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ABSTRACT

Neighbourhood Effects Research at a Crossroads: Ten Challenges for Future Research

Neighbourhood effects research is at a crossroads since current theoretical and empirical approaches do not seem to be moving the debate forward. In this paper, we present a set of ten challenges as a basis for a new research agenda which will give new direction to the neighbourhood effects debate. The ten challenges are: 1) Future work should concentrate on explaining what is in the "black-box" of the 'neighbourhood effect' by deriving and testing clear hypotheses on causal neighbourhood effect mechanisms; 2) Studies should explicitly investigate the relationship between neighbourhood context and individual outcomes; 3) Alternative outcome variables such as subjective well-being should be considered; 4) We should move away from point-in-time measures of neighbourhood characteristics and take into account people's neighbourhood histories; 5) More attention is needed for the intergenerational transmission of neighbourhood effects; 6) We need to understand neighbourhood selection and to incorporate neighbourhood selection explicitly in models of neighbourhood effects; 7) We need a better operationalization of neighbourhood; 8) Neighbourhood effects researchers need to broaden their horizon to include other spatial contexts which might matter, in addition, or in place of the residential neighbourhood; 9) We need bespoke data to investigate neighbourhood effects; 10) The tenth and final challenge is to combine qualitative and quantitative methods into one research design.

JEL Classification: I30, R23

Keywords: neighbourhood effects, challenges, causality, theory, bespoke data

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Introduction

Over the last 25 years a vast body of literature has been published on neighbourhood effects: the idea that living in more deprived neighbourhoods has a negative effect on residents' life chances over and above the effect of their individual characteristics. Although the neighbourhood effects literature can be traced back to the work of the American sociologist Herbert Gans (Gans, 1968) in the 1960s, the current popularity of the concept is largely driven by the work of William Julius Wilson and his book "The Truly Disadvantaged: The Inner City, the Underclass and Public Policy" (Wilson, 1987). Neighbourhood effects have been reported on outcomes such as educational achievement, school dropout rates, deviant behaviour, social exclusion, health, transition rates from welfare to work, and social and occupational mobility (see for a review Ellen and Turner, 1997; Galster, 2002; Dietz, 2002; Durlauf, 2004). Google Scholar now returns more than 17,000 hits on "neighbourhood effects" and the volume of work is still growing (van Ham et al., 2012a).

The concept of neighbourhood effects – as an independent residential, economic, social or environment effect – is academically intriguing, but has also been embraced by policy makers. Area-based policies aimed at socially mixing neighbourhood populations through mixed tenure policies are seen as a solution to create a more diverse socio-economic mix in neighbourhoods, removing the potential of negative neighbourhood effects (Musterd and Anderson, 2005). Mixed housing strategies are stated explicitly by many governments including those in the Netherlands, the United Kingdom, Germany, France, Finland and Sweden (Atkinson and Kintrea, 2002; Kearns, 2002; Musterd, 2002).

The volume of work on neighbourhood effects not only reflects academic and policy interest in this topic, but also the fact that we are still no closer to answering the question of how important neighbourhood effects actually are (van Ham et al., 2012a). One of the main challenges in neighbourhood effects research is the identification of true causal effects (Durlauf, 2004). Many existing studies fail to do this convincingly because they ignore, or not adequately deal with neighbourhood selection effects (van Ham and Manley, 2010). This leaves the impression that neighbourhood effects are important, while in reality many studies might just show correlations between individual outcomes and neighbourhood characteristics (Cheshire, 2007; van Ham and Manley, 2010). Critics have even stated that "there is surprisingly little evidence that living in poor neighbourhoods makes people poorer and erodes their life chances, independently of those factors that contribute to their poverty in the first place" (Cheshire, 2007, p.2).

Intuitively, many of us would say that they think that neighbourhood effects exist, but despite the ever growing body of research, we do not know enough about the causal mechanisms which produce them, their relative importance in shaping individual's life chances, the circumstances or conditions under which they are most important, or the most effective policy responses (van Ham et al., 2012a). Sampson and colleagues have described the search for neighbourhood effects as the "cottage industry in the social sciences" (Sampson, et al., 2002 p.444). According to Small and Feldman (2012), neighbourhood effects research is at a crossroads since current empirical and theoretical approaches to the topic do not seem to be moving the debate forward.

It is at this crossroads where this paper offers its contribution. The paper first provides some brief context and outlines the strong belief in neighbourhood effects among academics, policy makers and the wider public. Then we will provide a critical overview of the current evidence base of neighbourhood effects. The most important contribution of this paper is a discussion about what we see as the most important and promising ways forward for neighbourhood effects research. These are summarised into ten challenges for future research.

