Perceived social disorder in suburban housing estates in the Helsinki region: a contextual analysis

Teemu Kemppainen & Perttu Saarsalmi
University of Helsinki, National Institute for Health and Welfare

Deindustrialisation has severely hit Finnish suburban housing estates of the 1960s and 1970s, and socio-economic differences between neighbourhoods have increased. The social disorganisation theory suggests that neighbourhood disadvantage is a risk factor for problems related to social order. This article compares perceptions of social disorder in suburban housing estates compared to other kinds of neighbourhood. Perceived social disorder appears to be most common in the suburban housing estates built in the 1960s and 1970s, somewhat less common in other high-rise neighbourhoods, and clearly least common in low-rise areas. Neighbourhood disadvantage predicts perceived social disorder, which partly explains these differences.
Keywords: Social disorder, housing estate, deindustrialisation, social disorganisation

Introduction

Concern over segregation and selective migration has appeared in Finnish scholarly (Kytö 2013; Vilkama et al. 2013) and policy (Kiuru 2011; Hallituksen esitys 2014; Viitanen 2014) discussions. The spatial crux of the concern is palpable, focusing on the post-war suburban housing estates. Indeed, in colloquial Finnish, the suburban housing estates ('lähiö') of the 1960s and 1970s connote a variety of social problems. Originally built to facilitate the late and rapid industrialisation and urbanisation of the country (Hankonen 1994), these estates now face the consequences of deindustrialisation in the form of high and chronic unemployment (Kortteinen et al. 1999; Rasinkangas 2013).

Evidence from other countries suggests that problems in disadvantaged neighbourhoods, often related to social order, may be detrimental in several respects, fostering mistrust, alienation (Ross et al. 2001) and fear (Covington & Taylor 1991; Brunton-Smith & Sturgis 2011), and affecting health (Latkin & Curry 2003; Kim 2008; Steptoe & Feldman 2001). Even though there has been an increase in socioeconomic neighbourhood differences in Finland during the last three decades (Kortteinen et al. 1999; Kortteinen & Vaattovaara 2000; Rasinkangas 2013), it cannot be assumed that the findings pertaining to rather different socio-historical urban contexts would apply to Finnish cities – yet. In an international comparison, Finnish cities can be considered relatively safe (e.g. European Commission 2013). Signs of deprivation are hardly noticeable in the disadvantaged neighbourhoods of Helsinki, compared to corresponding neighbourhoods in other European countries (van den Berg et al. 2006). However, there are socio-economic differences between neighbourhoods in terms of peacefulness and security (e.g. Kemppainen et al. 2014), aspects that significantly affect the quality of everyday life (Turunen et al. 2010) and rank high among the properties of the ideal neighbourhood in Finnish culture (Kortteinen et al. 2005; Koistinen & Tuorila 2008; Rasinkangas 2013).

What will happen in the future, if differentiation persists, remains to be seen. To the extent that neighbourhood disorder is associated with social disadvantage (e.g.Kortteinen et al. 2001; Kortteinen et al. 2005; Dekker & Van Kempen 2004; Ceccato & Haining 2005), a downward spiral or feedback loop may emerge. Local problems of order are likely to direct moving behaviour (Kortteinen et al. 2005; Vilkama et al. 2013), possibly in a selective, i.e. socioeconomically unbalanced manner (Varady & Schulman 2007; Andersen 2008; cf. Pinkster 2014; Pinkster et al. 2014). Personal experience of disorder is not necessary because social status and order are communicated in the neighbourhood's reputation, which may affect migration outflow (Permentier et al. 2009) and inflow (Permentier 2013; Clark & Rivers 2013). Given that selective migration can aggravate neighbourhood disadvantage (Andersson & Bråmå 2004), problems of order may get worse, and the spiral is theoretically completed.

Thus, social order is the key to understanding the future of suburban housing estates and, more generally, the differentiation dynamics in the capital region of a Nordic welfare state in the process of de-industrialisation. The aim in this study is to shed light on this topic via an empirical examination of perceived social disorder in the Helsinki region, and the comparison of suburban housing estates with other kinds of neighbourhood. The research questions are:

1) Do suburban housing estates differ from other kinds of residential contexts in perceived social disorder?

2) If they do, does socio-economic disadvantage of the neighbourhood explain the difference?

Teemu Kemppainen is a doctoral candidate at the Department of Social Research, University of Helsinki and Perttu Saarsalmi is a researcher in the National Institute of Health and Welfare. Contact: Teemu Kemppainen tel. +358407400765, email teemu.t.kemppainen@helsinki.fi and Perttu Saarsalmi tel.+358505635037, email perttu.saarsalmi@gmail.com.

Background and concepts

Suburban housing estate. According to Hurme (1991, 7, 177), 'lähiö' has come to refer to residential areas quite distinct from rest of the city structure, dependent on the employment and service supply of the city and of public transport. Hankonen (1994, 19) and Roivainen (1999, 11) include multi-storey housing in their definitions, whereas Stjernberg (2013a) adds the post Second World War period of construction; the English term he chooses for 'lähiö' is sub-urban housing estate.

Suburban housing estates constituted a crucial component in the modernisation of Finland. The period from the late 1950s to the mid-1970s was the era of intensifying urbanisation in the country to which the planned structural change, or modernisation, towards an open, growing and efficient economy was closely connected. The creation of these estates facilitated the migration of people from rural to urban settings, which was considered beneficial for economic growth. The early estates, tailored to the natural surroundings in a relatively spacious way, soon gave way to the demands of economic-technical rationality and practices, which resulted in the dense, square-based layout of the so-called compact estates. The notion of relative independence in terms of employment and services, which is present in the historical roots of housing-estate thinking, never became reality in Finland. The mass construction of suburban housing estates started to decrease after the 1970s, and planning ideals and practices began to change. As a consequence, the estates of the 1960s and 1970s form a category of their own, distinct from subsequent suburban development. (Juntto 1990; Hurme 1991; Hankonen 1994; Kokkonen 2002; Valkonen 2005; Stjernberg 2013a.) Early depictions of suburban housing estates were characterised by optimism, opportunities and promises (Roivainen 1999, 130), but quite soon they gave way to more negative views. The youth unrest at Siilitie – an early and relatively large social-housing estate in Helsinki – in the early 1960s proved to be of central importance for the later development of the region: the solution of the city's policy-makers was to avoid building large neighbourhoods with predominantly public rental housing in order to create a more balanced tenure structure (Helsingin Sanomat 2014; Pulma 2000; Schulman 2000). As a result, social-housing estates are rare and the proportion of mixed-tenure neighbourhoods is rather large in Helsinki.

Despite the policy of tenure mixing, social problems gained a prominent place in the discussion on suburban housing estates. Specific topics included rootlessness, isolation, the poor quality of the built environment, social disorder, and the lack of normative regulation (Kortteinen 1982; Piirainen 1993), followed later by segregation (Seppänen 2001). This is congruent with the international discussion on post-war estates, concisely summarised by Dekker et al. (2011): these estates are often depicted in terms of problematic design, excessive uniformity and disproportionate physical scale. According to proponents of architectural determinism, characteristics such as these pave the way for poor social control (Jacobs 1961; Newman 1973).

The recession of the early 1990s and the related economic restructuration, in other words de-industrialisation, severely affected the majority of suburban housing estates in the Helsinki region, high unemployment being one consequence. The education-intensive, ICT-led upswing of the later 1990s was less beneficial to neighbourhoods in which the educational level was low, as was typical of many suburban housing estates. (Vaattovaara 1998; Kortteinen et al. 1999; Vaattovaara & Kortteinen 2003; Stjernberg 2013b; see also Pekonen 1998.) This resulted in increased social segregation, predominantly on a small spatial scale: as a consequence of the tenure-mixing policy, socio-economic disadvantage was concentrated in relatively small areas (Vaattovaara 1998). However, there were also inequalities in deprivation on a larger spatial scale, and most notably, a concentration of multidimensional social deprivation along the region's metro and railway lines, including the suburban housing estates in the Eastern parts of Helsinki (Maury 1997). Somewhat later, an increasing trend towards ethnic differentiation was observed. The proportion of foreign-language speakers started increasing after the turn of the millennium. This was especially prominent in the more disadvantaged Eastern and North-Eastern estate neighbourhoods, many of which had become fairly mixed in terms of ethnic composition with an emphasis on Russian, African and Middle Eastern cultures (Vilkama 2011).

