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Inequalities in the Effect of the Urban Neighbourhood on
Residents' Socioeconomic Status**

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A different place for different people?

Inequalities in the Effect of the Urban Neighbourhood on Residents' Socioeconomic Status

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Researchers on both sides of the Atlantic have found significant evidence for the argument that, for urban dwellers, the neighbourhood in which one lives has a substantial impact on one's chances in life. More recently, some reviewers of the literature have warned against the self-evidence of assuming a uniform effect of the neighbourhood environment across all residents, as the residential area might in fact affect some people more than others. In this paper, we empirically and theoretically expand on this concern. Are there differences between residents in the way and the degree the socioeconomic status of a neighbourhood influence their socioeconomic position? The classical assumption is that neighbourhood effects transmit through contagion and socialization models; the impact of socioeconomic characteristics of other residents in the neighbourhood is prevalent in explaining somebody's socioeconomic status. However, some residents have sources of support that extend beyond the neighbourhood and they might therefore be less sensitive to neighbourhood attributes. Taking into account the social mechanisms through which neighbourhood effects are transmitted, the focus of our paper is on whether the degree to which the social network of an individual resides in the neighbourhood leads to differential effects of the neighbourhood's socioeconomic status on the resident's current economic position. We investigated this with a multi-level model in 18 neighbourhoods in six European cities (Bilbao, Lisbon, Rotterdam, Thessalonica, Vienna and Warsaw). We found that the negative effect of a high rate of residents with low occupational attainment in the neighbourhood is strongest for residents who have solely intra-neighbourhood social contacts. Residence seems to matter for one's socioeconomic status, but the stronger the relational embeddedness in the neighbourhood the more this is the case.

Emily Miltenburg and Flip Lindo

1. Introduction

Are there differences across residents in the way the composition of the neighbourhood influences their socioeconomic position? One of the most significant actors in the neighbourhood debate is W.J. Wilson (1987, 1996), who introduced the concept of 'social isolation' as a characteristic of communities in American urban inner cities. Socially isolated communities have become disconnected from the mainstream society due to macro-structural economic processes in which middle-class and skilled working-class people and institutions have withdrawn from the neighbourhood. The consequence is that people without opportunities and prospects stay behind in social isolation, excluded from institutions and resources in the mainstream society. Ever since, many researchers aimed to empirically verify that the community profile of social isolation

affects individual socioeconomic outcomes, both in American studies (Briggs, 1997; Galster et al., 1999; Cotter, 2002) and in the European context (Andersson et al., 2007; van der Klaauw & van Ours, 2003)

American studies on neighbourhood effects have a research tradition of focusing mainly on inner city neighbourhoods with an overrepresentation of people without sufficient education and employment. These studies are thus restricted to only one specific type of residents in socially isolated communities, known for being generally more locally oriented in their network and therefore more ‘exposed’ to the neighbourhood (Campbell & Lee, 1990). In addition, these kind of empirical studies too easily assume a uniform effect of the neighbourhood environment across all residents.

In the European research field, attention is starting to become focused on studying economically and mixed neighbourhoods and potential differences in neighbourhood effects. An example is the study by Pinkster (2007), who has drawn attention to the notion that we should not exclusively focus on distressed areas and should aim to address differential neighbourhood effects on residents’ socioeconomic outcomes. For instance, far too little attention has been paid to the impact of the community profile on residents in economically and racially mixed neighbourhoods that have plenty of resources and support that extend beyond the neighbourhood. It might be argued that this type of residents is less sensitive to the neighbourhood attributes (Ellen & Turner, 1997). We aim to expand both empirically and theoretically on the idea that the residential area might affect some people *more* than others.

How can we pin down these potentially different patterns in the effect of neighbourhood attributes on its residents? First of all, we have to report on the main effects of the neighbourhood on the individual’s socioeconomic status. A crucial step in this process is acknowledging the social mechanisms through which these neighbourhood effects are transmitted. Although this is subject to an extensive theoretical research field (Ellen & Turner, 1997; Lupton, 2003, Briggs, 1997; Buck, 2001; Tienda, 1991), researchers have not treated these mechanisms in much detail in their empirical studies. To provide more clarity surrounding the role of the neighbourhood for residents’ economic prospects, measures of social interaction in the neighbourhood should be included (Ellen & Turner, 1997). Galster (2008) argues that the strength of exposure to neighbourhood effects depends on the *degree* to which the social network of an individual resides in the neighbourhood. In this line of reasoning, we expect that the neighbourhood effects are the strongest for residents who have mostly ‘intra-neighbourhood social relationships’ (Galster, 2008; Friedrichs & Blasius, 2003; Pinkster, 2007). Therefore, we have to get a clear picture of the intra- as well as trans-neighbourhood interactions of residents in European cities. This brings us to our central research question: *does the degree to which the social network of an individual resides in the neighbourhood lead to differential effects of neighbourhood socioeconomic conditions on the resident’s current economic position?*

This question requires a method that allows for modelling neighbourhood conditions of various neighbourhoods and that can estimate the change in magnitude of neighbourhood effects when accounting for the share of contacts within and outside the neighbourhood. In order to reach this goal, we employ a multi-level model. The study uses survey data of six European cities (Bilbao, Lisbon, Rotterdam, Thessalonica, Vienna and Warsaw) in each of which three neighbourhoods were selected. While many studies model uniform effects of the neighbourhoods in one metropolitan area, this study aims to uncover differential effects of the neighbourhood on individual economic prospects in different European welfare states. Furthermore, it does not only include intra-neighbourhood contacts, but also contacts outside the neighbourhood, thereby accounting for the opportunities and resources of an individual outside the neighbourhood.

2. Theory

2.1 Neighbourhoods as communities and neighbourhood effects

Roughly, two kinds of neighbourhood studies can be discerned. On the one hand are those studies that focus on one or at the most two neighbourhoods and that treat these as case studies of local communities. This work is predominantly done by ethnographers with a sociological, anthropological or human geographical background. They try to understand the interaction in the area by taking the neighbourhood itself as the unit of analysis, rather than the individual residents. Scholars engaged in this kind of research are first and foremost interested in making sense of the patterning in the interaction in which their informants engage with others in the neighbourhood. The interaction between neighbours could be cooperative or competitive, aimed at accessing resources of different kind, or expressing emotions and involvement. The expected and experienced outcome of the interaction by the residents, for instance in terms of socio-economic status or health, makes part of the analysis but is not its only goal.

On the other hand a group of studies can be identified that has been vastly growing over the past two decades and is concerned with statistical measurement of the effects of the neighbourhood on the socio-economic position (including education), family formation or health of its individual residents. This work is taken up by sociologists, human geographers and epidemiologists who adhere to quantitative methodologies. Lupton brings to our notice that the two strands of work tend to co-exist without engaging into academic dialogue, which in her view is however urgently necessary, and would especially be profitable for the quantitative work on neighbourhood effects (2003: 2-3). She has also pointed to the fact that this last body of work chiefly uses large samples of national datasets that do not contain

variables on physical and institutional characteristics of the neighbourhoods, but only those related to neighbourhood composition (Lupton: 2003: 2, 8).

Besides the physical and institutional domain (with the last is meant the provision of and access to local and national government resources), there is another kind of information seldom if ever tapped in neighbourhood effects research. This is the kind of data pertaining to relationships and interaction between individuals and between individuals and institutional actors within the neighbourhood that are mostly collected by ethnographers and other qualitative researchers. In our paper, we show that it is possible to deal with and make sense of this kind of data statistically, provided that it has been collected in a large enough survey, and comprises a sufficient number of second-level observations (neighbourhoods). Our paper is clearly positioned in the neighbourhood-effects body of work, but also aspires to reach out to the work done by qualitative researchers in whose fieldwork and analysis the first (individual) and second (neighbourhood) levels are integrated from the outset. It is our intention to contribute to the debate on neighbourhood effects as well as to invite qualitative scholars on the neighbourhood community in the discussion.

The two bodies of scholarly work distinguished above have one supposition in common. The neighbourhood matters for its inhabitants, and because of this for policy, at least to the degree that it legitimates an impressive and on-going commitment of academic work along the complete methodological and disciplinary spectrum of the social sciences. In the community studies line of work this is made clear by its denominator: if a residential neighbourhood in fact forms a community of relatively significant others at all, is a question already decided upon the moment the fieldworker enters the site to start his research. In the neighbourhood effects branch the premise is correspondingly displayed on its banner. As regards the studies on the neighbourhood impact on somebody's socioeconomic position, it is argued that in one way or another the neighbourhood "contributes to residents' aspirations and preferences with respect to work as well as their (perceived) employment opportunities, which in turn leads residents to make certain life choices that subsequently influence their social position" (Pinkster, 2009: 8).

