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# Understanding Social Capital in Recently Restructured Urban Neighbourhoods. Two Case Studies in Rotterdam

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## Abstract

*In the major Dutch cities, social rented housing in post-war neighbourhoods is demolished and largely replaced by more expensive owner-occupied and rental housing. Through residential mobility, these measures can trigger substantial population changes. In two recently restructured neighbourhoods in the city of Rotterdam, we study residents' social capital. Herewith, we distinguish between the stayers, movers and newcomers. In a neighbourhood context, social capital refers to the benefit of cursory interactions, shared norms, trust and collective action of residents. Survey data show that social capital is not only an asset of long-term stayers, but that in particular newcomers are relatively rich in social capital. Factors associated with higher levels of social capital are a higher net income, presence of households with children, stronger place attachment, higher perceived neighbourhood quality, homeownership and single-family dwellings. The expected future length of residence in the area appears of little importance for social capital.*

## Key words:

Urban regeneration, neighbourhood restructuring, social capital, residential mobility, collective action, trust, social networks, social interaction.

## 1. Introduction

Urban regeneration policies are a common phenomenon in Western European countries. Comparisons demonstrate that policy contents and implementation differ strongly between countries, but there are also similarities. One is the growing importance of the concept of social capital in the discourse of urban regeneration. Many policymakers claim that urban regeneration should not only improve the physical quality of urban neighbourhoods, but also the social well-being of their residents (see e.g. Flint and Kearns, 2006; Kearns, 2004; Lelieveldt, 2004; Middleton *et al.*, 2005). Recently, the notion of social capital has been introduced in the political debates on urban regeneration. As Middleton and colleagues (2005) put it: “Social capital is seen as the foundation on which social stability and a community’s ability to help itself are built; and its absence is thought to be a key factor in neighbourhood decline” (*ibid.*, p.1711). To turn the tide, urban regeneration policies often target the housing stock of certain neighbourhoods. Frequent interventions are demolition and upgrading of social rented housing and new construction of owner-occupied housing. Urban restructuring is a commonly used term for those measures. They result in a considerable temporary turnover of residents, because significant residential mobility out of, within and into the restructuring area is inevitable.

There is a general agreement that restructuring policies not only aim to improve the housing stock and housing career opportunities, but are also deliberately trying to preserve or create socially mixed neighbourhood populations (e.g. Kearns, 2004; Kleinhans, 2004; Ostendorf *et al.*, 2001; Tunstall, 2003). This is not an end in itself. Dutch policymakers especially hope for an improved social liveability, a better neighbourhood reputation and more involvement of residents in mixed neighbourhoods (Dekker, 2005; Ministerie van VROM, 1997; 2000). Attracting and retaining middle-class residents is expected to reinforce social networks of current residents and provide role models for behaviour and aspirations of lower-income households (e.g. Ministerie van VROM, 1997, p. 80-81; Uitermark, 2003). Additionally, urban restructuring policy has shifted from a predominantly physical strategy to a more socially oriented and economic approach (Kearns, 2004, p. 4-5; Priemus, 2004). Local authorities, housing associations and care providers try to stimulate neighbourhood involvement, common norms, mutual trust, promoting self-help of residents and voluntary work in community groups (Lelieveldt, 2004; Ministerie van VROM, 2000, p. 174-175; WRR, 2005, see also Dekker, 2005, p. 15). All these issues are strongly related to the concept of social capital, which Dutch policymakers recently started to use in the urban restructuring discourse (see WRR, 2005). It is highly likely that social capital will become increasingly important in the Dutch policy discourse, just as it did earlier in Great Britain and Denmark (Flint and Kearns, 2006, p. 33).

In the scientific literature, social capital refers to resources that are accessible through social contacts, social networks, reciprocity, norms and trust (e.g. Bourdieu, 1986; Coleman, 1988; Field, 2003; Putnam; 2000). In a neighbourhood context, social capital concerns the benefits of cursory social interactions, shared norms about treating each other

and behaviour in space, trust, and of residents acting collectively for a shared purpose. Several of these aspects can be recognised in policymakers' assumptions (see previous paragraph). Social capital provides a useful analytical perspective on the social climate in neighbourhoods after restructuring. As Putnam (2000) states it: "Neighborhoods with high levels of social capital tend to be good places to raise children. In high-social-capital areas public spaces are cleaner, people are friendlier, and the streets are safer" (ibid., p. 307). Although related to social cohesion, social capital is a different concept in several respects that we will briefly discuss in this paper. This will clarify why we prefer 'social capital' as the central analytical concept. Currently, we know little about residents' social capital in the context of socially mixed, neighbourhoods that recently experiences substantial population changes. The reasons are twofold. First, much research has concentrated on 'traditional' neighbourly contacts between residents, while neglecting other social capital aspects, such as unwritten social norms, reciprocity and trust. Second, policymakers and researchers do often not distinguish properly between different groups in restructured areas. At best, they distinguish between original and new residents (e.g. Van Beckhoven and Van Kempen, 2003), following the classical study of Elias and Scotson (1965). But what about residents who moved within the same neighbourhood, or from directly adjacent neighbourhoods?

This contribution focuses on the social capital of different types of residents in recently restructured neighbourhoods. We will make explicit distinctions based on their residential mobility patterns, their previous location and changes in their housing situation. Thus, our empirical starting point is the changed neighbourhood population after the implementation of the restructuring measures. The effects of the policy itself are beyond the scope of the paper, because our data on social capital are limited to the situation three years after the completion of the urban restructuring in our study areas. Unfortunately, no data are available for the situation preceding the restructuring measures.

Using extensive survey data, we conduct bivariate and multivariate analyses to answer three research questions. First, what are the levels of social capital among stayers, movers and newcomers in the neighbourhood? Second, to which extent are socioeconomic characteristics, neighbourhood perceptions and housing aspects related to residents' social capital? Third, what is the relation (if any) between social capital and residents' expected future length of residence in their house and neighbourhood? (cf. Dantas, 1988, Kleinhans, 2003). There is evidence for a connection between the number of years of residence and social capital in the neighbourhood (e.g. DiPasquale and Glaeser, 1999; Saegert and Winkel, 2004). But is social capital also influenced by residents' expectations of their *future* length of residence? (cf. Middleton *et al.*, 2005, p. 1726). It is possible that households score low on social capital because they are planning a move within a few years. If so, investing in good social ties with neighbours and other residents may become less worthwhile. On the other hand, residents may be more likely to invest in social capital if they intend to stay in the area for a long time. Our paper aims to answer the three research questions and to contribute to the knowledge of social capital in neighbourhood contexts that have recently experienced substantial transformation.

This paper is divided into seven sections. After the introduction, we will describe the residential mobility implications of urban restructuring for different types of residents. This second section explains the distinction between stayers, movers and newcomers. The third section discusses theories of social capital, especially in the context of urban neighbourhoods. The fourth section switches to the research areas, data and methods. Fifth, we present the main results of bivariate and multivariate analyses, followed by a discussion in the sixth section. The final section presents the concluding remarks and policy implications.

## **2. Restructuring, Neighbourhood Dynamics and Social Mix**

In many Dutch cities, early post-war neighbourhoods are subject to considerable interventions. Low-cost social rented apartments often dominate the housing stock in these areas. Mainly low-income households with limited options rent these houses. Middle-class and higher-income households lack attractive housing career opportunities in these neighbourhoods and often leave them (Dekker, 2005, Ministerie van VROM, 2000; Van Kempen and Priemus, 2002; Priemus, 2004, p. 203). In 1997, the Dutch government launched an ambitious restructuring program to tackle the problems of urban post-war districts (Ministerie van VROM, 1997). Demolition, sale or upgrading of social rented housing and new construction of more expensive owner-occupied housing should create much more variety in the housing stock. The neighbourhood layout, public space, services and infrastructure are improved simultaneously. In the coming decade, tens of thousands of households are directly affected (Dekker, 2005).

Urban restructuring is basically a physical strategy, although it is increasingly accompanied with social and economic policy measures. In practice, demolition and new construction are often so substantial that significant residential mobility out of, within and into the renewal area is inevitable. This renewal-related mobility almost certainly changes the population characteristics more fundamentally than regular residential mobility patterns. The more the new and upgraded dwellings differ from the previous housing with regard to housing type, price and tenure, the more differences in population characteristics generally arise. From that perspective, urban restructuring preserves or increases a social mix in the neighbourhood population.

During the 1990s, Dutch policymakers assumed that urban restructuring and improving the quality of the housing stock was the key to a stronger social structure and a favourable social climate (e.g. Ministerie van VROM, 1997; Van Kempen and Priemus, 1999; Uitermark, 2003). The construction of new, more expensive houses, especially owner-occupied, should promote a social mix within neighbourhoods. This view is not exclusively a Dutch policy theory. It turns up in urban renewal policies of other Western European countries, in the United States, notably in HOPE VI initiatives (Clampet-Lundquist, 2004) and also in Australia (Wood, 2003). In the Netherlands, preserving or

increasing a social mix is a supposed successful strategy to combat social segregation and strengthen social cohesion (Ostendorf *et al.*, 2001; Uitermark, 2003). The introduction of middle and higher-income households was expected to positively alter the social networks of current residents and provide role models in behaviours and aspirations (Van Boxtel, 2000, p. 6; Ministerie van VROM, 1997, p. 80-81; Uitermark, 2003). Thus, the assumed consequences of urban restructuring involve both the 'original' residents and newcomers, who are supposed to earn middle or higher household incomes. We will argue that this view is too limited in its coverage of resident categories.

