverty theorists assume that persons who do not have enough to live on, will soon starve, because they have nothing to eat, or because they are frozen (Alcock 2006). After the WOII, poverty temporarily got minimal attention in the Western countries, as the labour movement reached many improvements regarding wages, working conditions and social rights and since the post-war welfare state elaborated during a period of strong economic growth. During this period transformations in the idea of poverty being an absolute and material phenomenon were witnessed (Dewilde 2008b:26). During the 1960s the concept of poverty showed up again, though in a renewed form (Dewilde 2008b:26). The most highly cited publication after the WOII around the topic of poverty is probably Townsend's *Poverty in the UK* (1979:31, in Dewilde 2008b:26; Townsend 1979, in Alcock 2006:64).

“Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary [...] in the societies to which they belong” (Townsend 1979:31, in Alcock 2006:64).

With his definition, Townsend (1979, in Alcock 2006) presents a more relative definition of poverty. Poverty is now defined as something that prevents people from being a participant in the activities that are common in the society in which they reside (Alcock 2006:64; Dewilde 2008b:26). Within this relative definition, it is assumed that the customary living patterns in the society, at least, imply that the material basic needs, like nutrition and shelter are accomplished (Dewilde 2008b:27). Relative poverty then exists if the personal position deviates from the customary living patterns in the society, on condition that the material basic needs are accomplished (Dewilde 2008:27; Jehoel-Gijsbers et al. 2009). Due to the relative definition of poverty, all countries – even the wealthiest – are affected by poverty (Szeles & Tache 2008:370).

It becomes clear from his definition that Townsend (1979:31, in Alcock 2006:64) perceives poverty as a multidimensional aspect instead of an unidimensional concept that solely refers to the material dimension of poverty. The poverty line in Townsend's definition thus corresponds to a minimal life standard which contains material as well as immaterial needs. Apparently, the modern, relative, poverty concept refers to a socio-cultural and economic minimal standard of life (Dewilde 2008b:26; Muffels 1993; in Raeymaeckers & Dewilde 2007:118). This means that apart from deprivation on the material dimensions, people may also be deprived with regard to employment, social relations, and capacities to effectuate civil rights (e.g. the right to housing, education and health care) (Jehoel-Gijsbers 2009:8; Raeymaeckers & Dewilde 2007:118). The contemporary notion that poverty is a multidimensional concept in the Western world is acknowledged by many other researchers (see Bourguignon & Chackravarty 2003; Dekkers 2008; Jehoel-Gijsbers 2004; Jehoel-Gijsbers et al. 2009; Jehoel-Gijsbers & Vrooman 2007; Nolan & Whelan 1996; Room 1995; Szeles & Tache 2008; Tomlinson et al. 2008; Townsend 1985; Whelan & Whelan 1995; Whelan et al. 2004; Vranken 2001, in Dewilde 2007:236). From the following definition it becomes clear that nowadays poverty is a multidimensional and a relative concept in western countries:

“The lack of material and/or immaterial conditions of existence that enable full citizenship” (free translated in Engbersen & Snel 1996, in Jehoel-Gijsbers et al. 2009:9)

The renewed vision on poverty banished the old assumptions of poverty, such as poverty being an absolute, unidimensional concept that is mainly related to the distribution of income and goods (Jehoel-Gijsbers 2004:168; Jehoel-Gijsbers & Vrooman 2007:13; Jehoel-Gijsbers et al. 2009:8). In fact, the meaning of the old and new poverty concept points to the fact that there is a difference between poverty in a strict and broad sense (Jehoel-Gijsbers et al. 2009:9; Jehoel-Gijsber 2004:19-20). Poverty is no longer perceived as a strict concept. Instead poverty refers to a broad concept that next to its multidimensionality and relativity also refers to relational aspects (Jehoel-Gijsber 2004:19-20; Jehoel-Gijsbers et al 2009:9). This broad poverty definition can be noticed as a synonym for the concept of social exclusion (Jehoel-Gijsbers 2009:9) as social exclusion in general refers to a relative and multidimensional concept that especially focuses on relational aspects (e.g. social participation, integration, social engagement and the sharing of norms and values) (Jehoel-Gijsbers 2004:168; Jehoel-Gijsbers & Vrooman 2007:13; Jehoel-Gijsbers et al. 2009:8). The only difference between the

broad poverty concept and social exclusion that still stands up in the literature is the fact that the causes for the broad poverty concept are always financial, whereas in the case of social exclusion other causes (e.g. illness, old age and discrimination) than economic deficiencies may lead to multidimensional deprivation (Jehoel-Gijsbers 2004:168; Jehoel-Gijsbers 2009:9).

Thus, it can be concluded that poverty in a strict or unidimensional sense (i.e. as how it was defined in the past) differs from social exclusion, whereas a more broad or multidimensional definition of poverty refers to social exclusion, with exception of the causes. The latter poverty definition is more commonly used in contemporary poverty research.

2.1.3 A reflection on the difference between poverty and social exclusion

As it is illustrated in the previous paragraph, multidimensional poverty and social exclusion are concepts that are very close to each other. Though, there have been times that these concepts were perceived as contrasting notions (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2009). The original contradiction between poverty and social exclusion can be tracked back to the fact that these concepts originated from two different scientific traditions.

The first tradition is called the French scientific tradition. This tradition builds upon the theories of Durkheim (1897, in Jehoel-Gijsbers & Vrooman 2007:13). Within these theories ideas of anomie (the risk of alienation), social cohesion and solidarity are central. Within this perspective a relational dimension is ventilated, and therefore the French tradition tends more towards the concept of social exclusion than to the concept of poverty, which is the core issue of the second scientific tradition. The second scientific tradition is referred to as the Anglo-American tradition (Jehoel-Gijsbers 2004:17; Jehoel-Gijsbers 2007:13). Within this tradition a more distributional dimension is raised that refers to the original notion of poverty. Theories of social inequality and relative deprivation are central within this second tradition (Jehoel-Gijsbers 2004:17; Jehoel-Gijsbers 2007:13). The fact that poverty and social exclusion have both been evolved from distinct scientific traditions explains why the concepts of poverty and social exclusion originally differed from each other. However, it has become clear in the foregoing paragraph that during the last decades, differences between these two concepts have been vanished to great extent (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman (2007); Jehoel-Gijsbers et al. 2009).

2.1.4 *A new concept of social exclusion: the Anglo-American and French traditions combined*

Even though social exclusion is not presented as a clear and unambiguous concept in the literature, it can be said that there is a general consensus in the literature – and in particular within the research about social exclusion performed by the Netherlands Institute for Social Research – about several aspects of social exclusion (Jehoel-Gijsbers et al. 2008:110; Jehoel-Gijsbers et al. 2009: 16). The first aspect is the multidimensionality of the concept: social exclusion refers to deprivation on various dimensions. The second aspect of social exclusion is its relativity: social exclusion cannot be perceived as an absolute notion. Instead, it should be observed as a relative phenomenon that compares the individual's situation with the situation of others, in a given society. Consensus also exists on the fact that a distinction can be made between the risk factors that increase the risk of social exclusion, such as a low income and poor health, and the features that describe the actual state of social exclusion (Jehoel-Gijsbers et al. 2008:110; Jehoel-Gijsbers et al. 2009: 16).

Even though the general accepted conclusion that social exclusion exists of multiple dimensions, still differences in both the theoretical and empirical studies can be perceived concerning the dimensions of social exclusion that in fact are distinguished (Jehoel-Gijsbers et al. 2008: 110; Jehoel-Gijsbers et al. 2009:16). In some definitions, the dimensions of social exclusion are specified, such as lack of participation in the social, cultural, political and economic domains. In other definitions, it is only indicated that social exclusion focuses on several important domains in life, although the domains are not concretised in more detail (Jehoel-Gijsbers et al. 2008:110). At the same time, differences exist in the dimensions that are distinguished in empirical research, since these empirical dimensions turn out to be dependent on the available dataset. Diversity in the available datasets that can be used to measure social exclusion thus leads to variation in the operationalisation of dimensions (Jehoel-Gijsbers et al. 2008: 110-111; Jehoel-Gijsbers et al. 2009:16). However, even if scholars use the same dataset (for example the European Community Household Panel), still differences emerge in the dimensions that are theoretically and empirically discerned (Jehoel-Gijsbers et al. 2009: 16). Nevertheless, almost every study on social exclusion distinguishes one or more material and immaterial dimension(s) (Jehoel-Gijsbers et al. 2008: 111).

In the studies of the Netherlands Institute for Social Research on the topic of social exclusion, the researchers have distinguished two main dimensions: an economic-structural dimension, which has a distributional character, and a social-cultural dimension, which is characterised by its relational nature. Within the economic-structural dimension two distributional aspects are identified: material deficiencies in terms of income and goods, and

deficiencies in social rights, which are immaterial. The social-cultural dimension points to deficiencies in social integration and cultural integration (Jehoel-Gijsbers 2004:169; Jehoel-Gijsbers & Vrooman 2007:16). According to this classification in dimensions, social exclusion refers to material and immaterial aspects (Dirven & Jehoel-Gijsbers 2004:60). Besides, within this classification of dimensions of social exclusion, no distinction has been made between poverty and social exclusion. According to the studies of the Netherlands Institute for Social Research, it might be better to combine the two existing traditional perspectives (see paragraph 2.1.3) in order to come to a definition of social exclusion than defining social exclusion by contrasting it to the concept of poverty (Jehoel-Gijsbers 2004:169; Dirven & Jehoel-Gijsbers (2004: 60); Jehoel-Gijsbers & Vrooman 2007: 16). Thus, by combining the distributional dimensions that stem from the Anglo-American approach, and the relational dimensions that originate from the French school, the studies of the Netherlands Institute for Social Research on social exclusion have come towards a new concept of social exclusion (Jehoel-Gijsbers 2004:169; Dirven & Jehoel-Gijsbers (2004: 60); Jehoel-Gijsbers & Vrooman 2007: 16).

In insert 1, the theoretical dimensions of social exclusion that exist according to the studies of the Netherlands Institute for Social Research (see Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al 2008; Jehoel-Gijsbers et al. 2009) are demonstrated more explicitly by presenting several indicators for each dimension. These indicators are characteristics that describe the actual state of social exclusion (Jehoel-Gijsbers & Vrooman 2007).

Insert 1 Characteristics of social exclusion according to the studies of the Netherlands Institute for Social Research that have a focus on social exclusion

A. Economic/structural exclusion (distributional dimension):

1. Material deprivation:

Deficiencies in relation to basic needs and material goods; 'lifestyle deprivation'; problematic debts; payment arrears (a.o. housing costs).

2. Inadequate access to government and semi-government provisions ('social rights'):

Waiting lists, financial impediments and other obstacles to: health care, education (especially of children), housing, legal aid, social services, debt assistance, employment agencies, social security, and certain commercial services (such as banking and insurance); insufficient safety.

B. Socio-cultural exclusion (relational dimension):

3. Insufficient social integration:

A lack of participation in formal and informal social networks, including leisure activities; inadequate social support; social isolation.

4. Insufficient cultural integration:

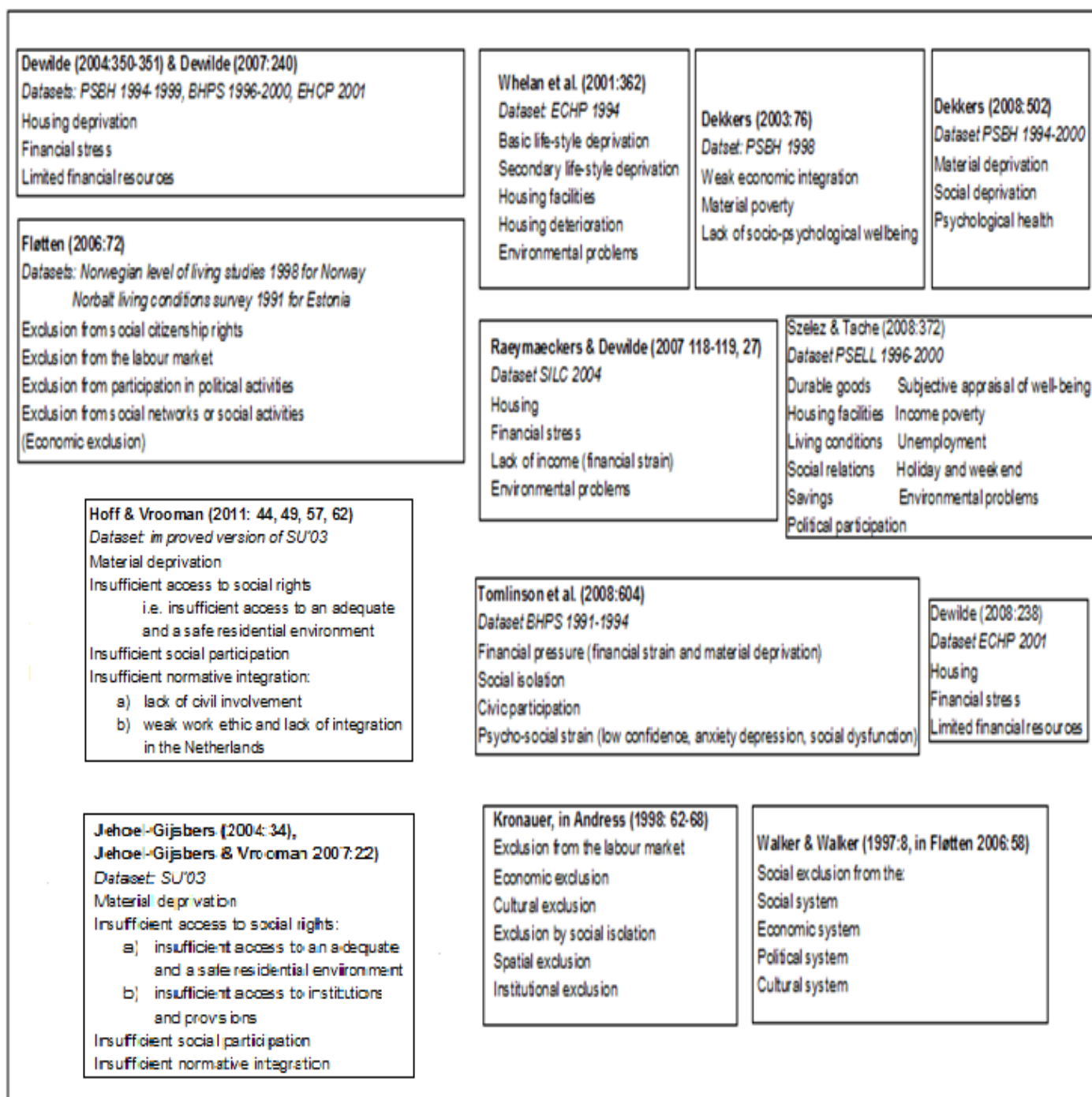
A lack of compliance with core norms and values associated with active social citizenship, indicated by a weak work ethic; abuse of the social security system; delinquent behaviour; deviating views on the rights and duties of men and women; no involvement in the local neighbourhood and society at large.

Source Jehoel-Gijsbers (2003:41); Jehoel-Gijsbers (2004:34); Jehoel-Gijsbers & Vrooman (2007:17); Jehoel-Gijsbers et al. (2008:111); Jehoel-Gijsbers et al. 2009:13).

2.1.5 More dimensions of social exclusion

Also in other studies characteristics of social exclusion are postulated. In the literature, many studies investigated the dimensions of social exclusion (and multidimensional poverty³) (Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Szeles & tache 2008; Kronauer, in Andress 1998; Tomlinson et al. 2008; Dewilde 2004; Dewilde 2008a; Whelan et al. 2001; Raeymaeckers & Dewilde 2007; Dekkers 2008; Walker & Walker 1997:8, in Fløtten 2006:58; Fløtten 2006:72). In figure 4, an overview is given of the dimensions of social exclusion or multidimensional poverty that have been distinguished empirically in the previous literature⁴.

Figure 4 Overview of dimensions of social exclusion and multidimensional poverty



Sources Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Szeles & Tache 2008; Kronauer, in Andress 1998; Tomlinson et al. 2008; Dewilde 2004; Dewilde 2007; Whelan et al. 2001; Raeymaeckers & Dewilde 2007; Dekkers 2008; Dekkers 2003; Walker & Walker 1997, in Fløtten 2006; Fløtten 2006; Dewilde 2008a.

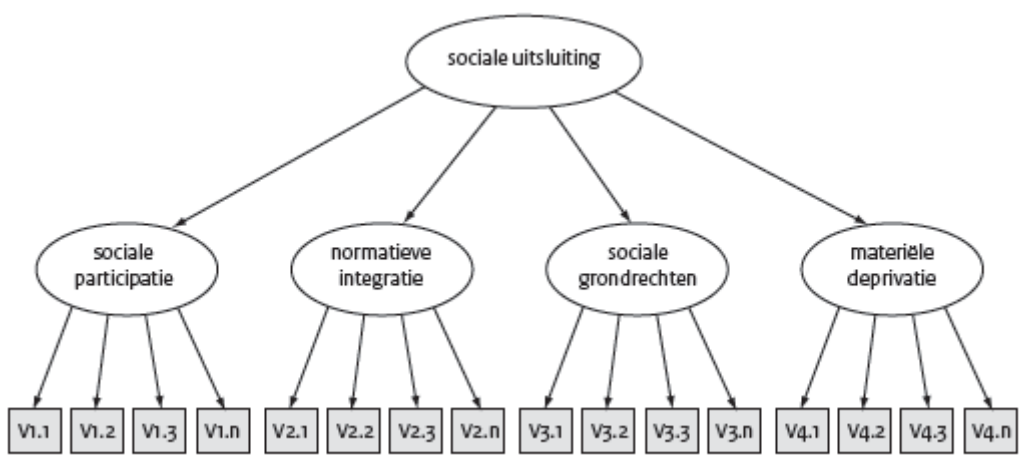
For detailed information about the content of the dimensions that are demonstrated in figure 4 and for more information about how these dimensions are constructed I refer to these studies themselves (see figure 4).

Again it should be remarked that it is acknowledged in the literature about social exclusion that in empirical research the concrete realisation of the dimensions can strongly be affected by the available datasets (Jehoel-Gijsbers et al. 2008:110; Townsend 1993:85, in Dekkers 2003:70). Besides, many researchers decide more pragmatically which indicators of deprivation are used to create a multidimensional poverty index (Townsend 1993:85, in Dekkers 2003:70). Therefore, the content of dimensions differs between studies. Nevertheless, practically all studies distinguished material and immaterial dimensions (Jehoel-Gijsbers et al. 2008: 111).

2.1.6. Constructing dimensions of social exclusion

Many previous studies about social exclusion or other multidimensional poverty concepts paid attention to the measurement of these multidimensional poverty concepts (Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2009; Szeles & Tache 2008; Tomlinson et al. 2008; Dewilde 2004; Dewilde 2007; Dewilde 2008a; Whelan et al. 2001; Raeymaeckers & Dewilde 2007; Dekkers 2008; Dekkers 2003). In figure 3, a measurement model for social exclusion is presented.

Figure 3 Measurement model for social exclusion



Source Hoff & Vrooman (2011: 21).

The measurement model of social exclusion that is displayed in figure 3 stems from the study of Hoff and Vrooman (2011:21), which is one of the studies about social exclusion of the Netherlands Institute for Social Research. The model clarifies that social exclusion (or multidimensional poverty) is defined and measured as a situation in which deprivation in various fields or dimensions⁵ accumulate. Each of these discerned fields or dimensions of deprivation are approximated with the available manifest indicators (V1.1...Vn) in the dataset. As the manifest indicators are more correlated with one another, the more likely it is that these indicators represent the same latent dimension of social exclusion (Hoff & Vrooman 2011:21; Dekkers 2008:503-504).

From the literature about social exclusion or multidimensional poverty, it has become clear that during the measurement of social exclusion or multidimensional poverty many studies have made a divide between the construction of latent dimensions that depict the theoretical dimensions of the multidimensional concept of social exclusion, and the construction of a model in which the latent dimensions are aggregated into one measure that may be mentioned social exclusion. Apparently – even though not in every study this is stated explicitly – , it can be noticed that many studies use a two-step approach in measuring social exclusion. In the studies about social exclusion of the Netherlands Institute for Social Research, this two-step approach is referred to as “the bottom-up approach”. The first step is about the construction of separate (sub)scales from several indicators that represent the theoretical dimensions of social exclusion whereas the second step is about the aggregation of the empirical dimensions of social exclusion into one single measure (Hoff & Vrooman 2011:40-41). These two additional steps are depicted in figure 3 when the figure is perceived from the bottom. In the recent study about measuring social exclusion by Hoff and Vrooman (2011:40, 67-71), in addition to the bottom-up approach also the top-down approach is used. Within this approach, the two steps in the creation of the general index for social exclusion are executed simultaneously (Hoff & Vrooman 2011:90). However, this paragraph focusses on the first step of the bottom-up approach: the construction of latent dimensions of social exclusion that depict the theoretical dimensions of the concept.

Many research methods exist to create dimensions of social exclusion. Examples of techniques that enable it to create the dimensions of social exclusion or multidimensional poverty are data-reducing techniques such as Factor Analysis (FA), Confirmatory Factor Analysis (CFA), Principal Component Analysis (PCA), Categorical Principal Component Analysis (CatPCA), a Structural Equation Model (SEM), and the first step in Latent Class Analysis (LCA) (see Dekkers 2003:67; Dekkers 2008:503-504; Hoff & Vrooman 2011:41;

Raeymaeckers & Dewilde 2007:120-121; Dewilde 2008a:238-239; Whelan et al. 2001:360-361; Szeles & Tache 2008:372; Tomlinson et al. 2008:601-603). In this literature review a sole focus exists on the analytical technique CatPCA, as this is the technique that has most commonly been used in research of the Netherlands Institute for Social Research about social exclusion (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009; Hoff & Vrooman 2011). By subjecting the items that might represent the theoretical dimensions of social exclusion to the Categorical Principal Component Analysis, it is investigated whether reliable indices of the theoretical dimensions of social exclusion can be constructed (Hoff & Vrooman 2011:40, 90). In other words: with this optimal scaling procedure it is examined whether the available items in the dataset that might theoretically cover the theoretical dimensions of social exclusion correlate high enough with each other in order to collapse into one or more distinct dimensions of social exclusion (Hoff & Vrooman 2011:41). At the same time, it is investigated whether a model with several sub-dimensions or sub-scales provides better solutions than a model with main dimensions and main scales (Hoff & Vrooman 2011:41).

2.1.7 Dimensions of social exclusion of inhabitants of city of Rotterdam

In chapter one, it has been put forward that one of the aims of this study is to define social exclusion of the residents of the city of Rotterdam. Therefore, in this paragraph the notion social exclusion of the residents of the city of Rotterdam is conceptualised. In other words, a definition of social exclusion that is used in this research is presented.

This study concurs in the general consensus that prevails in the literature about social exclusion being a relative and multidimensional phenomenon, which refers to traits that describe the actual state of social exclusion (i.e. status characteristics) on the one hand, and risk factors that increase the chance of social exclusion (i.e. process) on the other hand. In agreement with the studies of the Netherlands Institute for Social Research about social exclusion (see Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009), a direct definition of social exclusion is preferred in this study, and therefore only the traits that describe the actual state of social exclusion are important in defining the phenomenon of social exclusion of the residents of the city of Rotterdam. For that reason, the focus in this paragraph is exclusively on the status characteristics (i.e. dimensions or aspects) of social exclusion of the inhabitants of the city of Rotterdam.

Broadly speaking, in this study about social exclusion of the residents of the city of Rotterdam, the definition of social exclusion that is proposed in the studies of the Netherlands Institute for Social Research (see Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009; Hoff & Vrooman 2011) is *more or less* followed. This definition of the Netherlands Institute for Social Research is largely followed, since this is the most clear and complete definition of social exclusion that is provided in the literature, and because this definition is based on the general consensus in the literature that social exclusion is a multidimensional and relative phenomenon in which the distinction between a direct and indirect definition can be made.

While imitating the definition of social exclusion of the studies of the Netherlands Institute for Social Research, also in the definition of social exclusion of the residents of the city of Rotterdam the two scientific traditions are combined, which leads to the distinction of both material and immaterial dimensions of social exclusion (see paragraph 2.1.3). The four dimensions ‘material deprivation’, ‘inadequate access to government and semi-government provisions and institutions’, ‘insufficient social integration’ and ‘insufficient cultural/normative integration’ that are theoretically distinguished by these studies of the Netherlands Institute for Social Research serve as a fundamental idea for the theoretical dimensions of social exclusion that should be distinguished in this study. However, as it was noticed in paragraph 2.1.4, many differences exist concerning dimensions of social exclusion that are theoretically and empirically distinguished in foregoing studies about social exclusion. The dimensions that can be distinguished are to great extent dependent on the available dataset. Besides, researchers often decide more pragmatically which dimensions of social exclusion or other multidimensional phenomena can be distinguished; it has been left blank to the researchers themselves which dimensions of social exclusion should be discerned (Jehoel-Gijsbers et al. 2008:110; Townsend 1993:85, in Dekkers 2003:70). For that reason the content of dimensions varies between studies and therefore it is that the theoretical dimensions of social exclusion that are assumed to exist for the residents of the city of Rotterdam deviate to some degree from the theoretical dimensions of social exclusion that have been raised by the studies of the Netherlands Insitute for Social Research. Instead of an exact imitation of the theoretical discerned dimensions of social exclusion of the studies of the Netherlands Institute for Social Research, the theoretical dimensions of social exclusion of the residents of the city of Rotterdam are also based on other aspects.

First of all, the theoretical dimensions of social exclusion of the inhabitants of the city of Rotterdam that are presumed to exist are additionally based on the *empirical* dimensions of

social exclusion that exist in the literature. These empirical dimensions are summed up in figure 4 in paragraph 2.1.5 and include the empirical dimensions of social exclusion that are distinguished by several studies of the Netherlands Institute for Social Research as well as many other studies relating to the topic of social exclusion or multidimensional poverty.

Secondly, the presumed theoretical dimensions of social exclusion of the residents of the city of Rotterdam rest on the information that is available in the “Rotterdam Neighbourhood Survey 2011, which is the dataset that is used in this study. Due to limitations in the dataset, it is not possible to rely entirely on the theoretical dimensions of social exclusion discerned by the studies of the Netherlands Institute for Social Research on the one side and to the empirical dimensions of social exclusions that have been discerned by previous studies in the literature on the other side (see figure 4, in paragraph 2.1.5). This is because in these previous studies other datasets are used to measure social exclusion. Besides, owing to a specific emphasis on several subjects – such as attention that is paid to items with a local focus, or items with a focal point on cultural participation, or housing characteristics – that are raised in the “Rotterdam Neighbourhood Survey 2011” in contrast to the datasets that are used in the studies of the Netherlands Institute for Social Research and other previous studies to measure social exclusion, it is difficult to completely follow and imitate the dimensions that have been distinguished in the literature. This means that it seems plausible to assume that after comparing the “Rotterdam Neighbourhood Survey 2011” with the datasets that have been used in previous research to measure social exclusion, this thesis differs in the dimensions of social exclusion that can be empirically found. Because I am already well-posted on the empirical possibilities of this study, it seems reasonable to take these empirical possibilities into account while determining the theoretical dimensions of social exclusion of the residents of the city of Rotterdam.

Thirdly, the theoretical dimensions of social exclusion of the inhabitants of the city of Rotterdam that are assumed to exist in this study depend on the request of the Centre for Research and Statistics of the city of Rotterdam to stay as close as possible to the theoretical and empirical discerned dimensions of social exclusion of the studies of the Netherlands Institute for Social Research, although the dataset that is used in this study should be taken into account explicitly as well while distinguishing the theoretical dimensions of social exclusion of the residents of the city of Rotterdam. According to the Centre for Research and Statistics of the city of Rotterdam it should be investigated to what extent it might be expected that with the help of the “Rotterdam Neighbourhood Survey 2011” the same dimensions of social exclusion as the studies of the Netherlands Institute for Research and

Statistics can be distinguished. It should be investigated whether the same items are available in the “Rotterdam Neighbourhood Survey 2011” as the items that are used in the studies of the Netherlands Institute for Social Research to construct the dimensions of social exclusion. Based on this comparison between the available items in the “Rotterdam Neighbourhood Survey 2011” and the items that were used for the construction of dimensions of social exclusion by the studies of the Netherlands Institute for Social Research, it could be argued to omit some dimensions that were distinguished in the studies of the Netherlands Institute for Social Research while conceptualising social exclusion for the residents of the city of Rotterdam. Further, it could be decided to distinguish one or more extra dimension(s) of social exclusion, as compared to the dimensions that have been discerned by the studies of the Netherlands Institute for Social research, based on the possibilities of the dataset that is used in this study. Of course, it is endeavoured by the Centre for Research and Statistics of the city of Rotterdam to stay close to the theoretical dimensions of the Netherlands Institute for Social Research or the dimensions that have been distinguished by other previous studies, but with a view to the fact that in this study an already existing dataset is used which has not been developed with the specific aim to measure social exclusion, it was advised to deviate to some extent from the dimensions of social exclusion that have been discerned in the literature and to focus on the possibilities of the own dataset⁶.

Thus, in fact, the theoretical dimensions of social exclusion of the inhabitants of the city of Rotterdam that are supposed to exist are founded on a combination of:

- the theoretical dimensions that have been discerned by the studies of the Netherlands Institute for Social Research about social exclusion;
- the empirical dimensions that have empirically been discerned by the studies of the Netherlands Institute for Social Research about social exclusion;
- the empirical dimensions that have been discerned by other studies with a focus on social exclusion;
- statements in the previous literature about the facts that during the differentiation of dimensions of social exclusion many pragmatic choices are made by the researchers, that the dimensions that can be distinguished are to great extent dependent on the available datasets, and that there is still conceptual disagreement among scholars in defining social exclusion, something which also affects the determination of the dimensions of social exclusion (Jehoel-Gijsbers et al. 2008:110; Townsend 1993:85, in Dekkers 2003:70; Dewilde 2008b:25);

- a comparison of the items that are present in the “Rotterdam Neighbourhood Survey 2011” and the items that have been used for distinguishing the dimensions of social exclusion by the studies of the Netherlands Institute for Social Research and other previous studies about social exclusion;
- the request of the Centre for Research and Statistics of the Municipality of the city of Rotterdam to strive to incorporate the dimensions that have been discerned by the studies of the Netherlands Institute for Social Research as far as that is possible with the available dataset. The dimensions for which it is expected not to be possible to be measured with the available dataset, should not be theoretically distinguished. Besides, if it is expected that with the “Rotterdam Neighbourhood Survey 2011” one or more additional dimension(s) can be distinguished as compared to the dimensions that have been discerned by the studies of the Netherlands Institute for Social Research, these dimensions of social exclusion should be distinguished theoretically as well for the residents of the city of Rotterdam;

A combination of these aforementioned guidelines leads to a different theoretical interpretation of social exclusion than the already existing conceptual frameworks of social exclusion. Taken into consideration all these guiding principles, eventually, it might be presumed that the concept of social exclusion of the city of Rotterdam exists of the following (sub)-dimensions⁷:

- Dimension 1: Material deprivation
- Dimension 2a: Social rights: insufficient access to institutions and provisions
- Dimension 2b: Social rights: insufficient access to an adequate housing
- Dimension 2c: Social rights: insufficient access to an adequate residential environment
- Dimension 3: Insufficient social participation
- Dimension 4: Insufficient cultural participation

Therefore, the first hypothesis is:

H1: The concept of social exclusion of the city of Rotterdam exists of the dimensions 'material deprivation', 'social rights', which exists of the three sub-dimensions 'insufficient access to institutions and provisions', 'insufficient access to an adequate housing', and 'insufficient access to an adequate residential environment', 'insufficient social participation', and 'insufficient cultural participation'.

When these theoretical assumed dimensions of social exclusion of the city of Rotterdam are observed in a more concrete sense, it can be stated that this study deviates from the theoretical dimensions of the studies of the Netherlands Institute for Social Research concerning the dimension normative integration; in contrast to the studies about social exclusion of the Netherlands Institute for Social Research in this study the dimension normative integration has not been theoretically distinguished. This discrepancy in theoretical dimensions can be blamed to differences in the available dataset. At the same time, this should not be problematic, since in most studies of the Netherlands Institute for Social Research about social exclusion (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Roest et al. 2010) it turns out that the dimension 'normative integration' cannot be operationalised in a correct way, which leads to the fact that this dimension is eventually removed from the analysis. In these studies a general index for social exclusion is constructed without the incorporation of the normative dimension.

Besides, in this study about social exclusion of the residents of the city of Rotterdam a conceptual distinction with the studies of the Netherlands Institute for Social Research exists in the fact that the 'social rights' dimension in this thesis is threefold instead of twofold. Since the studies of the Netherlands Institute for Social Research have empirically distinguished the sub-dimensions: 'insufficient access to an adequate and a safe residential environment', and 'insufficient access to institutions and provisions' and since other studies about multidimensional poverty or social exclusion discerned dimensions such as 'environmental problems', 'housing' or 'housing deterioration' or 'housing facilities', and because in the Rotterdam Neighbourhood Survey 2011 many items concerning 'local provisions and institutions', 'housing' and 'the residential environment' are available, a combination of all these dimensions or possible dimensions leads to a three-fold theoretical distinction of the dimension 'social rights' of the residents of the city of Rotterdam (i.e. 'insufficient access to institutions and provisions', 'insufficient access to an adequate housing', and 'insufficient access to an adequate residential environment').

Moreover, another conceptual difference may be perceived between the theoretical dimensions that have been discerned in this study and the theoretical dimensions that have been distinguished in the previous studies of social exclusion, and in particular by the studies of the Netherlands Institute for Social Research: in this study the dimension ‘insufficient cultural participation’ is additionally used in theoretical sense. This owes to the fact that the Centre for Research and Statistics explicitly requested to distinguish an extra dimension with the Rotterdam Neighbourhood Survey 2011. As this dataset emphasises items concerning cultural participation in the city of Rotterdam, it is chosen to make a distinction into a separate cultural dimension. The items that might represent this dimension ‘cultural participation’ are more or less comparable to items that measure this specific aspect of social participation in the studies of the Netherlands Institute for Social Research. In fact, this means that in this thesis, the items that are used to measure the cultural dimension are similar to the items that are used to measure a specific aspect of the dimension social participation in the studies of the Netherlands Institute for Social Research. The only change is that in this thesis the items that might measure ‘insufficient cultural participation’ are coalesced under the dimension ‘insufficient cultural participation’ instead of ‘insufficient social participation’

In short, in order to define the concept of social exclusion, the direct definition that is used by the studies of the Netherlands Institute for Social Research is followed to great extent, even though to some extent there is a theoretical deviation in the theoretical distinction of dimensions in this study as compared to the studies of the Netherlands Institute for Social Research. Based on many other principles, such as the empirical dimensions that have been discerned in other previous studies about social exclusion and the available dataset, these deviations have been produced.

2.1.8 A general index for social exclusion according to previous studies

In paragraph 2.1.6 the two-step approach of measuring the concept of social exclusion was raised. It was stated that many studies about measuring social exclusion use a two-step approach in which first empirical dimensions are created based on the theoretical dimensions of social exclusion and in which subsequently a general index for social exclusion is constructed by aggregating the empirical constructed dimensions of social exclusion in one measure (Hoff & Vrooman 2011:40-41). In the studies about social exclusion of the Netherlands Institute for Social Research this two step-approach is referred to as the bottom-up approach. In paragraph 2.1.6 attention was further paid to the methods that exist in prior research to construct the empirical dimensions of social exclusion (i.e. the first step of the

bottom-up approach). In this paragraph attention is devoted to the second step of the bottom-up approach. First, research methods from previous research are presented to come to a general index for social exclusion. Secondly, an alternative approach of measuring social exclusion is raised. Thirdly, some results from prior research in which general indices are created to measure the degree of social exclusion within the Netherlands are demonstrated.

After the empirical construction of scales or dimensions of the theoretical dimensions of social exclusion, it is necessary to aggregate the latent dimensions into one single measure that refers to the whole concept of social exclusion. Common research methods to aggregate the dimensions of social exclusion into one index of social exclusion are the second step of Latent Class Analysis, Cluster Analysis, sum-score methodologies and Overals (Raeymaeckers & Dewilde 2007:120-121; Dekkers 2003:68-69; Dekkers 2008: 504; Szelez & Tache:373; Dewilde 2008a:238; Jehoel-Gijsbers 2004:107; Jehoel-Gijsbers & Vrooman 2007: 24; Jehoel-Gijsbers et al. 2008: 114-115; Jehoel-Gijsbers et al. 2009: 3; Hoff & Vrooman 2011: 41, 64). Within this paragraph further attention is solely paid to the Overals technique, since this is the technique that is frequently used in the Dutch studies about social exclusion of the Netherlands Institute for Social Research. Besides, prior research, in which a comparison among methods to compile a general index for social exclusion was made, reveals that the Overals technique is introduced as the best method to come to a general index for social exclusion (Jehoel-Gijsbers et al. 2009:3). Overals is a combination of canonical correlation and optimal scaling and thus aggregates the separate dimensions of social exclusion (Hoff & Vrooman 2011:40-41). In fact, with Overals it is tested whether the scale correlations of the separate dimensions of social exclusion are strong enough to constitute a general social exclusion index. This means that the variables that are presented in the CatPCA's in the first step of the bottom-up approach as indicators for the several (sub-)dimensions of social exclusion are subsequently used in the second step of the bottom-up approach: creating the general index for social exclusion (Hoff & Vrooman 2011:40-41, 90). For more information about the Overals technique, I refer to Boelhouwer who created a life situation index based on the research method Overals (2010:190-193).

Next to the two-step approach or the bottom-up approach in case of the studies of the Netherlands Institute for Social Research, an alternative approach for creating a general index for social exclusion is used in the most recent study about social exclusion of the Netherlands Institute for Social research that was executed by Hoff and Vrooman (2011). In addition to the bottom-up approach, Hoff and Vrooman (2011) created a general index for social exclusion by using the top-down approach. In this approach "consideration was simultaneously given to

whether the items contributed to the individual dimensions, and whether the dimensions were indicative for the general concept” (Hoff & Vrooman 2011:90). The main aim of this approach is to construct a general index for social exclusion. Only afterwards it is investigated whether the theoretical dimensions that have been assumed previously can be found within this general index for social exclusion. This is all done by using the Overals technique (Hoff & Vrooman 2011:67).

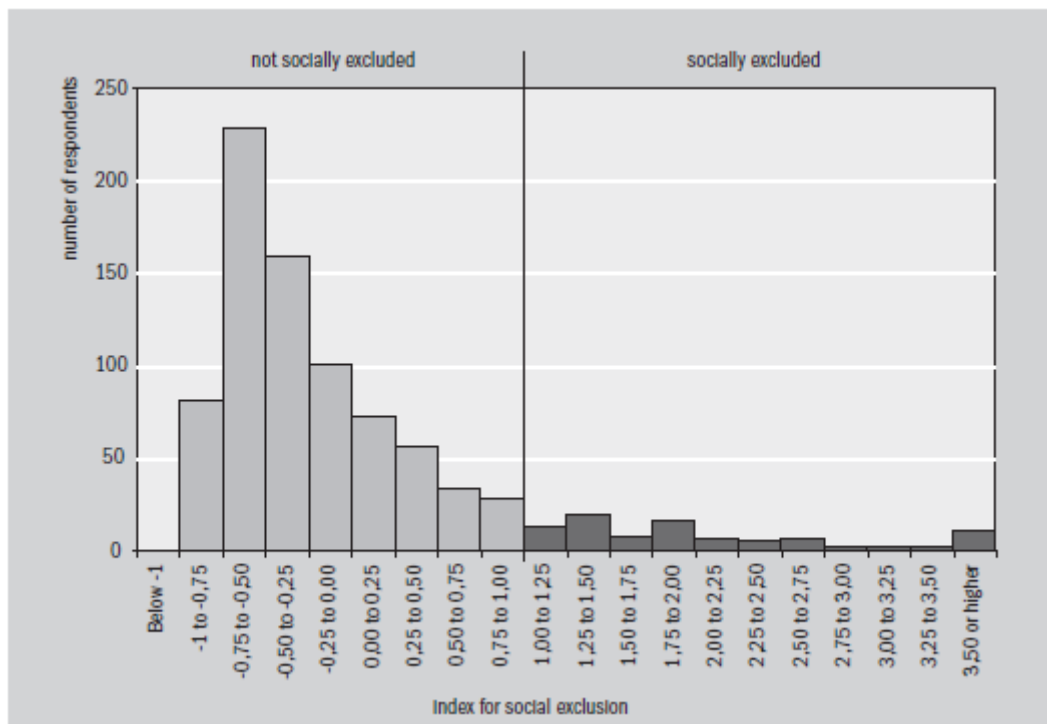
Thus, in short, the bottom-up approach and the top-down approach can be used to measure social exclusion. The former approach has been used in many studies of the Netherlands Institute for Research and Statistics, whereas the latter approach has been used only recently in the study of Hoff and Vrooman (2011). Both approaches construct different dimensions of social exclusion and a general index of social exclusion, though the order in which this happens differs for both approaches (Hoff & Vrooman 2011). Besides, both approaches are characterised by some drawbacks. A disadvantage of the bottom-up approach is the implicit assumption that the general index for social exclusion is no more than the sum of its parts (Hoff & Vrooman 2011:40). This means that an optimisation of the indices of the theoretical dimensions occurs, departing from the presumption that these indices of the theoretical dimensions together indeed measure social exclusion (Hoff & Vrooman 2011:40). A disadvantage of top-down approach is that it is possible that eventually only items from a (sub-)scale of social exclusion are included that strongly correlate with other (sub-)scales of social exclusion (Hoff & Vrooman 2011:40). Despite these disadvantages, both the bottom-up and top-down approach are still presented as appropriate techniques to come towards a general index for social exclusion (Jehoel-Gijsbers et al. 2009; Hoff & Vrooman 2011).

In many studies indices have been created to measure the multidimensional poverty or social exclusion concepts. In this study, only the results of the studies of the Netherlands Institute for Social Research in which general indices for social exclusion are created with the Overals technique in the bottom-up and the top-down approach, are demonstrated.

From the studies of Jehoel-Gijsbers (2004:107-109) and Jehoel-Gijsbers and Vrooman (2007:24-26) it turns out that, by applying the bottom-up approach, a general index for social exclusion can be constructed, though it seems better to construct an index that excludes the dimension of ‘normative integration’; the indicators of the dimension ‘normative integration’ do not fit very well with the general index for social exclusion (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007). This is shown by the proportion of explained variance or the total fit that rises from 0.46 to 0.56 if the normative items are excluded (Jehoel-Gijsbers 2004;

Jehoel-Gijsbers & Vrooman 2007). It was possible to construct a general index for the degree of social exclusion that consists of the remaining dimensions ('material deprivation', 'social participation' and 'access to social rights': 'access to good housing(conditions)' and 'access to social institutions and provisions')⁸ (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007). Figure 2.5 shows the frequency distribution of the general index for social exclusion based on the dimensions 'material deprivation', 'social participation' and 'access to social rights' which exists of 'access to good housing' and 'access to social institutions and provisions'. It is important to note that in this figure a relative position is indicated; the higher the score, the more socially excluded the Dutch persons are.

Figure 2.5 Frequency distribution of the general index for social exclusion



Source Jehoel-Gijsbers (2004:109) and Jehoel-Gijsbers and Vrooman (2007:26)

It is demonstrated that most of the respondents have a score around zero, none below minus one and a few above one; there is a small tail to the right. This means that these persons within the right-wing tail are in a rather extreme position in a negative sense (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007). It is quite arbitrary to give an absolute boundary of persons being socially excluded, but if the value of one is applied as the threshold value (which is the standard deviation) then eleven percent of the total population of adults above 25 years would be socially excluded (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman

2007). For certain risk groups, however, this percentage is much higher (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007).

Hoff and Vrooman (2011:64-79) also created a general index for social exclusion following the bottom-up approach. The second sub-scale of ‘insufficient normative integration’ (‘weak work ethic and lack of integration in the Netherlands’) was excluded from the general analysis, since this sub-dimension did not meet certain requirements to become part of the general index for social exclusion (Hoff & Vrooman 2011:65). The other theoretical dimensions (‘material deprivation’, ‘insufficient social participation’, ‘insufficient social rights’ and ‘normative integration : lack of involvement’) that were also statistically distinguished do seem to be part of the general index for social exclusion (Hoff & Vrooman 2011:65). Though, eventually, the general index for social exclusion only comprises nine indicators about social contacts, the motivation to do the ‘right’ thing, the social environment and the sufficiency of the income (see table 2.1).

Table 2.1 indicators and (sub-)dimensions of social exclusion that are incorporated in the general index for social exclusion based on the bottom-up approach

Lack of social contacts and activities (dimension: ‘insufficient social participation’)
1. Being part of a group of friends (no)
2. Number of persons with whom I can talk about personal matters (none)
Insufficient civic involvement (dimension: ‘insufficient normative integration’)
3. Donating to good causes (no)
4. Disposing glass in bottle banks (never)
Insufficient access to an adequate and safe environment (dimension: ‘social rights’)
5. Being satisfied with the quality of the residential area (no)
Lack of financial means (dimension: ‘material deprivation’)
6. Paying the bills (difficult)
7. Sufficient money to replace household appliances (no)
8. Sufficient money for membership of clubs or (hobby)associations (no)
9. Sufficient money to buy presents (no)

Source Hoff & Vrooman (2011:65)

This general index for social exclusion that is generated using the bottom-up approach, turns out to be a rather limited representation of the four dimensions. Therefore, the study of Hoff and Vrooman (2011) investigated whether the general index for social exclusion that is constructed by using the top-down approach better represents the four dimensions of social exclusion in a single figure. It turns out that after applying the top-down approach the general index for social exclusion exists of fifteen indicators that represent the dimensions ‘insufficient social participation’, ‘insufficient normative integration’, ‘insufficient access to social rights’ and ‘material deprivation’ (Hoff & Vrooman 2011:68). The items that are

incorporated in the general index for social exclusion based on the top-down approach are displayed in table 2.2.

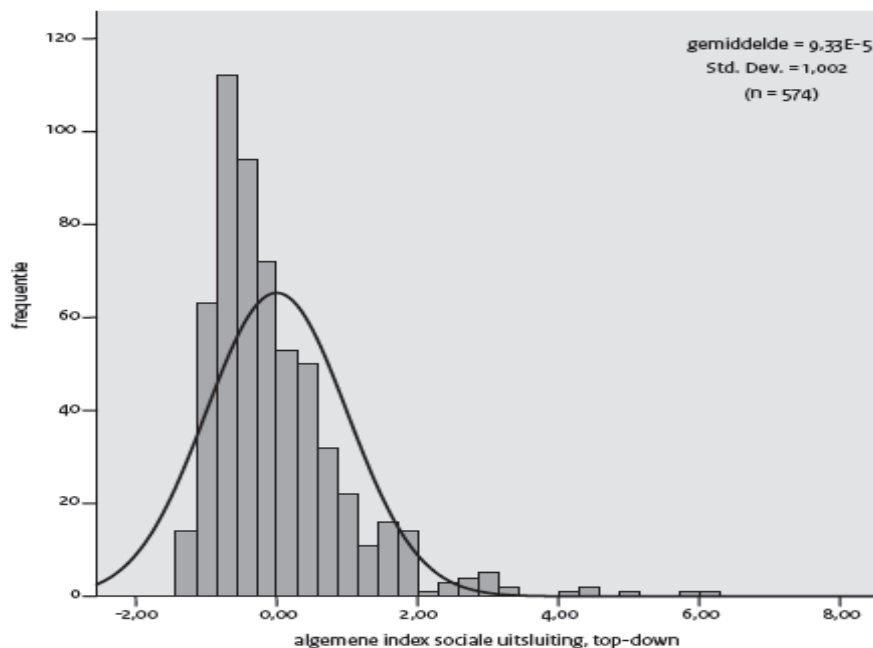
Table 2.2 Indicators and (sub-)dimensions of social exclusion that are incorporated in the general index for social exclusion based on the top-down approach

'Insufficient social participation'	
1.	With some persons I can really talk well (no)
2.	I feel isolated from other people (yes)
3.	Some persons do really understand me (no)
4.	Contact with neighbours (never)
'Insufficient normative integration'	
5.	Donating to good causes (no)
6.	Providing social support to the neighbours (no)
7.	Disposing glass in bottle banks (never)
8.	Work is just an activity in order to make money (agree)
'Insufficient access to social rights'	
9.	No possibilities for a medical or dental treatment (no treatment)
10.	People in the neighbourhood are on familiar terms with each other (disagree)
11.	Being satisfied with the quality of the residence (no)
'Material deprivation'	
12.	Sufficient money to heat the home adequately (no)
13.	Sufficient money for membership clubs or (hobby)associations (no)
14.	Sufficient money to pay somebody a visit (no)
15.	Sufficient money for unexpected expenditures (no)

Source Hoff & Vrooman (2011:68)

The frequency distribution of the general index for social exclusion that is achieved by the top-down approach, is illustrated in figure 2.6

Figure 2.6 Frequency distribution of general index for social exclusion, top-down approach



Source Hoff & Vrooman 2011:70

It is attempted to illustrate with help of the frequency distribution in figure 6 how many Dutch inhabitants are socially excluded. However, it seems to be really complicated to determine the extent of the group that is socially excluded in the Netherlands (Hoff & Vrooman 2011:73). Eventually, on the basis of a percentage of the median the threshold is determined between being socially in- and excluded (see Hoff & Vrooman 2011: 74-76). Results show that in total over 625.000 persons, aged 18 or older, are socially excluded to a moderate or great extent, which equals 4.8 percent of the respondents (Hoff & Vrooman 2011:76). If also the people are perceived who are slightly socially excluded, the percentage of socially excluded persons in the Netherlands increases to 19.3 percent⁹, which equals 2.521.000 residents of the Netherlands (Hoff & Vrooman 2011:76).

2.1.9: A general index for social exclusion of inhabitants of the city of Rotterdam

Based on the foregoing paragraph, I expect that a general index for social exclusion of the residents of the city of Rotterdam can be created in this thesis. By aggregating all separate dimensions of social exclusion that can be discerned for the residents of the city of Rotterdam into one measure, I presume that it is possible to create one single index for social exclusion of the residents of the city of Rotterdam. Therefore, the second hypothesis is:

H2: A general index for social exclusion of the residents of the city of Rotterdam can be constructed that comprises all four main dimensions that have been theoretically distinguished.

2.2 Explaining social exclusion

In this second part of this chapter attention is paid to the explanations of social exclusion. As it was already stated in chapter 1, this study focuses merely on the individual-level explanations of social exclusion of the residents of the city of Rotterdam. Paragraph 2.2.1 discusses the individual level risk factors of social exclusion that have been presented in prior research. In paragraph 2.2.2 a theoretical framework is developed that deals with the individual level determinants of social exclusion of the residents of the city of Rotterdam and its underlying mechanisms. Paragraph 2.2.3 displays the conceptual model of social exclusion of the residents of the city of Rotterdam. Within this conceptual model, the direct definition of social exclusion of the inhabitants of the city of Rotterdam is schematically presented, as well as the individual-level risk factors of social exclusion of the residents of the city of Rotterdam.

2.2.1 From an indirect definition of social exclusion to an explanatory model

In the foregoing part of this chapter, it has become clear that a distinction should be made between a direct definition of social exclusion and an indirect definition of social exclusion. The studies of the Netherlands Institute for Social Research about the topic of social exclusion revealed that the best way to define and measure social exclusion is in a direct way (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009). Defining social exclusion as a state is in contrast with the definition of social exclusion with help of risk factors that increase the risk on social exclusion. This latter attempt to define social exclusion refers to an indirect definition, in which the process of social exclusion is described instead of the outcome (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009). Thus, the indirect definition of social exclusion seems to be incorrect according to the studies about social exclusion of the Netherlands Institute for Social Research (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009).. According to these studies, social exclusion cannot be defined and measured in terms of risk factors. Instead, social exclusion can only be influenced by these risk factors. Therefore, this study about social exclusion of the residents of the city of Rotterdam has made a clear distinction between the factors that increase the risk of social exclusion (process) and the features of social exclusion (state). In the preceding part of this chapter, social exclusion is defined as a state. In the forthcoming part of this chapter, attention is paid to the process of social exclusion; the individual level risk factors of social exclusion are shown. In other words, in the next part of this chapter, the focus is on the micro level explanations of social exclusion.

The studies of the Netherlands Institute for Social Research have outlined a number of risk factors that have most commonly been distinguished in the literature about social exclusion. Some of these risk factors are amenable to policy intervention, whereas others are not amenable to policy intervention. These risk factors are shown in table 2.3.

Table 2.3 Risk factors of social exclusion (with the expected risk groups in brackets)

Risk factors that are not amenable to policy intervention	Risk factors that are open to policy intervention
Age (old people)	Independent living skills or coping abilities (persons experiencing physical and psychological barriers for coping with life independently, persons lacking ICT-skills, illiterates, persons lacking competences for social citizenship, such as lack of bureaucratic capabilities)
Sex (women)	Health (persons in poor health, persons with chronicle diseases or disabilities; persons with an addiction, persons experiencing psychological problems)
Civil status (singles)	Education (persons without a completed educational degree, persons with a low educational degree)
Family composition (Persons without family, families with children, single-parent families)	Labour market participation (long-term unemployed, unemployed due to disability, persons performing low qualified labour)
Social background (persons raised by parents with a low educational level)	Income (persons with a low amount of household income or income below the subsistence level (long-term))
Ethnicity (western and non-western migrants)	Physical and social environment (homeless, persons lacking a social network etc.)

Source Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2008; Jehoel-Gijsbers et al. 2009; Dirven & Jehoel-Gijsbers 2004)

It is suggested in these studies of the Netherlands Institute for Social Research that the individual-level risk factors that are not amenable for policy intervention might have direct effects on social exclusion as well as indirect effects via the risk factors that are amenable to policy intervention. Besides, it is argued in these studies that the risk factors that are amenable to policy intervention have direct and indirect effects on social exclusion, though the indirect effects occur through influence of other risk factors amenable to policy intervention and not via risk factors that are not amenable for policy intervention. Moreover, the studies of the Netherlands Institute for Social Research about social exclusion presume a one-sided causality between the risk factors and social exclusion (Jehoel-Gijsbers & Vrooman 2007:18). Empirically, it is possible that the relationships between some variables are reciprocal; the risk factors that are open for policy intervention may empirically show a two-way causal relationship. For example, poor health might lead to social exclusion, while social exclusion might also affect someone's health (Jehoel-Gijsbers & Vrooman 2007:18). In the studies of the Netherlands Institute for Social Research the theoretical and empirical causality is interpreted as one-sided, because it is not possible to distinguish causes and consequences with cross-sectional data. Instead, detailed longitudinal data are required in order to create time distance between causes and consequences (Jehoel-Gijsbers & Vrooman 2007:19).

Also other previous studies deal with individual level explanations of social exclusion (Szeles & Tache 2008; Raeymaeckers & Dewilde 2007; Fløtten 2006). Nevertheless, these

studies do not discuss these explanations in more detail than the studies of the Netherlands Institute for Social Research did. Although the studies of the Netherlands Institute for Social Research discuss these individual level risk factors of social exclusion extensively in comparison to other foregoing studies about risk factors of social exclusion, it should still be remarked that these Dutch studies are characterised by a rather limited developed theoretical framework. In these studies about social exclusion of the Netherlands Institute for Social Research insufficient attention is paid to the underlying mechanisms for the assumed relationships between the risk factors of social exclusion and social exclusion itself. Therefore, in this study a theoretical framework has been developed that takes into account the main individual level risk factors of social exclusion, whereas also attention is devoted to the underlying mechanisms for these relationships between risk factors of social exclusion and social exclusion itself. Since this study is about the socially excluded position of the residents of the city of Rotterdam, also the theoretical model has a focus on the residents of the city of Rotterdam. The theoretical framework is presented in the succeeding paragraph.

2.2.2 Explaining social exclusion of the residents of the city of Rotterdam

In this section, the theoretical framework that has been developed¹⁰ to explain the phenomenon of social exclusion of the residents of the city of Rotterdam is presented. On the individual level several risk factors that affect the risk of becoming socially excluded are raised. The risk factors that are taken into account in this study concern income, labour market participation, health, human capital (existing of education and coping abilities), age, family composition, gender, ethnicity and religious involvement¹¹. It is theoretically assumed that these risk factors (indirectly) influence the degree of social exclusion of the residents of the city of Rotterdam. For each risk factor, a schematic overview is given of the assumed relationship between the risk factor and social exclusion (via other risk factors of social exclusion). At last, an overall conceptual model is presented in which all risk factors of social exclusion are related with each other and the concept of social exclusion.

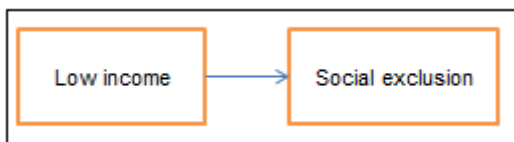
2.2.2.1 Income and social exclusion

Several studies point to the far-reaching consequences of experiencing income poverty. In the literature about poverty and social exclusion, many times references have been made to the fact that poverty or a low income affects other aspects of social life: poverty or a low income might transform into social exclusion¹², as *on the one hand* a low (family) income leads to material deprivation in terms of experiencing difficulties in making ends meet, getting into

debts, lacking consumption from type of housing to holidays abroad (Moonen & Huynen 2009:32; Van der Ploeg et al. 2009: 40; Huynen 2009:42). *On the other hand*, poverty or lack of income influences individuals participation in the society, as income deprivation brings cultural and societal impoverishment as well (Moonen and Huynen 2009: 30; Flotten:217). For example, people having a low income have less social contacts, are less active in associations, are less often active as volunteer, visit (art) galleries less frequently and exercise or practice in sports less frequently (Moonen & Huynen 2009:30).

In figure 2.7 the link between income and social exclusion is schematically demonstrated.

Figure 2.7 Mechanisms behind theoretical relationship between labour market participation and social exclusion



Given the described linkages between a low income and social exclusion as mentioned before, it is hypothesised that:

H3: There is a positive individual level effect of having a low income on the degree of social exclusion as compared to having a middle-high or a high income.