We think it is important that in both ethnographic and statistical research scholars should be sensitive and have an open attitude to the question in what way neighbourhoods are important for its residents, but moreover to what degree they are important at all. To be able to address this question empirically we need data on intra- as well as trans-neighbourhood interaction of residents. The present paper makes use of such data.

Only for purposes of framing our argument, we will give first a very schematic outline of the work done in community studies, without any pretence of covering even all of the basic pillars in this line of work. Then, also briefly, we will review the work in the neighbourhood effects department by ticking off the main neighbourhood

determinants of individual economic prospects as presented in the most important empirical and theoretical studies (for more comprehensive reviews of research on neighbourhood effects, see Friedrichs et al., 2003; Leventhal & Brooks-Gunn, 2000; Ellen & Turner, 1997).

Community, loss of community and ghettoization

Most of the influential studies on disadvantaged communities, notably the classical ones on the Black inner city ‘ghettos’ in the US, more or less explicitly state that deviant patterned behaviour in poverty areas does not constitute an integral behavioural complex in its own right that can be called an autonomous culture (cf. Anderson, 1990, Bourgois 1995, Hannerz 1969, Lewis 1970, Liebow 1967, Stack 1974, Valentine 1978). The lifestyle described in these studies, internalized during childhood or learned through familiarisation later on, is a product of coping with macro-structural constraints. Some argue that, instead of a culture, it could be called a *subculture* as it is related to mainstream norms and values (Hannerz 1969: 177 ff; Liebow 1967: 222; see also Van Rijn 2011: 6).

So, the seeming juxtaposition of social isolation and influence of hegemonic discourse is a mere paradox. *Social isolation*, one of the main concepts in the work of W.J. Wilson (1987, 1996), serves to articulate the structural context of urban inner city poverty. It is a quality pertaining to communities, and through these it influences the life of individuals. Socially isolated communities have become disconnected from mainstream society, in the first instance because of macro-structural processes such as the transformation from an economy based on industry to one that is based on providing services, requiring professional credentials. In combination with another central notion, *concentration effects*, Wilson points out how we should theoretically conceive of the link with the local meso- or group level. The opportunity of paid labour for the lower classes in the inner city has disappeared. In its wake, other important institutions, including the middle-class and skilled working-class segment of the local population, have withdrawn from the area. Those without prospects or opportunities to start elsewhere remain in social isolation, excluded from institutions and resources that citizens from the ‘main stream’ routinely have access to and enjoy. The local concentration of people with insufficient education and without employment, lacking the credentials necessary in the new economy, is attendant on, or leads to, an overrepresentation of other population characteristics such as an uncommon fast increase of the proportion of adolescents and young adults in the community. This very large segment of young people is cut off from informal job networks and role models of salaried workers, businessmen, two-parent families, and their contributions to the basic community institutions such as schools and churches. Concentrated poverty is very much the convergence of the *absence* of requirements necessary for a good community *and* individual life whose presence elsewhere in

society is considered to be completely self-evident.

Wilson stresses the structural, macro-level quality of the phenomenon and its effects on local community characteristics in the inner city neighbourhoods in the United States. How this community profile of concentrated deficiency affects individual outcomes on the meso- and micro-level is, perhaps in first instance convincingly, however only roughly outlined. This group-to-individual level process has an obvious cultural dimension. The body of academic work on *how* different degrees of social isolation and concentration affects individuals on the meso- and is level is nevertheless still too small and too much restricted to cases at the most concentrated and isolated end of the continuum (see also Young, 2003).

To be more specific, this type of research tends to focus exclusively on one type of residents in socially isolated communities, known for being generally more locally oriented in their network. However, far too little attention has been paid to the impact of the community profile on residents in economically and racially mixed neighbourhoods that have plenty of resources and support that exceed beyond the neighbourhood. In the current study we will further address this issue by focusing on various European neighbourhoods with residents that have different patterns in intra- and trans-neighbourhood contacts and are thus not predominantly locally oriented in their contacts and behaviour. Before we do that, we present some notable neighbourhood determinants of individual economic prospects as mentioned in often-cited empirical and theoretical studies. In addition, we will elaborate on how neighbourhood effects are being transmitted to its residents.

Neighbourhood effects

The neighbourhood effects literature sets out from Wilson's perspective while taking a broader scope on the conditions and outcomes. The premise in general is that where social isolation and concentration effects increase, the chances to escape unemployment or attain a higher occupational status diminish. Galster et al. (1999) shift the focus from the African American communities in the inner city to the economic situation of migrants in various American metropolitan areas. They argue that social isolation – which they measure as the rate of residents on public assistance, unemployed residents and residents without high-school diploma – can serve as a proxy for (the lack of) sources and support and the relative absence or presence of role models in the neighbourhood. The authors find that a concentration of unemployed, poorly educated residents that are dependent on public assistance decreases the socioeconomic opportunities of the other residents in the neighbourhood (Galster et al., 1999: 100). Approaching it from the positive side, Briggs (1997) emphasizes the benefits of more affluent co-residents, which he believes to be an advantage for low-income households. In his words, a 'positive, work-oriented social climate' in the neighbourhood has a positive impact on the residents' economic wellbeing (Briggs,

1997: 218).

Many other researchers have found significant empirical evidence for an effect of the neighbourhood – controlled for individual and family characteristics - on individual socioeconomic outcomes on both sides of the Atlantic. The study by Andersson et al. (2007) in Sweden finds that the socioeconomic composition of the neighbourhood is the most important dimension in explaining residents' labour earnings. In addition, van der Klaauw and van Ours (2003) find that in the Dutch city Rotterdam the transition from welfare into employment can be predicted by the employment rate in the neighbourhood. The higher the unemployment rate in the neighbourhood, the less likely an individual is to exit public assistance. Buck (2001) finds for the United Kingdom that living in a neighbourhood with a predominantly deprived population is negatively associated with expectations and actual probabilities of individual residents of getting a job. Finally, Weinberg et al. (2004) use various measures of the socioeconomic status of co-residents in New York City (such as neighbourhood rates of public assistance, employment, secondary school drop out and poverty rate) and finds that the measures are significantly related to the residents' labour activity.

However, not all studies find convincing empirical support for the hypothesis that living in neighbourhoods with disadvantaged socioeconomic characteristics leads to worse economic prospects. Brännström (2004) finds with a counterfactual approach in two Swedish neighbourhoods that growing up in a poor neighbourhood does not necessarily lead to correspondingly bad educational and employment outcomes for the adolescents living there. The author explains the absence of neighbourhood effects by the dominant influence of the Swedish welfare state (2004: 2533). Differences in neighbourhood effects might be muted or even fall away completely by 'structural forces' that are external to and go beyond the neighbourhood area (Galster, 2008: 6).

To summarise, in the literature, neighbourhood effects pertain mostly to effects expected from local population characteristics. These indicators are applied to explain the socioeconomic prospects of its residents. Physical, geographical and institutional characteristics, although they are treated in the review literature, are much less, if ever, considered in empirical studies regarding neighbourhood effects. Be as it may, most of these studies suggest that 'the neighbourhood' does matter for the economic position of its adult residents. However, an important consideration is not only which local population characteristics might affect their socioeconomic position, but also to disentangle the potential pathways through which these neighbourhood effects are transmitted (Buck, 2001: 2254).

2.2 Transmission mechanisms: how does a neighbourhood influence its residents?

Usually, a rough three-way classification is proposed when tackling the question of how concentration effects pertaining to the local population - e.g. unemployment rate, rate of residents on public assistance or mean educational level – are mediated towards the individual residing in the neighbourhood. They are categorized as (1) contagion theories, (2) socialisation theories, and (3) social competition theories. The theories should be interpreted as models through which neighbourhood effects may be transmitted.¹ They all fall under the header of endogenous neighbourhood effects (Manski, 2000; Galster, 2008). The *contagion model* implies that behaviour is ‘contagious’ and is also often referred to as the ‘epidemic theory’ (Crane, 1991). The basic premise behind this model is that residents propagate certain behavioural patterns and others in the neighbourhood imitate this behaviour. The working of this peer influence is considered especially ‘contagious’ among adolescents, and it is among this age band that the theory has been empirically tested (Crane, 1991). The *socialisation model* is best applied when the focus is on smaller children and primary school pupils. In this model, it is presupposed that the learning and internalisation transmitting the neighbourhood effects take place in a relationship between young and old people; one could especially think of the settings of family and school. However, conveyance of information or dominant worldviews in the neighbourhood through institutionalised relationships between adults (e.g. the role relationship between next-door neighbours) are by some authors also seen to be covered by the socialisation model, although one could here perhaps better speak of yet another model, the *social control model* (Tienda, 1991). Finally, the *social competition model* means that, especially for adults, “rather than directly shaping their worldview or behaviour” concentration effects influence their ability to gain access to services, information and opportunities when they compete for the resources in the neighbourhood (Ellen and Turner, 1997: 836).