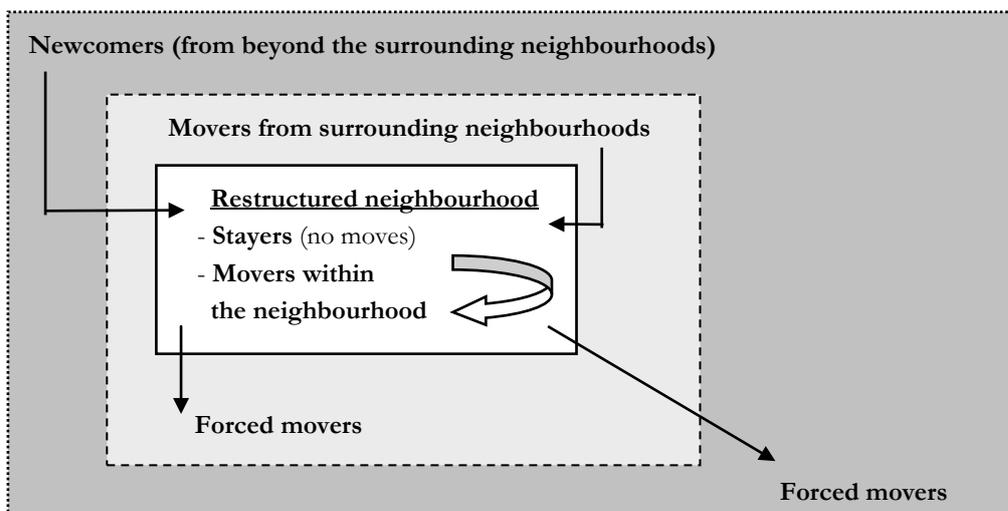
As mentioned before, selective migration is one of the most pressing problems of post-war neighbourhoods. Middle and higher-income households often ignore these post-war neighbourhoods in their search for a new dwelling. But even if these households live in those post-war districts, they often leave because of a lack of attractive housing career opportunities (Dekker, 2005; Van Kempen and Priemus, 2002; Ministerie van VROM, 2000; Priemus, 2004, p. 203). Precisely for this reason, the government claims that restructuring should not only aim at newcomers, but also target middle-income households who are considering a move out of areas with much social rented housing (Ministerie van VROM, 2000, pp. 176-177). Research has indeed shown that the policy succeeds in attracting middle and higher-income households to restructured post-war areas (Kleinhans, 2005; Ministerie van VROM, 2000; Priemus, 2004; Van Kempen and Priemus, 2002).

Consequently, a successful restructuring policy may tempt wealthier residents to take advantage of new housing career opportunities within the same area. This also applies to residents who are not completely new to the restructuring site, as they live in neighbourhoods adjacent to the area subject to restructuring. Therefore, we cannot study the social mix in restructured neighbourhoods in terms of a simple dichotomy of old versus new residents. The variety in moving distances, previous locations and changes in housing situation asks for a more refined typology. Hence, we distinguish between five resident categories whose mobility pattern and housing situation are directly influenced by urban restructuring (see figure 1):

- **Stayers** who remain living in the same dwellings in the restructured area. It is quite common that only part of the neighbourhood is demolished. In the other parts, restructuring measures did not require the stayers to move. Either their houses were subject to limited renovation or to no physical measure at all. Thus, many have a (far) longer length of residence in the restructured neighbourhood than other resident categories.
- **Movers within restructured neighbourhoods** to untouched, renovated, or newly constructed houses. This group also includes residents who experienced forced relocation from demolished dwellings within the same neighbourhood.
- **Movers from surrounding neighbourhoods.** This category includes all movers from adjacent neighbourhoods to the restructured area. A common finding in housing research is that many moves cover short distances (e.g. Mulder and Hooimeijer, 1999).

- **Newcomers** are new residents from anywhere outside the restructured area and its surrounding neighbourhoods. The newcomers mainly moved to the newly constructed houses, but also to the original or the renovated houses.
- **Forced movers out of restructured areas:** residents who are forced to move to a different neighbourhood, due to demolition or upgrading of their dwelling. The issue of forced relocation is beyond the scope of this paper, because our focus is on social capital in recently restructured neighbourhoods. However, the issue is studied in depth in other papers (Allen, 2000; Clampet-Lundquist, 2004; Ekström, 1994; Fried, 1967; Gans, 1991; Goetz, 2002; Kleinhans, 2003; Popp, 1976).

Figure 1 A graphical model of the five categories of residents



As mentioned in the introduction, our research does not allow a ‘pure’ ex-post evaluation that uses data of the situation before and after the intervention. Still, our resident typology can be related to the extent to which the current population characteristics are the result of urban restructuring. Subsequently, we can analyse current levels of social capital and compare between the stayers, movers and newcomers. However, the application of the social capital concept in a neighbourhood context has its pitfalls. In the next section, we therefore explore theoretical backgrounds of social capital.

### 3. Social Capital in a Neighbourhood Context

#### 3.1 Theories of Social Capital

Social capital has received much international attention through the works of Bourdieu (1986), Coleman (1988) and Putnam (1993, 2000). But it is by no means a novelty: “The term social capital itself turns out to have been independently invented at least six times

over the twentieth century, each time to call attention to the ways in which our lives are made more productive by social ties” (Putnam, 2000, p. 19). Definitions differ per author. Generally, social capital refers to resources that are accessible through social interactions and social networks, reciprocity, norms and mutual trust<sup>1</sup> (Bourdieu, 1986; Coleman, 1988; Fine, 2001; Portes, 1998; Putnam, 1993, 2000).

The usefulness of social capital as an analytical concept has been questioned in the scientific debate (see Middleton *et al.*, 2005, p. 1713-1717 for an overview). Basically, however, the concept of social capital is rather straightforward. By making connections with one another, and maintaining these contacts over time, people are able to work together. They are able to achieve things that they either could not achieve by themselves, or only with difficulty and at high costs. To the extent that social interactions and networks constitute a resource, they form a kind of capital (Field, 2003, p. 1). But “it is important to distinguish the resources themselves from the ability to obtain them by virtue of membership in different social structures, a distinction explicit in Bourdieu but obscured in Coleman” (Portes, 1998, p. 5). Portes defines social capital as the *ability* to mobilise resources from a social network. Thus, an individual must be connected to others to reap social capital benefits. Apart from definition issues, many authors observe a distinction between inward-looking and outward-looking social capital (see table 1).

**Table 1. Two types of social capital**

Social Capital	Granovetter (1973) Henning & Lieberg (1996)	Briggs (1998)	Woolcock (1998)	Gittel & Vidal (1998) Putnam (2000)	Lin (2001)
<b>Internally</b>	Strong ties	Social support (to get by)	Integration (group)	Bonding capital	Expressive action (homophilous ties)
<b>Externally</b>	Weak ties (bridges)	Social leverage (to get ahead)	Linkage (between groups)	Bridging capital	Instrumental action (heterophilous ties)

While a few authors have added a third dimension, i.e. linking capital (e.g. Halpern, 2005; Woolcock, 1998), the distinction between bonding and bridging capital has received most attention. Bonding capital is a resource created in the strong social ties between individual people, i.e. certain family members, close friends, and members of certain ethnic groups. Strong ties are a major source of emotional and material support (bonding capital). This type of capital can be very important within poor and excluded communities (Kearns, 2004). The social networks that produce bonding capital can be so strong that they exclude outsiders from the network and impose suffocating norms on the group members (e.g. Briggs, 1998; Portes, 1998). This is known as the dark side of social capital (Portes and Landolt, 1996; Putnam, 2000).

Bridging capital is hidden in the weak, less dense, cross-cutting social ties between heterogeneous individuals such as friends of your friends, indirect acquaintances, or certain colleagues from your work. This form of capital helps people to ‘get ahead’ through access to opportunities and resources in other social circles than your own. Thus, it contains a

different type of resources than bonding capital. A classic example of bridging capital is information about job opportunities, passed on between loosely connected people through a common acquaintance. The weak ties concept originated from research of Granovetter. “Whatever is being diffused can reach a large number of people and traverse greater social distance when passed through weak ties rather than strong ties (ibid., 1973, p. 1371).

Thus, bonding and bridging capital have their own specific merits and drawbacks. But they are not ‘either-or’ categories into which social networks can be neatly divided, but ‘more or less’ dimensions along which we can compare different forms of social capital (Putnam, 2000, p. 23). If Dutch policymakers try to stimulate shared social norms, involvement and collective action between residents, they appear to aim mainly at weak ties and bridging capital. However, the application of these network terms is problematic in a neighbourhood context. We will discuss this in detail below.

### **3.2 Social Capital in Neighbourhoods**

Because social capital and weak ties are basically network concepts, studying social capital in neighbourhoods poses several problems.<sup>2</sup> Most important is that neighbourhoods and networks are completely different entities that almost never converge (e.g. Wellman *et al.*, 1988). ‘Neighbourhood’ is a socio-spatial or imagined unit with a specific, but a limited social significance for its residents. It is only one of the many contexts in which people establish and maintain their social networks. Thus, neighbours and other residents usually form just a small part of residents’ social networks (Bridge, 2002, p. 25; Fisher, 1982, p. 41; Henning and Lieberg, 1996).