Social disorganisation and social disorder. Our aim in this study is to find out what the socio-spatial development of the last three decades outlined above means in terms of social life in the suburban housing estates of the Helsinki region. Is there something tangible behind the talk of problems and the negative connotations attached to the estates of the 1960s and 1970s? As mentioned above, these neighbourhoods have become more disadvantaged since the early 1990s. According to social disorganisation theory, the roots of which can be traced to Shaw and McKay's (1942) work on juvenile delinquency in urban areas, it is reasonable to ask if there is an association between social disadvantage of the estates and problems of social order (for useful and concise historical reviews of social disorganisation, see e.g. Piirainen 1993; Hays 2008).

As Warner (2007) observes, social disorganisation theory continues to be a fertile research framework. It is typically used to explain what associates different kinds of social problems with structural disadvantage of neighbourhoods. The exact form of structural disadvantage may vary from one context to another. Ethnic heterogeneity - part of the original triad which also includes poverty and residential instability - was virtually unknown in Finland for a long time, but may turn out to be more relevant in the 21st century. The latest and fairly well established version of the idea of social disorganisation, proposed by Sampson et al. (1997), highlights the role of collective efficacy – in other words informal social control and social cohesion – as a mechanism that could explain why neighbourhood disadvantage gives rise to social ills such as social disorder.

The concept of social disorder – like the related concepts of incivility, non-normal appearance, social disturbance and urban unease – refers in urban studies to the breaching of norms regulating behaviour in urban space. These breaches are typically perceived as disturbing, threatening or bothersome (Goffman 1971; Covington & Taylor 1991; Ross & Mirowsky 1999; Innes 2004; Hipp 2007; Bottoms 2009; Wiles 2009; Brunton-Smith et al. 2014). Wiles (2009, 76) explicates the theoretical and practical significance of disorder in a way that merits a longer quotation:

"[S]ocial order is a necessary precondition for the social interactions that constitute social life. This is because interaction is based on trust in the orderliness of social exchange and so a certain degree of predictability as to the outcome. Disorder threatens the trust needed for interaction. For human society to be possible, the necessary degree of trust and so order must be constructed and maintained."

The tangible manifestations (Sampson 2009) or clues (Covington & Taylor 1991) of social disorder comprise social (e.g. youths hanging around, public drinking, drugs, violence) and physical (e.g. litter, graffiti) aspects and include norm-breaking acts and the traces they leave behind, both minor and major, whether criminal or not (see also Ross & Mirovsky 1999; Bottoms 2009). We used survey data in this study to measure these manifestations. Ross & Mirowsky (1999) and Hipp (2007) defend survey measurement, and consider residents to be experts on the social life of their neighbourhood. They are possibly in a better position to assess the level of social disorder than researchers who have a fairly limited time-span in their systematic measurement scheme. The perceptions of residents living in the same neighbourhood may vary individually, but they are likely to correlate strongly because they refer to the same place. In addition, to the extent that survey and outsider measures differ, it could be argued that what matters for the unfolding of social life is exactly how residents perceive their neighbourhood – they are, after all, the ones who live in it, are exposed to it, stay there (loyalty), try to change things through action (voice), take the exit option (Ross et al. 2001; Permentier et al. 2007; Hipp 2010) or "just live there" (disaffiliation) (Pinkster 2014).

The issue of context-dependence in perceptions of social disorder has gained considerable recent scholarly attention (Sampson 2009; Wikström 2009; Wiles 2009). According to Sampson (2009), the evaluation of social disorder as a problem depends not only on its concrete manifestations but also on the social context, such as the reputation of the area and the presence of stigmatised groups that are associated with danger in the public imagination. Wickström (2009) emphasises the rational side of the issue: it may be rational to interpret similar signals of disorder in a context-dependent manner, taking into account what one knows about the context. Sampson refers in this discussion to what he calls the dominant method of measuring disorder by how much of a problem it is to the respondent: in other words, the measurement of social disorder is evaluative. The extent to which the discussion of context-dependence applies to a descriptive measurement has attracted less attention. In simple terms,

it is a conceptually different matter to ask how much of a problem x is to the respondent than to ask how much (s)he has perceived x in the neighbourhood (e.g. Friedrichs & Blasius 2003). We explicitly take this theoretical distinction into account in our study in using a descriptive measure of social disorder.

The contribution of the study with regard to Finnish and European literature. Social disorder has featured in Finnish social-scientific studies on suburban housing estates (e.g. Kortteinen 1982; Sulkunen et al. 1985; Kääriäinen 1987; Piirainen 1993). Piirainen (1993) found in his case study of a predominantly rental suburban housing estate in Helsinki that social disturbances – typically alcohol-related unrest – were concentrated in a couple of houses, where the regulation of social life was inefficient. A more recent case study on an estate in Lahti reports that disorder around the shopping mall is perceived as a problem and criticised by the residents (Seppänen 2001; see also Seppänen 2012). Finally, a recent study on spatial regression (Kemppainen 2014) suggests that residents on suburban housing estates in the Helsinki region may be exposed to feelings of insecurity. Given our research aims, this corpus suffers from two limitations. The first is that the early studies from the 1980s and 1990s do not provide sufficient insight into the contemporary situation in suburban housing estates, characterised by heavier social disadvantage and increased ethnic heterogeneity. Second, one limitation of case studies is the difficulty in establishing reliable comparative findings.

Turning our attention to contemporary European studies we note that insecurity is considered one of the problems in housing estates across Europe. It has been attributed to the availability of vacant properties, cultural differences, the habit of young people to hang around in public and semi-public spaces, and alcohol and drug problems (Dekker & Van Kempen 2004). This finding from the RESTATE project is of significance to our study: it indicates a need to examine the question of social order in housing estates in more detail, particularly given the lack of comparative information in relation to other kinds of neighbourhood. Beyond the context of housing estates, there is a considerable amount of both Finnish and European evidence of an association between contextual social factors and different aspects of social order. Kortteinen et al. (2001) found in their study on Helsinki that socio-economic deprivation in the neighbourhood was associated with violent crime. This is in line with the results of Finnish studies on the determinants of feelings of insecurity, which also implies social disorder (Kääriäinen 2002; Kemppainen et al. 2014). It was reported in a recent Swedish study on a medium-sized urban municipality (Kullberg et al. 2011) that positive social ties and informal social control promoted perceived residential safety. Another study conducted in the same municipality found that living in a multi-storey house and in a neighbourhood with low perceived reputation were associated with perceived social disorder (Kullberg et al. 2009). Ceccato and Haining (2005), using data from Malmö, found that district-level ('delområde') disadvantage predicted vandalism. It was also found in an older Swedish

study using data from the early 1990s (Lindström et al. 2003) that neighbourhood-level social capital, measured in terms of electoral participation, predicted feelings of insecurity in Malmö.

On the basis of these empirical findings and the developments outlined in the background section, it seems reasonable to expect suburban housing estates of the 1960s and 1970s to have higher levels of disorder than other residential contexts because they are, on average, more disadvantaged than other neighbourhoods. Hence, we aim in this study to contribute to the Finnish literature on housing estates, and also more generally to European urban sociology, by examining perceptions of social disorder in different residential contexts, comparing suburban housing estates of the 1960s and 1970s to other kinds of neighbourhoods in the Helsinki region.