These theoretical models remain largely hypothetical and lack fine-tuning as empirical work on them keeps lagging behind (see also Leventhal and Brooks-Gunn 2000). Ellen and Turner (1997) argue that neighbourhood effects research should tackle the question “of how and for whom neighbourhood matters” and state that neighbourhood conditions will affect residents in “different ways at the different life stages” (1997: 836). For instance, adult unemployed residents might be more influenced by other adult employed neighbours – serving as role models - than by

¹ A fourth theory, institutional theory, is typically added to this list that was first proposed by Jencks & Mayer (1989). It posits that the effect of the neighbourhood on the position of its residents is exerted first and foremost through the quality of local services (such as schools, social agents and community centres). The institutional model, which does not refer to a population characteristic, is however seldom subject of empirical neighbourhood effects research.

adolescent school drop outs. Galster (2008) calls this the selective socialisation effect; not all residents are affected in the same way by their neighbours.

Besides the point of differential effects for categories of the resident population, Tienda already noted much earlier that the degree of social interaction is often neglected in neighbourhood research (1991: 248). Only recently, Galster (2008) has taken up this elementary idea (but see also Friedrichs and Blasius, 2003). He notes that the processes of socialization and contagion essentially transmit through social networks in the neighbourhood. Therefore, the local contacts of residents should be taken into account when estimating neighbourhood effects.

To summarize, in estimating the effect of the socioeconomic composition of the neighbourhood on individual economic outcomes, one should not only elaborate on the main conditions, but also disentangle how exactly the neighbourhoods influence residents. For the present study, only endogenous effects are being investigated, namely the effects of neighbourhood population characteristics on residents in the neighbourhood. We will refrain ourselves from claiming exclusively one of the models that are proposed in the literature as they are summarised above. Our study concerns adults only, so if we follow the broad theorizing that accompanies these models, the contagion, social control model or the social competition model would be most fitting. We however do not preclude that peer group or socialisation mechanisms could be in play as well. We set out from the general premise that neighbourhood conditions defined as socioeconomic population characteristics affect the occupational ambitions and opportunities of adult residents, thereby impacting on their socioeconomic position. Our focus will be especially on the supposition that these conditions impact differently on different members of our subpopulation of adult residents, and that this difference is related to the size and quality of the social networks of each of them.

2.3 The importance of the social network

The main problem with measuring average neighbourhood effects is that it possibly conceals the differential impacts of the population characteristics for some subgroups in the neighbourhood. In addition - and as indicated in our review on empirical studies on neighbourhood effects - the focus often lies exclusively on disadvantaged individuals in impoverished neighbourhoods. In other words, the problem is that these studies are limited to only one specific type of residents, known for being generally more locally oriented in their network and therefore more ‘exposed’ to the neighbourhood (Pinkster, 2007; Campbell & Lee, 1990). However, residents are expected to have different patterns in their intra- and trans-neighbourhood contacts. Because some residents might have sources of support that extend beyond the neighbourhood, and thus are not all predominantly locally oriented, some residents might therefore be less sensitive to neighbourhood attributes (Ellen & Turner, 1997).

Following that line of reasoning, we should not assume that the neighbourhood has the same effect on every individual. We should, on the contrary, identify and quantify the impact of neighbourhood characteristics and its relative importance for different subgroups. In short, the empirical studies too easily assume a uniform effect of the neighbourhood environment across all residents, while the residential area might be of more importance for the occupational attainment for some residents than for others.

Behavioural influence in the neighbourhood, be it through socialization, peer group activities, role models or social control, essentially transmits through local social networks (Galster, 2008: 10). Therefore, the local contacts of residents should be taken into account when estimating neighbourhood effects. In Galster's words (2008: 10), "the intensity of exposure to such an influence would depend on the degree to which the individual's social networks were contained within the neighbourhood." It is important to keep in mind that the social network of an individual can be seen as a crucial source of social support and information (Lin, 1999; Coleman, 1988, Granovetter, 1995). However, we should not exclusively focus on the neighbourhood. Intimate and active ties of residents are often not restricted to the neighbourhood. Also, one's neighbourhood ties are not necessarily 'superior ties' and contact with distant friends can be far more intimate and helpful (Bridge, 2002: 11). Nevertheless, Bridge notes that "neighbourhood relations might be relatively more significant for those with limited economic resources and mobility (...) neighbouring is an alternative form of socialising for people who do not have access to broader networks" (Bridge, 2002: 12).

Here, an important and much commented upon distinction between kinds of relationships shows up: the distinction between 'weak' and 'strong' ties (Granovetter 1973). Strong ties are more expressive and cater for important emotional needs. They are often multi-stranded or multiplex which means that they serve several functions simultaneously. They are considered to have a 'bonding' capacity and effect. Weak ties are instrumental and less personal, serving often only one goal that is clear to the parties involved. Their superficial quality reflects however that they connect individuals from different circles and are because of this also believed to have 'bridging' qualities. These are ties that can make the difference for an individual who is looking for opportunities to improve his or her socioeconomic position. Following this line of reasoning, we consider network size as a determinant of somebody's socioeconomic status. This falls within the 'social resource' research tradition, which focuses "on how individuals access and use embedded resources to achieve instrumental goals, such as attaining better socioeconomic status" (Lin, Fu and Hsung, 2001: 60). The main assumption is the larger the network of residents the more access the resident has to contacts with different and higher status occupations.

Galster (2008) notes that networks that are predominantly locally centred (that in his view consist of 'strong ties') might increase the supplies of particular types of

assistance and support. However, he notes that this type of network lacks information and resources (the quality of weak, bridging ties) beyond the neighbourhood borders that can help with moving up the career ladder. In the same line of reasoning, Pinkster (2007) notes that some residents do not have the necessary ‘weak ties’ outside the neighbourhood to more prosperous and skilled individuals. These arguments have two implications. First of all, it suggests that the more contacts inside the neighbourhood an individual has (relative to the total network size), the more isolated the individual is from the ‘mainstream society’. These individuals are excluded from the resources and institutions that others with a less locally-centred network – and thus more trans-neighbourhood interaction - do have access to. Having mainly intra-neighbourhood contacts is believed to hamper economic assimilation and in consequence, lower the individual’s socioeconomic status. To give an empirical example of this practice on another issue, Friedrichs and Blasius (2003) point to the fact that having role models in the personal network *outside* the neighbourhood might compensate for the lack of positive role models within the neighbourhood.

But moreover, secondly it implies that residents that have relatively more contacts residing in the neighbourhood are more sensitive to neighbourhood composition effects. Friedrichs and Blasius (2003) investigated the acceptance by residents of deviant norms in distressed neighbourhoods and note that people who are more embedded in the neighbourhood are more sensitive to neighbourhood effects. The more contacts outside the neighbourhood, the closer the individual is to the ‘mainstream society’ and the less he or she is affected by the population characteristics (Friedrichs and Blasius, 2003: 809). Galster (2008: 10) summarizes this last theoretical point as follows:

“ (...) within the context of the socialization mechanism we would expect neighbourhood effects to be strongest for those who have only intra-neighbourhood social relationships and who have lived there on extended time. The empirical challenge is to operationalize these exposures and duration effects and allow for the measured neighbourhood effect to be contingent upon them.” (Galster, 2008: 10)

The neighbourhood effects are strongest for individuals who are more ‘exposed’ to the neighbourhood. The strength of exposure depends on the *degree* to which the social network of an individual resides in the neighbourhood. In this line of reasoning, we expect that the neighbourhood effects are the strongest for residents who have mostly ‘intra-neighbourhood social relationships’ (Galster, 2008; Friedrichs & Blasius, 2003; Pinkster, 2007). In this paper, we will not test Galster’s hypothesis about the duration effects, but solely focus on the intra- as well as trans-neighbourhood interaction of residents.