However, the neighbourhood is a context that residents choose or are forced to live in. Therefore, we are interested in cursory, everyday social interactions between residents that may produce social capital without necessarily being a member of each other’s network. These cursory ties may develop into strong ties (bonding), but they usually remain of a weak nature and of “a shifting, moving, fluid character” (Lofland, 1985, p, 118). In her book *A World of Strangers*, Lofland studied social interactions in public space, characterised by limited verbal communication and a short duration. While Lofland emphasises evasive behaviour, we will argue that cursory social interactions may have a positive social capital value. “Like pennies dropped in a cookie jar, each of these encounters is a tiny investment of social capital” (Putnam, 2000, p. 93). Neighbourhood residents ‘accidentally’ run into personal encounters in staircases, on the street, on squares, in playgrounds and in neighbourhood facilities such as shops and community centres. To a certain level, there is a form of mutual dependency. This dependency is hidden in the extent to which residents live peacefully alongside each other, succeed to maintain common norms and trust, and cooperate successfully if a shared neighbourhood interest is at stake. In a negative sense, the dependency between residents is felt clearly if nuisance occurs. However, the benefits of shared norms, trust and collective action are a resource from cursory, everyday social interactions. Consequently, these benefits are forms of social capital.

Cursory social interactions can yield public familiarity. Public familiarity implies that residents get sufficient information from everyday interactions to recognise and ‘categorise’ other people (Fischer, 1982, p. 60-61; cf. Blokland, 2003, p. 90-93). Public familiarity can result in social capital in the sense of a favourable social climate, but also in more tangible forms of social capital. We will give some examples to clarify our argument. We first refer to work of Henning and Lieberg (1996), who studied the role of weak ties between residents. They define weak ties as the “unpretentious everyday contacts in the neighbourhood” (ibid., p. 6). These contacts range from a nodding acquaintance to modest levels of practical help. The number of weak ties outnumbered the strong ties. Weak ties not only appeared to be significant for support, but also for a feeling of home and security (Henning and Lieberg, 1996; Briggs, 1998, p. 88; Skjaeveland and Garling, 1996; cf. Crawford, 2006). Forrest and Kearns (2001) argue that “the less robust and less deep-rooted are neighbourhood networks, the more stable and conflict-free may be the social order in which they sit” (ibid., p. 2134). According to Bridge (2002), what we can reasonably expect from other residents is neighbourliness. This is the exchange of small services or support in an emergency against a background of routine convivial exchanges, such as greetings and brief chats over the garden fence or in the street (ibid., p. 15).

A second element of social capital concerns social norms. In a neighbourhood setting, norms are unwritten social rules and opinions with regard to social interactions with other residents and behaviour in public spaces. Social capital then consists of benefits of shared norms and social control, such as nuisance that fails to occur, agreements how to use scarce parking space, and parents also keeping an eye on other playing children than their own (cf. Foley and Edwards, 1999; Putnam, 2000). Related is the concept of collective efficacy, defined as social cohesion among neighbours combined with their willingness to intervene on behalf of the common good (Sampson *et al.*, 1997, p. 918). Sampson and colleagues showed that collective efficacy is negatively associated with variations in violent crime in neighbourhoods. Residents’ willingness to intervene in unpleasant situations partly depends on the quality of social interactions and mutual trust (ibid., p. 919; Coleman, 1990; Duncan *et al.*, 2003). Social capital theory claims that effective enforcement of norms is only possible if a social structure has closure (Coleman, 1988, p. 105-107). Closure refers to the extent to which different actors in a social setting are interconnected, i.e. know each other. In a neighbourhood, this would mean that residents must know each other if they want to exercise social control. However, Bellair (1997) has suggested that the mere presence of social interactions is sufficient for a basic level for social control. Moreover, certain explicitly agreed norms can be enforced top-down by landlords. They can also stimulate initiatives of residents who want to draw up basic norms for their apartment buildings. This ‘codification’ may simplify residents’ efforts of norm enforcement.

Trust, a third component of social capital, is a complex issue. “The causal arrows among civic involvement, reciprocity, honesty, and social trust are as tangled as well-tossed spaghetti” (Putnam, 2000, p. 137). A basic level of trust is a condition for social interaction, support and reciprocity. Trust may also develop as a positive consequence of interactions

and mutual support (Brehm and Rahn, 1997). In a neighbourhood context, trust refers mainly to predictability of residents' behaviour. A deteriorating neighbourhood poses threats to this predictability and social interactions between residents (Fukuyama, 1995, p. 26; Lelieveldt, 2004; Ross *et al.*, 2001). However, an improving neighbourhood may have beneficial effects for trust levels. Residents may perceive investments in the physical infrastructure as a sign of public interest in their neighbourhood, raising their optimism and trust in its future (see also Flint and Kearns, 2006, p. 45).

In sum, we have described how social capital can be analysed in a neighbourhood context. While strong ties in a neighbourhood can produce bonding social capital, it seems that weak ties, i.e. casual and cursory connections between residents, are far more likely to occur. These connections can produce a variety of resources, all supporting a favourable social climate. Therefore, social capital has both an individual and a collective dimension. The resources accrue to both the 'groups' of residents involved in cursory connections, as well as individual residents. But there is no such thing as the social capital of a neighbourhood, which is not a social entity. Streets and building blocks are far more important levels for social interaction than the neighbourhood level, especially in mixed-tenure neighbourhoods (see e.g. Jupp, 1999). We designed our survey to match this line of reasoning. Moreover, we acknowledge results of recent Dutch research, which found that social mix as a result of urban restructuring has not improved social cohesion, but has resulted in social divisions on the neighbourhood level (see e.g. Van Beckhoven and Van Kempen, 2003; Dekker and Bolt, 2005). However, here we use a different analytical perspective, both in spatial terms (interactions between relatively small 'groups' of people on the micro scale of streets and building blocks) and in terms of the central concept: social capital.

That brings us to some important differences between social cohesion and social capital. Whereas social capital refers to *resources* accessible through social networks, norms and trust, social cohesion commonly denotes the networks, values, norms and solidarity themselves. Social cohesion often conjures up the notion of intensive relations in social networks, while social capital pays more attention to the added value of many-branched networks and weak ties. Additionally, social capital is, by definition, limited to interactions between people, excluding relations between people and places. Interestingly, several authors consider social capital as a dimension of social cohesion, with the other dimensions being common values and civic culture, social order, solidarity, and place attachment/identity (e.g. Forrest and Kearns, 2001, Dekker and Bolt, 2005). Restricting ourselves to the concept of social capital, we can deduce that place attachment is not a part of social capital. But we do not exclude a connection between these concepts beforehand, which is why place attachment is introduced as an independent variable (see next section).

Finally, we discuss the linkage between residential mobility and social capital. As mentioned earlier, there is evidence for a connection between years of residence and (preparedness to contribute to) social capital in the neighbourhood (e.g. DiPasquale and Glaeser, 1999; Saegert and Winkel, 2004). Nevertheless, residents' expectations of their

future length of stay in the neighbourhood may also be associated with social capital. A tendency to move in the near future may have a negative impact on the social capital of households. Whether they are planning a move, is reflected by their expected length of residence (see Dantas, 1988, Kleinhans, 2003). Research has shown that residents, who claim to move within a few years, can usually indicate the main triggers of their intentions (Mulder and Hooimeijer, 1999). This finding was replicated in the research reported in this paper (Kleinhans, 2005).

## 4. Data and Methods

### *Data collection*

Understanding social capital of stayers, movers and newcomers in restructured neighbourhoods requires thorough empirical research. Our financial resources enabled extensive fieldwork and data analysis in only two peripheral post-war neighbourhoods in the city of Rotterdam: De Horsten and Hoogvliet Northwest.<sup>3</sup> Both neighbourhoods were built during a period of severe housing shortages as a result of the Second World War. The area of Hoogvliet was also meant for housing employees of the petrochemical industry nearby. The areas were dominated by multi-family apartment buildings in the social rented sector. During the 1990s, extensive urban restructuring transformed the housing stock of De Horsten and Hoogvliet Northwest. Nowadays, both neighbourhoods consist of almost 1,000 dwellings of different forms, tenures, prices and quality. We distributed 1,941 written questionnaires among all households in both study areas. Subsequently, we recollected the questionnaires in a personal door-to-door campaign. This yielded a response of 917 usable questionnaires, i.e. 47 per cent, almost equally spread between the areas. Then, we acquired neighbourhood census data, such as household composition, age, ethnic background and tenure. These data were compared with the equivalent survey variables. This analysis (not printed here) showed that the response is a representative sample of the population in both areas. Several questions in the questionnaire enabled categorisation of respondents (see table 2).

**Table 2. Categories of residents in De Horsten and Hoogvliet Northwest**

Category	De Horsten		Hoogvliet Northwest	
	N	Per cent	N	Per cent
Stayers	42	9.0	199	44.4
Movers within the neighbourhood	63	13.4	58	12.9
Movers from surrounding neighbourhoods	136	29.0	94	21.0
Newcomers	219	46.7	96	21.4
Missing (unknown)	9	1.9	1	0.2
<b>Total (n=917)</b>	<b>469</b>	<b>100.0</b>	<b>448</b>	<b>100.0</b>

A striking difference between the research areas is the relative size of the categories. In Hoogvliet Northwest, stayers are the largest category and also form a much bigger share of the population than in De Horsten. On the other hand, the proportion of newcomers is much higher in De Horsten than in Hoogvliet Northwest. The sheer size and nature of the restructuring measures determines these differences. In De Horsten, about 70 per cent of the housing stock has been demolished and renovated. For Hoogvliet Northwest, this figure amounts to 40 per cent. Nevertheless, the proportion of movers within the neighbourhood is the same in the response. The newcomers in both areas are mainly from other districts in Rotterdam, as well as other municipalities.