Data and methods

A large survey data set with register-based contextual data. The data consist of survey data and contextual-level register data. The survey data (project Katumetro) were collected in 2012 via a postal and web-based questionnaire and cover the Helsinki region extensively. The Helsinki region in this study refers to the capital city of Finland and the surrounding municipalities of Espoo, Kauniainen, Hyvinkää, Järvenpää, Kerava, Kirkkonummi, Lohja, Mäntsälä, Nurmijärvi, Pornainen, Sipoo, Tuusula, Vantaa and Vihti. The survey targeted 25- to 74-year-old residents of the region, with either Finnish or Swedish as their mother tongue. The size of the target population is well above 600,000 and the gross sample size is 26,000. (Laaksonen et al. 2015.) [1]

The sampling design oversamples high- and low-income areas, which is convenient for the study at hand given that suburban housing estates tend to be less affluent than other neighbourhoods. The response rate was 36 per cent. The male gender, a lower income and a younger age were associated with a lower response propensity. The weighting scheme accounts for the sampling design and the non-response incidence. For further details on the survey design, non-response and weighting, please see Laaksonen et al. (2015).

We obtained the contextual register data from the Grid Database ("Ruututietokanta", version 2009), a database aggregated to statistical grids by Statistics Finland. It provides information on the demographic, socio-economic and housing structure of the respective grids (Statistics Finland 2014). We used grids of 250 m x 250 m in this analysis.

Design-based regression with sensitivity checks for autocorrelation. We constructed a two-level dataset, with individuals nested in grids. The upper-level units, or grids, constitute a continuous and correlated structure and do not form a sample from a population of grids. In addition, most observations are alone in their grids. For these reasons we did not choose multilevel modelling as the primary method. Instead, we relied on design-based regression analysis, performed in the R environment, using the 'survey' package (Lumley 2015). This enabled us to take into account non-response,

the stratification of the sampling design and the varying inclusion probabilities. We checked the effect of natural clustering by means of a multilevel model with grids specified as clusters, and used spatial econometric tools to assess spatial autocorrelation (e.g. Anselin 2009).

Spatial analysis. First, to give an overview of perceived social disorder in its concrete context we visualise and describe its spatial distribution. It has been suggested recently that the collective component of perceived social disorder should be disentangled from individual variation (Brunton-Smith et al. 2014). We aim to do this in the descriptive phase of our study using the tools of spatial analysis. For this purpose, we constructed the spatial trend of perceived social disorder by assigning to each observation the mean value of the ten nearest observations (i.e. spatial lag), excluding the individual's own value (e.g. Fornango 2012). For the purpose of visualisation we adopted the inverse distance weighted interpolation (IDW) method in ArcGIS. IDW creates a new raster surface from the sample points, weighted by distance: nearby sample-point values carry more weight in the estimation than those locating further away (de Smith et al. 2009).[2]

Contextual variables: operationalisation and description. We obtained the empirical indicator of perceived social disorder (PSD) via a factor analysis of the items tapping the respondent's perceptions of social disorder in the residential environment. Consistent with the theoretical definition of social disorder presented above, our variables touch upon uncleanliness, the public use of alcohol, problems caused by neighbours, the use or commerce of drugs, troublemaking and threatening behaviour, and theft or vandalism (4-point response scale from "none" to "a lot"). The extracted factor had an Eigenvalue of 3.529, and explained around half of the variance in the set of items (the Eigenvalues of the other factors were well below 1). We employed mean imputation to account for the missing observations (ranging from 120 to 144 in the set of items). The Cronbach's alpha for the standardised items was 0.859, indicating very high reliability. It was possible to use a relatively small neighbourhood size (the ten nearest neighbours) in the spatial analyses given the high reliability and inter-subjective agreement of the measurement. Intra-class correlations of PSD were fairly high (ICC = 33 %, with individuals nested in grids), which points to considerable inter-subjective agreement on the responses. The true ICC is expected to be higher still because grids are arbitrary with regard to real neighbourhoods. Another way of assessing inter-subjective agreement is to measure the spatial autocorrelation of PSD (Anselin 2009; Fornango 2012). Moran's I was 0.345, which supports the conclusion drawn on the basis of ICC (Geary's C, an alternative measure, equates to 0.666).

---

[1] The original sample includes also Lahti, but it was excluded from the analysis and these figures, because it forms an island somewhat distinct from the rest of the data.

[2] Further details concerning interpolation can be obtained from the authors by request.

Table 1
Description of the three neighbourhood types in terms of other contextual predictors

		SHE	LRN	HRN	All
Population density	Low	3 %	35 %	3 %	22 %
	Mid	36 %	62 %	38 %	52 %
	High	61 %	3 %	59 %	26 %
	N (100 %)	466	2332	1145	3943
Families with young children	Low	41 %	8 %	50 %	24 %
	Mid	57 %	52 %	49 %	51 %
	High	2 %	40 %	1 %	24 %
	N (100 %)	466	2332	1151	3949
Retired	Low	6 %	28 %	23 %	24 %
	Mid	52 %	51 %	51 %	51 %
	High	42 %	21 %	26 %	25 %
	N (100 %)	466	2332	1151	3949
Middle-aged & teenagers	Low	22 %	19 %	37 %	24 %
	Mid	72 %	43 %	59 %	51 %
	High	6 %	39 %	4 %	25 %
	N (100 %)	466	2332	1151	3949
Tenure	Rental	17 %	2 %	25 %	10 %
	Mixed	64 %	19 %	67 %	38 %
	Ownership	18 %	79 %	7 %	52 %
	N (100 %)	458	2332	1124	3914
Education	Low	50 %	15 %	33 %	25 %
	Mid	37 %	54 %	48 %	50 %
	High	13 %	31 %	19 %	25 %
	N (100 %)	464	2053	1143	3660
Income	Low	58 %	2 %	49 %	25 %
	Mid	37 %	55 %	48 %	50 %
	High	5 %	43 %	4 %	25 %
	N (100 %)	464	1898	1141	3503
Unemployment	Low	6 %	38 %	8 %	25 %
	Mid	46 %	51 %	50 %	50 %
	High	48 %	10 %	42 %	25 %
	N (100 %)	465	2114	1139	3718

(SHE = sub-urban housing estate; LRN = low-rise neighbourhood; HRN = high-rise neighbourhood)

The residential-context classification is based on the characteristics of the built environment, and follows roughly the same logic as the conventional division of the Helsinki region into high-rise suburban, low-rise suburban, and old central areas (e.g. Maury 1997). First, we defined suburban housing estate (SHE) grids as grids in which at least 50 per cent of the residents live in multi-storey blocks built in the 1960s and 1970s, and which are located outside the central areas (for more details, see Stjernberg 2013a). We divided the remaining grids into two broad categories on the basis of the physical structure, using 50 per cent as the cut-off point in the proportion of one-family apartments of all apartments in the grid. This yielded our low-rise (LRN) and high-rise (HRN) neighbourhoods.

The difference from conventional classification stems from our desire to focus on the parts of the suburban high-rise neighbourhoods that were developed in the 1960s and 1970s. Our category of other high-rise neighbourhoods is therefore relatively heterogeneous, including not only the old central neighbourhoods but also the early high-rise suburbs of the 1950s and those built after the 1970s. A more nuanced categorisation (cf. Maury 1997) would have implied a loss of statistical power and a loss of analytical parsimony, which is why we considered the trichotomy presented above a reasonable compromise.

The demographic structure of the grid is based on a factor analysis of eight variables on the proportions of different age groups and three variables on household structure (households with children; no children and the age of all individuals between 16 to 64 years; no children and the age of at least one individual above 64). The information of these eleven variables can be efficiently expressed in terms of three factors: 1) families with children; 2) retired; 3) middle-aged and teenagers. We constructed the tenure type of the grid from the proportion of owner-occupied apartments of all apartments. The educational level of the grid stems from a factor

analysis of four variables describing the educational structure of its population. The four variables describe the proportions of inhabitants with elementary, vocational, lower-tertiary, and upper-tertiary education, respectively. The dominant factor is used in the analyses. A similar procedure was used to derive the income level of the grid: the median income of residents and households and the proportions of residents and households with low, middle and high income levels (eight variables altogether) were used and the dominant factor on the income level of the grid was extracted. The variables mentioned above as well as the population size and unemployment rate of the grid were all categorised into three categories from the upper and lower quartiles.

Unfortunately there is no grid-level data on residential stability and ethnic heterogeneity in our dataset, which means that two theoretically important factors of social disorganisation are not included in the analyses. The tenure structure of the grid is likely to reflect residential stability to some extent, however. Ethnic heterogeneity is likely to show some co-variance with socio-economic disadvantage (Vilkama et al. 2013; see also Pan Ké Shon 2012), and may be partly patterned in accordance with the tenure structure.