Empirical evidence for this hypothesis is found in the studies of the Netherlands Institute of Social Research that show that having a low income is an important risk factor of becoming socially excluded (Jehoel-Gijsbers 2004:140-141; Jehoel-Gijsbers & Vrooman 2007: 31-32; Jehoel-Gijsbers et al. 2008: 118-119). The effect of income on social exclusion is mainly a direct one ($Beta = -.23$) Still, the effect of low income on social exclusion runs via other risk factors, such as poor health and lack of ICT capabilities, as the indirect effect of income on social exclusion is characterised by a $beta$ of $-.08$ (Jehoel-Gijsbers 2004:141; Jehoel-Gijsbers & Vrooman 2007: 32). Considering the direct and indirect effect of a low income on social exclusion altogether, the standardised regression coefficient of the total effect of a low income on the degree of social exclusion equals $.31$ (Jehoel-Gijsbers & Vrooman 2007:31-32).

2.2.2.2 Labour market participation and social exclusion

In the previous literature on social exclusion, it is suggested that exclusion from the labour market is the single most important indicator of social exclusion. Like education and income, paid work is one of the major weapons in the attack on exclusion from the society (Fløtten 2006:194).

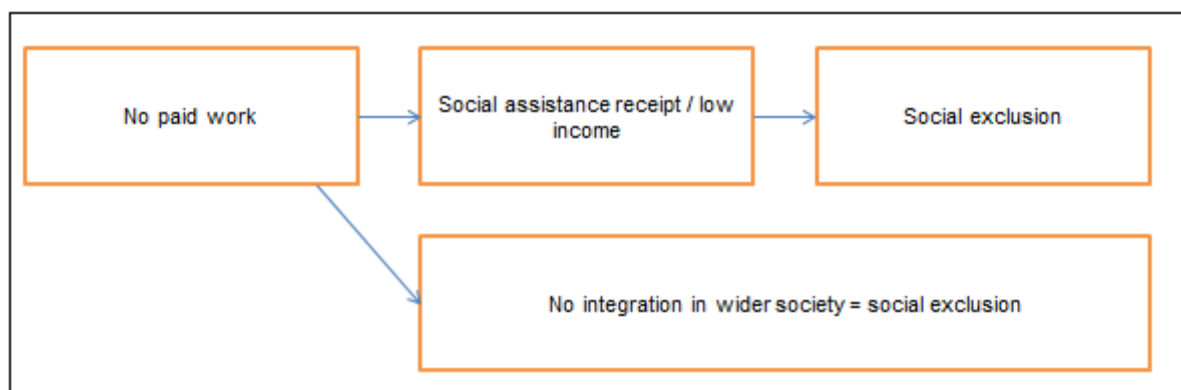
Fløtten (2006:194) argues that labour market participation leads to economic security, since paid work assures economic security in form of wage. Unemployment¹³ is often regarded as an aspect of social exclusion, in the sense that the unemployed have a high risk on becoming economically excluded (Silver 1994, in Fløtten 2006:194). The economic security paid work offers is of special importance in countries that are characterised with limited welfare arrangements, since it is the only way out of poverty (Fløtten 2006:194). Also in countries with extended welfare arrangements, participation in the labour market remains important, since an income resulting from social assistance receipt is generally low and consequently offers minimum economic security (Bierings & Bos 2011:23; Bos 2009: 20). Furthermore, (Fløtten 2006:194) suggests that labour market participation affects social participation, as social relationships are established at work. Persons not involved in organised working life have a greater likelihood of becoming deprived in terms of the possibility of establishing social relationships. Besides, Paugam (1995, in Fløtten 2006:194) mentions that unemployment may be disruptive of family life as well.

Levitas (1996, in Fløtten:194) goes a little bit further in suggesting how unemployment leads to social exclusion. In his work, he states that: “the (...) emphasis on paid work as the mechanism of integration (is overwhelming), and the terms social exclusion and exclusion from the labour market are used virtually interchangeably (...)” (Levitas 1996:9, in Fløtten 2006:195). The quotation suggests that social exclusion is often equated with exclusion from the labour market (Levitas 1996, in Fløtten 2006:194) and assumes “the primacy of labour market participation for inclusion or integration in society more generally” (Levitas 1996, in Somerville 1998: 762). In other words, it is posed that unemployment leads to exclusion from the society in general.

In short, it is thus suggested that being active on the labour market by performing paid work has got a diminishing effect on the chance of becoming socially excluded in the sense that it generates wage or income and that it leads to active involvement in the wider society (Huynen 2011:32). This means that the unemployed have higher risks on becoming socially excluded than the employed, because of their low income (see paragraph 2.2.2.1 for the relationship between low income and social exclusion). The unemployed may also have a low

income, due to their dependency on social benefits (Bierings & Bos 2011:23; Bos 2009: 20). Besides, the persons excluded from the labour market are at greater risk of being socially excluded than the persons who are active on the labour market, owing to their lack of inclusion or integration in general (Levitas 1996, in Somerville 1998: 762). These line of thoughts are schematically presented in figure 2.8.

Figure 2.8 Mechanisms behind theoretical relationship between labour market participation and social exclusion



However, the negative relationship between individuals performing paid work on the labour market on the one hand and experiencing social exclusion on the other hand has been criticised, as not all persons who are inactive on the paid labour market have higher risks of becoming socially excluded than persons performing paid work; some people out of the paid labour market are still engaged in an economically or socially valued activity, such as persons performing unpaid work, or persons following an education (Burchardt et al. 1999:231, in Fløtten 2006:196; Levitas 1996:12, in Somerville 1998: 762). Despite this point of criticism, it can still be expected that in general, the unemployed (in terms of not performing paid labour) have a higher chance of becoming socially excluded than the persons performing paid labour, as the unemployed have greater chances of experiencing low levels of integration in the wider society and receiving a low income (which leads to social exclusion in itself (see paragraph 2.2.2.1)) than persons performing paid work. For that reason, in this study it is hypothesised that:

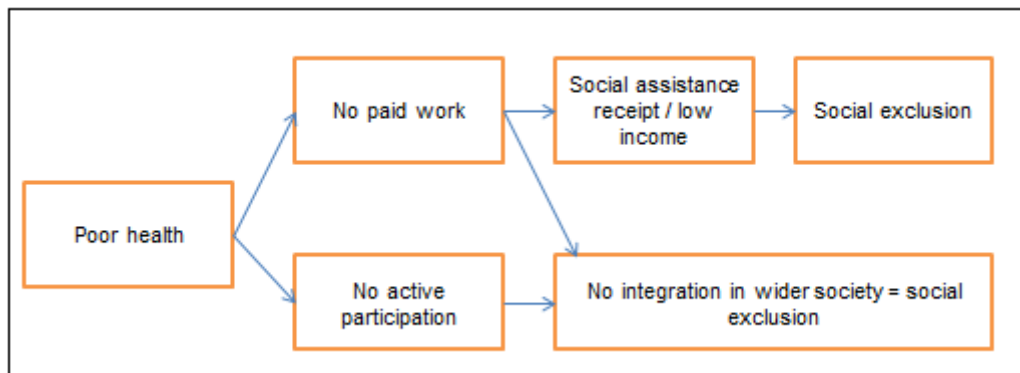
H4: There is a positive individual level effect of being unemployed on the degree of social exclusion as compared to being (paid) employed, and this positive effect diminishes after taking into account the income level.

The findings of the studies of the Netherlands Institute of Social Research also point at the fact that people are more socially excluded if they are unemployed (Jehoel-Gijsbers et al. 2008:117-119; Jehoel-Gijsbers & Vrooman 2007:33,37). The total effect of having paid work on social exclusion is considerably large ($Beta = -.16$). This effect is partly direct ($Beta = -.08$) and partly indirect ($-.08$) (Jehoel-Gijsbers & Vrooman 2007:33, 37). Besides, the study of Huynen (2011:33) indicates that persons with an income resulting from paid labour have the smallest chance on becoming socially excluded as compared to all other forms of income.

2.2.2.3 Health and social exclusion

Experiencing long-term diseases or being disabled – which can be summarised under the term being in a poor health – are factors known to have positive influences on the degree of social exclusion (Jehoel-Gijsbers et al. 2008: 117-119). The reasoning behind this link between being in a bad health and being socially excluded is twofold, as the relationship runs via paid work and active participation. First of all, according to Fløtten, being in a poor health negatively impacts an individual's financial situation (Fløtten 2006:174). This is because disabled persons or persons who are suffering health problems are significantly limited in their labour market possibilities (Verbeek & Smits 2005: 1; Souren & De Vries 2009:11). Also Fløtten (2006:194) suggests that ill-health and unemployment are associated with each other. In paragraph 2.2.2.2 it is theoretically explained that no labour market participation may lead to social exclusion via a low income (due to benefits receipt) or via no integration in the society. Secondly, Hoeymans et al. (2005: 2) put forward that poor health reduces an individual's social participation substantially, because of the disabilities that are raised by being in a poor health. Volunteering in jobs, social contacts, participation in recreational and cultural activities and so on are all strongly reduced for people being in a bad health (Hoeymans et al. 2005: 2, 7). Based on the study of Hoeymans et al. (2005:2) it may be assumed that there is a positive relationship between being in a poor health and social exclusion, since the persons who are in a poor health condition cannot be integrated in the wider society via active participation¹⁴ in the society in all kind of activities and via sociability in groups. Because it is theoretically assumed that being in a poor health is next to not performing paid work positively related to no active participation, there is a second reason to assume that individuals being in poor health have higher risks on becoming socially excluded than healthy individuals. The two arguments about the assumed relationship between being in a poor health and experiencing social exclusion are presented in figure 2.9.

Figure 2.9 Mechanisms behind theoretical relationship between health and social exclusion



Based on the theoretically assumed relationship between being in a poor health and experiencing social exclusion, it is hypothesised that:

H5: There is a positive individual level effect of being in a poor/moderate¹⁵ health on the degree of social exclusion as compared to being in a good health, and this positive effect diminishes after taking into account employment status, active participation in the society, income level (or receipt of benefits, which also refers to income level).

Empirical evidence has been found to support this hypothesis, since in the study of Jehoel-Gijsbers & Vrooman (2007:31-32) it turned out bad health is the greatest risk factor of social exclusion, since the *beta* of the total positive effect of bad health on the degree of social exclusion equals .33. This effect is largely direct (*Beta* = .26), though the effect of bad health on social exclusion is also indirect via for example benefit recipiency and low income¹⁶.

2.2.2.4 Human capital and social exclusion

The human capital theory can be used to explain why people with small amounts of human capital are more socially excluded than persons who possess a lot of human capital (Fløtten 2006:18). Initially, the theory was developed to explain the labour market success in general. Nowadays, the theory is also used to explain phenomena such as life chances, well-being, integration and participation (van Tubergen 2006:15; Jennissen et al. 2006:12; OECD 2001: 18). The theory presumes that the probability of successful participation in the society (i.e. social inclusion) is influenced by the amount of an individuals' investment in human capital. This implies that the more human capital people possess, the more they will be successfully integrated in the society (Jennissen et al. 2006: 14). Vice versa, this comes down to the fact

that the people who only possess small amounts of human capital, have higher probabilities to be socially excluded than the people who possess high amounts of human capital.

The Organisation for Economic Co-operation and Development (OECD) defines human capital as “the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being” (OECD 2001: 18). It is argued that individuals become poor or socially excluded, as they experience shortages in education, training, job and language skills (Jennings 1999, in Fløtten 2006:18). Next to education, language skills and job experience, also the ability to be problem-solving fits the concept of human capital (OECD 2001:19).

Many studies point at the increased importance of human capital in Western countries (OECD 2001:17; Bynner:2003: 5). Transformations in economic and social conditions led to a substantial role of human capital in the economic success of individuals. The demand for human capital is mainly caused by the changing nature of the labour market (Bynner 2003:5). In the past, poor educational achievement did not count as a barrier to employment. However, during the last decades, work in the semi-skilled and unskilled jobs declined, which resulted in demand for ever-higher levels of skills and qualifications from new recruits. As a consequence, persons with modest levels of human capital end in casual work or unemployment (Bynner:2003:5). These changes in the importance of human capital suggest that individual investment in human capital has become essential for surviving in the contemporary Western societies.

Besides, it has been emphasised that in the city of Rotterdam, the transition into a post-industrial economy has merely led to high labour demand for the highly educated, which resulted in a high unemployment level of the less educated in Rotterdam, as compared to the unemployment level of the less educated in the city of Amsterdam (Burgers & Musterd 2002, in Van der Waal 2010:51). Moreover, it has been stated in a recent report about the actual state of integration in the cities of Amsterdam and Rotterdam, that the city of Rotterdam is characterised by solely one economic main activity: Rotterdam as port city (Entzinger 2012:27). Despite the decline in employment in the port of Rotterdam during the last decades, still a substantial part of the cities’ economy is directly or indirectly linked to the port activities, such as the activities in transportation and logistics (Entzinger 2012: 27). In comparison to the labour market of Amsterdam, the labour market of Rotterdam is to smaller extent hourglass shaped. Instead, the labour market of the city of Rotterdam offers jobs on all different levels, including jobs for the middle-educated (Entzinger 2012:27). At first sight, the lower educated are offered more mobility opportunities in the city of Rotterdam than in the

city of Amsterdam. On the other side, in Rotterdam the risk of competition from employees from low-wage countries increases, which results in a shift of the low and middle-high functions to the low-wage countries. This replacement of low- and middle-high employment from the city of Rotterdam to low-wage countries is due to the fact that Rotterdam is a port city instead of a global city; in Rotterdam, the low-educated employment is to smaller extent directly related to the demand from the higher segment of the labour market than in global cities, such as Amsterdam (Entzinger 2012:27). Therefore, Rotterdam experiences more external competition in the low-educated segment of the labour market, as compared to Amsterdam. At the same time, the city is characterised by a considerable share of low-educated inhabitants, as compared to the city of Amsterdam (Entzinger 2012: 27). These findings of Burgers and Musterd (2002, in Van der Waal 2010:51) and Entzinger (2012) suggest that high levels of human capital can be seen as *extra* valuable for contributing to the paid labour market in the city of Rotterdam, as in the city of Rotterdam there are relatively low levels of employment for the relatively high amount of lower educated. Because the participation on the paid labour market is influenced by the amount of human capital someone possesses, and since the labour market participation is acknowledged as an important means to reduce the risk on becoming socially excluded (see paragraph 2.2.2.2), the possession of human capital¹⁷ – indirectly – affects the extent to which an individual is socially excluded.

The mechanism that lies behind this line of thought that the amount of human capital someone possesses leads to the degree to which someone is socially excluded is that people with low levels of human capital are less attractive to the labour market (of Rotterdam¹⁸) and are less economically mobile than people with a lot of human capital (Fløtten 2006:18). Generally, persons who are lacking human capital or persons who only possess low levels of human capital (e.g. persons who are lower educated) are less attractive to the labour market (of Rotterdam) than persons who have acquired a lot of human capital (Lautenbach & Hoksbergen 2001; OECD 2001:28). These persons who possess low levels of human capital have a higher chance of staying out of the paid labour market of Rotterdam and have a higher chance of being unemployed than the people who have obtained a lot of human capital (Lautenbach & Hoksbergen 2001; OECD 2001:28). In short, this comes down to the fact that persons who are lacking or have low amounts of human capital have a higher chance of not performing paid work in Rotterdam than the persons who have obtained (high) levels of human capital. As it has become clear in paragraph 2.2.2.2, participation in the labour market is of great importance, as *on the one hand*, persons who are not active on the paid labour market or the persons who are unemployed are characterised by a low (personal) income¹⁹

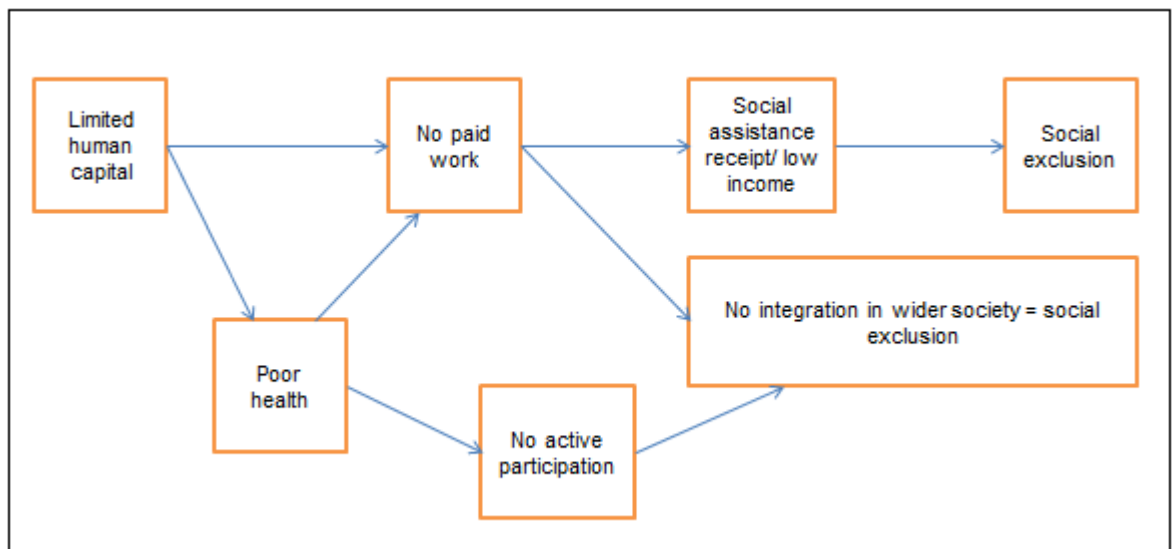
(OECD 2001:28). The low income might also be a result of the receipt of social assistance, as the persons who are not active on the labour market might receive social benefits. The income resulting from these social benefits are generally very low (Bierings & Bos 2011:23; Bos 2009: 20). In paragraph 2.2.2.1 it is explained how a low income affects one's position in the society, as a low income can be linked to being socially excluded. *On the other hand*, participation on the labour market is important, because people out of the labour market become less integrated in the society, as labour market participation plays a significant role in the overall integration in the society (Levitas 1996, in Fløtten 2006:194-195) (see paragraph 2.2.2.2). Since lack of human capital leads – indirectly via the increased chance of not participating on the paid labour market – to a failed inclusion or integration in the overall society, it can also be assumed that lack of human capital leads to the concept of social exclusion (see the reasoning in paragraph 2.2.2.2 for using integration and social exclusion interchangeably, though exactly the reverse is meant by the terms).

The second mechanism that lies behind the assumed connection between human capital and social exclusion is the improvement of health as the educational level increases. In the report “The well-being of nations, the role of human and social capital” by the OECD, it is pointed at the social benefits of high levels of human capital, since education would be beneficial to health (OECD 2001:33). In the OECD report it is argued that habits and lifestyles become healthier when educational attainment increases. For example, the higher educated persons are, the smaller their chance becomes to smoke or to drink heavily (Wolfe and Haveman 2001, in OECD 2001:33). Moreover, it is stated by Kenkel (1991, in OECD 2001:33) that as the attained educational level rises, the chance of suffering from overweight shrinks while the chance of engaging in exercises increases. The association between health benefits and educational level might also be due to the fact that higher educated persons often choose occupations that are characterised by relatively few occupational hazards, or they choose less polluted areas to live (OECD 2001:33). Furthermore, higher educated persons are better skilled at identifying information that is health related. Following, the higher educated persons are more capable to use this information to achieve behavior that is advantageous for achieving a better health (Kenkel 1991, in OECD 2001:33). In paragraph 2.2.2.3 it is described that being in a poor health leads to higher probabilities of becoming socially excluded via the mechanisms of no paid work and no active participation. Now, the theoretical line of thought behind the relationship between human capital (i.e. high levels of education) and health is explained, and the linkage between health and social exclusion is elaborated on in the previous paragraph, it seems plausible to assume that a low level of

human capital (*c.q.* a low educational level) contributes to the chance of becoming socially excluded, via the personal's health status.

In figure 2.10, a schematic overview is given how little human capital leads to social exclusion.

Figure 2.10 Mechanisms behind theoretical relationship between human capital and social exclusion



Based on the human capital theory which assumes that people with lack of human capital (low education, and few coping abilities in a sense that they have few language competences and few problem-solving competences (see endnote 17) have a higher probability of being socially excluded than people with a lot of human capital, I hypothesise that:

H6: There is a positive individual level effect of having a low education on the degree of social exclusion as compared to having a middle-high or high education, and this positive effect diminishes after taking into account health status, employment status, active participation in the society and income (or receipt of benefits, which also refers to income level).

H7: There is a positive individual level effect of having limited coping abilities on the degree of social exclusion as compared to having many coping abilities, and this positive effect diminishes after taking into account employment status and income level (or receipt of benefits, which also refers to income level).

Hypothesis 7 cannot be tested through an indirect effect via poor health, as it was stated in the literature that only educational level as a form of human capital affects the degree of social exclusion via a poor health. Instead, hypothesis 7 can only be tested via the indirect effect of no labour market participation, since it has not been explicitly stated in the literature that educational level is the only form of human capital that affects the labour market participation, which in turn affects the degree of social exclusion; also other expressions of human capital (like coping abilities) might influence someone's labour market participation and thus the degree to which someone is socially excluded.

In the studies of the Netherlands Institute for Social Research on social exclusion it is reported that, indeed, people are more socially excluded if their amount of acquired human capital is lower. For example, the chance on becoming socially excluded increases when the educational level is lower, or when the mastery of the Dutch language is bad (Jehoel-Gijsbers et al. 2008:117-119; Jehoel-Gijsbers 2007: 31-32). It is outstanding that the effect of educational level on the degree of social exclusion is completely indirect ($Beta = -.16$), via for example health, income, mastery of the Dutch language and ICT-capabilites (Jehoel-Gijsbers & Vrooman 2007: 31-32). Besides, Jehoel-Gijsbers and Vrooman (2007:31-32) found out that the risk factor bad command of the Dutch language has got a considerable large total effect on social exclusion ($Beta = .20$). This effect is largely direct ($Beta = .16$), even though the effect is also slightly indirect via for example income (Jehoel-Gijsbers et al. 2007: 31-32).

2.2.2.5 Age and social exclusion

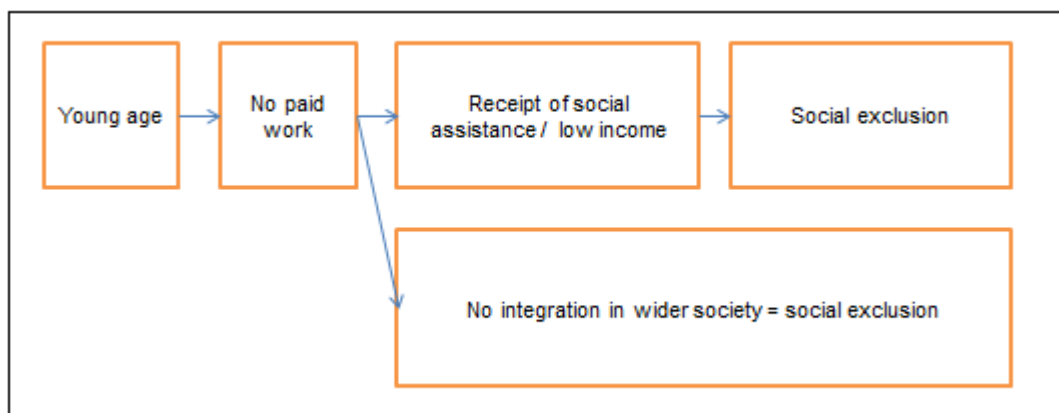
Already in 1901, it was proved that the risk of falling into poverty depends upon the life course (Rowntree 2001, in Fløtten 2006:153). Still, phenomena such as poverty and social exclusion can be explained as life course phenomena (Fløtten 2006:153-154). Nowadays, it can be expected that young people and people of retirement age have higher poverty rates than persons of middle age.

Young adults are at a greater risk of falling into poverty than persons of middle-age. This is because they end up into an uncertain position when they leave school and have to find a job. This transition from educational training to labour market participation is generally managed successfully by many young adults. However, current research indicates that still a disproportionate number of young adults are unable to find a job and fall into welfare dependency (Hammer 1996, 2003, in Fløtten 2006:154). Also in the Netherlands, the

unemployment rate among young adults is higher than among the middle-aged (Kösters 2009). Because the young adults have a higher likelihood of becoming unemployed than persons of middle age, it can be expected that these young adults have a higher likelihood of becoming socially excluded than the middle aged, since no paid work affects the likelihood of becoming socially excluded via the receipt of social assistance and a low income and via no wider integration in the society (see paragraph 2.2.2.2).

In figure 2.11, it is schematically demonstrated how young adults can be a risk group of becoming socially excluded.

Figure 2.11 Mechanisms behind theoretical relationship between young age and social exclusion

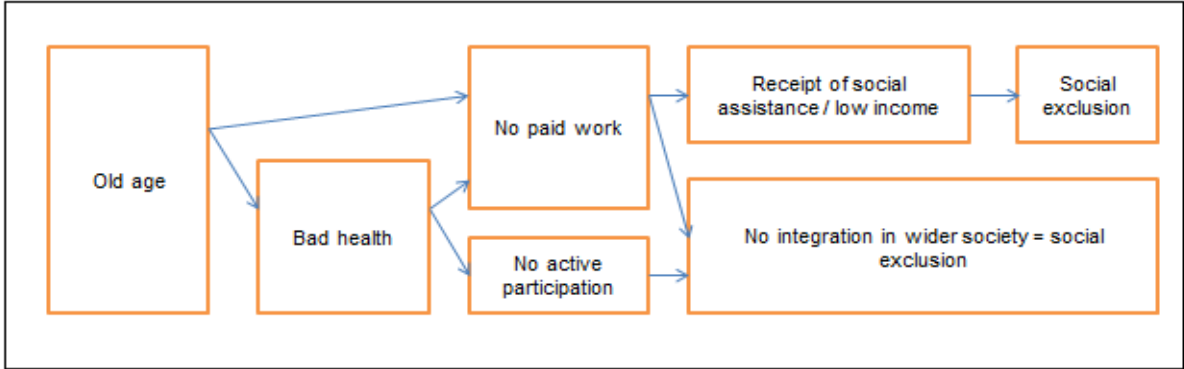


In the past, mostly old persons ended up at poverty, because they were not capable to work anymore on the one hand, and because of the inadequate pension and welfare systems on the other hand (Fløtten 2006:153). Nowadays, the development of the welfare state makes older persons less vulnerable for falling into poverty or becoming socially excluded (Fløtten 2006:154). However, research still indicates that old persons have high risks of becoming socially excluded (Jehoel-Gijsbers & Vrooman 2007:31-32; Jehoel-Gijsbers et al. 2008: 117-119). Below, a possible explanation is given for the fact that persons of retirement age are at risk of becoming poor or socially excluded.

Research shows that in the Netherlands the participation rate of older workers in the labour market is low (Kooij et al. *work in progress*). Old age brings – just as in the past – a lower capacity to work (Fløtten 2006: 53). All individuals aged 65 or older are eligible for retirement pension (Van Roessel 2012). This might affect the willingness of senior citizens to be still active on the labour market after reaching the retirement age. Besides, senior citizens are more often confronted with a poor health than younger citizens (Hupkens 2011), which might influence both their ability to be active on the labour market after retirement age and

their ability to actively participate in the society, such as being a member of a hobby club or other association. As it has already been stated in the paragraphs 2.2.2.2 and 2.2.2.3 not being active on the labour market and not being active in social life (i.e. no active participation) influences the chance of becoming socially excluded. Therefore, it seems reasonable to assume that old persons are a risk group of becoming socially excluded. In figure 2.12 the underlying mechanisms for the assumption that old persons are a risk group of becoming socially excluded are presented.

Figure 2.12 Mechanisms behind theoretical relationship young age and social exclusion



In figure 2.12, no attention is paid to the overrepresentation of people living alone within the old age group as underlying mechanism why older persons have a higher chance of being socially excluded. Since living in a single household positively affects the chance of being socially excluded (see paragraph 2.2.2.6), and since old persons relatively often live alone (due to the death of the spouse) (CBS 1999), it might be expected that especially persons of old age have a high chance of becoming socially excluded. However, no empirical support seems to exist for this underlying mechanism, since it is demonstrated that single persons aged 65 and older have a lower chance of becoming socially excluded compared to younger single persons, couples with and without children and single-parents (Huynen 2011: 33). The result suggests that older persons do not have greater probabilities than younger persons to be socially excluded owing to their overrepresentation in single households. Therefore, in this study the mechanism that old persons have a higher probability of becoming socially excluded than younger persons due to their overrepresentation in single households is not worked out further.

Based on the arguments presented in figures 2.11 and 2.12 it is hypothesised that:

H8: There is a positive individual level effect of being of young age on the degree of social exclusion as compared to being of middle age, and this positive effect diminishes after taking into account employment status and income level (or receipt of benefits, which also refers to income level).

H9: There is a positive individual level effect of being of old age on the degree of social exclusion as compared to being of middle age, and this positive effect diminishes after taking into account health status, employment status, active participation in the society, and income level (or receipt of benefits, which also refers to income level).

A study of the Netherlands Institute for Social Research about social exclusion revealed that age does not seem to be a rather important determinant for social exclusion, though the effect is pretty complicated. The direct effect of age is characterised by a standardised regression coefficient of $-.13$. This means that the older a person is, the smaller the chance on social exclusion becomes. This negative direct effect is partly cancelled out by an opposing indirect effect ($Beta = .007$): the older a person is, the bigger the chance on social exclusion becomes. Older persons are less healthy and have fewer ICT-capabilities than younger persons. For that reason the indirect effect of age on social exclusion is positive. In total, the effect of age equals a standardised regression coefficient of $-.06$. This indicates that despite the positive indirect effect of age on social exclusion, older persons are still less socially excluded. In contrast to this finding is the result of another study of the Netherlands Institute for Social Research which exposed that the youngest *and* the oldest age groups are most socially excluded, as compared to the middle-aged (Jehoel-Gijsbers et al. 2008:117-119).

2.2.2.6 Family composition and social exclusion

It is widely accepted that living into poverty and social exclusion is affected by the family composition in which individuals live (Huynen 2011:33; Bos et al. 2011: 21; Bos 2009: 18-19; Fløtten 2006: 20, 160-163, 315; Jehoel-Gijsbers 2004: 140-141; Jehoel-Gijsbers & Vrooman 2007: 31-32; Jehoel-Gijsbers et al. 2008: 117-119; Veenhoven & Van Schoonhoven 1991: 4-5). In his study, Huynen (2011:33) indicates that 37,5 percent of the singles aged 64 or under deal with poverty or social exclusion, whereas this percentage is 7.4 percent for the singles aged 65 and older. Besides, Huynen (2011:33) shows that of the single parent families 49 percent is confronted with poverty or social exclusion. The households of couples with or without children have relatively low probabilities of becoming poor or socially excluded,

since the percentages of persons who live in poverty or social exclusion for these categories vary between 9,1 percent (for couples without children) and 12 percent (for couples with children) (Huynen 2011:33). Similar findings are presented by other studies, as they have empirically found as well that lone-parent families have the highest chance on living into poverty or being socially excluded, followed by the single persons. Again, it is found that couples (with and without children) have relatively low chances of becoming poor or socially excluded (Bos et al. 2011: 21; Bos 2009: 18-19; Fløtten 2006: 20, 160-163, 315; Jehoel-Gijsbers 2004: 140-141; Jehoel-Gijsbers & Vrooman 2007: 31-32; Jehoel-Gijsbers et al. 2008: 117-119; Veenhoven & Van Schoonhoven 1991: 4-5). Several reasons are given in the literature why single-parent families and singles in general (with the exception of singles aged 65 and older) have relatively such high probabilities of experiencing poverty or social exclusion. The first reason can only be implemented on single parents as risk group of being socially excluded, whereas the other reasons also apply to single persons in general.

According to the ‘lone parenthood as cause of poverty’ argument, it can be suggested that the characteristics of single parents lead to low or no employment, and in turn to higher rates of poverty (McKay 2002:3). One of the most common characteristics of single parents in the UK and other Western countries is that they dispose of relatively small amounts of human capital, as they generally have low levels of education and qualifications (McKay 2002:3). These lone parents are mainly women from working-class backgrounds. Due to their low educational level, they can only find jobs in relatively low-paid work. Above all, these lone parents may need to pay for childcare (and other in-work expenses) if they want to be active in the labour market, while they have relatively scanty earnings. The payoffs of being active on the labour market might therefore be relatively low, as compared to the life based on social assistance receipt (McKay 2002:3). The result is that single parents “choose” to stay out of paid work and instead live on social benefits receipt. Subsequently the lone parent families have higher chances of becoming socially excluded (see paragraphs 2.2.2.2 and 2.2.2.1) for the mechanisms for the linkages between being out of the paid labour market, generating low incomes (owing to receipt of social assistance) and being socially excluded).

Since low educational background is related to health problems (see paragraph 2.2.2.4) and single parents are generally characterised by their relatively low educational background (McKay 2002:3), single parents also have a higher probability than non-single parents to become socially excluded, because their bad health conditions affect their “choice” or ability to participate on the labour market and to be active in social life (see paragraph 2.2.2.3 for the assumed connection between health and social exclusion).

Moreover, the discrepancy in the experience of social exclusion between singles or single parents on the one side and persons who live with a spouse or a partner on the other side can be explained by two additional theories. The first theory focuses on the overrepresentation of ‘crisis’ cases among newly divorced, separated and widowed. This explanation only concerns singles (and single parents²⁰) who have been breaking up or persons who have become a widow or a widower²¹. These persons have been confronted with the loss of a partner, whereupon they have (non)successfully adjusted themselves to the transformation in their life situation (Veenhoven & Van Schoonhoven 1991: 4). Being in mourning and feeling unstable might make persons susceptible to not being able to cope with the situation anymore. These persons might get the impression that they have little control over the things that are currently happening (Veenhoven & Van Schoonhoven 1991:4). Based on this theory, it might be assumed that these people who have an increased chance of not being able to cope with the transformations in their life also have a high risk of becoming socially excluded. A successful adaptation (which means that one has many psychological coping abilities) to the changes in the life situation would imply that singles (and single parents) can still experience wellbeing and life satisfaction (Veenhoven & Van Schoonhoven 1991:4). Therefore, it can be presumed that the singles (and single parents) who can manage it to cope with the changes in the life situation do not necessarily have to experience social exclusion, whereas the singles (and single parents) who have few coping abilities to deal with the situation have relatively high chances to become socially excluded.

A second mechanism that explains the discrepancy in the experience of social exclusion between singles or single parents on the one hand and persons who live with a spouse or a partner on the other hand is raised by Flötten (2006:20). In her study, Flötten argues that in a situation where an increasing number of marriages are splitting up and the proportion of single persons rises – which is the case in the Netherlands (Latten:2004:55) – one could expect that the number of persons who experience poverty and social exclusion are rising as well. This is owing to the fact that these singles or single-parents are confronted with a loss - or a lack of support in case of singles who have been single already for a longer time - , as the family or partner is assumed to provide support when this is necessary (Flötten 2006:20) .

Veenhoven and Van Schoonhoven (1991: 5) bring up the same mechanism as Flötten (2006) that seems plausible for the difference in the experience of social exclusion between singles and single-parents on the one hand and persons who have a partner on the other hand. Veenhoven and Van Schoonhoven (1991:5) claim that the gap in the experience of life

satisfaction between singles or single-parents on the one side and persons with a partner on the other side is also attributable to the 'deprivation' experienced by singles and single-parents (Veenhoven & Van Schoonhoven 1991:1,5). Veenhoven and Van Schoonhoven (1991:5) emphasise the positive effects of cohabiting with a partner. Singles (or single parents) are (partly) deprived in comparison to the persons with a spouse or a partner, since they do not experience the positive effects of cohabiting with a partner. Examples of positive effects of cohabiting with a partner are fulfillment of human needs, the experience of affection, continuous confirmation, effective accusation of inadequate behavior, better material care, having a feeling of being meaningful (Veenhoven & Van Schoonhoven 1991:5). In fact, partners can be seen as substantial providers of protection and support. This is also acknowledged by Flötten (2006:202, 205). Getting support is tremendously important for the well-being of individuals, especially in a situation of ill-health, during stressful moments, while struggling personal and emotional matters, or in financial hard times (Flötten 2006:202, 205).

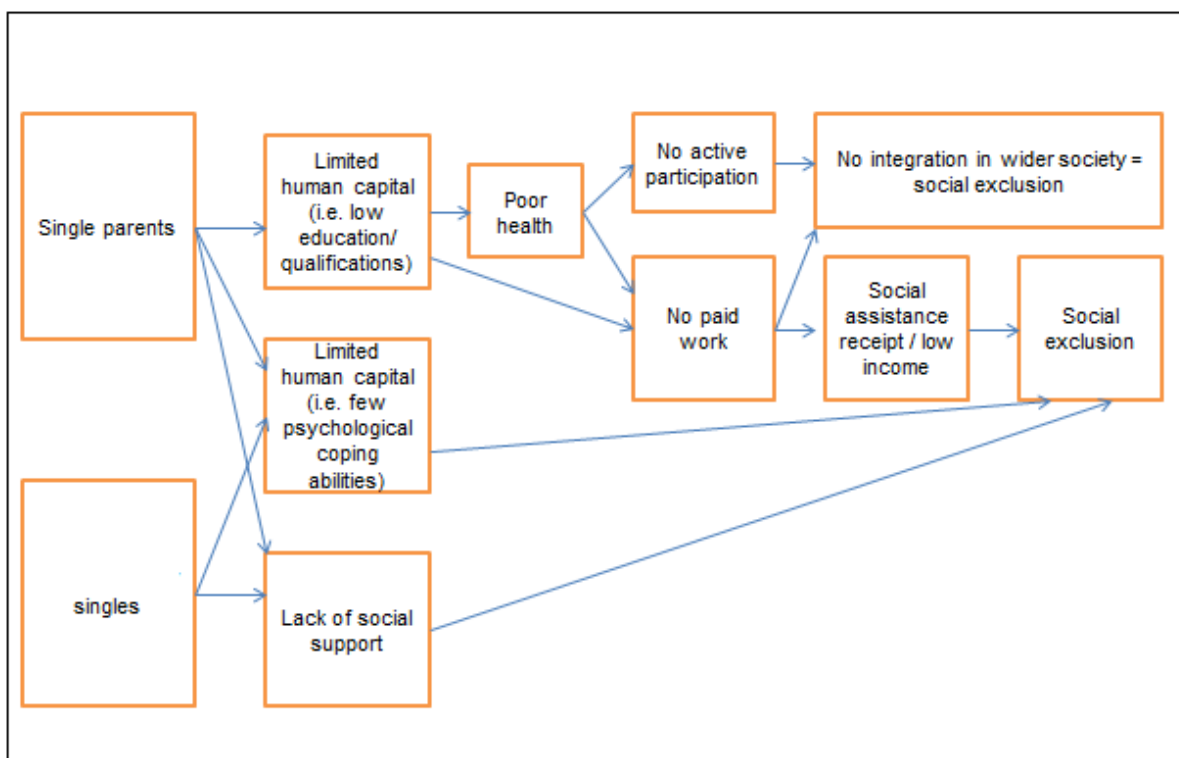
A report of Van de Maat and Van der Zwet (2010:9) indicates that married²² people have the smallest chance of being lonely. As a matter of fact, the reasoning behind this finding is that in the Dutch society, the relationship with the partner is often a very personal relationship that provides a lot of support on different fields (Van de Maat & Van der Zwet 2010:9). Therefore, loss of the partner relationship is encountered by many people as a gripping occurrence, which might easily enlarge the probability of being lonely for a long time (Van de Maat & Van der Zwet 2010:9). However, Van de Maat and Van der Zwet (2010:9) point at the fact that people can also get social support and protection via other social relationships than the partner in the society, but these social relationships are not accessible for everyone. Especially, people in modern Western societies are confronted with a diminishing level of social support offered by family members, co-workers, friends and neighbours, which implies that the equivalents of partner relationships have seriously been attenuated (Veenhoven 1984, in Veenhoven & Van Schoonhoven 1991:5).

Based on the preceding literature about the role of partner relationships in the experience of life satisfaction via offering social support, it can be assumed that partner relationships also have some influence on the degree of social exclusion via the mechanism of social support provided by the partner. As it turned out from the report of Van de Maat and Van der Zwet (2010), the presence of a partner offers social support and therefore affects the phenomenon of loneliness, which, in turn, is an aspect of the concept of social exclusion (Jehoel-Gijsbers & Vrooman 2007:39; Hoff & Vrooman 2011:44). Besides, by the presence

of a partner, also support is provided in other spheres. For example, it is imaginable that the presence of a partner provides financial support, or certain knowledge, which diminishes the risk on material deprivation or enhances the level of cultural participation, two other dimensions of social exclusion.

The mechanisms that are presented in the literature for the discrepancy in the experience of social exclusion between singles and single parents on the one hand and persons with a partner on the other hand are schematically shown in figure 2.13.

Figure 2.13 Mechanisms behind theoretical relationship between family composition and social exclusion



Based on the theories mentioned above, it can be hypothesised that:

H10: There is a positive individual level effect of being a single-parent on the degree of social exclusion as compared to being a part of a couple with or without (a) child(ren), and this positive effect diminishes after taking into account educational level, psychological coping abilities, health status, social support, active participation in the society, employment status and income level (or receipt of benefits, which also refers to income level).

H11: There is a positive individual level effect of being single on the degree of social exclusion as compared to being part of a couple with or without (a) child(ren), and this positive effect diminishes after taking into account psychological coping problems and social support.

In a study of the Netherlands Institute for Social Research about social exclusion, it turned out that the being single or being a single parent positively affects the degree of social exclusion. The total effect of the risk factor single-parent families has got a standardised regression coefficient of .22. The effect is largely indirect ($Beta = .12$) via for example income (Jehoel-Gijsbers & Vrooman 2007:31-32). Besides, the total effect of the risk factor singles has got a standardised regression coefficient of .16, which is totally indirect via income (Jehoel-Gijsbers & Vrooman 2007:31-32).

2.2.2.7 Gender and social exclusion

According to the feminisation of poverty hypothesis, it might be suggested that women in Western countries are more at risk of falling into poverty than men (Fløtten 2006:158; Pressman 2003:1). The idea behind this hypothesis is that, generally, women's earnings lag behind men's (Bartels & De Groot 1996; Pressman 2003:1; Merens et al. 2011). As it was stated in paragraph 2.2.2.1 that income level is negatively related to the degree of social exclusion, it seems plausible to assume that women have greater risks on becoming socially excluded than men. Besides there are some mechanisms that suggest that women have a higher risk of becoming socially excluded than men, whereas these mechanisms are not related to the income gap between men and women.

In the literature, several reasons have been mentioned why women – in most cases – earn less than men. First of all, women might earn less than men, as they behave differently on the labour market in comparison to men. For example, proportionally, less women are active on the labour market than men, even though the number of women on the labour market is increasing (Merens et al. 2011). Still, women's working time stays behind men's (for instance due to childcare and household labour), which partially explains the income gap between men and women (Moonen en Pleijers 2011; Merens et al. 2011). In paragraph 2.32.2.2 it is described how lack of labour market participation might lead (also independently of the income gap) to social exclusion.

Secondly, women might earn less than men, owing to their relatively lower educational level. Nowadays, young women are higher educated than young men. However,

in the population of 35 years and older, men are higher educated than women (Latten & Van Dijk 2007). By concerning the whole population, women in general are lower educated than men (Latten & Van Dijk 2007). Since lower educated people earn less than higher educated people, - because of the inferior labour market position of this former group - a difference in educational level can be an explanation why women earn less than men and why women are more socially excluded than men (Moonen en Pleijers 2011). This connection between educational level and social exclusion is elaborated on in paragraph 2.2.2.4.

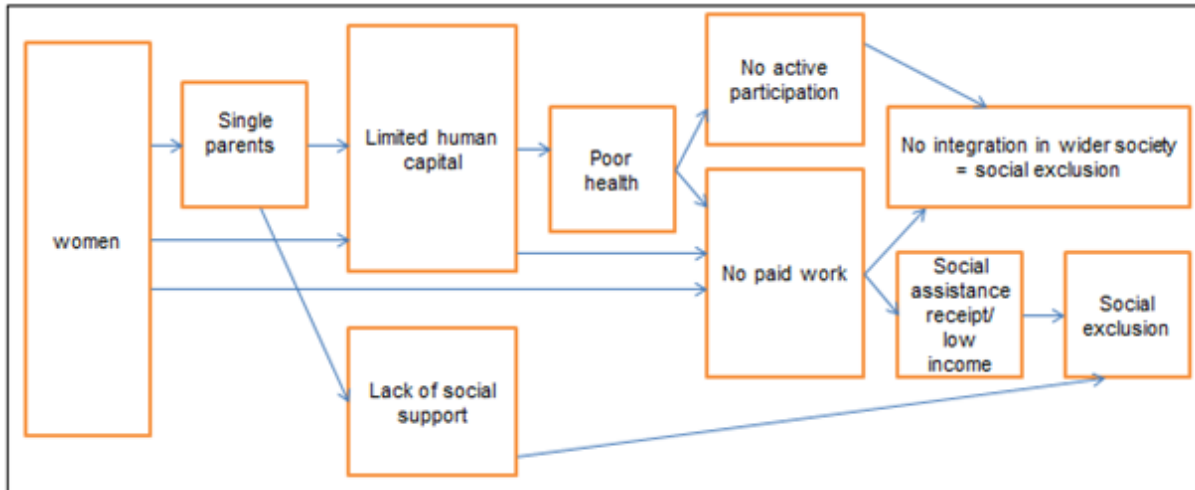
Thirdly, women have lower incomes than men, since they are strongly represented in one of the groups that deals to great extent with income poverty or social exclusion: the single parent families (Bos 2009:26); Merens et al. 2011:248; Fløtten 2006:158; Lautenbach & Sierman 2007 ; McKay 2002:3). The latter becomes partly visible through the fact that women are considerably more dependent on welfare assistance than men (CBS 2010:2). In paragraph 2.2.2.6 the link between family composition and the risk on being socially excluded is elaborated on. This link not only concerns the income gap between men and women, but it also explains why women have higher risks on becoming socially excluded via other mechanisms, such as the lack of social support and lack of human capital.

Fourthly, it is also argued that women earn less than men, due to discrimination (Bartels & De Groot 1996:2), though this latter reason is not mentioned very often in the literature. Therefore, this mechanism is not elaborated upon.

As explained earlier in this paragraph, it became clear that the connection between gender and social exclusion is principally based on the wage gap between men and women. However, it became clear that the wage gap between men and women, in turn, is caused by women's weak labour market position, low educational level as compared to men's, and women's overrepresentation in single parent families. These factors also influence women's high risk on social exclusion via other ways than solely via income. For instance, women's relatively low educational level not only influences the performance of paid work directly, it also affects the health situation of women, and therefore the labour market participation indirectly (see paragraphs 2.2.2.3. and 2.2.2.4) and the active participation in the society directly (see paragraph 2.2.2.3). Besides, the women's lower labour market participation not only affects their personal income level, but it also affects the wider integration into the society. Furthermore, women's overrepresentation in the single parent families not only affects women's personal income and therefore increases the risk on social exclusion, but the overrepresentation also affects women's degree of social exclusion via the mechanisms few

psychological coping abilities (which is an element of human capital) and lack of social support (see figure 2.14).

Figure 2.14 Mechanisms behind theoretical relationship between gender and social exclusion



Due to women’s relative weaker labour market position, their relative low educational level, or their overrepresentation in household compositions that are strongly correlated with being income poor and being in a socially excluded position, women have a greater chance of becoming socially excluded. This leads to the following hypothesis:

H12: There is a positive individual level effect of being female on the degree of social exclusion as compared to being male, and this positive effect diminishes after taking into account household composition, human capital (i.e. psychological coping problems and educational level), social support, health status, employment status and income level (or receipt of benefits, which also refers to income level).

In the study of Jehoel-Gijsbers et al. (2008:117-119), it is shown by multiple regression analysis that women are slightly more socially excluded than men. This is also demonstrated in the study of Jehoel-Gijsbers and Vrooman (2007:31-32). However, the effect is rather small, and only indirect via ICT-capabilities ($Beta = -.01$).

2.2.2.8 Ethnicity and social exclusion

In contemporary research on poverty and social exclusion many studies have found that people belonging to ethnic minorities tend to have poorer living conditions and to be more at risk of social exclusion than those belonging to the titular group in a nation (Tilly 1998, in

Fløtten 2006:163; Wilson 1987, in Fløtten 2006:163). Also the studies of the Netherlands Institute for Social Research found a positive individual-level effect of belonging to a non-western ethnic minority group and the degree of social exclusion. The total effect ($Beta = .12$) of belonging to an ethnic minority group on the degree of social exclusion turned out to be completely indirect. The causal chain goes via poor ICT-skills, poor command of the Dutch language, low educational level and poor health (Jehoel-Gijsbers & Vrooman 2007: 31-32). Also Jehoel-Gijsbers et al. (2008: 117-119) found out that migrants (both western and non-western) are more often socially excluded than non-migrants. Moreover, Huynen (2011:33) indicates that in the year of 2009, 13.9 percent of the native Dutch persons in the Netherlands are socially excluded, whereas the percentage of western migrants being socially excluded 17.5 percent and the percentage of non-western migrants being socially excluded comes down to 34.2 percent.

One of the possible theoretical mechanisms behind this positive association between belonging to an ethnic minority group and the degree of social exclusion is the relatively small labour market participation among migrants. In comparison to the indigenous group, non-western migrants participate to smaller extent on the paid labour market and they are more often unemployed (see endnote 13) (Bouma et al. 2011:5). Even though the labour market participation of the migrants increases, the net labour market participation of the non-western migrants remains behind the net labour market participation of the Dutch natives with more than sixteen percent points. This comes down to a net labour market participation of the non-western migrants of almost 53 percent, and a net labour market participation of almost 70 percent of the Dutch natives (Bouma et al. 2011:5). Furthermore, in 2010, the unemployment rate is about 12.5 percent for non-western migrants, as compared to approximately 4.5 percent for the indigenous group (Bouma et al. 2011: 31).

In paragraph 2.2.2.2, it has been stated that labour market participation is essential for the integration in the society, or in other words, for not becoming socially excluded. This is also stated by Bouma et al. (2011:5), as they argue that the labour market participation of the non-western migrants is fundamental for the integration of the migrants in the Dutch society. Besides, it was argued in paragraph 2.2.2.2 that the labour market participation is of great importance for being independent of social benefits receipt or avoiding a low income, which are two factors that in turn diminish the chance of becoming socially excluded. As it has become clear from the previous paragraph that the (non-western) migrants lag behind in labour market participation in comparison with the native Dutch population, it seems plausible to assume that the migrants are more socially excluded than the non-migrants.

Even though it might be plausible to assume that people belonging to an (non-western) ethnic minority group have a higher probability of becoming socially excluded than the titular group due to the arrears in labour market position of the migrants in comparison to the non-migrants, there are more profound reasons at work here. The position of the migrants in the labour market is worse than the position of the native Dutch persons in the labour market due to several underlying reasons.

First of all, a positive association has been found between educational level and mastery of the Dutch language on the one hand and labour market participation on the other hand; the higher educated and the persons who have a sufficient command of the Dutch language participate to greater extent on the labour market than the lower educated and the persons who have an insufficient command of the Dutch language (Bouma et al. 2011:6) (see also paragraph 2.2.2.4). This might be due to the transformation in economic structure. As was already stated in paragraph 2.2.2.4, the labour market – and in particular the labour market of the city of Rotterdam – has become more demanding concerning (language)skills and educational level (Bouma et al. 2011:8). Because the migrants are more often lower educated than the non-migrants in the Netherlands, and because the migrants more often dispose of insufficient language- and achievement abilities than the non-migrants, especially the migrants are bothered by the increased importance of human capital for participation on the labour market (Bouma 2011: 8). The consequence is that migrants have a higher probability not to be active on the labour market than persons belonging to the titular group.

Secondly, it is stated by Lucht and Foets (2010) that migrants more often experience (extreme) health problems than the native Dutch persons in the Netherlands. These relative bad conditions of health of the migrants might possibly be affected by their relative low levels of human capital (see paragraph 2.2.2.4). In paragraph 2.2.2.3, it is explained how poor health conditions may lead to social exclusion via participation on the labour market and active participation in the society. Subsequently, it might be plausible to suppose that the migrants participate to a smaller extent on the labour market (and in social life) than the native Dutch persons, owing to the fact that the former group experiences relatively more health problems than the latter group.

Thirdly, an external factor that leads to the relatively low labour market participation of the migrants is discrimination on the labour market. Discrimination can be described as “the unfavourable treatment of persons because they belong to a certain faction or because others assume these persons to belong to a certain faction, even though they are not” (Andriessen et al. 2010:25). Then, discrimination of non-western migrants is a matter of

exclusion of persons based on their (reputed) ethnic origin (Andriessen et al. 2010:25). It is demonstrated that both during the influx of recent graduates to the labour market and during the attempts made on the labour market of upward mobility, migrants are discriminated more often than non-migrants (Bouma et al. 2011:8-9). Research shows, for example, that the likelihood of migrants being invited for a job interview is significantly lower than the likelihood of the members of the titular group (Bouma et al. 2011:8; Andriessen et al. 2010: 15) There are strong indications of discrimination on the labour market based on ethnic origin, which diminishes the chances of migrants on the Dutch labour market (Bouma et al. 2011:9). Therefore it seems plausible to suggest that migrants have a higher chance of not performing paid work than non-migrants due to discrimination based on ethnic origin on the labour market.

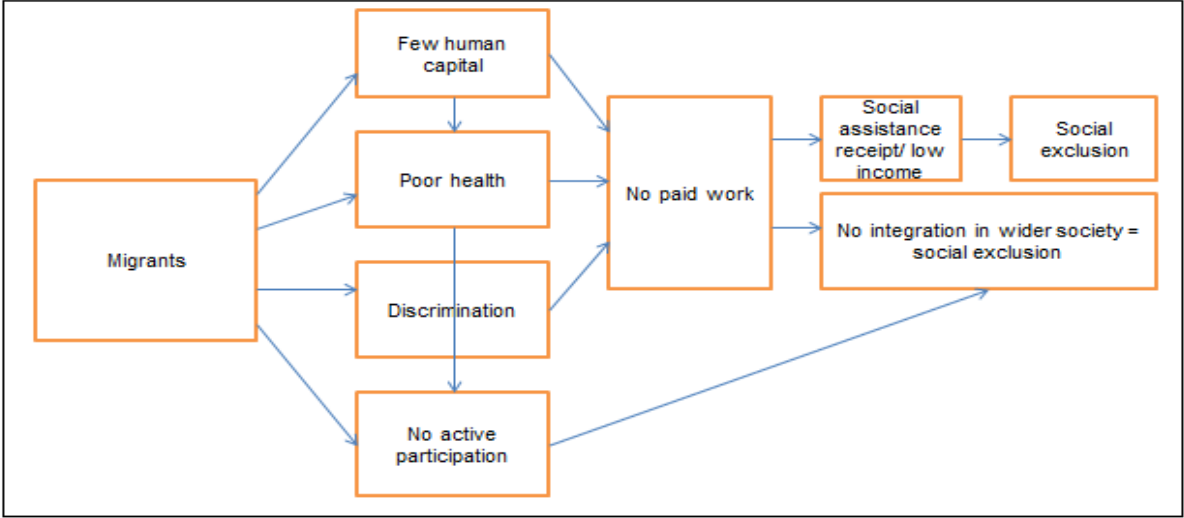
In short, it seems that migrants are concerned more often with certain discomfours than non-migrants, such as the lack of human capital, health problems and discrimination on the labour market. Due to these problems, the labour market participation of persons belonging to ethnic minority groups is relatively low, whereas the unemployment rate (see endnote 13) among the migrants is relatively high, as compared to the indigenous group in the Netherlands (Bouma et al. 2011:9). As it was already stated in paragraph 2.2.2.2 the labour market participation is associated with the degree of social exclusion. As the labour market participation among migrants is lower in comparison to the labour market participation of the non-migrants, migrants are more often dependent on social assistance receipt than the indigenous population (CBS 2001). Besides, a relatively high number of migrants deals with a low income in comparison with the non-migrants (Bos 2009: 22-23; Bos et al. 2011:23-24). Thus, the greater probability of not performing paid work for migrants as compared to non-migrants leads to their generally low income level and dependency on social benefits, which in turn, affects the degree of social exclusion (see paragraphs 2.2.2.2 and 2.2.2.1). Besides, the greater probability of not performing paid work for migrants as compared to non-migrants can be directly related to the degree of social exclusion, since not performing paid work also directly affects the degree of social exclusion via no integration in the wider society (see paragraph 2.2.2.2).

Next to the relationship between migrants' greater likelihood of not performing paid work and the degree of social exclusion, migrants might also have higher chances to be socially excluded than non-migrants, since active participation – which is related to social exclusion (see paragraph 2.2.2.3)– in the society among migrants is smaller than among the indigenous group. This assertion is based on the finding in the study of Fløtten (2006:241)

that people belonging to ethnic minorities are less active as members of organisations in general than non-migrants. No underlying reasons are given for this finding, but it might be possible that the relatively higher risk of health problems among migrants as compared to non-migrants is related to their relative small active participation in the society (see paragraph 2.2.2.3 for the link between health problems and active participation). Also lack of income or language problems might play a role in migrants' relative small active participation in the society. These latter two possible underlying mechanisms why migrants are less active participants in the society are not based on the literature, and therefore not tested.

Based on the linkages that can be made between ethnicity and labour market participation via human capital, health and discrimination on the one hand and labour market participation and social exclusion on the other hand and based on the linkages that can be made between ethnicity and active participation in the society on the one side and active participation in the society and social exclusion on the other side, it is likely to assume that migrants²³ are more socially excluded than non-migrants (see figure 2.15).