Belief in neighbourhood effects

The belief in neighbourhood effects among policy makers and the general public is strong en persistent, and fuelled by media attention. For instance, using two quotes from government reports from the UK we can gauge the strength of belief in policy making circles: In 2005 the Office of the Deputy Prime Minister wrote that "People living in deprived neighbourhoods are less likely to work, more likely to be poor and have lower life expectancy […]. Living in a deprived area adversely affects individuals' life chances over and above what would be predicted by their personal circumstances and characteristics" (ODPM, 2005, p. 6). The quote illustrates the uncritical adoption of neighbourhood effects thinking and accepting neighbourhood effects as a fact. A similar observation can be made in an official Scottish Government report which says that the Government is "worried about the impact that concentrations of social housing have on particular neighbourhoods and the people who live there. The most deprived 15% of neighbourhoods are characterised by high concentrations of social housing and more generally [...] there appears to be a strong correlation between concentrations of social housing and deprivation" (Scottish Government, 2007, p.37). The report also says "The benefits of avoiding concentrations of deprivation and social housing by creating communities with a mixture of tenures and a mixture of households have been recognised for some time."

The belief in neighbourhood effects is widespread, which is caused by, and reflected by popular media. The Channel 4 television program "Best and Worst Places to Live" uses measurements of crime, environment, lifestyle, health, education and employment to produce a ranking of towns and cities in the United Kingdom. For instance, recently, Middlesbrough (a de-industrialised city in the North East of England) was named as the worst place to live in the UK. In their conclusion, the presenters stated that if you "live around here you're in for double trouble", suggesting that living, or moving (!) here will cause you to suffer from health problems and crime (http://www.channel4.com/ , accessed 01/05/2011). At the other end of the scale, Winchester (a smaller Cathedral City in the South East of England near to London) was named as one of the best place to live: "While this might conjure an image of a town filled with retired, high-ranking civil servants, when it comes to age, Winchester folk challenge preconceptions: over 60 per cent of the population are under 49. That said, if you do stick around the town as a pensioner, you've got good odds of a longer than average life, with women typically clocking over 82 years, and men almost 80" (http://www.channel4.com/ , accessed 01/05/2011). Purposefully or not, the presenters are suggesting that there is a causal link between living (and moving to) in a place and a change in individual outcome such as life expectancy.

Whilst the Channel 4 program is presented as a light hearted look at neighbourhoods by two friendly property gurus, similar charges can be laid at more serious television programmes, which present themselves as factual documentaries. Around the time of the 2011 UK Census, the BBC broadcasted the program "This is Britain with Andrew Marr" (BBC2, 25/03/2011). In the program, two well respected academics try to present a highly complex set of arguments about how neighbourhood and life expectancy are linked, using Glasgow as an example.

> Danny Dorling: *"What is the kind of life expectancy of people living right where we are now, and what is it like just around here?"*
> Rich Mitchell: *"Ok, right right here, for a man, it's 79 years at birth. Just down the street there you rise to 80 years. If you were to go that way maybe about half a mile,*

err, you'd drop about 5 years, about another half a mile on you'd drop 15 years. There's a big difference just in that direction. And actually, if you carry on in that direction you go through some of the, kind of, poorer parts of the city where things get really bad"
Danny Dorling: *"It's stunning isn't it?"*
Rich Mitchell: *"Extraordinary, and that's the power of neighbourhood, err, because neighbourhood is the place in which, you know, your social and economic life come together to determine things"*
Andrew Marr: *"In order to understand how you can drop 15 years of your life just by crossing a few streets, imagine a ……"*
(Quotes from *This is Britain with Andrew Marr*, BBC, 25/03/2011).

The problem, however, is not with the discussion that the academics present (although they do suggest that there is a causal –"to determine things" – relationship between the neighbourhood of residence and individual outcomes). The real problem comes with the subsequent voice over by the presenter, Andrew Marr. He infers that moving to the other side of town can cost you years of your life. The effects of a program like this should not be underestimated. The BBC programme was watched by 1.75 million people[1].

The problem with the above examples of neighbourhood effects as a folk concept is twofold. Firstly, they offer a gross oversimplification of the evidence in the academic literature and suggest that the neighbourhood effects discourse is unchallenged and unproblematic. This is dangerous: whilst neighbourhood effects remain a popular undisputed 'truth' in the public sphere, a careful examination of the academic literature reveals a very different picture (as we will show below). Secondly, a painfully ironic consequence of the style of presentation in *This is Britain with Andrew Marr* is the reinforcing of the very inequalities that the program sought to expose. Using stereotypical and explicit imagery of deprived neighbourhoods (including crumbling inner city tower blocks, with discarded rubbish around the base and broken windows, contrasted with images of the large 19th Century sandstone tenements) the program pathologises the neighbourhoods. In short, these images portray what some commentators have described as 'poverty porn' (Mooney and Hancock, 2010). In making such explicit direct links to the places of residence, the problems of neighbourhood stigmatisation are reproduced and negative stereotypes reinforced. This is almost a neighbourhood effect in itself, where more affluent households have their beliefs reaffirmed that these are places to avoid as interaction with the residents will be bad for them and their children.