Before entering the analysis of perceived social disorder we describe the three kinds of residential contexts in terms of the other contextual predictors in order to elucidate their relationships (Table 1). In terms of population density the SHE and HRN grids are rather similar and differ from the clearly less dense LRN grids. In terms of demographic structure, the population of the SHE grids is relatively aged, whereas families with younger children and also teenagers characterise the LRN grids. The SHE grids are, on average, characterised by lower levels of income and education and higher unemployment than the other two neighbourhood types. Finally, the SHE grids are more rental-dominated than the LRN grids and somewhat more ownership-oriented than the HRN grids.

Analyses

The spatial trend of perceived social disorder. Figure 1 shows the spatial trend of perceived social disorder (PSD) over the entire study area, whereas Figure 2 focuses on the most heavily urbanised part. PSD closely follows railway and metro lines, a trend found earlier with regard to social disadvantage (Maury 1997) and feelings of insecurity (Kemppainen et al. 2014). It also seems to increase with population density, given that the areas with high levels of PSD are predominantly more urbanised and more densely populated. There is a clear east-west division in the urban part of the study area (Fig. 2), which is consistent with earlier findings on the educational gradient of the area (Kortteinen et al. 1999). In sum, PSD seems to follow the socio-economic pattern of the region, with the exception of the central business district.

Do suburban housing estates differ from other high-rise neighbourhoods and low-rise neighbourhoods in perceived social disorder? First, we calculated the PSD means for the three residential contexts, taking into account the sampling design and non-response bias. The mean PSD factor score is 0.54 in suburban housing estates (SHE), compared to -0.39 and 0.42 in the low-rise (LRN) and high-rise (HRN) neighbourhoods, respectively; the differences are statistically significant. To give a concrete example of what this means, 83 per cent of the SHE residents had seen at least some public drunkenness in their neighbourhood, compared to 39 per cent of the LRN residents and 79 per cent of the HRN residents. In other words, the main PSD dividing line runs between the peaceful areas with low-rise single-family housing and the more urban and restless multi-storey neighbourhoods. This was the empirical starting point for the regression elaboration.

Regression analyses. To start the model building we examined the grid-level predictors separately from each other, with the individual-level variables included as controls (Table 2. model I). The differences between the SHE, LRN and HRN grids turned out to be similar to those in the un-adjusted means presented above: a low-rise structure seems to be associated with less frequent occurrences of social disorder. In addition, suburban housing estates do not, as a group, stand out from the high-rise city structure in terms of social disorder. This may be attributable to several factors. Socio-economic differences between the estates (Maury 1997; Vaattovaara 1998; Stjernberg 2013b) may mean that only a part of these neighbourhoods suffer more severely from problems of order. On the other hand the HRNs include central areas where street violence is more common than elsewhere (Kortteinen et al. 2001).

Taken separately, socio-economic disadvantage of the grid (a low proportion of owner-occupied apartments, low income and educational levels, high unemployment) and a high population density predict perceived social disorder. The demographic structure of the grid also predicts PSD, and the main observation is that the more families there are with children, including teenagers, the lower is the level of PSD.

The immediate residential context, meaning the type of house in which people live and the tenure type, varies from one resident to another in the same neighbourhood. It was necessary to control for this (model II) in order to clarify the spatial scale of PSD. If it is mainly about the immediate physical and social environment, the grid-level variables should lose their initial bivariate predictive power. Consistently with the literature review, this step reveals that living in a multi-storey block or a public rental apartment predicts higher levels of PSD (see appendix table 2 for the individual-level estimates of the full model, in line with this step). Focusing on our key question, we observe that the LRN loses a major portion of its initial predictive power: hence, the original difference in PSD is partly attributable to the fact that the LRN grids have, by definition, a lower building structure and also fewer rental apartments than the SHE grids. The role of a high-rise environment can interpreted by returning to the arguments of Jacobs (1961). Newman (1973) and others who highlight the influence of the physical environment in terms of the possibilities that residents have to exercise informal social control in their surroundings. However, there

Figure 1. The spatial lag of PSD in the entire study area. Visualised by IDW
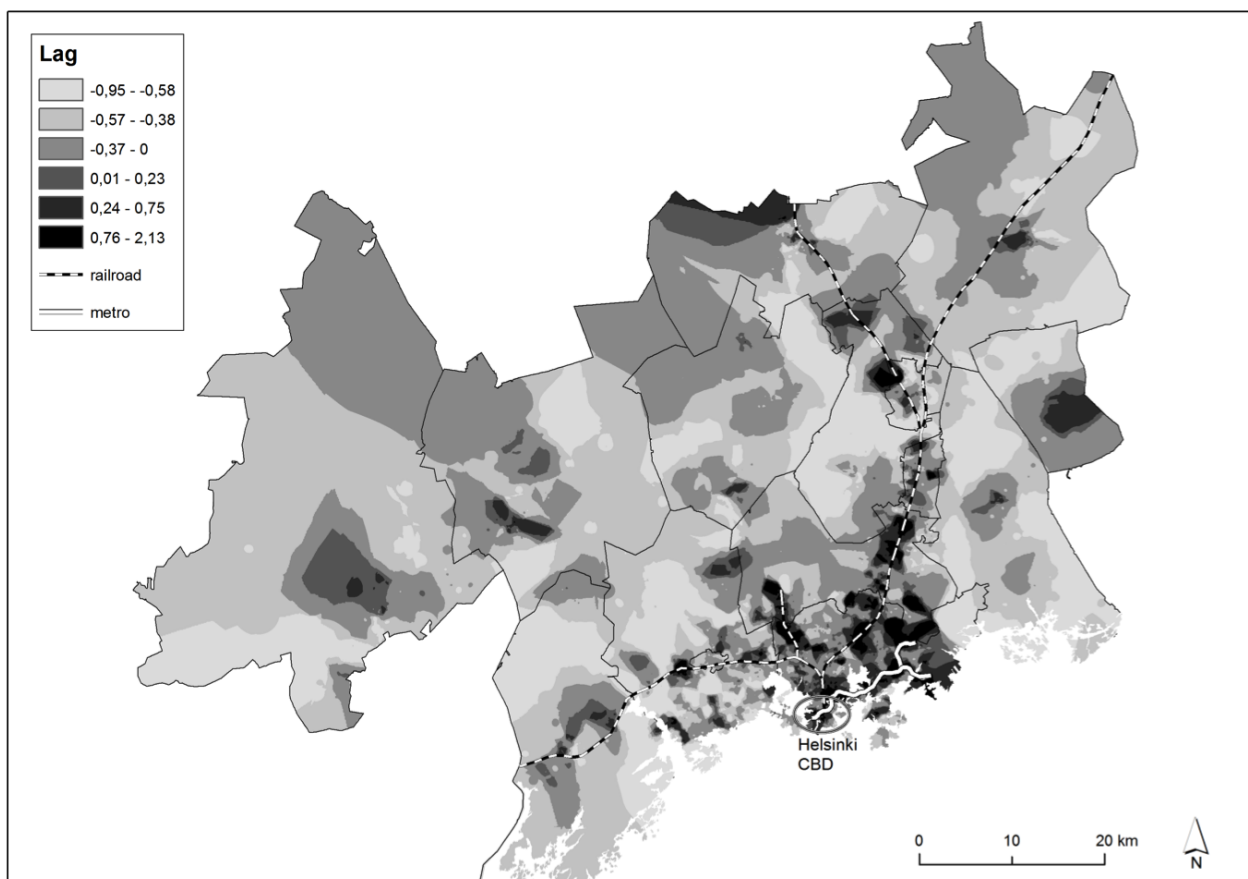
is something more to the SHE vs. LRN difference, given that the size of the estimate remains substantial.