Figure 2.15 Mechanisms behind theoretical relationship between ethnicity and social exclusion



Based on the mechanisms that are introduced in figure 2.15 to indicate the relationship between ethnicity and social exclusion, the following hypothesis is raised:

H13: There is a positive individual level effect of being a migrant on the degree of social exclusion as compared to being indigenous, and this positive effect diminishes after taking into account human capital, health status, discrimination, active participation in the society, employment status and income level (or receipt of benefits, which also refers to income level).

2.2.2.9 Religious involvement and social exclusion

It has widely been acknowledged that religion shapes life satisfaction and subjective well-being. Many studies report that religion is closely related to life satisfaction and happiness (Inglehart 2010, in Lim & Putnam 2010:914; Greeley & Hout 2006, in Lim & Putnam 2010:914; Ferriss 2002, in Lim & Putnam 2010:914). The mechanism that lies behind the positive association between religious involvement and individuals' well-being is that people who regularly attend religious services receive more and better social support, which eventually leads to a higher level of well-being (Lim & Putnam 2010:916). According to many theorists, subjective well-being is enhanced by religious involvement, as the religious organisations offer opportunities for social resources, such as social support. The “essence and substance” of religion has already been ventilated by the classical sociologists such as Durkheim and Simmel (Durkheim 1951, in Lim & Putnam 2010:16; Simmel 1997, in Lim & Putnam 2010:16).

The social support that is received from co-religionists is characterised by its distinctive quality (Lim & Putnam 2010:16). Social support offered by co-religionists is featured by its “distinctive quality”, because “social support is more likely to be received and interpreted in the spirit in which it is intended” (Lim & Putnam 2010:16), and because church visitors “may derive a greater sense of comfort from their co-religionists because they have similar beliefs about the practice and meaning of helping behavior” (Lim & Putnam 2010:16).

In short, it is asserted that religious involvement leads to the receipt of social support when one is in need, which expands individuals' well-being. Also Fløtten (2006:205) mentions in her study that the receipt of social support affects the well-being of individuals. All individuals need support if one has personal problems, if one has material and financial problems and in situations of illness (Fløtten 2006:205). Despite the studies of Fløtten (2006) and Lim & Putnam (2010) do link the concepts of social support with well-being and happiness instead of social exclusion, it might be assumed that lack of social support leads to social exclusion, since (subjective) well-being might be perceived as the opposite of experiencing social exclusion.

After making this assumption, it might be clear that religious involvement diminishes the probability of becoming socially excluded via the mechanism of social support that is offered in religious settings. Vice versa, it can be asserted that lack of religious involvement enlarges the probability of becoming socially excluded, as these persons who are not religiously involved might lack social support²⁴.

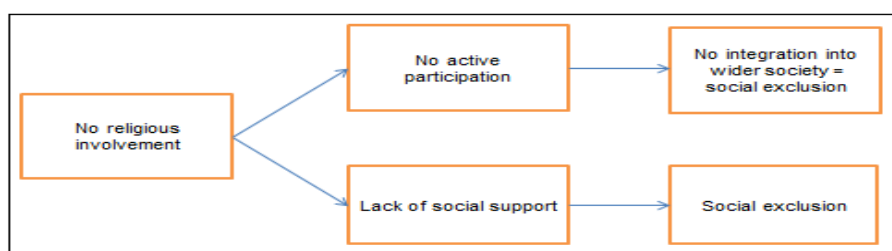
Besides, there might be a relationship between religious involvement and social exclusion, as religious involvement and regular attendance of religious services can be perceived as a manner of participating actively in the society. For example, it can be imagined that persons who are involved in a religious organisation do not become lonely very easily, as they get in touch with other people within and even without the religious organisation. The religious persons thus have a high chance of not becoming socially excluded, because they are participating in the society via the attendance of the religious services.

Moreover, it has been mentioned several times in the previous literature that the performance of voluntary work – which is also an element of active participation (see endnote 14) – is stimulated by religiosity (Van Ingen 2005). Religious persons are more often active as a volunteer than non-religious persons. Protestants, Catholics, and followers of another denomination (such as Muslims) all spend relatively more time in volunteering activities than non-religious persons (Van Ingen 2005). It can be assumed that persons who perform voluntary work have a smaller chance of becoming socially excluded, since they profit by their integration in the wider society via their participation on the (unpaid) labour market.

Based on the findings and assumptions put forward in this paragraph, it can be presumed that religious involvement not only affects the chance of becoming socially excluded via the receipt of social support. Also the mechanism ‘active participation in the society’ is at work here. Persons who are involved in religious organisations have a smaller chance than the persons who are not religiously involved to become socially excluded, as the former persons have a higher probability of being active in the society (via for example voluntary work). Vice versa, this means that lack of religious involvement expands the probability of becoming socially excluded, as the persons who are not religiously involved might be less active in the participation in the society than religious persons.

The mechanisms that lay behind the reasoning why no religious involvement leads to a higher probability of becoming socially excluded are schematically displayed in figure 2.16.

Figure 2.16 Mechanisms behind theoretical relationship between religious involvement and social exclusion



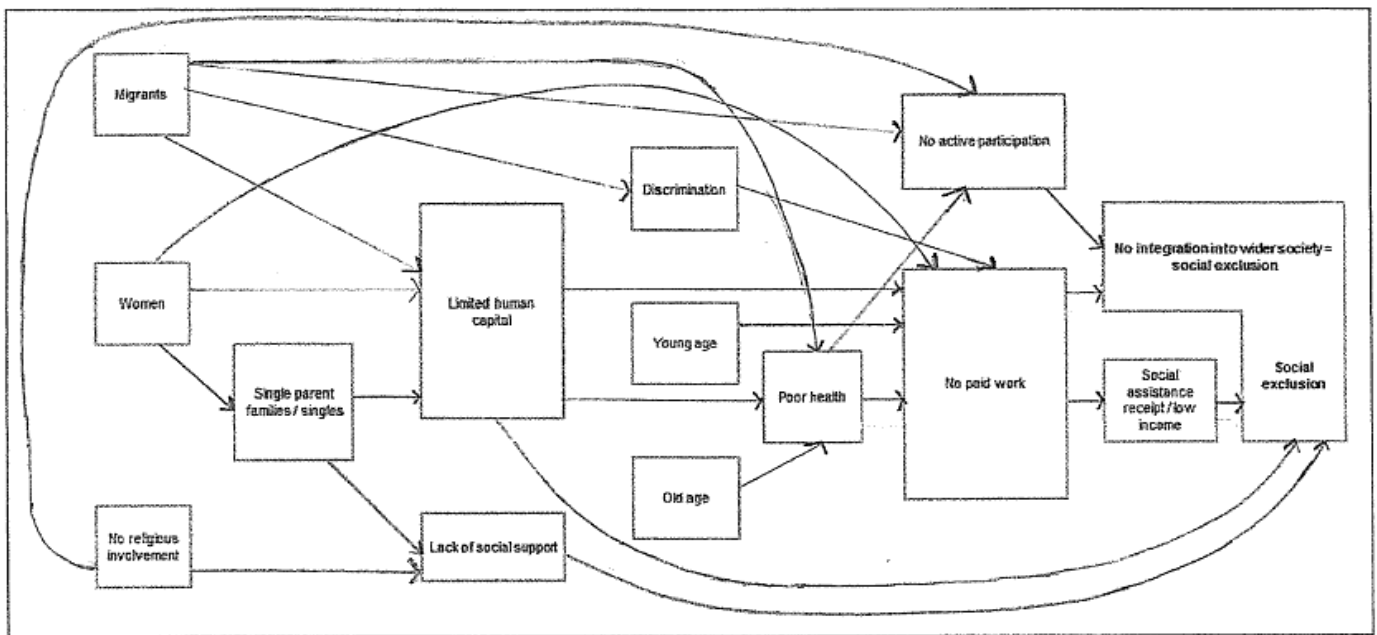
The following hypothesis can be derived from figure 2.16:

H14: There is a positive individual level effect of being not religiously involved on the degree of social exclusion as compared to being religiously involved, and this positive effect diminishes after taking into account social support and active participation in the society.

2.2.2.10 An integrated model of individual level risk factors of social exclusion

All the assumed relationships between risk factors and the degree of social exclusion that have been mentioned in the paragraphs 2.2.2.1 until 2.2.2.9 can be united in an integrated model. The integrated model is presented in figure 2.17.

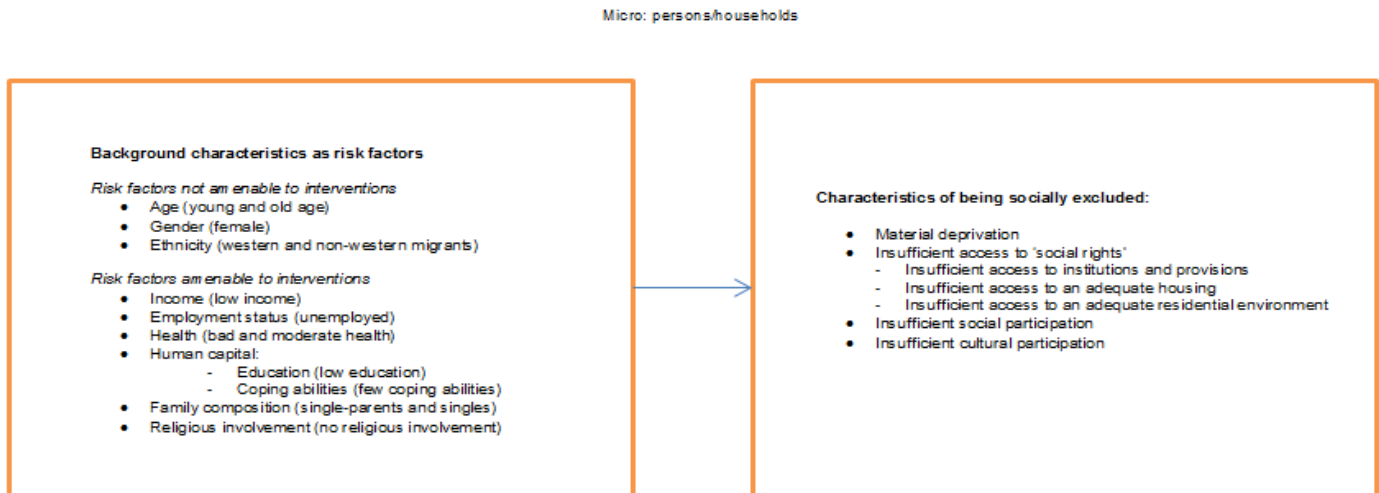
Figure 2.17 Conceptual model of risk factors of social exclusion (integrated version)



2.2.3 A conceptual model of social exclusion of the residents of the city of Rotterdam

Based on the preceding paragraphs of this chapter, a conceptual model of social exclusion of the residents of the city of Rotterdam has been developed. The conceptual model is illustrated in figure 2.16.

Figure 2.18 Conceptual model of social exclusion of the residents of the city of Rotterdam



Note the risk factors of social exclusion are shown in brackets in the left column of figure 2.18

In figure 2.18 it is illustrated that social exclusion of the residents of the city of Rotterdam is a relative and multidimensional phenomenon that refers to four main dimensions: 'material deprivation', 'insufficient access to social rights', 'insufficient social participation' and 'insufficient cultural participation'. Besides, it can be noticed in figure 2.18 that the features that describe the actual state of social exclusion of the residents of Rotterdam (status characteristics) are distinguished from the risk factors that increase the chance of social exclusion of the residents of Rotterdam (process). Some of these risk factors are open to policy intervention, whereas others are not²⁵ (see figure 2.18). The risk factors or causes of social exclusion operate at the micro, meso and macro level, though only the micro level determinants of social exclusion of the residents of the city of Rotterdam are elaborated on in this study. It also turns out from figure 2.18 that in this study a one-sided causality of individual level characteristics on social exclusion is assumed. This assumption is in line with the assumptions of the studies about social exclusion of the Netherlands Institute for Social Research (see paragraph 2.2.1).

CHAPTER 3: DATA AND METHODS

This chapter of the research covers a description of the dataset that is used (see paragraph 3.1), the research methods that are used in this study (see paragraph 3.2) and the operationalisation of the key variables (see paragraph 3.3).

3.1. Data

The data that are used in this study stem from the “Rotterdam Neighbourhood Survey 2011”. This is a biennial²⁶ multi-neighbourhood survey covering 65 neighbourhoods of the city of Rotterdam that represent the 13 boroughs of the city (Municipality of Rotterdam 2010). This year the questionnaires are fielded in two periods: April 2011 and August 2011²⁷. The 7.144 questionnaires that were fielded in April 2011 are ready to use, which amounts to approximately 50 percent of the eventual dataset.

The “Rotterdam Neighbourhood Survey” exists of questions that comprise the “Social Index” (see paragraph 1.3), questions about the child friendliness of the neighbourhoods of Rotterdam and Rotterdam in general, and questions from the “Physical Index”. These questions equip the Municipality of Rotterdam with important information about the social situation, the quality of the residence, the residential environment and the child friendliness of the neighbourhoods (Van Duin 2011).

The respondents that filled in the “Rotterdam Neighbourhood Survey 2011” have been randomly selected. For each neighbourhood, the net response is approximately 200 – 250 respondents²⁸ (Van Duin 2011). After the data collection the data were made representative by the Centre for Research and Statistics for the neighbourhood population by applying weight-factors on the items age, ethnicity and neighbourhood. Strictly speaking the data are representative for the residents of the city of Rotterdam based on age, ethnicity and neighbourhood, though I presume that the data are *grosso modo* representative for the population of Rotterdam in general. It was not possible for the Centre of Research and Statistics to apply weight-factors on other important characteristics as well, because the population numbers for the residents of the city of Rotterdam of other characteristics than age, ethnicity and neighbourhood are unknown. It is of great importance that it can be assumed that the dataset is representative for the residents of the city of Rotterdam, since the representativeness indicates to what extent the sample represents the reality (i.e. the extent to

which the respondents that filled in the questionnaire have the same scores on the items as would have been the case if all residents of the city of Rotterdam filled in the questionnaire).

In addition to the representativeness, the size of the sample also affects the extent to which the sample represents the reality (COS 2012). A large sample size leads to a higher reliability of the outcomes (COS 2012). Due to the fact that in this study no specific information on the neighbourhood level is used and instead general information about the residents of the city of Rotterdam is studied, the sample size is considerably large (7.144 cases). This increases the reliability of the scores to great extent (Municipality of the city of Rotterdam 2010).

Moreover, the research method of collecting data influences the extent to which the sample represents the reality (COS 2012). All persons who got an invitation to fill in the questionnaire were able to complete these questionnaires on the Internet or via a written questionnaire. Besides, there was the possibility to complete the questionnaire telephonically in order to ensure that all different population segments (e.g. young, old, immigrants, natives) got a chance to participate (Van Duin 2011). Interviewers spoke several languages that represent next to the Dutch and English language all languages of the large ethnic minority groups in the Netherlands. The digital questionnaires as well as the written questionnaires were also available in several languages (e.g.. Dutch, English, Turkish, Arabic, Berber). Again, translations were made for all large ethnic minority groups. If after the invitation to complete the written or the digital questionnaire no response was received by the respondent then interviewers addressed the selected persons by phone in order to increase the response (Van Duin 2011).

3.2 Research methods

The central aims of this quantitative study were to define, measure and explain the degree of social exclusion of the residents of the city of Rotterdam. For the measurement and the explanation of the degree of social exclusion several research methods are used. The measurement of social exclusion occurs on the basis of the construction of a general index for the degree of social exclusion of the inhabitants of Rotterdam. Subsequently the degree of social exclusion of the residents of Rotterdam can be explained by looking at the influence individual level characteristics have on the general index for social exclusion of the inhabitants of Rotterdam. The research techniques that are necessary to meet these goals of measuring and explaining the degree of social exclusion of the resident of the city of Rotterdam are described in paragraphs 3.2.1 and 3.2.2.

3.2.1 Research methods PCA and Overals

In this study the bottom-up approach is applied to create a general index for social exclusion of the residents of the city of Rotterdam²⁹. The bottom-up approach has been used in many studies about social exclusion executed by researchers from the Netherlands Institute for Social Research (Hoff & Vrooman 2011; Jehoel-Gijsbers 2004; Roest et al. 2010). In the first step of the bottom up approach it is tested whether the theoretical dimensions of social exclusion of the residents of the city of Rotterdam that have been distinguished in chapter 2 (see paragraph 2.1.7) can be statistically perceived. These statistical tests are performed by using Principal Component Analysis (PCA).

PCA is a data reducing technique that helps to investigate whether groups or clusters of variables can be ventilated (Field 2009:628). Put another way, with PCA it is possible to find out whether different items or variables more or less measure the same latent variable (Achterberg 2009:46). The latter is some kind of ‘super’ variable of which it is impossible to measure it directly (Field 2009:628; Achterberg 2009:46). Provided that the items do more or less measure the same underlying variable, these items can be replaced by this ‘super’ variable, which makes the technique data reducing. The data reduction is achieved by observing which items seem to cluster together in a meaningful way, which is done by “looking for variables that correlate highly with a group of other variables, but do not correlate with variables outside of that group” (Field 2009: 628). Thus, with PCA it is investigated which items that might measure the theoretical dimensions of social exclusion of the residents of the city of Rotterdam are sufficiently correlated in order to speak of an accurate and reliable measure of the concerning dimensions.

After the construction of the (sub-)dimensions of social exclusion, it is endeavoured to construct a general index for social exclusion by applying the second step of the bottom-up approach. With help of the Overals technique it is investigated whether the statistically distinguished (sub-)dimensions of social exclusion of the inhabitants of Rotterdam can be aggregated within a single measure of social exclusion. According to Hoff and Vrooman (2011:40-41), the Overals technique is a combination of canonical correlation and optimal scaling and aggregates the separate dimensions of social exclusion. For a detailed description of the Overals technique I refer to the study of Boelhouwer about wellbeing in the Netherlands in which a life situation index is created (see Boelhouwer 2010, chapter 6: 87-103 and Appendix B:190-193).

3.2.2 Research method Multiple Linear Regression Analysis

In order to gain insights into the individual level risk factors of social exclusion of the residents of the city of Rotterdam multiple linear regression analysis is performed. A multiple linear regression model illustrates the influence of several categorical or continuous independent variables on the continuous dependent variable (the degree of social exclusion) (De Vocht 2007). Several main assumptions in order to perform a multiple linear regression analysis are made. For example, it is assumed that there is a causal relationship between the dependent variable and the independent variables. Moreover, it is assumed that the relationship between the dependent variable and the independent variables is asymmetrical; the dependent variable is affected by several independent variables and not the other way around. Furthermore, the model is assumed to be linear (De Vocht 2007).

The method of selecting the predictors for a model is particularly important owing to the fact that values of regression coefficients depend upon the variables in the model (Field 2009:212). For that reason, the regression results are highly influenced by the predictors that are included in the model and the way in which these predictors are entered in the model (Field 2009:212). It is often recommended to perform hierarchical regression (blockwise entry), since this method allows that the most important predictors (based on expectations and previous research) of the outcome are entered first followed by the less important predictors and the predictors that have not been tested before in previous research (Field 2009:212). When all these predictors are added in separate models, it is possible to show indirect effects as well, as it becomes clearly visible using this method that the enclosure of a new predictor can influence the effects of the other predictors in the model. In this study, I also use the blockwise entry method, though the predictors are not completely included in a hierarchical way (i.e. including the predictors according to their relative importance). I chose not to include the predictors in separate entry blocks via the importance hierarchy of the predictors that resulted from previous research, because the expectations that are made in the theoretical developed model (see paragraph 2.2.10) become better visible in case of interrupting the hierarchical entry order.

3.3 Operationalisation

Before turning to the analyses in the next chapter, the dependent (paragraph 3.3.1), independent (paragraph 3.3.2) and mediator variables (paragraph 3.3.3) are discussed (see table 3.1).

3.3.1 *Dependent variable*

In order to create (sub-)dimensions and eventually a general index for social exclusion, the dataset – which is described in the previous section – that contains 7.144 cases is used as basis in this study. In chapter 4 there is an extensive focus on the construction of the dependent variable ‘the degree of social exclusion’. Therefore I refer to chapter 4 (paragraphs 4.1 till 4.5) for more information about the operationalisation of the dependent variable, the number of cases that are used to construct the dependent variable, descriptive results about the (sub-)dimensions of the degree of social exclusion and for descriptive statistics for the dependent variable itself.

3.3.2 *Independent variables*

In this study, the individual level characteristics are: age, gender, ethnicity, income, labour market participation, health, human capital, family composition and religious involvement. These variables are perceived as important determinants of social exclusion of the residents of the city of Rotterdam (see figure 2.18 in paragraph 2.2.3).

Three of these independent variables are not amenable to policy intervention. It regards the variables sex, age and ethnicity.

Sex is measured with the question in the “Rotterdam Neighbourhood Survey 2011” that informs about the sex of the respondents. Females have been coded as 1 and male respondents as 0.

Age is based on the question that asks for the age of the respondents. To facilitate the interpretation of the results of the analyses in chapter 4 (paragraph 4.6), the variable age is categorised in ‘young’ (respondents aged 18-29), ‘middle age’ (respondents aged 30-64) and ‘old’ (respondents aged over 65). The variables ‘*young*’, ‘*middle age*’ and ‘*old*’ have been dichotomised in a sense that the value 1 respectively refers to being young, of middle-age and old and the value of 0 respectively refers to *not* being young, of middle-age and old.

The questions about the country of birth of the respondent’s father and mother are used to construct the independent variable *ethnicity*. A dichotomous variable ‘*migrant*’ has been created where a value of 1 points to the fact that at least the mother *or* the father of the

respondent has been born in another country than the Netherlands. The value of 0 indicates that the respondent is not a migrant, as both parents are born in the Netherlands. This definition of a migrant is derived from the standard definition of Statistics Netherlands (Keij 2000). No distinction has been made between a migrant from western countries and non-western countries (see endnote 23).

Moreover, in this research there are six independent variables that are amenable to policy intervention. It regards the variables ‘family composition’, ‘health’, ‘human capital (existing of ‘education’ and ‘coping abilities’), ‘position in the paid labour market’, ‘income’, and ‘religious involvement’.

The variable *family composition* is based on information about the respondent’s household composition. The ordinal variable has been recoded into three categories ‘single’, ‘single-parent, and ‘other family composition’. Subsequently the dichotomous variables ‘single’, ‘single-parent’, and ‘other family composition’ are computed. The value 1 indicates respectively that a respondent is single, a single-parent or living in another family composition, whereas the value of 0 respectively displays that the respondent is *not* a single, a single-parent or living in another family composition. The variable ‘other family composition’ exists for 52 percent of couples without (a) child(ren), for 44 percent of couples with (a) child(ren) and for 4 percent of another family composition, such as cohabiting with siblings or friends. This implies that the variable other family composition more or less refers to couples with or without (a) child(ren).

The question about the subjective assessment of the respondent’s health is used as the variable *health*. The ordinal variable is recoded into three dichotomous variables, namely ‘good health’, ‘moderate health’ and ‘poor health’. A value of 1 on the dichotomous variable *good health* refers to being in ‘excellent’, ‘very good’ or ‘good’ health and the value 1 on the dichotomous variable *moderate health* refers to ‘being in moderate health’ and a value 1 on the variable *poor health* to ‘being in poor health’. The values 0 on these dichotomous variables refer respectively to *not* being in excellent/ very good / good health, being in moderate health and being in poor health.

Human capital is in this study measured by using information about someone’s educational attainment and information about whether or not someone possesses coping abilities. The ordinal variable about the highest level of completed education of the respondent is used to indicate the respondent’s *education*, which is the first component of human capital. The ordinal variable is recoded into three dichotomous variables. The values

'no education', 'primary school', 'lower vocational education', 'lower general secondary school' and 'advanced elementary education' are recoded as *low education* (where the value 1 means 'yes' and the value 0 'no'). The values 'girl's secondary school', 'senior/higher general secondary school', 'pre-university education/grammar school/ high school', 'intermediate vocational education level 1', and 'intermediate vocational education level 2 or higher/other secondary vocational training' of the ordinal variable highest level of completed education are recoded as *middle education* (where the value 1 means 'yes' and the value 0 'no'). The dichotomous variable *high education* exists of respondents that filled in that their highest level of completed education is 'higher vocational education' or 'university education'. These respondents have a value 1 on the dichotomous variable high education, whereas all other respondents with a lower educational degree have a value of 0 on this variable.

Coping abilities as a second component of human capital is measured with two indicators: a dichotomous variable about 'psychological coping' and a dichotomous variable about 'command of the Dutch language'. For the variable 'psychological coping' the statements 'there is very little I can do to change important things in my life', 'I have very little control over the things that happen to me', 'I often feel helpless in dealing with life's problems', 'there is no way I can solve some of my problems', 'almost everything I put my mind to, I can do' and 'whatever happens to me in the future, is up to me' are used. Reverse coding has been applied so that a boundary between being at risk and not being at risk of psychological coping problems per statement is drawn. Subsequently, a scale (range 0-1) about psychological coping has been created of these statements (Cronbach's $\alpha = .81$). Based on this scale the dummy variable *many psychological coping problems* is created, where the values 0 - .415 are recoded as 1 and refer to many psychological coping problems, whereas the values .415 - 1 are recoded as 0 and refer to few psychological coping problems. For the dichotomous variable about the command of the Dutch language the questions about the reading abilities, the speaking abilities and the writing abilities in the Dutch language are used. A line of demarcation has been drawn to indicate the difference between being at risk and not being at risk of having problems with respectively reading, speaking and writing the Dutch language. In addition, a scale (range 0-1) about the mastery of the Dutch language has been created based on these three items that measure the reading, speaking and writing skills of the respondents. The scale turned out to be highly reliable (Cronbach's $\alpha = .93$). The dummy variable *many language problems* is constructed, where the values 0 - 0.5 are recoded as 1 and indicate many problems with the Dutch language, whereas the value 0.5 - 1 are recoded as 0 and point at few problems with the Dutch language.

The dummy variable *unemployment* is constructed to indicate whether the respondents perform paid work or not. The variable is based on information about *paid work* in the “Rotterdam Neighbourhood Survey 2011”. A value of 1 indicates that the respondent is unemployed, whereas a value of 0 shows that the respondent is employed (paid).

The ordinal variable about the joint net income category of the household in which the respondent lives is used to construct three dichotomous variables about *income*. The six income categories that originally exist are reduced to three income categories: *low income* for the income categories that range from ‘less than 1.000 euro per month to 1.350 euro per month’, *middle high income* for the income categories that range from ‘1.350 euro per month till 3.150 euro per month’, and *high income* for the income categories that range from 3.150 euro per month to more than 4.300 euro per month. A value of 1 on the values low income, middle-high income and high income means ‘yes’ and a value of 0 on these variables means ‘no’.

At last, the ordinal variable about the frequency of visiting religious meetings is used to construct the dichotomous variable *infrequent religious meeting attendance*. If the respondent visits religious meetings less than once a month or never, then the respondent gets a value 1 on the variable infrequent religious meeting attendance, whereas if the respondent visits religious meetings several times a week, once a week, two or three times a month or once month then the respondents gets a value of 0 on the variable infrequent religious meeting attendance. The newly constructed dichotomous variable is used as a proxy for religious involvement as it is presupposed that that religiously involved persons visit religious meetings more frequently than unreligious persons.

For the variables age, coping abilities, and education it was also possible to use continuous variables instead of categorical variables. However, it was preferred to construct categorical variables, since in this thesis attention is paid to individual level determinants of the degree of social exclusion in a sense that risk factors are ventilated. What is meant is that in this thesis it is not aimed to demonstrate that persons of 53 have a higher chance than persons who are 52 or 50 or 30 to become more socially excluded. Instead, it is about indicating the risk factors of social exclusion. Are young persons more at risk of social exclusion or is it the seniors that have great risks on becoming socially excluded? The same reasoning applies for the other variables education and coping abilities. It is not about indicating that respondents with one year extra education have a lower risk on becoming socially excluded than respondent without that extra year education, or that respondents with a score of .17 on the psychological coping abilities scale have a higher risk on becoming

socially excluded than persons with a score of .33 on the scale. Instead it is about indicating that having a low educational degree or few psychological coping abilities are risk factors of becoming heavily socially excluded.

3.3.3 Mediator variables

Additionally to the independent and dependent variables that were demonstrated in the theoretical models in in chapter 2 (see paragraphs 2.2.2.1 until 2.2.2.10) several mediator variables have been ventilated. It is assumed that these variables affect the relationship between the independent variables and the dependent variable. According to the theoretical models in chapter 2, it is presumed that the independent variables – independently of their possible direct effects on the degree social exclusion – indirectly affect the degree of social exclusion via other risk factors: the mediator variables. An example illustrates what is exactly meant by the term mediator variable. In the figures 2.13 and 2.17 it is indicated that singles and single parents have a higher chance of becoming socially excluded than persons who live in another family composition, because singles and single-parents might experience a lack of social support in comparison to persons who live in other family compositions. The effect of singles and single-parents on social exclusion is assumed to be indirect, via for example the risk factor ‘lack of social support’, which can be indicated by the term mediator variable in this example.

From the integrated model in figure 2.17 it becomes clear that the variables ‘health’, ‘paid work’, ‘income’, ‘receipt of social benefits’, ‘no active participation’, ‘human capital’, ‘lack of social support’, ‘family composition’ and ‘discrimination’ can be characterised as mediator variables. This means that the variables ‘income’, ‘health’, ‘paid work’, ‘human capital’, and ‘family composition’ can be both characterised as independent variables and as mediator variables. It depends upon the model that is tested whether these variables can be seen as the independent variable or a mediator variable. The operationalisation of these mediator variables that can also be independent variables dependent upon the theoretical model that is tested, is exactly similar to the operationalisation of these independent variables. The other mediator variables are operationalised in the subsequent paragraphs.

One of the mediator variables is *benefits*. The variable is dichotomous and is based on the nominal variable in the dataset that is about the receipt of benefit(s). The nominal variable is recoded in a sense that if the respondent indicates that he or she gets a full social security benefit, a supplementary social security benefit or a study grant, then the value of 1 is given to the new variable *in receipt of benefits*. A value of 0 is given to respondents that did not

indicate to receive a full social security benefit, or a supplementary social security benefit or a study grant.

The mediator variable *active participation* in the social life is measured with two variables: a dichotomous variable about *volunteer work* and a dichotomous variable about *being a member of a hobby association*. For the variable volunteer work the question is used whether the respondent is active in one or more organisations as an unpaid volunteer. The value label ‘no’ is recoded as 1 and the value label ‘yes’ is recoded as 0. The question about whether the respondent is a member of a hobby club, a sports, drama, music or dance association is used for the dichotomous variable being a member of a hobby association. The value of 1 indicates that the respondent is *not* a member of a hobby association, whereas the value of 0 indicates that the respondent is a member of a hobby association. Since active participation is measured with the variables about volunteer work and membership of a hobby association, it must be clear that active participation in the social life is not about paid employment.

The question about whether the respondent has felt discriminated against in the past 12 months is used as the dichotomous variable about *feelings of being discriminated*. A value of 1 indicates that the respondent has felt discriminated against, whereas the value of 0 displays that the respondent did not have experienced any feelings of being discriminated against.

At last, the mediator variable *social support* is measured with information in the “Rotterdam Neighbourhood Survey 2011” about whether the respondents have received help from the partner, parents, child(ren), friends or neighbours, because the respondent was sick, in need of help or mental support in the past 12 months. The dichotomous variable ‘social support’ is recoded: a value of ‘1’ means that the person did not receive social support during the last year when he or she was in need of it, whereas the value of ‘0’ means that the person received social support.

In table 3.1 the descriptive statistics of the independent variables and the mediator variables are displayed. The descriptive statistics of the dependent variable³⁰ are displayed in chapter 4 (paragraph 4.5) In order to explain the degree of social exclusion, the original dataset of 7.144 cases is used. The explanatory analyses are performed after excluding persons that are younger than eighteen³¹ from the dataset and after exclusion respondents with missing values on any of the variables that are put in the regression analysis. Therefore, the number of cases that is used in the explanatory analysis is about 4.970³². Based on the sample of the explanatory analysis – which exists of 4.970 cases (unweighted) and 342.448 cases if the

weight factor for the residents of Rotterdam is applied – the descriptive statistics of the independent and mediator variables are shown.

Table 3.1 Individual level descriptive statistics (N = 342.448, weighed)

<i>Variables</i>	<i>Measured as dummy's</i>	<i>Values</i>	<i>%</i>
<i>Independent variables</i>			
Age	Young	(1 'yes' 0 'no')	21,4
	Middle age	(1 'yes' 0 'no')	62,3
	Old	(1 'yes' 0 'no')	16,3
Sex	Female	(1 'yes' 0 'no')	54,2
Family composition	Single	(1 'yes' 0 'no')	35,7
	Single parent	(1 'yes' 0 'no')	7,6
	Other family composition	(1 'yes' 0 'no')	56,7
Ethnicity	Migrant	(1 'yes' 0 'no')	43,8
Human capital Education	Low education	1 'yes' 0 'no')	29,9
	Middle education	1 'yes' 0 'no')	31,0
	High education	1 'yes' 0 'no')	39,1
<i>Coping abilities</i>			
Psychological coping	Many psychological coping problems	(1 'yes' 0 'no')	5,9
Coping with the Dutch language	Many language problems	(1 'yes' 0 'no')	10,5
Health	Poor health	(1 'yes' 0 'no')	3,6
	Moderate health	(1 'yes' 0 'no')	16,0
	Good health	(1 'yes' 0 'no')	80,4
Paid work Income	Unemployment	(1 'yes' 0 'no')	36,9
	Low income	(1 'yes' 0 'no')	28,5
	Middle high income	(1 'yes' 0 'no')	47,9
Frequency of attendance of religious meetings	High income	(1 'yes' 0 'no')	23,6
	Infrequent religious meeting attendance	(1 'yes' 0 'no')	81,3
<i>Mediator variables</i>			
Benefits	In receipt of benefit(s)	(1 'yes' 0 'no')	26,3
Active participation	Volunteer work	(1 'yes' 0 'no')	77,3
	Membership hobby association	No member hobby association	(1 'yes' 0 'no')
Discrimination	Feelings of being discriminated	(1 'yes' 0 'no')	15,5
Social support	No social support	(1 'yes' 0 'no')	87,2

Source "Rotterdam Neighbourhood Survey 2011"

4.4 Weighting

Because in this study I want to generalise to the residents of the city of Rotterdam, I use the weight factor that has been developed by the Centre For Research and Statistics of the Municipality of the city of Rotterdam. The weight factor is applied during the statistical tests of the theoretical dimensions and for the explanatory analysis. The theoretical dimensions of social exclusion have been statistically tested based on the weighted dataset. This is owing to the fact that the dimensions that are constructed with help of PCA's are based on correlations between indicators. In turn, the correlations between the indicators are affected if weighting-factors are used in order to create a reliable sample. The weight-factor is not applied during the creation of the general index for social exclusion of the residents of Rotterdam, since the

Overals procedure only works for weighted samples. During the explanatory analysis, it is possible again to use the weight-factor.

CHAPTER 4: RESULTS

In chapter 2 theoretical (sub-)dimensions of social exclusion of the residents of the city of Rotterdam have been distinguished. Within paragraph 4.1 it is investigated by applying the first step of the bottom-up approach whether these theoretical dimensions can indeed be statistically perceived. This is done by using PCA's that investigate the indicators that best measure the dimensions. In paragraph 4.2 some descriptive results about the scores of the residents of the city of Rotterdam with respect to all distinguished (sub-)scales of social exclusion are shown. Paragraph 4.3 focuses on the construction of the general index for social exclusion of the residents of the city of Rotterdam by applying the second step of the bottom-up approach. With help of the Overals technique it is investigated whether the statistically distinguished (sub-)dimensions can be aggregated within a single measure of social exclusion. As it turns out in in paragraph 4.3 that no general index can be constructed of social exclusion of the residents of the city of Rotterdam, it is endeavoured in paragraph 4.4. whether the sub-dimensions of social exclusion can be aggregated within two or three meta-scales. Paragraph 4.5 shows more descriptive results, though this time the descriptive results are about the scores of the residents of the city of Rotterdam on the general indices or meta-scales that represent the social position of the residents of the city of Rotterdam. Based on one of these meta-scales, some explanatory analyses on the degree of insufficient social-cultural participation are performed in paragraph 4.6. Causes – in terms of risk factors – of the residents of Rotterdam being insufficiently socio-culturally integrated are demonstrated.

4.1 Dimensions of social exclusion of the residents of the city of Rotterdam

In chapter 2 the notion of social exclusion of the residents of the city of Rotterdam has been conceptualised. The theoretical (sub-)dimensions that have been distinguished are:

- Dimension 1: material deprivation
- Dimension 2a: social rights: insufficient access to institutions and provisions
- Dimension 2b: social rights: insufficient access to an adequate housing
- Dimension 2c: social rights: insufficient access to an adequate residential environment
- Dimension 3: insufficient social participation
- Dimension 4: insufficient cultural participation

These theoretical dimensions of social exclusion of the inhabitants of the city of Rotterdam are *not* solely based on the concept of social exclusion that was determined by the studies of the Netherlands Institute for Social Research (see paragraph 2.1.7 for the conceptualisation of (the dimensions of) social exclusion of the residents of the city of Rotterdam). Besides, these theoretical dimensions are *not* equipped with a more detailed and explicit conceptualisation such as the studies of the Netherlands Institute for Social Research did. These latter studies demonstrated the concept of social exclusion more explicitly by presenting several indicators that might be proxies for each theoretical dimension of social exclusion (see Jehoel-Gijsbers 2004:34).

In this paragraph the first step of the bottom-up approach is applied (see paragraph 2.1.6 and paragraph 3.2.1). This means that the (sub-)dimensions material deprivation, social rights - which comprises insufficient access to institutions and provisions in the neighbourhood, insufficient access to an adequate housing, and insufficient access to an adequate residential environment - , insufficient social participation and insufficient cultural participation that theoretically have been discerned, undergo statistical tests that verify the assumption that social exclusion of the residents of the city of Rotterdam indeed exists of these four dimensions and its sub-dimensions. These statistical tests are performed by using PCA³³, a technique that investigates the indicators that best measure the dimensions.

Before starting the PCA's, relevant indicators that might measure the theoretical dimensions of social exclusion of the residents of the city of Rotterdam need to be selected. This means that the data are screened for possible indicators that might measure the distinct theoretical dimensions of social exclusion. As in this study social exclusion is measured in a strict sense³⁴, not all possible items in the dataset that might be an indicator for one of the theoretical dimensions are used in the PCA's. After filtering these items that can better be used in the explanatory analysis from the list of possible indicators that might measure the concept of social exclusion of the residents of the city of Rotterdam, it is necessary to screen the remaining possible indicators that might measure the theoretical dimensions of social exclusion in the dataset for outliers and missing values. Besides, a check should be performed to find out whether the possible indicators for the dimensions have roughly normal distributions, and whether the items are measured on an interval scale³⁵ (i.c. Likert scales). Moreover, the items that are put in the PCA's need to be coded in a consistent way, so that high values consistently indicate social exclusion. In order to do this, some variables are recoded, in such a sense that all high values now refer to respectively a small extent of social

participation, a small extent of cultural participation, little access to social rights and a high level of material deprivation.

The items that remain after considering these preliminary steps which are indispensable to take before starting the PCA's, are possible indicators that are *really* used for measuring the (sub-)dimensions of social exclusion of the residents of the city of Rotterdam. Based on the following considerations, it is determined that these remaining items are indeed possible indicators for the empirical construction of the theoretically assumed (sub-)dimensions of social exclusion of the residents of the city of Rotterdam:

- the possible indicators that are incorporated in the datasets used by the studies of the Netherlands Institute for Social Research in order to measure the theoretical dimensions of social exclusion³⁶;
- the indicators that constitute the empirical dimensions of social exclusion used by the studies of the Netherlands Institute for Social Research in order to measure the theoretical dimensions of social exclusion³⁷;
- the indicators that are used by the studies of the Netherlands Institute for Social Research to constitute the general index for social exclusion³⁸;
- the indicators that constitute the empirical dimensions of social exclusion or other multidimensional poverty concepts used by other previous studies about social exclusion than the studies of the Netherlands Institute for Social Research in order to measure the theoretical dimensions of social exclusion or other multidimensional poverty concepts³⁹;
- the fact that the concrete realisation of the dimensions of social exclusion can strongly be affected by available datasets and that it is a common act for researchers in multidimensional poverty research to make pragmatic decisions which indicators of deprivation are used in order to measure the theoretical dimensions of the multidimensional poverty concept (Jehoel-Gijsbers et al. 2008:110; Townsend 1993:85, in Dekkers 2003:70; Townsend 1993:85, in Dekkers 2003:70);
- the indicators that are available in the "Rotterdam Neighbourhood Survey 2011" in order to measure the theoretical dimensions of social exclusion of the residents of the city of Rotterdam.

In short, this means that for the empirical construction of the theoretically assumed (sub-)dimensions of social exclusion of the residents of Rotterdam, I have perceived the possibilities I have with the dataset that I use in this study on the one hand, and the

operationalisation of the dimensions of social exclusion (or other multidimensional poverty concepts) of other studies, such as the studies about social exclusion of the Netherlands Institute for Social Research⁴⁰ on the other hand.

4.1.1 *Material deprivation*

The “Rotterdam Neighbourhood Survey 2011” has got a small focus on material deprivation items. There are two possible items in the dataset that might measure the current financial situation of the respondent (see table 4.1).

Table 4.1 List of possible indicators of sub-dimension ‘material deprivation’

	Possible indicators of sub-dimension ‘material deprivation’	Measurement level
1	Household’s income category	Ordinal scale (6 answer categories)
2	Experience with difficulties in making ends meet	Ordinal (six-point Likert) scale

Source “Rotterdam Neighbourhood Survey 2011”

The first – objective - indicator is about the household’s income category, which is measured on an ordinal scale with six answer categories. The second – subjective - indicator is about the respondent’s experience with difficulties in making ends meet. This item is measured on a six-point Likert scale. Although the first indicator is an excellent indicator for the dimension ‘material deprivation’, this item cannot be used because in this study social exclusion is measured in strict way. This means that instead of being a contribution to the dimension ‘material deprivation’ the variable ‘household’s income’ is used in the explanatory analysis (see note 34). Due to lack of other possible indicators that might measure the current financial and material situation of the respondents, the second item about the experience with difficulties in making ends meet is used to *be* the dimension ‘material deprivation’.

Theoretically, it was assumed that the dimension material deprivation can be distinguished based on the available items in the “Rotterdam Neighbourhood Survey 2011”. Nevertheless, since in the “Rotterdam Neighbourhood Survey 2011” only one possible indicator is available that might comprise the dimension material deprivation, it is statistically impossible to verify whether the assumption was right that a separate dimension of social exclusion needs to be distinguished to indicate the lack of material and financial means. Though, it should not be genuinely problematic that the dimension is not statistically proved, since an argument can be given for the fact that the dimension material deprivation can build on only one single item. The indicator ‘the experience with difficulties in making ends meet’

is a very broad item. Difficulties in making ends meet might cover indicators such as the experience of payment arrears, the experience of difficulties with paying the fixed costs, as well as not being able to afford basic and more secondary expenditures. These latter indicators are more specific indicators that are used during the operationalisation of the dimension material deprivation in previous studies about social exclusion. Therefore I can argue that although the dimension material deprivation solely consists of one item, this item is broad enough to represent the whole dimension ‘material deprivation’.

The single indicator that is used in this study about the experience of difficulties in making ends meet that constitutes the empirical dimension material deprivation fits within the theoretical assumed dimension as well as within the conceptualisation of the dimension material deprivation of the study of the Netherlands Institute for Social Research (see Jehoel-Gijsbers 2004:34). Moreover, the single indicator is used several times – sometimes divided into more specific indicators, instead of being one broad indicator – in the operationalisation of the material deprivation dimension in previous studies (see for example Hoff & Vrooman 2011:62, 65, 68; Jehoel-Gijsbers 2004:97; Raeymaeckers & Dewilde 2007:118; Dekkers 2003:73). Within many of these studies the operationalisation of the dimension material deprivation also includes a more subjective indicator.

4.1.2 Insufficient social rights

As it was presumed that the dimension ‘insufficient social rights’ exists of three sub-dimensions ‘insufficient access to institutions and provisions in the neighbourhood’, ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential environment’, all three assumed sub-dimensions undergo separate statistical tests. These statistical tests are performed in sub-paragraphs 4.1.2.1 till 4.1.2.3.

4.1.2.1 Social rights: insufficient access to institutions and provisions

The “Rotterdam Neighbourhood Questionnaire 2011” contains sixteen indicators that might measure the (sub-)dimension ‘social rights: insufficient access to institutions and provisions’. These indicators are displayed in table 4.2. The indicators one till eleven are about the dissatisfaction with several institutions and provisions on the neighbourhood level and are measured on a five-point Likert scale, where 1 means ‘very satisfied’ and 5 means ‘very dissatisfied’. The items twelve till sixteen are questions divided into two sub-questions. The first sub-question is about the use of specific provisions and is measured as a dichotomous variable, where 1 means ‘yes’ and 2 means ‘no’. The second sub-question concerns the

dissatisfaction with the specific provisions that were raised in the first sub-question. These items are measured on five-point Likert scales, where 1 means ‘very satisfied’ and 5 means ‘very dissatisfied’.

Table 4.2 List of possible indicators of sub-dimension ‘social rights: insufficient access to institutions and provision’

	Possible indicators of sub-dimension ‘social rights: insufficient access to institutions and provisions	Measurement level
1	Dissatisfaction with stores to do shopping for groceries	Ordinal (five-point Likert) scale
2	Dissatisfaction with the public transport services	Ordinal (five-point Likert) scale
3	Dissatisfaction with the bank and the post office	Ordinal (five-point Likert) scale
4	Dissatisfaction with the medical care (family doctor., physiotherapist etc.)	Ordinal (five-point Likert) scale
5	Dissatisfaction with library or mobile library	Ordinal (five-point Likert) scale
6	Dissatisfaction with places of worship, such as churches and mosques	Ordinal (five-point Likert) scale
7	Dissatisfaction with facilities for youths	Ordinal (five-point Likert) scale
8	Dissatisfaction with facilities for senior citizens	Ordinal (five-point Likert) scale
9	Dissatisfaction with primary schools	Ordinal (five-point Likert) scale
10	Dissatisfaction with availability of children playgroups	Ordinal (five-point Likert) scale
11	Dissatisfaction with availability of crèches	Ordinal (five-point Likert) scale
12	Use and dissatisfaction of ‘Social Work’	Dichotomous and ordinal (five-point Likert) scale
13	Use and dissatisfaction of ‘organisations for domestic care, personal care or district nursing’	Dichotomous and ordinal (five-point Likert) scale
14	Use and dissatisfaction of ‘advisors for the elderly’	Dichotomous and ordinal (five-point Likert) scale
15	Use and dissatisfaction of the ‘VraagWijzer’	Dichotomous and ordinal (five-point Likert) scale
16	Use and dissatisfaction of ‘debt assistance’	Dichotomous and ordinal (five-point Likert) scale

Source the “Rotterdam Neighbourhood Survey 2011”

Before performing the PCA, the items twelve till sixteen in table 4.2 are deleted from the list because they seem to be unsuitable to run the PCA with. All these five items relate to the use and dissatisfaction of specific provisions and institutions. These items are removed, because these items are ‘filter’ items⁴¹.

The remaining items that can be put in the PCA are all about the (dis)satisfaction with several provisions on the neighbourhood-level. First of all, this entails that all possible indicators that can be used for the operationalisation of the theoretical dimension ‘insufficient access to institutions and provisions’ are subjective items. Therefore, they do not directly measure the theoretical assumed dimension ‘insufficient access to institutions and provisions’, because the available, subjective items about dissatisfaction with several provisions and institutions are not the same as the more objective theoretical dimension about the inaccessibility of several institutions and provisions. Nevertheless, it can be argued that dissatisfaction with several provisions presumes inaccessibility with these provisions, and that therefore the subjective items about dissatisfaction with several provisions and institutions can be used as proxy variables for the more objective theoretical dimension of inaccessibility of several provisions and institutions⁴². Also the studies of the Netherlands Institute for Social

Research about social exclusion conceptualised the sub-dimension of ‘social rights’ in which the accessibility of several provisions and institutions has a central focus, and during the operationalisation of this sub-dimensions also subjective indicators are used (see for example Jehoel-Gijsbers 2004: 86, 97; Hoff & Vrooman 2011: 55-56). Nevertheless, in addition to the subjective indicators, also some more objective indicators are used to measure inaccessibility of provisions and institutions (see for example Jehoel-Gijsbers 2004: 86, 97; Hoff & Vrooman 2011: 55-56).

Secondly, the incorporation of the eleven subjective items about dissatisfaction with several provisions in the neighbourhood in the PCA implies that on the one side I empirically remain close to the conceptualisation of ‘social rights’ of the studies of the Netherlands Institute for Social Research, as these studies give the following description of ‘social rights’:

‘Social rights contain the right on health care, housing, education, a safe environment, equal treatment and social and commercial services (such as banking and insurance)’ [Hoff & Vrooman 2011:53].

With the eleven possible indicators in the “Rotterdam Neighbourhood Survey 2011”, I refer to the right on education, health care, and several social and producer services. On the other side, I also deviate slightly from the conceptualisation of ‘social rights’ of the studies of the Netherlands Institute for Social Research, since the possible indicators have a sole focus on provisions in the neighbourhood, whereas the studies of the Netherlands Institute for Social Research about social exclusion both conceptually and empirically focus on provisions and institutions in the Netherlands in general. The empirical focus on neighbourhood provisions is due to limitations of the dataset, and therefore pragmatic considerations are made for the empirical interpretation of the theoretical dimension ‘social rights: inadequate access to provisions and institutions’. Nonetheless, since in this study the sub-dimension ‘social rights: insufficient access to institutions and provisions’ is part of the concept of social exclusion of the residents of the city of Rotterdam, the focus is on the city-level, and therefore it is not problematic that the empirical dimension is oriented to the local level.

I start with a PCA that is conducted on the eleven remaining possible items from table 4.2, using the option oblique (direct oblimin) rotation. The Kaiser-Meyer-Olkin (KMO) measure supports the sampling adequacy for the analysis. The KMO value for multiple variables is .776, which is ‘good’ according to Hutcheson and Sofroniou (1999, in Field 2009:647). All KMO values for individual items are above .673, which is above the acceptable limit of .5 (Field 2009: 647). Barlett’s test of sphericity $\chi^2(55) = 1371037,98$ ($p <$

0.001), shows that the correlations between the items are large enough to perform a PCA. Based on Kaiser's criterion and the scree plot two components are extracted. Collectively the two components explain 46,07 per cent of the variance. The results of the PCA with oblique rotation are shown in Appendix A1.

Results from the structure matrix (see Appendix A1) indicate that the (sub-)dimension "social rights: insufficient access to institutions and provisions" exists of two sub-dimensions: 1) 'dissatisfaction with provisions that focus on specific target groups (i.e. the youth, the elderly, persons with children and religious persons) in the neighbourhood' and 2) 'dissatisfaction with basic provisions in the neighbourhood'. The first component exists of six – subjective – items: 'dissatisfaction with availability of crèches', 'dissatisfaction with availability of children playgroups', 'dissatisfaction with primary schools', 'dissatisfaction with facilities for senior citizens', 'dissatisfaction with facilities for youths' and 'dissatisfaction with places of worship'. The second factor comprises the following five – subjective – items: 'dissatisfaction with stores to do shopping for groceries', 'dissatisfaction with the public transport services', 'dissatisfaction with the bank and the post office', 'dissatisfaction with the medical care', and 'dissatisfaction with library or mobile library'. The component loadings of the items that constitute the first component are all between .47 and .84, whereas the component loadings of the items of the second factor are between .54 and .74⁴³. Besides, it turns out that the internal consistence of the first and second component is more than sufficient as Cronbach's $\alpha = .73$ for the first component and Cronbach's $\alpha = .70$ for the second component⁴⁴.

In short, it was expected that of the theoretically assumed sub-dimension 'social rights: insufficient access to institutions and provisions' an empirical sub-dimension could be constituted. In order to constitute this empirical sub-dimension, eleven indicators were selected from the dataset. These selected possible indicators are about the dissatisfaction with several provisions and institutions in the neighbourhood. It can be concluded that these possible indicators split into two sub-dimensions, which means that the theoretical assumed (sub-)dimension of social rights 'insufficient access to institutions and provisions' has statistically been proved, though the dimension should be subdivided into two sub-dimensions: 'dissatisfaction with provisions that focus on specific target groups in the neighbourhood' and 'dissatisfaction with basic provisions in the neighbourhood'. These two sub-dimensions consist both of subjective indicators that have a focus on the neighbourhood level. This is not completely in accordance with the theoretical expected dimension in this study, as the theoretical assumed dimension was more objectively conceptualised and it did

not have a specific focus on the neighbourhood level. Besides, the separation into two sub-dimensions was not expected beforehand. Therefore it should be stated that despite the theoretical assumed dimension does find empirical support, the empirical result is not completely in conformity with the theoretical expectation.

4.1.2.2 *Social rights: insufficient access to an adequate housing*

In the “Rotterdam Neighbourhood Questionnaire 2011” there are fifteen indicators included that might be related to the (sub-)dimension ‘social rights: insufficient access to an adequate housing’. These indicators are displayed in table 4.3. All indicators are about the assessment or dissatisfaction with specific characteristics of the residence in which the residents of the municipality of Rotterdam reside. The indicators are measured on a five-point Likert scale (where 1 means ‘very good’ and 5 means ‘poor’ for item 14 in table 4.3, and where 1 means ‘very satisfied’ and 5 means ‘very unsatisfied’ for the items 1 till 13 and item 15 in table 4.3).

Table 4.3 List of possible indicators of sub-dimension ‘social rights: insufficient access to an adequate housing’

	Possible indicators of sub-dimension ‘social rights: insufficient access to an adequate housing’	Measurement level
1	Dissatisfaction with the size of the residence	Ordinal (five-point Likert) scale
2	Dissatisfaction with the type of the residence (single-family dwelling, flat, etc.)	Ordinal (five-point Likert) scale
3	Dissatisfaction with the layout/floor plan of the residence	Ordinal (five-point Likert) scale
4	Dissatisfaction with insulation against outside noise in the residence	Ordinal (five-point Likert) scale
5	Dissatisfaction with insulation against noise from neighbours in the residence	Ordinal (five-point Likert) scale
6	Dissatisfaction with thermal insulation in the residence	Ordinal (five-point Likert) scale
7	Dissatisfaction with ventilation in the residence	Ordinal (five-point Likert) scale
8	Dissatisfaction with price-quality ratio of the residence	Ordinal (five-point Likert) scale
9	Dissatisfaction with view from the residence	Ordinal (five-point Likert) scale
10	Dissatisfaction with the size of the storage of the residence	Ordinal (five-point Likert) scale
11	Dissatisfaction with the size of the outdoor space of the residence (e.g. balcony, garden, terrace)	Ordinal (five-point Likert) scale
12	Dissatisfaction with the entrance safety of the residence (e.g. hall, porch)	Ordinal (five-point Likert) scale
13	Dissatisfaction with the storage room / storage cellar safety of the residence	Ordinal (five-point Likert) scale
14	Assessment of the maintenance condition of the residence	Ordinal (five-point Likert) scale
15	Overall assessment of the present residence	Ordinal (five-point Likert) scale

Note: Residence refers to the home in which one resides and not to the neighbourhood in which one resides

Source the “Rotterdam Neighbourhood Survey 2011”

The fifteenth item in table 4.3 about the overall assessment of the present residence has been removed from the list. This item is not suitable to perform a PCA with, as this item covers all previous items about the residence; it is a more general item that functions as a concluding question about the assessment of the residence⁴⁵.

The fourteen remaining items that can be used to constitute the empirical dimension that should display the theoretical assumed sub-dimension ‘social rights: insufficient access to

an adequate housing' are all subjective items. Again, the same problem is encountered as in the foregoing paragraph (see paragraph 4.1.2.1). Since the theoretical assumed sub-dimension 'insufficient access to an adequate housing' requires an objective operationalisation, a gap can be described between the theoretical assumed sub-dimension and its operationalisation when these fourteen remaining subjective indicators in table 4.3 are used. Nevertheless, it can again be reasoned that dissatisfaction with the accommodation in which people live presumes inaccessibility of the accommodation, and that therefore these subjective items about the dissatisfaction with the residence can be used as proxy variables for the more objective theoretical dimension of insufficient access to an adequate housing⁴⁶.

When these fourteen possible items that can be used to constitute the empirical dimension 'social rights: insufficient access to an adequate housing' are perceived in more detail, it should be remarked that it is disputable to what extent – irrespective of the subjective nature of the indicators – the items refer to the social right of an adequate housing. The items dissatisfaction with the size of the residence, dissatisfaction with the floor plan of the residence, dissatisfaction with the view from the residence, dissatisfaction with the storage of the residence etc. are not necessarily referring to the social right of an adequate housing. It is debatable whether an adequate size of the residence, a nice floor plan, a pleasant view from the residence or an attractive storage are social rights. It might be plausible to assume that it is a social right for a family with five children not to share a two-room apartment or that it is a social right to live in a house that is characterised by a layout that meets the requirements of fire safety. But it would not be a social right to live in a home with a nice view or an enormous storage.

In addition, the studies about social exclusion of the Netherlands Institute for Social Research made use of items that are open to debate as well. Some of the items that are used during the operationalisation of the theoretical dimension of 'social rights' are objective, though many of these indicators are subjective. Besides, it is questionable as well in the operationalisation of the studies of the Netherlands Institute for Social Research to what extent the indicators refer to the social right on adequate housing⁴⁷.

Despite the questionable accuracy of some of the items regarding the housing that are available in the dataset and despite the subjectivity of these items, I just decided to apply these items in the PCA on account of a lack of more appropriate indicators and because previous studies made use of questionable items as well.