Making a link between academic research and the policy and media debate is crucial because "[i]f public discourse uncritically embraces this essentialist conception of neighbourhood culture, then it sanctions policies and social conventions that enforce cultural exclusion and facilitate acculturation" (Bauder, 2002, p.85). Bauder (2002) goes a lot further in criticizing the neighbourhood effects literature and rejects the whole concept of neighbourhood effects by suggesting that they are the product of an ideological discourse. He presents a strong critique of the neighbourhood effects literature, and notes that "neighbourhood effects are implicit in the culture-of-poverty and underclass concepts" (2002, p.88) through the pathologising of unwed pregnancies, high school dropouts, number of female headed households as de facto societal ills. Bauder argues that "the idea of neighbourhood effects can be interpreted as yet another episode in the on-going discourse of inner-city marginality that blames marginal communities for their own misery" (ibid). Bauder accuses those who research neighbourhood effects of reproducing the very notions of

[1] BARB - Broadcasters' Audience Research Board www.barb.co.uk accessed 08/04/2011

marginality that they seek to understand. Slater, (forthcoming) goes even further than this and suggests that the whole discourse of neighbourhood effects is misleading and should be asking not how where you live affects your life chances, but how your life chances affect where you live. Ultimately, Slater views neighbourhood effects as the study of the symptoms of urban inequality rather than the ultimate cause. This is in line with the main message from two recent books on neighbourhood effects and neighbourhood selection (van Ham et al., 2012a; 2012b).

Before we go further with this paper, we want to add that our criticism of the neighbourhood effects discourse should not be interpreted as if we suggest that living in severe concentrations of poverty is unproblematic. Nor do we seek to underestimate the very real challenges that exist within the daily lives of individuals experiencing what we have termed "negative outcomes" and which include unemployment, poor health, etc. Conversely we do not seek to suggest that deprived and disadvantaged areas are homogenously blighted by undesirable factors: it might be true that some aspects of life are better and that the middle class academics should stop trying to enforce their own views of how the world should function. No, what this article intends to call to attention, is the disjuncture between the apparent academic 'factoid' evidence that is wheeled out in support of successive government policies and initiatives to apparently improve the lives of individuals and the much more complex, and too often ignored, academic arguments surrounding the neighbourhood effects discourse. For instance, mixing tenures policies are assumed to improve the lives of people in deprived large social housing estates as introducing home owners is thought to provide positive role models (see for instance McIntyre and McKee, in press). The vast majority of regeneration policies presume from the outset that individuals in low income neighbourhoods have nothing to give to the process and can only benefit from being mixed with higher income households. We argue that mixing tenures will improve the statistics of a neighbourhood significantly, but we question whether mixing will really improve the lives of the original residents.

Empirical evidence of neighbourhood effects

It is not the aim of this paper to give a complete overview of the state-of-the-art in neighbourhood effects research. There are several papers and books which give an excellent overview of the development and current state of the literature (see for a review Ellen & Turner, 1997; Galster, 2002; Dietz, 2002; Durlauf, 2004; van Ham & Manley, 2010; van Ham et al., 2012a; 2012b) and there is no need to repeat these here as this paper focusses on the future direction of neighbourhood effects research. However, it is useful to give a short overview of the types of studies available and the type of results they yield and the problems associated with these studies and approaches.

There is a substantial divide in the neighbourhood effects literature between evidence from studies that use qualitative methodologies and the evidence from those studies using quantitative techniques. Where neighbourhood effects have been studied using qualitative methods, focusing on the experiences and perceptions of residents, the conclusions have shown stronger and more consistent support in favour of the presence of neighbourhood effects than studies using quantitative methods. For instance, using qualitative techniques, neighbourhood effects of poor reputations of neighbourhoods have been repeatedly identified on employment outcomes (see Atkinson and Kintrea, 2001), and on social processes, including social networks, acting on other socio-economic outcomes of residents living in deprived neighbourhoods (Pinkster, 2009). In contrast, studies that use quantitative methodologies have been much less consistent in their outcomes, which have led

commentators to comment that "[e]mpirical conclusions regarding neighbourhood effect mechanisms should be treated as provisional best" (Galster, 2010, p31) and "[t]here is surprisingly little evidence that living in poor neighbourhoods makes people poorer and erodes their life chances, independently of those factors that contribute to their poverty in the first place" (Cheshire, 2007).

In contrast to the vast body of literature that claims to have found neighbourhood effects there is a small, but growing body of critical empirical literature offering an alternative view (e.g. Oreopoulos, 2003; Bolster et al., 2007; Cheshire, 2007; van Ham and Manley, 2010). This critical literature identifies that there is surprisingly little convincing evidence that living in deprived neighbourhoods really affects individual life chances. Durlauf (2004) reports that even the gold standard quasi-experimental studies such as the Gautreaux and Moving to Opportunity programs (Rosenbaum, 1995; Katz et al., 2001; Ludwig et al., 2001; Goering et al., 2002) or randomised education studies (see Leventhal and Brooks-Gunn, 2004) find little impact of neighbourhood characteristics on adults' outcomes. The bulk of non-experimental observational studies (see for example McCulloch, 2001; Buck, 2001) do find effects, most of which can be attributed to neighbourhood selection effects. The key problem in the empirical investigation of neighbourhood effects is the identification of genuinely causal relationships (Durlauf, 2004) and it can be expected that most existing 'evidence' from non-experimental observational studies suffers from reverse causality (Cheshire, 2007). The problem is simply that often the individual characteristic measured as the dependent variable (for example, income) is responsible for people selecting into deprived neighbourhoods in the first place. As a consequence, (a large) part of the correlation between the dependent variable and neighbourhood characteristics is caused by the neighbourhood selection mechanism. This causes serious bias in the estimation of neighbourhood effects.