2.4 Hypotheses

By combining individual predictors and the impact of the socioeconomic composition of the neighbourhood, we deduce several hypotheses about how determinants affect residents' socioeconomic status. The first hypothesis concerns education of both the individual and parents, which are believed to be beneficial to somebody's socioeconomic status. This brings us to our first hypothesis:

H₁: The individual's and the parents' educational level are positively related to the resident's socioeconomic status.

Secondly, we hypothesize that the more contacts inside the neighbourhood an individual has (relative to the total network size), the more isolated the individual is from the 'mainstream society'. In consequence, residents with mainly intra-neighbourhood contacts are set apart from the resources and mainstream institutions that residents with more trans-neighbourhood interaction can access and benefit from. Having a larger share of intra-neighbourhood contacts compared to trans-neighbourhood contacts is believed to hamper economic assimilation and in consequence, lower the individual's socioeconomic status. In other words, remaining in social isolation hinders upward social mobility of the resident. This leads to our second hypothesis:

H₂: the share of contacts within the neighbourhood is negatively related to the resident's socioeconomic status.

Third of all, we argued that individuals with larger networks are assumed to have more resources which can help them to attain a better socioeconomic status. That brings us to the third hypothesis:

H₃: The size of an individual's network is positively related to the resident's socioeconomic status.

As indicated, an important focus of the current study is the effect of socioeconomic characteristics of neighbours on the individual's employment ambitions and opportunities. Often used measures are the rate of neighbours on public assistance, the unemployment rate, educational level, mean income, secondary school drop out and poverty rate (Galster et al., 1999; Briggs 1997; Andersson et al., 2007; Weinberg et al., 2004; der Klaauw and van Ours, 2003; Brännström, 2004) Due to the nature of our data, in the present study the focus lies on the impact of the unemployment rate and the rate of residents with a lower socioeconomic status. This idea brings us to our third hypothesis:

H_4 : The unemployment rate and the rate of residents with low occupational attainment in the neighbourhood are negatively related to the resident's socioeconomic status.

Finally, residents who do not have extended networks beyond the neighbourhood and are strongly embedded in the neighbourhood, are expected to be more sensitive to neighbourhood composition. In other words, the neighbourhood effect as theorized in hypothesis 4, is believed to be stronger for residents of whom all of their social contacts reside in the neighbourhood. This leads us to our final hypothesis:

H_5 : The neighbourhood effects will be stronger for individuals that have solely intra-neighbourhood contacts

3. Methodology

3.1 Method and Data

The question whether we can find differential effects of the socioeconomic composition of the neighbourhood on the resident's current economic position requires a multi-level model. In this multi-level model we combine individual and neighbourhood characteristics and also control for the city-level. Three levels of analysis are studied simultaneously: the individual (level 1), the neighbourhood (level 2) and the city (level 3). The individual and (aggregated) neighbourhood data are both derived from the GEITONIES (meaning 'neighbourhoods' in Greek) project, part of the 7th Framework Programme of the European Commission. The data is collected in 2009-2010 in six European cities: Bilbao, Lisbon, Rotterdam, Thessalonica, Vienna and Warsaw. The GEITONIES data entails a wide spectrum of domains; it comprises both demographical and biographical (detailed life course) information of individuals, and information of relationships between individuals (social networks, opinions about neighbourhood and neighbourhood integration).

In each city three neighbourhoods were selected. A stratified random sampling method was developed for collecting the data. The sample size is 200 (two strata: 100 natives and 100 immigrants) in each of the selected neighbourhoods. The target population includes people who have resided for at least one year in neighbourhood. We have 18 neighbourhoods (in six different cities and six countries) with in total 2026 individuals that held an occupation at the time of the survey.

3.2 Operationalisation

Dependent variable

The socioeconomic status of an individual is assessed by creating the interval scale ISEI (International Socio-Economic Index of occupational status), recoded from ISCO-88 as it was enquired by the questionnaire. This index ranges from 16 to 90, the highest value is attributed to the highest occupational status.

Neighbourhood-level determinants

We hypothesized that the unemployment rate and the rate of residents with low occupational attainment in the neighbourhood is negatively related to the resident's socioeconomic status. Recent specific municipal data on socioeconomic status of neighbourhoods was not available for all cities. Therefore, the neighbourhood variables are derived by aggregation from the GEITONIES data, taking into account the stratified sample design. We weighted the rate of unemployment in the neighbourhood for the actual ratio of immigrants and natives (derived from available municipal data). To measure the rate of residents with low occupational attainment we measured the rate of residents with an ISEI-score below 30 in each neighbourhood (weighted). Both variables are measured as a level-2 characteristic. For the third level, the city-level, no contextual characteristics are taken into account. However, we do include this level-3 as fixed effects in order to control for the variance at the city-level.

Name generator method

The name generator is applied to collect information on the network members of an individual. Campbell and Lee (1991: 204) emphasize that strict limits are essential, to prevent that respondents name people who are just 'passing contacts' and to be able to obtain the right information about the number of network members of a respondent. The authors note that this type of constraints is built into the name generator. The first strict limit in the GEITONIES survey is that respondents could only name up to eight individuals who are considered as most important to the respondent outside his or her household irrespective of where they live. Of these most important persons in somebody's life, we know the place of residence and other main characteristics.

Subsequently, we inquired into the size of the respondent's network of important persons, if the respondent would not be restricted to a maximum of eight. For collecting this data, the same name generating questions were used. This number of important persons included the earlier mentioned most important persons and we call this the individual's overall social network. There was no limit in number for naming individuals in the overall social network. Nevertheless, a constraint is built in

by using the name generator, namely the ‘content or role’ of the contacts. Three categories are distinguished: spending free time, confidentiality and advice and helping out.² In the first category, it is asked with whom you spend your free time (e.g. visit, catching up, shopping together, going out). Second of all, it is asked whom the respondent would ask for advice, or to whom they would listen, when changes in the respondent’s personal or professional life are in need of a decision Thirdly, it is asked who helped the respondent out in a substantive way during the last three years (e.g. taking care of children, lending money, helping you and your family in finding work, a good doctor et cetera)?

Individual-level determinants

To test the first hypothesis, the idea that the individual’s and the parents’ educational level is positively related to the resident’s socioeconomic status, we include the education of the respondent and of his or her father. We use a cross-national measure of the level of education of the individual with seven categories. The educational level of the father has eight categories (also ‘no primary school’).³

Concerning the second hypothesis, for the degree to which the social network of an individual is residing in the neighbourhood we use two indicators. First, we include the share of friends that live in the neighbourhood. As hypothesized, the more contacts inside the neighbourhood, the more isolated the individual is from ‘mainstream society’, which is believed to hamper economic assimilation and in consequence, lower the individual’s socioeconomic status. For the most important contacts this is the number of contacts living in the neighbourhood divided by the total number of contacts. For the overall social network, it is a seven-point scale, ranging from ‘none of them’ to ‘all of them’ (who are living in the neighbourhood).

Thirdly, to test whether the size of an individuals’ network is positively related to the resident’s socioeconomic status, we include different measures. Information on the social network of the individuals is gathered in two ways, by the close social network and the overall social network. Concerning the first, respondents could name up to eight individuals who they consider as most important people outside the household in their current social network. Of these most important persons in somebody’s life, we know the place of residence and other main characteristics. To measure the network size for the model on the most important contacts, we included the total number of most important people (ranging from 0 to 8). Secondly, we also took into account an individual’s overall social network. To measure the size of the network in each of these categories, we recoded the total number of network members as mentioned by respondents in each category in five groups: 0 persons, 1-5 persons,

² The fourth category: “other important persons” was not used in this analysis.

³ Level of education of mother is excluded because of multicollinearity

6-10 persons, 11-20 persons and >20 persons).

Furthermore, we need a measure to test whether the neighbourhood effect is most strong for residents that have only intra-neighbourhood relationships. Again, this will be measured in two different ways: we make a distinction between most important members of the social network (when the share has the score of 1, this means that all close contacts reside in the neighbourhood) and the total number of the overall social network (when respondents states ‘all of them’ are living in the neighbourhood). A dummy is created with the score 1 for when an individual has solely intra-neighbourhood contacts. Due to their separate measurement, we will run separate models, one for the most important contacts and one model for the overall social network.

We are not able to measure the *duration* of the exposure to the neighbourhood. One limitation from the data is that the length of residence of individuals is measured starting from age 18. We know nothing about the place of residence of respondents in their youth. It is therefore not possible to create a scale on length of residence. Finally, the multi-level models control for other background characteristics: gender, age (also age-squared to control for a potentially non-linear effect) and background (native or immigrant).