### *Measures*

From the previous section, it is clear that social capital is a multidimensional concept (Foley and Edwards, 1999; Fine, 2001; Narayan and Cassidy, 2001; Putnam, 2000). The survey contains 22 indicator variables of social capital (see Appendix 1). The variables both reflect the nature of the specific type of social capital and the way in which it can be ‘accessed’ by the respondents. As mentioned earlier, all variables on social interactions, norms and trust are designed in a way to indicate cursory connections, but not to exclude possible strong ties. Most variables are measured on a five-point Likert-scale. Yet, it makes no sense using each item as a dependent variable. We need a composite measure that simultaneously includes aspects of social interactions, norms and trust. Therefore, we combined all variables in a Social Capital Index (cf. Putnam, 2000, p. 291). Cronbach’s  $\alpha$ -coefficient of this index is 0.75. We also constructed several indices of components of social capital. A Principal Components Analysis (see Appendix 1) has indicated three relevant components: social interactions and the resulting public familiarity, norms and trust, and associational activity.. However, the two separate indices of norms and trust, and associational activity have Cronbach’s  $\alpha$ -values just below 0.7 (see Appendix 1), which is the widely-accepted social science cut-off for the  $\alpha$ -value. However, as we concentrate ourselves on the analysis of the Social Capital Index, there is no validity problem.

The multivariate analysis includes several potential predictors of social capital. First, we use expected length of residence (ELR), neighbourhood and resident category, as defined in table 2. ELR is a dummy variable, indicating an expectation to move in less than five years or not, measured on the moment of answering the question. Secondly, to capture respondents’ socioeconomic characteristics, we include age (years), household composition (households with or without children), labour market position (paid employment or otherwise), net household income per month (lower versus middle and higher income), and ethnic background (native Dutch or ethnic minority). In Dutch statistics, a person belongs to an ethnic minority<sup>4</sup> if at least one of his parents is born abroad, regardless of his own country of birth. Finally, data on educational levels of respondents were not available.

Measures of housing and neighbourhood perception are also included. The housing variables include satisfaction with the current dwelling (a scale ranging from 1 = very unsatisfied to 5 = very satisfied), tenure (social or private rented versus owner-occupied),

and dwelling type (single- or multi-family). The remaining variables are place attachment and perceived neighbourhood quality. These two variables need more clarification.

Place attachment involves dynamic, but enduring positive bonds between residents and their physical settings (Brown and Perkins, 1992). In our research, place attachment is an index based on nine questionnaire items and contains the mean score per respondent for all items. These items are statements reflecting to what extent respondents appreciate living in the neighbourhood, feel proud of it, feel at home in the area, perceive accessible moving opportunities and are feeling safe on the streets at night (Brown *et al.*, 2003; Burns *et al.*, 2001; Forrest and Kearns, 2001; Perkins and Long, 2002). Each item is measured on a five-point Likert-scale. Scales with reversed meanings were recoded accordingly. The scores of the index range between 1 and 5 (Cronbach's  $\alpha = 0.84$ ).

Perceived neighbourhood quality is a measure of residents' perceptions of the physical quality of their immediate living environment. Here, we developed an index that is constructed similarly to the place attachment index. Perceived neighbourhood quality consists of five items measuring how often vandalism, graffiti on buildings, litter and dog dirt on the streets, nuisance of other residents and unsafety on the streets occur, according to the respondent (cf. Brown *et al.*, 2003; Ellaway *et al.*, 2001; Parkes *et al.*, 2002). Each item is measured on a four-point scale (1 = often occurs here, to 4 = never occurs). Again, the coding of certain items was reversed to take negative statements into account. Scores of the perceived neighbourhood quality index range between 1 and 4 (Cronbach's  $\alpha = 0.80$ ).

## 5. Results

As a starting point, we calculated the average Social Capital Index score for each of the resident categories in our research areas (see table 3). This yields notable results.

**Table 3. Social Capital Index: mean scores per resident category (n=871)**

Areas	Stayers	Movers within restructured neighbourhoods	Movers from surrounding neighbourhoods	Newcomers	Average per area
<i>De Horsten</i>	2.27	2.64	2.68	2.71	2.65
(SD)	(0.39)	(0.41)	(0.32)	(0.34)	(0.37)
<i>Hoogvliet Northwest</i>	2.73	2.68	2.61	2.68	2.68
(SD)	(0.32)	(0.27)	(0.34)	(0.33)	(0.32)

Social Capital Index: all respondents with more than five missing values for variables in the index are excluded. The higher the index score, the higher the average level of social capital of the resident category (index range: 1 - 5).

**De Horsten:** ANOVA Sum of Squares between groups = 6.62; df = 3; F = 18.06; p<0.001.

**Hoogvliet:** ANOVA Sum of Squares between groups = 0.87; df = 3; F = 2.83; p<0.05.

Firstly, the groups in both neighbourhoods differ significantly in the average SCI-score. In De Horsten, stayers have a much lower level of social capital than the movers and

newcomers. Contrary, the stayers score highest of all groups in Hoogvliet Northwest. Secondly, the newcomers in both areas have a relatively high level of social capital. If length of residence is a strong predictor of social capital, the newcomers would score much lower than stayers. Finally, the total average SCI-score does not differ significantly between the research areas.<sup>5</sup>

We used linear regression analysis to establish the predictors of residents' social capital. The regression analysis of the Social Capital Index consists of three models, of which only the final model is depicted in table 4 (second column). The final model includes the expected length of residence (ELR), the resident classification, the neighbourhood designation, interaction terms<sup>6</sup> for joint effects of resident category and neighbourhood, socioeconomic characteristics, dwelling satisfaction, place attachment, tenure, dwelling type and perceived neighbourhood quality.

Table 4 confirms that the movers from the surrounding neighbourhoods score lower on social capital than newcomers. To some extent, this goes against the expectations of policymakers. They would expect higher levels of social capital with residents who moved only a relatively short distance, i.e. from adjacent neighbourhoods. Table 4 does also point out the substantial difference in social capital scores between the stayers in both areas. In the next section, we provide an explanation for the differences between the scores of the stayers in both areas.

Apart from the final regression model of the Social Capital Index, table 4 also depicts separate regression analyses of the three social capital components (see Appendix 1). This enables us to study how the results on the social capital components differ from the results for the overall level of social capital. It appears that the Social Capital Index model ( $R^2 = 0.39$ ) has more explanatory power than the models explaining the Social Interactions and Norms & Trust indices ( $R^2 = 0.35$  and  $R^2 = 0.28$  respectively). The fit of the Associational Activities model is not very satisfying (Nagelkerke  $R^2 = 0.11$ ). As mentioned earlier, we focus our attention on the Social Capital Index, in the second column of table 4.

The regression model of the Social Capital Index shows no significant relationship between social capital and the ELR, while there was a highly significant connection in the two preceding models (not shown here). The positive association between social capital and ELR disappeared after controlling for housing characteristics, dwelling satisfaction, place attachment and perceived neighbourhood quality.

Both age and ethnic background have no significant association with the overall level of social capital. However, age is a significant predictor of Associational Activities, i.e. active membership of a local association, volunteering and collective action with residents (cf. Middleton *et al.*, 2005). Moreover, ethnic background has a significant relationship with both the Social Interactions Index and the Norms and Trust Index.

Households with children at home score higher on social capital. Labour market position, i.e. having a paid job, has a negative effect on both social capital and the perception of the social interactions. Of all the socioeconomic characteristics, household income is the strongest predictor. Middle- and higher-income households have a higher

level of social capital than lower income households. The analysis of the Social Interactions Index repeats this finding, but not the other two components.

**Table 4. Predictors of residents' social capital and of separate social capital components (C1-C3)**

Dependent variables	Social Capital Index (final model)		C1 Social Interactions Index		C2 Norms & Trust Index		C3 Associational Activities	
	B	SE	B	SE	B	SE	B	SE
<b>Models (N = 781)</b>								
<b>Category of residents</b>								
- Stayers	0.04	0.04	0.05	0.08	0.09	0.07	0.14	0.26
- Movers within the neighbourhood	-0.07	0.05	-0.11	0.09	-0.09	0.09	-0.14	0.26
- Movers from surrounding neighbourhoods	-0.10 *	0.04	-0.17 *	0.08	-0.12	0.08	-0.21	0.22
- Newcomers (reference category)	0		0		0		0	
<b>Neighbourhood</b> (0 = Hoogvliet; 1 = Horsten)	0.02	0.04	-0.05	0.06	0.03	0.07	-0.03	0.20
<b>Interaction category * neighbourhood</b>								
- Stayers	-0.21 **	0.07	-0.36 **	0.12	-0.23	0.12	-	-
- Movers within the neighbourhood	0.08	0.07	0.12	0.12	0.15	0.12	-	-
- Movers from surrounding neighbourhoods	0.12 *	0.06	0.21 *	0.09	0.14	0.09	-	-
- Newcomers (reference category)	0						-	-
<b>Expected length of residence (ELR)</b> (0 = more than five years; 1 = less than five years)	0.05	0.03	0.01	0.05	0.06	0.05	0.24	0.23
<b>Age (in years)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.02 **	0.01
<b>Ethnicity</b> (0 = ethnic minority; 1 = native Dutch)	0.01	0.02	0.16 **	0.04	-0.17 **	0.04	0.10	0.18
<b>Household composition</b> (0 = HH without children; 1 = HH with children)	0.09 **	0.03	0.12 **	0.05	0.12 **	0.04	0.33	0.20
<b>Labour market position</b> (0 = unemployed, retired; 1 = paid employment)	-0.06 *	0.03	-0.13 *	0.05	-0.01	0.05	0.39	0.22
<b>Net household income per month</b> (0 = low income, < € 1.500; 1 = middle or higher income, > € 1.500)	0.07 **	0.03	0.14 **	0.05	-0.07	0.04	0.36	0.19
<b>Satisfaction with the current dwelling</b>	0.03	0.02	0.06 *	0.03	0.05	0.03	0.11	0.11
<b>Place Attachment (index)</b>	0.22***	0.02	0.30***	0.04	0.23***	0.04	0.56***	0.17
<b>Tenure</b> (0 = rented; 1 = owner-occupation)	0.07 *	0.03	0.08	0.05	0.04	0.05	0.46 *	0.21
<b>Dwelling type</b> (0 = single-family home; 1 = multi-family dwelling)	-0.08**	0.03	-0.11 *	0.05	-0.06	0.05	0.11	0.22
<b>Perceived Neighbourhood Quality (index)</b>	0.08***	0.02	0.11***	0.03	0.17***	0.03	-0.39 *	0.14
<b>Constant</b>								
F	1.58***	0.10	1.32***	0.18	1.67***	0.17	-2.88***	0.76
Df	23.97		19.64		14.71		-	-
Significance	18		18		18		15	
R <sup>2</sup>	0.000		0.000		0.000		0.000	
	0.39		0.35		0.28		0.11 (Nagelkerke R <sup>2</sup> )	

**NOTE:** Linear regression for the indices Social Capital, Social Interactions, and Norms & Trust. **Logistic regression** for Associational Activity:

0 = no participation; 1 = participation (i.e. active membership of a local association and/or volunteering and/or collective action).