At the next stage we included the demographic characteristics of the grid (model III). The LRN variable again loses some of its power because low-rise neighbourhoods are less densely populated. Interestingly, the difference between the SHE and HRN grids remains more or less the same in models I, II and III. We were then able to enter the decisive phase of our empirical analysis. After controlling for the above-mentioned differences between the neighbourhood contexts, we entered the contextual socio-economic variables into the regression model (IV). Their inclusion increased its explanatory power, as measured by R squared, from 24 to 28 per cent. Contextual socio-economic factors explain to a considerable degree the elevated level of perceived social disorder in suburban housing estates compared with the other two contexts. This finding is consistent with the notion of social disorganisation, according to which structural disadvantage is associated with problems of social order in the neighbourhood.

The final model also demonstrates that population density, the proportion of families with young children, and the income and unemployment level of the grid predict PSD. Educational level and tenure type are also significant, but do not

remain so when the effects of intra-class correlation and spatial autocorrelation are taken into account (see next section).

Sensitivity analyses. Simplifying the final model yields estimates that are basically similar to those of the full model. Serious multicollinearity is not present (all the variance inflation factors are well below 10) and the main results remain the same even when the variables with the highest VIF's are dropped from the analysis.

The models in Table 2 are estimated also as multilevel models, the respondents being nested in grids. This is reasonable because there is relatively strong intra-class correlation in the outcome with respect to the grid structure. Theoretically, this could widen the confidence intervals of the estimates due to the loss of information implied by intra-class correlation (Hox 2010). There is also spatial autocorrelation (Moran's $I = 0.106$, Geary's $C = 0.913$) in the residuals, which implies that the model estimates may be unreliable. We therefore used basic spatial econometric models to assess their robustness. (Ward & Gleditsch 2008; Anselin 2009; Fornango 2012.) The results of the final model are mainly robust with respect to these specifications. The most noteworthy exception is that grid-level educational and tenure structure are no longer significant in the full multilevel or

Figure 2. The spatial lag of PSD in the urban area. Visualised by IDW.
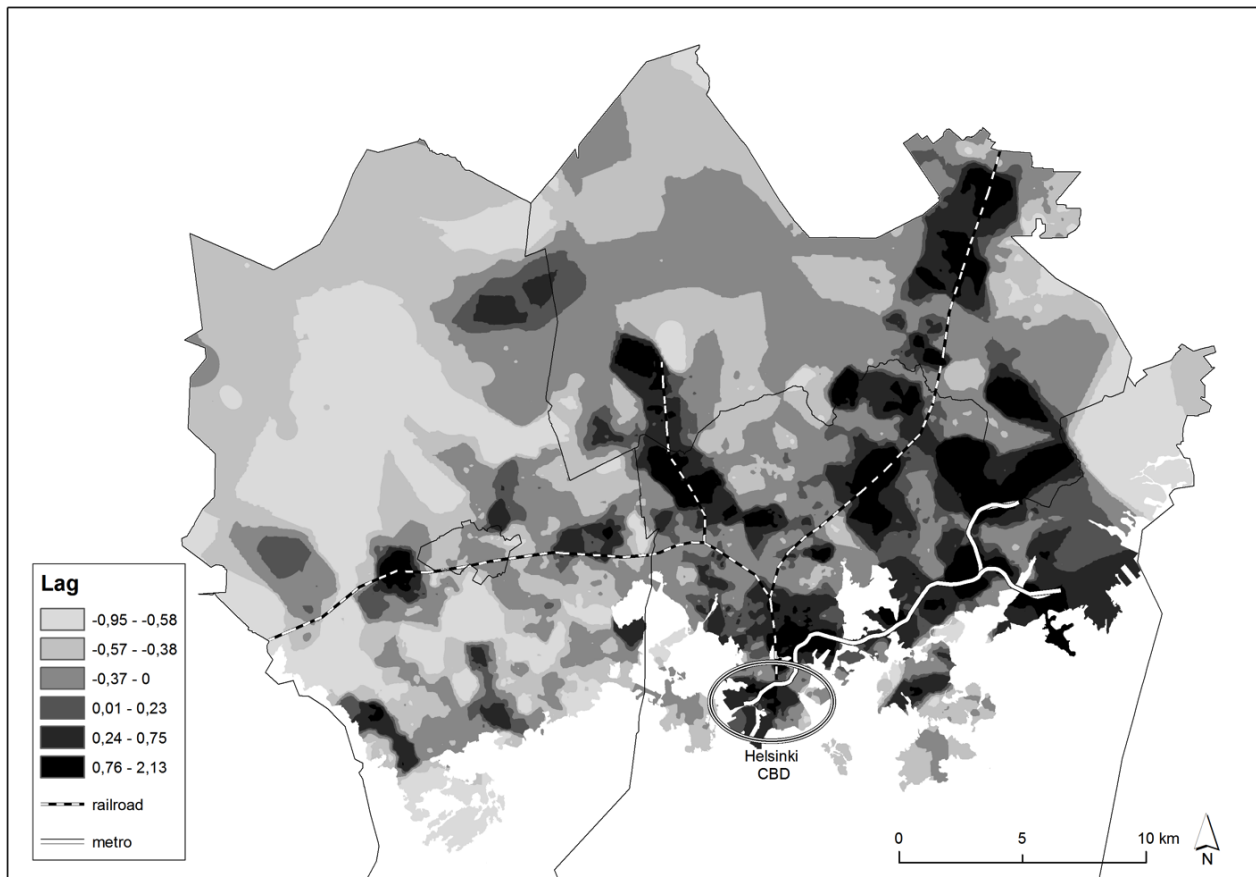
spatial models. Hence, these estimates should be interpreted with caution.

Conclusion and discussion

The aim in this article was to compare suburban housing estates to other kinds of neighbourhoods in terms of perceived social disorder. To conclude, we found that perceived social disorder was most common in the suburban housing estates of the 1960s and 1970s, somewhat less common in other high-rise neighbourhoods, and clearly the least common in the low-rise areas. It is worth emphasising that housing estates do not differ markedly from other high-rise neighbourhoods in perceived social disorder. The socio-economic characteristics of the neighbourhood clearly matter: a low level of income and high unemployment predict perceived social disorder, independently of each other. These factors partly explain the differences in perceived social disorder between our three residential contexts, suburban housing estates being, on average, more disadvantaged than other neighbourhoods. In sum, social disorganisation theory is supported in this study.

Even though suburban housing estates do not differ substantially from other urban neighbourhoods in terms of social disorder, their position in housing markets is rather different.

More centrally located urban areas offer employment, services and the chance of a distinctly urban lifestyle, which may compensate for the urban disorder. Low-rise neighbourhoods, in turn, offer peace and space that is highly valued among families with children. Suburban housing estates are in a relatively weak position in this competition in that they offer neither peace nor services to the same extent as the other two contexts. Will this lead to a gradual increase in segregation, the estates becoming, in general, increasingly disadvantaged? Or will such development affect only part of the estates (cf. Stjernberg 2013b)?

The issue of causal inference is notoriously complex, especially in cross-sectional analyses. The loss of predictive power with regard to grid-level education and tenure type should be interpreted with care. As we noted in the background section, the post-recession spatial structure of unemployment emerged as a consequence of spatial differences in education. Were it possible to manipulate the educational level of a neighbourhood in the early 1990s, the income and unemployment levels would have been different as well. In more theoretical terms, the neighbourhood would have followed a different trajectory to late modernity. On the basis of this reasoning, it seems likely that the original bivariate association is far from spurious. Instead, we have shed light

Table 2

Design-based regression of PSD. Contextual variables. Katumetro data.