The PCA, using oblique rotation (direct oblimin) shows that the KMO value for multiple variables is .914, which verifies the sampling adequacy for the analysis. The

individual KMO statistics support the sampling adequacy as well, since all individual items have a value above .868. This means that, according to Hutcheson and Sofroniou (1999, in Field 2009:647) the KMO statistic is 'superb'. Besides, Barlett's test of sphericity $\chi^2 (91) = 1962941,286$ ($p < 0.001$), demonstrates that it is allowed to run a PCA as the correlations between the items are large enough. Moreover, the PCA indicates that based on the fourteen items that stem from the "Rotterdam Neighbourhood Survey 2011" two factors need to be extracted. The two factors collectively explain 50.94 per cent of the variance present in the data. The results of the PCA with oblique rotation are shown in table Appendix A2.

Results from the structure matrix (see Appendix A2) demonstrate that the (sub-)dimension 'social rights: insufficient access to an adequate housing' comprises two sub-components: 1) 'dissatisfaction with the quality of the residence', and 2) 'dissatisfaction with the state of repair of the residence'. The first component consists of the eight following items: 'dissatisfaction with the type of the residence', 'dissatisfaction with the size of the residence', 'dissatisfaction with the layout/floorplan of the residence', 'dissatisfaction with the size of the outdoor space of the residence', 'dissatisfaction with the size of the storage of the residence', 'dissatisfaction with the entrance safety of the residence', 'dissatisfaction with the storage room/ storage cellar safety of the residence', and 'dissatisfaction with the view from the residence'. The component loadings of the first component vary between .49 and .79. Besides, the internal consistence of the first component is adequate, as the Cronbach's $\alpha = .82$. The items 'dissatisfaction with the insulation against outside noise in the residence', 'dissatisfaction with the thermal insulation in the residence', 'dissatisfaction with the insulation against noise from neighbours in the residence', 'dissatisfaction with ventilation in the residence', 'assessment of the maintenance condition of the residence', and 'dissatisfaction with the price-quality ratio of the residence' constitute the second component of the sub-dimension 'social rights: insufficient access to an adequate housing'. All component loadings fluctuate from -.63 to -.82. With a Cronbach's α of .84, a reliable scale can be created of the second component.

Concluding, it was expected that it was possible to constitute an empirical sub-dimension of the theoretically assumed sub-dimension 'social rights: insufficient access to an adequate housing'. In order to do this, fourteen indicators were selected from the dataset. These selected possible indicators are about the dissatisfaction with several aspects of the residence. It can be concluded that these possible indicators are separated into two sub-dimensions, which means that the theoretical assumed (sub-)dimension of social rights 'insufficient access to an adequate housing' has statistically been proved, though the

dimension should be subdivided into two sub-dimensions: ‘dissatisfaction with the quality of the residence’ and ‘dissatisfaction with the state of repair of the residence’. These two sub-dimensions consist both of subjective indicators. Besides, irrespective of the subjective nature of the indicators, it is disputable to what extent the indicators refer to the concept of a social right to an adequate housing. These limitations in the operationalisation of the theoretical sub-dimension can be perceived as the consequence of working with an already existing dataset. Even though it remains questionable to what extent these indicators indeed represent the theoretical assumed sub-dimension ‘social rights: insufficient access to an adequate housing’, it can be pretended that a combination of these ‘debatable’ indicators provides an indication to what extent the residents of the city of Rotterdam have access to an adequate residence. Therefore, these items can be perceived as proxy variables for access to an adequate residence. Due to these empirical limitations, it should be admitted that the empirical outcomes of the PCA are not in complete agreement with the theoretical expectations in this study, as the theoretical assumed dimension was more objectively conceptualised and it clearly referred to the social right on an adequate housing. Besides, the separation of the empirical dimension into two sub-dimensions was not theoretically expected.

4.1.2.3 *Social rights: insufficient access to an adequate residential environment*

The “Rotterdam Neighbourhood Survey 2011” comprises 20 indicators that might be related to the theoretical (sub-)dimension ‘social rights: insufficient access to an adequate residential environment’. These indicators are presented in table 4.4. The indicators one and two are about the assessment of the maintenance condition of the adjacent buildings in the neighbourhood, the items three till seventeen contain statements about social cohesion in the neighbourhood as well as statements about the assessments of the adjacent buildings in the neighbourhood and other qualitative aspects of the neighbourhood. The items eighteen till twenty are about the connection with the city of Rotterdam and its smaller districts and neighborhoods. These items are more about the overall connection with the residential area, which means that the items are broader oriented than the items three till seventeen which roughly concern the social cohesion that is present in the residential area. All possible indicators for the third sub-dimension of social rights are measured on a five-point Likert scale, where 1 means ‘very good’ and 5 means ‘poor’ for the items 1 and 2 in table 4.4, where 1 means ‘totally agree’ and 5 means ‘totally disagree’ for the items 3 till 17 in table 4.4, and where 1 means ‘completely unconnected’ and 5 means ‘completely connected’ for the items 18 till 20 in table 4.4).

The 20 items that are suitable to verify whether it was rightly assumed that the theoretical sub-dimension of social rights ‘insufficient access to an adequate residential environment’ indeed exists, are all subjective. This should be born in mind while constituting the empirical dimension, as again the same problem can be ventilated as with the subjective measurement of the foregoing sub-dimensions of social rights (see paragraphs 4.1.2.1 and 4.1.2.2). The theoretical assumed sub-dimension of social rights ‘insufficient access to an adequate residential environment’, which is central in this paragraph, requires a more objective operationalisation. With items about dissatisfaction, feelings of connection and assessment of several aspects of the residential area in which people reside, no judgement can be pronounced whether these aspects of the residential environment are accessible, as it concerns an opinion. For that reason a gap can be observed between the theoretical assumed sub-dimension and its operationalisation when these 20 indicators in table 4.4 are used as possible indicators to measure the theoretical sub-dimension. However, it can be stated that dissatisfaction with several aspects of the residential environment presumes insufficient access to an adequate residential environment. Therefore, the (combination of the) subjective items about dissatisfaction with several aspects of the residential environment can be used as proxy variables for the more objective theoretical sub-dimension of insufficient access to an adequate residential environment⁴⁸. And thus, despite the subjectivity of these 20 items, they are all used in the PCA.

Table 4.4 List of possible indicators of sub-dimension ‘social rights: insufficient access to an adequate residential environment’

	Possible indicators of sub-dimension ‘social rights: insufficient access to an adequate residential environment’	Measurement level
1	Assessment of the maintenance condition of the adjacent buildings and residences	Ordinal (five-point Likert) scale
2	Assessment of the maintenance condition of the buildings in the neighbourhood as a whole	Ordinal (five-point Likert) scale
3	Statement: I live in a pleasant neighbourhood where the people have a lot of contact with each other	Ordinal (five-point Likert) scale
4	Statement: in this neighbourhood the people get along with each other in a nice way	Ordinal (five-point Likert) scale
5	Statement: in this neighbourhood people help each other when necessary	Ordinal (five-point Likert) scale
6	Statement: in this neighbourhood the various ethnic groups deal well with each other	Ordinal (five-point Likert) scale
7	Statement: in this neighbourhood the youth and the adults get along with each other very well	Ordinal (five-point Likert) scale
8	Statement: I feel comfortable with the people who live in this neighbourhood	Ordinal (five-point Likert) scale
9	Statement: in this neighbourhood the people do barely know each other	Ordinal (five-point Likert) scale
10	Statement: the residents of this neighbourhood do agree about the ethical codes in the neighbourhood	Ordinal (five-point Likert) scale
11	Statement: in this neighbourhood the Dutch and the non-native cannot deal with each other very well	Ordinal (five-point Likert) scale
12	Statement: occasionally I have some trouble with certain neighbours	Ordinal (five-point Likert) scale
13	Statement: the buildings and houses look attractive	Ordinal (five-point Likert) scale
14	Statement: if it is possible, I move to another neighbourhood	Ordinal (five-point Likert) scale
15	Statement: in this neighbourhood a lot of trouble happens	Ordinal (five-point Likert) scale
16	Statement: one is lucky to live in this neighbourhood	Ordinal (five-point Likert) scale

17	Statement: it is a pity to live in this neighbourhood	Ordinal (five-point Likert) scale
18	Connection with the local district	Ordinal (five-point Likert) scale
19	Connection with the city of Rotterdam	Ordinal (five-point Likert) scale
20	Connection with the neighbourhood	Ordinal (five-point Likert) scale

Source the "Rotterdam Neighbourhood Survey 2011"

A more detailed reflection on the 20 items that can be used to generate the empirical sub-dimension of the theoretical sub-dimension 'social rights: insufficient access to an adequate residential environment' leads to the question whether all items – in spite of their subjectivity – reflect to a social right.

According to the definition of social rights that is provided by the study of Hoff and Vrooman (2011:53) a social right refers to the right on education, a safe environment, equal treatment, health care, housing, and social and commercial services. The study of Jehoel-Gijsbers (2004:34) goes a little further in the conceptualisation of social rights with respect to the residential environment as she perceives a liveable residential environment as a social right in addition to a safe residential environment. Thus, it can be said that – at least one of the studies of the Netherlands Institute for Social Research – conceptualises 'insufficient access to social rights' inter alia as insufficient access to a safe and liveable environment (Jehoel-Gijsbers 2004:34). Also empirically, the studies of the Netherlands Institute for Social Research distinguish the sub-dimension of social-rights concerning insufficient access to a safe and adequate or liveable residential environment (Hoff & Vrooman 2011:57; Jehoel-Gijsbers 2004:97).

Before an answer can be given to the question whether the 20 possible indicators in table 4.4 mirror a social right, it is necessary to ask the question what exactly is meant with 'adequate residential environment' of the theoretical dimension in this study or 'liveable residential environment'⁴⁹ of the conceptualisation of social rights of the study of the Netherlands Institute for Social Research. According to another study of the Netherlands Institute for Social Research, the term liveability reflects to the qualities of the residential environment (Knol 2005:65). Mostly, the qualities of the residential environment concern the physical environment, and the social features of the residential environment (Knol 2005:65). With the physical residential environment it is referred to as characteristics of the houses, inconvenience that is related to physical sources and the provisions that are available. The social characteristics of the residential environment point to the composition of the population. Within this context also the social contacts between persons in the residential neighbourhood are important. Therefore, the social environment can also be described as the environment of social contacts (Knol 2005:7).

In this study, the conceptualisation of social rights is divided into three parts (see paragraph 2.1.7). ‘Insufficient access to an adequate residential environment’ is the third theoretical assumed sub-dimension of social rights. This theoretical assumed sub-dimension was globally based on the possibilities of the “Rotterdam Neighbourhood Survey 2011” and the conceptualisation and operationalisation of the dimension ‘social rights’ of previous studies of the Netherlands Institute for Social Research (see paragraph 2.1.7). The theoretical sub-dimension in this study imitates the conceptualisation and operationalisation of social rights regarding the liveable and safe residential environment of the study of Jehoel-Gijsbers (2004:34) as much as possible. This means that it was endeavoured that the conceptualisation and operationalisation of the sub-dimension ‘insufficient access to an adequate residential environment’ includes items about safety of the residential area, and aspects of liveability, which are the physical (i.e. characteristics of the houses, inconvenience that is related to physical sources and the provisions that are available) and social qualities of the residential area. Because the dataset lacks the items about safety of the residential area, it was consciously decided in paragraph 2.1.7 to restrict the theoretical sub-dimension to ‘insufficient access to an adequate⁵⁰ residential environment’ instead of an additional focus on the safety of the residential environment. Since in this study items about provisions in the neighbourhood are already subdivided into another theoretical sub-dimension of social rights, namely ‘insufficient access to institutions and provisions’, the theoretical term ‘adequate’ (or ‘liveable’) residential environment does not focus on the availability of provisions in the residential area. Therefore, the items in the dataset regarding provisions and institutions are not perceived as possible indicators for the theoretical sub-dimension ‘social rights: insufficient access to an adequate residential environment’; these items are already possible indicators for the theoretical sub-dimension ‘social rights: insufficient access to institutions and provisions’. As a consequence of the attempt to imitate the conceptualisation and operationalisation of social rights concerning the residential environment of the study of Jehoel-Gijsbers (2004:34), while the available dataset evokes some limitations with regard to this attempt, it can be concluded that the 20 items in the dataset that might be possible indicators for the empirical sub-dimension ‘insufficient access to an adequate (or liveable) residential environment’ only represent the social aspects and a small part of the physical aspect (i.e. housing in a broad sense) of the liveability or quality of the residential environment. As an answer to the question whether the 20 possible indicators in table 4.4 mirror a social right, it can be stated that if we should believe the conceptualisation of social rights concerning the residential environment of the study of Jehoel-Gijsbers (2004:34), the

20 items are indeed indicators for the social right on an adequate or liveable residential environment, though especially one aspect of this liveability is emphasised with these indicators and that is the social quality of the residential environment.

Previous studies about social exclusion also measure the theoretical dimension of social rights that concerns the residential environment for the greater part with help of subjective items. Besides, these studies include many items about the social aspect of the liveability of the residential area in the operationalisation of the social rights dimension that has a focus on the residential environment⁵¹. This empirical operationalisation of previous studies has – as far as that was possible with the available dataset – been taken as a directory in this study for the operationalisation of the theoretical sub-dimension ‘insufficient access to an adequate residential environment’. As became clear in this paragraph, the studies of the Netherlands Institute for Social Research have conceptualised the dimension ‘social rights’ very broadly, as a social right regarding the residential area does not only include a safe residential environment, but also a liveable one. Empirically, these studies also operationalise this social right in a broad sense by using items regarding social cohesion etc. In this thesis, this broad vision about the conceptualisation of social rights is followed. As long as the “Rotterdam Neighbourhood Survey 2011” gives admission the concept and operationalisation of social rights regarding the residential area of the studies of the Netherlands Institute for Social Research are imitated. Since the “Rotterdam Neighbourhood Survey 2011” lacks information about safety and included only few items about the physical residential environment (only items are available about the housing and buildings in the neighbourhood, which can be viewed as ‘housing in a broad sense’) and because the dataset contains many items about social cohesion in and feelings of connection with the residential area, this study mainly focuses on the social aspect of liveability as a social right. It is contested to what extent a social right should be interpreted in such a broad sense.

When we assume that it is right to take the broad conceptualisation and operationalisation of social rights of the studies of the Netherlands Institute for Social Research as a directory, then a PCA using oblique rotation (direct oblimin) can be implemented on the twenty items in table 4.4 that *are* related to the third (sub-)dimension of social rights: ‘insufficient access to an adequate residential environment’. Again, the sample can be called adequate according to Hutcheson and Sofroniou (1999, in Field 2009:647) as the KMO statistic is ‘superb’; the KMO value for multiple variables equals .906, and the individual items all have a KMO value above .807. Barlett’s test of sphericity $\chi^2(190) = 3209064,46$ ($p < .001$) demonstrates that the correlations between the items are large enough

to run a PCA. An initial analysis is performed to obtain eigenvalues for each factor in the data. It becomes clear from the structure matrix that based on the 20 items in the “Rotterdam Neighbourhood Survey 2011” that three components should be extracted for the (sub-)dimension ‘social rights: insufficient access to an adequate residential environment’. The three components collectively explain 49.39 per cent of the variance present in the data. The results of the PCA with oblique rotation are shown in Appendix A3.

It turns out from the structure matrix in Appendix A3 that the (sub-)dimension ‘social rights: insufficient access to an adequate residential environment’ exists of three sub-dimensions: 1) ‘the experience of insufficient social cohesion in the neighbourhood’, 2) ‘insufficient feelings of connection with the residential area’, and 3) ‘dissatisfaction with the housing in broad sense’. The first component exists of ten – subjective – statements: ‘statement: I live in a pleasant neighbourhood where the people have a lot of contact with each other’, ‘statement: in this neighbourhood the people get along with each other in a nice way’, ‘statement: in this neighbourhood people help each other when necessary’, ‘statement: in this neighbourhood the various ethnic groups deal well with each other’, ‘statement: in this neighbourhood the youth and the adults get along with each other very well’, ‘statement: I feel comfortable with the people who live in this neighbourhood’, ‘statement: in this neighbourhood the people do barely know each other’, ‘statement: the residents of this neighbourhood do agree about the ethical codes in the neighbourhood’, ‘statement: in this neighbourhood the Dutch and the non-native cannot deal with each other very well’, and ‘statement: sometimes I have trouble with some neighbours’. The second component comprises three – subjective – items: ‘connection with the local district’, ‘connection with the city of Rotterdam’ and ‘connection with the neighbourhood’. The following seven – subjective – items constitute the third component: ‘assessment of the maintenance condition of the adjacent buildings and residences’, ‘assessment of the maintenance condition of the buildings in the neighbourhood as a whole’, ‘statement: the buildings and houses look attractive’, ‘statement: if it is possible, I move to another neighbourhood’, ‘statement: in this neighbourhood a lot of trouble happens’, ‘statement: one is lucky to live in this neighbourhood’, and ‘statement: it is a pity to live in this neighbourhood’. The component loadings of the items that make up the first component range between .41 and .75, the component loadings of the items that form the second component differs between .73 and .84, and the component loadings of the items that constitute the third factor differentiate between .54 and .82. Moreover, it turns out from the reliability analyses that three internally consistent scales can be created based as the scale ‘social cohesion in the neighbourhood’ is

characterised by a Cronbach's α of .83, the scale 'connection with the city and the (close) neighbourhood' has got a Cronbach's α of .76, and the third scale about 'satisfaction with the housing in a broad sense' has got a Cronbach's α of .82 (see Appendix A3).

In sum, the PCA results have shown that the theoretical (sub-)dimension 'social rights: insufficient access to an adequate residential environment' exists of three sub-dimensions: 1) 'the experience of insufficient social cohesion in the neighbourhood', 2) 'insufficient feelings of connection with the residential area', and 3) 'dissatisfaction with the housing in broad sense'. Based on these empirical sub-dimensions of the theoretical sub-dimension 'social rights: insufficient access to an adequate residential environment' it should be remarked that it can be disputed whether it is right to interpret the dimension of social rights regarding the residential environment in such a broad way that even social cohesion and connection with the residential area can be seen as social rights. The fundament of this broad interpretation lays in the studies of the Netherlands Institute for Social Research that use a very broad conceptualisation and operationalisation of 'social rights'. The empirical sub-dimension 'dissatisfaction with the housing in broad sense' is less problematic as it obviously refers to the right on housing (though than in a broad sense, as it focuses more on the buildings and houses in the environment and not so much on the private residence). All three sub-dimensions consist of subjective indicators. This subjective operationalisation is not completely in line with the more objective operationalisation of the sub-dimension 'insufficient access to an adequate residential environment'. Besides, before the analysis was performed, it was not assumed that the theoretical sub-dimension of 'social rights: insufficient access to an adequate residential environment' would exist of three sub-dimensions. Though the results still support the assumption that the theoretical dimension 'social rights: insufficient access to an adequate residential environment' exists empirically. Overall, it can be concluded that though these results are not in complete agreement with the theoretical expectations, they do still verify the theoretical sub-dimension 'social rights: insufficient access to an adequate residential environment' to exist empirically.

4.1.3 *Insufficient social participation*

In the "Rotterdam Neighbourhood Survey 2011" seventeen items are found that might be indicators for the empirical construction of the dimension 'insufficient social participation' that has theoretically been distinguished (see table 4.5). The indicators one till five are related to performing paid work. These indicators are measured on nominal, dichotomous (and interval⁵²) and ordinal scales, where 1 means 'yes' and 2 means 'no' on the dichotomous

scales, where 1 means ‘less than three months’ and 6 means ‘three years or more’ on the ordinal scale and where the answer categories for the nominal scales differ (see “Rotterdam Neighbourhood Survey 2011”: 11). The sixth possible indicator to measure the theoretical dimension ‘insufficient social participation’ is about the main daily occupation if this differs from paid work, which is also measured on a nominal scale (see for the answer options “Rotterdam Neighbourhood Survey 2011”: 11). The indicators seven until eleven are about the frequency of social contacts. These items are measured on six-point Likert scales, where 1 means ‘almost daily’ and 6 means ‘never’. The twelfth possible indicator is a binary variable (where 1 means ‘yes’ and 2 means ‘no’) about the receipt of social assistance if a person is in need. At last, the indicators thirteen till seventeen are about the experience of loneliness and these items are measured on five-point Likert scales, where 1 means ‘totally agree’ and five means ‘totally disagree’.

Table 4.5 List of possible indicators of dimension ‘insufficient social participation’

	Possible indicators of sub-dimension ‘insufficient social participation’	Measurement level
1	Paid job	Dichotomous scale
2	Duration of paid job without interruption caused by unemployment or some other reason	Ordinal (six-point Likert) scale
3	Main characteristic of the paid job	Nominal scale
4	Kind of employment contract	Nominal scale
5	Weekly working hours	Dichotomous and interval scale
6	Daily main occupation if not paid work	Nominal scale
7	Frequency of contact with direct neighbours	Ordinal (six-point Likert) scale
8	Frequency of contact with other people in the neighbourhood	Ordinal (six-point Likert) scale
9	Frequency of contact with friends or good acquaintances	Ordinal (six-point Likert) scale
10	Frequency of contact with one or more family members	Ordinal (six-point Likert) scale
11	Frequency of contact with people through Internet (Facebook, Hyves, LinkedIn etc.)	Ordinal (six-point Likert) scale
12	Receipt of social assistance when this is necessary	Dichotomous scale
13	Statement: I often feel abandoned	Ordinal (five-point Likert) scale
14	Statement: even of my closest familymembers I cannot expect interest	Ordinal (five-point Likert) scale
15	Statement: no one shows a special interest in me	Ordinal (five-point Likert) scale
16	Statement: there are just a few people with whom I can really talk	Ordinal (five-point Likert) scale
17	Statement: I know enough persons that I can ask for assistance or advice	Ordinal (five-point Likert) scale

Source the “Rotterdam Neighbourhood Survey 2011”

Before testing whether these seventeen items are indeed measuring the dimension ‘insufficient social participation’, some items are removed in advance. First of all, it is strictly prohibited to put nominal variables (with exception of dichotomous variables) into the PCA, which excludes the possible indicators three, four and six from table 4.4 from the analysis. Besides, the items one and twelve which respectively are about the performance of paid work and the receipt of social assistance when this is necessary are removed from the analysis, because in this study social exclusion is measured in a strict way; the variables ‘paid work’ and ‘receipt of social assistance’ are used in the explanatory analyses instead of being a contribution to the dimension ‘social participation’ (see note 34). Furthermore, the items two

until six (about paid work and other main occupation) cannot be used in the PCA, as these items are filter items (see note 41). The ten remaining items seven until eleven and thirteen until seventeen are put in the PCA.

The ten items that are real possible indicators for constructing an empirical dimension of the theoretical dimension about insufficient social participation that was discerned in paragraph 2.1.7 are partly objective and partly subjective. Objective indicators are the items about the frequency of social contacts, whereas the items about the experience of loneliness are measured in a subjective way. It is reported in the previous paragraphs 4.1.2.1, 4.1.2.2 and 4.1.2.3 that the incorporation of subjective indicators in the PCA might be problematic, since the respondents might be ‘complaining persons’, because they are negatively oriented. This would not necessarily mean that these persons are indeed very lonely, though they experience feelings of loneness according to themselves. The danger of using subjective items is that the indicators do not reflect the actual situation, but they measure the self-experienced situation, which might be an exaggeration of the actual situation. Fortunately, the theoretical dimension ‘insufficient social participation’ is additionally measured with many objective items. Further, because the theoretical dimension does not require a more objective operationalisation, the problems regarding the subjective items turn out well⁵³.

In the previous studies about social exclusion also a dimension social participation is conceptualised and measured. The studies of the Netherlands Institute for Social Research conceptualised the dimension ‘insufficient social participation’ as insufficient participation in formal and informal networks inclusive leisure activity, insufficient social support, social isolation, insufficient social involvement, and lack of inter-ethnic contacts. In the studies of the Netherlands Institute this theoretical dimension is operationalised with both objective and subjective items. Most studies used indicators about the frequency of social contacts, indicators about social support and social isolation and indicators about (organised) social participation which refers to items about labour market participation, cultural and religious participation (Hoff & Vrooman 2011: 43-44, 65, 68; Jehoel-Gijsbers 2004:62; Roest et al. 2010: 43-45, 54; Jehoel-Gijsbers 2003: 95-99). In conceptual terms, in this study, exactly the same theoretical dimension of social exclusion is distinguished as the studies of the Netherlands Institute for Social Research did, namely ‘insufficient social participation’. In contrast to the studies of the Netherlands Institute for social Research this dimension has conceptually not been elucidated. Empirically, exactly the same kind of indicators are used as the studies of the Netherlands Institute for Social Research did, except that the indicators about (organised) social participation have been left aside, since the indicators of labour

market participation are already used in the explanatory analysis of social exclusion in this study, and the items about cultural and religious participation are used to operationalise the theoretical dimension ‘insufficient cultural participation’ (see paragraph 4.1.4)⁵⁴.

The PCA with oblique rotation (direct oblimin) using the eleven indicators about social participation denotes that ‘insufficient social participation’ is the third dimension of social exclusion. It seems that a model with two sub-dimensions provides the best solution. The two components together explain 50.47 per cent of the variance present in the data. The results of the PCA are shown in Appendix A4. This model meets certain requirements of the PCA. For example, the KMO statistic gets the label ‘good’ (Hutcheson & Sofriniou 1999, in Field 2009:647) as the KMO value for multiple variables equals .77 and all individual KMO values are above .60. Next to the sampling adequacy, also the correlations between the eleven items are high enough to conduct a PCA, because Bartlett’s test of sphericity $\chi^2(45) = 1368502,404$ ($p < .001$).

Results from the structure matrix (see Appendix A4) show that the first component, or sub-dimension exists of five – subjective - items: ‘statement: I often feel abandoned’, ‘statement: even of my closest family members I cannot expect interest’, ‘statement: no one shows a special interest in me’, ‘statement: there are just a few people with whom I can really talk’, ‘statement: I know enough persons that I can ask for assistance or advice’. Together, these items can be identified by the common theme ‘experience of loneliness’. The component loadings of the items that constitute the first component vary between .46 and .87. It is signified that the internal consistence of the component ‘experience of loneliness’ is adequate as the Cronbach’s α has got a value of .80. Moreover, the results from the structure matrix indicate that the second component exists of the four –objective - items ‘frequency of contact with one or more family members’, ‘frequency of contact with friends or good acquaintances’, ‘frequency of contact with direct neighbours’, and ‘frequency of contact with people in the neighbourhood’. Collectively, these items can be labelled by the notion ‘lack of frequent social contacts’. The component loadings of the second component of the dimension ‘insufficient social participation’ diverge from .53 to .79. The internal consistence of the sub-dimension ‘lack of frequent social contacts’ is reliable as well, because the value of Cronbach’s α equals .66. It turns out that the item ‘frequency of contact through Internet’ do not load on any of the components, according to the structure matrix in Appendix A4.

It can be inferred from the results of the PCA that the theoretical dimension ‘insufficient social participation’ has statistically been proved. However, the dimension does exist of two sub-dimensions: ‘experience of loneliness’ and ‘lack of frequent social contacts’.

The first sub-dimension is based on subjective items, whereas the second sub-dimension is based on objective data. This twofold dimension is not in line with the theoretical expectation that the dimension ‘insufficient social participation’ exists of one main dimension, and therefore, the results only partly support the presumption that the theoretical dimension ‘insufficient social participation’ could be empirically distinguished.

4.1.4. *Insufficient cultural participation*

In the dataset the “Rotterdam Neighbourhood Survey 2011” eleven possible, objective indicators are found in order to create the dimension ‘insufficient cultural participation’. These indicators are displayed in table 4.6. The first possible indicator in table 4.6 is about membership in clubs or associations. The indicator is measured as a binary variable (1 means ‘yes’ and 2 means ‘no’). The second possible indicator in table 4.6 is about the frequency of active participation in clubs or associations, where the answer option 1 means ‘several times a week’ and the answer option 6 means ‘never’. The items two till ten are about the frequency of cultural activities. These indicators are measured on six-point Likert scales where 1 means ‘several times a week’ and 6 means ‘never’.

Table 5.6 List of possible indicators of sub-dimension ‘insufficient cultural participation’

	Possible indicators of sub-dimension ‘social rights: insufficient access to an adequate residential environment’	Measurement level
1	Membership of hobby club, sports, drama, music or dance association	Dichotomous scale
2	Frequency of active participation in clubs or associations	Ordinal (six-point Likert) scale
3	Frequency of having a night out (e.g. going to the pub, out do diner or to a dicotheque) <i>alone</i>	Ordinal (six-point Likert) scale
4	Frequency of having a night out (e.g. going to the pub, out do diner or to a dicotheque) <i>with others</i>	Ordinal (six-point Likert) scale
5	Frequency of visiting the theatre, concert, cultural festival, and/or museum <i>alone</i>	Ordinal (six-point Likert) scale
6	Frequency of visiting the theatre, concert, cultural festival, and/or museum <i>with others</i>	Ordinal (six-point Likert) scale
7	Frequency of playing music, painting, or practicing another creative hobby <i>alone</i>	Ordinal (six-point Likert) scale
8	Frequency of playing music, painting, or practicing another creative hobby <i>with others</i>	Ordinal (six-point Likert) scale
9	Frequency of practicing a sport <i>alone</i>	Ordinal (six-point Likert) scale
10	Frequency of practicing a sport <i>with others</i>	Ordinal (six-point Likert) scale
11	Frequency of church / mosque attendance or other types of religious meetings	Ordinal (six-point Likert) scale

Source the “Rotterdam Neighbourhood Survey 2011”

Before conducting the PCA, the items one and eleven about the membership of a hobby club or an association and about the frequency of visits of religious meetings are removed from the analysis, because in this study social exclusion is measured in a strict way; the variables ‘membership of hobby club or association’ and ‘frequency of religious meetings’ are used in the explanatory analysis instead of being a contribution to the dimension ‘insufficient cultural

participation (see note 34). Besides, the item two about the frequency of being active in hobby clubs or other associations is not used in the PCA, as this item is a filter item (see note 41). The eight remaining items are put in the PCA.

The conceptualisation and operationalisation of the dimension ‘insufficient cultural participation’ is not directly based on the conceptualisation of the dimensions of social exclusion of previous studies. However, it can be said that the conceptualisation and operationalisation of the dimension ‘insufficient cultural participation’ are indirectly based on a part of the conceptualisation and operationalisation of the dimension ‘insufficient social participation’ of the studies of the Netherlands Institute for Social Research (see paragraph 4.1.3). The specific aspect of the dimension ‘insufficient social participation’ that was conceptualised and operationalised as ‘insufficient organised social participation’ – or in other words: cultural and religious participation – in the studies of the Netherlands Institute for Social Research is used for the conceptualisation and operationalisation of the dimension ‘insufficient cultural participation’ in this study. The reason for the shift of these cultural participation items from the dimension ‘insufficient social participation’ to the dimension ‘insufficient cultural participation’ is the fact that the Centre for Research and Statistics explicitly requested to distinguish an extra dimension with the “Rotterdam Neighbourhood Survey 2011”. As this dataset emphasises items concerning cultural participation in the city of Rotterdam, it is chosen to make a distinction into a separate cultural dimension. In fact, in this study still the same items are more or less used during the operationalisation of the dimensions of social exclusion as in the studies of the Netherlands Institute for Social Research. The only difference is that in this thesis the items that might measure ‘insufficient cultural participation’ are coalesced under the dimension ‘insufficient cultural participation’ instead of ‘insufficient social participation’

It turns out from the PCA that the eight possible indicators of the dimension ‘cultural participation’ could all be reduced to one single dimension. Therefore, this time, an unrotated PCA instead of a rotated analysis suffices. The single component explains 32.47 per cent of the variance present in the data. There are clear indications that it is allowed to create a single dimension of ‘insufficient cultural participation’ as the KMO value for multiple variables equals .63 and all individual KMO values are above .55, which is above the acceptable limit of .5 (Field 2009:647). According to Hutcheson & Sofriniou (1999, in Field 2009:647) the KMO statistic is ‘mediocre’. Next to the sampling adequacy, also the correlations between the eleven items are high enough to conduct a PCA, since Barlett’s test of sphericity $\chi^2 (28) = 737762,019 (p < .001)$.

The component matrix that is presented in Appendix A5 shows that the dimension ‘insufficient cultural participation’ comprises the following items: ‘frequency of having a night out (e.g. going to the pub, out do dinner or to a dicotheque) *alone*’, ‘frequency of having a night out (e.g. going to the pub, out do dinner or to a dicotheque) *with others*’, ‘frequency of visiting the theatre, concert, cultural festival, and/or museum *alone*’, ‘frequency of visiting the theatre, concert, cultural festival, and/or museum *with others*’, ‘frequency of playing music, painting, or practicing another creative hobby *alone*’, ‘frequency of playing music, painting, or practicing another creative hobby *with others*’, ‘frequency of practicing a sport *alone*’, and ‘frequency of practicing a sport *with others*’. All component loadings have values between .45 and .72. It is reliable to create a single scale of the dimension ‘insufficient cultural participation’, since the Cronbach’s α is .66.

In short, it can be stated that the theoretical dimension ‘insufficient cultural participation’ has statistically been verified. The empirical dimension about ‘insufficient cultural participation exists – as it was theoretically expected – of one main dimension.

4.1.5 Summary

Within this paragraph the theoretically distinguished dimensions have been empirically tested by PCA’s. The results of these tests are shown in table 4.7.

Table 4.7 Overview of the theoretical and empirical dimensions of social exclusion of the residents of the city of Rotterdam

Theoretical concept	Theoretical dimensions	Empirical dimensions ⁵⁵
Social exclusion	1 Material deprivation	1 -
	2a Social rights: insufficient access to provisions and institutions	2 Dissatisfaction with provisions in the neighbourhood that focus on specific target groups 3 Dissatisfaction with the basic provisions in the neighbourhood
	2b Social rights: insufficient access to an adequate housing	4 Dissatisfaction with the quality of the residence 5 Dissatisfaction with the state of repair of the residence
	2c Social rights: insufficient access to an adequate residential environment	6 Experience of insufficient social cohesion in the neighbourhood 7 Insufficient feelings of connection with the residential area 8 Dissatisfaction with the housing in a broad sense
	3 Insufficient social participation	9 Experience of loneliness 10 Lack of frequent social contacts
	4 Insufficient cultural participation	11 Insufficient cultural participation

As it was already mentioned before, due to a lack of possible indicators for the dimension material deprivation, it was not possible to submit this theoretical dimension of social exclusion to a statistical test. The other five (sub-)dimensions have been empirically tested.

It turned out from the analyses that the theoretical assumed dimension ‘social rights’ – which exists of ‘insufficient access to institutions and provisions’, ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential environment’ – is empirically verified. However, the outcomes are not completely in accordance with the expectations as it is found that the three theoretical sub-dimensions of social rights each consist of two or three empirical sub-dimensions which are measured by many subjective indicators (see table 4.7). Besides, the PCA’s showed that the theoretical assumed dimension ‘insufficient social participation’ also empirically exists, though, again, it was signified that more sub-dimensions should be discerned (see table 4.7). Furthermore, it was ventilated by the PCA’s that the theoretical dimension of ‘insufficient cultural participation’ indeed comprises one single empirical dimension, as was expected (see table 4.7). These results that are summed in table 4.7 are only partially in line with the expectations, as the dimension material deprivation could not empirically been proved, the other dimensions – with exception of ‘insufficient cultural participation’ – needed to be subdivided into more sub-dimensions than was presumed, and because especially the sub-dimensions of social-rights were operationalised with help of subjective indicators, whereas a more objective operationalisation was needed to support the theoretical assumed sub-dimensions entirely. For that reason the first hypothesis *the concept of social exclusion of the city of Rotterdam exists of the dimensions ‘material deprivation’, ‘social rights’, which exists of the three sub-dimensions ‘insufficient access to institutions and provisions’, ‘insufficient access to an adequate housing’, and ‘insufficient access to an adequate residential environment’, ‘insufficient social participation’, and ‘insufficient cultural participation’.* cannot be fully supported.

4.2 Descriptive results

In the previous paragraph, dimensions and sub-dimensions of social exclusion have been created. Based on these (sub-)dimensions sub-scales of social exclusion are constructed (see Appendices B1 till B6). These sub-scales are created on ten-point scales (0-10). In this paragraph descriptive results about the scores of the residents of the city of Rotterdam with respect to all distinguished sub-scales of social exclusion are shown. Mean scores (on a 0-10 scale), the standard deviation and the modus⁵⁶ (on a 0-10 scale) are presented. Besides, these scores on the ten-point scales for the mean and the modus are converted into five- or six-point scales⁵⁷ in order to attach value to the meaning of the scores on the scales. For the

convertibility tables as well as the frequency distributions of these scales I refer to appendices B1 till B6.

Table 4.8 Overview of scores of the residents of Rotterdam on sub-scales of social exclusion

Sub-scale	Mean (0-10)	Mean (converted)	St. Dev.	Modus	Modus (converted)	N	N (weighted)	Appendix
1. Material deprivation	3.66	Between 2.5 and 3.0	2.13	4.0	3.0	6.479	446.761	B1
2. Dissatisfaction with provisions that focus on specific target groups in the neighbourhood	4.23	Between 2.6 and 2.8	1.17	5.0	3.0	7.007	489.363	B2
3. Dissatisfaction with basic provisions in the neighbourhood	3,16	Approximately 2.2	1.50	2.50	2.0	7.029	490.862	B2
4. Dissatisfaction with the quality of the residence	3.30	Between 2.2 and 2.4	1.57	2.50	2.0	5.186	362.028	B3
5. Dissatisfaction with the state of repair of the residence	3.99	Almost 2.6	1.94	2.50	2.0	6.841	478.707	B3
6. Experience of insufficient social cohesion in the neighbourhood	4.18	Between 2.6 and 2.8	1.42	3.50	2.4	6.883	482.593	B4
7. Insufficient feelings of connection with the residential area	3.84	Between 2.4 and 2.6	1.99	2.50	2.0	6.646	464.233	B4
8. Dissatisfaction with the housing in a broad sense	3.78	Between 2.4 and 2.6	1.73	2.50	2.0	6.566	459.262	B4
9. Experience of loneliness	2.82	Between 2.0 and 2.2	1.83	2.50	2.0	7.013	489.130	B5
10. Lack of frequent social contacts	3.19	Approximately 2.5	2.09	2.0	2.0	7.002	488.557	B5
11. Insufficient cultural participation	7.57	Approximately 4.75	1.73	10.0	6.0	6.871	481.607	B6

First of all, from table 4.8 it becomes clear that on average the residents of the city of Rotterdam have a score of 3.66 (*std.dev.* = 2.13) on the ten-point scale ‘material deprivation’. After converting this score into a score on a six-point scale (converted score is in between 2.5 and 3.0 due to reverse coding), it can be stated that the residents of the city of Rotterdam do, on average, easily or quite easily make their ends meet. The modus on the ten-point scale ‘material deprivation’ equals a value of 4.0. This implies that the answer category that is given most often by the respondents is that the residents of Rotterdam do fairly well in making their ends meet (as the score is converted into a score of 3.0 due to reverse coding on the six-point scale). The analysis was based on 6.479 respondents but should represent 446.761 residents of the city of Rotterdam due to weighting. More information is provided in appendix B1.

Secondly, table 4.8 shows that the residents of the city of Rotterdam, on average, have a score of 4.23 (*std.dev.* = 1.17) on the sub-scale ‘dissatisfaction with provisions in the neighbourhood that focus on specific target groups’. This means that the residents of the city of Rotterdam are on average are in between slightly satisfied and neither satisfied nor

dissatisfied with the provisions that focus on specific target groups, as the converted score on the five-point scale is between 2.6 and 2.8. Besides, table 4.8 shows that the modus is around a score of 5.0 (converted score is 3.0) which tells us that the scale score that is raised by most residents of Rotterdam is that they are neutral (neither satisfied nor dissatisfied) concerning the provisions in the neighbourhood that focus on the specific target groups. In total 7.007 respondents were used in the analysis, who represent 489.363 residents of the city. More information is provided in appendix B2.

Thirdly, it is demonstrated in table 4.8 that the mean score of the residents of the city of Rotterdam on the sub-scale ‘dissatisfaction with the basic provisions in the neighbourhood’ equals 3.16 (*std.dev* = 1.50) on the ten-point scale, which is about a score of 2.2 on the five-point scale. This means that the ordinary resident of the city of Rotterdam is quite satisfied with the basic provisions in the neighbourhood. The modus equals a score of 2.50 (converted score = 2.0), which implies that the scale score that is ventilated mostly by the respondents is that they are satisfied with the basic provisions in the neighbourhood. The scale was constructed based on 7.029 cases, that represent 490.862 residents of Rotterdam. Appendix B2 gives more information about the constructed scale.

Fourthly, in table 4.8 it is indicated that the residents of the city of Rotterdam, on average, have a score of 3.30 (*std.dev.* = 1.57) on the ten-point sub-scale (which is a score in between 2.2 and 2.4 on the five-point scale) ‘dissatisfaction with the quality of the residence’. This scale score displays that the residents of the city of Rotterdam, on average, are between ‘satisfied’ and ‘neither satisfied, nor satisfied’ about the quality of their home, though the average score tends more towards being ‘satisfied’ than to being ‘neutral’. It also turns out from table 4.8 that the modus of the sub-scale ‘dissatisfaction with the quality of the residence’ is 2.50 (converted score on a five-point scale = 2.0), which indicates that the scale score that appears most often by the residents of the city of Rotterdam is that they are satisfied with the quality of their residence. In total, the analysis is based on 5.186 cases, or 362.028 weighted cases. See appendix B2 for more information about the constructed scale.

Fifthly, it is depicted in table 4.8 that the residents of the city of Rotterdam have a mean score of 3.99 (*std.dev* = 1.94) on the ten-point sub-scale ‘dissatisfaction with the state of repair of the residence’. After converting this score into a score on a five-point scale (converted score is almost 2.6), it can be stated that the residents of the city of Rotterdam are, on average, in between satisfied with and neither satisfied nor dissatisfied with (i.e. neutral) the state of repair of their residence. The modus is around a score of 2.50 (converted score on the five-point scale = 2.0), which means that the scale score that turns out to appear most

frequently is that the residents of the city of Rotterdam are satisfied regarding the state of repair of their residence (see table 4.8). In total, 6.841 respondents were used in the analysis, which is equal to a weighted sample of 478.707 cases. More information is provided in appendix B3.

Sixthly, table 4.8 ventilates that the average resident of the city of Rotterdam has a score of 4.18 (*std.dev* = 1.42) on the ten-point sub-scale ‘experience of insufficient social cohesion in the neighbourhood’. This equals a score in between 2.6 and 2.8 on the converted five-point scale, which suggests that the average resident of the city of Rotterdam has got a positive or neutral view about the social cohesion in the neighbourhood in which he or she resides. The modus is about a score of 3.50 (converted score on five-point scale = 2.4), which means that the scale score that seems to occur mostly by the residents of the city of Rotterdam is that they are slightly positive (though the score tends to being neutral) about their experience of social cohesion in the neighbourhood (see table 5.8). In total, 6.883 respondents were used in the analysis, which represents 482.593 weighted cases. See for more information appendix B4.

Seventhly, it is postulated in table 4.8 that the mean score of the residents of the city of Rotterdam on the ten-point sub-scale ‘insufficient feelings of connection with the residential area’ equals 3.84 (*std.dev.* = 1.99), which is equal to a converted score on a five-point scale in between 2.4 and 2.6. This mean score refers to the fact that, on average, the residents of the city of Rotterdam are – due to reverse coding – in between connected and slightly connected with the residential area. According to table 4.8, the modus equals a score of 2.50, which corresponds to a converted score of 2.0. This suggests that the mostly appearing scale score of the residents of the city of Rotterdam is that – due to reverse coding – they feel connected with the residential area. The analysis is based on 6.646 cases, which represent 464.233 residents of the city of Rotterdam. More information is provided in appendix B4.

Eighthly, table 4.8 displays that, on average, the residents of the city of Rotterdam have a score of 3.78 on the ten-point scale ‘dissatisfaction with the housing in a broad sense’. This average score corresponds to a score in between 2.4 and 2.6 on the five-point scale, which illustrates that, on average, the residents of the city of Rotterdam are – due to reverse coding of some of the items – in between positive and neutral about the housing in a broad sense. Table 4.8 also displays that the modus on the ten-point scale is 2.50, which is equal to a converted score of 2.0. This exhibits that the mostly occurring scale score of the residents of the city of Rotterdam is that they – due to reverse coding of some of the items – are positive about the housing in a broad sense. In the analysis, 6.566 cases were included. Weighted these

cases equal the amount of 459.262. In appendix B4 elaborated information about this sub-scale can be found.

Ninthly, table 4.8 indicates that the average resident of Rotterdam scores 2.82 (*std.dev.* = 1.83) on the ten-point scale ‘experience of loneliness’. This means that the average resident of Rotterdam has a score in between 2.0 and 2.2 on the five-point scale. So on average, the resident of Rotterdam has got a score of 2.1 where 1 means – due to reverse coding of many of the items – ‘not lonely at all’ and 5 means ‘very lonely’. Thus, it can be concluded that the average resident of Rotterdam is ‘not lonely’. As is showed in table 4.8, the modus equals a value of 2.50 on the ten-point scale. This means that mostly appearing scale score of the residents of Rotterdam is that they are ‘not lonely’. In total, 7.013 respondents were put in the analysis. Weighted this equals 489.130 cases. In appendix B5, more information can be found about this sub-scale.

Tenthly, table 4.8 displays that the residents of the city of Rotterdam, on average, have a score of 3.19 (*std.dev.*=2.09) on the ten-point scale ‘lack of frequent social contacts’. On a six-point scale this is equal to a score around 2.5. The result implies that the residents of the city of Rotterdam have on average social contacts with relatives, friends, acquaintances or neighbours in between ‘at least once a week’ and ‘at least twice or three times a month’. According to table 4.8, the modus of the ten-point scale about ‘lack of frequent social contacts’ equals a value of 2.0. This means that the scale score that appears most often by the respondents is that the residents of the city of Rotterdam have at least once a week contact with their relatives and/or friends and/or acquaintances and/ or neighbours. 7.002 cases were used in the analysis, though the weighted analysis equals 488.557 cases. In appendix B5 elaborated information about this sub-scale is given.

Eleventh, from table 4.8 it becomes clear that the average resident of the city of Rotterdam scores 7.57 (*std.dev.*=1.73) on the ten-point scale ‘insufficient cultural participation’. A converted score of approximately 4.75 into the six-point scale indicates that the average resident of Rotterdam participates in cultural activities in between ‘once a month’ and ‘less than once a month’. The modus equals a score of 10.0 on the ten-point scale, which is a score of 6.0 on the six-point scale; the scale score that turns out to appear most often by the respondents is that they ‘never’ participate in cultural activities’. The analysis is based on 6.871 respondents or 481.607 weighted cases. See appendix B6 for detailed information about this scale.

4.3 From sub-scales towards a general index for social exclusion

In the previous paragraph, separate scales were constructed of the empirical (sub-)dimensions of social exclusion. In this paragraph it is attempted to construct a general index for the concept of social exclusion that covers all empirical (sub-)dimensions. First, attention is paid to the advantages of using a general index for social exclusion of the residents of the city of Rotterdam.

4.3.1 Added value of a general index for social exclusion

A general index comprising social indicators can be valuable in understanding and analysing complex and multidimensional phenomena, such as social exclusion (Boelhouwer 2010:88). One of the advantages of using a single index for social exclusion over separate indicators and sub-scales, is that it provides a clear and comprehensive insight into the socially excluded position of persons as a whole. At a glance it can be perceived what direction society or a given population group is moving, which means that with one quick view it is possible to see if the situation is moving or deteriorating. If separate indicators or scales are used, it is far more difficult to observe in which direction the entire situation is moving. Especially, if indicators or sub-scales are moving and developing in conflict with each other, it is hard to generate an overall conclusion on the concept being studied (Hagerty & Land 2004, in Boelhouwer 2010:88; Fahey et al. 2003; in Boelhouwer 2010:88). A general index for social exclusion can also be helpful because it can expose accumulative effects. The use of a general index for social exclusion enables the researcher to examine the various dimensions or sets in conjunction with one another. This leads to insights such as which groups are lagging behind in one or several dimension(s) or which groups act better (Boelhouwer 2010:88-89). Besides a general index for social exclusion obtains added value over separate dimensions or scales of social exclusion, as it takes into account compensation. For instance, positive aspects can compensate for the negative ones and vice versa (Boelhouwer 2010: 98). For instance, “the positive effect of doing sports can diminish or even cancel out entirely the negative effect of living in a poor-quality home” (Boelhouwer 2010:98). More added values of the general index for social exclusion are the increase of the reliability of the measurement; errors in distinct indicators are balanced out on average (Boelhouwer 2010:89), and its communicative effect; the use of one single figure attracts far more attention from policy-makers, the media and the public (Fahey et al. 2003, in Boelhouwer 2010:88).

4.3.2 A general index for social exclusion of the residents of the city of Rotterdam

Due to the added value of a general index over the use of separate indices for each scale or (sub-)dimension, in this paragraph it is endeavoured to construct a general index of social exclusion that covers the sub-scales of social exclusion that were presented in the previous paragraph. Based on the outcomes of de PCA's, eleven sub-scales of social exclusion have been constructed (see table 4.9).

Table 4.9 Overview of sub-scales of social exclusion and the number of indicators per sub-scale

Sub-scales of social exclusion	Number of indicators
1 Material deprivation	1
2 Dissatisfaction with provisions in the neighbourhood that focus on specific target groups	6
3 Dissatisfaction with the basic provisions in the neighbourhood	5
4 Dissatisfaction with the quality of the residence	8
5 Dissatisfaction with the state of repair of the residence	6
6 Experience of insufficient social cohesion in the neighbourhood	10
7 Insufficient feelings of connection with the residential area	3
8 Dissatisfaction with the housing in a broad sense	7
9 Experience of loneliness	5
10 Lack of frequent social contacts	4
11 Insufficient cultural participation	8
Total amount of indicators	63

As it is showed in table 4.9, the eleven sub-scales of social exclusion collectively encapsulate 63 indicators. These 63 indicators are taken as the starting point of the second step of the bottom-up approach: the construction of the general index for social exclusion. As it was mentioned in chapter three, the statistical technique Overals can be used during this second step of the bottom-up approach. It is permitted in the Overals technique that the indicators or items of social exclusion cover multiple theoretical dimensions or domains. This implies that the eleven sub-scales of social exclusion that have been found empirically can all simultaneously, though in different sets of indicators, be put in the analysis (Hoff & Vrooman 2011:65). The Overals procedure is able to deal with indicators on different levels of measurement. Besides, each set or dimension has got equal weight. Therefore, it does not matter whether a set contains many or few indicators (Boelhouwer 2010: 99). Based on weights⁵⁸, component loadings⁵⁹ and category quantifications⁶⁰, the items are selected that might be contributing to the general measurement of the concept of social exclusion of the inhabitants of the city of Rotterdam. In table 4.10, the results are presented.

Table 4.10 Index for social exclusion of the residents of Rotterdam, based on the bottom-up approach (n = 6.278⁶¹).

	Weight	Component loading
Dissatisfaction with the quality of the residence (loss = 0.38)		
Dissatisfaction with the type of the residence (single-family dwelling, flat, etc.)	-0.46	-0.60
Dissatisfaction with view from the residence	-0.30	-0.45
Dissatisfaction with the entrance safety of the residence (e.g. hall, porch)	-0.33	-0.44
Dissatisfaction with the state of repair of the residence (loss = 0.41)		
Dissatisfaction with insulation against noise from neighbours in the residence	-0.44	-0.63
Dissatisfaction with price-quality ratio of the residence	-0.38	-0.54
Poor assessment of the maintenance condition of the residence	-0.30	-0.44
Experience of insufficient social cohesion in the neighbourhood (loss = 0.46)		
Disagreement with statement: in this neighbourhood the people get along with each other in a nice way	-0.26	-0.46
Disagreement with statement: I feel comfortable with the people who live in this neighbourhood	-0.39	-0.61
Disagreement with statement: in this neighbourhood the youth and the adults get along with each other very well	-0.24	-0.54
Agreement with statement: in this neighbourhood a lot of trouble happens	-0.18	-0.46
Dissatisfaction with the housing in a broad sense (loss = 0.28)		
Poor assessment of the maintenance condition of the adjacent buildings and residences	-0.29	-0.43
Poor assessment of the maintenance condition of the buildings in the neighbourhood as a whole	-0.32	-0.58
Agreement with statement: if it is possible, I move to another neighbourhood	-0.36	-0.64
Disagreement with statement: one is lucky to live in this neighbourhood	-0.32	-0.62
Eigenvalue = 0.62		
Canonical Correlation = 0.49		

It turns out that seven of the eleven sub-scales (see table 4.9) do not contribute to the total index. It regards the sub-scales ‘material deprivation’, ‘dissatisfaction with provisions that focus on specific target groups’, ‘dissatisfaction with the basic provisions of the neighbourhood’, ‘insufficient feelings of connection with the residential area’, ‘experience of loneliness’, ‘lack of frequent social contacts’ and ‘insufficient cultural participation’. While deleting the indicators that were characterised by low weights, low component loadings and illogical category quantifications, the complete sets ‘insufficient cultural participation’ and ‘dissatisfaction with basic provisions in the neighbourhood’ disappeared from the total index. Subsequently, the sets ‘experience of loneliness’ (loss = 0.91), ‘material deprivation’ (loss = .765), ‘lack of frequent social contacts’ (loss = .799), and ‘insufficient feelings of connection with the residential area’(loss = .628) are removed from the total index, as the losses⁶² of these sets were far too high.

It becomes clear from table 4.10 that the value of the eigenvalue⁶³ is 0.62. This value is acceptable (Roest et al. 2010:55). Moreover, the canonical correlation⁶⁴ is about 0.5, which

is acceptable as well (see table 5.10). Besides table 4.10 shows that from the other four sub-scales ‘dissatisfaction with the housing in a broad sense’ has the greatest influence on the general index for social exclusion. The loss of this sub-scale is equal to the value of 0.28, whereas the losses of the sub-scales ‘dissatisfaction with the quality of the residence’ ‘dissatisfaction with the state of repair of the residence’ and the ‘experience of insufficient social cohesion in the neighbourhood’ vary between 0.38 and 0.46. The four remaining sub-sets are not completely comparable anymore to the sub-scales that have been constructed in the beginning of this chapter, since in every set some indicators have been removed from the analysis; the low component loadings, often in combination with low weights pointed at the fact that the relationship between these indicators (and sets) and the total index for social exclusion is minimal. Moreover, some indicators have been removed, due to the fact that the category quantifications were illogical. For these reasons, items such as ‘dissatisfaction with the size of the residence’, ‘dissatisfaction with the thermal insulation in the residence’, ‘agreement with the statement: in this neighbourhood the people do barely know each other’ and ‘agreement with the statement: in this neighbourhood a lot of trouble happens’ have been removed from the general index. Eventually, fourteen indicators with component loadings and weights that exceed the absolute values of respectively .30 and .10, that in addition have a logical ordering in category quantifications, have been remained in the analysis. These items may be used to construct a general index for social exclusion. It regards the items that are displayed in table 4.10.

However, the remaining fourteen indicators in table 4.10 are only related to sets or dimensions regarding the residence or the residential area. The consequence is, that if a total index is generated based on these fourteen items, the index does not refer to the multidimensional concept of social exclusion anymore. Instead, it refers more to a concept concerning ‘lack of connection with the residence and the residential area’⁶⁵. A possible explanation for the fact that only the indicators that are related to the residence or the residential area contribute to the general index is that the “Rotterdam Neighbourhood Survey” contains many items about the neighbourhood or the residential area. Proportionally, the items that should indicate material deprivation, insufficient social participation and insufficient cultural participation, which do not have a specific focus on the neighbourhood, are underrepresented in the dataset. As it was mentioned before, the general index of social exclusion is no more than the sum of its parts (Hoff & Vroomann 2011:40). This indicates that the total index cannot represent a multidimensional concept of social exclusion of the residents of the city of Rotterdam, if the possible indicators for social exclusion are not

completely adequate to measure the concept (see paragraphs 4.1.1 till 4.1.5), which is the case for some of the indicators that stem from the “Rotterdam Neighbourhood Survey 2011”.

In figure 4.1, a conceptual model is displayed that shows the steps that have been taken in order to create a general index for social exclusion of the residents of the city of Rotterdam.

Figure 4.1 Conceptual model that displays the paths that have been entered to create a general index for social exclusion of the residents of the city of Rotterdam

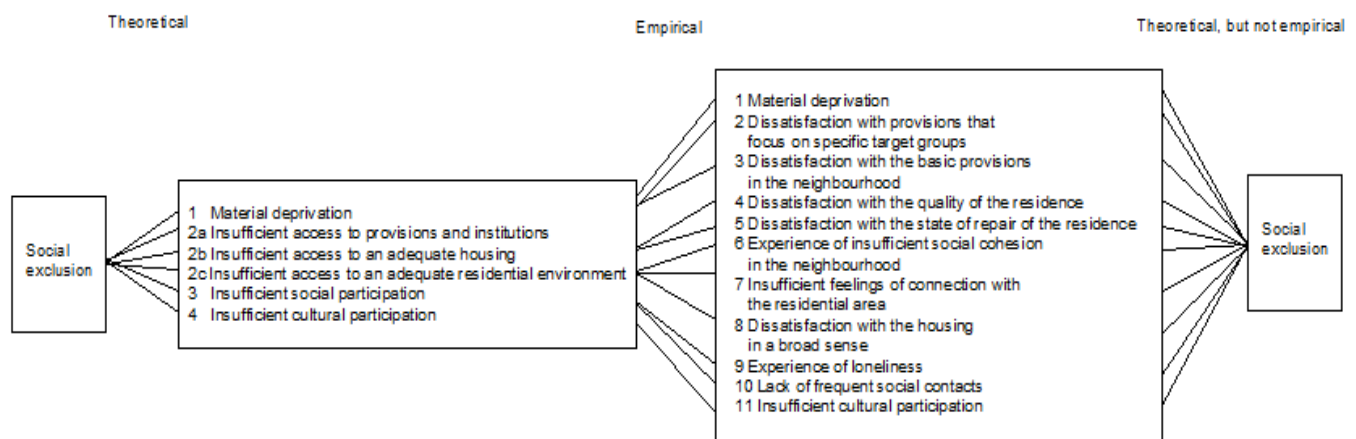


Figure 4.1 shows that first four main dimensions with its sub-dimensions of social exclusion of the residents of the city of Rotterdam have theoretically been distinguished based on inter alia the possibilities with the “Rotterdam Neighbourhood Survey 2011” and the conceptualisation and operationalisation of social exclusion of previous studies. Afterwards an empirical analysis was started, in which the data from the “Rotterdam Neighbourhood Survey 2011” have been used. The first step of the empirical analysis was that the theoretical assumed (sub-)dimensions of social exclusion of the residents of the city of Rotterdam were empirically tested by PCA’s. The outcomes of the PCA’s are reflected in eleven (sub-)scales. Subsequently the empirical analysis demonstrated that eleven (sub-)dimensions or scales instead of four dimensions including three sub-dimensions for the dimension ‘social rights’ of social exclusion of the residents of the city of Rotterdam need to be distinguished; actually these eleven empirical scales are sub-dimensions of the four theoretical dimensions, with exception of the empirical dimension of ‘insufficient cultural participation’, which is empirically not divided in sub-dimensions of the theoretical assumed dimension ‘insufficient cultural participation’. The next step of the empirical analysis shows the empirical test

whether the eleven sub-scales of social exclusion of the residents of the city of Rotterdam could be aggregated into one single measure. Theoretically, this is possible, though, in this study, the empirical test shows that the total index does no longer refer to the concept of social exclusion of the residents of the city of Rotterdam. Instead, the total index represents the concept of ‘lack of connection with the residence and the residential area’.