Significance levels: \* p<0.05 \*\* p<0.01 \*\*\* p<0.001 (two-sided). All respondents with more than five missing values for variables in the Social Capital Index are excluded from the analyses. This step decreases the number of incomplete index values for the three other indexes to six per cent or less. The linear regression models meet the requirements of multiple regression: linearity of relationships and homoscedasticity (tests of these assumptions can be requested for at the first author).

Finally, we analyse the effect of housing and neighbourhood characteristics. The inclusion of the corresponding variables to the final SCI-model has resulted in a substantial improvement of the explanatory power.<sup>7</sup> Dwelling satisfaction has no relation with social capital. However, the strength of the connection between place attachment and social capital is remarkable ( $\beta = 0.39$ ,  $p < 0.001$ ). It reappears in the analysis of each of the separate social capital components. The same applies to the perceived neighbourhood quality, except for its negative association with Associational Activities.

Two other significant factors are dwelling type and tenure. First, owner-occupiers score higher on social capital than renters. Secondly, living in a single-family dwelling is associated with higher levels of social capital than living in multi-storey apartments. In conclusion, not only socioeconomic factors but also housing and neighbourhood characteristics play an important role in explaining residents' level of social capital.

## 6. Discussion

We have applied the concept of social capital in the context of two recently restructured neighbourhoods that have experienced substantial residential and social instability. Thus, the results are only valid for our case studies, and not necessarily for the general Dutch situation. Our multivariate analysis shows a variety of factors explaining the social capital scores. Several socioeconomic characteristics are important for the level of social capital. Households with children at home clearly stand out in comparison to households without children. Obviously, parents meet other parents by means of their children, for example in the playground or in the schoolyard. This is a common way to get to know other residents (e.g. Forrest and Kearns, 1999; Saegert and Winkel, 2004). These interactions can increase public familiarity between residents. If experienced as positively, they are likely to produce social capital in various forms (see section 3.2).

Although ethnic background is not significantly related to the overall level of social capital, it is associated with two separate components. Native Dutch respondents are more positive about social interactions and public familiarity in their neighbourhood than ethnic minorities. On the other hand, ethnic minorities appear significantly more positive about levels of norm conformity and trust between residents than native Dutchmen. We can only speculate about this contradiction. Native Dutch respondents may have more opportunities to engage in social interactions with other (native) residents. Simultaneously, they may have less trust in other residents, especially in those with other ethnic backgrounds. Possibly, the prejudices of native Dutch residents against ethnic minorities are stronger than the other way round (cf. Dekker and Bolt, 2005, p. 2467). In the Social Capital Index, these contrasting associations seem to cancel each other out.

Closer inspection of our household income data (not shown) reveals that we are dealing predominantly with middle-income households and relatively few high-income households.<sup>8</sup> Both middle- and higher-income households have a significantly higher level of social capital than low-income households (see also Butler and Robson, 2001; Drukker *et al.*, 2005; Saegert and Winkel, 2004). Presumably, this is a joint effect of economic and cultural capital, i.e. the level of education and skills. Bourdieu (1986) conceptually describes the exchange processes between economic, social and cultural capital (cf. Piachaud, 2002; Silva and Edwards, 2004). Although we lack data on education, we hypothesise that such an exchange process explains the strong positive connection between the household income and level of social capital. More specifically, Middleton *et al.* (2005) claim that the

presence of (bridging) social capital is a consequence of social and economic well-being, not a cause of it. They write that membership of many organisations, such as sport clubs, requires wealth in order to invest time and money in participation (*ibid.*, p. 1731, 1734). This suggests that a potential causal arrow points from economic capital to social capital.

Another explanation for the correlation between income and social capital level is the time of arrival in the area. Most of the middle- and higher-income households moved into the restructured neighbourhoods in a limited period of time after the completion of the new dwellings. Consequently, their length of residence is very similar. They experienced a joint new start in the neighbourhood. Research into new estates shows a relatively high level of social interaction in the first years of the estate, and those interaction levels tend to diminish afterwards (e.g. Reijndorp *et al.*, 1998; Jupp, 1999). This finding seems to apply to our study areas neighbourhoods as well (see also Dekker and Bolt, 2005, p. 2461). The middle- and higher-income households are represented most among the newcomers. This partly explains why stayers and movers within the neighbourhood do not surpass the newcomers' social capital level.

Somewhat paradoxical is our empirical finding that paid employees have relatively less neighbourhood-based social capital than residents who are retired, unemployed or otherwise fall outside the labour market. As the household income is closely linked to paid employment, we expected the labour market position to have a positive effect. The underlying cause is a strong heterogeneity of respondents within the categories paid employment, retired and unemployed. For example, significantly more pensioners from the middle-income group are active volunteers than respondents in paid employment from the same income group. Furthermore, people with jobs are more often and longer away from their neighbourhood. Thus, they seem to be part of further-reaching networks and their opportunities to invest in neighbourhood-based social capital are more limited, both in terms of available time and diversity of presence during the day. The effect of the position in the labour market is, however, overshadowed by the effect of income and household composition on social capital.

Place attachment has a remarkably strong association with the level of social capital. In other words, residents expressing a higher level of place attachment also report higher levels of (access to) social capital. Several authors have hinted at such a relation between place attachment and social capital (e.g. Burns *et al.*, 2001, p. 7; DiPasquale and Glaeser, 1999; Forrest and Kearns, 2001, p. 2140; Perkins and Long, 2002). We considered the possibility that residents feel trapped in the neighbourhood, and, simultaneously report high levels of place attachment (cf. Vale, 1997). But our place attachment index takes into account residents who prefer to move, but simply lack the resources and opportunities to act accordingly. A stronger place attachment is likely to raise residents' willingness to join in favourable social interactions that create social capital. However, place attachment may result partly from the availability and reproduction of social capital among residents. Due to the cross-sectional nature of the data, we cannot trace a potentially causal relation between place attachment and social capital.

Perceived neighbourhood quality is also correlated with the level of social capital. However, the positive connection of this indicator with the Social Interactions and Norms & Trust indices contrasts with the negative connection with Associational Activities. Thus, a more negative neighbourhood opinion raises the chances of participation in associations, volunteering or collective action with neighbours. Such a (plausible) relationship would mean that a lower perceived neighbourhood quality stimulates residents to initiate efforts, whether jointly or not, to improve the neighbourhood attractiveness.

Dwelling characteristics also matter for social capital. Owner-occupiers in the restructured neighbourhoods enjoy higher levels of social capital than the renters, whether private or social renters. This finding fits neatly in a research tradition that points at the beneficial effects of homeownership for both the owner-occupiers and the neighbourhood (see e.g. Campbell and Lee, 1992; Davidson and Cotter, 1986; DiPasquale and Glaeser, 1999; Elsinga and Hoekstra, 2004; Temkin and Rohe, 1998). Here, owner-occupiers participate significantly more often than renters in associational activities and volunteering, both in and outside their neighbourhood. They have, therefore, more access to social networks potentially rich in social capital. The home is also an asset, and its value is closely tied to the attractiveness of the community (Middleton *et al.*, 2005, p. 1728). Motivated by protecting their investment, homeowners may be more likely to organize themselves. They may be able to endorse unwritten codes of conduct more easily than tenants.

We ascertained earlier that length of residence in a neighbourhood is often seen as a positive co-determinant for residents' social capital. A separate multivariate analysis (not shown here) demonstrated that length of residence did not emerge as a distinctive factor. The main reason is the recent arrival of movers from adjacent neighbourhoods and the newcomers. We therefore used *expected* length of residence in multivariate analysis, i.e. the time that residents expect to stay in their current dwelling (Dantas, 1988; Kleinhans, 2003). The assumed effect was the same as the effect of length of residence that had been discounted. Nevertheless, table 4 revealed that the relationship between expected length of residence and social capital is not significant. This holds true if, besides the social characteristics of the residents, account is taken of dwelling satisfaction, place attachment and the dwelling characteristics. This is comparable to a well-known conclusion of Kasarda and Janowitz (1974). They established that residents want to leave the local community if it fails to meet their aspirations, despite a strong neighbourhood attachment and intensive local participation (*ibid.*, p. 329).