3.3 Model

As indicated above, to assess whether there are differential effects of neighbourhood context on the resident’s current economic position we need a multi-level model where we simultaneously include individual and neighbourhood characteristics. We employ a multivariate multi-level model in the MLWin 2.22. The first model is a two-level variance component model with the cities as dummy-variables, but without any other determinants. To make sure that our models are based on the same set of respondents, respondents with missing values on any of the determinants are excluded from all models. The models are computed using the Restricted Iterative General Least Squares (RIGLS) estimation method. This method is preferable when having a small sample size in order to achieve a less biased estimation of the variance (Hox, 2002; Rashbash, 2009). As both our number of respondents and number of highest-level units are rather small, this RIGLS estimation method is used. The chi-square distributed -2LogLikelihood (-2LL) is displayed to control for the model fit. After the variance component model, the individual-level determinants (gender, age, age-squared, background, network size, share of networkmembers living in same neighbourhood and having solely intra-neighbourhood contacts) are included. Third, the neighbourhood characteristics unemployment rate and the rate of residents with a lower socioeconomic status are included in the model. Finally, we compute a random slope model, including a cross-level interaction effect between neighbourhood and the indicator having only neighbourhood contacts.

4. Analysis and Results

Table 1 describes to what extent the socioeconomic statuses of residents differ across our 18 European neighbourhoods. It can be seen that there are differences between neighbourhoods. However, Table 1 does not account for the fact that residents in the same neighbourhood have different socioeconomic positions. While American studies on neighbourhood effects have a research tradition of focusing mainly on inner city neighbourhoods with an overrepresentation of residents without sufficient education and employment, in the European research field the focus lies on economically mixed neighbourhoods. It is quite likely that the European neighbourhood effects are weaker and different than in the US due to this mixed composition. In the European setting, we expect the within-neighbourhood variance to be very large compared to the between-neighbourhood variance.

Table 1: Average ISEI score per neighbourhood

| Neighbourhood | Average ISEI ⁴ | | Average ISEI |
|-------------------------------|---------------------------|--------------------------|--------------|
| 1. Afrikaanderwijk | 40.2 | 10. Mouraria | 40.1 |
| 2. Am Schopfwerk | 42.3 | 11. Nikipoli | 34.6 |
| 3. Chinatown | 49.8 | 12. Peraia | 44.3 |
| 4. Costa de Caparica | 41.7 | 13. Rekalde | 44.1 |
| 5. Deusto | 47.2 | 14. San Fransisco | 40.9 |
| 6. Hoogvliet-Noord | 44.6 | 15. Schiemond | 40.5 |
| 7. Laudongasse | 55.5 | 16. Szczesliwice | 55.4 |
| 8. Ludo-Hartmann-Platz | 44.2 | 17. Wilanow | 51.0 |
| 9. Monte Abraao | 41.3 | 18. Zelazna Brama | 53.4 |

4.1 Most important contacts

We start with the model on most important contacts in the respondent's network. This part of the social network comprises the most intimate and active ties and should be seen as a crucial source of social support and information. The results obtained for the variance component multi-level model (without predictors) are presented in Table 2 (model 1). It is apparent from this model that most of the difference in socioeconomic status lies at the individual level. To put it simple, differences between residents matter more than differences between neighbourhoods. Nevertheless, according to the rule of thumb, still a substantive part of the total variance is residing on the neighbourhood-level; more than 4 percent of variance in socioeconomic status is attributable to the

⁴ The averages are weighted to the actual ratio of immigrants/natives in the neighbourhood.

neighbourhood.⁵ The fact that there is a relatively large share of cross-neighbourhood variance requires a multi-level approach in estimating neighbourhood effects.⁶

Following this variance components model, individual-level determinants are included to explain somebody's current socioeconomic status. Model 2 in Table 2 shows that our first hypothesis is confirmed, the individual's and the father's educational levels have a positive effect on to the resident's socioeconomic status. It is also apparent from Table 2 that the individual's educational level is the strongest predictor. The control variables age (age-squared) and gender are not significant, but being native is strongly related to a higher socioeconomic status. However, the distinction between natives and immigrants is not the focus of the present study. More research on this issue needs to be undertaken before drawing any conclusions.

It was also hypothesized that the more contacts inside the neighbourhood an individual has, the more isolated s/he is from 'mainstream society', which is believed to hamper economic assimilation and in consequence, lower the individual's socioeconomic status. This second hypothesis is also confirmed by the analysis; the share of contacts within the neighbourhood is negatively related to the individual's socioeconomic status. In addition, our third hypothesis is also confirmed: the size of an individuals' network of most important persons is positively related to her/his socioeconomic status. Residents with more of these most important contacts are expected to have more access to information and resources, resulting in a higher socioeconomic status.

Moreover, this model clearly points to a composition effect, as the individual-level determinants can explain between-neighbourhood variance. To give an example, highly educated respondents are more likely to obtain a higher socioeconomic status. Neighbourhoods that contain many higher educated individuals are therefore also likely to have on average a higher socioeconomic status. The differences between neighbourhoods in terms of characteristics of its explains in such cases between-neighbourhood differences. It can be seen that the neighbourhood variance drops from 11.90 to 3.44. To put it clearer, compared to the 4.2 percent in the variance components model, less than 2 percent of variance in socioeconomic status is attributable to the neighbourhood after controlling for the individual composition of the neighbourhood.

⁵ The 18 neighbourhoods are situated in six different European cities (one per country). To make sure we are measuring neighbourhood effects and not city- or country-effects, we also controlled for the city-level by adding city dummy's as fixed effects to the model. The variance residing in the neighbourhood while accounting for the city the neighbourhood is 0.042. This 4.2 percent of contextual variance can be considered to be substantial. As the number of neighbourhood is relatively limited (18 neighbourhood), 5 percent of variance on the neighbourhood level is considered to be significant enough (Rahn and Rudolph, 2005). In the models we included the fixed city-level effects while estimating neighbourhood effects.

⁶ The intra-class correlation without city-level dummy's is 0.112 (the between-neighbourhood variance is 33.959 and the within neighbourhood (individual) variance is 268.190)

In model 3 in Table 2 we include neighbourhood characteristics as determinants of a resident's socioeconomic status. The rate of residents with a lower socioeconomic status is negatively related to the respondent's socioeconomic status. There is no significant effect of the neighbourhood unemployment rate. This partly confirms our fourth hypothesis; the behavioural patterns of low-skilled neighbours are impersonated by others in the neighbourhood. In addition, we see that the indicator of the rate of residents with a lower socioeconomic status in the neighbourhood reduces the intra class correlation to 0.007, meaning that a only a very small share of variance in socioeconomic status is attributable to the neighbourhood

In model 4 in Table 2 we ask ourselves whether the impact of neighbourhood determinants is different between individuals of whom all of their important contacts live in the neighbourhood and of those whose is not. In other words, in this model we examine if the effect of the neighbourhood varies across residents of the neighbourhood. As stated before, residents who lack extended networks and are more embedded in the neighbourhood are expected to be more sensitive to neighbourhood context. More specific, we hypothesized that neighbourhood effects are strongest for individuals who have only 'intra-neighbourhood social relationships'. In order to be able to include the interaction effect, we allowed the slope of the individual-variable 'only intra-neighbourhood social relationships' to vary across neighbourhoods.

The main effect of rate of residents with low occupational status applies to the group of residents of whom not all of their contacts reside in the neighbourhood (score 0 on the indicator 'only intra-neighbourhood contacts'). It can be seen in Table 2 (model 4) this is still a significant and negative effect ($b = -0.241$).⁷ The cross-level interaction effect between rate of residents with low occupational status and exclusively having contacts in the neighbourhood (score 1 the indicator 'only intra-neighbourhood contacts') is also significant and negative. This implies that the neighbourhood effect is even more negative for residents of whom all of their important contacts live in the neighbourhood (the effect is $-0.241 - 0.076 = -0.317$). In short, the rate of residents with low occupational status is more strongly related to somebody's socioeconomic status among respondents who have solely neighbourhood contacts. The overall effect of unemployment rate was not significant in model 3 and neither was the interaction effect. The fifth hypothesis can therefore be partly confirmed; respondents who are strongly embedded in the neighbourhood are affected more strongly by neighbourhood characteristics than those who have also close contacts outside the neighbourhood.