4.3.3 *Summary*

It can be concluded that it is impossible to construct a valid general index for social exclusion of the residents of the city of Rotterdam based on the dataset “Rotterdam Neighbourhood Survey 2011”, since the items that can be incorporated in the total index do not represent the concept of social exclusion anymore. It seems that the possible indicators in the dataset for measuring the concept social exclusion are not completely suitable to measure the concept (see paragraphs 4.1.1 until 4.1.5). Also indications are given that the questionnaire is too limited – in a sense that the dataset focuses to a disproportionate extent to neighbourhood aspects – in order to properly measure the concept of social exclusion in one single index. Nevertheless, it is still possible to work with indices for the different aspects of social exclusion (a material or economic aspect, an aspect with the focus on social rights, and an aspect in which socio-cultural integration or participation is central), as this provides a far more clear and comprehensive insight into the social position of the residents of the city of Rotterdam as a whole than to derive conclusions based on the eleven sub-scales of social exclusion. Therefore, in the subsequent paragraphs it is investigated whether some kind of ‘meta-scales’ can be constructed that represent several aspects or dimensions of social exclusion in two, instead of one or eleven measure(s). The fact that these aspects of social exclusion are not put in a single analysis anymore, implies that no longer the concept of social exclusion is measured.

4.4 From sub-scales towards meta-scales

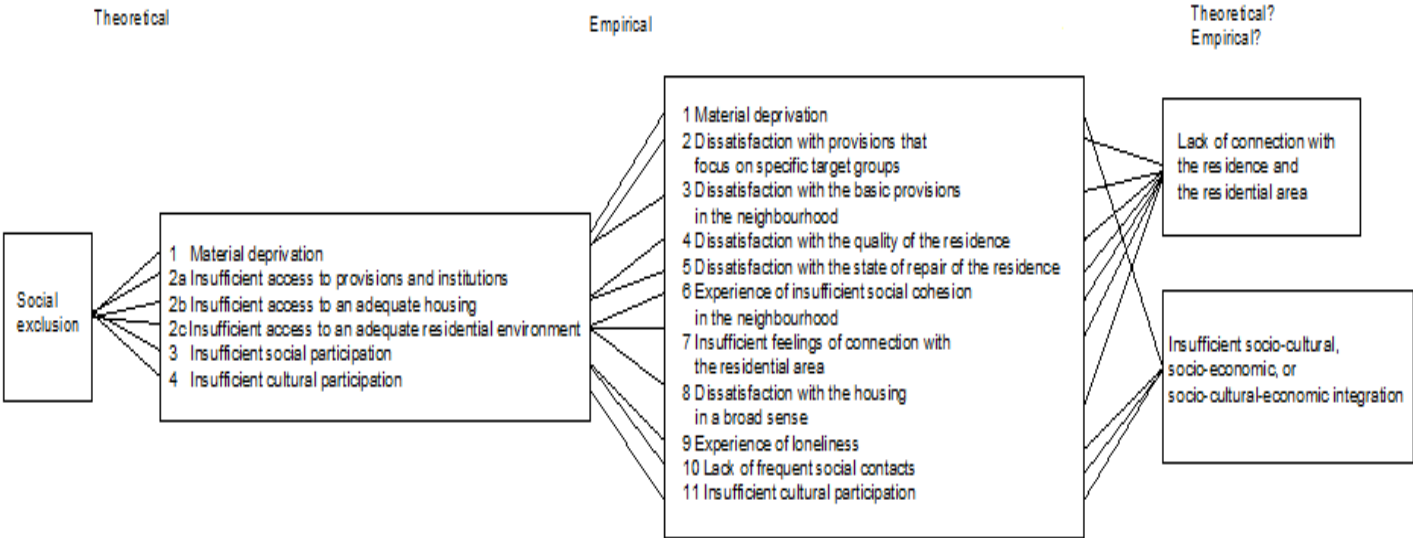
In paragraph 4.3 it was strived for to construct a general index for social exclusion of the residents of the city of Rotterdam based on the eleven sub-scales of social exclusion of the residents of Rotterdam that were constructed in the beginning of the chapter. Unfortunately, it turned out that it was not possible to create a general index for social exclusion of the residents of the city of Rotterdam, as the total index had a mere focus on lack of connection with the aspects relating to the accommodation in which the residents of Rotterdam live and the residential area of the cities’ residents. Collectively these aspects do not refer to the

multidimensional concept of social exclusion. Therefore, it is not possible to measure social exclusion of the residents of the city of Rotterdam as a single concept. However, based on the eleven sub-scales of social exclusion, it might be possible to construct two or three meta-scales that indicate the social position of the residents of the city of Rotterdam. By creating several meta-scales, the advantages of compiling composite indices instead of eleven sub-scales in order to get insights into the social position of the residents of Rotterdam are maintained (see section 4.3).

I expect that the sets two till eight in table 4.9 – which contain items that focus on the neighbourhood or the accommodation in which the residents of the city of Rotterdam live – might form a distinct meta-scale that can be called ‘lack of connection with the residence and the residential area’⁶⁶. Besides, I expect that another meta-scale can be constructed if the sets of indicators about insufficient social participation (sets nine and ten in table 4.9) and insufficient cultural participation (set eleven in table 4.9) and/or material deprivation (set 1 in table 4.9) are put in an Overalls analysis. Theoretically, it might be logic that the sets about insufficient social and cultural participation constitute one meta-scale that would refer to ‘insufficient socio-cultural participation/integration’, or that a meta-scale can be created that includes the sets of indicators about insufficient social participation and economic deprivation. This meta-scale would then stand for ‘insufficient socio-economic integration’. Another theoretical possibility is that a meta-scale is constructed that contains the socio-cultural sets of indicators as well as the material set of indicators. If this theoretical possibility turns out empirically, it would suggest that a meta-scale relating to ‘insufficient socio-cultural-economic integration’ is created. The empirical analyses should prove whether and which of the theoretical possibilities is right. If it turns out that the last theoretical expectation concerning ‘insufficient socio-cultural-economic integration’ is supported, than still all aspects (or sets) of social exclusion are present, though subdivided over two composite indices instead of one (i.e. ‘lack of connection with the residence and the residential area’ and ‘insufficient socio-cultural-economic integration’). If the first theoretical possibility that refers to a meta-scale ‘insufficient socio-cultural integration’ or the second theoretical possibility that points to ‘insufficient socio-economic integration’ turns out empirically, then dependent of which of the two meta-scales is constructed, the set of ‘insufficient cultural integration’ or the set of ‘material deprivation’ is not included in the meta-scale. This implies that with exception of one aspect (or set) of social exclusion, all aspects (or sets) of social exclusion are present, though subdivided over two meta-scales, instead of one general index. In figure 4.2 the paths that have been entered already and that still need to be entered in order to construct

meta-scales that indicate the social position of the residents of the city of Rotterdam are displayed.

Figure 4.2 Conceptual model that displays the paths that have been entered and that should be entered to create meta-scales that indicate the social position of the residents of the city of Rotterdam



4.4.1 Meta-scale ‘lack of connection with the residence and the residential area’

From the PCA’s it turned out that seven of the eleven sub-scales of social exclusion are related to the theoretical construct of ‘lack of connection with the residence and the residential area’. It concerns the sub-scales that are presented in table 4.11.

Table 4.11 Overview of sub-scales (and the number of indicators per sub-scale) that might construct meta-scale ‘lack of connection with the residence and the residential area’

Sub-scales of social exclusion	Number of indicators
2 Dissatisfaction with provisions in the neighbourhood that focus on specific target groups	6
3 Dissatisfaction with the basic provisions in the neighbourhood	5
4 Dissatisfaction with the quality of the residence	8
5 Dissatisfaction with the state of repair of the residence	6
6 Experience of insufficient social cohesion in the neighbourhood	10
7 Insufficient feelings of connection with the residential area	3
8 Dissatisfaction with the housing in a broad sense	7
Total amount of indicators	45

In total, the seven sub-scales enclose 45 indicators. Based on these indicators a new Overall analysis is conducted in order to find out whether it was rightly assumed that these seven sub-scales can be aggregated into a meta-scale labeled ‘lack of connection with the residence and the residential area’. Based on low weights, small component loadings and illogical category

quantifications per indicator, indicators or even whole sets are removed from the analysis in order to find out whether a meta-scale about the lack of connection with the residence and the residential area exists empirically. After the removal of items with low weights, low component loadings and illogical category quantifications, the losses of the remaining sets are reviewed, as they should be as close as possible to the value zero in order to create a meta-scale. If there are still enough items in the analysis and if the eigenvalue and the canonical correlation are subsequently sufficient, then it is empirically proved that the meta-scale can be constructed. Further, it should be checked whether the remaining items still cover the theoretical phenomenon ‘lack of connection with the residence and the residential area’.

In table 4.12 the results of the Overals analysis are exhibited.

Table 4.12 Index for meta-scale ‘lack of connection with the residence and the residential area’ of the residents of Rotterdam, based on the bottom-up approach (n = 6.528⁶⁷).

	Weight	Component loading
Dissatisfaction with the quality of the residence (loss = 0.43)		
Dissatisfaction with the type of the residence (single-family dwelling, flat, etc.)	.68	.71
Dissatisfaction with view from the residence	.28	.34
Dissatisfaction with the state of repair of the residence (loss = 0.45)		
Dissatisfaction with insulation against noise from neighbours in the residence	.55	.61
Dissatisfaction with price-quality ratio of the residence	.44	.51
Experience of insufficient social cohesion in the neighbourhood (loss = 0.54)		
Disagreement with statement: in this neighbourhood people get along with each other in a nice way	.39	.51
Disagreement with the statement: in this neighbourhood the youth and the adults get along with each other very well	.27	.42
Insufficient feelings of connection with the neighbourhood	.30	.44
Dissatisfaction with the housing in a broad sense (loss = 0.38)		
Poor assessment of the maintenance condition of the adjacent buildings and residences	.43	.54
Agreement with statement: if it is possible, I move to another neighbourhood	.58	.66
Eigenvalue = 0.55		
Canonical Correlation = 0.4		

It turns out from table 4.12 that nine indicators that represent the sub-scales ‘dissatisfaction with the quality of the residence’, ‘dissatisfaction with the state of repair of the residence’, ‘experience of insufficient social cohesion in the neighbourhood’ and ‘dissatisfaction with the housing in a broad sense’ can be aggregated into a meta-scale whereas the sub-scales ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ and

‘dissatisfaction with the basic provisions in the neighbourhood’ do not contribute to the meta-scale. The sub-scale ‘dissatisfaction with basic provisions in the neighbourhood’ is removed from the analysis because all indicators of this set have component loadings that are under the minimum acceptable value of .3. Next, many other indicators of every sub-set are deleted from the analysis, based on low weights, low component loadings and illogical category quantifications. After that, the remaining items of the set ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ are removed, as the loss of the set is extraordinarily high (loss = .915). As the loss of the set about ‘insufficient feelings of connection with the residential area’ is also a little too high (loss = .608), this set (which then only comprises one item) is merged into the set ‘experience of insufficient social cohesion in the neighbourhood’⁶⁸.

Table 4.12 denotes that the eigenvalue equals a value of .550, which is acceptable. Moreover, the canonical correlation is 0.4, which indicates that the sets are sufficiently correlated to be aggregated into a single measure (see table. 4.12). Furthermore it turns out from table 4.12 that of the four sub-sets ‘dissatisfaction with the quality of the residence’, ‘dissatisfaction with the state of repair of the residence’, ‘experience of insufficient social cohesion in the neighbourhood’ and ‘dissatisfaction with the housing in a broad sense’, the set ‘dissatisfaction with the housing in a broad sense’ has the greatest influence on the general index or meta-scale of ‘lack of connection to the residence and the residential area’. This is because of the relative low loss of this sub-scale. The losses of the other sub-scales ‘dissatisfaction with the quality of the residence’, ‘dissatisfaction with the state of repair of the residence’ and ‘experience of insufficient social cohesion in the neighbourhood’ are respectively 0.43, 0.45 and 0.54. These four remaining sets do not completely correspond to the sub-scales of social exclusion that have been constructed in the beginning of this chapter, as during the Overals analysis, many indicators have been removed because they were not qualified to remain within the analysis.

The nine indicators that are presented in table 4.12 can be used to construct the meta-scale ‘lack of connection with the residential area’⁶⁹. Although, nine (out of 45) indicators seem to be a limited representation of the concept ‘lack of connection with the residence and the residential area’, it can be still argued that this is a good representation of the concept, because many indicators that were put in the index were deleted since their unique contribution to the index was low, which is due to the fact that the other items already captured the content of these former indicators. Even though it can be argued that the meta-scale ‘lack of connection with the residence and the residential area’ represents the theoretical

expectation fairly well that a scale could be constructed about ‘lack of connection with the residence and the residential area’ – which includes the seven relating sub-sets – , the findings do still not completely support the theoretical expectation. This has to do with the fact that only four (in fact five sets represent the meta-scale, because the set ‘insufficient feelings of connection with the residential area’ is merged within the set ‘experience of insufficient social cohesion in the neighbourhood’) of the seven sub-sets are represented in the meta-scale ‘lack of connection with the residence and the residential area’. Nevertheless, the remaining four sets in the meta-scale do represent the theoretical concept ‘lack of connection with the residential area’ quite well. The sets about ‘dissatisfaction with provisions in the neighbourhood that focus on specific target groups’ and ‘dissatisfaction with the basic provision in the neighbourhood’ do not necessarily have to be a part of the meta-scale ‘lack of connection with the residence and the residential area’ in order to let the empirical sets be an appropriate representation of the theoretical meta-scale ‘lack of connection with the residence and the residential area’. Even without these two sets, the empirical meta-scale more or less covers the theoretical concept of this meta-scale. In addition, the empirical meta-scale ‘lack of connection with the residence and the residential area’ depicts the theoretical construct considerably well, because the sets of which the meta-scale ‘lack of connection with the residence and the residential area’ consists of, concern for the greater part subjective items about dissatisfaction with all kind of aspects of the housing or the residential area. *Dissatisfaction* with these aspects fits within the theoretical construct ‘*lack of connection* with the residence and the residential area’; in both the theoretical and the empirical meta-scale subjectivity is incorporated.

In sum, the meta-scale ‘lack of connection with the residence and the residential area’ is constructed based on four sub-scales or sub-dimensions of social-exclusion. This meta-scale is a rather proper representation of the theoretical expectation that a meta-scale could be constructed about the connection with the residence and the residential area, even though not all seven sub-sets relating to ‘lack of connection with the residence and the residential area’ are empirically incorporated in the meta-scale. In addition, with this meta-scale it is no longer possible to make a reference to a single concept of social exclusion of the residents of the city of Rotterdam, since important dimensions of social exclusion relating to insufficient social-cultural integration and material deprivation are not included in the newly constructed general index. Instead, the meta-scale only refers to one aspect of social exclusion that to some extent concerns ‘social rights’, though only on a local level (see endnote 65). Therefore, the meta-scale ‘lack of connection with the residence and the residential area’ might give an impression

how the residents of the city of Rotterdam score on the aspect ‘social rights on the local level’ (which is in this study entitled as the ‘lack of connection with the residence and the residential area’, see endnote 65) of the concept of social exclusion.

4.4.2 Meta-scale ‘insufficient socio-cultural-economic participation’

From the PCA’s it turned out that four of the eleven sub-scales of social exclusion are related to the theoretical construct of ‘insufficient socio-cultural-economic integration’. It concerns the sub-scales that are presented in table 4.13.

Table 4.13 Overview of sub-scales (and the number of indicators per sub-scale) that might construct meta-scale ‘insufficient social-cultural-economic participation’

Sub-scales of social exclusion	Number of indicators
1 Material deprivation	1
9 Experience of loneliness	5
10 Lack of frequent social contacts	4
11 Insufficient cultural participation	8
Total amount of indicators	18

Together, the four sub-scales encapsulate eighteen indicators. Based on these indicators a new Overals analysis is conducted in order to find out whether the theoretical assumption was right that these four sub-scales can be aggregated into a meta-scale labeled ‘insufficient socio-cultural-economic integration’. Based on low weights, small component loadings and illogical category quantifications per indicator, indicators or even whole sets of indicators are removed from the analysis in order to find out whether the empirical meta-scale ‘insufficient socio-cultural and economic integration’ exists.

Initially, the losses of the four sets are all adequate (loss ‘material deprivation’ = .55, loss ‘experience of loneliness’ = .48, loss of ‘lack of frequent social contacts’ = .55, and loss of ‘insufficient cultural participation’ = .47). Also the eigenvalue (.49) and the canonical correlation (.32) are high enough to be characterised as sufficient. Nevertheless, still items are included in the analysis that have low weights, low component loadings and illogical category quantifications. After deleting these items, the loss of the set ‘experience of loneliness’ equals .47, the loss of the set ‘lack of frequent social contacts’ is .57, the loss of the set ‘insufficient cultural participation’ has a value of .50, and the loss of the set ‘material deprivation’ is .58. On average, these losses are quit high (mean loss = .53). Besides, the eigenvalue (.47) and the canonical correlation (.30) can be better. Therefore, one of the four sets should be removed from the analysis, in order to check whether the meta-scale improves.

Theoretically, it is possible to remove the set ‘material deprivation’. The consequence is that the remaining sets represent the ‘social-cultural’ meta-scale, which was also one of the theoretical possibilities. Besides, it is theoretically possible to remove the set ‘insufficient cultural participation’, which leads to the fact that the remaining sets indicate an ‘socio-economic’ meta-scale, which was the third theoretical possibility. Both options are tested. As the Overals analysis that removes the set ‘material deprivation’ provides the best solution, a meta-scale ‘insufficient social-cultural participation’ is constructed. The results are shown in table 4.14.

Table 4.14 Index for meta-scale ‘insufficient socio-cultural participation’ of the residents of Rotterdam, based on the bottom-up approach (n =6.992⁷⁰).

	Weight	Component loading
Experience of loneliness (loss = 0.45)		
Agreement with the statement: there are just a few persons with whom I can really talk	.29	.57
Agreement with the statement: even of my closest family members I cannot expect interest	.18	.53
Agreement with the statement: no one shows a special interest in me	.25	.53
Disagreement with the statement: I know enough persons that I can ask for assistance or advice	.30	.52
Lack of frequent social contacts (loss = 0.44)		
Infrequent contact with one or more family members	.61	.70
Infrequent contact with friends or good acquaintances	.29	.47
Insufficient cultural participation (loss = 0.45)		
Infrequent nights out with others (e.g. going to the pub, out to diner, or to a discotheque	.63	.70
Infrequent practice of sports with others	.24	.41
Eigenvalue = 0.55		
Canonical Correlation = 0.33		

The meta-scale ‘insufficient social-cultural participation’ exists of three sub-scales of social exclusion: ‘the experience of loneliness’, ‘the lack of frequent social contacts’ and ‘insufficient cultural participation’. These three sets collectively contain eight indicators, which means that the amount of total indicators has been halved when compared to the number of indicators that were included in the scales of social exclusion that have been constructed in the beginning of this chapter. Nevertheless, the eight remaining items still cover the empirical scales ‘experience of loneliness’, ‘lack of frequent social contacts’ and ‘insufficient cultural participation’ to great extent. The first sub-scale includes four of the five

items about the experience of loneliness. The second sub-scale contains two of four items about the lack of frequent contacts; both contacts to friends and family members are included. The third sub-scale includes two from the eight indicators about insufficient cultural participation. Though, only two of eight original indicators are represented in the meta-scale, it is sufficient, as both the consuming aspect of cultural participation (going out) and the producing aspect of cultural participation (practicing sports) are represented in the meta-scale.

The values of the losses of the three sub-sets are sufficient (see table 5.14). The loss of the set ‘experience of loneliness’ is .45, the loss of the set ‘the lack of frequent social contacts’ has a value of .44, and the loss of the set ‘insufficient cultural participation’ equals .45. These losses indicate that all sets contribute to the same extent to the meta-scale ‘insufficient social-cultural participation’. The eigenvalue and the canonical correlation of the meta-scale are sufficient as well, as the eigenvalue is .55 and the canonical correlation equals .33 (see table 5.14)⁷¹.

In sum, the meta-scale ‘insufficient social-cultural participation’ is constructed, based on three scales or (sub-)dimensions of social-exclusion. It turned out from the comparison among the Overals analyses in which meta-scales were constructed for ‘insufficient socio-cultural-economic integration’, ‘insufficient socio-cultural integration’ and ‘insufficient socio-economic integration’ that the best option was to exclude the scale ‘material deprivation’ of the meta-scale. As a result the meta-scale ‘insufficient socio-cultural integration’⁷² was created.’ In fact, the theoretical dimensions ‘insufficient social participation’ and ‘insufficient cultural participation’ of the concept of social exclusion of the residents of the city of Rotterdam are included in this meta-scale, though it is not possible to refer to social exclusion as a single concept anymore, because important other dimensions of social exclusion are missing in the meta-scale.

4.4.3 Three (meta-)scales instead of a general concept of social exclusion

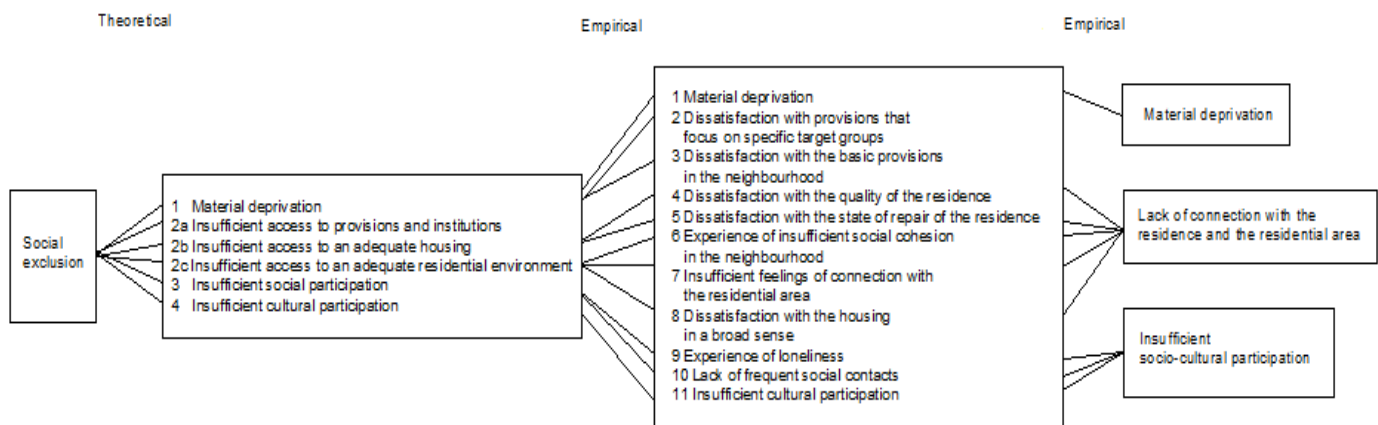
In this chapter it was endeavoured to construct a general index for social exclusion of the residents of the city of Rotterdam, based on the eleven (sub-)dimensions of social exclusion that have been empirically found. Nevertheless, it was not possible to aggregate the eleven sub-scales to a general index for social exclusion of the residents of the city of Rotterdam. Therefore, it was investigated, whether two meta-scales could be constructed, that together still include the eleven sub-dimensions of social exclusion.

The Overals analyses suggested that two meta-scales can be constructed. The first meta-scale ‘lack of connection with the residence and the residential area’ includes indicators

from the subsets ‘dissatisfaction with the quality of the residence’, ‘dissatisfaction with the state of repair of the residence’, ‘experience of insufficient social cohesion in the neighbourhood’ (actually also an indicator from the set ‘insufficient feelings of connection with the residential area’ is included in the first meta-scale, since the set was merged with the set ‘experience of insufficient social cohesion in the neighbourhood’) and ‘dissatisfaction with the housing in a broad sense’ (see figure 4.3). The second meta-scale ‘insufficient social-cultural participation’ includes the three empirical sets of social exclusion of the residents of the city of Rotterdam ‘experience of loneliness’, ‘lack of frequent social contacts’ and ‘insufficient cultural participation’ (see figure 4.3). This implies that the empirical sets ‘material deprivation’, ‘dissatisfaction with provisions in the neighbourhood that focus on specific target groups’ and ‘dissatisfaction with basic provisions in the neighbourhood’ of social exclusion of the resident of Rotterdam do not belong to any meta-scale (see figure 4.3). In fact, this means that not all eleven empirical aspects or sets of social exclusion of the residents of the city of Rotterdam are included in one of the two meta-scales. Though it is not possible anymore to say something about the concept of social exclusion of the residents of the city of Rotterdam, it is expected that based on the two meta-scales – that together would include the eleven empirical sets or (sub-)dimensions of social exclusion of the residents of the city of Rotterdam – still announcements can be made about the aspects of social exclusion of the residents of the city of Rotterdam, even though these aspects of social exclusion are subdivided over two meta-scales instead of one single index. However, since not all eleven sets or aspects of social exclusion are included in the two meta-scales, the two meta-scales do – in contrast to the theoretical expectation that was raised in the beginning of paragraph 4.4 – not reflect all empirical aspects of social exclusion of the city of Rotterdam. Nonetheless, it does not really matter that the sets ‘dissatisfaction with provisions in the neighbourhood that focus on specific target groups’ and ‘dissatisfaction with the basic provisions in the neighbourhood’ are not included in a meta-scale, as the other five sub-scales that can be related to the theoretical dimension of social exclusion ‘social rights’ are represented in the meta-scale ‘lack of connection with the residence and the residential area’. However, it *does* matter that the sub-scale ‘material deprivation’ does not fit to the meta-scale ‘insufficient socio-cultural participation’, because material deprivation is an important aspect of social exclusion. Without a scale that refers to the material dimension it is difficult to give information about the overall social position of the residents of the city of Rotterdam. Therefore, a third scale ‘material deprivation’ (which equals the sub-scale ‘material deprivation’ that resulted from the PCA) is added to the two meta-scales.

Since three (meta-)scales are constructed that *more or less* cover the theoretical and empirical dimensions of social exclusion of the residents of the city of Rotterdam, no conclusions can be drawn based on these scales about the socially excluded position of the residents of the city of Rotterdam. However, it is still possible to provide insights into the aspects of social exclusion of the residents of Rotterdam based on the three (meta-)scales, though it cannot be called social exclusion anymore. The aspects or dimensions of social exclusion are clustered together in three (meta-)scales as composite indices provide better insights in the overall situation as compared to the eleven empirical sets of social exclusion that have been constructed in paragraph 4.1. In fact, a combination of the three (meta)scales determine the quality of the “social situation” in which individuals or groups of persons are living in. In figure 4.3, the construction of the (meta)-scales is exhibited.

Figure 4.3 Conceptual model that displays the paths that have been entered in order to create meta-scales that indicate the social position of the residents of the city of Rotterdam



Based on the results that are provided in paragraph 4.3 and 4.4, the second hypothesis a *general index for social exclusion of the city of Rotterdam can be constructed that comprises all four dimensions that have been theoretically and statistically⁷³ distinguished cannot be confirmed* .

4.5 Descriptive results of the meta-scales

Based on the two meta-scales ‘lack of connection with the residence and the residential area’ and ‘insufficient socio-cultural integration’ and the sub-scale ‘material deprivation’ it is possible to estimate the extent to which the residents of the city of Rotterdam have an

insufficient score on these aspects of social exclusion. As a result, the vulnerable population of the city to live in an alarming social position can be mapped out.

Yet, it turns out to be rather complicated to determine how many inhabitants of Rotterdam have insufficient scores on the aspects of social exclusion that are measured with the three (meta-)scales. The meta-scales (with the exception of the scale for material deprivation) are based on various indicators. If on all items an answer is given that refers to the presence or absence of the aspect of social exclusion it can be stated with certainty whether someone lives in a precarious social situation. For most persons it is not possible to announce that they are living in a complete critical or a complete carefree social situation; mostly persons have a score that lays in between the two extremes. Since no natural boundary exists between being socially included and socially excluded, or between living in a disturbing social position and having a careless existence, more pragmatic choices should be made while assessing the extent of inhabitants of the city of Rotterdam who have insufficient scores on the essential aspects of social exclusion.

4.5.1 Degree of insufficient social-cultural participation

With help of the meta-scale ‘insufficient social-cultural integration’ an estimation can be made of the extent of the residents of the city of Rotterdam who are characterised by a poor social-cultural participation in the society and who are vulnerable to end up in a parlous social state. This occurs in a pragmatic way founded on figure 4.4.

Figure 4.4 Frequency distribution of the meta-scale ‘Insufficient social-cultural participation’.

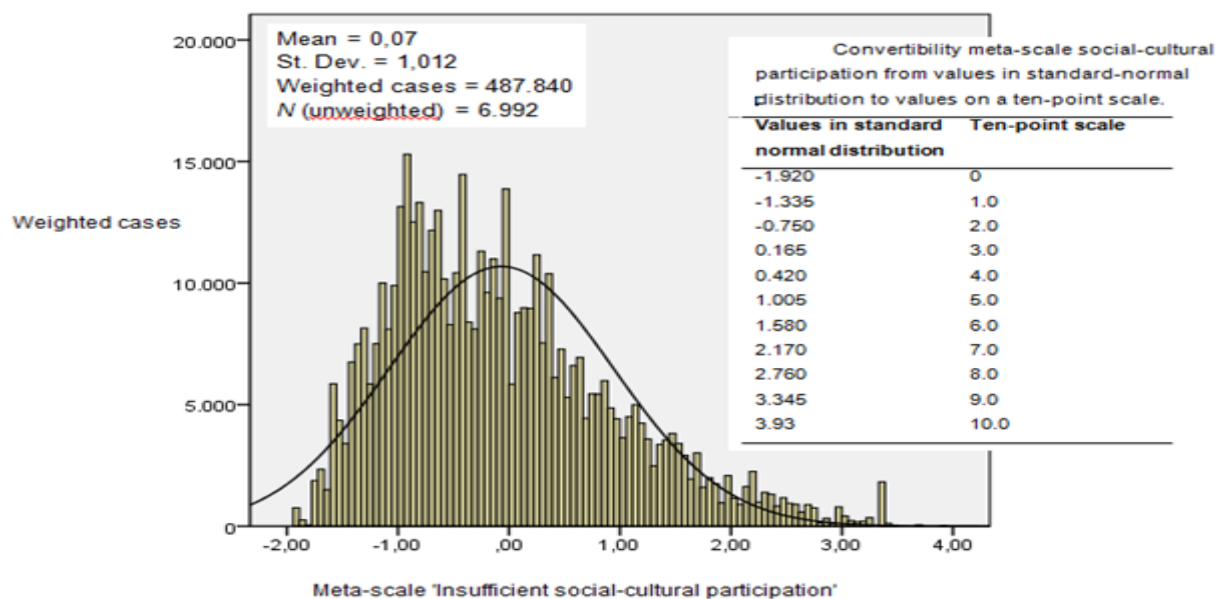


Figure 4.4 presents the weighted frequency distribution of the meta-scale ‘insufficient social-cultural integration’. The standard normal scores are converted into scores on a ten-point scale for sake of increased convenience in interpretation (see figure 4.4). The scale scores indicate the extent of ‘insufficient social-cultural participation’ of the residents of the city of Rotterdam. The lower the individual score on the index for ‘insufficient social-cultural participation’, the more the person is socially and culturally integrated. When we reason the other way around it is applied that the higher the individual score on the index for ‘insufficient social-cultural participation’, the less the person is integrated in the social and cultural sphere.

When we set a boundary between being or not in a critical situation based on the index of ‘insufficient social-cultural integration’ on the scale score ten, it turns out that nobody – i.e. zero percent – scores insufficiently on *all* items of the index ‘insufficient social-cultural participation’. The outcome changes if we put the limit of being sufficiently socially and culturally integrated to the scale score of nine. Everyone with a scale score of nine or higher on the index for ‘insufficient social-cultural participation’ experiences a lack of social-cultural participation. In total, 0.4 percent of the residents of the city of Rotterdam is in an alarming situation concerning social-cultural integration based on such a borderline between sufficient and insufficient social-cultural participation. This equals 1.951 residents of the city of Rotterdam when we take the weighted dataset into account⁷⁴ (see figure 4.4 and table 4.15). If the boundary between being insufficient and sufficient social-cultural participation is approached more flexible and it is understood that someone participates insufficiently from a scale score of eight on the ten-point scale, this comes down to the fact that 1.1 percent or 5.366 inhabitants of the city of Rotterdam are in a worrisome social-cultural situation (see figure 4.4 and table 4.15). The number of residents who are in a precarious social-cultural position enlarges if the boundary between sufficient and insufficient social-cultural participation shifts from a score of eight to a score of seven on the ten-point scale for ‘insufficient social-cultural participation’. Based on this latter boundary between sufficient and insufficient social-cultural participation 16.587 persons (3.4%) live in a social-cultural position that is classified as grave (see figure 4.4 and table 4.15). This amount of residents increases further till 36.100 residents (7.4%) that score insufficiently on the index concerning social-cultural integration if the dividing line is set at six on the ten-point scale (see figure 4.4 and table 4.15). In this latter case, a pretty broad borderline is used to classify the population of Rotterdam in the extent of being socially and culturally integrated.

Table 4.15 Schematic overview of % and number of residents of the city of Rotterdam that participate insufficiently in the social-cultural domain of the society, based on several critical values on a 0-10 scale.

Score on 0-10 scale	% of weighted population of the city of Rotterdam	Number of residents of the city of Rotterdam (weighted)
(<)5	-	-
6.0	7,4	36.100
7.0	3,4	16.587
8.0	1,1	5.366
9.0	0,4	1.951
10.0	0,0	0

4.5.2 Degree of lack of connection with the residence and the residential area

Figure 4.5 displays the weighted frequency distribution of the meta-scale ‘lack of connection with the residence and the residential area’. The frequency distribution of this meta-scale is used to describe the extent to which the residents of the city of Rotterdam deal with insufficient feelings of connection with the residence and the residential area. The estimation of the extent to which the residents of the city of Rotterdam have lacking scores on the domain of connection with the residence and the residential area is done pragmatically (see figure 4.5 and table 4.16).

Figure 4.5 Frequency distribution of the meta-scale ‘Lack of connection with the residence and the residential area’.

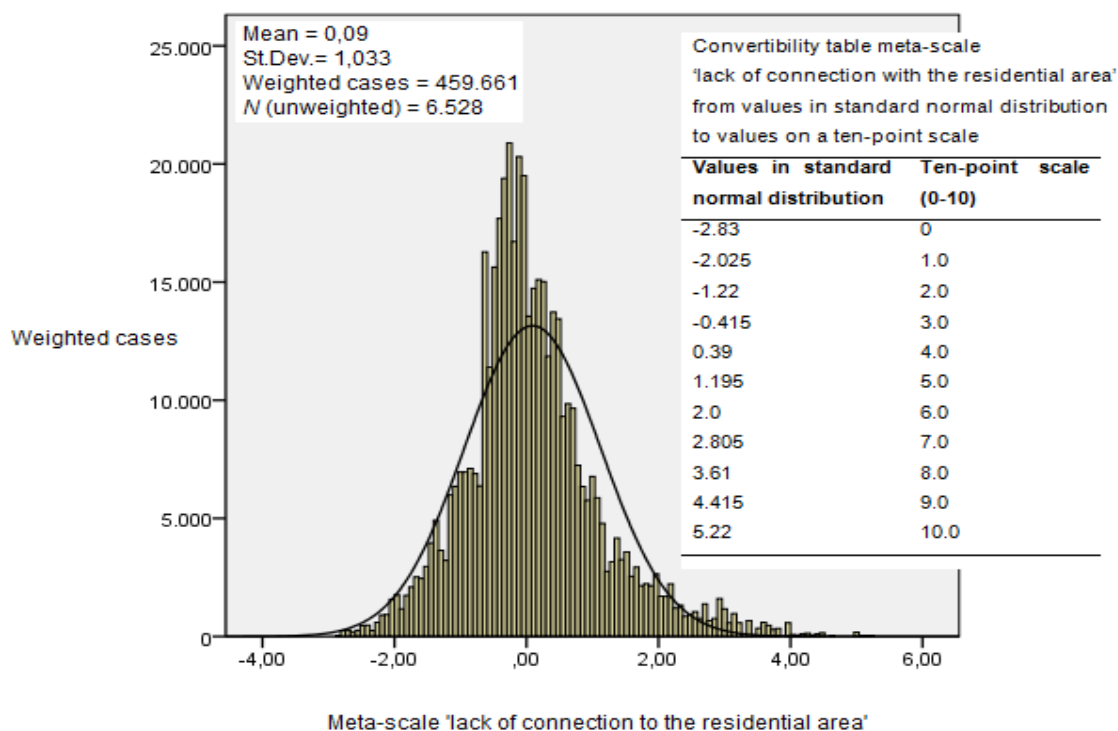


Table 4.16 Schematic overview of % and number of residents of the city of Rotterdam that experience a lack of connection with the residence and the residential area, based on several critical values on a 0-10 scale.

Score on 0-10 scale	% of weighted population of the city of Rotterdam	Number of residents of the city of Rotterdam (weighted)
(<)5	-	-
6.0	5,3	24.362
7.0	2,2	10.113
8.0	0,6	2.758
9.0	0,1	460
10.0	0,0	0

The standard normal scores on scale ‘lack of connection with the residence and the residential area’ are converted into scores on a ten-point scale due to improvement of the interpretation of the frequency distribution in figure 4.5. The scale scores give an indication of the extent to which the residents of the city of Rotterdam experience a lack of connection with the residence and the residential area. The lower the individual score on the index for ‘lack of connection with the residence and the residential area’ the more the person is connected with the residence and the residential area (or the less the person experiences a shortage in connection with the residence and the residential area). Vice versa this means that the higher the individual score on the index for ‘lack of connection with the residence or the residential area’, the less the person feels connected with the residence and the residential area (or the more the person experiences a shortage in connection with the residence and the residential area’.

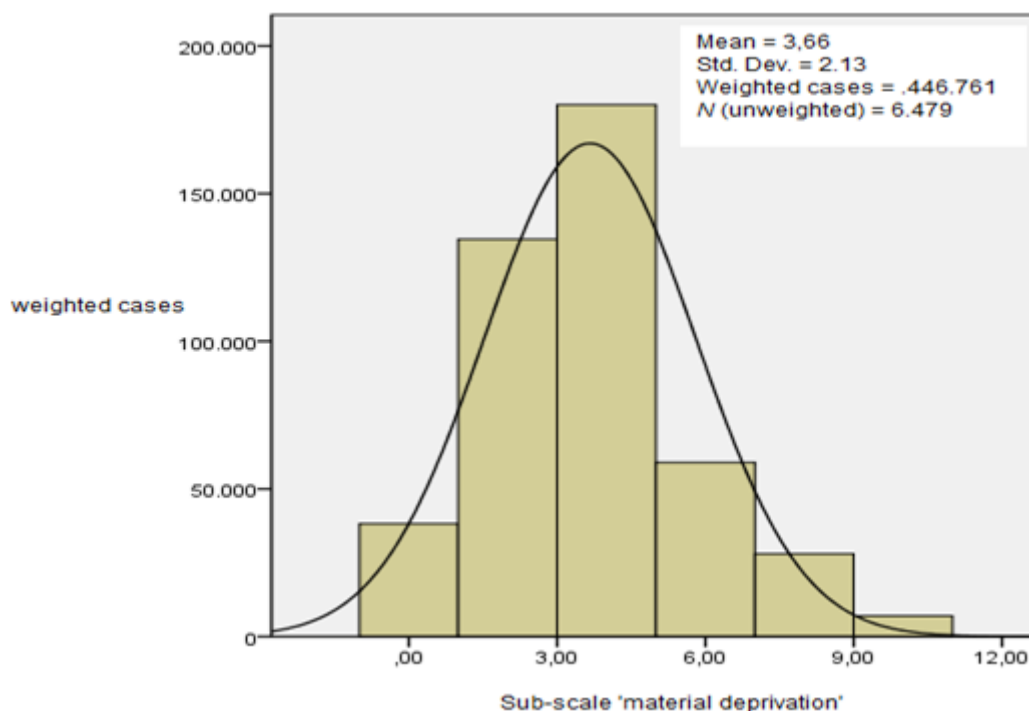
The limiting value above which someone is in a critical situation based on the index of ‘lack of connection with the residence and the residential area’ can be set on different “places”. When we set a boundary between being or not in a critical situation based on the index for ‘lack of connection with the residential area’ on the scale score ten, it turns out that nobody – i.e. zero percent – scores insufficiently on *all* items of the index ‘lack of connection with the residence and the residential area’. When the limiting value between sufficient and insufficient connection with the residence and the residential area is set at the value nine on the ten-point scale ‘lack of connection with the residence and the residential area’ it is demonstrated that 460 (0.1%) inhabitants of Rotterdam experience a lack of connection with the residence and the residential area (see figure 4.5 and table 4.16). The outcome becomes more severe if the boundary between experiencing insufficient feelings of connection with the residence and the residential area and experiencing sufficient feelings of connection with the residence and the residential area is set at scale value eight on the ten-point scale. In this case, 2.758 residents of the city of Rotterdam experience lack of connection with the residence and the residential area’, which comes down to 0.6 percent. The

situation becomes more critical if the boundary between sufficient and insufficient feelings of connection with the residence and the residential area is taken less strict, for example on the scale score seven on the ten-point scale. In this instance, 10.113 residents of the city of Rotterdam (2.2%) are on the wrong side of the index. After taking into account a very flexible boundary between insufficient and sufficient feelings of connection with the residence and the residential area, which means that the boundary between insufficient and sufficient experience of connection with the residence and the residential area is set at a value of six on the ten-point scale, it is shown that 24.362 (5.3%) of the inhabitants of Rotterdam experiences a lack of connection with the residence and the residential area.

4.5.3 Degree of material deprivation

Below the frequency distribution is given of the sub-scale 'material deprivation' (see figure 4.6). Based on this scale it is possible to exhibit the extent to which the residents of Rotterdam are in a deprived material situation. In a pragmatic way it is decided how many residents are materially deprived. The frequency distribution in figure 4.6 is displayed on a ten-point scale. The lower the individual score on the index, the less the person lives in deprived material position, whereas the higher the individual score on the index, the more the person lives in a deprived material situation.

Figure 4.6 Frequency distribution of sub-scale 'material deprivation'



The boundary between experiencing material deprivation and not experiencing material deprivation can be put at several values on the scale for ‘material deprivation’. If we put the limit on which someone is materially deprived at a scale score of ten on the ten-point scale, this implies that 7.148 (1.6%) residents of the city of Rotterdam experience arrears in a material sense (see figure 4.6 and table 4.17). When this boundary is shifted from scale value ten to scale value eight, which means that the boundary between the experience of material deprivation and no material deprivation is taken a little broader, 35.294 inhabitants of the city of Rotterdam (7.9%) are have insufficient material means to have a comfortable life (see figure 4.6 and table 4.17). When this limiting value between the experience of material deprivation and no material deprivation is taken a little broader, it comes down to the fact that 94.267 or 21.1 percent of the population of Rotterdam lives in a material deprived situation.

Table 4.17 Schematic overview of % and number of residents of the city of Rotterdam that live in a material deprived situation, based on several critical values on a 0-10 scale.

Score on 0-10 scale	% of weighted population of the city of Rotterdam	Number of residents of the city of Rotterdam (weighted)
(<)5	-	-
6.0	21,1	94.267
8.0	7,9	35.294
10.0	1,6	7.148

4.5.4 Summary

The three (meta-)scales ‘insufficient social-cultural integration’, ‘lack of connection with the residence and the residential area’ and ‘material deprivation’ collectively give indications about essential aspects of social exclusion. However, because these aspects of social exclusion are not united in one measure or index, it is not possible in this study to come up with conclusions about social exclusion. Therefore the question cannot be answered how many residents of the city of Rotterdam live in a socially excluded situation. Nonetheless, it can be concluded that irrespective of the limiting value that is applied above which residents of the city of Rotterdam have an insufficient score on one of the three indices, the index for material deprivation indicates relatively the highest number of residents of the city of Rotterdam that are in a critical or vulnerable social position based on their material situation. Also precarious is the situation of the residents of the city of Rotterdam when their social and cultural integration is perceived, though the relative proportion of residents that is insufficiently culturally and socially integrated is lower than the relative proportion of the residents that is subject to material deprivation, – regardless of the cut-off point of the limiting value. For the inhabitants of the city of Rotterdam, the relative proportion of inhabitants scoring high on the scale concerning lack of connection with the residence and the residential

area is the lowest as compared to the other scales. In this study, it has not been investigated to what extent the same residents are hit simultaneously by material deprivation, insufficient social-cultural integration and lack of feelings of connection with the residence and the residential area, which would suggest that these residents are confronted with the most severe circumstances concerning the social situation.

4.6 Explanatory results

One of the aims of this study was to examine the role of several individual level determinants on the degree of social exclusion of the residents of the city of Rotterdam. Since in section 4.3 it turned out that it was not possible to create a general index for social exclusion based on the “Rotterdam Neighbourhood Survey 2011”, it is unfeasible to illustrate the risk factors of social exclusion of the residents of the city of Rotterdam. Instead, in paragraph 4.4 I constructed three (meta-)scales of various aspects of social exclusion: ‘insufficient social-cultural integration’, ‘lack of connection with the residence and the residential area’, and ‘material deprivation’. With these (meta-)scales or indices it is still possible to perform some explanatory analyses about the individual level determinants of ‘insufficient social-cultural integration’, ‘lack of connection with the residence and the residential area’, and ‘material deprivation’ as the dependent variables. In this study, insight is given in the individual level determinants of ‘insufficient social-cultural integration’. This is the meta-scale that measures the greatest part of the theoretical concept of social exclusion of the residents of the city of Rotterdam, as it is related to two of the theoretical dimensions of social exclusion: ‘insufficient social-participation’ and ‘insufficient cultural participation’ (see paragraph 2.1.7). The same predictors are used for explaining the concept of ‘insufficient social-cultural integration’ as the predictors that are assumed to influence the concept of social exclusion. In this chapter expectations concerning these predictors are tested. The expectations are based on the theoretical models in chapter 2.2.2 (see hypotheses 3 till 14 in paragraph 2.2.2), the only difference is that the theoretical dependent variable ‘the degree of social exclusion of the residents of the city of Rotterdam’ is replaced by ‘the degree of insufficient social-cultural integration of the residents of the city of Rotterdam’. For the rest, the factors that are assumed to play a role in explaining ‘insufficient social-cultural integration’ and the direction in which these factors behave remain the same as it is assumed for the concept of ‘social exclusion’⁷⁵.

Based on the theoretical models in chapter 2, I expect that the following individual level determinants play a role in explaining the ‘degree of insufficient social-cultural integration’: income level, employment status, health status, human capital, age, family

composition, gender, ethnicity, and religious involvement. In order to find out which individual level determinants play a role in explaining the degree of insufficient social-cultural integration a multiple regression analyses (entry blockwise) are conducted with the meta-scale ‘insufficient social-cultural integration’ as the dependent variable. A low score on the index for ‘insufficient social-cultural integration’ means that the person participates a lot in the socio-cultural life, whereas a high score on the index for ‘insufficient socio-cultural integration’ indicates that the person is only to small extent integrated in the socio-cultural life. Therefore a positive effect between the individual level risk factor and the index means that persons with a certain individual level characteristic (e.g. poor health) are more insufficiently socially and culturally integrated (read: they participate less in socio-cultural life) than the persons without this individual level characteristic. Vice versa, a negative effect between the individual level risk factor and ‘insufficient socio-cultural integration’ implies that the persons with a certain individual level characteristic (e.g. poor health) are less insufficiently socially and culturally integrated (read: they participate more in socio-cultural life) than persons without the certain individual level characteristic.

In the paragraphs 4.6.1 until 4.6.9 the expectations concerning the individual level determinants of the degree of insufficient social-cultural integration are tested. These expectations are thus based on the theoretical models that are demonstrated in chapter 2, though the dependent variable has been changed from ‘the degree of social exclusion’ to ‘the degree of ‘insufficient social-cultural integration’’. Instead of testing the integrated theoretical model in paragraph 2.2.2.10, all the separate models are tested, because more advanced techniques are preferred to test the integrated model in one analysis. In total twelve regression analyses are performed. With the exception of the first regression analysis of which the results are presented in table 4.18, in all analyses different entry blocks are used. Instead of entering the variables in order of their relative importance in explaining the dependent variable, I give up the hierarchical order of variable entry. When the individual level characteristics are included into different blocks according to their relative importance in explaining social-exclusion that turned out from previous research, the expected indirect effects of these determinants do not stand out in an optimal way. Thus, in order to display the (indirect) effects that are assumed in this study, the hierarchical entry method has been given up.

Besides it should be remarked that despite for each regression analysis (with the exception of the regression analysis that is displayed in table 4.18) more individual level characteristics are incorporated in the models, not all the individual level effects that are

demonstrated are discussed. I illustrate this with an example: in the regression analysis in which the role of ethnicity on the degree of insufficient social-cultural integration is investigated, only the effect and the alteration of the effect of ethnicity is discussed. The effects of the other variables in the model are discussed in the models that are designated for those effects.

4.6.1 *Income and insufficient socio-cultural integration*

In this study it is expected that there is a positive individual level effect of having a low income on the degree of insufficient social-cultural integration as compared to having a middle-high or a high income. Based on model 1 in table 4.18, this expectation is fulfilled, as persons with a middle high ($\beta = -.22, p < .001$) or a high income ($\beta = -.32, p < .001$) have a lower score on the index for ‘insufficient socio-cultural integration’ than persons with a low income. Vice versa, this boils down to the fact that people with a low income score higher on the scale for insufficient socio-cultural integration than persons with a middle-high or a high income. This implies that having a low income is a risk factor of being insufficiently socially and culturally integrated as compared to having a middle high or a high income. In a model in which only the effect of income on insufficient socio-cultural participation is incorporated, the explained variance of insufficient socio-cultural participation is 7.7 percent.

Table 4.18 Results Hierarchical Multiple Linear Regression (entry blockwise) of income on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

Model 1	
	β
Income	
Low income (ref)	
Middle-high income	-.22***
High income	-.32***
R² (adjusted)	.077

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

4.6.2 *Labour market participation and insufficient socio-cultural integration*

In this thesis, the expectation concerning labour market participation reads as follows: there is a positive individual level effect of being unemployed on the degree of insufficient social-cultural integration as compared to being (paid) employed, and this positive effect diminishes after taking into account the income level. The bivariate effect of performing no paid work on the degree of insufficient social-cultural participation in model 1 in table 4.19 shows that persons who are unemployed score higher on the index for insufficient social-cultural

participation than persons who are performing paid work ($\beta = .35, p < .001$). This means that based on model 1 the unemployed are less socially and culturally integrated than the employed.

Table 4.19 Results Hierarchical Multiple Linear Regression (entry blockwise) of paid work on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2
	β	β
Paid work		
Paid employment (ref)		
No paid employment	.35***	.30***
Benefits		
No receipt of benefit(s) (ref)		
In receipt of benefit(s)		-.04***
Income		
Low income (ref)		
Middle-high income		-.13***
High income		-.20***
R² (adjusted)	.123	.146

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235)

As it was expected, this positive effect of being unemployed on the degree of insufficient social-cultural integration diminishes after including the variables income and benefits to the model (see model 2 in table 4.19), though the decrease in the positive effect of unemployment on the degree of insufficient social-cultural participation is small ($\beta = .35, p < .001$ changes into $\beta = .30, p < .001$). This finding suggests that if the income level is hold steady (i.e. both employed and unemployed have the same income level), then the positive effect of being unemployed on the degree of insufficient social-cultural participation would diminish slightly. These findings in model 2 in table 4.19 imply that the effect of being unemployed on the degree of insufficient social-cultural integration is partly influenced by income level, which suggests that there is an indirect effect of not performing paid work on the degree of insufficient social-cultural participation via income level. As model 1 shows that no paid employment leads to insufficient social-cultural integration, and model 2 exhibits that a low income leads to insufficient social-cultural integration, and that model 2 indicates that the effect of being unemployed on the degree of insufficient social-cultural integration operates indirect via income level, the results seem to suggest that the unemployed are partially less integrated in the social and cultural domains due to their low income level. Still, after the incorporation of benefits and income to the regression model, the unemployed participate less in the social and cultural domain than the employed, which means that there also is a direct effect of unemployment on the degree of insufficient social-cultural participation. Thus it can

be concluded that not performing paid work is a risk factor which operates partly indirect via income and partly direct. That unemployment is an important risk factor of being insufficiently socially and culturally integrated can also be perceived from the percentage of explained variance of model 1 in table 4.16 in which only paid work is incorporated ($R^2 = .123$), which is quite a lot for only one determinant. However, the percentage of explained variance of insufficient social-cultural increases further in model 2, which means that employment status is not the only determinant for insufficient social-cultural integration.

4.6.3 *Health and insufficient socio-cultural integration*

In this research paper the following expectation concerning health is raised: there is a positive individual level effect of being in a poor or a moderate health on the degree of insufficient social-cultural participation as compared to being in a good health, and this positive effect diminishes after taking into account employment status, active participation in the society, and the income level (or receipt of benefits, which also refers to income level). That there is a positive individual level effect of being in a poor or moderate health on the degree of insufficient social-cultural participation as compared to being in a good health becomes clear in model 1 (see table 4.20), as the persons in a moderate health ($\beta = .28, p < .001$) and a poor health ($\beta = .21, p < .001$) score higher on the index for insufficient social-cultural participation in comparison with the persons in a good health. It is rather remarkable that the persons with a moderate health score .28 standard deviations higher than persons with a good health on the index for insufficient social-cultural participation, whereas the persons characterised by a poor health only score .21 standard deviations higher than persons who are characterised by a good health. Nonetheless, the results from model 1 in table 4.20 are conform the first part of the expectation.

Model 4 of table 4.20 shows that after controlling for the background characteristics paid work, active participation and income – which are the characteristics that are theoretically assumed to influence the positive effect of health on the degree of insufficient social-cultural participation – the effect of health changes indeed from $\beta = .28 (p < .001)$ in model 1 into $\beta = .18, (p < .001)$ in model 4 for being in a moderate health and $\beta = .21 (p < .001)$ in model 1 into $\beta = .13 (p < .001)$ in model 4 for being in a poor health. This decrease in the positive effects of being in a moderate health and a poor health on the level of insufficient social-cultural participation as compared to being in a good health comes up to expectations. The findings suggest that after controlling for the background characteristics in model 4, persons in a poor or moderate health act less worse in the social and cultural domains than

persons in a good health than before considering these background characteristics, even though persons with a poor and moderate health still score higher on the index for insufficient social-cultural participation than persons with a good health.

Table 4.20 Results Hierarchical Multiple Linear Regression (entry blockwise) of health on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3	Model 4
	β	β	β	β
Health				
Good health (ref)				
Moderate health	.28***	.20***	.18***	.18***
Poor health	.21***	.15***	.14***	.13***
Paid work				
Paid employment (ref)				
No paid employment		.27***	.25***	.24***
Active participation				
<i>Volunteer work</i>				
Volunteer work (ref)				
No volunteer work			.02***	.01***
<i>Membership hobby association</i>				
Member hobby association (ref)				
No member hobby association			.19***	.18***
Benefits				
No receipt of benefit(s) (ref)				
In receipt of benefit(s)				-.06***
Income				
Low income (ref)				
Middle-high income				-.09***
High income				-.14***
R² (adjusted)	.109	.172	.211	.221

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

Comparing the models 1 till 4 in table 4.20 of the individual level characteristic health with each other, it can be stated that the decline in the positive effect of being in a moderate or poor health on the degree of insufficient social-cultural participation as compared to being in good health is *principally* caused by the incorporation of paid work to the model; the beta for moderate health alters from .28 ($p < .001$) in model 1 to .20 ($p < .001$) in model 2 and the beta for poor health changes from .21 ($p < .001$) in model 1 to .15 ($p < .001$) in model 2 (see table 4.20). Hence, it can be argued that a part of the effect of health on the degree of insufficient social and cultural participation is explained by paid work. As model 1 shows that being in a poor or moderate health leads to insufficient social-cultural integration, and model 2 displays that unemployment leads to insufficient social-cultural integration, and model 2 indicates that the effect of having a poor or moderate health on insufficient social-cultural participation goes indirect via employment status, the results in table 4.20 might imply that

persons in a poor or moderate health are less socially and culturally active on account of the fact that they are more often unemployed than the persons with a good health.