Residents from multi-family dwellings report significantly lower levels of social capital than respondents living in single-family dwellings. This may be partly explained by a combined effect of tenure, a higher tendency to move, and the actual length of residence of people living in apartment blocks or single-family homes. This combination is different in each neighbourhood. In De Horsten, all single-family homes are new owner-occupied properties. All old dwellings are social rented apartments, of which significantly more residents reported a tendency to move. In Hoogvliet Northwest, the relationships between dwelling type and tenure were less straightforward. Even so, the effect of the type of

dwelling on social capital is still significant if resident category, neighbourhood, social characteristics, expected length of residence, satisfaction with the dwelling, place attachment and tenure are held constant. Another explanation is that it is harder to create and maintain pleasant social interactions and shared norms in old apartment blocks with a high occupancy turnover than in terraced dwellings with a very low occupancy turnover. Moreover, evidence from other studies suggests that people living in flats are less likely to chat to a large number of neighbours (Middleton *et al.*, 2005, p. 1726). This probably decreases opportunities for the creation of social capital.

Finally, we return to the finding that stayers in De Horsten display much lower social capital scores than the stayers in Hoogvliet Northwest. In De Horsten, the stayers exclusively live in old, social rented multi-family dwellings that contrast negatively with other parts of De Horsten. These stayers predominantly earn low incomes and are less attached to the neighbourhood. Additionally, their satisfaction with their housing and neighbourhood situation strongly lags behind those of other groups. Their building blocks are characterised by higher levels of occupancy turnover than other parts of the neighbourhood. Consequently, the stayers in De Horsten are confronted with frequently changing neighbours. On the other hand, many stayers in Hoogvliet Northwest live in owner-occupied single-family dwellings and earn modest but not low incomes. They are relatively often native Dutch empty nesters that have been living for a long time in a stable part of Hoogvliet Northwest. Furthermore, their place attachment and satisfaction with their housing and neighbourhood situation are comparable to those of the movers and newcomers in Hoogvliet Northwest (Kleinhans, 2005). In sum, both structural and attitudinal characteristics explain the differences between stayers in De Horsten and Hoogvliet Northwest.

## **7. Concluding remarks**

This paper has focused on the social capital of four different resident categories in Dutch restructured post-war neighbourhoods. Within this context, we have defined social capital as the benefit of cursory interactions, shared norms, trust and collective action of residents. In our two restructured neighbourhoods, social capital is hardly an asset on neighbourhood level, but usually appears on much lower spatial scales: in building blocks, streets, parks, playgrounds and over garden fences. Survey research among substantial numbers of residents enabled us to study social capital levels of the stayers, the movers within the neighbourhood, the movers from surrounding neighbourhoods and, finally, the newcomers.

Our first research question dealt with the average social capital levels in each group. Contrary to our expectations, we find that the newcomers enjoy (access to) relatively high levels of social capital, compared to stayers and the movers. While stayers scored highest in Hoogvliet Northwest, stayers in De Horsten have much less access to social capital than

the movers and the newcomers. In both areas, movers from surrounding neighbourhoods are just behind the newcomers in their social capital scores. Altogether, these results imply that length of residence is not a decisive determinant of social capital.

Our second research question asked to which extent socioeconomic characteristics, neighbourhood perceptions and housing aspects are related to residents' social capital. It turns out that households with children and middle- or higher net incomes in single-family dwellings score relatively high on social capital. They are often socially upward mobile households that made a positive choice for living in the research areas (cf. Priemus, 2004). Exactly this type of households is represented most among the newcomers, and the least among the stayers. Of all the socioeconomic characteristics, particularly income is a strong predictor of social capital. This is probably due to a strong connection with cultural capital (education). Income also partly determines the ability to access support and other resources from other sources than the neighbourhood. Moreover, living in a single-family dwelling and being a homeowner is associated with (access to) higher social capital levels. And the higher residents' place attachment and perceived neighbourhood quality, the higher the social capital.

Apart from the factors mentioned above, the newcomers' relatively high social capital levels are also related to other factors. Many newcomers and also movers from the surrounding neighbourhoods arrived at the same time in the neighbourhood, especially in new dwellings. They make a joint new start. Additionally, newcomers are the least heterogeneous group of all resident categories when it comes to socioeconomic and household characteristics. Having many people with similar characteristics living nearby makes positive social interactions easier and more likely (cf. Crawford, 2006, p. 963; Dekker and Bolt, 2005, p. 2461). Together, these factors encourage public familiarity, mutual understanding – however fleeting and superficial – and give especially newcomers with middle- and higher household incomes a social capital 'head start' over the low-income groups. Simultaneously, the lack of socioeconomic homogeneity combined with continually high levels of occupancy turnover explain the lower social capital scores of stayers in De Horsten, compared to stayers in Hoogvliet Northwest.

Our third research question dealt with the possible connection between social capital and residents' expected future length of residence. We could not find a significant relationship. In other words, residents intending to move within a few years do not have lower levels of social capital than residents without moving plans. This adds up to our earlier finding that length of residence (up till now) is not a decisive determinant of social capital. Thus, we conclude that the significance of length of residence in theories on social capital, social disorganization and collective efficacy (cf. Shaw and MacKay, 1942; Sampson *et al.*, 1997) needs to be re-thought, at least for contexts which have undergone dramatic changes in the past ten years. Length of residence may become an important factor in the formation of social capital above a certain threshold. Such a threshold was clearly not crossed in our study areas, but further research may explore this possibility.

An obvious shortcoming of this study is its cross-sectional nature. We cannot trace the true nature of the links between social capital, place attachment and perceived neighbourhood quality, or the development of the differences between the resident categories. Nevertheless, the empirical evidence clearly points at significant associations between several socioeconomic, housing and perception indicators, and social capital. However, we still know little of the interplay between social, economic and cultural capital. We do not know which form of capital is a driver behind processes of inequality, power differences and social discrimination (cf. Piachaud, 2002; Silva and Edwards, 2004). In sum, theories of social capital in relation to neighbourhoods need to be further developed and tested on the interplay between different capital forms.

Even though we did not study the effects of urban restructuring per se, the findings seem to point to several policy implications. First, the research appears to confirm that providing attractive housing career opportunities for movers within the neighbourhood is a sensible strategy from a social capital viewpoint (cf. Dekker and Bolt, 2005, p. 2467). The social capital levels of movers within the neighbourhood are higher than or comparable to those of long-term stayers. This seems to suggest that their access to social capital is not disturbed by their intra-neighbourhood move (cf. Piachaud, 2002, pp. 17-18). Lacking longitudinal data, unfortunately, we cannot properly test this hypothesis. Secondly, It appears that demolition and new construction may improve preconditions for the (re)production of social capital (cf. Flint and Kearns, 2006, p. 52). Urban restructuring usually results in the physical upgrading of the neighbourhood and the provision of attractive housing career opportunities, i.e. new, single-family, owner-occupied dwellings that may attract middle-income families from outside and within the same neighbourhood (see e.g. Van Beckhoven and Van Kempen, 2003, Kleinmans, 2005; Ministerie van VROM, 2000). Moreover, local authorities and housing associations can do much in terms of social management, such as dealing with nuisance of problematic tenants, mediation between quarrelling neighbours and support resident associations. All this can win back or raise trust of residents in institutions governing the neighbourhood (Burns *et al.*, 2001; Crawford, 2006; Lelieveldt, 2004). Yet, this is no guarantee for success. Residents themselves must make efforts to create social capital. They can invest in social capital through cursory, everyday social interactions that enable public familiarity and basic levels of trust, which support a favourable social climate in restructured neighbourhoods.. Finally, restructuring and neighbourhood maintenance policies must also ensure attention to parts of neighbourhoods that were not subject to demolition, new construction and upgrading. Strong and visible inequalities within neighbourhoods may not only result in social disorganization but may also stimulate feelings of relative deprivation among the less affluent residents in old dwellings (cf. Taylor and Covington 1988). The case of De Horsten shows the danger of stayers becoming a neglected group with high levels of dissatisfaction and low levels of social capital. They are least likely to profit from restructuring, in terms of their housing situation. Obvious physical cleavages in restructured areas are a breeding ground for social cleavages that hamper the potential for

positive cursory interactions and public familiarity between residents on the boundary lines between different blocks.

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## References

- ALLEN, T. (2000) Housing Renewal – Doesn't it Make You Sick? *Housing Studies*, 15(3), pp. 443-461.
- BECKHOVEN, E. VAN and VAN KEMPEN, R. (2003) Social Effects of Urban Restructuring: A Case Study in Amsterdam and Utrecht, The Netherlands, *Housing Studies*, 18(6), pp. 853-875.
- BELLAIR, P. E. (1997) Social Interaction and Community Crime: Examining the Importance of Neighbor Networks, *Criminology*, 35, pp. 677-703.
- BLOKLAND, T (2003) *Urban Bonds. Social Relationships in an Inner City Neighbourhood*. Cambridge: Polity Press.
- BOXTEL, R. VAN (2000) *Voortgang Grotestedenbeleid (Progress in the Major Cities Policy)*. Letter to the Second Chamber of Parliament, GSB2000/U60445. The Hague: Ministry of the Interior and Kingdom Relations.
- BOURDIEU, P. (1986) The Forms of Capital, in: Richardson, J.G. (Ed.), *Handbook of Theory and Research for Sociology of Education*, pp. 241-258, New York: Greenwood Press.
- BREHM, J. and RAHN, W. (1997) Individual-Level Evidence for the Causes and Consequences of Social Capital, *American Journal of Political Science*, 41(3) pp. 999-1023.
- BRIDGE, G. (2002) The Neighbourhood and Social Networks. *Centre for Neighbourhood Research Paper 4*, <http://www.neighbourhoodcentre.org.uk>.
- BRIGGS, X. S. (1998) Brown Kids in White Suburbs: Housing Mobility and the Many Faces of Social Capital, *Housing Policy Debate*, 9(1), pp. 177-221.
- BROWN, B. B. and PERKINS, D. D. (1992) Disruptions in place attachment, in: I. Altman, and Low, S. (Eds.), *Place Attachment*, pp. 279-304. New York: Plenum.
- BROWN, B., PERKINS, D. D. and BROWN, G. (2003) Place Attachment in a Revitalizing Neighborhood: Individual and Block Levels of Analysis, *Journal of Environmental Psychology*, 23, pp. 259-271.
- BURNS, D., FLINT, J., KEARNS, A. and FORREST, R. (2001) *Developing Social Capital and Empowering Communities: A Study of Housing Association Impacts*, Paper presented at the ENHR Conference, Pultusk, Poland, 25-29 June.