⁷ The neighbourhood-level determinants are not standardized, because we want the coefficient to be interpretable according to the original scale of measurement. The standardized coefficient for % ISEI under 30 in model 4 is -1.892^{**} and the interaction effect -0.600^*

Table 2: Most Important Contacts - explaining socioeconomic status

| | <i>Model 1</i> Base-line model | <i>Model 2</i> Individual | <i>Model 3</i> Multilevel | <i>Model 4</i> Multilevel |
|---|-----------------------------------|------------------------------|------------------------------|------------------------------|
| | Random intercept | Random intercept | Random intercept | Cross-level interaction |
| <i>Individual-level⁸</i> | | | | |
| Age | | n.s. | n.s. | n.s. |
| Age-squared | | n.s. | n.s. | n.s. |
| Sex | | n.s. | n.s. | n.s. |
| Educational level | | 7.632*** (0.406) | 7.602*** (0.405) | 7.693*** (0.402) |
| Educational level father | | 1.869*** (0.401) | 1.836*** (0.400) | 1.851*** (0.400) |
| Background | | 3.992*** (0.343) | 4.009*** (0.343) | 4.003*** (0.341) |
| Network size (most important people) | | 0.555* (0.378) | 0.580* (0.379) | 0.603* (0.374) |
| Share of contact living in neighbourhood (most important people) | | -0.937** (0.560) | -0.966** (0.558) | -0.983** (0.547) |
| <i>Neighbourhood-level</i> | | | | |
| % ISEI under 30 in the neighbourhood | | | -0.232*** (0.080) | -0.241*** (0.066) |
| Unemployment rate neighbourhood | | | n.s. | n.s. |
| Constant | 38.587*** (2.19) | 40.154*** (1.389) | 44.523*** (1.827) | 43.586*** (1.321) |
| <i>Interaction effects</i> | | | | |
| Only intra-neighbourhood (most important people) | | n.s. | n.s. | n.s. |
| Interaction: socioec neighbourhood * only intra-neighbourhood | | | | -0.076* (0.055) |
| Interaction: unempl rate neighbourhood * only intra-neighbourhood | | | | n.s. |
| -2 Log Likelihood | 15366.389 | 14649.362 | 14637.922 | 14621.052 |
| Neighbourhood variance | 11.902 | 3.438 | 1.314 | 1.173 |
| Individual variance | 268.299 | 182.902 | 182.896 | 182.604 |
| Rho | 0.042 | 0.018 | 0.007 | 0.006 |
| N | 1820 | 1820 | 1820 | 1820 |

one-tailed test *** p<0.01, ** p<0.05, * p<0.10

⁸ Individual-level determinants are standardized using the z-score technique. In this way, regardless of a determinant's underlying scale of units, we can compare the standardized coefficients to determine the most important predictor. It turned out that educational level is the most important predictor.

4.2 Overall social network: confidentiality and advice, spending free time and helping out

Besides this model concerning the most important contacts, we tested whether the hypotheses also hold for the overall social network, including all important contacts. As for the most important contacts, in the overall social network three categories are distinguished in the survey: confidentiality and advice, spending free time and helping out. Again, the respondents with missing values on any of the determinants are excluded from the model. The model on the overall social network uses different indicators for network size, share of contacts living in the neighbourhood and only intra-neighbourhood contacts. Consequently, the set of respondents differs across the categories. Therefore, we made sure that the models within each category are based on the same set of respondents.

Confidentiality and advice

A variance component multi-level model (not shown) of the confidentiality and advice category tells us that 4.8 percent of variance in socioeconomic status is attributable to the neighbourhood.⁹ Including only individual-level predictors (not shown for reasons of parsimony) reduces the intra-class correlation to 1.40 percent, indicating a composition effect. In Model 5a in Table 3 we include neighbourhood characteristics as possible determinants of a resident's socioeconomic status. As expected, our first hypothesis on education is confirmed. Secondly, the share of contacts within the neighbourhood for confidentiality and advice is negatively related to the individual's socioeconomic status, meaning that the more contacts for confidentiality and advice within the neighbourhood, the lower the socioeconomic status. In contrast to the model on most important contacts, our third hypothesis is not confirmed: the size of the network with contacts for confidentiality and advice is not significantly positively related to the resident's socioeconomic status.

⁹ The variance-component model is slightly different than model 1 (most important contacts), as the set of respondents is different (N=1820 in model 1, N=1697 in this model).

Table 3: Overall social network – explaining socioeconomic status

| | <i>Model 5a</i> Confiden-tiality and advice Random | <i>Model 5b</i> Confiden-tiality and advice | <i>Model 6a</i> Spending free time | <i>Model 6b</i> Spending free | <i>Model 7a</i> Help out | <i>Model 7a</i> Help out |
|--|---|---|--|-------------------------------------|-----------------------------|-----------------------------|
| <i>Individual-level</i> ¹⁰ | | | | | | |
| Age | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| Age-squared | n.s. | n.s. | | | | |
| Sex | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| Educational level | 7.789*** (0.425) | 7.781*** (0.425) | 7.605*** (0.411) | 7.671*** (0.411) | 7.623*** (0.422) | 1.860*** (0.422) |
| Educational level father | 1.993*** (0.415) | 2.004*** (0.425) | 1.695*** (0.402) | 1.710*** (0.402) | 1.854*** (0.414) | 1.860*** (0.415) |
| Background | 4.142*** (0.353) | 4.194*** (0.354) | 4.003*** (0.344) | 4.002*** (0.344) | 3.993*** (0.353) | 3.987*** (0.354) |
| Network size (global social network) | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| Share of contacts living in neighbourhood | -0.799* (0.599) | n.s. | -0.953* (0.528) | -0.990* (0.521) | -1.691*** (0.602) | -1.703*** (0.604) |
| <i>Neighbourhood-level</i> | | | | | | |
| % ISEI under 30 in the neighbourhood | -0.203*** (0.084) | -0.222*** (0.084) | -0.262*** (0.085) | -0.272*** (0.076) | -0.312*** (0.081) | -0.306*** (0.082) |
| Unemployment rate neighbourhood | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| Constant | 44.097 | 43.803 | 44.924 | 43.803 | 45.859 | 45.404 |
| <i>Interaction effects</i> | | | | | | |
| Only intra-neighbourhood | n.s. | n.s. | -0.785* (0.539) | n.s. | n.s. | n.s. |
| socioec neighbourhood * | | -0.091* | | n.s. | | n.s. |
| only intra-neighbourhood | | n.s. | | n.s. | | n.s. |
| unempl rate neighbourhood | | | | | | |
| *only intra-neighbourhood | | | | | | |
| -2 Log Likelihood | 13646.528 | 13642.844 | 14310.664 | 14303.391 | 13397.337 | 13397.311 |
| Neighbourhood variance | 1.403 | 1.514 | 1.638 | 1.593 | 1.133 | 1.221 |
| Individual variance | 182.725 | 181.909 | 180.553 | 180.481 | 178.558 | 178.633 |
| Rho | 0.008 | 0.008 | 0.009 | 0.009 | 0.006 | 0.007 |
| N | 1697 | 1697 | 1782 | 1782 | 1671 | 1671 |

one-tailed test *** p<0.01, ** p<0.05, * p<0.10

¹⁰ Individual-level predictors are standardized

Concerning our fourth hypothesis on the effect of the neighbourhood, the rate of residents with a lower socioeconomic status has a negative impact on the respondent's socioeconomic status. There is no significant effect of the neighbourhood unemployment rate. The intra-class correlation reduces to 0.008, meaning that we were able to explain quite some of the between-neighbourhood variance. In model 5b we examine if the effect of the neighbourhood varies across residents. The main effect of the rate of residents with low occupational status is significant and negative ($b = -0.222$). The cross-level interaction effect between rate of residents with low occupational status and solely having contacts is -0.091 . Consequently, the neighbourhood effect is even more negative for residents of whom all of their important contacts live in the neighbourhood ($-0.222 - 0.091 = -0.313$). The same conclusion can be drawn as for most important contacts; the rate of residents with low occupational status is more strongly related to the respondent's socioeconomic status if s/he has solely neighbourhood contacts in her/his overall social network for confidentially and advice.

Spending free time

Concerning the category on spending free time, 4.9 percent of the variance in socioeconomic status lies at the neighbourhood level.¹¹ In Model 5c in Table 3 it can be seen that the first hypothesis and second hypothesis can be confirmed, but not our third hypothesis: the size of the network of individuals with whom the respondent spends free time is not significantly positively related to the respondent's socioeconomic status. Again, our fourth hypothesis is partly confirmed, the rate of residents with a lower socioeconomic status is negatively related to the respondent's socioeconomic status. There is no significant effect of the neighbourhood unemployment rate. In model 5d we examine if the effect of the rate of residents with low occupational status varies across respondents. This is not the case; this neighbourhood characteristic is not more strongly related to somebody's socioeconomic status than among respondents who spend their free time exclusively with people from the neighbourhood.