Even though the positive effect of having a poor and moderate health on the level of insufficient social-cultural participation in comparison with having a good health decreases after taking into account other background characteristics, such as performing paid work, it should be realised that still a fairly high positive effect of having a moderate or a poor health remains (see model 4 in table 4.20). This way, it is for the greater part health itself that brings about a positive effect of being in a moderate and poor health on the degree of insufficient social-cultural participation as compared to being in good health. Based on the positive indirect effect being in a poor or moderate health on the degree of insufficient social-cultural participation via inter alia employment status and based on the direct effect of being in poor or moderate health that exists on the degree of insufficient social-cultural participation as compared to being in a good health it can be stated that having a poor or moderate health is a risk factor of being insufficiently socially and culturally integrated.

That health is an important determinant in explaining the degree of insufficient social-cultural participation is also ventilated by the relative high percentage of explained variance ($R^2 = .109$) of model 1 in table 4.17 in which only health as an individual level determinant for insufficient social-cultural participation is incorporated. Nevertheless, health is not the only determinant for insufficient social-cultural integration as the percentage of explained variance increases further to 22.1 percent when the other background characteristics are added to the model (see model 4).

4.6.5 Human capital and insufficient social-cultural integration

Concerning human capital two expectations are introduced in this thesis. The first expectation is as follows: there is a positive individual level effect of having a low education on the degree of insufficient social-cultural integration as compared to having a middle-high or a high education, and this positive effect diminishes after taking into account health, employment status, active participation and income (or receipt of benefits, which also refers to income level). Not only theoretically, but also empirically it turns out from model 1 in table 4.21 that there is a positive individual level effect of having a low education as compared to having a middle high or high education on the degree of insufficient social-cultural participation, since persons with a middle high ($\beta = -.28, p < .001$) or a high education ($\beta = -.43, p < .001$) have a lower score on the index for insufficient social-cultural participation than the persons with a low education. This means that based on model 1 persons with a low

educational level are less integrated in the social-cultural sphere than persons with a middle high or a high educational degree.

The empirical results are also in line with the second part of the presumption that after controlling for health, paid work, active participation and income level this positive effect of low education on the degree of insufficient social-cultural participation as compared to middle high or high education decreases. Model 5 of table 4.21 namely displays that the effects on insufficient social-cultural participation of middle high education and high education, as compared to low education, almost halved in comparison to the effects in model 1 ($\beta = -.28, p < .001$ changes into $\beta = -.16, p < .001$) for middle high education and ($\beta = -.43, p < .001$ changes into $\beta = -.23, p < .001$ for high education). The findings demonstrate that after controlling for the four background characteristics the persons with a low educational degree still act worse than persons with a middle high or a high educational in the social and cultural sphere, but that the gap between persons with a low and higher income has decreased considerably. This is conform the expectation.

Table 4.21 Results Hierarchical Multiple Linear Regression (entry blockwise) of education on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Human capital					
<i>Education</i>					
Low education (ref)					
Middle-high education	-.28***	-.22***	-.18***	-.17***	-.16***
High education	-.43***	-.35***	-.27***	-.25***	-.23***
Health					
Good health (ref)					
Moderate health		.20***	.16***	.15***	.15***
Poor health		.16***	.13***	.12***	.12***
Paid work					
Paid employment (ref)					
No paid employment			.19***	.18***	.18***
Active participation					
<i>Volunteer work</i>					
Volunteer work (ref)					
No volunteer work				.00***	.00***
<i>Membership hobby association</i>					
Member hobby association (ref)					
No member hobby association				.18***	.17***
Benefits					
No receipt of benefit(s) (ref)					
In receipt of benefit(s)					-.06***
Income					
Low income (ref)					
Middle-high income					-.07***
High income					-.09***
R² (adjusted)	.134	.188	.215	.245	.250

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

A comparison among the various models of the individual level feature education draws attention to the fact that the decrease in the positive effect of a low income on insufficient social-cultural participation in comparison to a middle high or high education is for the greatest part activated by the inclusion of health (see model 2 in table 4.21) and paid work (see model 3 in table 4.21) to the analysis; the beta for middle high education dropped from $-.28$ ($p < .001$) in model 1 to $-.22$ ($p < .001$) in model 2 to $-.18$ ($p < .001$) in model 3 and the beta for high education declined from $-.43$ ($p < .001$) in model 1 to $-.35$ ($p < .001$) in model 2 to $-.27$ ($p < .001$) in model 3. The results suggest that if health status and employment status are hold constant (e.g. the low, middle high and high educated all have the same health status and employment status), then the positive effect of low education on the degree of insufficient social-cultural participation is divided by almost two. On that account, the findings in table 4.18 indicate that the effect of low education on the degree of insufficient social-cultural integration is partly indirect via health and employment status. As model 1 until 3 shows that a low education, a poor or moderate health and no paid employment lead to more insufficient social-cultural participation, and model 2 ventilates that the effect of having a low educational on the degree of insufficient social-cultural integration operates indirect via health status and employment status the results seem to conclude that persons with a low education are more insufficiently socially and culturally integrated than persons with a middle high or high education, because they have a higher risk on being unhealthy or being unemployed. For the other part, the positive effect of low education on the degree for insufficient social-cultural integration as compared to a middle high or a high income is direct, since after the incorporation of the background characteristics like paid work and health, a significant positive effect of low education on the degree of insufficient participation in socio-cultural life, as compared to high education and middle high education, remains (see model 5 in table 4.21). Based on the indirect effect of a low education via mainly employment status and health status and based on the direct effect of a low education on the degree of insufficient social-cultural integration it can be argued that low education is an important risk factor of being insufficiently socially and culturally integrated. That educational level plays a substantial role in explaining the degree of insufficient social-cultural integration can also be perceived from the relative high percentage of explained variance of model 1 in table 4.21 ($R^2 = .134$), as the percentage of explained variance is considerably high for a model in which merely one determinant is included. However it should be kept in mind that also other determinants explain the degree of insufficient social-cultural integration, since the explained

variance of insufficient social-cultural participation in model 5 in which also other background characteristics are included increases to 25 percent.

The second expectation concerning human capital that is raised in this thesis is: there is a positive individual level effect of having limited coping abilities on the degree of insufficient social-cultural integration, as compared to having many coping abilities, and this positive effect diminishes after taking into account paid work and income (or receipt of benefits, which also refers to income level). The empirical analysis (see model 1 in table 4.22) exhibits that persons who have many coping abilities have a smaller risk of becoming insufficiently socially and culturally integrated than persons who have few coping abilities. This assertion is based on the facts that people who have many psychological coping problems score higher on the index for insufficient social-cultural participation than people who have few psychological coping problems ($\beta = .27, p < .001$) and that persons who have many problems with the Dutch language score higher on the index for insufficient social-cultural participation than persons who have few problems with the Dutch language ($\beta = .15, p < .001$). These results are conform the first part of the expectation that there is a positive individual level effect of having few coping abilities on the degree of insufficient social-cultural integration, as compared to having many coping abilities.

Table 4.22 Results Hierarchical Multiple Linear Regression (entry blockwise) of coping abilities on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3
	β	β	β
Human capital			
<i>Coping abilities</i>			
<i>Psychological coping problems</i>			
Few psychological coping problems (ref)			
Many psychological coping problems	.27***	.22***	.21***
<i>Problems in language proficiency</i>			
Few language problems (ref)			
Many language problems	.15***	.12***	.10***
Paid work			
Paid employment (ref)			
No paid employment		.30***	.27***
Benefits			
No receipt of benefit(s) (ref)			
In receipt of benefit(s)			-.05***
Income			
Low income (ref)			
Middle-high income			-.09***
High income			-.16***
R² (adjusted)	.101	.185	.198

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

A comparison of model 1 and model 3 in table 4.22 additionally confirms the second part of the expectation that the positive individual level effect of having limited coping abilities on the degree of insufficient social-cultural participation, as compared to having many coping abilities, diminishes after incorporating paid work and income level to the analysis. After controlling for the background characteristics paid work and income, the gap in insufficient social-cultural participation between persons with few coping abilities and many coping abilities decreases to small extent; the effect of many psychological coping problems dropped from $\beta = .27$ ($p < .001$) in model 1 into $\beta = .22$ ($p < .001$) in model 2 into $\beta = .21$ ($p < .001$) in model 3 and the effect of many language problems declined from $\beta = .15$ ($p < .001$) in model 1 into $\beta = .12$ ($p < .001$) in model 2 into $\beta = .10$ ($p < .001$) in model 3. It becomes obvious that the decrease of the positive effect of many psychological coping problems and many language problems is mainly due to the inclusion of employment status to the analysis. This means that the influence of coping abilities is partly indirect via employment status. As model 1 shows that many psychological and language problems lead to insufficient social-cultural integration and model 2 shows that unemployment leads to insufficient social-cultural integration and model 2 additionally shows that the effect of having limited coping abilities on the degree of insufficient social-cultural integration operates partly indirect via employment status, the outcomes of table 4.22 seem to suggest that persons with limited coping abilities are less integrated in the social and cultural spheres than persons with many coping abilities due to their lower chance of being active on the paid labour market.

Besides model 3 shows that in addition to a positive indirect effect of having limited coping abilities on the degree of insufficient social-cultural participation as compared to having many coping abilities also a direct positive effect of limited coping abilities on the degree of insufficient social-cultural participation exists (see model 3). Positive direct effects exist of many psychological coping problems and many language problems on the degree of insufficient social-cultural participation, since the effects of many psychological coping problems and many language problems remain positive in model 3 when all background characteristics are taken into account. The positive indirect effect of many coping problems via employment status and the direct effect of many coping problems suggests that having many coping problems is a risk factor of being insufficiently socially and culturally integrated. That individual coping abilities play a substantial role in explaining the degree of insufficient social-cultural integration can also be perceived from the relative high percentage of explained variance of model 1 in table 4.22 ($R^2 = .101$). The percentage of explained variance is considerably high for a model in which merely one determinant is included.

However it should be kept in mind that also other determinants explain the degree of insufficient social-cultural integration, since the explained variance of insufficient social-cultural participation in model 3 in which also other background characteristics are included increases to 19.8 percent.

4.6.5 Age and insufficient social-cultural integration

In this thesis two expectations are postulated that relate to the effect of age on the degree of insufficient social-cultural integration. The first assumption is: there is a positive individual level effect of being of young age on the degree of insufficient social-cultural integration, as compared to being of middle age, and this positive individual level effect diminishes after taking into account employment status and income level (or receipt of benefits, which also refers to income level). However, model 1 in table 4.23 presents that young persons are less insufficiently socially and culturally integrated than persons of middle age, as the young persons ($\beta = -.22, p < .001$) score lower on the index for insufficient socio-cultural integration as compared to the persons of middle age. This finding is against the first part of the first expectation; there is *no* positive individual level effect of being of young age on the degree of insufficient social-cultural participation as compared to being of middle age.

Table 4.23 Results Hierarchical Multiple Linear Regression (entry blockwise) of (young) age on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3
	β	β	β
Age			
Middle age (ref)			
Young age	-.22***	-.22***	-.25***
Old age	.21***	.04***	.06***
Paid work			
Paid employment (ref)			
No paid employment		.30***	.20***
Benefits			
No receipt of benefit(s) (ref)			
In receipt of benefit(s)			.00***
Income			
Low income (ref)			
Middle-high income			-.16***
High income			-.25***
R² (adjusted)	.111	.172	.209

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

Because the first part of the expectation has empirically not been verified, there is no point in testing the second part of the assumption that the positive effect of young age diminishes after controlling for several background characteristics, as there simply is no positive effect of

young age on the degree of insufficient social-cultural participation as compared to middle-age.

Even though the effect of young age is not in the expected direction, the results in table 4.23 still indicate that (young) age contributes in explaining the degree of insufficient social-cultural integration, because the percentage of explained variance of insufficient social-cultural integration of the model in which only age is included is substantial with 11.1 percent.

The second assumption that has been raised in this thesis concerning age is as follows: there is a positive individual level effect of being of old age on the degree of social exclusion, as compared to being of middle age, and this positive effect diminishes after taking into account health status, employment status, active participation and income level (or receipt of benefits, which also refers to income level). Model 1 in table 4.24 postulates that there is a positive individual level effect of being of old age ($\beta = .21, p < .001$) as compared to being of middle age on the degree of insufficient social-cultural integration. This means that based on model 1 old persons participate less in the socio-cultural sphere than persons of middle age. This is conform the first part of the second expectation.

Table 4.24 Results Hierarchical Multiple Linear Regression (entry blockwise) of (old) age on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3	Model 4	Model 5
	β	β	β	β	β
Age					
Middle age (ref)					
Young age	-.22***	-.19***	-.19***	-.20***	-.22***
Old age	.21***	.16***	.04***	.05***	.06***
Health					
Good health (ref)					
Moderate health		.22***	.17***	.16***	.14***
Poor health		.18***	.14***	.12***	.11***
Paid work					
Paid employment (ref)					
No paid employment			.23***	.20***	.15***
Active participation					
<i>Volunteer work</i>					
Volunteer work (ref)					
No volunteer work				.03***	.02***
<i>Membership hobby association</i>					
Member hobby association (ref)				.20***	.19***
No member hobby association					
Benefits					
No receipt of benefit(s) (ref)					
In receipt of benefit(s)					-.20***
Income					
Low income (ref)					
Middle-high income					-.12***
High income					-.19***
R² (adjusted)	.111	.178	.211	.253	.271

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

Model 5 of table 4.24 demonstrates that the positive effect of old age on the degree for insufficient social-cultural participation decreases enormously after taking into account health status, employment status, active participation and income level: the beta of old age goes from .21 ($p < .001$) in model 1 to .06 ($p < .001$) in model 6 in which all those background characteristics are taken into account. This decrease in the positive individual level effect of old age as compared to middle age on the level of insufficient social-cultural integration seems to be accordance with the second part of the expectation.

When taking into consideration the models 1 till 5 more precisely, it turns out that the decline in the positive effect of old age on the degree of insufficient social-cultural integration as compared to middle age is activated by the inclusion of health (see model 2 in table 4.24) and paid work (see model 3 in table 4.21), since the beta for old age diminishes from .21 ($p < .001$) in model 1 to .16 ($p < .001$) in model 2 to .04 ($p < .001$) in model 3. After controlling for paid work and health status, the gap between old persons and middle aged persons in social-cultural integration almost disappears. This is also theoretically expected. However, after controlling for the factors active participation (see model 4 in table 4.24) and income level (see model 5 in table 4.24), the positive effect of old age is slightly enlarged as

compared to model 3. This is not according to the expectation. Thus even though it seems that taking into account the background characteristics health status, employment status, income level and active participation lead to a decrease in the positive effect of old age on the degree of insufficient social-cultural participation as compared to being of middle age, this in fact *only* occurs through taking into account paid work and health status. In sum, the results indicate that there is an indirect effect of old age on the degree of insufficient social-cultural participation via all four expected background characteristics, though in reality only controlling for two of them (employment status and health status) leads to a decrease in the gap of insufficient social-cultural integration between the old aged and the middle aged. Therefore, the expectation concerning old age is only partly supported by the models in table 4.24. Besides, it should be remarked that also a small direct effect of old age on insufficient social-cultural participation remains after taking into account the background characteristics. On the one hand it can be stated that based on the indirect effect of old age on the degree for insufficient social-cultural integration via principally health status (see model 2) and employment status (see model 3) being of old age is a risk factor of insufficient social-cultural integration. As model 1 shows that being of old age leads to insufficient social-cultural integration, and as the models 2 and 3 demonstrate that a poor or moderate health status and not being active on the paid labour market leads to insufficient social-cultural integration, and as table 4.24 indicates that the effect of old age on the degree for insufficient social-cultural integration operates indirect via health status and employment status, the results seem to suggest that persons of old age are less socially and culturally integrated than persons of middle-age due to their poor health and inactivity on the paid labour market. On the other hand, it can be concluded that old age is a risk factor of being insufficiently socially and culturally integrated, based on the positive direct effect of old age on the degree of insufficient social-cultural integration (see model 5) that remains after controlling for several background characteristics. Also the relative high percentage of explained variance ($R^2 = .111$) of model 1 in which solely age as determinant is included appears to demonstrate that old age is an important risk factor of insufficient social-cultural integration. Nevertheless, age is not the only determinant for insufficient social-cultural integration as the percentage of explained variance increases further to 27.1 percent when the other background characteristics are added to the model (see model 5).

4.6.6 Household composition and insufficient social-cultural integration

In this thesis two expectations are postulated that relate to the effect of household composition on the degree of insufficient social-cultural integration. The first assumption is: there is a positive individual level effect of being a single-parent on the degree of insufficient social-cultural integration as compared to being part of a couple with or without (a) child(ren), and this positive effect diminishes after taking into account educational level, psychological coping abilities, health, social support, active participation, employment status and income level (or receipt of benefits which also refers to income level). The bivariate effect of household composition on the degree of insufficient social-cultural participation in model 1 in table 4.25 puts forward that single-parents score higher on the index for insufficient social-cultural participation than people who are part of a couple with or without (a) child(ren) ($\beta = .04, p < .001$). This means that based on model 1 the single-parents are less socially-culturally integrated than the persons who are part of a couple with or without (a) child(ren) and therefore it seems that being a single parent is a risk factor of insufficient social-cultural participation. However, the effect is marginal. Also the small percentage of explained variance ($R^2 = .002$) of the model in which family composition is taken as the only determinant for insufficient social-cultural participation shows that according to model 1 being a single-parent does barely influence the degree of insufficient social-cultural integration.

As it was expected, the positive effect of being a single parent on the degree of insufficient social-cultural participation as compared to being part of a couple with or without (a) child(ren) diminishes after controlling for the background characteristics educational level, psychological coping abilities, health, social support active participation, employment status and income level. The effect of being a single parent not only decreases, it also becomes negative if we compare the models 1 and 8 in table. 4.22 ($\beta = .04, p < .001$ transforms into ($\beta = -.01, p < .001$). Based on this finding it can be argued that after controlling for the seven background characteristics, single parents act better (read: they have a lower score) in comparison with persons who are part of a couple with or without (a) child(ren) on the index for insufficient social-cultural participation. Based on the results of model 8, being a single-parent cannot be perceived as a risk factor for insufficient social-cultural integration anymore. Besides, it turns out that after controlling for the seven background characteristics that were theoretically assumed to diminish the positive effect of being a single-parent on the degree for insufficient social-cultural participation (see figure 2.13 in paragraph 2.2.2.6), the percentage of the explained variance increases substantially ($R^2 = .277$) according to model 8 in table

4.25, though still a considerable part of the variance of insufficient social-cultural integration remains unexplained. The increase of the percentage of explained variance in model 8 as compared to model 1 in table 4.25 shows that other determinants than family composition play a role in explaining insufficient social-cultural integration.

Table 4.25 Results Hierarchical Multiple Linear Regression (entry blockwise) of family composition (single parents) on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	β	β	β	β	β	β		
Family composition								
Part of couple with or without (a) child(ren) (ref)								
Single	.03***	.01***	.00*	-.02***	-.02***	-.02***	-.03***	-.05***
Single-parent	.04***	.02***	.02***	.01***	.01***	.00**	.01***	-.01***
Human capital								
<u>Education</u>								
Low education (ref)								
Middle-high education		-.28***	-.25***	-.21***	-.21***	-.20***	-.16***	-.15***
High education		-.43***	-.39***	-.33***	-.33***	-.30***	-.23***	-.21***
<u>Coping abilities</u>								
<i>Psychological coping</i>								
problems								
Few psychological coping problems (ref)								
Many psychological coping problems			.22***	.18***	.18***	.18***	.17***	.17***
Health								
Good health (ref)								
Moderate health				.17***	.17***	.16***	.13***	.13***
Poor health				.12***	.12***	.11***	.09***	.09***
Social support								
Social support (ref)								
No social support					.00	.00	.01***	.01***
Active participation								
<u>Volunteer work</u>								
Volunteer work (ref)								
No volunteer work						-.01***	.00*	.00
<u>Membership hobby association</u>								
Member hobby association (ref)								
No member hobby association						.19***	.17***	.17***
Paid work								
Paid employment (ref)								
No paid employment							.17***	.18***
Benefits								
No receipt of benefit(s) (ref)								
In receipt of benefit(s)								-.06***
Income								
Low income (ref)								
Middle-high income								-.07***
High income								-.10***
R² (adjusted)	.002	.135	.183	.218	.218	.250	.272	.277

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

A comparison among the different models of the individual-level characteristic single-parent results in the statement that the alteration of the small positive effect of being a single parent into a very small negative effect on the degree of insufficient social-cultural participation as

compared to being part of a couple with or without (a) child(ren) can be particularly attributed to the incorporation of educational level, health, active participation and income level, since the beta of single-parent changes from .04 ($p < .001$) in model 1 to .02 ($p < .001$) in model 2 to .01 ($p < .001$) in model 4 to .00 ($p < .01$) in model 6 to -.01 ($p < .001$) in model 8. This comes down to the fact that if single-parents and persons who are part of a couple with or without (a) child(ren) would have the same educational level, the same health status, the same income level and the same pattern of active participation single parents are not worse integrated in the socio-economic sphere than persons who are part of a couple with or without (a) child(ren); they do even better than persons who are part of a couple with or without (a) child(ren). Thus, incorporation of the variables health, educational level, active participation and income level influence the effect of household composition on the degree of insufficient social-cultural participation. This suggests that a part of the effect of family composition on the degree of insufficient social-cultural participation is particularly explained by education, health, active participation and income. This means that the effect of family composition on the degree for insufficient social-cultural integration operates partially indirect via education, health, active participation and income; in fact not being a single-parent, but having limited amounts of human capital, a poor health status, no active participation and a low income level affect the degree of insufficient social-cultural integration (with reference to the previous model R^2 increases with .133 in model 2 when educational level is added as determinant, with reference to the previous model R^2 increases with .035 in model 4 when health is added as determinant, with reference to the previous model R^2 rises with .032 in model 6 when active participation is added as explaining variable and with reference to the previous model R^2 enlarges with .005 in model 8 when income level is added as explaining variable for insufficient social-cultural integration). As a low educational level, a low income, a poor or moderate health status and no active participation⁷⁶ lead to more insufficient socio-cultural participation (see table 4.25) and as table 4.25 indicates that the effect of being a single-parent on the degree of insufficient social-cultural integration operates indirect via the variables education, income, active participation and health, the finding seems to imply that single-parents score worse on the scale for socio-cultural integration than persons who are part of a couple with or without (a) child(ren) due to their lower educational level, lower income, bad health status and less active attitude in the society as compared to the persons who are having a partner and/ or children.

The second presumption concerning family composition that is postulated in this study is: there is a positive individual level effect of being single on the degree of insufficient social-cultural integration as compared to being part of a couple with or without (a) child(ren) and this positive effect diminishes after taking into account psychological coping abilities and social support. Model 1 in table 4.26 shows that singles score higher on the index for insufficient social-cultural participation than persons who have a partner and/or children ($\beta = .03, p < .001$). Though a positive effect is found of being single on the index for insufficient social-cultural participation as compared to being part of a couple with or without (a) child(ren), the effect is rather negligible. The result seems to indicate that based on model 1 in table 4.26 being single is a small risk factor of becoming insufficiently socially and culturally integrated. Even though there is a very weak positive effect of being single on the degree of insufficient social-cultural integration, it should be mentioned that the percentage of explained variance of insufficient social-cultural integration is almost zero ($R^2 = .002$) in a model in which only family composition is included as determinant for insufficient social-cultural integration). Therefore, according to model 1 being single actually hardly influences the degree of insufficient social-cultural integration.

Table 4.26 Results Hierarchical Multiple Linear Regression (entry blockwise) of family composition (singles) on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3
	β	β	β
Family composition			
Part of couple with or without (a) child(ren) (ref)			
Single	.03***	.01***	.00**
Single-parent	.04***	.03***	.03***
Human capital			
<u>Coping abilities</u>			
Psychological coping problems			
Few psychological coping problems (ref)			
Many psychological coping problems		.28***	.27***
Social support			
Social support (ref)			
No social support			-.07***
R² (adjusted)	.002	.079	.084

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

When the background characteristics psychological coping problems and social support from the theoretical model in figure 2.15 in paragraph 2.2.2.8 are included to the analysis, the explained variance of insufficient social-cultural integration rises to 8.4 percent (see model 3 in table 4.26). Due to the incorporation of the variables of the other background variables than only family composition a little more of the explained variance is explained of insufficient social-cultural integration, though still quite a lot of the variance remains unexplained. It thus turns out that other variables than family composition explain more of the variance of insufficient social-cultural integration based on model 3 in table 4.26. Besides model 3 in table 4.26 demonstrates that in accordance with the expectation, the weak positive effect of being single on the index for insufficient social-cultural participation as compared to being part of a couple with or without (a) child(ren) declines after incorporating the variables social support and psychological coping problems into the analysis ($\beta = .03$, $p < .001$ for being single in model 1 changes into $\beta = .00$, $p < .01$ in model 3). In fact, the positive effect of being single completely disappears. The finding suggests that if singles and persons with a partner and/or children have the same amount of psychological coping problems and when they both get the same amount of social support, singles are as much integrated in social-cultural life as persons with a partner and/or children. For that reason, being single can no longer be seen as a risk factor for insufficient social-cultural integration according to model 3 in table 4.26.

Because the beta of being single diminishes from .03 ($p < .001$) in model 1 to .01 ($p < .001$) in model 2 after including psychological coping problems and to .00 ($p < .01$) in model

3 after incorporating social support to the analysis, it can be argued that the variables social support and psychological coping abilities influence the effect of family composition on the degree of insufficient social-cultural integration; the effect of singles goes completely indirect via social support and psychological coping problems, since in the end model (model 3), no direct effect remains of single parent on the degree of insufficient social-cultural integration as compared to having a partner and/ or child(ren). Thus, when the levels of social support and psychological coping problems that singles and persons with a partner with or without child(ren) experience are hold constant, both singles and persons with a partner and/or children participate to the same extent in the social and cultural spheres. Based on this finding in model 3, being a single can no longer be perceived as a risk factor for insufficient social-cultural integration as compared to having a partner and / or child(ren).

That insufficient social-cultural integration cannot be attributed to being single, also becomes visible by looking at the increase in the percentage of explained variance of insufficient social-cultural integration after incorporating the experience of many psychological coping problems and social support. Mainly the experience of many psychological coping problems leads to insufficient social-cultural integration, since the percentage of the explained variance increases with 7.7 percent after including psychological coping problems to the model (see model 2). As table 4.26 displays that many psychological problems lead to more insufficient social-cultural integration and as getting social support leads – in contrast to the theoretical expectation in figure 2.13 in paragraph 2.2.28 – to more insufficient social-cultural integration and since the models 2 and 3 of table 4.26 indicate that the small positive effect of being single on the degree of insufficient social-cultural integration operates indirect via psychological coping problems and social support, there seems to be reason to suggest that singles are less socially and culturally integrated than persons with a partner and / or child(ren) because singles have more psychological coping problems and get more social support than persons with a partner and / or child(ren). In fact, this latter possibility is rather astonishing, since it was theoretically expected that *lack of* social support leads to insufficient social-cultural integration and that due to lack of social support singles are less socially and culturally integrated instead of that *getting* social support leads to insufficient social-cultural integration and that owing to the experience of social support singles are worse socially and culturally integrated than persons with a partner and / or child(ren).

4.6.7 Gender and insufficient social-cultural integration

The following assumption was made in this study concerning gender and insufficient social-cultural integration: there is a positive individual level effect of being female on the degree of insufficient social-cultural participation as compared to being male, and this positive effect diminishes after taking into account household composition, human capital (i.e. psychological coping problems and educational level) social support, health status, employment status, active participation and income level (or receipt of benefits which also refers to income level). In contrast to the expectation, model 1 in table 4.27 displays that there is a negative effect of being female on the degree of insufficient social-cultural integration as compared to being male, because females are less insufficiently socially and culturally integrated than males, as the females score lower on the index for insufficient social-cultural participation than males ($\beta = -.02, p < .001$). This finding suggests that being male is a risk factor of social exclusion, though this effect of gender is quite small, which means that men and women almost score equally on the index for insufficient social-cultural participation. It becomes also visible from the percentage of explained variance (R^2 is less than 0.1 percent) of model 1 in figure 4.27 that gender hardly explains the degree of insufficient social-cultural participation.

Since the first part of the expectation has not empirically been justified, there is no point in testing the second part of the assumption that the positive effect of being female diminishes after controlling for several background characteristics as there simply is no initial positive effect of being female.

Despite it seems that gender plays a little role in determining insufficient social-cultural integration due to the small and negative (direct) effect of being female on the degree of insufficient-cultural integration as compared to being male, it should be remarked that based on the empirical analysis being female is not an important determinant in explaining the degree of insufficient social-cultural integration. This is because the percentage of explained variance of insufficient social-cultural integration is zero percent.

Table 4.27 Results Hierarchical Multiple Linear Regression (entry blockwise) of gender on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	β	β	β	β	β	β	β	β
Sex								
Male (ref)								
Female	-.02***	-.03***	-.05***	-.05***	-.06***	-.06***	-.07***	-.07***
Family composition								
Part of couple with or without (a) child(ren) (ref)								
Single		.03***	.00	-.01***	-.02***	-.02***	-.03***	-.05***
Single-parent		.04***	.03***	.02***	.02***	.01***	.02***	.00
Human capital								
<i>Education</i>								
Low education (ref)								
Middle-high education			-.26***	-.25***	-.21***	-.20***	-.16***	-.15***
High education			-.39***	-.38***	-.33***	-.30***	-.23***	-.21***
<i>Coping abilities</i>								
<i>Psychological coping problems</i>								
Few psychological coping problems (ref)								
Many psychological coping problems			.22***	.22***	.18***	.18***	.17***	.17***
Social support								
Social support (ref)								
No social support			-.04***	.00	.00**	.01***	.01***	.01***
Health								
Good health (ref)								
Moderate health					.18***	.17***	.14***	.14***
Poor health					.12***	.11***	.08***	.08***
Active participation								
<i>Volunteer work</i>								
Volunteer work (ref)								
No volunteer work						-.01***	.01***	.00
<i>Membership hobby association</i>								
Member hobby association (ref)								
No member hobby association						.19***	.17***	.17***
Paid work								
Paid employment (ref)								
No paid employment							.17***	.18***
Benefits								
No receipt of benefit(s) (ref)								
In receipt of benefit(s)								-.06***
Income								
Low income (ref)								
Middle-high income								-.07***
High income								-.10***
R² (adjusted)	.000	.002	.185	.187	.221	.254	.276	.282

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

4.6.8 Ethnicity and insufficient social-cultural integration

One of the prognoses relating to ethnicity of this study is: there is a positive individual level effect of being a migrant on the degree of insufficient social-cultural integration as compared to being indigenous, and this positive effect diminishes after taking into account human capital, health, discrimination, active participation, employment status and income level (or receipt of benefits, which also refers to income level). Model 1 in table 4.28 makes clear that being a migrant positively affects the degree of insufficient social-cultural participation as

compared to belonging to the titular group ($\beta = .04, p < .001$), though the effect is rather small. The result indicates that being a migrant seems to be a (small) risk factor of becoming insufficiently integrated in the socio-cultural domain. Although a very weak positive effect exists of being a migrant on the degree of insufficient social-cultural participation, it should be mentioned that the percentage of explained variance of insufficient social-cultural participation is almost zero ($R^2 = .002$) in a model in which only ethnicity is included as determinant for insufficient social-cultural participation. This means that according to model 1 being a migrant in fact does only very slightly influence the degree of insufficient social-cultural participation.

When the other background characteristics from the theoretical model in figure 2.15 (paragraph 2.2.2.8) are included to the analysis, the explained variance of insufficient social-cultural integration suddenly rises to 26 percent (see model 7 in table 4.28), which is quite a lot, though still 74 percent of the variance of insufficient social-cultural integration remains unexplained. The increase in the percentage of explained variance in model 7 as compared to model 1 in table 4.28 shows that other variables than ethnicity explain the degree of insufficient social-cultural integration. Besides, model 7 in table 4.28 demonstrates that the weak positive effect of being a migrant on the degree of insufficient social-cultural integration in comparison with being a native, declined after including the background characteristics to the analysis, which is in line with the theoretical expectation. Actually, the positive effect of being a migrant not only decreases, it also becomes negative if we compare the models 1 and 7 in table 4.28 ($\beta = .04, p < .001$ transforms into $\beta = -.03, p < .001$). This finding suggests that after controlling for the six background characteristics human capital, health, discrimination, active participation, employment status and income level, migrants act better (read: migrants have a lower score) in comparison with native Dutch persons on the index for insufficient social-cultural integration, which means that according to the outcomes of model 7 being a migrant can no longer be seen as a risk factor for insufficient social-cultural integration.

A comparison among the different models of the individual level characteristic ethnicity results in the statement that the alteration of the positive effect of being a migrant into a negative effect on the degree of insufficient social-cultural participation as compared to being a native Dutch person is *mainly* due to the inclusion of human capital to the analysis, since the beta changes from .04 in model 1 to -.02 in model 2 (see table 4.28). This comes down to the fact that if migrants and natives would have the same amount of human capital (i.e. same educational level and same level of proficiency in the Dutch language) migrants are not worse integrated in the socio-cultural sphere than natives; they do even better than natives.

Thus, a part of the effect of ethnicity on the degree of insufficient social-cultural integration is especially explained by (the lack of) human capital. This suggests that the effect of ethnicity on the degree of insufficient social-cultural participation goes partially indirect via human capital; in fact, not being a migrant, but having limited amounts of human capital affects the degree of insufficient social-cultural participation (R^2 changes from .002 in model 1 to .150 in model 2 in table 4.28). As Model 1 shows that being a migrant leads to insufficient social-cultural participation, and model 2 shows that limited amounts of human capital lead to insufficient social-cultural integration and model 2 indicates that the effect of being a migrant on the degree of insufficient social-cultural participation operates indirect via human capital, the results seem to suggest that migrants are partly less socially and culturally integrated than their Dutch counterparts, due to their limited amounts of human capital.

Table 4.28 Results Hierarchical Multiple Linear Regression (entry blockwise) of ethnicity on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	β	β	β	β	β	β	β
Ethnicity							
Dutch (ref)							
(non)western migrant	.04***	-.02***	-.02***	-.03***	-.04***	-.03***	-.03***
Human capital							
<u>Education</u>							
Low education (ref)							
Middle-high education		-.26***	-.21***	-.21***	-.20***	-.16***	-.15***
High education		-.41***	-.34***	-.34***	-.31***	-.24***	-.23***
<u>Coping abilities</u>							
<i>Problems in language proficiency</i>							
Few language problems (ref)							
Many language problems		.13***	.11***	.11***	.10***	.09***	.08***
Health							
Good health (ref)							
Moderate health			.19***	.19***	.18***	.15***	.15***
Poor health			.15***	.14***	.14***	.11***	.11***
Being discriminated							
Not being discriminated (ref)							
Being discriminated				.07***	.06***	.06***	.06***
Active participation							
<u>Volunteer work</u>							
Volunteer work (ref)							
No volunteer work					-.01***	.00***	.00***
<u>Membership hobby association</u>							
Member hobby association (ref)							
No member hobby association					.18***	.17***	.17***
Paid work							
Paid employment (ref)							
No paid employment						.17***	.18***
Benefits							
No receipt of benefit(s) (ref)							
In receipt of benefit(s)							-.05***
Income							
Low income (ref)							
Middle-high income							-.06***
High income							-.08***
R² (adjusted)	.002	.150	.198	.202	.233	.256	.260

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R^2 equals the R^2 , which indicates that the model can be generalised from the sample to the population (Field 2009:235).

4.6.9 *Religious involvement and insufficient social-cultural participation*

In this study the following was expected concerning religious involvement: there is a positive individual level effect of not being religiously involved on the degree of insufficient social-cultural integration as compared to being religiously involved, and this positive effect diminishes after taking into account social support and active participation. Based on the first model in table 4.29 it should be stated that this expectation is not true, because there is a negative effect instead of a positive effect of infrequent religious meeting attendance on the degree of insufficient social-cultural participation as compared to frequent religious meeting attendance ($\beta = -.05, p < .001$). Apparently, persons who do not visit religious meetings are better socially and culturally integrated than persons who visit those religious meetings frequently. And thus table 4.29 seems to indicate that not infrequent religious involvement is a risk factor for insufficient social-cultural participation, but that frequent religious involvement is a risk factor for insufficient social-cultural participation. Despite the weak negative effect of infrequent religious meeting attendance as compared to frequent religious meeting attendance on the degree of insufficient social-cultural integration, it should be mentioned that the percentage of explained variance of insufficient social-cultural participation is almost zero ($R^2 = .003$) in a model in which only frequency of religious meeting attendance is included as determinant for insufficient social-cultural integration. This means that according to model 1 the frequency of religious meeting attendance does in fact influence the degree of insufficient social-cultural participation only to minimal extent. When the other background characteristics (see figure 2.16 in paragraph 2.2.2.9) social support and active participation are included to the analysis in model 3, the explained variance is much higher ($R^2 = .080$). The increase in explained variance in model 3 as compared to model 1 shows that other variables than frequency of religious meeting attendance explain the degree of insufficient social-cultural integration.

However, it is fruitless to check whether the positive effect of infrequent religious meeting attendance diminishes after incorporating social support and active participation to the model, because there simply is no positive effect of infrequent religious meeting attendance on the degree of insufficient social-cultural participation as compared to frequent religious meeting attendance.

Despite it seems that religious involvement plays a little role in determining insufficient social-cultural integration due to the small and negative (direct) effect of infrequent religious meeting attendance (which is a proxy for no religious involvement) on the degree of insufficient social-cultural integration as compared to frequent religious meeting

attendance, it should be remarked that based on the empirical analysis in table 4.29 infrequent religious meeting attendance is not an important determinant in explaining the degree of insufficient social-cultural integration. The reason is that frequency in religious meeting attendance does hardly contribute to the percentage of explained variance of insufficient social-cultural integration.

Table 4.29 Results Hierarchical Multiple Linear Regression (entry blockwise) of religious involvement on insufficient social-cultural participation, population of Rotterdam, aged 18 and older (N=4.946)

	Model 1	Model 2	Model 3
	β	β	β
Frequency religious meeting attendance			
Frequent religious meeting attendance (ref)			
Infrequent religious meeting attendance	-.05	-.05	-.05
Active participation			
<u>Volunteer work</u>			
Volunteer work (ref)			
No volunteer work		.03	.03
<u>Membership hobby association</u>			
Member hobby association (ref)			
No member hobby association		.25	.25
Social support			
Social support (ref)			
No social support			-.011
R² (adjusted)	.003	.069	.080

Note: *** $p < .001$; ** $p < .01$; * $p < .05$ (one-sided)

The weighted N is 341.185.

The adjusted R² equals the R², which indicates that the model can be generalised from the sample to the population (Field 2009:235).

4.6.10 Summary

Based on the regression analyses that are performed in paragraph 4.6.1 until 4.6.9 the following statements can be made:

- It is empirically supported that there is a positive individual level effect of having a low income on the degree of insufficient social-cultural integration as compared to having a middle-high or a high income and thus a low income is a risk factor for insufficient social-cultural integration. This means that income is a determinant in explaining insufficient social-cultural participation.
- It is empirically confirmed that there is a positive individual level effect of being unemployed on the degree of insufficient social-cultural integration as compared to being (paid) employed, and this positive effect diminishes after taking into account the

income level. The effect of not performing paid work on insufficient social-cultural integration is partly direct and partly indirect via income. This means that employment status is a determinant in explaining insufficient social-cultural integration.

- Empirical results show that there is a positive individual level effect of being in a poor or a moderate health on the degree of insufficient social-cultural participation as compared to being in a good health, and this positive effect diminishes after taking into account employment status, active participation in the society, and the income level (or receipt of benefits, which also refers to income level). Especially controlling for employment status leads to a decrease in the positive effect of moderate/poor health. Based on the indirect positive effect of poor / moderate health via inter alia employment status and based on the direct effect of health on the degree of insufficient social-cultural integration, health can be seen as an important determinant in explaining insufficient social-cultural participation.
- Based on the empirical analysis the following expectation can be confirmed: there is a positive individual level effect of having a low education on the degree of insufficient social-cultural integration as compared to having a middle-high or a high education, and this positive effect diminishes after taking into account health, employment status, active participation and income (or receipt of benefits, which also refers to income level). Particularly after taking into account health status and employment status the positive effect of a low education diminished. Next to the positive indirect effect of low education on the degree of insufficient social-cultural participation there also exists a positive direct effect of low education on the degree of insufficient social-cultural integration. Therefore, educational level should be viewed as a determinant in explaining insufficient social-cultural integration.
- It is empirically supported that there is a positive individual level effect of having limited coping abilities on the degree of insufficient social-cultural integration, as compared to having many coping abilities, and this positive effect diminishes after taking into account paid work and income (or receipt of benefits, which also refers to income level). Mainly after taking into account employment status the positive effect of a limited coping abilities diminished. Next to the positive indirect effect of many coping problems on the degree of insufficient social-cultural participation there also exists a positive direct effect of many coping problems on the degree of insufficient social-cultural integration. Therefore, the availability of coping abilities should be

viewed as an individual level determinant in explaining insufficient social-cultural integration.

- Based on the empirical results the following expectation does not find support: there is a positive individual level effect of being of young age on the degree of insufficient social-cultural integration as compared to being of middle age, and this positive effect diminishes after taking into account employment status and income level. In fact, there turns out to be a negative effect of young age on the degree of insufficient social cultural integration. Therefore both the first part and the second part of the expectation should be rejected. Even though the effect of young age is not in the expected direction, the results still indicate that (young) age contributes in explaining the degree of insufficient social-cultural integration, because the percentage of explained variance of insufficient social-cultural integration of the model in which only age is included is substantial with 11.1 percent.
- Empirical results partly support the expectation that there is a positive individual level effect of being of old age on the degree of insufficient social-cultural integration as compared to being of middle-age, and this positive effect diminishes after taking into account health status, employment status, active participation and income level. It turns out that the positive effect of being of old age on the degree of insufficient social-cultural integration goes partly indirect via health status, employment status, active participation and income level, though the decrease in the positive effect of old age on the degree for insufficient social-cultural integration as compared to being of middle-age can only be attributed to taking into account health status and employment status. Besides, being of old age influences the degree of insufficient social-cultural integration in a direct way. Due to the indirect and direct effects of being of old age on the degree for insufficient social-cultural integration, and due to the considerable percentage of explained variance of age as the only determinant for insufficient social-cultural integration it can be stated that (being of old) age plays a role in explaining the degree of insufficient social-cultural integration.
- It is empirically verified that there is a small positive individual level effect of being a single-parent on the degree of insufficient social-cultural integration as compared to being part of a couple with or without (a) child(ren), and this positive effect diminishes after taking into account educational level, psychological coping abilities, health, social support, active participation, employment status and income level (or receipt of benefits which also refers to income level). The effect of single-parent on

insufficient social-cultural integration is indirect via mainly educational level, income level, health status and active participation. After controlling for these variables, a very small negative direct effect exists of being a single-parent: single-parents participate better in the socio-cultural sphere than persons with a partner and/ or children. Even though these small effects of being a single-parent exist, it should be stated that based on the empirical analysis in table 4.25 being a single-parent is not an important determinant in explaining the degree of insufficient social-cultural integration, because family composition does hardly contribute to the percentage of explained variance of insufficient social-cultural integration.

- Empirical results support the expectation that there is a small positive individual level effect of being single on the degree of insufficient social-cultural integration as compared to having a partner and / or child(ren), and this positive effect diminishes after taking into account psychological coping problems and social support. The positive effect of being single on insufficient social-cultural integration as compared to having a partner and / or child(ren) operates completely indirect via the experience of psychological coping problems and getting social support. After controlling for these factors, both singles and persons with a partner and / or child(ren) are both as much socially and culturally integrated. Despite it seems that family composition plays a little role in determining insufficient social-cultural integration due to its indirect effect via psychological coping abilities and social support, it should be stated that based on the empirical analysis in table 4.26 being single is not an important determinant in explaining the degree of insufficient social-cultural integration, because family composition does barely contribute to the percentage of explained variance of insufficient social-cultural integration.
- The expectation that there is a positive individual level effect of being female on the degree of insufficient social-cultural integration as compared to being male, and this positive effect diminishes after taking into account household composition, human capital (i.e. psychological coping problems and educational level) social support, health status, employment status, active participation and income level (or receipt of benefits which also refers to income level) cannot be supported. Based on the empirical analysis it can be stated that there is no positive individual level effect of being female on the degree of insufficient social-cultural integration. Therefore, also the second part of the expectation does not find empirical support. Despite it seems that gender plays a little role in determining insufficient social-cultural integration due

to the small and negative (direct) effect of being female on the degree of insufficient-cultural integration – as compared to being male, it should be remarked that based on the empirical analysis being female is not an important determinant in explaining the degree of insufficient social-cultural integration. This is because the percentage of explained variance of insufficient social-cultural integration is zero percent.

- It is empirically verified that there is a small positive individual level effect of being a migrant on the degree of insufficient social-cultural integration as compared to being indigenous, and this positive effect diminishes after taking into account human capital, health, discrimination, active participation, employment status and income level (or receipt of benefits, which also refers to income level). The effect of ethnicity on insufficient social-cultural integration is indirect via mainly human capital. After controlling for human capital, a very small negative direct effect exists of being a migrant: migrants participate better in the socio-cultural sphere than an indigenous person. Despite it seems that ethnicity plays a little role in determining insufficient social-cultural integration due to its indirect and small direct effect, it should be stated that based on the empirical analysis in table 4.28 ethnicity is not an important determinant in explaining the degree of insufficient social-cultural integration, because ethnicity does contribute to the percentage of explained variance of insufficient social-cultural integration only very scarcely.
- The following expectation cannot be supported based on the empirical results: there is a positive individual level effect of not being religiously involved on the degree of insufficient social-cultural integration as compared to being religiously involved, and this positive effect diminishes after taking into account social support and active participation. Based on the empirical analysis it can be stated that there is no positive individual level effect of not being religiously involved on the degree of insufficient social-cultural integration. Therefore, also the second part of the expectation does not find empirical support. Despite it seems that religious involvement plays a little role in determining insufficient social-cultural integration due to the small and negative (direct) effect of infrequent religious meeting attendance (which is a proxy for no religious involvement) on the degree of insufficient social-cultural integration as compared to frequent religious meeting attendance, it should be remarked that based on the empirical analysis in table 4.29 infrequent religious meeting attendance is not an important determinant in explaining the degree of insufficient social-cultural integration. The reason is that frequency in religious meeting attendance does hardly

contribute to the percentage of explained variance of insufficient social-cultural integration.

Thus, direct effects of several individual level determinants as well as indirect effects of several individual level determinants seem to occur on the degree of insufficient social cultural integration. The indirect effects mainly operate via employment status, health status human capital, and income level. That these factors are important spills in the field of explaining social-cultural integration was already expected in the integral model in figure 2.17 in paragraph 2.2.2.10. Based on the direct effects and the indirect effects in combination with a considerable percentage of explained variance of insufficient social-cultural integration of each separate individual level characteristic, it can be concluded that income, employment status, health status, education, coping abilities, and age play a (considerable) role in explaining insufficient social-cultural integration of the residents of the city of Rotterdam. With exception of age the main individual level determinants of social exclusion are amenable to policy intervention. Besides, the indirect effects principally go via risk factors that are amenable to policy intervention.

CHAPTER 5 DISCUSSION

For an elaborated overview of the conclusions of this report I refer to the summary. Within the summary also an answer is given to the main research question of this study; this is done by providing answers on the sub-questions that have been put central in this study. This last chapter of the research report critically focuses on several outcomes of and decisions that have been taken in this study. Furthermore, the working procedure in this study is evaluated. Also research recommendations for future research are ventilated.

5.1 The measurement and explanatory analysis of social exclusion of the residents of the city of Rotterdam

First of all this discussion focuses on the attempt to measure and explain social exclusion of the residents of the city of Rotterdam, which has (partly) been failed. As concluded in this report, it is empirically impossible to construct a general index for social exclusion of the residents of the city of Rotterdam. Of the eleven empirical sub-dimensions of social exclusion, only four sub-dimensions can be incorporated in the general index for social exclusion. These four sub-dimensions are related to the theoretical sub-dimensions ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential environment’ which are part of the theoretical dimension ‘social rights’. The consequence of generating a total index based on these empirical sub-dimensions is that the index does not refer to the multidimensional concept of social exclusion anymore. Instead, it refers more to a concept concerning ‘lack of connection with the residence and the residential area’. A possible explanation for the fact that only the indicators that are related to the residence or the residential area contribute to the general index is that the “Rotterdam Neighbourhood Survey” contains many items about the neighbourhood or the residential area. Proportionally, the items that should indicate material deprivation, insufficient social participation and insufficient cultural participation, which do not have a specific focus on the neighbourhood, are underrepresented in the dataset. As it was mentioned before, the general index of social exclusion is no more than the sum of its parts (Hoff & Vroomann 2011:40). This indicates that the total index cannot represent a multidimensional concept of social exclusion of the residents of the city of Rotterdam if the possible indicators for social exclusion are not completely adequate to measure the concept. That is the case for some of the indicators that stem from the “Rotterdam Neighbourhood Survey 2011” (see paragraphs 4.1.1 till 4.1.5). Besides this may lead to the conclusion that if principally items about the (lack of connection

with the) neighbourhood are incorporated in the general index, it cannot be expected that the general index then contains many items that point at other aspects of social exclusion than 'lack of connection with the residence and the residential area'.

Ultimately the three (meta-) scales 'insufficient social-cultural integration', 'lack of connection with the residence and the residential area' and 'material deprivation' have been constructed. With these meta-scales still some impression can be given about the degree and the process of important aspects of social exclusion. The meta-scales are preferred over the eleven separate sub-scales of social exclusion, since general indices have many advantages (see paragraph 4.3.1). Nevertheless, some arguments also exist for studying the eleven sub-scales in more detail, because the eleven sub-scales provide more specific information. For example, it might be interesting for the Municipality of the city of Rotterdam to go through the descriptive statistics for the eleven sub-scales of social-exclusion, since for example the descriptive statistics of the scale 'lack of cultural participation' display that the average resident of the city of Rotterdam only participates in cultural activities between 'once a month' and 'less than once a month'.

Though with the meta-scales some insights can be given in the degree of 'insufficient social-cultural participation', 'lack of connection with the residence and the residential area' and 'material deprivation' experienced by the residents of the city of Rotterdam, it turned out that setting a boundary between a sufficient and an insufficient score on these indices is rather arbitrary; the statement how many residents of the city of Rotterdam have an insufficient score on one of the three indices completely depends on the cut-off point where the limiting value is set. Therefore no hard conclusions can be drawn about the extent of insufficient social-cultural integration, lack of connection with the residence and the residential area and material deprivation that is experienced by the residents of the city of Rotterdam. Future research might focus on research methods that might overcome these problems so that it can be precisely indicated how many residents of the city of Rotterdam experience those problems.

The descriptive statistics that are shown in this study about the eleven sub-scales of social exclusion and the three (meta-)scales about aspects of social exclusion are especially interesting if research in the future compares the indices or scales over the years. Besides it might be interesting when the analyses performed in this study are also performed for the other cities in the Netherlands in order to compare the "Rotterdammer" with for example the "Amsterdammer" and "the resident of a city or village in Brabant" with each other in order to come to conclusions about the social-cultural participation, connection with the

neighbourhood area and material deprivation in Rotterdam, Amsterdam and the countryside. It might also be interesting to perform the analyses that have been executed on the city-level of Rotterdam on the neighbourhood level of the city of Rotterdam in future research. This is particularly interesting because it can be perceived which neighbourhoods and districts of the city of Rotterdam score high on the index insufficient social-cultural participation, lack of connection with the residential area and material deprivation. For the municipality of Rotterdam very specific information about the residents of the city of Rotterdam on the neighbourhood level comes to light which makes it easier to intervene in the situation if that is necessary.

Because no index for social exclusion of the residents of the city of Rotterdam was constructed in this study, it additionally has become impossible to give insights about the individual level determinants of social exclusion. As was already stated in this report, with the construction of the three (meta-)scales still some impressions can be given about the process of important aspects of social exclusion. ‘Insufficient social-cultural integration’, ‘lack of connection with the residence and the residential area’, and ‘material deprivation’ can be used as the dependent variables. In this study, only insight is given in the individual level determinants of ‘insufficient social-cultural integration’ for reasons of time. This is the meta-scale that measures the greatest part of the theoretical concept of social exclusion of the residents of the city of Rotterdam, as it is related to two of the theoretical dimensions of social exclusion: ‘insufficient social-participation’ and ‘insufficient cultural participation’ (see paragraph 2.1.7). Therefore it is assumed that the same predictors and theoretical models that are used for explaining the concept of social exclusion can be used as well for explaining the concept of ‘insufficient social-cultural integration’. However, it is rather debatable whether it was rightly assumed that the theoretical concept for explaining social exclusion can be used for explaining insufficient social-cultural integration. In this study, only insufficient social-cultural integration is used as the dependent variable, but it is also possible to use the other (meta-)scales ‘material deprivation’ and ‘lack of connection with the residence and the residential area’ as dependent variables in order to get some insight into the individual level explanations of the other aspects of social exclusion of the residents of the city of Rotterdam. Therefore, it is suggested that the municipality of the city of Rotterdam also investigates the individual level risk factors of the other two (meta-)scales. This demonstrates to what extent the same individual level risk factors affect ‘insufficient social-cultural integration’, ‘material deprivation’ and ‘lack of connection with the residence and the residential area’, which are the three main aspects of social exclusion. Nevertheless, especially for the meta-scale ‘lack of

connection with the residence and the residential area' it is imaginable that not the same theoretical model and predictors can be used as for explaining the degree of social exclusion.

The explanatory analyses with 'insufficient socio-cultural integration' as the dependent variable showed that income, employment status, health status, education, coping abilities and age play a considerable role in explaining insufficient social-cultural integration of the residents of the city of Rotterdam. The analyses also revealed that many indirect effects operate via the factors employment status, income, health status and human capital. With the exception of age these individual level determinants are amenable to policy intervention. Therefore, national and local policies to combat 'insufficient social-cultural integration' should focus on the improvement of income, and employment by for example stimulating and restructuring the economy. Besides national and local policy should focus on the improvement of the educational level and the health status of the population of the residents of the city of Rotterdam. Nonetheless, many other risk factors exist that influence the risk on insufficient social-cultural integration, since the percentage of explained variance of insufficient social-cultural integration in the most elaborated models of this study that include many individual level characteristics does not exceed the 30 percent (see the regression models for family composition (single parents), gender, and ethnicity). This means that a considerable part of the variance in insufficient social-cultural integration is explained by the risk factors that are considered as important in this study, though still 70 percent or more remains unexplained. Future research should investigate what the role is of other individual level risk factors for insufficient social-cultural integration, such as time-availability. Besides, subsequent studies need to investigate the role of macro-level characteristics and meso-level characteristics on the degree of insufficient social-cultural integration.

Moreover, the explanatory analyses displayed some unexpected outcomes that require some further research. One of the striking findings of this study is that a negative individual level effect of young age as compared to middle age on the degree for insufficient social-cultural integration turns out. This negative effect is reinforced after controlling for income. Because persons with a high or middle-high income as compared to persons with a low income are better socially and culturally integrated, a possible explanation for the fact that young persons are more socially and culturally integrated than persons of middle age might be that the young persons have a higher income than the middle-aged. However, this seems not plausible, since young persons are just entering the labour market and starting a new phase in their life. It could be possible that young persons have the feeling that they have a high income (because instead of being a student they earn their own money after entering the

labour market) and therefore participate a lot in the social- and cultural life. Another reason for the greater social-cultural integration of young persons as compared to middle-aged persons is that they have more time available for social and cultural participation, because they do not have a family yet. It is possible as well that the younger persons do socially and culturally better than the middle aged because they use the new social media more frequently than the persons of middle-age, which makes them less lonely. Besides, via social media they know when and where the (cultural) activities take place. These possible explanations need to be investigated in greater detail.

Another striking finding is that there is a small negative effect as compared to being male on the degree of insufficient social-cultural integration. This was not theoretically expected. Though the effect is rather small and seems to be unimportant in explaining the degree of insufficient social-cultural integration, it is worth to investigate the underlying mechanism(s) for the fact that women perform better in the social and cultural domain than men. Is it because it is in a women's nature to be more socially and culturally active than men, or do other reasons play a role here?

Moreover, an astonishing outcome of this study was that the persons who are not religiously involved perform better on the scale for insufficient social-cultural integration than the persons who are religiously involved. It is interesting whether subsequent research also finds this unexpected outcome and if so, why?

Other findings that need some attention (despite their small and rather unimportant effects) are the facts that the positive individual level effects of being a migrant as compared to being indigenous and being a single parent as compared to being part of couple with or without (a) child(ren) on the degree of insufficient social-cultural integration transform into negative individual level effects after controlling for several background characteristics. When migrants and natives on the one hand and single parents and persons with a partner and/or children have the same background characteristics (i.e. same educational level, same income level etc), migrants and single-parents are more socially and culturally integrated than native Dutch persons and persons with a partner and/or children. A possible reason that single parents perform better after controlling for several background characteristics might be that single parents in contrast to persons with a partner (and children) do not have to spend time with their partner. Instead they can use their time to build other relationships or to participate in the cultural atmosphere. Individual's time availability is a possible determinant for explaining 'insufficient social-cultural integration' that has not been incorporated in the explanatory model in this study. It can be reasoned that migrants act better in the social and

cultural domain than natives after controlling for several background characteristics because the migrants are more motivated to perform well, which will also be fruitful on their social-cultural integration. Whether motivation plays a role here could be investigated in future research as well.

Despite the (meta-)scales ‘insufficient social-cultural integration’, ‘lack of connection with the residence and the residential area’ and ‘material deprivation’ are constructed that give some indications about the degree of important aspects of social exclusion and in spite of the fact that an explanatory analysis has been ran with ‘insufficient social-cultural integration’ as the dependent variable, two of the main aims of this study failed, as no hard conclusions can be drawn about the degree of social exclusion of the residents of the city of Rotterdam and no insights can be given about the individual level determinants that influence the degree of social exclusion of the residents of the city of Rotterdam. In order to reach those goals it is worthwhile that future research develops a dataset for the residents of the city of Rotterdam that can measure social exclusion of the residents of the city of Rotterdam.