More recently, studies using longitudinal non-experimental data have been able to unpick some of the causality challenges that the quantitative literature has been struggling with (Oreopoulos, 2003; Bolster et al., 2007; van Ham and Manley, 2010; Musterd et al., 2012). The use of longitudinal data allows researchers to investigate the ordering of residential mobility events and changes in outcome variables, such as income. Methodologically analysing longitudinal data is challenging because it can still be argued that the results are affected by selection bias.

Ten challenges for neighbourhood effects research

In the remainder of this paper we provide a set of ten challenges that we think the neighbourhood effects literature must embrace in order to move forward.

The first challenge is that future work should concentrate on explaining what is in the "black-box" of the 'neighbourhood effect' by deriving and testing clear hypotheses on causal neighbourhood effect mechanisms. Currently, most quantitative studies simply aim to identify statistically significant correlations between individual outcomes and neighbourhood characteristics, without explicitly identifying specific causal mechanisms. The literature identifies a range of potential causal mechanisms by which the neighbourhood context can influence individual outcomes. Galster (2012) has summarised these into 15 potential causal pathways in four categories: social-interactive mechanisms, environmental mechanisms, geographical mechanisms, and institutional mechanisms. Social-interactive mechanisms refer to social processes endogenous to neighbourhoods, which are generally seen as the core of the neighbourhood effects argument (social contagion, collective socialisation, social networks, social cohesion and control, competition, relative deprivation, and parental

mediation). Environmental mechanisms operate through natural and human-made attributes of neighbourhoods that may affect directly the mental and/or physical health of residents without affecting their behaviours (exposure to violence; physical surroundings; and toxic exposure). Geographical mechanisms refer to effects of the relative location of neighbourhoods (spatial mismatch of jobs and workers and a lack of quality public services). And finally institutional mechanisms which are related to the behaviour of actors external to neighbourhoods, who control the resources available and access to housing, services and markets for neighbourhood residents (stigmatisation, local institutional resources, and local market actors). We argue that studies investigating neighbourhood effects should be more explicit about which mechanism (or mechanisms) they are testing (see also Small and Feldman, 2012).

The second challenge is that studies should explicitly investigate the relationship between neighbourhood context and individual outcomes. According to Galster (2012) the ultimate goal of neighbourhood effects research is not only to identify which mechanisms are responsible for neighbourhood effects, but also to ascertain quantitatively their relative contributions to the outcome of interest. He uses the pharmacological metaphor of "dosage-response" to understand how the theoretical mechanisms could be causally linked to individual outcomes. He formulates 17 questions regarding the composition of the neighbourhood dosage, the administration of the neighbourhood dosage, and the neighbourhood dosage-response relationship which need to be answered to fully understand how the neighbourhood context affects residents. Neighbourhood residents can be exposed to a certain composition of mechanisms, over a certain time, with a certain frequency, and intensity. The relationship between the "dosage" of neighbourhood to an individual and certain outcomes may be nonlinear (thresholds), be temporary or long-lasting, take time to have an effect, and only have an effect in combination with other factors. Existing qualitative and quantitative studies have not been able to adequately answer the 17 questions and uncover the dominant neighbourhood effect mechanisms at work (Galster, 2012).

The third challenge is to broaden the range of dependent variables under study to softer outcome variables. Arguably, the range of outcome variables used in studies of neighbourhood effects is already very large (for example, employment status, income, health, crime, education, social exclusion), which reflects the interdisciplinary nature of the neighbourhood effects debate. However, what these measures have in common is that they are all relatively "hard" indicators which are easy to measure. As discussed earlier, the neighbourhood effects literature is very normative with regard to how people in deprived neighbourhoods should live their lives and this is reflected by the outcome variables used. Recently, countries like France (Stiglitz et al., 2009) and the UK (Stratton, 2010) have begun to attempt to quantify general well-being (happiness) as a valuable complementary measure for the evaluation of social progress and to develop policy responses. So in our focus on, for example, individual income, we should not forget to ask the question whether people are happy where they live, regardless their income or employment status.