- BUTLER, T. and ROBSON, G. (2001) Social capital, gentrification and neighbourhood change in London: a comparison of three south London neighbourhoods, *Urban Studies*, 38(12), pp. 2145-2162.
- CAMPBELL, K. E. and LEE B. A. (1992) Sources of personal neighborhood networks: social integration, need or time? *Social Forces*, 70(4), pp. 1077-1100.
- CLAMPET-LUNDQUIST, S. (2004) HOPE VI Relocation: Moving to New Neighbourhoods and Building New Ties, *Housing Policy Debate*, 15(2), pp. 415-448.
- COLEMAN J. S. (1988) Social capital and the creation of human capital, *American Journal of Sociology*, 94 (Supplement), pp. S95-S120.
- COLEMAN, J. S. (1990) *Foundations of Social Theory*, Cambridge, MA: Belknap Press.
- CRAWFORD, A. (2006) 'Fixing Broken Promises?' Neighbourhood Wardens and Social Capital, *Urban Studies*, 43(5/6), pp. 957-976.
- DAVIDSON, W. R. and COTTER, P. R. (1986) Measurement and Sense of Community Within the Sphere of the City, *Journal of Applied Social Psychology*, 16, pp. 608-619.
- DANTAS, A. M. (1988) Overspill as an alternative style of gentrification: the case of Riverdale, Toronto, in T.E. Bunting and Filion, P. (Eds.), *The changing Canadian inner city*. Department of Geography (Publication Series no. 31), Waterloo.
- DEKKER, K. and BOLT, G. (2005) Social Cohesion in Post-War Estates in The Netherlands: Differences between Socioeconomic and Ethnic Groups, *Urban Studies*, 42(13), pp. 2447-2470.
- DEKKER, S. (2005) *Voortgang Actieprogramma Herstructurering (Progress in the Action Programme Urban Restructuring)*. Letter to the Second Chamber of Parliament, DGW/SR2005019562. The Hague: Ministry of Housing, Spatial Planning and the Environment.
- DIPASQUALE, D. and GLAESER, E. (1999) Incentives and social capital: are homeowners better citizens, *Journal of Urban Economics*, 45(2), pp. 354-384.
- DRUKKER, M., FERON, F. and OS, J. VAN (2005) *De buurt doet ertoe, Maastricht Kwaliteit van Leven studie (The Neighbourhood Matters. Maastricht Quality of Life Study)*. Maastricht: Universiteit Maastricht.
- DUNCAN, T. E., DUNCAN, S. C., OKUT, H., STRYCKER, L. A. and HIX-SMALL, H. (2003) A Multilevel Contextual Model of Neighbourhood Collective Efficacy, *American Journal of Community Psychology*, 32(3/4), pp. 245-252.
- EKSTRÖM, M. (1994) Elderly people's experiences of housing renewal and forced relocation: social theories and contextual analysis in explanations of emotional experiences, *Housing Studies*, 9, pp. 369-391.
- ELIAS, N. and Scotson, J.L. (1965), *The established and the outsiders: a sociological enquiry into community problems*. London: Frank Cass & Co. Ltd.
- ELLAWAY, A. S., MACINTYRE, S. and KEARNS, A. (2001) Perceptions of Place and Health in Socially Contrasting Neighbourhoods, *Urban Studies*, 38(12), pp. 2299-2316.

- ELSINGA, M. and HOEKSTRA, J. (2004) *De betekenis van eigenwoningbezit (The Meaning of Homeownership)*. The Hague: VROM-Raad.
- FIELD, J. (2003) *Social Capital*. London: Routledge.
- FINE, B. (2001) *Social Capital versus Social Theory: Political Economy and Social Science at the Turn of the Millennium*. London: Routledge.
- FISCHER, C. S. (1982) *To Dwell Among Friends: Personal Networks in Town and City*. Chicago: University of Chicago Press.
- FLINT, J. and KEARNS, A. (2006) Housing, Neighbourhood Renewal and Social Capital: The Case of Registered Social Landlords in Scotland, *European Journal of Housing Policy*, 6(1), pp. 31-54.
- FOLEY, M. and EDWARDS, B. (1999) Is it time to disinvest in social capital? *Journal of Public Policy*, 19, pp. 141-173.
- FORREST, R. and KEARNS, A. (1999) *Joined-up Places? Social cohesion and neighbourhood regeneration*. York: Joseph Rowntree Foundation.
- FORREST, R. and KEARNS, A. (2001) Social cohesion, social capital and the neighbourhood, *Urban Studies*, 38(12), pp. 2125-2143.
- FRIED, M. (1967) Functions of the Working-class Community in Modern Urban Society: Implications for Forced Relocation, *Journal of the American Institute of Planners*, 33, pp. 90-103.
- FUKUYAMA, F. (1995) *Trust: The Social Virtues and the Creation of Prosperity*. New York: The Free Press.
- FUKUYAMA, F. (1999) *The Great Disruption. Human Nature and the Reconstitution of Social Order*. London: Profile Books.
- GANS, H. J. (1991) *People, Plans, and Policies. Essays on Poverty, Racism, and Other National Urban Problems*. New York: Columbia University Press.
- GITTELL, R. and VIDAL, A. (1998) *Community Organizing: Building Social Capital as a Development Strategy*. Thousand Oaks, CA: Sage.
- GOETZ, E. G. (2002) Forced relocation vs. voluntary mobility: the effects of dispersal programmes on households, *Housing Studies*, 17, pp. 107-123.
- GRANOVETTER, M. S. (1973) The Strength of Weak Ties, *American Journal of Sociology*, 78(6), pp. 1360-1380.
- GROOTAERT, C., NARAYAN, D., NYHAN-JONES, V. and WOOLCOCK, M. (2002) Integrated Questionnaire for the Measurement of Social Capital. *The World Bank, Social Capital Thematic Group*, <http://poverty.worldbank.org/library>.
- HALPERN, D. (2005) *Social capital*. Cambridge: Polity Press.

- HENNING, C. and LIEBERG, M. (1996) Strong Ties or Weak Ties? Neighbourhood Networks in a New Perspective, *Scandinavian Housing and Planning Research*, 13, pp. 3-26.
- JUPP, B. (1999) *Living Together. Community Life on Mixed Tenure Estates*. London: Demos.
- KASARDA, J. D. and JANOWITZ, M. (1974) Community attachment in mass society, *American Sociological Review*, 39, pp. 328-339.
- KEARNS, A. (2004) Social Capital, Regeneration and Urban Policy. *Centre for Neighbourhood Research Paper 25*, <http://www.neighbourhoodcentre.org.uk>.
- KEMPEN, R. VAN and PRIEMUS, H. (1999) Undivided Cities in the Netherlands: Present situation and Political Rhetoric, *Housing Studies*, 14(5), pp. 641-657.
- KEMPEN, R. VAN and PRIEMUS, H. (2002) Revolution in Social Housing in the Netherlands: Possible Effects of New Housing Policies, *Urban Studies*, 39(2), pp. 237-253.
- KLEINHANS, R. (2003) Displaced but still Moving Upwards in the Housing Career? Implications of Forced Residential Relocation in The Netherlands, *Housing Studies*, 18(4), pp. 473-499.
- KLEINHANS, R., (2004) Social Implications of Housing Diversification in Urban Renewal: A Review of Recent Literature, *Journal of Housing and the Built Environment*, 19(4), pp. 367-390.
- KLEINHANS, R. (2005) *Sociale implicaties van herstructureren en herbuisvesting (Social Implications of Urban Restructuring and Forced Relocation)*. Delft: Delft University Press.
- LELIEVELDT, H. (2004) Helping Citizens Help Themselves. Neighborhood Improvement Programs and the Impact of Social Networks, Trust and Norms on Neighborhood-Oriented Forms of Participation, *Urban Affairs Review*, 39(5) pp. 531-551.
- LIN, N. (2001) Social Capital. A Theory of Social Structure and Action. Structural Analysis in the Social Sciences no. 19. Cambridge: Cambridge University Press.
- LOFLAND, L. (1985) *A World of Strangers*. Prospect Heights, Illinois: Waveland Press Inc.
- MIDDLETON, A., MURIE, A. and GROVES, R. (2005) Social Capital and Neighbourhoods that Work, *Urban Studies*, 42(10), pp. 1711-1738.
- MINISTERIE VAN VROM (1997) *Nota Stedelijke Vernieuwing (Policy Memorandum Urban Renewal)*. The Hague: Ministry of Housing, Spatial Planning and the Environment.
- MINISTERIE VAN VROM (2000) *Mensen Wensen Wonen: wonen in de 21<sup>ste</sup> eeuw (What People Want, Where People Live)*. The Hague: Ministry of Housing, Spatial Planning and the Environment.
- MULDER, C. H. and HOOIMEIJER, P. (1999) Residential Relocations in the Life Course, in: L. van Wissen and Dykstra, P. (Eds.), *Population Issues: An Interdisciplinary Focus*, pp. 159-186. New York: Kluwer/Plenum.