Helping out

Our last category of the overall social network concerns the contacts that helped the respondent out in a substantive way during the last three years. In this category, 4.8 percent of the variance in socioeconomic status lies at the neighbourhood level.¹² In Model 5e in Table 3 it can be seen that again the first and second hypothesis can be

¹¹ Again, the variance-component model is slightly different as N=1782 in this model.

¹² N=1671 in the category helping out.

confirmed, but not our third hypothesis: the size of the network of individuals whom the respondent refers to for helping out is not significantly positively related to the respondent's socioeconomic status. Concerning the neighbourhood level, the rate of residents with a lower socioeconomic status is negatively related to the respondent's socioeconomic status, meaning that a higher rate reduces the chance on a higher socioeconomic position. We can thereby confirm the fourth hypothesis, but not the fifth: the effect of this neighbourhood characteristic is not stronger for respondents whose contacts that usually help them out all live in the neighbourhood.

5. Discussion and Conclusion

5.1 Discussion of findings

The present study was designed to determine whether there are differences across residents in various European neighbourhoods in the effect of the composition of the neighbourhood on their socioeconomic status. The basic premise is that the neighbourhood conditions defined as socioeconomic population characteristics affect the occupational ambitions and opportunities of adult residents, thereby impacting on their socioeconomic position. These effects transmit through contagion, social control and social competition models and are essentially dependent on the local social networks. The main idea is that neighbourhood conditions impact differently on different members of our subpopulation of adult residents, and that this difference is related to the size and quality of the social networks of each of them.

Residents might have contacts and sources of support that extend beyond the neighbourhood. As a result, these residents might be less receptive to the socioeconomic composition of the neighbourhood. In order to uncover potential differences in the neighbourhood effects, we tested a range of explanations. After investigating some individual-level determinants of the respondent's socioeconomic status, we reported on the effects of the neighbourhood on individuals in the European neighbourhoods. The final question raised was whether the degree to which the social network of an individual resides in the neighbourhood leads to differential effects of neighbourhood socioeconomic conditions on the resident's current economic position.

We found that the more contacts inside the neighbourhood an individual has (relative to the total network size), the lower the socioeconomic status of the resident. The idea behind this finding is that having mainly intra-neighbourhood contacts hinders upward social mobility as this type of resident is believed to remain in social isolation and is excluded from the resources and institutions that others with a less locally-centred network do have access to and benefit from.

For the most important contacts, the size of the network is positively related to the resident's socioeconomic status. In other words, residents with more most important contacts are expected to have more access to information and resources, resulting in a higher socioeconomic status. However, this impact is *not* found for the overall social network for confidentiality and advice, spending free time and helping out. This is somewhat surprising, as it is quite often found in similar studies that the size of the network has a positive impact on somebody's socioeconomic status. How can we explain the result that the network size of the overall social network does not have any effect on the socioeconomic status? Campbell and Lee (1991: 217) find that the use of intimate name generators – as employed in our study - leads to smaller networks. Even though no numerical limit was built into the questions on the overall social network, distinguishing between the categories confidentiality and advice,

spending free time and helping out is believed to result in a smaller network size. It could be the case that the different way of asking residents information on their networks is the reason we did not find a significant effect. Further research should build on these empirical suggestions.

Another important finding was that the higher the rate of residents with a low socioeconomic status in the neighbourhood, the lower the resident's socioeconomic status. This result corroborates the findings of a great deal of the previous work in this field of neighbourhood research. But in the current study, the aim was to build on these studies and assess potential differences across residents in neighbourhood effects. The most obvious finding to emerge from this study is that we found that residents that are strongly embedded (namely, only have intra-neighbourhood contacts) in the neighbourhood are affected more strongly by the neighbourhood than those individuals who also have contacts outside the neighbourhood. This finding holds for the most important contacts and the overall network on confidentiality and advice. This was not the case for the overall social network for spending free time and helping out, possibly because of the different 'content or role' of these contacts. Again, future research should build on these empirical suggestions.

5.2 Challenges in estimating the effect of the neighbourhood

Some concerns regarding estimating neighbourhood effects should be considered. For now, only the most important challenges for the present study are discussed (for excellent overviews of methodological challenges of research on neighbourhood effects, see Dietz, 2002; Sampson et al., 2002; Lupton, 2003) The largest challenge in estimating neighbourhood effects is to exclude self-selection and simultaneity problems. The latter means that residents are affected by the neighbourhood composition, but simultaneously influence the neighbourhood (Buck, 2001: 2256). Concerning self-selection effects, Briggs (1997: 218) rightly notes that households select themselves into the neighbourhood. In consequence, what seem to be neighbourhood effects in fact reveal underlying variation in the households between the neighbourhoods. To avoid that overestimating the effect of the neighbourhood by attributing effects to the neighbourhood while they are truly the effects of the individual's own benefits and limitations, we included the individual's and father's educational level.

More specifically, Bauder (2002) argues that caution must be applied in stating a causal relationship between the socioeconomic composition in the neighbourhood and individual socioeconomic consequences. Moreover, he criticizes the fact that the neighbourhood effects are estimated as detached from a wider socio-political context. The author notes the complicated processes of social and cultural exclusion that reside on the municipal level. Although we controlled for the cities in our model estimation, further research on the consequences of these processes – e.g.

some neighbourhoods receiving few and inferior services by the municipality – should be conducted (Bauder, 2002).

5.3 Expanding the notion of neighbourhood embeddedness

We defined neighbourhood embeddedness as the share of contacts living in the neighbourhood. Nevertheless, this ego-centred concept of neighbourhood embeddedness is not necessarily restricted to social contacts and can be expanded by other indicators. For instance, we could enrich the concept of neighbourhood embeddedness by incorporating attitudinal and behavioural measures towards the neighbourhood. An example is the degree to which individuals conceive of their neighbourhood and to what extent they are integrated into the neighbourhood (Hipp and Perrin, 2006; Woldoff, 2002).

An example of an attitudinal approach is the study of Hipp and Perrin (2006), who focus on the ‘sense of belonging’ in the urban area, borne out of feelings of attachment to the neighbourhood. In addition, they include the evaluation of the quality of the neighbourhood, referred to as ‘feelings of morale’. The question is whether one is satisfied about the quality of the neighbourhood. The authors note that although ‘sense of belonging’ and ‘feelings of morale’ are often highly correlated, the two constructs should be seen as conceptually distinct. Besides this attitudinal approach of individual feelings on attachment and evaluation of the neighbourhood, we could also include a behavioural component to account for the way residents are integrated into their neighbourhood. Woldoff (2002: 90) refers to this as the “connectedness to the locale”, which includes the social interactions in the neighbourhood and the knowledge of neighbours. In this domain of neighbourhood behaviour, Woldoff (2002: 91) further notes that we should distinguish between ‘everyday acts of civility’, such as small talks on the streets and short visits by neighbours and more intimate contacts, meaning having neighbours in your personal social network. This theoretically constructed notion of ego-centred neighbourhood effect can be built by employing a confirmatory factor analysis. Further investigation and experimentation into neighbourhood embeddedness is strongly recommended, especially for testing the mediating impact of neighbourhood embeddedness on neighbourhood effects.

5.3 Implications of the study

Returning to the question posed at the beginning of this study, we can now state that the degree to which the social network of an individual resides in the neighbourhood does lead to differential effects of neighbourhood socioeconomic conditions on the resident’s current economic position. Taken together, these findings suggest several courses of action for future research and policy-making.

First of all, future research should build on these theoretical suggestions to

expand the notion of neighbourhood embeddedness and its impact on neighbourhood effects. We found that residents that have solely intra-neighbourhood contacts are more strongly affected by the neighbourhood. In other words, a strong embeddedness into the neighbourhood seems to restrict economic assimilation in the mainstream society. Even more importantly, while there is no difference between sexes, immigrants and lower-educated seem to score significantly and slightly higher in having exclusively intra-neighbourhood contacts. Consequently, these subgroups are more sensitive to neighbourhood characteristics. In other words, having your social world confined to only the neighbourhood is thus not necessarily a good thing.

These findings can be used to develop targeted municipal interventions aimed at residents. First of all, we suggest extra neighbourhood reaching projects that pair residents with individuals and organizations beyond the neighbourhood, as opposed to inward-looking integration programs. The latter – often under the banner of ‘neighbourhood social cohesion’ and ‘community-building’ projects - exist in many cities. However, we ask for a different type of integration program that is not just focused on the neighbourhood. Secondly, what cities can do is provide certain skills and language courses. As indicated above, individuals with lower education attainment and poor language skills are more likely to have neighbourhood-centred social networks. Interventions on the city level might prevent individuals from having only intra-neighbourhood contacts (Kearns, 2011).