5.2 An elaborated discussion on the gap between the conceptualisation and operationalisation of social exclusion as a state and a process

Secondly, in this study I want to pay attention to the gap that exists between the conceptualisation and the operationalisation of social exclusion (as a state) of the residents of the city of Rotterdam. Besides I want to focus on the lack of connection between the theoretical framework about the individual level determinants of social exclusion (the process) of the residents of the city of Rotterdam and the empirical tests of the theoretical framework.

The operationalisation of social exclusion in this study is not completely in line with the conceptualisation of social exclusion of the residents of the city of Rotterdam and the conceptualisation of social exclusion of the studies of the Netherlands Institute for Social Research. However, the operationalisation of social exclusion finds much resemblance with the operationalisation of social exclusion of the studies of the Netherlands Institute for Social Research. Before we focus on the deviations between the conceptualisation and the operationalisation of social exclusion, it is important to realise that a considerable difference exists between the conceptualisation of social exclusion of the studies of the Netherlands Institute for Social Research and the conceptualisation of social exclusion of the residents of the city of Rotterdam.

In this study social exclusion of the residents of the city of Rotterdam is based on 1) the concept of social exclusion of the Netherlands Institute for Social Research including the theoretical dimensions of social exclusion that have been distinguished by the Netherlands Institute for Social Research, 2) the empirical dimensions that have been discerned by the Studies of the Netherlands Institute for Social Research, 3) the empirical dimensions that have been discerned by other studies with a focus on social exclusion, 4) statements in the literature that pragmatic choices based on the available dataset need to be made by researchers for distinguishing dimensions of social exclusion, 5) a comparison of the items that are present in the “Rotterdam Neighbourhood Survey 2011” and the items that were included in the dataset that is used by the studies of the Netherlands Institute for Social Research, 6) and the request of the Centre for Research and Statistics of Rotterdam to strive to incorporate the dimensions of social exclusion that have been distinguished by the Netherlands Institute for Social Research as far as possible with the available dataset and to discern one or more additional dimension(s) of social exclusion based on the “Rotterdam Neighbourhood Survey 2011”. Because the theoretical concept of social exclusion of the residents of the city of Rotterdam is in addition to the theoretical concept of the Netherlands Institute for Social Research based on several other empirical decisions taken by previous studies about social exclusion and pragmatic decisions based on the empirical possibilities of the “Rotterdam Neighbourhood Survey” a conceptual deviation is noticeable between the concept of social exclusion of the Netherlands Institute of Social Research and the concept of social exclusion of the residents of the city of Rotterdam in this study. In principle it is not particularly wrong to use the empirical outcomes of other studies in order to construct a conceptual framework, as conceptual innovation takes place. However, it is scientifically arguable whether it is allowed to first look at the empirical possibilities of the dataset before introducing the theoretical concept. Due to limitations with the dataset the dimension normative integration and the sub-dimension of ‘social rights’ that is about insufficient access to a safe environment have not been theoretically distinguished in this study. Besides, on account of extra possibilities with the dataset and empirical distinguished dimensions of previous studies the theoretical dimension ‘social rights’ is conceptualised in greater detail than this was done in the previous studies of the Netherlands Institute for Social Research. Moreover, the theoretical dimension social participation that has been conceptualised in the previous literature by the Netherlands Institute for Social Research is separated into the theoretical dimensions ‘cultural participation’ and ‘social participation’ in this report owing to the possibilities with the dataset. On the one hand it is comprehensible that transformations have been made in the

conceptual framework of social exclusion as a state as compared to the conceptualisation of social exclusion of the studies of the Netherlands Institute for Social Research, since also other studies are taken into account and due to differences in the dataset that is used in this study as compared to the dataset that is used by the Netherlands Institute for Social Research. On the other hand it is scientifically debatable to change the theoretical concept of social exclusion because the dataset seems not entirely suitable for measuring social exclusion. Therefore, it is highly recommended for future research that the new concept of social exclusion of the residents of the city of Rotterdam can be used, since this concept is also based on theoretical and empirical outcomes of previous studies, but that it is important to reintroduce the theoretical (sub-)dimensions ‘insufficient normative integration’ and ‘insufficient access to a safe environment’ in the concept of social exclusion, as these aspects have been removed from the concept of social exclusion due to data limitations of this study.

Due to the deviations in the conceptualisation of social exclusion of the residents of the city of Rotterdam and the conceptualisation of social exclusion of the studies of the Netherlands Institute for Social Research, it is understandable that a gap exists between the operationalisation of social exclusion in this study and the conceptualisation of social exclusion of the studies of the Netherlands Institute for Social Research, since in this study it is firstly attempted to operationalise the theoretical concept that is central in this study. However, this does not explain the gap between the conceptualisation of social exclusion of the residents of the city of Rotterdam and the operationalisation of social exclusion of the residents of the city of Rotterdam. For example many problems exist in the operationalisation of the theoretical sub-dimensions of the main dimension ‘social rights’. These theoretical sub-dimensions that were about ‘insufficient access to institutions and provisions’, ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential environment’ all need a more objective operationalisation, because ‘accessibility’ requires objective indicators. Nonetheless, the dataset lacks objective indicators. Therefore subjective indicators are used to operationalise these sub-dimensions. It was assumed that these subjective indicators (together) are a proxy for the theoretically assumed objective sub-dimensions, but on second thoughts it can be stated that the incorporation of too many subjective indicators might be problematic, since the respondents might be ‘complaining’ persons because they are negatively orientated. This would not necessarily mean that these persons have indeed insufficient access to the provisions, adequate housing and an adequate residential environment, even though they are not satisfied about these aspects. The danger of using subjective items is that the indicators do not reflect the actual situation; instead they

measure the self-experienced situation, which might be an exaggeration of the actual situation (it can also be an exaggeration in positive sense). Fortunately, in this study a weighted sample is used of the residents of the city of Rotterdam. If the overall population of the city or the neighbourhood complains about provisions, housing and residential environment, then it is reasonable to assume that dissatisfaction concerning these aspects portrays inaccessibility of these aspects, as it is not plausible to assume that the overall population of the city or the neighbourhood is negatively orientated. Regarding the theoretical sub-dimensions ‘insufficient access to institutions and provisions’ and ‘insufficient access to an adequate residential environment’ it therefore has become less problematic to use these subjective indicators than for the theoretical sub-dimension ‘insufficient access to an adequate housing’. For this latter sub-dimensions the attitude of the overall population of the city or the neighbourhood does not say anything about the individual housing.

Besides, it is questionable whether all indicators that are used during the operationalisation of the theoretical sub-dimensions of ‘social rights’ irrespective of their subjectivity indeed reflect ‘social rights’. For example items as ‘dissatisfaction with the view from the residence’ and ‘dissatisfaction with the storage of the residence’ and items concerning the experience of social cohesion and feelings of connection with the neighbourhood do not directly represent ‘social rights’. In this study, these ‘disputable’ items are used in the operationalisation because the dataset did not contain items that were better qualified, and because also previous studies, and especially the studies of the Netherlands Institute for Social Research used these items in the operationalisation of the theoretical concept of social exclusion. In addition, the studies of the Netherlands Institute also used a very broad conceptualisation of ‘social rights’, as according to the study of Jehoel-Gijsbers (2004:34) ‘social rights’ also refer to the liveability (and thus to the social quality) of the residential area. In response to the broad conceptualisation of social rights these studies of the Netherlands Institute for Social Research operationalised ‘social rights’ in a broad sense as well’. This broad conceptualisation and operationalisation is imitated in this study. Nevertheless, still the question remains whether it is right to interpret ‘social rights’ in such a broad sense.

Also the dimensions ‘insufficient social participation’ and ‘cultural participation’ need some further attention. Because insufficient cultural participation has been separated from insufficient social participation in the conceptualisation of social exclusion of this study and because in this study a strict concept of social exclusion is used due to the fact that not the same indicators can be used for social exclusion as a status on the one side and the process of

social exclusion on the other side, a gap exists between the concept and operationalisation of social exclusion in this study and the concept and operationalisation of social exclusion of the studies of the Netherlands Institute for Social Research. Moreover, also for the operationalisation of the theoretical concept 'insufficient social participation' some subjective items are used. This brings the same problems as is discussed in the previous part of this discussion; a discrepancy might occur between the actual situation and the perceived or self-experienced situation.

With the exception of the dimension 'material deprivation' all theoretical expected dimensions are empirically verified. Nevertheless, with exception of 'insufficient cultural participation' all theoretical assumed (sub-)dimensions are subdivided into two or three sub-dimensions. This was not theoretically expected beforehand, which also contributes to the gap between the theoretical concept of social exclusion of the residents of the city of Rotterdam and the operationalisation of social exclusion of the residents of the city of Rotterdam.

In addition, lack of connection between the theoretical framework about the individual level determinants of social exclusion of the residents of the city of Rotterdam and the empirical tests of the theoretical framework concerning the process of social exclusion of the residents of the city of Rotterdam can be perceived. Due to the lack of a clear theoretical framework in which the mechanisms behind the relationships between the risk factors and the degree of social exclusion in the previous literature about social exclusion it is endeavoured to construct a theoretical framework in this study that displays the process of social exclusion of the residents of the city of Rotterdam by paying attention to underlying mechanisms. Because the theories that lay behind the assumed relationships between risk factors and social exclusion cannot be directly found in the previous studies, it was required to 'search for' theories or underlying mechanisms that explain social exclusion on the micro level by reading between the lines and linking many paragraphs and sentences about expectations and outcomes of previous studies to each other. The result is a conceptual framework in which the risk factors of social exclusion are postulated based on their indirect effects via other risk factors (the underlying mechanisms). However, many risk factors also might have direct effects on the degree of social exclusion or 'insufficient social-cultural integration'. Also empirical results demonstrated that in addition to indirect effects direct effects exist of many risk factors. The direct effects are absent in the theoretical framework because there were no theoretical grounds to assume direct effects based on the foregoing literature. Despite the direct effects were not schematically demonstrated in the theoretical framework in chapter 2 of this report, the hypotheses implicitly revealed that also direct effects might exist, since it

was expected in all hypotheses that the positive effect of individual level risk factor X on the degree of social exclusion would *diminish* after taking into account mediator variables Z1 till Zn. This implies that still a part of the positive effect of risk factor X on the degree of social exclusion remains, which refers to a direct positive effect. Besides, it was difficult to empirically test the theoretical models that were displayed in chapter 2, with simple multiple regression analyses. For example some relationships between risk factors and the degree of social exclusion operated very indirect in a theoretical sense, since the risk factor influenced the mediator variable A, the mediator variable A affected the mediator variable B, the mediator variable B correlated with mediator variable C and mediator variable C finally affected the degree of social exclusion. It was not possible to test this theoretical model in such a great detail as it was theoretically expected. Instead, it was tested whether the mediator variables A, B and C had an influence on the relationship between the risk factor and the dependent variable the degree of social exclusion without testing whether the mediator variables were correlated and affected each other before leading to social exclusion. Thus, in order to test these theoretical models very precisely, other research methods are required.

What I want to make clear with this second point of criticism about the gap between the conceptualisation of social exclusion and the operationalisation or empirical tests is that for the examination of social exclusion as a state a new dataset is recommended that includes more indicators about material deprivation, normative integration, access to a safe environment. Also an expansion of the indicators about social participation is preferred. For example the dataset can focus on the new communication means such as Facebook, Twitter, Whatsapp, Ping, Gmail-chat, MSN-messenger, E-mail contact etc. in more detail, since in the “Rotterdam Neighbourhood Survey 2011” only one indicator was included about the new communicative tools. This item was not incorporated in the dimension ‘insufficient social-cultural integration, as the item was weakly correlated with the other forms of social participation. Besides, more objective indicators are preferred. Subjective indicators can be used as well. In combination with objective indicators, the use of subjective indicators is less problematic. For example, correlations can be computed between the subjective indicators and the objective indicators about a particular aspect of social exclusion, which kind of verifies whether the subjective answers are representing the reality. Furthermore, with this second point of criticism about the gap between the conceptualisation of social exclusion and the operationalisation or empirical tests I want to remark that for the examination of the process of social exclusion a better theoretical framework is needed that incorporates the mechanisms of the relationship between the risk factors and social exclusion itself. In this study, a start has

been made, but the theoretical framework can be improved in many ways. For example, theories are needed that also point out the direct effects of the risk factors on the degree of social exclusion. In addition, it is advised to apply a more appropriate research technique than multiple regression analysis to test the theoretical models in which many indirect linkages are made between independent, mediator and dependent variables.

5.3 Further limitations and recommendations

Some further remarks need to be made about this study. First of all, the data that have been used in this study have been made representative by the Centre for Research and Statistics of the city of Rotterdam by applying weight factors on the background characteristics age, ethnicity and neighbourhood. Strictly speaking the data are representative for the residents of the city of Rotterdam based on age, ethnicity and neighbourhood, though I presumed that the data are *grosso modo* representative for the population of Rotterdam in general. It was not possible for the Centre of Research and Statistics to apply weight-factors on other important characteristics as well, because the population numbers for the residents of the city of Rotterdam of other characteristics than age, ethnicity and neighbourhood are unknown. Therefore it cannot be tested whether the sample represents the population of the city of Rotterdam based on other characteristics than age, ethnicity and neighbourhood; instead the statements that are made in this study about the residents of the city of Rotterdam rest on the presumption that the dataset is *grosso modo* representative for the cities' population in general.

Besides, it should be remarked that in order to present direct and indirect effects of several individual level determinants on the degree of insufficient social-cultural integration the research method AMOS is better suitable than regression analysis. With regression analysis it is hard to display the real direct effects. Instead it is assumed that in the last model of the regression analysis direct effects of the individual level characteristics are displayed, because in the last model all variables that are expected to play a mediating role are already included in the analysis. Besides, with regression analysis the size of the indirect effects via other variables cannot be indicated exactly, therefore the size of the total effects remains pretty vague as well.

5.4 Evaluation of the working procedure of this study

In this part of the discussion the working procedure of this study is evaluated. One of the main things that have to be emphasised is that for a new internship for the municipality of the city

of Rotterdam a very clear distinction should be made about the work that needs to be delivered for the Centre for Research and Statistics of the municipality of the city of Rotterdam and the work that needs to be delivered at the department of Sociology of the university. Because during the internship many pragmatic decisions were made, since municipality of the city of Rotterdam is primarily policy orientated and the university has primarily a scientific approach. Therefore differences exist in the aims that should be accomplished with the thesis. In the future a distinction should be made between the internship and the thesis that has to be written including the scientific requirements.

Due to the conflicting demands of this thesis of the Centre for Research and Statistics of the city of Rotterdam on the one side and the Sociology department of the Erasmus University of the city of Rotterdam on the other side, the research report exceeds in the usual size of a master thesis. Also the considerable broad research question contributes to the fact that the thesis is elaborated in terms of its content. It is of enormous importance to present a specific research question and to stop at some stage even though several parties with particular interests will be disappointed. For example, the sub-question: what is the role of various individual level characteristics on the degree of social exclusion of the residents of the city of Rotterdam is very broad. A better question would have been: what is the role of the individual level characteristic ethnicity on the degree of social exclusion of the residents of the city of Rotterdam? In the theoretical explanatory model that concerns ethnicity many important mediator variables would have been included, such as human capital, employment status, health status, income level etc. When this theoretical model is tested with regression analysis using separate models it would also have turned out that human capital, employment status, health status and income play important roles in explaining the degree of social exclusion or insufficient social-cultural integration. However, it was decided in this research not to perform the explanatory analyses in such a specific way, since the research question that has been determined in the beginning of this research project was already very broad. The whole theoretical framework was already founded on this extensive research question. The consequence of transforming the research question into a more specific research question would have been that the whole theoretical framework and parts of the introduction of the study had to be re-written. Therefore it is of great importance that the research question is as specific and clear as possible in the beginning of the research project.

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² In: means that the citation stems from a particular chapter in a book.

³ *in* means that the primary literature was not available. Therefore I used the secondary literature in order to cite the researchers.

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Appendix A1 Further specifications of the PCA concerning the (sub-)dimension ‘social rights: insufficient access to institutions and provisions in the neighbourhood’.

Table A1 Summary of PCA with oblique rotation (direct oblimin) of sub-dimension ‘social rights: insufficient access to institutions and provisions in the neighbourhood

<i>Items</i>	Pattern Matrix		Structure Matrix	
	<i>Component 1: dissatisfaction with provisions that focus on specific target groups (i.e. the youth, the elderly, persons with children and religious persons) in the neighbourhood</i>	<i>Component 2: dissatisfaction with basic provisions in the neighbourhood</i>	<i>Component 1: dissatisfaction with provisions that focus on specific target groups (i.e. the youth, the elderly, persons with children and religious persons) in the neighbourhood</i>	<i>Component 2: dissatisfaction with basic provisions in the neighbourhood</i>
Dissatisfaction with the availability of children playgroups	.90		.84	
Dissatisfaction with the availability of crèches	.88		.82	
Dissatisfaction with primary schools	.63		.64	
Dissatisfaction with facilities for senior citizens	.53		.58	
Dissatisfaction with facilities for the youth	.46		.51	
Dissatisfaction with places of worship, such as churches and mosques			.47	
Dissatisfaction with stores to do shopping for groceries		.76		.73
Dissatisfaction with the bank and the post office		.73		.74
Dissatisfaction with the public transport services		.71		.68
Dissatisfaction with the medical care (family doctor., physiotherapist etc.)		.59		.63
Dissatisfaction with library or mobile library		.42	.47	.54
Eigenvalue (a)	3.05	2.63	3.05	2.63
R² (in %) (b)	31.39	14.68	31.39	14.68
N (unweighted) (c)	6946	6946	6946	6946
Reliability (Cronbach's α)	.73	.70	.73	.70

Note: only factor loadings over .4 are shown (see endnote 43).

(a)The eigenvalues based on the Rotation Sums of Squared Loadings are displayed.

(b)When components are correlated, sums of squared loadings cannot be added to obtain a total variance. This means that the rotated percentages of explained variance cannot be given. For that reason the unrotated percentages of explained variance are given.

(c) The weighted sample size is 486.246

Table A1 in the appendix A1 needs some further explanations. First of all in the table a distinction has been made between the pattern matrix and the structure matrix. The pattern matrix in the oblique rotation contains the factor loadings. This matrix can be compared to the rotated component matrix in the orthogonal rotation (Field 2009:666). “The structure matrix takes into account the relationship between factors (in fact it is a product of the pattern matrix and the matrix containing the correlation coefficients between factors)” (Field 2009:666). Due to simplicity reasons, the pattern matrix is mostly reported in studies. However, it is useful to report the structure matrix as well, since situations occur in which values in the pattern matrix are suppressed because of relationships between the factors (Field 2009:666). Therefore, in this study both the pattern matrix and the structure matrix are reported.

The pattern matrix more or less corresponds to the structure matrix, though some differences between the two matrices are perceivable. First of all, in comparison with the pattern matrix, the structure matrix provides more or less the same information, although the factor loadings are slightly different (but still all factor loadings are above the value of .4) and the item ‘dissatisfaction with the library or mobile library’ loads on both components, though the component loading of component two of this latter item is slightly higher than the component loading of component one. Mainly due to theoretical reasons it has been decided to put this item in component two instead of factor one. Another difference with the pattern matrix is that in the structure matrix the first component ‘dissatisfaction with provisions that focus on specific target groups (i.e. the youth, the elderly, persons with children and religious persons) in the neighbourhood’ comprises a sixth item: ‘dissatisfaction with places of worship’. The latter item was suppressed in the pattern matrix due to the relationship between the factors (Field 2009:666). The content of the second factor remains the same in the structure matrix in comparison to the pattern matrix.

Moreover, while performing the PCA it was assumed that the components were positively related. It seems logic to assume that if people are dissatisfied with the basic provisions in the neighbourhood, these people are generally dissatisfied with provisions for specific target groups in the neighbourhood as well. The same reasoning applies for the inversed relationship between dissatisfaction with provisions for specific target groups and the dissatisfaction with basic provisions in the neighbourhood: if people are generally dissatisfied with provisions that focus on specific target groups, it may be assumed that usually people are dissatisfied with the basic provisions in the neighbourhood as well. Since the assumed

relationship between the components oblique rotation instead of orthogonal rotations has been applied. However, this relationship between the components was solely based on a theoretical assumption and therefore, this needs to be statistically verified. The results show that the two components are statistically correlated ($r = .406, p < .001$)⁴ and that oblique rotation has been applied rightly.

⁴ The correlation is significant at the $\alpha = 0.01$ level (2-tailed).

Appendix A2 Further specifications of the PCA concerning the (sub-)dimension ‘social rights: insufficient access to an adequate housing’.

Table A2 Summary of PCA with oblique rotation (direct oblimin) of sub-dimension ‘social rights: insufficient access to an adequate housing’

<i>Items</i>	Pattern Matrix		Structure Matrix			
	<i>Factor 1: dissatisfaction with the quality of the residence</i>	<i>Factor 2: dissatisfaction with the state of repair of the residence</i>	<i>Factor 1: dissatisfaction with the quality of the residence</i>	<i>Factor 2: dissatisfaction with the state of repair of the residence</i>	<i>Factor 1: dissatisfaction with the state of repair of the residence</i>	<i>Factor 2: dissatisfaction with the state of repair of the residence</i>
Dissatisfaction with type of the residence	.73		.79		-.50	
Dissatisfaction with size of the residence	.75		.77		-.43	
Dissatisfaction with layout/floorplan of the residence	.65		.74		-.50	
Dissatisfaction with the size of the outdoor space of the residence	.74		.67			
Dissatisfaction with the size of the storage of the residence	.71		.64			
Dissatisfaction with the entrance safety of the residence	.48		.62		-.51	
Dissatisfaction with the storage room/ storage cellar safety of the residence	.47		.60		-.49	
Dissatisfaction with view from the residence			.49			
Dissatisfaction with insulation against outside noise in the residence		-.82			-.82	
Dissatisfaction with thermal insulation in the residence		-.86			-.80	
Dissatisfaction with the insulation against noise from neighbours in the residence		-.79			-.78	
Dissatisfaction with ventilation in the residence		-.69	.46		-.73	

Assessment of the maintenance condition of the residence		-53	.50	-64
Dissatisfaction with price-quality ratio of the residence		-47	.56	-63
Eigenvalue (a)	4.82	4.72	4.82	4.72
R² (in %) (b)	41.65	9.29	41.65	9.29
N (unweighted) (c)	5090	5090	5090	5090
Reliability (Cronbach's α)	.82	.84	.82	.84

Note: only factor loadings over .4 are shown(see endnote 43).

a)The eigenvalues based on the Rotation Sums of Squared Loadings are displayed.

b)When components are correlated, sums of squared loadings cannot be added to obtain a total variance. This means that the rotated percentages of explained variance cannot be given. For that reason the unrotated percentages of explained variance are given.

c)The weighted sample size is 356.079.

Table A2 needs some further explanations. Again, both the pattern matrix and the structure matrix are depicted. In comparison with the pattern matrix, the structure matrix more or less contains the same information, though some differences can be observed. One of the differences with the pattern matrix is that in the structure matrix it becomes clear that the factors are statistically related, because many items have factor loadings that are high enough to load on both factor one and two. However, for most items it is clear to which factor they belong, since the factor loadings are much higher for one of the two factors than for the other factor. However, for some items the factor loadings are approximately the same for both factors. These items are still assigned to the factors with the biggest factor loading, unless there are theoretical grounds to suppose that this is not right. Another difference with the pattern matrix is that from the structure matrix it turns out that the first factor contains an eight item: 'dissatisfaction with the view from the residence'. This item was possibly suppressed because of the fact that the components are related (Field 2009:666). A third difference of the structure matrix in comparison with the pattern matrix is that the components loadings are slightly different, though all loadings exceed the minimum value of .4.

Moreover, while performing the PCA it was assumed that the components were positively related. It seems plausible to presume that people who are dissatisfied with the quality of their residence as a rule have a residence that is in a bad state of repair, because they don't have the motivation to maintain the house. The relationship seems also logical the

other way around: people who reside in accommodations that are in a bad state of repair are mostly dissatisfied with the quality of the accommodation in which they reside.

Due to the assumed relationship between the components oblique rotation instead of orthogonal rotation has been applied. However, this relationship between the components was solely based on a theoretical assumption and therefore, this needs to be statistically verified. The results show that the two components are statistically correlated ($r = .653, p < 0.001^5$) and that it was right to use oblique rotation.

⁵ The correlation is significant at the $\alpha = 0.01$ level (2-tailed).

Appendix A3 Further specifications of the PCA concerning the (sub-)dimension ‘social rights: insufficient access to an adequate residential environment’.

Table A3a Summary of PCA with oblique rotation (direct oblimin) of sub-dimension ‘social rights: insufficient access to an adequate residential environment’. The pattern matrix is displayed.

Pattern Matrix			
<i>Items</i>	<i>Factor 1: the experience of insufficient social cohesion in the neighbourhood</i>	<i>Factor 2: Insufficient feelings of overall connection with the residential area</i>	<i>Factor 3: Dissatisfaction with the housing in a broad sense</i>
Statement: I live in a pleasant neighbourhood where the people have a lot of contact with each other	.76		
Statement: in this neighbourhood the people get along with each other in a nice way	.72		
Statement: in this neighbourhood people help each other when necessary	.72		
Statement: in this neighbourhood the various ethnic groups deal well with each other	.71		
Statement: in this neighbourhood the youth and the adults get along with each other very well	.70		
Statement: I feel comfortable with the people who live in this neighbourhood	.62		
Statement: in this neighbourhood the people do barely know each other	.57		
Statement: the residents of this neighbourhood do agree about the ethical codes in the neighbourhood	.57		
Statement: in this neighbourhood the Dutch and the non-native cannot deal with each other very well	.42		
Statement: occasionally I have some trouble with certain neighbours			
Connection with the local district		.83	
Connection with the city of Rotterdam		.78	
Connection with the neighbourhood		.77	
Assessment of the maintenance condition of the buildings in the neighbourhood as a whole			.86

Assessment of the maintenance condition of the adjacent buildings and residences			.85
Statement: the buildings and houses look attractive			.65
Statement: if it is possible, I move to another neighbourhood			.50
Statement: in this neighbourhood a lot of trouble happens			.46
Statement: one is lucky to live in this neighbourhood			.43
Statement: it is a pity to live in this neighbourhood			.42
Eigenvalue (a)	5.81	3.02	4.46
R² (in %) (b)	33.59	8.45	7.35
N (unweighted) (c)	6169	6169	6169
Reliability (Cronbach's α)	.83	.76	.82

Note: only factor loadings over .4 are shown (see endnote 43).

a) The eigenvalues based on the Rotation Sums of Squared Loadings are displayed.

b) When components are correlated, sums of squared loadings cannot be added to obtain a total variance. This means that the rotated percentages of explained variance cannot be given. For that reason the unrotated percentages of explained variance are given.

c) The weighted sample size is 434.257.

Table A3b Summary of PCA with oblique rotation (direct oblimin) of sub-dimension 'social rights: insufficient access to an adequate residential environment'. The structure matrix is displayed.

Structure Matrix			
<i>Items</i>	<i>Factor 1: the experience of insufficient social cohesion in the neighbourhood</i>	<i>Factor 2: Insufficient feelings of overall connection with the residential area</i>	<i>Factor 3: Dissatisfaction with the housing in a broad sense</i>
Statement: I live in a pleasant neighbourhood where the people have a lot of contact with each other	.75		.41
Statement: in this neighbourhood the people get along with each other in a nice way	.73		.45
Statement: in this neighbourhood people help each other when necessary	.73		
Statement: in this neighbourhood the various ethnic groups deal well with each other	.72		
Statement: in this neighbourhood the youth and the adults get along with each other very well	.71		
Statement: I feel comfortable with the people who live in this neighbourhood	.66		

Statement: in this neighbourhood the people do barely know each other	.60		
Statement: the residents of this neighbourhood do agree about the ethical codes in the neighbourhood	.55		
Statement: in this neighbourhood the Dutch and the non-native cannot deal with each other very well	.46		
Statement: occasionally have some trouble with certain neighbours	.41		
Connection with the local district		.84	
Connection with the city of Rotterdam	.46	.84	
Connection with the neighbourhood		.73	
Assessment of the maintenance condition of the buildings in the neighbourhood as a whole			.82
Assessment of the maintenance condition of the adjacent buildings and residences			.78
Statement: the buildings and houses look attractive			.69
Statement: if it is possible, I move to another neighbourhood	.47	.43	.62
Statement: in this neighbourhood a lot of trouble happens	.59		.61
Statement: one is lucky to live in this neighbourhood	.52		.60
Statement: it is a pity to live in this neighbourhood	.44		.54
Eigenvalue (a)	5.81	3.02	4.46
R² (in %) (b)	33.59	8.45	7.35
N (unweighted) (c)	6169	6169	6169
Reliability (Cronbach's α)	.83	.76	.82

Note: only factor loadings over .4 are shown (see endnote 43).

a) The eigenvalues based on the Rotation Sums of Squared Loadings are displayed.

b) When components are correlated, sums of squared loadings cannot be added to obtain a total variance. This means that the rotated percentages of explained variance cannot be given. For that reason the unrotated percentages of explained variance are given.

c) The weighted sample size is 434.257.

In table A3a and A3b respectively the pattern and structure matrix of the PCA with oblique rotation (direct oblimin) are shown that test the theoretical dimension 'social rights:

insufficient access to an adequate residential environment'. The structure matrix contains more or less the same information as the pattern matrix, though some differences can be noticed. One of the differences with the pattern matrix is that in the structure matrix it becomes clear that the factors are statistically related, because many items have double or even three factor loadings. This means that the items can be assigned to more than one factor. Nevertheless, for most items it is obvious to which factor they belong, since the factor loadings for one factor are much higher than for the other factors. Nonetheless, for some items the factor loadings of the same item for several factors are approximately the same. These items are still assigned to the factors with the biggest factor loading, unless there are theoretical grounds to assume otherwise. Another difference with the pattern matrix is that in the structure matrix the first factor comprises a tenth item: 'statement: occasionally, I have some trouble with certain neighbours'. The item was possibly suppressed due to the relationship between the components (Field 2009:666). A third difference of the structure matrix in comparison to the pattern matrix is that the component loadings are slightly different, though all loadings are still above the minimum level of .4.

The PCA results also demonstrate that the three components are statistically related. The component 'the experience of insufficient social cohesion in the neighbourhood' and the component 'insufficient feelings of overall connection with the residential area' have got a Pearson correlation coefficient of .384 ($p < .001$). Besides, the components 'the experience of insufficient social cohesion in the neighbourhood' and 'dissatisfaction with the housing in a broad sense' are highly correlated as Pearson correlation coefficient is .634 ($p < .001$). In addition, the components 'dissatisfaction with the housing in a broad sense' and 'insufficient feelings of the overall connection with the residential area' have got a Pearson correlation coefficient of .349 ($p < .001$ ⁶). The correlations between the components justify the fact that oblique rotation has been applied. In other words, these statistical relationships between the components support the assumptions that were made during the PCA's. One of the assumptions was that the components 'the experience of insufficient social cohesion in the neighbourhood' and 'insufficient feelings of overall connection with the residential area' were positively correlated, because if people do not feel connected with the area in which they reside then it is logic that they experience less social cohesion in the neighbourhood in which they live. The same applies if we reason the other way around: if persons do not experience social cohesion in the neighbourhood in which they live, then these persons mostly feel

⁶ The correlations are significant at the $\alpha = 0.01$ level (2-tailed).

unconnected to the residential zone. Another assumption was that a positive relationship exists between the components 'dissatisfaction with the housing in a broad sense' and 'the experience of insufficient social cohesion in the neighbourhood'. This relationship seemed logic in a theoretical sense: if people live in a neighbourhood where the housing and buildings are liable to deterioration this suggests that people with limited financial resources live in the neighbourhood and that problems accumulate, such as criminal activities and problems in the private sphere. It is expected that in these residential zones a friendly atmosphere is absent, that children are discouraged to play outside with other children, and that parents are less involved with their children and the community. Besides, it is assumed that in these neighbourhoods many different (ethnic) groups live together and that some of these segments of the population clash with each other. For that reason a positive relationship might be expected between 'housing deterioration' or 'dissatisfaction with the housing in broad sense' and 'the experience of insufficient social cohesion in the neighbourhood'. If the reasoning is made the other way around it can be expected as well that a positive relationship turns out between 'the experience of insufficient social cohesion in the neighbourhood' and 'dissatisfaction with the housing in a broad sense'. If the people in the neighbourhood have insufficient feelings of social cohesion it is logic to assume that the neighbourhood is impoverished and the residents are dissatisfied with the housing in a broad sense, since dissatisfaction with the housing in a broad sense might be one of the reasons for lack of social cohesion. Moreover it was assumed during the PCA that a positive relationship between 'dissatisfaction with the housing in a broad sense' and the 'insufficient feelings of connection with the residential area' is present. This presumption is logic because people who state that their neighbourhood is unattractive due to pauperisation - which goes hand in hand with other social problems such as criminality and an hostile atmosphere – would have higher chances to feel unconnected with their residential area than people who are satisfied with the housing in a broad sense. If we reason the other way around also a positive relationship can be expected between 'insufficient feelings of connection with the residential area' and 'dissatisfaction with the housing in a broad sense'. If people feel unconnected with the residential area, it is plausible that these persons are dissatisfied with the housing in a broad sense as well, as the latter might be a reason for feelings of disconnection with the residential zone.

Appendix A4 further specifications of the PCA concerning the dimension ‘insufficient social participation’.

Table A4 Summary of PCA with oblique rotation (direct oblimin) of dimension ‘insufficient social participation’

<i>Items</i>	Pattern Matrix		Structure Matrix	
	<i>Factor 1: Experience of loneliness</i>	<i>Factor 2: Lack of frequent social contacts</i>	<i>Factor 1: Experience of loneliness</i>	<i>Factor 2: Lack of frequent social contacts</i>
Statement: I often feel abandoned.	.88		.87	
Statement: even of my closest familymembers I cannot expect interest	.85		.84	
Statement: no one shows a special interest in me	.83		.82	
Statement: there are just a few people with whom I can really talk	.72		.74	
Statement: I know enough persons that I can ask for assistance or advice	.45		.46	
Frequency of contact with direct neighbours		.82		.79
Frequency of contact with people in the neighbourhood		.82		.77
Frequency of contact with friends or good acquaintances		.63		.66
Frequency of contact with one or more family members		.49		.53
Frequency of contact through Internet (Facebook, Hyves, LinkedIn etc.)				
Eigenvalue (a)	3.08	2.30	3.08	2.30
R² (in %) (b)	32.49	17.98	32.49	17.98
N (unweighted) (c)	6922	6922	6922	6922
Reliability (Cronbach's α)	.80	.66	.80	.66

Note: only factor loadings over .4 are shown (see endnote 43)

a) The eigenvalues based on the Rotation Sums of Squared Loadings are displayed.

b) When components are correlated, sums of squared loadings cannot be added to obtain a total variance. This means that the rotated percentages of explained variance cannot be given. For that reason the unrotated percentages of explained variance are given.

c) The weighted sample size is 483.948

Table A4 in Appendix A4 should be explained in some more detail. In comparison with structure matrix, the patterns matrix shows more or less the same results, although small differences can be perceived in the component loadings between the two matrices. Usually, it

becomes clear from the structure matrix that the components are related, because many items are characterised by component loadings that are high enough to load on more than one component. Nonetheless, within the structure matrix in table A4, this is not the case. Therefore, it is very important to check whether the components ‘experience of loneliness’ and ‘lack of frequent social contacts’ are indeed correlated, as it was assumed while performing the PCA that a positive relationship exists between these two components. Theoretically, it seemed very plausible to assume that people who experience feelings of loneliness have a lack of frequent social contacts, and that persons who only occasionally or never have contact with other people experience feelings of loneliness. Also, statistically the positive relationship between the components ‘experience of loneliness’ and ‘lack of frequent social contacts’ has been found ($r = .228, p < .001^7$). Though, the correlation between the components is not very strong, it is still statistically verified that there is a positive correlation between the sub-dimensions of ‘insufficient social participation’.

⁷ The correlation is significant at the $\alpha = 0.01$ level (2-tailed).

Appendix A5 further specifications of the PCA concerning the dimension ‘insufficient cultural participation’.

Table A5 Summary of PCA without rotation of dimension ‘insufficient cultural participation’

<i>Items</i>	Component Matrix
	Factor: Lack of cultural participation
frequency of visit to the theatre, cinema, museum, or having dinner in a restaurant <i>with others</i>	.72
frequency of having a night out <i>with others</i>	.64
frequency of visit to the theatre, cinema, museum, or having dinner in a restaurant <i>alone</i>	.60
frequency of playing music, painting or practicing another creative hobby <i>with others</i>	.56
frequency of playing music, painting or practicing another creative hobby <i>alone</i>	.55
frequency of having a night out <i>alone</i>	.50
frequency of practicing a sport <i>alone</i>	.48
frequency of practicing a sport <i>with others</i>	.45
Eigenvalue (a)	2.60
R² (in %)	32.47
N (unweighted) (b)	6871
Reliability (Cronbach’s α)	.66

Note: only factor loadings over .4 are shown (see endnote 43)

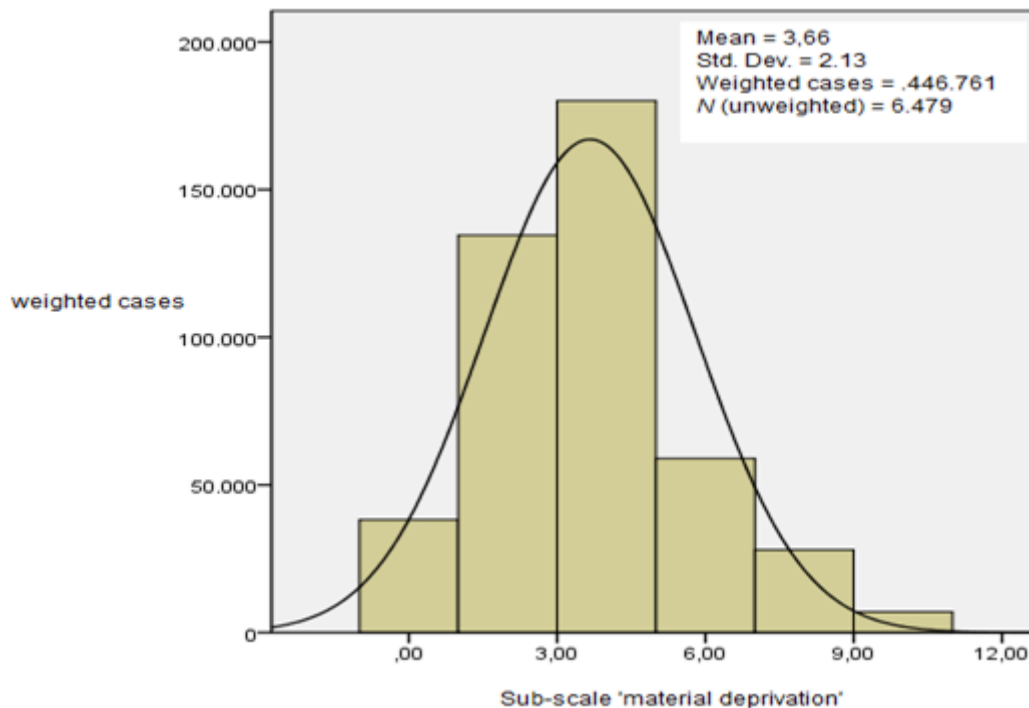
a) The eigenvalue based on the Extraction Sums of Squared Loadings are displayed.

b) The weighted sample size is 481.607

Appendix B1 Frequency distribution of sub-scale ‘material deprivation’ and convertibility table of ten-point scale into six-point scale

In figure B1, the frequency distribution of the sub-scale ‘material deprivation’ is displayed.

Figure B1 Frequency distribution of sub-scale ‘material deprivation’



Though it is actually impossible to create reliable scales of less than three items, I chose to create a scale based on the item ‘the experience with difficulties in making ends meet’ in order to graphically show how the respondents answered on the question relating to the latter item. This scale should not be confused with the other scales in this study, which are all tested on their reliability and are based on more than two items. Nevertheless, the interpretation of the scale is the same as for the other scales.

The interpretation of the scale ‘material deprivation’ requires some further explanation. The scale is built on items that have answer categories that range from 1 till 6, where 1 means ‘can easily make ends meet’ and 6 means ‘cannot make ends meet’ (because the item is reverse coded). The scale scores of 0 till 10 are translated into a six-point Likert scale, because the items that are used to construct the ten-point scale are measured on such a six-point Likert scale. Therefore, meaning is given to the scale values, which makes it easier to interpret these scores. In table B1 the convertibility of the 10-point scale into the six-point Likert scale is shown.

Table B1 Convertibility of scale 'material deprivation (0-10) into six-point Likert scale (1-6) on which the items that constitute this ten-point scale are measured in order to simplify interpretation of the scale scores.

Scale 'material deprivation' (0-10)	Scale 'material deprivation' (1-6)
0	1.0
1.0	1.5
2.0	2.0
3.0	2.5
4.0	3.0
5.0	3.5
6.0	4.0
7.0	4.5
8.0	5.0
9.0	5.5
10.0	6.0

Note: Not all possible values of the sub-scale 'material deprivation' (0-10) are converted into a six-point scale. Globally, it is possible to interpret the meaning of the scale 'material deprivation'. For example, a score of 3.66 on the scale 'material deprivation (0-10) means that these respondents are in between the value of 2.5 and 3.0 on the six-point scale, which means due to reverse coding that these respondents can easily or quite easily make their ends meet.

Appendix B2 Scale constructions, frequency distributions and convertibility tables of ten-point scales into five-point scales of sub-scales ‘dissatisfaction with provisions that focus on specific target groups’ and ‘dissatisfaction with basic provisions in the neighbourhood’ that represent the theoretical dimension: ‘social rights: insufficient access to institutions and provisions’.

The sub-scales ‘dissatisfaction with provisions that focus on specific target groups (i.e. the youth, the elderly, persons with children and religious persons) in the neighbourhood’ and ‘dissatisfaction with basic provisions in the neighbourhood’ of the sub-dimension ‘social rights: insufficient access to institutions and provisions’ are constructed by the following SPSS commando’s:

- compute scale2afactor1= (((v23yrec + v23zrec + v23vrec + v23orec + v23nrec + v23lrec) - 6) / 2.4).
- compute scale2afactor2= (((v23arec + v23drec +v23crec + v23erec + v23krec) - 5) / 2).

These scales, which have a range from 0 till 10, are created as continuous variables (characterised by a zero point).

In figure B2.1 and B2.2, the frequency distributions of the sub-scales ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ and ‘dissatisfaction with basic provisions in the neighbourhood’ are presented.

Figure B2.1 Frequency distribution of sub-scale 'dissatisfaction with provisions that focus on specific target groups (i.e. the youth, the elderly, persons with children and religious persons) in the neighbourhood'

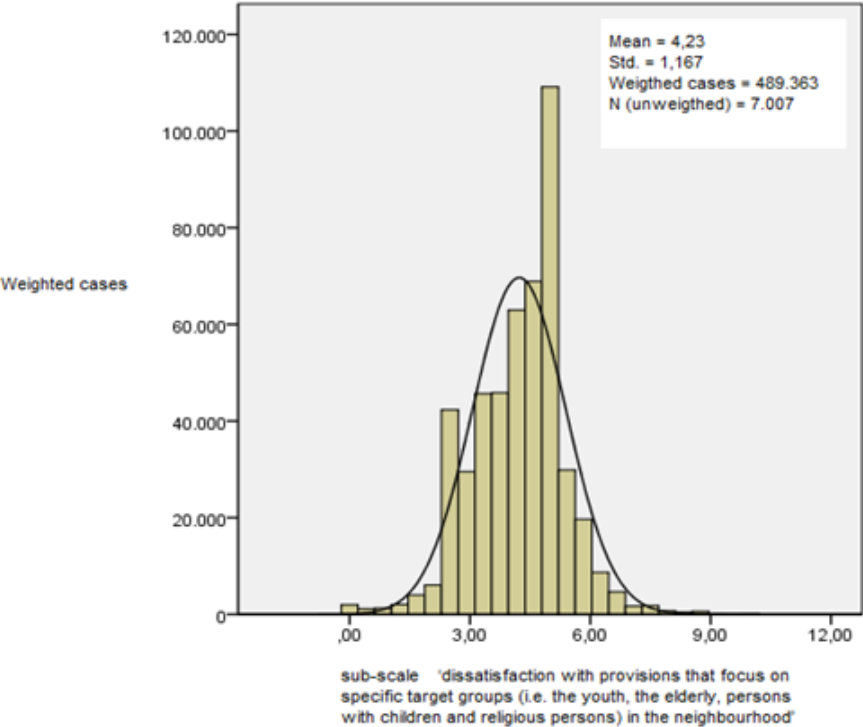
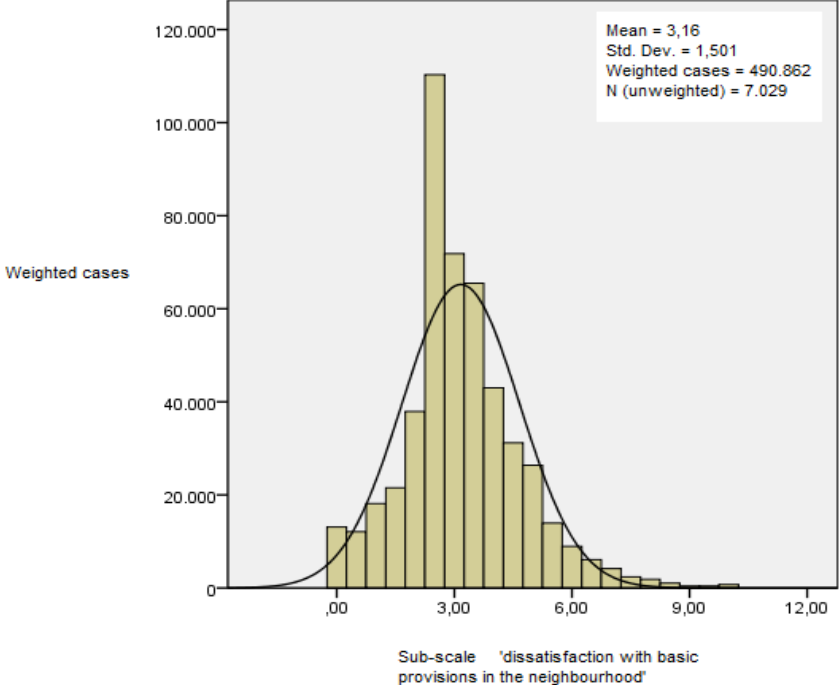


Figure B2.2 Frequency distribution of sub-scale 'dissatisfaction with basic provisions in the neighbourhood'



The interpretation of the sub-scales requires some further explanation. The scales are built on items that have answer categories that range from 1 till 5, where 1 means ‘total satisfaction with the statement about a specific provision’ and 5 means ‘total dissatisfaction with the statement about a specific provision’. The scales scores of 0 till 10 are translated into five-point Likert scales, on which the items that are used to constitute the ten-point scale are measured. This facilitates the interpretation of the scale scores, since meaning is given to the scores on the ten-point scale. In table B2 the convertibility of the 10-point scales into the five-point Likert scales is shown.

Table B2 Convertibility of sub-scales ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ (0-10) and ‘dissatisfaction with basic provisions in the neighbourhood’ (0-10) into five-point Likert scales (1-5) on which the items that constitute these ten-point sub-scales are measured in order to make the interpretation of the scales scores easier.

Sub-scales : ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ and ‘dissatisfaction with basic provisions in the neighbourhood’ (0-10)	Sub-scales ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ and ‘dissatisfaction with basic provisions in the neighbourhood’ (1-5)
0	1
0.5	1.2
1.0	1.4
1.5	1.6
2.0	1.8
2.5	2.0
3.0	2.2
3.5	2.4
4.0	2.6
4.5	2.8
5.0	3.0
5.5	3.2
6.0	3.4
6.5	3.6
7.0	3.8
7.5	4.0
8.0	4.2
8.5	4.4
9.0	4.6
9.5	4.8
10.0	5.0

Note: Not all possible values of sub-scales ‘dissatisfaction with provisions that focus on specific target groups in the neighbourhood’ and ‘dissatisfaction with basic provisions in the neighbourhood’ are converted into values on the five-point scales. Globally, it is possible to interpret the meaning of the sub-scales. For example respondents with a score of 4.17 on sub-scale ‘dissatisfaction with basic provisions in the neighbourhood’ (0-10) means that these respondents averagely have a (little higher) score than 2.6. This indicates that on average these respondents are slightly satisfied with the provisions in the neighbourhood.

Appendix B3 Scale constructions, frequency distributions and convertibility tables of ten-point scales into five-point scales of sub-scales ‘dissatisfaction with the quality of the residence’ and ‘dissatisfaction with the state of repair of the residence’ that represent the theoretical dimension: ‘social rights: insufficient access to an adequate housing’

The sub-scales ‘dissatisfaction with the quality of the residence’ and ‘dissatisfaction with the state of repair of the residence’ of the theoretical dimension ‘social rights: insufficient access to an adequate housing’ are constructed by the following SPSS commando’s:

- compute scalekwaliteitwoning = (((v11bnieuw + v11anieuw + v11cnieuw + v11knieuw + v11jnieuw + v11lnieuw + v11mnieuw + v11inieuw) - 8) / 3.2).
- compute scaleonderhoudsstaatwoning = (((v11dnieuw + v11fnieuw + v11enieuw + v11gnieuw + v12arec + v11hnieuw) - 6) / 2.4).

These scales, which have a range from 0 till 10, are created as continuous variables (characterised by a zero point).

In figure B3.1 and B3.2, the frequency distributions of the sub-scales ‘dissatisfaction with the quality of the residence’ and ‘dissatisfaction with the state of repair of the residence’ are ventilated.

Figure B3.1 Frequency distribution of sub-scale ‘dissatisfaction with the quality of the residence’

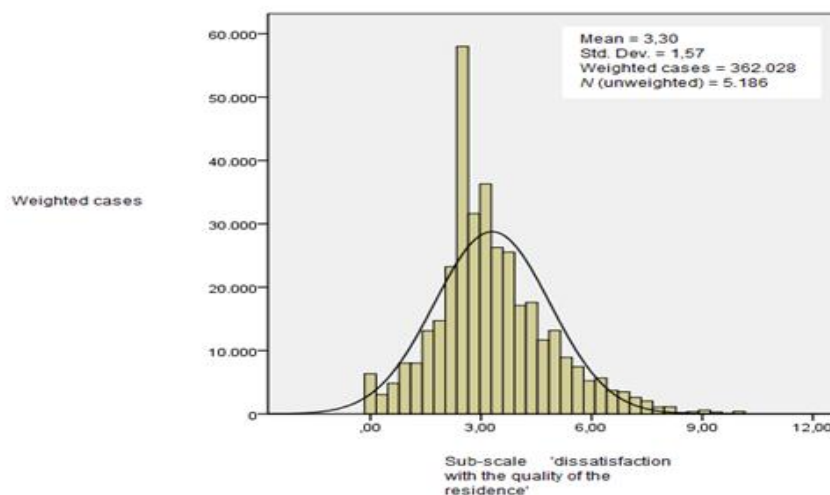
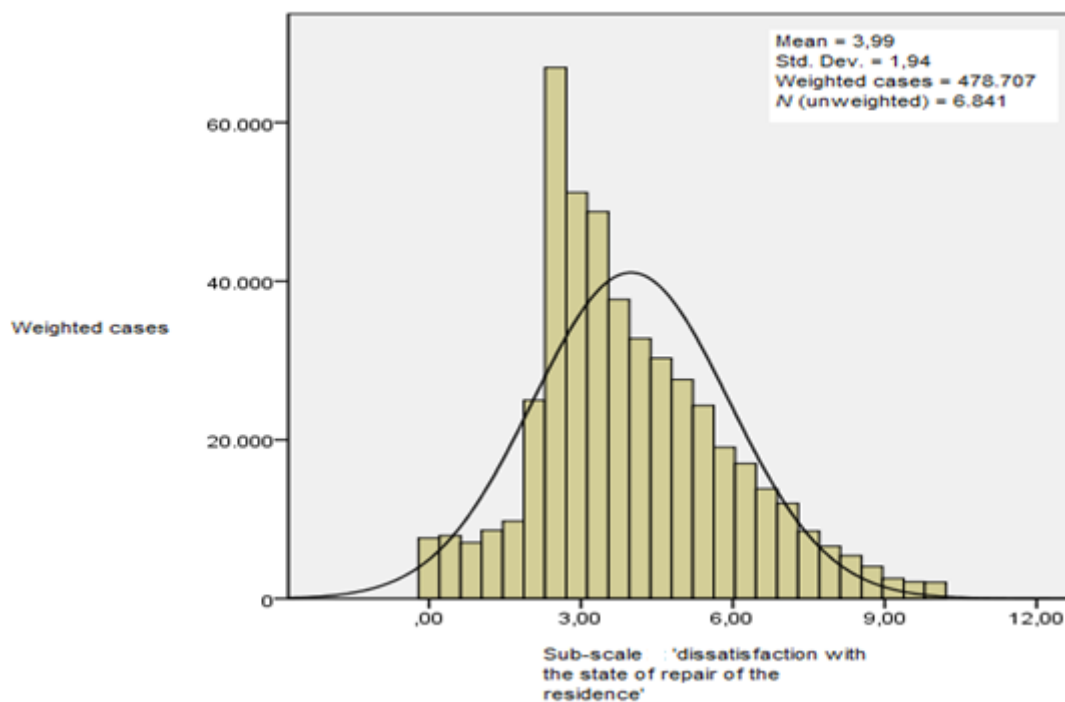


Figure B3.2 Frequency distribution of sub-scale 'dissatisfaction with the state of repair of the residence'



The interpretation of the sub-scales 'dissatisfaction with the quality of the residence' and 'dissatisfaction with the state of repair of the residence' requires some further explanation. The scales are built on items that have answer categories that range from 1 till 5, where 1 means 'very satisfied (or 'very good' for item 'assessment of the maintenance condition of the residence') and 5 means 'very dissatisfied (or 'bad' for item 'assessment of the maintenance condition of the residence')'. The scales scores of 0 till 10 are translated into 5-point Likert scales, because the items that are used to construct the ten-point scale are measured on a five-point scale. Due to converting the scale scores on the ten-point scales into scale scores on the five-point scales interpretation of the scores on the ten-point scales becomes easier. In table B3 the convertibility of the 0-10 scale into the five-point Likert scale is shown.

Table B3 Convertibility of sub-scales 'dissatisfaction with the quality of the residence' and 'dissatisfaction with the state of repair of the residence' into five-point Likert scales (1-5) on which the items that constitute these ten-point sub-scales are measured in order to simplify interpretation of the scale scores.

Sub-scales 'dissatisfaction with the quality of the residence' and 'dissatisfaction with the state of repair of the residence' (0-10)	Sub-scales 'dissatisfaction with the quality of the residence' and 'dissatisfaction with the state of repair of the residence' (1-5)
0	1
0.5	1.2
1.0	1.4
1.5	1.6
2.0	1.8
2.5	2.0
3.0	2.2
3.5	2.4

4.0	2.6
4.5	2.8
5.0	3.0
5.5	3.2
6.0	3.4
6.5	3.6
7.0	3.8
7.5	4.0
8.0	4.2
8.5	4.4
9.0	4.6
9.5	4.8
10.0	5.0

Note: Not all possible values of sub-scales 'dissatisfaction with the quality of the residence' and 'dissatisfaction with the state of repair of the residence' are converted into values on the five-point scales. Globally, it is possible to interpret the meaning of the sub-scales. For example a score of 4.17 on sub-scale 'dissatisfaction with the quality of the residence' (0-10) means that these respondents on average have a (little higher) score of 2.6 (on the five-point scale), which indicates that on average these respondent are in between 'satisfied' with the quality of the residence and 'neutral' with the quality of the residence.

Appendix B4 Scale constructions, frequency distributions and convertibility tables of ten-point scales into five-point scales of sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’ that represent the theoretical dimension: ‘social rights: insufficient access to an adequate residential environment’

The sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’ of the theoretical sub-dimension ‘social rights: insufficient access to an adequate residential environment’ are constructed by the following SPSS commando’s:

- COMPUTE scalesocialecohesie=(((v22brec + v22drec + v22crec + v22nrec + v22jrec + v22orec + v22irec + v22arec + v22hrec + v22krec) - 10) / 4).
- COMPUTE scaleverbondenheid=(((v28arecnieuw + v28breknieuw + v28creknieuw) - 3) / 1.2).
- COMPUTE scaleaantrekkelijkheid=(((v12crec + v12brec + v22mrec + v22frec + v22grec + v22lrec + v22erec) - 7) / 2.8).

These scales, which have a range from 0 till 10, are created as continuous variables (characterised by a zero point).

In figure B4.1, B4.2 and B4.3, the frequency distributions of the sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’ are ventilated.