- NARAYAN, D. and CASSIDY, M. F. (2001) A Dimensional Approach to Measuring Social Capital: Development and Validation of a Social Capital Inventory. *Current Sociology*, 49(2), pp. 59-102.
- OSTENDORF, W., MUSTERD, S. and VOS DE, S. (2001) Social mix and the neighbourhood effect. Policy ambitions and empirical evidence, *Housing Studies*, 16(3), pp. 371-380.
- PARKES, A., KEARNS, A. and ATKINSON, R. (2002) Determinants of Neighbourhood Dissatisfaction. *Centre for Neighbourhood Research Paper 1*, <http://www.neighbourhoodcentre.org.uk>.
- PERKINS, D. D. and LONG, D. A. (2002) Neighborhood sense of community and social capital: A multi-level analysis, in: A. Fisher, C. Sonn and Bishop, B. (Eds.), *Psychological sense of community: research and implications*, pp. 291-318. New York: Kluwer Academic Publishers.
- PIACHAUD, D. (2002) Capital and the Determinants of Poverty and Social Exclusion. *CASE Paper 60, Centre for Analysis of Social Exclusion*. London: London School of Economics.
- POPP, H. (1976) The Residential Location Process. Some Theoretical and Empirical Considerations. *Journal of Economic and Social Geography (TESG)*, 67(5), pp. 300-305.
- PORTES, A. and LANDOLT, P. (1996) The Downside of Social Capital. *American Prospect*, 26, pp. 18-21.
- PORTES, A. (1998) Social capital: its origins and applications in modern sociology, *Annual Review of Sociology*, 24, pp. 1-24.
- PRIEMUS, H. (2004) The Path To Successful Urban Renewal: Current Policy Debates in The Netherlands, *Journal of Housing and the Built Environment*, 19(3), pp. 199-209.
- PUTNAM, R. D. (1993) *Making Democracy Work: Civic Tradition in Modern Italy*. Princeton, NJ: Princeton University Press.
- PUTNAM, R. D. (2000) *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.
- REIJNDORP, A., KOMPIER, V., METAAL, S., NIO, I. and TRUIJENS, B. (1998) *Buitenwijk. Stedelijkeid op afstand (Suburb: Urbanity at a Distance)*. Rotterdam: NAI Uitgevers.
- ROSS, C. E., MIROWSKY, J. and PRIBESH, S. (2001) Powerlessness and the Amplification of Threat: Neighbourhood Disadvantage, Disorder and Mistrust. *American Sociological Review*, 66, pp. 568-591.
- SAEGERT, S. and WINKEL, G. (2004) Crime, Social Capital, and Community Participation, *American Journal of Community Psychology*, 34(3/4), pp. 219-233.
- SAMPSON, R. J., RAUDENBUSH, S. W. and EARLS, F. (1997) Neighbourhoods and Violent Crime: A Multilevel Study of Collective Efficacy, *Science*, 277, pp. 918-924.
- SHAW, C. R. and MACKAY, H. D. (1942) *Juvenile Delinquency in Urban Areas*. Chicago: University of Chicago Press.

- SILVA, E. and EDWARDS, R. (2004) Operationalizing Bourdieu on Capitals: A Discussion on The Construction of the Object. *ESRC Research Methods Programme Working Paper No. 7*. London: Open University/South Bank University).
- SKJAEVELAND, O. and GARLNG, T. (1996) A Multidimensional Measure of Neighboring, *American Journal of Community Psychology*, 24(3), p. 413-435.
- STEVENS, J. (1996) *Applied Multivariate Statistics for the Social Sciences*. New Jersey: Lawrence Erlbaum Associates.
- TAYLOR, R. and COVINGTON, J. (1988) Neighborhood Changes in Ecology and Violence, *Criminology*, 26, pp. 553–589.
- TEMKIN, K. and ROHE, W. M. (1998) Social capital and neighbourhood stability: an empirical investigation, *Housing Policy Debate*, 9(1), pp. 66–68.
- TUNSTALL, R. (2003) ‘Mixed Tenure’ Policy in the UK: Privatisation, Pluralism or Euphemism? *Housing Theory and Society*, 20(3), pp. 153-159.
- UTTERMARK, J. (2003) ‘Social Mixing’ and the Management of Disadvantaged Neighbourhoods: The Dutch Policy of Urban Restructuring Revisited, *Urban Studies*, 40(3), pp. 531-549.
- VALE, L. (1997) Empathological Places: Residents’ Ambivalence Towards Remaining in Public Housing, *Journal of Planning and Education Research*, 16, pp. 159-175.
- WELLMAN, B., CARRINGTON, P. and HALL, A. (1988) Networks as personal communities, in: Wellman, B. and Berkowitz, S. (Eds.) *Social Structures: A network approach*, pp. 130-184. Cambridge: Cambridge University Press.
- WETENSCHAPPELIJKE RAAD VOOR HET REGERINGSBELEID (SCIENTIFIC COUNCIL FOR GOVERNMENT POLICY) (2005) *Vertrouwen in de buurt (Trust in the Neighbourhood)*. Amsterdam: Amsterdam University Press.
- WOOD, M. (2003) A Balancing Act? Tenure Diversification in Australia and the UK, *Urban Policy and Research*, 21(1), pp. 45-56.
- WOOLCOCK, M. (1998) Social Capital and Economic Development. Towards a Theoretical Synthesis and Policy Framework, *Theory and Society*, 27, pp. 151-208.
- WOUDEN, R. VAN DER and BRUIJNE, E. De (2001) *The City and the Urban Region. Problems and Perspectives of the Four Major Urban Areas in The Randstad*. The Hague: Sociaal en Cultureel Planbureau.

## Appendix 1: The Social Capital Index

Below is a list of all social capital indicators, as used in our survey. Many indicators are derived from validated social capital surveys (such as Grootaert *et al.*, 2002).

1. In this neighbourhood, we are on good terms with each other
2. I must solve many problems for myself because few people support me \*
3. If I help a neighbour with something, I expect him to return a favour in the future \*
4. It is not easy to establish contacts with the people around here \*
5. In case of emergency, I can always ask someone in this neighbourhood for help
6. There are tensions here between newcomers and people who have lived here for a long time \*
7. Actual support offered to neighbours during the last two months +
8. Active membership in a voluntary association (resident organisation, sport club, church, and other) +
9. Voluntary work in an association or in general +
10. Cooperation with other residents in the last year to achieve something for the neighbourhood +
11. The people around here would cooperate well to get something done for the neighbourhood, e.g. a face-lift of the public park
12. In this neighbourhood, there is a good level of social control
13. The residents in this neighbourhood take no account of each other \*
14. I feel jointly responsible for the liveability in this neighbourhood
15. The residents have common norms with regard to keeping this neighbourhood tidy
16. Residents should not meddle with each other's affairs
17. If you encounter a person in this area, would you know if he or she lives in this neighbourhood?
18. If a resident parks his car on the sidewalk, would you ask him to move it to a parking place?
19. Generally speaking, residents in this neighbourhood can be trusted
20. When I go on a holiday, I can leave my house key safely with my neighbours or other residents
21. One cannot be too careful in dealing with people you do not know \*
22. I don't mind several ethnic groups living in this neighbourhood alongside each other.

\* These items have a reversed meaning and are recoded accordingly

+ Bivariate items (0 = no; 1 = yes).

A Principal Components Analysis has indicated three relevant components of social capital, each with an eigen value of more than 1 (Kaiser Criterium; see Stevens, 1996, p. 367):

C1 Social interactions: variables 1, 2, 4, 5, 7, 13, 20 (Cronbach's  $\alpha = 0,73$ )

C2 Norms and trust: variables 3, 11, 12, 15, 17, 19 (Cronbach's  $\alpha = 0,61$ )

C3 Associational Activity: variables 8, 9, 10 (Cronbach's  $\alpha = 0,56$ )

The remaining six variables are joined in three pairs. However, a factor or component with only two variables is, strictly spoken, not a factor (Stevens, 1996, p. 373). Consequently, these 'components' are not analysed separately, but the matching variables are adequately included in the overall social capital index.

## Notes

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<sup>1</sup> For comprehensive overviews of the literature on social capital, see e.g. Field (2003), Fine (2001), Halpern (2005) and Kearns (2004).

<sup>2</sup> We are indebted to Talja Blokland for important suggestions on this issue.

<sup>3</sup> We wish to acknowledge the financial assistance of the Dutch government through the Habiforum Program Innovative Land Use and Delft University of Technology through the Delft Centre for Sustainable Urban Areas..

<sup>4</sup> Strictly speaking, ethnic minority is not a proper term, as it indicates a disadvantaged position. However, 'foreign-born' would unjustly exclude the so-called 'second generation' immigrants, who are born in The Netherlands, but with at least one parent born abroad.

<sup>5</sup> Student's  $t = 1.37$ ,  $df = 869$ ,  $p=0.17$ .

<sup>6</sup> We also analysed a model without these interaction effects. This yielded the same results as in table 4, with no differences in the variables that turn out significant (see Kleinhans, 2005, p. 182). However, we here prefer the model including interaction effects, as they underline the bivariate results from table 3.

<sup>7</sup> The explained variance  $R^2$  increases from 0.17 in the second model to 0.39 in the third model.

<sup>8</sup> The number of households with a net household income considered as high (€ 3,000 per month or more) amounts to only 12 per cent in De Horsten and 7 per cent in Hoogvliet-Northwest.