This kind of social engineering aimed at controlling and modifying residential behaviour is a real challenge in the urban area. Moreover, the underlying problem in neighbourhood effects research seems to be the existence of social and urban inequalities. For residents who are strongly embedded in the neighbourhood, the neighbourhood seems to restrict their access towards mainstream institutions and resources and hinder upward social mobility. This finding will serve as a basis for future studies on social inequalities in the urban area and the role of the neighbourhood and local social networks. In sum, the present study confirms some previous findings and contributes additional evidence that suggests that residence seems to matter for one’s socioeconomic status, but the stronger the relational embeddedness in the neighbourhood the more this is the case.

REFERENCES

- Anderson, E. (1990) *Streetwise. Race, class and change in an urban community.* Chicago: The University of Chicago Press.
- Andersson, R., Musterd, S., Galster, G., Kauppinen, T.M (2007). “What mix matters? Exploring the relationships between individuals’ incomes and different measures of their neighborhood context” *Housing Studies* 22: 637–660
- Bourgois, P. (1995) *In search of respect. Selling crack in El Barrio.* Cambridge: Cambridge University Press.
- Bauder, H. (2002) “Neighbourhood Effects and Cultural Exclusion” in *Urban Studies* 39: 85-93
- Bränström L. (2004) “Poor Places, Poor Prospects? Counterfactual Models of Neighbourhood Effects on Social Exclusion in Stockholm, Sweden” in *Urban Studies*, 41 (13): 2515–2537
- Bridge, G. (2002) “The Neighbourhood and Social Networks” CNR Paper 4
- Briggs, X.S. (1997) “Moving Up Versus Moving Out: Neighborhood Effects in Housing Mobility Programs” *Housing Policy Debate* 8(1): 195–234.
- Buck, N. (2001) Identifying neighbourhood effects on social exclusion, *Urban Studies*, 38: 2251–2275
- Campbell, K.E. and B.A. Lee (1990)” Gender Differences in Urban Neighbouring” in *The Sociological Quarterly*, Vol. 31(4): 495-512
- Campbell, K. E., & Lee, B. A. (1991).” Name generators in surveys of personal networks” in *Social Networks*, 13:203–221
- Coleman, J.S. (1988) “Social capital in the creation of human capital”, in *American Journal of Sociology*, 94: 95–120.
- Cotter, D.A. (2002). “Poor People in Poor Places: Local Opportunity Structures and Household Poverty.” in *Rural Sociology* 67(4): 534–555
- Crane, J. (1991) “The Epidemic Theory of Ghettos and Neighborhood Effects on Dropping Out and Teenage Childbearing”, *American Journal of Sociology*, 96: 1226-125
- Dietz, R. (2002) “The Estimation of Neighbourhood Effects in the Social Sciences: An interdisciplinary approach.” *Social Science Research*, 31: 539-57
- Ellen, I.G., and M.A. Turner (1997). “Does Neighborhood Matter? Assessing Recent Evidence.” *Housing Policy Debate* 8(4): 833–66.
- Friedrichs, J. and Blasius, J. (2003) “Social norms in distressed neighbourhoods: testing the Wilson hypothesis. *Housing Studies* 18(6): 807-826
- Friedrichs, J., Galster, G. & Musterd, S. (2003), “Neighbourhood effects on social opportunities: the European and American research and policy context”, *Housing Studies* 18(6): 797-806
- Galster, G.C., Metzger, K., & Waite, R. (1999) “Neighbourhood opportunity and

- immigrants' socioeconomic advancement." *Journal of Housing Research*, 10: 95–127
- Galster G.C. (2008) "Quantifying the effect of neighbourhood on individuals: challenges, alternative approaches, and promising directions" *Schmollers Jahrbuch* 128(1): 7-48
- Granovetter, M. (1973) "The strength of weak ties", *American Journal of Sociology* 78 (6): 360-380.
- Granovetter, M. (1995) *Getting a job*: Chicago, University of Chicago Press
- Hannerz, U. (1969) *Soulside. Inquiries into ghetto culture and community*. New York: Colombia University Press
- Hipp, J.R. and A. Perrin (2006) "Nested Loyalties: Local Networks' Effects on Neighbourhood and Community Cohesion" in *Urban Studies* (43): 2503- 2523
- Hox, J.J. (2002). *Multilevel Analysis. Techniques and Applications*. Mahwah, NJ: Lawrence Erlbaum Associate.
- Jencks, C. and Mayer, E. (1989). "Growing up in a poor neighborhood: How Much Does It Matter?" in *Science*, New Series: 243 (4897): 1441-1445
- Kearns, A. (2011) "Round Table, GEITONIES Final Conference, Lisbon – 29th of April, 2011" Unpublished Transcript, University of Lisbon.
- Klaauw, B. van der, van Ours, J. (2003). "From welfare to work: Does the neighborhood matter?" *Journal of Public Economics* 87: 957-985.
- Leventhal T, Brooks-Gunn J. (2000) "The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes." *Psychological Bulletin*, 126(2): 309–37
- Lewis, O. (1970) "The Culture of Poverty" in *Anthropological Essays*. New York: Random House: 67-80
- Liebow, E. (1967) *Tally's corner. A study of Negro streetcorner men*. Toronto: Little, Brown and Company.
- Lin, N. (1999) "Social networks and status attainment", *Annual Review of Sociology*, 25: 467– 487.
- Lin, N., Fu, Y. and R. Hsung (2001) "The Position Generator: measurement techniques for social capital." in: Lin, N.; Cook, K.; Burt, R.S. (eds.) \Social capital: theory and research". New York: Aldine De Gruyter: 57-84
- Lupton, R. (2003) "Neighbourhood Effects: Can We Measure Them and Does it Matter?", *Centre for Analysis of Social Exclusion*, Paper 73. London: London School of Economics.
- Manski, C. (2000) "Economic Analysis of Social Interactions" *The Journal of Economic Perspectives*, 14(3): 115-136.
- Pinkster, F.M. (2007) "Localised Social Networks, Socialisation and Social Mobility in a Low-Income Neighbourhood in the Netherlands" *Urban Studies*, 44: 2587-2603

- Pinkster, F.M. (2009) "Introduction" in *Living in concentrated poverty*, dissertation Universiteit van Amsterdam
- Rahn, W.M and T.J. Rudolph (2005) "A tale of political trust in American cities" in *Public Opinion*, quarterly 69: 530–560.
- Rasbash, J., Steele, F., Browne, W.J. and Goldstein, H. (2009). *A user's guide to MLwiN (Version 2.10)*. Centre for Multilevel Modelling, University of Bristol.
- Sampson, R.J, J.D. Morenoff and T. Gannon-Rowley (2002) " 'Assessing 'Neighborhood Effects': Social Processes and New Directions in Research" in Annual Review of Sociology, 28: 443-478
- Stack, C.B. (1974) *All our kin: Strategies for survival in a black community*. New York: Harper and Row.
- Tienda, M (1991) "Poor people and poor places: deciphering neighbourhood effects on poverty outcomes" in: J. Huber *Macro-micro Linkages in Sociology*, London: Sage Publications: 245–262.
- Valentine, B. (1978) *Hustling and other hard work. Lifestyles in the ghetto*. New York: Free Press.
- Van Rijn, C. (2011) "The explanatory power of culture. Reviewing the use of a concept in Dutch ethnographies addressing juvenile delinquency among ethnic minorities." Amsterdam: Unpublished MA-thesis Research Master Sociology, University of Amsterdam.
- Weinberg, B. Reagan, P. Yankow, J. (2004): "Do Neighbourhoods Affect Work Behavior? Evidence from the NLSY79", *Journal of Labor Economics* 22 (4), 891 – 92
- Wilson W.J. (1987) *The Truly Disadvantaged: The Inner-City, the Underclass, and Public Policy*. Chicago: The University of Chicago Press
- Wilson W.J. (1996) *When Work Disappears. The World of the New Urban Poor*. New York: Knopf
- Woldoff, R.A. (2002). "The effect of local stressors on neighborhood attachment." In *Social Forces*, 81: 87-116.
- Young, A.A., Jr. (2003). "Social isolation, and concentration effects: William Julius Wilson revisited and re-applied." *Ethnic and Racial Studies*, 26: 1073-1087.