The fourth challenge is to move away from point-in-time measures of neighbourhood characteristics and to take into account people's neighbourhood histories. Despite a growing body of literature on neighbourhood effects, a crucial dimension of neighbourhood effects is largely overlooked: the temporal dimension (Quillian, 2003; Sharkey and Elwert, 2011; Musterd et al., 2012). Most studies of neighbourhood effects investigate the instantaneous effects of single point-in-time measurements of neighbourhood environments on individual outcomes. However, it has repeatedly been suggested that most theories of neighbourhood effects assume medium to long-term exposure to poverty neighbourhoods for there to be an effect (Quillian, 2003; Hedman, 2011; Musterd et al., 2012; Galster, 2012; van Ham et al., 2012c; Hedman et al., 2012). It seems obvious that more severe negative effects can be

expected from living in a poverty concentration neighbourhood your whole life, than exposure to such a neighbourhood for only a short period of time. For the US it was shown that especially African Americans have neighbourhood histories with long episodes in poor neighbourhoods (Quillian, 2003). Similar results were obtained for Sweden by van Ham and colleagues (2012c) who found that non-western ethnic minorities experiences long stays in the poorest neighbourhoods. Up to now, the effects of long-term exposure to poverty neighbourhoods has largely been ignored in the empirical literature. More research on these temporal dimensions was recently advocated by Briggs and Keys (2009).

Willets (2010) identified that one of the greatest inequalities in modern society is not intra-generational, but inter-generational, and this brings us to the fifth challenge. There is a vast literature that suggests that social mobility between generations has been slowing and that it is becoming increasingly difficult for individuals born in lower social classes to move upwards through their life course (Breen, 2004; Blanden et al., 2005; Nunn et al., 2007). "The primary reason that social mobility has stagnated in the last 30 years is that there has been ... [a] big change in the labour market: the advent of a more knowledge-based economy where there is a high premium on qualification and skill and if you have those you get into the inner circle, if not there is constant insecurity, low pay and endemic poverty" (Alan Milburn, currently a working in a role titled "social mobility tsar" in the UK Coalition government, quoted in the Guardian, 2012). The vast majority of the neighbourhood effects literature has investigated the effects of intra-generational inequalities, while little attention has been paid to inter-generational inequalities. This is surprising given the attention for inter-generational social mobility in especially the sociological literature. The few papers which studied how neighbourhood disadvantage can be transmitted through generations investigated how the parental neighbourhood impacts on children's outcomes later in life as adults (Sharkey and Elwert, 2011; Hedman et al., 2012). The main challenge for neighbourhood effects research investigating inter-generational effects is to obtain suitable data (see also the ninth challenge).

The sixth challenge is to understand neighbourhood selection and to incorporate neighbourhood selection explicitly in models of neighbourhood effects. Simply controlling for selection using econometric techniques is not enough as selection is at the heart of understanding why certain households end up in certain neighbourhoods while others do not (Hedman and van Ham, 2012). The over emphasis on using increasingly complex statistical techniques has hampered our understanding of why certain households move to certain neighbourhoods and how this is related to neighbourhood effects. Instead of treating neighbourhood selection as a nuisance which needs to be controlled away, future work should attempt to incorporate models of neighbourhood selection in models of neighbourhood effects (Manley and van Ham 2012). As Wyly and Ponder note in their work on housing foreclosures in the United States, "[w]hen we control for everything, we lose control." (2011, p.560, quoted in Slater, 2013). It is, therefore, important that we turn away from the merely controlling for selection effects and instead develop a theoretical framework through which we can better understand selection effects themselves. When studies show correlations between neighbourhood characteristics and individual outcomes after controlling for the usual control variables such as education, ethnicity, and income, it is easily said that these are probably the result of selection bias. However, we know close to nothing about what causes this bias. What are these unmeasured characteristics which cause people to move to certain neighbourhoods, and also cause people to have a certain income, health or other outcome? When we understand theoretically how neighbourhood selection effects operate then we can begin to incorporate new questions into future surveys which will help us to better model neighbourhood effects.

The seventh challenge is to operationalize neighbourhoods better. There are two main issues here. The first is that many studies use standard administrative units as proxies for

neighbourhoods. The problem is that individuals might live at the edge of such a unit and as a consequence the neighbouring unit might be a more relevant spatial context (Hedman et al., 2012). The solution is to create bespoke individual neighbourhoods for each case in the data. This can be done by using GIS software capable of nearest neighbour calculations. The result is a neighbourhood variable measuring the characteristics of the X nearest neighbours. The advantage of this, compared with using standard administrative neighbourhoods, is that the resulting neighbourhood characteristics are a better representation of the residential environment surrounding each individual. This process also reduces the risk of creating biased neighbourhood estimates because of boundary effects. The second issue is scale. Most studies of neighbourhood effects do not acknowledge that effects might operate at various spatial scales. Convenience and pragmatism has led to a literature that lifts administrative neighbourhood units "off the shelf" without asking the question which scale is the most appropriate for testing the causal mechanism under study. For example, when testing hypotheses on peer group effects for children, the appropriate spatial scale might be relatively low level (several streets). But when testing hypotheses on stigma and neighbourhood reputations, larger administrative neighbourhoods might be more appropriate. Many of the causal mechanism suggested to be behind neighbourhood effects will operate at specific scales which may vary between localities and over time (see Manley et al., 2006). It may even be the case that any one mechanism may operate at different scales in different contexts. Kwan (2012) presents this issue as the "uncertain geographic context problem", and she suggests that the neighbourhood effects literature has not paid sufficient attention to the potential mismatch between the extent of the neighbourhoods compared to the geographic extent of the processes that they are supposed to represent (although see Johnston et al,. 2004 and van Ham and Manley, 2010 for examples of studies that do engage with this issue).