	I: Bivariate (b. c)		II: I + immediate context		III: II + grid demographics		IV: Full	
	B	p	B	p	B	p	B	p
Intercept	0.385	**** (a)	-0.165	0.062	0.020	0.835	0.190	0.059
Grid: SHE	ref.		ref.		ref.		ref.	
LRN	-0.831	****	-0.465		-0.306	****	-0.139	0.015
HRN	-0.115	0.001	-0.116	0.002	-0.121	0.002	-0.072	0.062
Grid Population: High	ref.				ref.		ref.	
Mid	-0.551	****			-0.197	****	-0.156	****
Low	-0.895	****			-0.370	****	-0.313	****
Grid: Age & household structure (a. b & c)								
a) Families with young children: low	ref.				ref.		ref.	
mid	-0.303	****			-0.112	0.001	-0.064	0.047
high	-0.714	****			-0.160	****	-0.085	0.021
b) Retired: low	ref.				ref.		ref.	
mid	0.166	****			0.030	0.360	0.038	0.224
high	0.105	0.004			-0.030	0.418	0.022	0.556
c) Middle-aged & teenagers: low	ref.				ref.		ref.	
mid	-0.026	0.381			0.060	0.045	-0.042	0.161
high	-0.493	****			-0.018	0.602	-0.061	0.089
Grid Tenure: Rental	ref.						ref.	
Mixed	-0.133	0.002					0.071	0.147
Owner	-0.738	****					0.114	0.047
Grid Education: Low	ref.						ref.	
Mid	-0.192	****					0.018	0.614
High	-0.464	****					-0.108	0.013
Grid Income: Low	ref.						ref.	
Mid	-0.591	****					-0.187	****
High	-0.874	****					-0.170	0.001
Grid Unemployment: High	ref.						ref.	
Mid	-0.639	****					-0.389	****
Low	-0.859	****					-0.345	****
n	9254		9254		9254		9254	
R squared	0.200		0.230		0.241		0.283	

*a) **** p < 0.0001 b) In model I, the intercept n and R squared are from the SHE-LRN-HRN model. c) All models include individual level controls for gender, age. education, main activity, household type and subjective economic situation.*

on part of the mechanism that mediates the impact of neighbourhood educational level on the mode of social life.

The same kind of logic applies to tenure type. The choice of tenure structure, made in the early phase of the development process, partly determines the socio-economic trajectory of the neighbourhood. Consistent with this, analysis of the grid data shows that mixed neighbourhoods lie somewhere between rental- and ownership-dominated grids in socio-economic terms (not shown in the tables), including income and unemployment level, which were central contextual predictors of disorder in our analysis. Hypothetical manipulation of tenure type of the neighbourhood would change its socio-economic character, which as our findings imply, would be reflected in social order. This interpretation is relevant in terms of policy. With regard to social order it seems that the policy of mixing tenure type delivers what was expected when it was adopted after the unrest at Siilitie (Schulman 2000; Pulma 2000). Mixed neighbourhoods are more peaceful than rental-dominated ones partly because they end up being less disadvantaged. This aspect complements the evaluation of a mixing policy in terms of neighbourhood effects on, say, the income, education, health and employment of residents.

Finally, we offer three suggestions for future research. First, housing estates are not a homogeneous mass, but differ in many respects, including in socio-economic factors (Maury 1997; Vaattovaara 1998; Stjernberg 2013b). Future studies may be able to shed light on this variety from many perspectives, including social order but also on different indicators of wellbeing and moving behaviour. Second, focusing on exceptional cases, which tend to be inadequately analysed in a regression framework, could significantly enhance theoretical understanding and policy insight. Why, for example, does a given disadvantaged neighbourhood fare rather well in terms of social order, and vice versa? In-depth case studies could shed further light on what constitutes alternative bases of social order. Third, there is still insufficient evidence of how neighbourhood disadvantage is associated with problems of social order in the European context. It would be interesting to see to what extent the differences in collective efficacy (Sampson et al. 1997) mediate the relationship of contextual socio-economic factors and disorder in Finnish cities.

Author contributions

PS produced the maps and commented different versions of the paper, including the last. TK took responsibility of the rest.

Acknowledgements

References

Andersen, H. S. (2008). Why do residents want to leave deprived neighbourhoods? The importance of residents' subjective evaluations of their neighbourhood and its reputation. *Journal of Housing and the Built Environment*, *23*(2), 79–101.

Andersson, R., & Bråmå, Å. (2004). Selective migration in Swedish distressed neighbourhoods: Can area-based urban policies counteract segregation processes? *Housing Studies*, *19*(4), 517–539.

Anselin, L. (2009). Spatial regression. In A. Fotheringham & P. Rogerson (Eds.), *The Sage handbook of spatial analysis* (pp. 255–275). Thousand Oaks, CA: Sage.

Bottoms, A. (2009). Disorder, order and control signals. *The British Journal of Sociology*, *60*(1), 49–55.

Brunton-Smith, I., Jackson, J., & Sutherland, A. (2014). Bridging structure and perception. On the neighbourhood ecology of beliefs and worries about violent crime. *British Journal of Criminology*, *54*(4), 503–526.

Brunton-Smith, I., & Sturgis, P. (2011). Do neighborhoods generate fear of crime? An empirical test using the British Crime Survey. *Criminology*, *49*(2), 331–369.

Ceccato, V., & Haining, R. (2005). Assessing the geography of vandalism: Evidence from a Swedish city. *Urban Studies*, *42*(9), 1637–1656.

Clark, W. A., & Rivers, N. (2013). Community choice in large cities: Selectivity and ethnic sorting across neighbourhoods. In M. van Ham, D. Manley, N. Bailey, L. Simpson, & D. Maclennan (Eds.), *Understanding Neighbourhood Dynamics: New Insights for Neighbourhood Effects Research* (pp. 255–279). Dordrecht: Springer.

Covington, J., & Taylor, R. B. (1991). Fear of crime in urban residential neighborhoods. Implications of between- and within-neighborhood sources for current models. *The Sociological Quarterly*, *32*(2), 231–249.

Dekker, K., de Vos, S., Musterd, S., & van Kempen, R. (2011). Residential satisfaction in housing estates in European cities: a multi-level research approach. *Housing Studies*, *26*(04), 479–499.

Dekker, K., & Van Kempen, R. (2004). Large housing estates in Europe: current situation and developments. *Tijdschrift voor economische en sociale geografie*, *95*(5), 570–577.

De Smith, M. J., Goodchild, M. F., & Longley, P. (2009). *Geospatial analysis: A comprehensive guide to principles, techniques and software tools. 3th edition. issue version: 3.11.* Troubador Publishing Ltd.

European Commission. (2013). *Quality of life in cities. Perception survey in 79 European cities.* Luxembourg: European Union.

Fornango, R. J. (2012). When space matters: Spatial dependence, diagnostics, and regression models. In T. Pratt (Ed.), *Advancing quantitative methods in criminology and criminal justice* (p. 15-33). London: Routledge.

Friedrichs, J., & Blasius, J. (2003). Social norms in distressed neighbourhoods: testing the Wilson hypothesis. *Housing Studies*, *18*(6), 807–826.

Goffman, E. (1971). *Relations in public. Microstudies of the Public Order*. New York: Harper and Row.

Hallituksen esitys eduskunnalle metropolihallintoa koskevaksi lainsäädännöksi (2014). Draft 10.12.2014. (n.d.).

Hankonen, J. (1994). *Lähiöt ja tehokkuuden yhteiskunta: suunnittelujärjestelmän läpimurto suomalaisten asuntoalueiden rakentumisessa 1960-luvulla*. Espoo: Otatieto.

Hays, Z. R. (2008). *The doubly victimized residents of disorganized neighborhoods: Social disorganization, collective efficacy, and police officers' use of excessive force*. Dissertation. The Pennsylvania State University.

HelsinginSanomat. (2014). *Siilitien nuoriso-ongelma otettu opiksi Helsingin asuntopolitiikassa. HS 50 vuotta sitten. HS 20.4.2014.*

Hipp, J. R. (2007). Block, tract, and levels of aggregation: neighborhood structure and crime and disorder as a case in point. *American Sociological Review*, *72*(5), 659–680.

Hipp, J. R. (2010). Micro-structure in micro-neighborhoods: a new social distance measure, and its effect on individual and aggregated perceptions of crime and disorder. *Social Networks*, *32*(2), 148–159.

Hox, J. (2010). *Multilevel analysis: Techniques and applications*. New York: Routledge.

Hurme, R. (1991). *Suomalainen lähiö Tapiolasta Pihlajamäkeen*. N. 141. Helsinki: Societas Scientiarum Fennica.

Innes, M. (2004). Signal crimes and signal disorders: notes on deviance as communicative action1. *The British Journal of Sociology*, *55*(3), 335–355.