Figure B4.1 Frequency distribution of the sub-scale ‘experience of insufficient social cohesion in the neighbourhood’

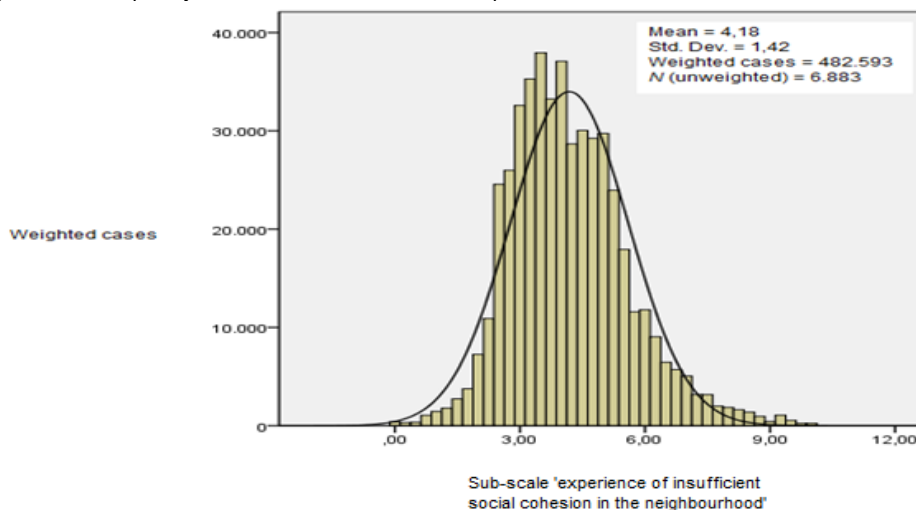


Figure B4.2 Frequency distribution of the sub-scale 'insufficient feelings of connection with the residential area'

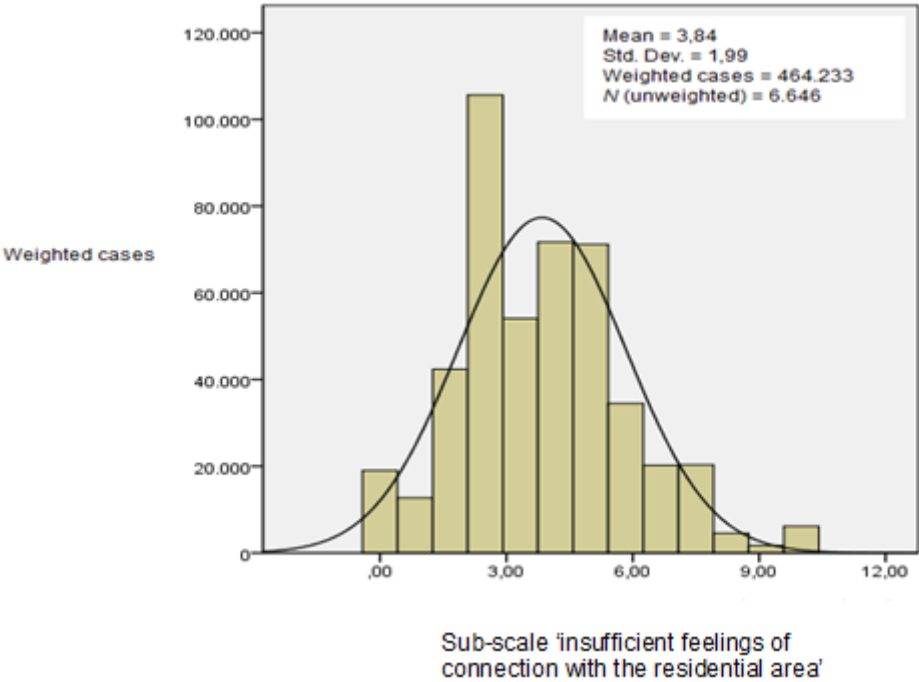
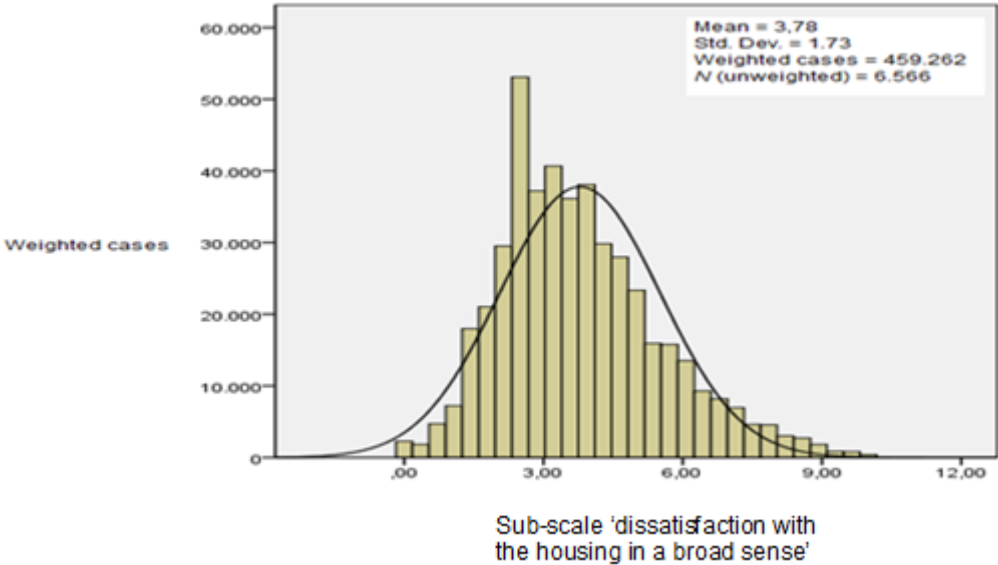


Figure B4.3 Frequency distribution of the sub-scale 'dissatisfaction with the housing in a broad sense'



The interpretation of the sub-scales 'experience of insufficient social cohesion in the neighbourhood', 'insufficient feelings of connection with the residential area' and 'dissatisfaction with the housing in a broad sense' require some further explanation. The scales are built on items that have answer categories that range from 1 till 5, where 1 means 'totally agree with the statement (or 'totally disagree' for recoded items or 'very good' for the items 'assessment of the maintenance condition of the buildings in the neighbourhood as a whole' and 'assessment of the maintenance condition of the adjacent buildings and

residences’) and 5 means ‘totally disagree with the statement (or ‘totally agree’ for recoded items or ‘bad’ for the items ‘assessment of the maintenance condition of the buildings in the neighbourhood as a whole’ and ‘assessment of the maintenance condition of the adjacent buildings and residences’). The scale scores of 0 till 10 are translated into the 5-point Likert scales on which the items that are used to construct the ten-point scales are measured on such a six-point scale. Therefore, meaning is given to the scale values (on the ten-point scales), which makes it easier to interpret these scores. In table B4 the convertibility of the 0-10 scale into the five-point Likert scale is shown.

Table B4 Convertibility of sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’ into five-point Likert scales (1-5) on which the items that constitute these ten-point sub-scales are measured in order to simplify the interpretation of these scale scores.

Sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’ (0-10)	Sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’ (1-5)
0	1
0.5	1.2
1.0	1.4
1.5	1.6
2.0	1.8
2.5	2.0
3.0	2.2
3.5	2.4
4.0	2.6
4.5	2.8
5.0	3.0
5.5	3.2
6.0	3.4
6.5	3.6
7.0	3.8
7.5	4.0
8.0	4.2
8.5	4.4
9.0	4.6
9.5	4.8
10.0	5.0

Note: Not all possible values of sub-scales ‘experience of insufficient social cohesion in the neighbourhood’, ‘insufficient feelings of connection with the residential area’ and ‘dissatisfaction with the housing in a broad sense’, are converted into scores on five-point scales. Globally, it is possible to interpret the meaning of the sub-scales. For example, respondents with a score of 2.5 on sub-scale ‘experience of insufficient social cohesion in the neighbourhood’ (0-10) means that these respondents on average have a score of 2.0 (on the five-point scale), which indicates that on average the residents of the city of Rotterdam are quite positive about the social cohesion in the neighbourhood.

Appendix B5 Scale constructions, frequency distributions and convertibility tables of ten-point scales into five- and six-point scales of sub-scales ‘experience of loneliness’ and ‘lack of frequent social contacts’ that represent the theoretical dimension: ‘insufficient social participation’.

The sub-scales ‘experience of loneliness’ and ‘insufficient frequent social contacts’ of the theoretical dimension ‘insufficient social participation’ are constructed by the following SPSS commando’s:

- COMPUTE scaleloneliness=(((v56arec + v56brec + v56crec + v56drec + v56erec) - 5) / 2).
- COMPUTE scalesocialcontactsgoed=(((v42a + v42b + v42c + v42d) - 4) / 2).

These scales, which have a range from 0 till 10, are created as continuous variables (characterised by a zero point).

In figure B5.1 and B5.2 the frequency distributions of the sub-scales ‘experience of loneliness’ and ‘insufficient frequent social contacts’ are exposed.

Figure B5.1 Frequency distribution of sub-scale ‘experience of loneliness’

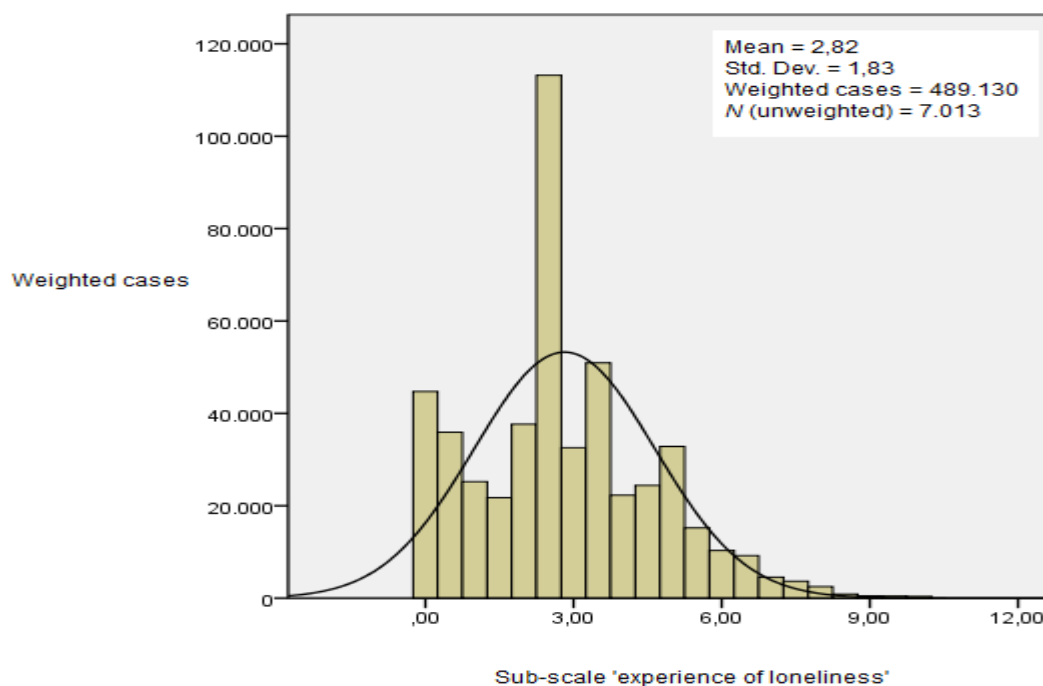
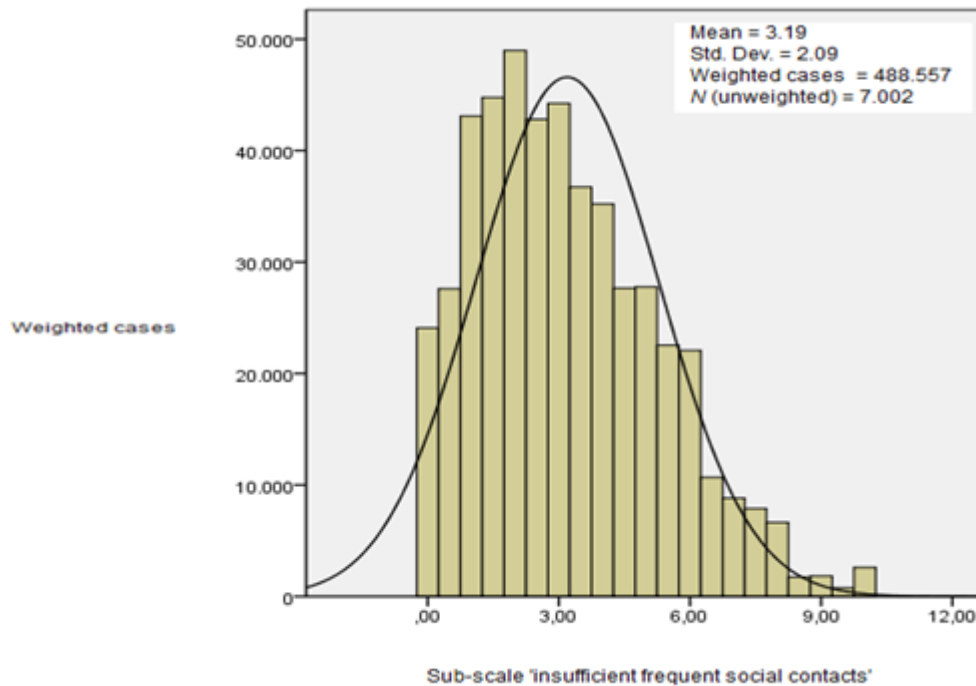


Figure B5.2 Frequency distribution of sub-scale 'insufficient frequent social contacts'



The interpretation of these scales requires some further explanation. The scale 'experience of loneliness' is built on items that have answer categories that range from 1 till 5, where 1 means 'total agreement with the statement' and 5 means 'total disagreement with the statement' (most of these items have been reverse coded and for these items 1 means 'total disagreement with the statement' and 5 means 'total agreement with the statement'). The scale scores of 0 till 10 are translated into the five-point Likert scale, since the items that are used to construct the ten-point scale are measured on such a five-point Likert scale. Therefore, meaning is given to the scale values (on the ten-point scale), which makes it easier to interpret these scale scores. In table B5.1 the convertibility of the 10-point scale into the five-point Likert scale is shown.

Table B5.1 Convertibility of sub-scale 'the experience of loneliness' (0-10) into five-point Likert scale (1-5) on which the items that constitute this ten-point sub-scale are measured in order to simplify the interpretation of the scale scores.

Sub-scale 'the experience of loneliness' (0-10)	Range of answer categories of the items that constitute sub-scale 'the experience of loneliness' (1-5)
0	1
0.5	1.2
1.0	1.4
1.5	1.6
2.0	1.8
2.5	2.0
3.0	2.2
3.5	2.4
4.0	2.6
4.5	2.8
5.0	3.0
5.5	3.2
6.0	3.4
6.5	3.6
7.0	3.8
7.5	4.0
8.0	4.2
8.5	4.4
9.0	4.6
9.5	4.8
10.0	5.0

Note: Not all possible values of the sub-scale 'experience of loneliness' (0-10) are converted into a five-point scale. Globally, it is possible to interpret the meaning of the sub-scale 'loneliness'. For example, respondents with a score of 4.5 on the sub-scale (0-10) have a value of 2.8 on the five-point scale, where 1 means 'not lonely at all', and 5 means 'very lonely'. This indicates that the respondents on average are in between 'being lonely' and 'neither being lonely nor being not lonely'

The interpretation of the sub-scale 'lack of frequent social contacts' is built on items that have answer categories that range from 1 till 6, where 1 means 'almost daily contact' and 6 means 'never contact'. The scales scores of 0 till 10 are translated into the six-point Likert scale on which the items that constitute the ten-point scale are measured, since it facilitates the interpretation of the scale scores. In table B5.2 the convertibility of the 10-point scale into the six-point Likert scale is shown.

Table B5.2 Convertibility of sub-scale 'lack of frequent social contacts' (0-10) into six-point Likert scale (1-6) on which the items that constitute this ten-point sub-scale are measured so that the interpretation of the scale scores becomes easier.

Sub-scales 'lack of frequent social contacts' (0-10)	Range of answer categories of the items that constitute sub-scale 'lack of frequent social contacts' (1-6)
0	1.0
1.0	1.5
2.0	2.0
3.0	2.5
4.0	3.0

5.0	3.5
6.0	4.0
7.0	4.5
8.0	5.0
9.0	5.5
10.0	6.0

Note: Not all possible values of the sub-scale 'lack of frequent social contacts' (0-10) are converted into a six-point scale. Globally, it is possible to interpret the meaning of the sub-scale 'lack of frequent social contacts'. For example, a score of 2.18 on sub-scale 'lack of frequent social contacts (0-10) means that these respondents are close to a value of 2.0 on the six-point scale, which means that these respondents have approximately at least once a week contact with relatives, friends, acquaintances and neighbours.

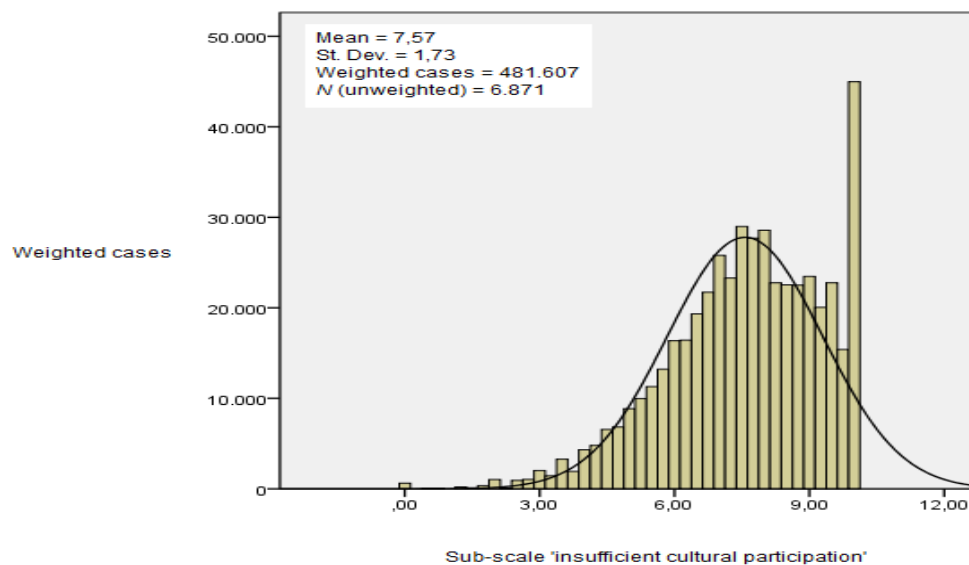
Appendix B6 Scale construction, frequency distribution and convertibility table of ten-point scale into six-point scale of the scale ‘insufficient cultural participation’ that represents the theoretical dimension ‘insufficient cultural participation’.

The scale ‘lack of cultural participation’ is constructed by the following SPSS commando:

- compute scaleculturalparticipation = (((v41a + v41b + v41c + v41d + v41e + v41f + v41g + v41h) - 8) / 4).

This scale, which has got a range from 0 till 10, is created as a continuous variable (characterised by a zero point).

In figure B6 the frequency distributions of the scale ‘insufficient cultural participation’ is demonstrated.



The interpretation of the scale ‘lack of cultural participation’ requires some further explanation. The scale is built on items that have answer categories that range from 1 till 6, where 1 means ‘several times a week’ and 6 means ‘never’. The scales scores of 0 till 10 are translated into a six-point Likert scale, because the items that are used to construct the ten-point scale are measured on such a six-point Likert scale. Therefore, meaning is given to the scale values (on the ten-point scale), which makes it easier to interpret these scores. In table B6 the convertibility of the 10-point scale into the six-point Likert scale is shown.

Table B6 Convertibility of scale 'insufficient cultural participation' (0-10) into six-point Likert scale (1-6) on which the items that constitute this ten-point scale are measured.

Scale 'insufficient cultural participation (0-10)	Range of answer categories of the item that constitute scale 'insufficient cultural participation' (1-6)
0	1.0
1.0	1.5
2.0	2.0
3.0	2.5
4.0	3.0
5.0	3.5
6.0	4.0
7.0	4.5
8.0	5.0
9.0	5.5
10.0	6.0

Note: Not all possible values of the scale 'insufficient cultural participation (0-10) are converted into a six-point scale. Globally, it is possible to interpret the meaning of the scale 'insufficient cultural participation'. For example, a score of 7.5 on the scale 'insufficient cultural participation' (0-10) means that these respondents are in between the value of 4.5 and 5.0 on the six-point scale, which means that these respondents participate in cultural activities in between 'once a month' and 'less than once a month'.

END NOTES

¹ The ‘Social Index’ exists for the years 2008, 2009, 2010. The fourth measurement of the ‘Social Index’ is developed for the year of 2011.

² Some hypotheses are not solely based on the previous literature about social exclusion. In addition, the hypotheses are also based on the indicators available in the dataset that is used in this study.

³ Since it turned out in paragraph 2.1.2 that the broad definition of poverty more or less equals the concept of social exclusion, also the dimensions of multidimensional poverty are added to the list in which an overview of dimensions of social exclusion is presented.

⁴ For these studies, the empirical discerned dimensions are demonstrated, since not all studies made an explicit distinction between theoretical dimensions and the empirical dimensions of social exclusion or other multidimensional poverty concepts. Because in most studies the empirically differentiated dimensions are shown brightly, it is chosen to ventilate these empirical dimensions rather than the theoretical discerned dimensions of prior research in this study.

⁵ In this measurement model, which is central in the studies about social exclusion of the Netherlands Institute for Social Research (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Jehoel-Gijsbers et al. 2009; Hoff & Vrooman 2011), it was presumed that the dimensions of social exclusion are social participation, normative integration, social rights and material deprivation. Therefore, these dimensions are already filled in in figure 3.

⁶ Several reasons can be given for the fact that the theoretical dimensions of social exclusion of the residents of the city of Rotterdam are not solely based on the theoretical concept of social exclusion including its dimensions that originates from the previous literature on the topic of social exclusion, such as the studies of the Netherlands Institute for Social Research, and that instead the theoretical dimensions of social exclusion of the residents of the city of Rotterdam are also based on other aspects, such as the available dataset.

First of all, since the concrete realisation of theoretical dimensions of social exclusion is still not fixed in the literature about social exclusion (Jehoel-Gijsbers et al. 2008:110), it should not matter that the theoretical dimensions in this study deviate slightly from the theoretical dimensions that have been discerned by the studies about social exclusion of the Netherlands Institute for Social Research or by other previous studies with a focus on social exclusion.

Besides, it is widely acknowledged in the literature about social exclusion that the dimensions that can be distinguished are to great extent dependent on the empirical possibilities (i.e. the available dataset) (Townsend 1993:85, in Dekkers 2003:70). It seems logical to bear this in mind while conceptualising the notion of social exclusion of the residents of the city of Rotterdam.

Furthermore, because in this study an already existing dataset is used, the theoretical dimensions of social exclusion of the residents of Rotterdam are discerned dependent on the available items about social exclusion of the residents of the city of Rotterdam in the “Rotterdam Neighbourhood Survey 2011”. As a rule in

scientific research, empirical decisions should be based on theoretical models instead of founding the theoretical choices on the empirical ones. Nevertheless, in this study, it has been decided in consultation with the supervisor of the thesis and the Centre for Research and Statistics of the municipality of Rotterdam that the theoretical dimensions of social exclusion of the residents of the city of Rotterdam are to some extent dependent on the empirical possibilities of the dataset that is used in this study. Of course, it is endeavoured to stay close to the theoretical dimensions of the Netherlands Institute for Social Research or the dimensions that have been distinguished by other previous studies, but with a view to the fact that in this study an already existing dataset is used which has not been developed with the sole aim to measure social exclusion, it was advised to deviate to some extent from the dimensions of social exclusion that have been discerned in the literature and to focus on the possibilities of the own dataset.

Last but not least, it is understandable not to completely imitate the theoretical and empirical dimensions that have been discerned by previous studies of social exclusion, since the previous studies do not have a particular focus on the city level. This means that no conceptual model about social exclusion with a focus on the local level has been developed which can be taken as a guideline for the conceptualisation of social exclusion of the inhabitants of Rotterdam. Therefore, it is comprehensible that the theoretical dimensions in this study deviate from the dimensions that have been postulated in previous studies about social exclusion, since these former studies mostly had a national or international (cross-country) focus.

⁷ In this study, the social-rights'-dimension is parted into three sub-dimensions, based on a combination of the available items in the Rotterdam Neighbourhood Survey 2011, the sub-dimensions of the dimension 'social rights' of the studies of the Netherlands Institute for Social Research that have been theoretically and empirically discerned (i.e. 'social rights: insufficient access to institutions and provisions' and 'social rights: insufficient access to an adequate and a safe residential environment') and the empirically discerned dimensions in prior research with a focus on housing and the residential environment (see for example the studies of Whelan et al. (2001) and Raeymaeckers & De Wilde (2007) who distinguished a dimension concerning 'housing' or 'housing deterioration'). This implies that in this study sub-dimensions are already presumed to exist, even before this can be turned out from data-reducing techniques. It still might be possible that during the empirical creation of dimensions of social exclusion in this study, it turns out that several sub-dimensions should be created of the theoretical dimensions or the theoretical sub-dimensions that are assumed to exist. When the latter occurs, sub-sub-dimensions are a fact.

⁸ In the study of Jehoel-Gijsbers (2004) and Jehoel-Gijsbers and Vrooman (2007) it is not explicitly indicated which items are incorporated in the general index for social exclusion. Only the dimensions that are part of the general index for social exclusion and the amount of indicators that represent the dimensions are displayed in these studies.

⁹ These percentages are based on weighted percentages of the respondents so that it is a reflection of the Dutch population (see Hoff & Vrooman 2011:76)..

¹⁰ The theoretical framework has been developed by studying prior research that is related to the topic of social exclusion or the risk factors of social exclusion. The information that is presented in these studies is connected such that eventually a new theoretical framework emerges that incorporates information of lots of prior studies.

¹¹ The main risk factors of social exclusion that have been presented in prior research are taken into account in this study as well. The risk factors ‘social background’ and ‘physical and social setting’ that have been theoretically discerned in the studies of the Netherlands Institute for Social Research (Jehoel-Gijsbers 2004:36-37) are not used as risk factors in this study due to data limitations and choices that are made that some items are better suited to create the dependent variable in comparison to use the items for the creation of the independent variables. The risk factors ‘civil status’ and ‘coping abilities’ that also have been used as risk factors in the studies of the Netherlands Institute for Social Research (Jehoel-Gijsbers 2004:36-37) are not distinguished as separate risk factors in this study. Nevertheless, these risk factors form part of other risk factors: ‘civil status’ is subdivided in the risk factor ‘family composition’ and ‘coping abilities’ is subdivided in the risk factor ‘human capital’. ‘Religion’ is added as an individual level determinant of social exclusion, since it is expected that religious people are less socially excluded, because of their embeddedness in a social environment. Actually, it was kind of astonishing to me that previous studies did not ventilate religion as an individual level risk factor of social exclusion.

¹² In the study of Moonen and Huynen (2009:30) it is indicated that a low income leads to exclusion from the society. Moonen and Huynen (2009) use the definition of social exclusion of the Netherlands Institute for Social Research. This means that social exclusion is related to deficiencies in four domains: material deprivation, access to social rights, social participation and normative/cultural integration (Jehoel-Gijsbers et al. 2008: 111). However, for indicating the link between a low income and social exclusion, Moonen and Huynen (2009:30) solely attend to the domains social participation (in my operationalisation also cultural participation) and material deprivation.

¹³ The unemployment rate is an indicator for the (lack of) labour market participation (Bouma et al. 2011: 5). In fact, the people who are inactive on the labour market participation might exceed the number of unemployed, since some persons out of the labour market choose not to be active on the labour market, whereas one does not choose to be unemployed.

¹⁴ In this study, active participation does not refer to paid work, even though performing paid work might also be perceived as a form of active participation in the society. In this study, a clear demarcation has been made between performing paid work and active participation.

¹⁵ It is also assumed that being in a moderate health positively affects the degree of social exclusion, as these people in a moderate health are compared to persons in a good health. Relatively, the health of the persons in a moderate health is worse than the health of the persons who experience good health.

¹⁶ The effect of bad health on the degree of social exclusion was not tested via paid work and active participation – the two variables that are assumed important in this study for the relationship between bad health and social exclusion – since paid work has been removed from the analysis, due to multicollinearity reasons and active participation has never been included in the analysis.

¹⁷ As it was stated by the OECD (2001:18) human capital refers in addition to educational level also to coping abilities such as language skills and problem-solving competences.

¹⁸ When applying this reasoning, it has not been born in mind that it might be possible that inhabitants of the city of Rotterdam might be working in another city (for example cities characterised by their advanced producer service economies with their polarised employment structure (Van der Waal 2010), and that therefore, it should not always be problematical for lower-educated inhabitants of the city of Rotterdam to be employed.

¹⁹ It might be possible that persons who are not active on the labour market have a (middle-)high income, since their family income is relatively high since the partner might earn a high income, or due to a (personal or family) heritage. However, for most citizens it can be assumed that not performing paid work leads to a low *personal* income, not taking into account personal income from a heritage or family gifts.

²⁰ In fact, singles do not refer to single parents. Nevertheless, I assume that the theory of ‘crisis’ cases can also be applied to single parents, since these persons are also confronted with (sudden) changes in their lives due to partner loss.

²¹ Since approximately one third of the marriages ended in divorce in 2010 and because the percentage of ‘informal’ relationships that have been ended exceeds this percentage (Latten 2004:55) , it can be stated that a considerable part of the Dutch population deals with transformations in the family composition from being part of a couple to being single or a lone parent. Also 55.638 of the marriages ended in 2010 due to the death of the spouse, which contributed to the number of singles or ‘widows/widowers’ in the society. Even though this theory only concerns singles who have been breaking up or persons who have become a widow or a widower, it can be suggested that the theory still concerns a relatively large part of the singles in the society.

²² I assume that persons who are cohabiting with a partner, though they have not been married, also have a relatively small chance on becoming lonely or socially isolated, since cohabiting people, just like married people, get support from their partners. It is about the presence of a partner instead of the presence of a spouse in particular.

²³ In the Dutch literature a great emphasis exists on the non-western immigrants. Relatively few studies also present information about the western migrants in the Netherlands. However, in the studies where both information is presented about western and non-western migrants, the picture always shows that the non-western migrants are worst off, followed by the western migrants who are closely followed by the indigenous people. For example, Huynen (2011:33) shows that non-western migrants deal to greatest extent with social exclusion,

followed by western migrants, who in turn are at close distance to the indigenous people. When social benefits assistance is concerned, the same pattern becomes visible, because the study of Statistics Netherlands (2001) shows that non-western migrants have the highest percentage of social benefits assistance, followed by the western migrants. The native Dutch persons have the smallest percentage of social assistance receipt. Again the same pattern prevails when we look at the percentage of non-western migrants, western migrants, and native Dutch people who are coping with low incomes. Based on these trends, in this study is acknowledged that there is a difference in number of non-western and western migrants experiencing social exclusion. However, these groups are put together, since they are both expected to exceed the numbers of indigenous people experiencing social exclusion. Thus compared to the indigenous persons, both western and non-western migrants are expected to be worse off.

²⁴ Off course there are also other channels than co-religionists that provide social support, such as the partner, family members, friends, good acquaintances, co-workers, and neighbours. However, social support offered by family members, friends, acquaintances, neighbours, co-workers and so on is diminishing in most Western countries. (Veenhoven 1984, in Veenhoven & Van Schoonhoven 1991:5) Therefore, partner relationships increase in their significance for providing social support (Veenhoven & Van Schoonhoven 1991:5). Nevertheless, also the partner relationships are becoming less stable in Western countries, since in the contemporary Western world, an increasing number of marriages are breaking up and the proportion of single persons is growing as well (Esping-Andersen 2001, in Fløtten 2006:20). In situations where social relationships in general are put to the test, the religious organisations remain (despite the process of secularisation) institutions that provide social support (Lim & Putnam 2010).

²⁵ In the studies of the Netherlands Institute for Social Research the risk factor ‘family composition’ is indicated as a risk factor that is not amenable to policy intervention. However, in fact, it might be possible that policy interventions affect the family composition, as can be seen by the one-child-policy in China (Hesketh et al. 2005). Besides, by the rise of women’s educational level (which is influenced by governmental policy) women’s dependency on their male counterparts decreases. This affects the number of singles and single-parent families in a country (Houseknecht & Spanier 1980). It is also imaginable that women’s increase in employment (due to child care policy) decreases their dependency on a male-partner, which affects the rising number of singles and single-parents in most Western countries. Therefore, in this study, family composition is perceived as a risk factor that is amenable to policy intervention.

²⁶ From the year of 2011 the data are collected once in the two years, whereas data were collected annually in previous years; the first round was fielded in 2008, the second round in 2009 and the third round in 2010.

²⁷ Due to the fact that in the “Rotterdam Neighbourhood Questionnaire 2011” two enormous datasets are combined, it is decided to split the data collection of the year 2011 into two parts.

²⁸ The average net response for each neighbourhood is also based on the questionnaires that are fielded during the second round in August 2011. No information is available of the net response for each neighbourhood that is merely based on the first round of data collection in April 2011.

²⁹ I decide to work via the bottom-up approach, because on the one side this approach has been implemented in many studies that create a general index for social exclusion (Jehoel-Gijsbers 2004; Jehoel-Gijsbers & Vrooman 2007; Hoff & Vrooman 2011). On the other side I use the bottom-up approach because in consultation with the Centre for Research and Statistics, it was decided to start the study at the bottom, by distinguishing several dimensions in order to eventually end at the top with a general index of social exclusion.

³⁰ The descriptive statistics of the dependent variable are not displayed in table 3.1. Instead these descriptive statistics are shown in chapter 4 (paragraph 4.5), because descriptive statistics cannot be easily illustrated in table 3.1. This is due to the facts that:

- the dependent variable ‘the degree of social exclusion of the residents of the city of Rotterdam’ cannot be constructed with the available dataset;
- three alternative dependent variables are used: three meta-scales of social exclusion are constructed (see paragraph 4.4). It is possible to run three explanatory analyses. However, in this thesis only one of the alternative dependent variables (‘insufficient social-cultural integration’) is used to perform an explanatory analysis with, though still all three (meta-)scales are used to indicate the degree of aspects of social exclusion of the residents of the city of Rotterdam with;
- it is not very easy easily to indicate to what extent the residents of the city of Rotterdam score insufficiently on these three alternative dependent variables, because the boundary between an insufficient score and a sufficient score are rather vague and can be disputed. An extended discussion about this unfolds in paragraph 4.5 and cannot be summed in such a small table.

³¹ Respondents younger than eighteen are removed from the analysis, since social exclusion of children comprises other indicators than social exclusion for persons aged eighteen and older. Besides, the explanations of the degree of social exclusion for children also differ somewhat from the explanations of the degree of social exclusion for the population that is eighteen or eighteen plus. Therefore, a separate study about social exclusion of children has been performed (Roest et al. 2010) and are persons younger than eighteen excluded from this study about social exclusion of persons aged eighteen or older.

³² After excluding the cases that are younger than eighteen from the dataset and after the exclusion of respondents with missing values on any of the independent and mediator variables that are put in the regression analysis, the number of cases (unweighted) is 4.970, which equals 342.448 weighted cases. The number of cases that is used in the explanatory analyses diminishes slightly, as also the missing values of the dependent variable should be removed. Only cases are selected that have missing values on maximally one subset of the dependent variable. When the dependent variable ‘the degree of insufficient social-cultural integration’ is used in the explanatory analysis, it turns out that in total 4.946 cases (or 341.184 weighted) can be put in the regression analysis. However, also other meta-scales are constructed in this study that can be used to perform an

explanatory analysis with. Dependent on the dependent variable, the number of cases that is used in the regression analyses fluctuates. But with certainty it can be said that the number of cases for every possible dependent variable in this study is *about* 4.970 (unweighted).

³³ In this study I made use of the PCA technique as described in the book of Field (2009:627-686), chapter 17.

³⁴ Social exclusion as the dependent variable is measured in a strict sense, since in this study a distinction has been made between a direct and indirect definition of social exclusion. In this study, social exclusion is defined in a direct or more strict sense, since also explanatory analyses are performed that give an impression of the individual level risk factors or causes of social exclusion (see paragraph 2.1.7). As it is not permitted to explain the dependent variable 'social exclusion' with the same items that are used to define the dependent variable 'social exclusion', some possible indicators that might measure the theoretical distinct dimensions of social exclusion have intentionally been kept away from the PCA's; these items are used to perform the explanatory analyses with.

³⁵ Although it is important to screen the data (checking for missing values, outliers, skewness in distributions and the measurement scales of the separate items) before starting PCA's, in this study I chose not to do that because of several reasons. One of the reasons is that the data are weighted for ethnicity, neighbourhood and age. If it turns out that many variables should be removed due to outliers or missing values or because of skewness in distributions, the weighting factor that is applied by the Centre for Research and Statistics on the dataset is not appropriate for the residents of the city of Rotterdam anymore. Another reason for which I thought it was not really important to screen the data on outliers is that most variables are measured on ordinal five- or six-point Likert scales, which implies that extraordinarily answers are not possible, assuming that no mistakes in typing (called 'typo's) are made.

Moreover, I did shortly check whether the possible indicators of the dimensions are items that are measured on an interval scale. As a rule, it is assumed that Likert scales can be treated as interval scales (Field 2009: 650). When performing PCA, it is necessary that variables are measured or can be treated as interval scales (Field 2009: 650; Dekkers 2003: 70). Some of the variables that are nominal, dichotomous or ordinal without being on a Likert scale, should actually be removed from the PCA's. In this study, only one categorical item is put in the PCA. I decided to put this dichotomous variables in the PCA, since in the literature this is also done (Achterberg 2009: 56; Van der Waal & Houtman 2011: 649-650).

Besides, in this study I intentionally chose not to remove cases with missing values from the analysis, since this reduces the number of cases in the dataset substantially. Since in the PCA's it is possible to remove the missing values (listwise) from the analyses while performing these analyses and not before starting the analyses. I preferred to remove these items with missing values 'listwise' during the PCA's instead of before starting the PCA's, since during the PCA's themselves not all variables are included at the same time, which means that not that many missing values occur at the same time and subsequently should be removed from the analyses.

At last it is important to note that due to time limitations I did not check whether the data that are put in the analyses are normally distributed. The municipality of Rotterdam indicated that for the workability of the

results, it is not necessary that all variables are normal distributed, provided that a general tendency of a normal distributed dataset is observed.

³⁶ See for possible indicators to measure the theoretical dimension ‘insufficient social participation’ (in my thesis, a part of these indicators are used to operationalise the dimension ‘insufficient cultural participation’, as this dimension is additionally discerned in this thesis, see paragraph 2.1.7 and 5.1.4) the studies of Hoff and Vrooman (2011:43), Jehoel-Gijsbers (2004:62), Jehoel-Gijsbers (2003:95-99) and Roest et al. (2010:43-44). See for possible indicators to operationalise the theoretical dimension ‘insufficient normative integration’ the studies of Hoff and Vrooman (2011: 48-49), Jehoel-Gijsbers (2004:70), Jehoel-Gijsbers (2003:100-101) and Roest et al. (2010:46). See for the possible indicators to measure the theoretical dimension ‘insufficient access to social rights’ the studies of Hoff and Vrooman (2011:55-56), Jehoel-Gijsbers (2004:86,90), Jehoel-Gijsbers (2003: 107-115) and Roest et al. (2010:51). See for possible indicators to operationalise the theoretical dimension ‘material deprivation’ the studies of Hoff and Vrooman (2011: 60), Jehoel-Gijsbers (2004:80), Jehoel-Gijsbers (2003:102-106) and Roest et al. (2010:48).

³⁷ See for indicators that constitute the empirical dimension ‘insufficient social participation’ (in my thesis, a part of these indicators are used to operationalise the dimension ‘insufficient cultural participation’, as this dimension is additionally discerned in this thesis, see paragraph 2.1.7 and 5.1.4) the studies of Hoff and Vrooman (2011:44), Jehoel-Gijsbers (2004:97) and Roest et al. (2010:45). See for indicators that are used to operationalise the theoretical dimension ‘insufficient normative integration’ the studies of Hoff and Vrooman (2011:49-50), Jehoel-Gijsbers (2004:97) and Roest et al. (2010:47). See for indicators that constitute the empirical dimension ‘insufficient access to social rights’ the studies of Hoff and Vrooman (2011:57), Jehoel-Gijsbers (2004:97), and Roest et al. (2010:52). See for indicators that are used to operationalise the theoretical dimension ‘material deprivation’ the studies of Hoff and Vrooman (2011: 62), Jehoel-Gijsbers 2004: 97) and Roest et al. (2010: 50).

³⁸ See for indicators that are used to constitute a general index for social exclusion the studies of Hoff and Vrooman (2011: 65, 68) and Roest et al. (2010:54).

³⁹ See for indicators that constitute the empirical dimensions about material deprivation and the residential environment the study of Dekkers (2003:73). See for indicators that are used to constitute the empirical dimensions about material deprivation and housing or the residential environment the study of Dekkers (2008:506-507). See for indicators that constitute the empirical dimensions about material deprivation, housing and the environment the study of Whelan et al. (2001:361). See for indicators that are used to constitute the empirical dimensions about material deprivation, housing and the environment the study of Raeymaeckers & Dewilde 2007:118-119).

⁴⁰ The studies of the Netherlands Institute for Social Research about social exclusion distinguish in a conceptual guideline of what social exclusion means, in possible indicators that exist in the dataset that might measure the theoretical dimensions of social exclusion, in indicators that turn out to constitute the empirical dimensions of social exclusion and in indicators that are found to be part of the general index for social exclusion.

⁴¹ As a consequence of an answer that is given to a preceding question some subsequent questions are not submitted to all respondents. The result is that the number of respondents can be particular small for the subsequent or 'routed' questions. Because in the PCA missing items are deleted listwise, it is important to be cautious with putting filter items in the analysis. This is because these filter items are only answered by a part of the respondents. Let's assume that a filtered item is only answered by 60% of the respondents, which would mean that the whole PCA analysis is solely based on less than 60% of the respondents, if on other items also missing values would occur. Especially when two filter items are put in the same PCA, the number of respondents will be very low due to deleting cases listwise.

⁴² Even though many previous studies use subjective items as proxy variables to measure more objective theoretical dimensions, it can still be problematic to include subjective items in the analysis. Despite it can be assumed that dissatisfaction with several provisions presumes inaccessibility with these provisions, the assumption is not always applicable, as the respondent might be a 'complaining' person. It is imaginable that if the respondent is negatively orientated, the person is inclined to complain about everything, including the provisions and institutions in the neighbourhood. This would not imply that the institutions and provisions in the neighbourhood are indeed inaccessible. However, if the overall population of the city of Rotterdam or a neighbourhood complains about these provisions and institutions, then it might be reasonable to assume that dissatisfaction with the provisions portrays inaccessibility of the provisions, as it is not plausible that the overall population of the city or neighbourhood is negatively oriented and therefore biased concerning the satisfaction with the provisions that are present. Within the PCA's a weighted sample of the residents of the city of Rotterdam is used, and therefore I presume that it is acceptable to use subjective items about dissatisfaction with the provisions and institutions in the neighbourhood as a proxy for the theoretical dimension about the inaccessibility of several provisions and institutions.

⁴³ It is generally recommended to suppress absolute values less than .4 (Field 2009:655).

⁴⁴ A value of .7 or .8 is an acceptable value of Cronbach's alpha (Field 2009:675). Nonetheless, Jehoel-Gijsbers&Vrooman (2003:95) and Roest et al. (2010:44) indicate that the value of .6 is acceptable as well and that a value of Cronbach's alpha that exceeds the .8 is very reliable. In this study, the acceptable minimum standard of Cronbach's alpha is .6.

⁴⁵ When this 'cover-item' is put in the PCA it might lead to incorrect results, as it is very plausible that this 'cover-item' is related to all other items.

⁴⁶ Even though many previous studies use subjective items as proxy variables to measure more objective theoretical dimensions, it can still be problematic to include subjective items in the analysis. Despite it can be assumed that dissatisfaction concerning the residence in which one resides presumes insufficient access to the social right of an adequate housing, the assumption is not always applicable. This can be explained with help of three subjective items: dissatisfaction with the type of the residence, dissatisfaction with the thermal insulation of

the residence and dissatisfaction the entrance safety of the residence. According to the definition of social rights that is given on page 108 in paragraph 4.1.2.1 these three items seem to reflect a social right, namely the social right on adequate housing and safety. However, the items are about satisfaction with these characteristics instead of accessibility. It might be possible that the respondent is a 'complaining' person. It is imaginable that if the respondent is negatively orientated, the person is inclined to complain about everything, including the type of the residence, the warmth insulation and the safety of the entrance of the residence. One can still be dissatisfied with these aspects of the residence, even though one lives in a country house with an alarm system, central heating and double-window glass. This would of course not imply that the person has got insufficient access to an adequate housing. Therefore, it is important to be cautious with the interpretation of these subjective items.

⁴⁷ The studies of the Netherlands Institute for Social Research operationalised the theoretical dimension 'lack of social rights' among other indicators that are related to the right on services, provisions and institutions, and safe and liveable environment by the following controversial (and subjective) indicators that are related to the right on housing. Examples of these controversial and subjective items are dissatisfaction with the quality of the residence (Hoff & Vrooman 2011: 55, 57, 65, 68; Jehoel-Gijsbers 2004:90), residence fails on minimally one aspect (Jehoel-Gijsbers 2003:107-115), average amount of aspects in the residence that are liable to failures or deficits (Jehoel-Gijsbers 2003:107-115), lack of a distinct bedroom for each family member (Jehoel-Gijsbers 2004:90). It is debatable whether it is a social right to be satisfied with the quality of the residence, or whether it is a social right to have separate bedrooms for all family members. Therefore, also the operationalisation of these previous studies of the social right on adequate housing is open for discussion.

⁴⁸ Although many previous studies use subjective items as proxy variables to measure more objective theoretical dimensions, it can still be problematic to include subjective items in the analysis. Despite it can be assumed that dissatisfaction with several aspects of the residential area presumes insufficient access of an adequate residential environment, the assumption is not always applicable, as the respondent might be a 'complaining' person. It is imaginable that if the respondent is negatively orientated, the person is inclined to complain about everything, including various aspects concerning the residential area. This would not imply that there is indeed insufficient access to an adequate residential environment. However, if the overall population of the city of Rotterdam or a neighbourhood complains about these aspects of the residential area, than it might be reasonable to assume that dissatisfaction with these items concerning the residential environment portrays lack of adequateness of the residential environment, as it is not plausible that the overall population of the city or neighbourhood is negatively oriented and therefore biased concerning the satisfaction with the residential environment. Within the PCA's a weighted sample of the residents of the city of Rotterdam is used, and therefore I presume that it is acceptable to use subjective items about dissatisfaction with several items regarding the residential environment as a proxy for the theoretical dimension about the lack of access to an adequate residential environment.

⁴⁹ What is meant with a safe residential environment, which is part of the conceptualisation of social rights regarding the residential environment is obviously and does not need further explanation.

⁵⁰ The word ‘adequate’ might be replaced by the word ‘liveable’ that is used in the conceptualisation of the study of Jehoel-Gijsbers (2004:34).

⁵¹ For example, the study of Hoff and Vrooman (2011:55-57, 65, 68) include items as ‘statement about has to deal with nuisance from neighbours’, ‘statement about has to deal with nuisance from the youth’, ‘statement about whether in this neighbourhood people get along with each other in a pleasant way’, ‘statement about whether in this neighbourhood people know each other well’, ‘statement about the satisfaction with the composition of the people in the neighbourhood’, and ‘statement about the satisfaction with the quality of the residential area’. The study of Jehoel-Gijsbers (2004:90, 97) includes indicators such as ‘statement about satisfaction with the quality of the residential environment’, ‘statement about there is nuisance in the residential area’, ‘statement about the undoubtable wish or request to move’, and ‘the statement about the experience of social cohesion in the neighbourhood’.

⁵² Indicator five in table 4.4 about weekly working hours is first measured as a binary variable: the respondent had to fill in whether he or she works twelve or more hours a week, or less than twelve hours a week. Subsequently, the respondent had to specify how many hours he/she works during a week. This specification is measured on an interval scale.

⁵³ The theoretical assumed sub-dimensions about social rights are quite objective, since they are about insufficient *access to* provisions and institutions, an adequate housing and an adequate residential environment. The items that are used during the operationalisation of these theoretical sub-dimensions are subjectively measured, and therefore a gap exists between the theoretical sub-dimensions and the empirical measurement of these theoretical sub-dimensions. In the case of the theoretical assumed dimension ‘insufficient social participation’ it is not already determined whether it should be objectively or subjectively measured. Therefore, no gap exists between the theoretical assumed dimension ‘insufficient social participation’ and its operationalisation when both objective and subjective indicators are used.

⁵⁴ In this study the dimension ‘insufficient cultural participation’ is additionally used in theoretical sense. This owes to the fact that the Centre for Research and Statistics explicitly requested to distinguish an extra dimension with the Rotterdam Neighbourhood Survey 2011. As this dataset emphasises items concerning cultural participation in the city of Rotterdam, it is chosen to make a distinction into a separate cultural dimension. The items that might represent this dimension ‘cultural participation’ are more or less comparable to items that measure this specific aspect of social participation in the studies of the Netherlands Institute for Social Research. In fact, this means that in this thesis, the items that are used to measure the cultural dimension are similar to the items that are used to measure a specific aspect of the dimension social participation in the studies of the Netherlands Institute for Social Research. The only difference is that in this thesis the items that might measure insufficient cultural participation are fused together under the dimension ‘insufficient cultural participation’ instead of ‘insufficient social participation’.

⁵⁵ In this study, it has also been investigated whether the possible indicators for the several dimensions could load on one single component. However, the best solutions for component extraction are shown in table 4.6. In Appendix B1 until B6, attention is paid to the extraction of components in the PCA's.

⁵⁶ The modus refers to the answer that is given mostly by the respondents. A scale exists of several questions. Therefore the modus of a scale refers to the scale score that turns out to exist most often by the respondents. A modus of 3.0 (on a dissatisfaction scale of 1-5, where 1 means totally satisfied and 5 means totally dissatisfied) means that the scale score that turns out to exist most often by the respondents equals 'neither satisfied nor dissatisfied'. Literally, this is not the same as the statement that a majority (more than 50 percent) of the residents of Rotterdam are neutral (neither satisfied nor dissatisfied) about a certain aspect. Thus, the modus does not refer to the majority of the residents of the city of Rotterdam, but to the answer category that is chosen most often by the respondents or a scale score that turns out to exist most frequently by the respondents.

⁵⁷ These five- and six-point scales are the scale levels on which the questions are measured that are used to construct the scales.

⁵⁸ Weights can be compared with regression coefficients: "Weights are the regression coefficients in each dimension for every quantified variable in a set, where the object scores are regressed on the quantified variables"(SPSS 1994:96, in Boelhouwer 2010:190). The weights indicate to what extent an indicator within each set contributes to the total index. The weight concerns the unique contribution made by an indicator. As it occurs that two or more indicators are very similar to each other, only one of these indicators is still needed in the analysis, and therefore the others are removed, due to the low value of the weights (Boelhouwer 2010:191). At least the weight of an indicator should have an absolute value of .10 to stay in the general index (Jehoel-Gijsbers et al. 2009; Roest et al. 2010: 53; Hoff & Vrooman 2011:79).

⁵⁹ In addition to weights, component loadings are very important in the Overals procedure. Component loadings are the correlations between indicators and the general index (Hoff & Vrooman 2011:79; Boelhouwer 2010:191). These component loadings can be considered as factor loadings from a factor analysis (Boelhouwer 2010:191). As a rule of thumb, the absolute value of the component loadings of the indicators that are incorporated in the general index should equal a value of .3 or more (Roest et al. 2010:54; Hoff & Vrooman 2011:79).

⁶⁰ Category quantifications are numbers that are assigned by Overals to categories of nominal or ordinal variables. As a result, these categorical variables can be regarded as interval variables. These category quantifications should be displayed in a logical order. This means for instance that if the answer category refers to a higher level of social exclusion, the category quantification needs to be higher. In this study, the *single category coordinates* are taken into consideration. This means that the quantifications have been multiplied by the weight of the indicator (Hoff & Vrooman 2011:79). For more information about category quantifications I refer to the work of Boelhouwer (2010:192).

⁶¹ In this study, the Overals analysis permits missing values to exist on only one set or (sub-)dimension of indicators. This means that 87.9 percent of the 7.144 cases are included in the analysis. If no missing values were allowed on any set, only 57,7 percent of the 7.144 cases would have been included in the analysis.

⁶² The loss indicates “which part of a variation in the scores cannot be explained by the weighted combination of indicators in a set” (SPSS 2007, in Boelhouwer 2010:191). In other words, the loss demonstrates to what extent a set of indicators or a dimension contributes to the total index. The value of the loss is always between 0 and 1, though the lower the value of the loss, the more the set or dimension contributes to the general index for social exclusion (Roest et al. 2010:53).

⁶³ The eigenvalue shows represents the total explained variance. For each dimension (in this study, I only observe the first dimension) the eigenvalue equals 1 minus the average loss. Therefore, the value of the eigenvalue is always between 0 and 1. The more the eigenvalue reaches the number of 1, the better (Roest et al. 2010: 55; Boelhouwer 2010:191).

⁶⁴ The canonical correlation demonstrates the extent of the relationship between the sets or dimensions. By applying the following formula, the canonical correlation can be worked out:

$Rd = ((K \times Ed) - 1) / (K - 1)$ where d is the dimension, K the numbers of sets, and E the eigenvalue (Hoff & Vrooman 2011:79; Boelhouwer 2010:191). The canonical correlation must be above the value of .3, according to the studies of the Netherlands Institute of Social Research.

⁶⁵ Although the remaining items of the social exclusion index refer to the theoretical sub-dimensions of social rights ‘insufficient access to an adequate housing’ and ‘insufficient access to an adequate residential environment’ it is better not to entitle these fourteen items with the term ‘social rights’, as this might lead to confusion in the literature. For example, in the studies of the Netherlands Institute for Social Research’ social rights are defined as having the right to health care, accommodation, education, safe environment (and liveable environment), and an equal treatment in the financial and social services (Hoff & Vrooman 2011:53; Jehoel-Gijsbers 2004:34). This definition of social rights is very broad, as it contains the rights – on the national as well as on the local level – that persons should have access to. The fourteen items that are remained in the total index in this study merely relate to the access to an adequate accommodation and a residential environment, which implies that only social rights on the local level are regarded, and social rights on the more general level are disregarded. Therefore it seems better that the fourteen remaining items in the total index represent the concept of ‘lack of connection with the residence and the residential area’ than ‘insufficient social rights’.

⁶⁶ Actually, it turned out from the Overals analysis in which eleven sub-sets of social exclusion were included that the four sets about the residence and the residential area could be aggregated into one single measure that is called ‘lack of connection with the residence and the residential area’ (see paragraph 4.3). Based on the seven sets (two till eight in table 4.9) that have a focus on the neighbourhood and the residence that can be put in the Overals analysis, I expect that more or less the same total index results from the Overals analysis, though small

differences can occur between the indices, since the index that was created in paragraph 4.3 was based on eleven sub-sets instead of 7.

⁶⁷ In this study, the Overals analysis permits missing values to exist on only one set or (sub-)dimension of indicators. This means that 91.4 percent of the 7.144 cases are included in the analysis. If no missing values were allowed on any set, only 63.8 percent of the 7.144 cases would have been included in the analysis.

⁶⁸ If the set about ‘insufficient feelings of connection with the residential area’ is not merged within the set ‘experience of insufficient social cohesion in the neighbourhood’ the set should have been removed from the analysis (due to its relative high loss). The remaining item ‘lack of connection with the neighbourhood’ from the sub-set ‘insufficient feelings of connection with the residential area’ is (slightly) correlated to the remaining items ‘disagreement with the statement: in this neighbourhood people get along with each other in a nice way’ ($r = .306, p < .001^*$) and ‘disagreement with the statement: in this neighbourhood the youth and the adults get along with each other very well’ ($r = .263, p < .001^*$) from sub-set ‘experience of insufficient social cohesion in the neighbourhood’. Due to the correlation, it is possible to merge the items with each other (Boelhouwer 2010:191).

*The correlation is significant at the $\alpha = 0.05$ level (2-tailed).

⁶⁹ The results of the Overals analysis that construct the meta-scale ‘lack of connection with the residence and the residential area’ are roughly similar to the results from the Overals analysis that tried to construct the general index for social exclusion, as also in this latter index only the sets concerning the ‘residence’ and the ‘residential area’ remained in the analysis.

⁷⁰ In this study, the Overals analysis permits missing values to exist on only one set or (sub-)dimension of indicators. This means that 97.9 percent of the 7.144 cases are included in the analysis. If no missing values were allowed on any set, only 86.5 percent of the 7.144 cases would have been included in the analysis.

⁷¹ The losses of the sets of the socio-economic meta-scale (mean loss .47) are higher as compared to the social-cultural meta-scale (mean loss .45). Besides, the eigenvalue (.53) and the canonical correlation (.29) of the socio-economic meta-scale are lower than the eigenvalue (.55) and the canonical correlation (.33) of the social-cultural meta-scale, which leads to preference for the construction of the meta-scale ‘insufficient social-cultural participation’.

⁷² Insufficient socio-cultural integration and insufficient socio-cultural participation are considered as synonyms in this study.

⁷³ In fact, empirically eleven sub-dimensions of social exclusion have been distinguished that represent the four theoretical “main” dimensions of social exclusion. For example the statistically verified scales nine and ten about

the ‘experience of loneliness’ and ‘the lack of frequent social contacts’ are sub-scales of the theoretical dimension ‘insufficient social exclusion’.

⁷⁴ In reality the percentages and the numbers of residents will differ somehow, because this analysis is based on 487.840 residents of the city of Rotterdam (weighted). When we take into account the real population of the city of Rotterdam which equals approximately 612.000 residents, the percentages and numbers change a bit of inhabitants of the city of Rotterdam who have an insufficient score on the index that measures social-cultural participation.

⁷⁵ Despite the fact that the dependent variable ‘the degree of social exclusion of the residents of the city of Rotterdam’ has been replaced by the dependent variable ‘insufficient social-cultural participation of the residents of the city of Rotterdam’ still the predictors for social exclusion are used in the regression models. Besides I expect the direction of the individual-level effects on the ‘degree of insufficient social-cultural participation’ to be the same as the directions of the effects that individual level characteristics have on the ‘degree of social exclusion’. Predictors for social exclusion and the direction of these predictors are suspected to be the same as predictors for the meta-scale ‘insufficient social-cultural integration’, which refers to two of the theoretical dimensions of social exclusion of the residents of the city of Rotterdam (see paragraph 2.1.7).

⁷⁶ The beta of no volunteer work is slightly negative, which is not according to the expectation, but since this effect is almost negligible, I only take the effect of membership of a hobby association into account when I refer to active participation in table 4.25.