The eight challenge is for neighbourhood effects researchers to broaden their horizon to include other spatial contexts which might matter, in addition, or in place of the residential neighbourhood. As individual lives have become increasingly complex, simply mapping the residential space in which an individual lives has become less satisfactory as a means to representing the spatial contexts to which an individual is exposed. The neighbourhood around an individual's dwelling is not the only important spatial context in which an individual interacts with others: equally important could be the neighbourhood of employment, places of leisure, and places and spaces people travel through during their daily routines. Hägerstrand (1970) already recognised the challenges of incorporating more complex notions of space in to quantitative modelling, work that has been advanced more recently by Lee and Kwan (2011) so that we know that "individuals of different social groups tend to have distinctive activity patterns in space–time" (Kwan, 2012, p.961). If we are to understand how individuals interact and how these interactions can shape their own outcomes then restricting the analysis to (often poorly) defined residential neighbourhoods might be too limited.

The ninth challenge is to collect better data. Much of the quantitative neighbourhood effects research has attempted to overcome the challenges related to selection bias by using increasingly complex econometric and statistical techniques. While these techniques are important, they are only ever a sticking plaster approach to the more complex problems underlying the investigation: the data that are available are too often insufficient to adequately model the selection mechanisms themselves. As observed by Rubin (2008), there are potentially greater gains in terms of casual inference to be made through good study design rather than through complex statistical modelling techniques. This may mean that neighbourhood effects researchers need to make more use of bespoke data, collected primarily for advancing the understanding of the neighbourhood context in individual lives. Given that the dwelling, and therefore by extension the neighbourhood, is for most people

still the central pivotal point of their daily living, retro-fitting the spatial context to data collections is a poor compromise. Including a richer array of individual level and spatial context variables in longitudinal data collections (including neighbourhood histories and parental characteristics) will allow us to better understand the connections between places and people. As better data become available, then the econometric models that allow the unpicking of contextual, compositional and individual effects can deployed as instruments of critical investigative analysis, rather than as bandages to cover the inadequacies of the information we have available in our data.

The tenth and final challenge is to integrate ethnography more effectively in neighbourhood effects research to generate explicit, testable hypotheses that guide quantitative research (Small and Feldman, 2012). It is doubtlessly true that quantitative analysis of large scale longitudinal data enriched with contextual data are crucial in testing the generalizability of causal mechanisms. Similarly, it is equally true that qualitative work will bring better understandings of the processes that underlie these mechanisms – the why question can never be answered quantitatively. Finding ways to integrate in a single research design the broad generalisation of the quantitative work in establishing if and how inequalities may matter with qualitative investigations of why those patterns occur will advance the field much further than the stilted and separated dialogue that we current experience (Small and Feldman, 2012). Exemplary work of mixed methods neighbourhood effects research is done by DeLuca and colleagues (2012) who employ qualitative methods to help to understand some of the unexpected findings of quantitative work from the Moving to Opportunity (MTO) program especially with regard to the growing differential in educational achievement by male and female teenagers who had participated in the program. The quantitative work demonstrated there was a growing gap in academic achievement which gave impetuous to the qualitative work to investigate the different spatial lives that the groups were living outside school, with the male teenagers still spending a large proportion of time in their former neighbourhoods with their old social networks, where-as the female teenagers were spending more time within new networks.

Conclusion

In conclusion it is worth reflecting on Wacquant's observation that "the task of social science is not to surf the waves of current events, but to bring to light the durable and invisible mechanisms that produce them" (Wacquant, 2008, p.282). Those who study neighbourhood effects have a duty to challenge the common belief in these effects, until proven otherwise. In the last decade, billions of Euro's have been spend on creating mixed neighbourhoods in an attempt to better the lives of people living in deprived social housing estates, while the evidence that mixing works is, to say the least, very thin (see Tunstall and Lupton, 2010 for a policy evaluation). This is largely the result of policy driven by a belief in neighbourhoods as opposed to a policy driven by the evidence base. DeFillippis and Fraser (2010, p.135) provide us with a timely reminder that "whenever there is widespread agreement or consensus that a certain policy or set of related policies, should be pursued or enacted, it becomes necessary to step back and ask why?". Especially during the current economic crisis, where western governments seem to have lost their interest in deprived neighbourhoods and funding cuts hit those in the most deprived neighbourhoods hardest, it is important to better understand how living in such neighbourhoods affects individual outcomes. We see our ten challenges as a basis for a new research agenda which will give new direction to the neighbourhood effects debate.

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References

Atkinson R & Kintrea K. (2001) Disentangling Area Effects: Evidence from Deprived and Non-Deprived Neighbourhoods. *Urban Studies* 38(11): 2277-2298.

Atkinson R & Kintrea K. (2002) Area Effects: What do they Mean for British Housing and Regeneration Policy? *European Journal of Housing Research* 2(2): 147-166.