Jacobs, J. (1961). *The death and life of great American cities*. New York: Random House.

Juntto, A. (1990). *Asuntokysymys Suomessa Topeliuksesta tulopolitiikkaan*. Helsinki: Valtion painatuskeskus.

Kääriäinen, J. (1987). *Sosiaaliset ongelmat, asuinalueiden segregoituneisuus ja paikallisyhteisöllisyys: Helsingin sosiaalisten ongelmien asuinaluettaisen vaihtelun tarkastelua*. Helsinki: Helsingin kaupungin sosiaalivirasto.

Kääriäinen, J. (2002). Rikollisuuden pelko kasvaa Itä-Helsingissä: asuinalueiden erilaistuminen ja turvattomuuden kokeminen Helsingissä ja Espoossa vuosina 1997 ja 2001. *Yhteiskuntapolitiikka*, *67*(3), 214-222.

Kemppainen, T. (2014). Spatiaalista mallinnusta pistedatalla: kyselypohjainen analyysi koetusta terveydestä ja turvattomuudesta Helsingin metropolialueella. *Sosiaalilääketieteellinen Aikakauslehti*, *51*(4), 253-273.

Kemppainen, T., Lönnqvist, H., & Tuominen, M. (2014). Turvattomuus ei jakaudu tasan. Mitkä asuinalueen piirteet selittävät helsinkiläisten kokemaa turvattomuutta? *Yhteiskuntapolitiikka*, *79*(1), 5-20.

Kim, D. (2008). Blues from the neighborhood? Neighborhood characteristics and depression. *Epidemiologic Reviews*, *30*(1), 101–117.

Kiuru, K. (2011). *Puhe lähiöohjelman 2008–2011 loppuseminaarissa.* Retrieved 23.1.2015, from `http://www.ym.fi/fi-FI/Ajankohtaista/Puheet/Viestinta_ja_asuntoministeri_Krista_Kiur%281524%29`

Koistinen, K., & Tuorila, H. (2008). *Millainen olisi hyvä elinympäristö? Asukkaiden näkemyksiä elinympäristöstä, asumisesta ja palveluista eri elämänvaiheissa*. Helsinki: Kuluttajatutkimuskeskus.

Kokkonen, J. (2002). *Kontula. Elämää lähiössä*. Helsinki: Suomalaisen kirjallisuuden seura.

Kortteinen, M. (1982). *Lähiö: tutkimus elämäntapojen muutoksesta*. Helsinki: Otava.

Kortteinen, M., Lankinen, M., & Vaattovaara, M. (1999). Pääkaupunkiseudun kehitys 1990-luvulla: kohti uudenlaista erityismistä. *Yhteiskuntapolitiikka*, *64*(5-6), 411-422.

Kortteinen, M., Tuominen, M., & Vaattovaara, M. (2001). Helsingin sosiaalimaantieteellinen rakenne ja pahoinpitelyrikollisuus. *Yhteiskuntapolitiikka*, *66*(4), 318-328.

Kortteinen, M., Tuominen, M., & Vaattovaara, M. (2005). Asumistoiveet, sosiaalinen epäjärjestys ja kaupunkisuunnittelu pääkaupunkiseudulla. *Yhteiskuntapolitiikka*, *70*(2), 121-131.

Kortteinen, M., & Vaattovaara, M. (2000). Onko osa Helsingistä alikehityksen kierteessä? *Yhteiskuntapolitiikka*, *65*(2), 115-124.

Kullberg, A., Karlsson, N., Timpka, T., & Lindqvist, K. (2009). Correlates of local safety-related concerns in a Swedish Community: a cross-sectional study. *BMC Public Health*, *9*(221).

Kullberg, A., Nordqvist, C., Timpka, T., & Lindqvist, K. (2011). Residents' perspectives on safety support needs in different types of housing areas. *Scandinavian Journal of Public Health*, *39*(6), 590–597.

Kytö, H. (2013). Asumisen uhkakuvat ja muutokset. *Tieteessä tapahtuu*, *31*(6), 18–24.

Laaksonen, S., Kemppainen, T., Stjernberg, M., Kortteinen, M., Vaattovaara, M., & Lönnqvist, H. (2015). Tackling city-regional dynamics in a survey using grid sampling. In *Survey Research Methods* (Vol. 9, pp. 45–55).

Latkin, C. A., & Curry, A. D. (2003). Stressful neighborhoods and depression: a prospective study of the impact of neighborhood disorder. *Journal of Health and Social Behavior*, *44*(1), 34-44.

Lindström, M., Merlo, J., & Östergren, P.-O. (2003). Social capital and sense of insecurity in the neighbourhood: a population-based multilevel analysis in Malmö, Sweden. *Social Science & Medicine*, *56*(5), 1111–1120.

Lumley, T. (2015). *Package 'survey'*. Retrieved 16.2.2015., from `http://cran.r-project.org/web/packages/survey/survey.pdf`

Maury, J. (1997). Ilmakuva pääkaupunkiseudun asuinalueiden sosiaalisista eroista 1990-luvun alussa. In M. Ilmonen (Ed.), *Mitä osoite osoittaa? Asuinalueiden erilaistuminen Helsingin seudulla* (pp. 55–88). Pääkaupunkiseudun yhteistyövaltuuskunta.

Newman, O. (1973). *Defensible space: People and design in the violent cities*. London: Architectural Press.

Pan Ké Shon, J.-L. (2012). Perception of Insecurity in French Poor Neighbourhoods Racial Proxy or Pure Discrimination Hypotheses? *Urban Studies*, *49*(3), 505–525.

Pekonen, K. (1998). *Politiikka urbaanissa betonilähiössä*. Jyväskylä: SoPhi.

Permentier, M. (2013). Neighbourhood reputations, moving behaviour and neighbourhood dynamics. In M. van Ham, D. Manley, N. Bailey, L. Simpson, & D. Maclennan (Eds.), *Understanding neighbourhood dynamics* (pp. 161–182). Dordrecht: Springer.

Permentier, M., Van Ham, M., & Bolt, G. (2007). Behavioural responses to neighbourhood reputations. *Journal of Housing and the Built Environment*, *22*(2), 199–213.

Permentier, M., van Ham, M., & Bolt, G. (2009). Neighbourhood reputation and the intention to leave the neighbourhood. *Environment and Planning A*, *41*(9), 2162-2180.

Piirainen, T. (1993). *Vuokra-asuminen ja sosiaaliset ongelmat*. Helsinki: Stakes.

Pinkster, F. M. (2014). "I Just Live Here": Everyday Practices of Disaffiliation of Middle-class Households in Disadvantaged Neighbourhoods. *Urban Studies*, *51*(4), 810–826.

Pinkster, F. M., Permentier, M., & Wittebrood, K. (2014). Moving considerations of middle-class residents in Dutch disadvantaged neighborhoods: exploring the relationship between disorder and attachment. *Environment and Planning A*, *46*(12), 2898–2914.

Pulma, P. (2000). Kasvun katveessa. In H. Schulman, P. Pulma, & S. Aalto (Eds.), *Helsingin historia vuodesta 1945 (2)*. Helsinki: Helsingin kaupunki.

Rasinkangas, J. (2013). *Sosiaalinen eriytyminen Turun kaupunkiseudulla. Tutkimus asumisen alueellisista muutoksista ja asumispreferensseistä*. Turku: Siirtolaisuusinstituutti.

Roivainen, I. (1999). *Sokeripala metsän keskellä - lähiö sanomalehden konstruktiona*. Helsinki: Helsingin kaupungin tietokeskus.

Ross, C. E., & Mirowsky, J. (1999). Disorder and decay. The concept and measurement of perceived neighborhood disorder. *Urban Affairs Review*, *34*(3), 412–432.

Ross, C. E., Mirowsky, J., & Pribesh, S. (2001). Powerlessness and the amplification of threat: Neighborhood disadvantage, disorder, and mistrust. *American Sociological Review*, *66*(4), 568–591.

Sampson, R. J. (2009). Disparity and diversity in the contemporary city: social disorder revisited. *The British Journal of Sociology*, *60*(1), 1–31.