Bauder H. (2002) Neighbourhood Effects and Cultural Exclusion. *Urban Studies* 39(1): 85-93.

BBC. (2011) *This is Britain* with Andrew Marr: BBC2, 25/03/2011.

Blanden JP, Gregg P & Machin S. (2005) *Intergenerational mobility in Europe and North America: Report for the Sutton Trust*. London: Centre for Economic Performance.

Bolster A, Burgess S, Johnston R, Jones K, Propper C & Sarker S. (2007) Neighbourhoods, households and income dynamics: a semi-parametric investigation of neighbourhood effects. *Journal of Economic Geography* 7(1): 1-38.

Breen R. (ed) (2004) *Social Mobility in Europe*. Oxford: OUP.

Briggs X de Souza & Keys BJ. (2009) Has Exposure to Poor Neighbourhoods Changed in America? Race, Risk and Housing Locations in Two Decades. *Urban Studies* 46(2): 429–458.

Buck N. (2001) Identifying neighbourhood effects on social exclusion. *Urban Studies* 38: 2251–2275.

Chanel 4 (2011) *Best and Worst Places to Live*: http://www.channel4.com/, accessed 01/05/2011.

Cheshire P. (2007) *Are mixed communities the answer to segregation and poverty?* York: Joseph Rowntree Foundation.

DeFilippis J & Fraser J. (2010) Why do we want mixed income housing and neighbourhoods? In: Davies JS & Imbroscio DL (eds) *Critical Urban Studies.* New York: Suny Press, 135–149.

Deluca S, Duncan GJ, Keels M & Mendenhall R. (2012) The Notable and the Null: Using Mixed Methods to Understand the Diverse Impacts of Residential Mobility Programs. In: Ham, M van, Manley D, Bailey N, Simpson L & Maclennan D (eds) *Neighbourhood Effects Research: New Perspectives*. Dordrecht: Springer.

Dietz RD. (2002) The estimation of neighborhood effects in the social sciences: an interdisciplinary approach. *Social Science Research* 31(4): 539–575.

Durlauf SN. (2004). Neighbourhood Effects. In: Henderson JV & Thisse JF (eds) *Handbook of regional and urban economics. Volume 4 Cities and Geography*. Amsterdam: Elsevier.

Ellen IG & Turner MA. (1997) Does neighbourhood matter? As-sessing recent evidence. *Housing Policy Debate* 8(4): 833–866.

Galster G. (2002) An economic efficiency analysis of deconcentrating poverty populations. *Journal of Housing Economics* 11(4): 303-329.

Galster G. (2012) The Mechanism(s) of Neighbourhood Effects: Theory, Evidence, and Policy Implications. In: van Ham M, Manley D, Simpson L, Bailey N & Maclennan D (eds) *Neighbourhood Effect Research: New Perspectives.* Dordrecht: Springer.

Gans HJ. (1968) Culture and class in the study of poverty: An approach to antipoverty research. In: Moynihan DP (ed) *Understanding Poverty: Perspectives from the social sciences*. New York: Basic Books, 229-259.

Goering J, Feins JD & Richardson TM. (2002) A Cross-Site Analysis of Initial Moving to Opportunity Demonstration Results. *Journal of Housing Research* 13(1): 1-30.

Guardian (2012) *Alan Milburn: Threat to new era of social mobility. Guardian Society*. Accessed 02/08/2012: http://www.guardian.co.uk/society/2012/may/26/alan-milburn-social-mobility.

Hägerstrand T. (1970) What about people in regional science? *Papers of Regional Science Association* 24(1): 7–21.

Briggs X de Souza & Keys BJ. (2009) Has Exposure to Poor Neighbourhoods Changed in America? Race, Risk and Housing Locations in Two Decades. *Urban Studies* 46(2): 429–458.

Hedman L, Manley D, van Ham M & Östh J. (2012) *Cumulative exposure to disadvantage and the intergenerational transmission of neighbourhood effects*. IZA working paper.

Hedman L. (2011) The Impact of Residential Mobility on Measurements of Neighbourhood Effects. *Housing Studies* 26(4): 501-519.

Johnston B, Jones K, Burgess S, Propper C, Sarker R & Bolster A. (2004) Scale, Factor Analyses, and Neighborhood Effects. *Geographical Analysis* 36(4): 350–368.

Katz L, Kling J & Liebman, J. (2001) Moving to opportunity in Boston: early results of a randomized mobility experiment. *Quarterly Journal of Economics* 116: 607–654.

Kearns A. (2002) Response: From residential disadvantage to opportunity? Reflections on British and European policy and research. *Housing Studies* 17(1): 145-150.

Kwan MP, (2004) GIS Methods in Time-Geographic Research: Geocomputation and Geovisualization of Human Activity Patterns. *Geogr. Ann.*, 86 B (4): 267–280.

Lee JY & Kwan MP (2011) Visualization of sociospatial isolation based on human activity patterns and social networks in space-time. *Tijdschrift voor Economische en Sociale Geografie* 102(4): 468–85.