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, *277*(5328), 918–924.

Schulman, H. (2000). Helsingin suunnittelu ja rakentuminen. In H. Schulman, P. Pulma, & S. Aalto (Eds.), *Helsingin historia vuodesta 1945 (2)*. Helsinki: Helsingin kaupunki.

Seppänen, M. (2001). *Liipolan onni: asuinalueen sosiaalinen erilaistuminen ja merkitys asukkaille*. Helsinki: Palmenia-kustannus.

Seppänen, M. (2012). *Turvallinen lähiö? Haaste 2/2012*. Retrieved 11.2.2015., from `http://www.haaste.om.fi/fi/index/lehtiarkisto/haaste22012/turvallinenlahio.html`

Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas*. University of Chicago Press.

Statistics Finland. (2014). *Grid database*. Retrieved 11.1.2014, from `http://www.stat.fi/tup/ruututietokanta/index_en.html`

Steptoe, A., & Feldman, P. J. (2001). Neighborhood problems as sources of chronic stress: development of a measure of neighborhood problems, and associations with socioeconomic status and health. *Annals of Behavioral Medicine*, *23*(3), 177–185.

Stjernberg, M. (2013a). Concrete suburbia. A socio-economic analysis suburban housing estates in Finland. In *Suburbs – Transformation and Development. Papers from the NSBB-Conference 17–19 September* (pp. 182–199). Aalborg University.

Stjernberg, M. (2013b). Lähiötutkimus tuo esiin lähiöiden moninaisuuden. *Kvartti*, *2013,*(4), 64–73.

Sulkunen, P., Alasuutari, P., Nätkin, R., & Kinnunen, M. (1985). *Lähiöravintola*. Otava.

Turunen, S., Hoppania, H.-K., Luhtamäki, M., Nenonen, T., & Tuomaala, V. (2010). *Ihmisiä ja kaupunkiluontoa. tutkimus pääkaupunkiseudun asukkaiden hyvinvoinnista.* Helsinki: Pääkaupunkiseudun sosiaalialan osaamiskeskuksen SOCCAn ja Heikki Waris–instituutin julkaisusarja 24.

Vaattovaara, M. (1998). *Pääkaupunkiseudun sosiaalinen erilaistuminen – ympäristö ja alueellisuus*. Helsinki: Helsingin kaupungin tietokeskuksen julkaisuja.

Vaattovaara, M., & Kortteinen, M. (2003). Beyond polarisation versus professionalisation? A case study of the development of the Helsinki region, Finland. *Urban Studies*, *40*(11), 2127–2145.

Valkonen, T. (2005). Myllypuron asukkaat ja asunnot. In A. Valkonen (Ed.), *Myllypuro. kartanon takamaista monikulttuuriseksi kaupunginosaksi*. Helsinki: Myllypuro-seura.

van den Berg, L., et al. (2006). *The safe city: Safety and urban development in european cities*. Aldershot: Ashgate Publishing, Ltd.

Varady, D. P., & Schulman, H. (2007). Social disorders in the early stages of public housing decline: A Helsinki case study. *Housing Studies*, *22*(3), 313–332.

Viitanen, P. (2014). *Lähiöiden eriarvoistumiseen puututtava.* Retrieved 9.1.2015., from `http://www.ym.fi/fi-FI/Asuminen/Asunto_ja_viestintaministeri_Viitanen_La%2828572%29`

Vilkama, K. (2011). *Yhteinen kaupunki, eriytyvät kaupunginosat? Kantaväestön ja maahanmuuttajataustaisten asukkaiden alueellinen eriytyminen ja muuttoliike pääkaupunkiseudulla. Tutkimuksia 2011: 2.* Helsinki: Helsingin kaupungin tietokeskus.

Vilkama, K., Vaattovaara, M., & Dhalmann, H. (2013). Kantaväestön pakoa? Miksi maahanmuuttajakeskittymistä muutetaan pois? *Yhteiskuntapolitiikka*, *78*(5), 485–497.

Warner, B. D. (2007). Social disorganization theory. In G. Ritzer (Ed.), *Blackwell Encyclopedia of Sociology.* Blackwell Publishing.

Wikström, P.-O. H. (2009). Questions of perception and reality. *The British Journal of Sociology*, *60*(1), 59–63.

Wiles, P. (2009). Disadvantage, disorder and diversity. *The British Journal of Sociology*, *60*(1), 75–81.

APPENDIX

Appendix table 1. Unweighted univariate descriptives of respondents.

	PSD	Families with children	Retired	Middle-aged and teenagers
mean	0.0	-0.2	0.0	-0.1
SD	0.9	1.0	0.9	0.9
min	-1.0	-4.5	-2.1	-4.2
max	3.8	4.1	6.3	6.1
n	9254	9254	9254	9254

	%		%
Resid. context (n=9055)		*Main activity (n=8871)*	
SHE	13.6	Worker	19.8
LRN	47.7	Entrepreneur	8.1
HRN	38.7	Executive	9.8
Pop. density (n=9243)		Clerical	26.9
Low	13.0	Student	2.0
Mid	45.3	Unemployed	2.7
High	41.7	Retired	26.5
Grid tenure (n=9007)		Home with child(ren)	2.4
Rental	11.1	Other	1.8
Mixed	45.7	*Household (n=9183)*	
Owner-occupied	43.1	Alone	21.5
Grid education (n=8813)		Partner	43.1
Low	22.3	Partner & child(ren)	29.9
Mid	47.4	Alone with child(ren)	4.1
High	30.3	With parents	0.6
Grid income (n=8640)		Independent. shared	0.7
Low	33.7	*Subj. econ. situation (n=9088)*	
Mid	39.3	Excellent	15.9
High	27.0	Good	41.5
Grid unempl. (n=8867)		Reasonable	34.9
Low	19.7	Rather bad	5.9
Mid	49.1	Bad	1.8
High	31.2	*House (n=9172)*	
Gender (n=9254)		Detached	28.8
Female	59.0	Multi-storey 5-	23.5
Male	41.0	Multi-storey 2-4	23.4
Age (n=9254)		Terrace house	14.2
25-34	15.6	Semi-detached	9.2
35-44	16.7	Other	0.9
45-54	21.5	*Tenure (n=9174)*	
55-64	25.8	Owner-occupied	76.7
65-74	20.4	Rental (private)	8.7
Education (n=8844)		Rental (public)	10.2
Basic (no secondary)	8.7	Right of residence (aso)	2.4
Vocational course	8.3	Partial ownership (om. oik.)	0.4
Apprenticeship	2.1	Company housing	0.9
Vocational (secondary)	11.9	Other	0.7
Vocational (tertiary)	24.4		
Polytechnic	10.8		
University	31.8		
Researcher	2.1		

Appendix table 2. Individual level variables of the full model.

	B	p
Female	0	0.967
Age		
25-34	ref.	
35-44	0.138	****
45-54	0.182	****
55-64	0.094	0.022
65-74	0.044	0.421
Education		
Basic	ref.	
Secondary	0.064	0.18
Tertiary	0.075	0.08
Main activity		
Worker	ref.	
Entrepreneur	-0.038	0.413
Executive	-0.063	0.127
Clerical	-0.045	0.182
Student	-0.038	0.657
Unemployed	-0.108	0.203
Retired	-0.085	0.082
Home with child(ren)	-0.036	0.63
Other	-0.099	0.26
Household		
Alone	ref.	
Partner	0.007	0.839
Partner & child(ren)	-0.006	0.882
Alone with child(ren)	-0.011	0.867
Other	0.145	0.182
Subj. econ. situation		
Excellent	ref.	
Good	0.084	0.005
Reasonable	0.209	****
Rather bad	0.388	****
Bad	0.583	****
House		
Detached	ref	
Multi-storey 5-	0.364	****
Multi-storey 2-4	0.138	0.006
Terrace house	0.017	0.606
Semi-detached	0.023	0.484
Other	0.067	0.585
Tenure		
Owner-occupied	ref	
Rental (private)	0.044	0.343
Rental (public)	0.208	****
Other	0.086	0.182