Leventhal T & Brooks-Gunn J. (2004) A Randomized Study of Neighborhood Effects on Low-Income Children's Educational Outcomes. *Developmental Psychology* 40(4): 488-507.

Ludwig J, Duncan GJ, & Hirschfield P. (2001) Urban poverty and juvenile crime: evidence from a randomized housing-mobility experiment. *Quarterly Journal of Economics* 116(2): 655-680.

Manley D & van Ham M. (2012) Neighbourhood effects, housing tenure and individual employment outcomes In: van Ham M, Manley D, Bailey N, Simpson L & Maclennan D (eds) *Neighbourhood Effects Research: New Perspectives*. Dordrecht: Springer.

Manley D, Flowerdew R, & Steel D. (2006) Scales, levels and processes: studying spatial patterns of British census variables. *Computers, environment and urban systems* 30(2): 43-160.

Manley D, van Ham M, Bailey N, Simpson L & Maclennan D. (eds) (2013) *Neighbourhood Effects or Neighbourhood Based Problems? A Policy Context*. Dordrecht: Springer.

McCulloch A. (2001) Ward-level deprivation and individual social and economic outcomes in the British Household Panel Study. *Environment and Planning A* 33: 667–684.

McIntyre Z & McKee K. (in press) *Creating sustainable communities through tenure-mix: the responsibilisation of marginal homeowners in Scotland. GeoJournal.*

Mooney G. & Hancock L. (2010) *Poverty Porn* and the *Broken Society. Variant 39/40: 14-18.*

Musterd S. & Andersson R. (2005) Housing mix, social mix and social opportunities. *Urban Affairs Review* 40(6): 761–790.

Musterd S, Galster, G & Andersson R. (2012) Temporal dimensions and measurement of neighbourhood effects. *Environment and Planning A* 44: 605-627.

Musterd S. (2002) Response: mixed housing policy: a European (Dutch) perspective. *Housing Studies* 17(1): 139–143.

Nunn A, Johnson S, Monro S. & Bickerstaffe T. (2007) Factors influencing social mobility Department of Work and Pensions. *Research Report 450*.

ODPM (Office of the Deputy Prime Minister) (2005) Sustainable Communities: People, Places and Prosperity, Cm 6425. London: HMSO Oreopolous, P. (2003) The long-run consequences of living in a poor neighbourhood. *The Quarterly Journal of Economics* 118(4): 1533-1575.

Pinkster FM. (2009) *Living in concentrated poverty*. Amsterdam: University of Amsterdam.

Quillian L. (2003) How long are exposures to poor neighborhoods? The long-term dynamics of entry and exit from poor neighborhoods. *Population Research and Policy Review* 22: 221–249.

Rosebaum J. (1995) Changing the geography of opportunity by expanding residential choice: lessons from the gatreaux program. *Housing Policy Debate* 6(1): 231-269.

Rubin DB. (2008) For Objective Causal Inference, Design Trumps Analysis. *Annals of Applied Statistics* 2(3): 808–840.

Sampson R, Morenoff JD & Gannon-Rowley T. (2002) Assessing "neighbourhood effects": Social processes and new directions. *Annual Sociological Review* 28: 443-478.

Scottish Government (2007) *Firm Foundation: The future of Housing in Scotland. A Discussion Document.* The Scottish Government.

Sharkey P & Elwert, F. (2011) The Legacy of Disadvantage: Multigenerational Neighborhood Effects on Cognitive Ability. *American Journal of Sociology* 116(6): 1934-1981.

Slater, T. (forthcoming) Capital urbanisation affects your life chnces: exorcising the ghosts of neighbourhood effects. In: Ham M van, Manley D, Simpson L, Bailey N & Maclennan D (eds) *Neighbourhood Effects or Neighbourhood Based Problems? A Policy Context*. Dordrecht: Springer.

Small, M & Fieldman J. (2012) Ethnigraphic Evidence, Heterogeneity, and Neighbourhood Effects After Moving To Opportunity. In: van Ham M, Manley D, Simpson L, Bailey N & Maclennan D (eds) *Neighbourhood Effect Research: New Perspectives.* Dordrecht: Springer.

Stiglitz J. Sen A & Fitoussi J. (2009) *"Report by the Commission on the Measurement of Economic Performance and Social Progress"*, www.stiglitz-sen-fitoussi.fr.

Stratton A. (2010) *"David Cameron aims to make happiness the new GDP"* The Guardian 15 November, page 14, http://www.guardian.co.uk/politics/2010/nov/14/david-cameron-wellbeing-inquiry.

Tunstall R & Lupton R. (2010) *Mixed Communities: Evidence Review.* London: Department of Communities and Local Government. HMSO.

van Ham M & Manley D. (2010) The effect of neighbourhood housing tenure mix on labour market outcomes: a longitudinal investigation of neighbourhood effects. *Journal of Economic Geography* 10: 257-282.

van Ham M, Manley D, Bailey N, Simpson L & Maclennan D. (eds) (2012a) *Neighbourhood Effects Research: New Perspectives*. Dordrecht: Springer.

van Ham M, Manley D, Bailey N, Simpson L & Maclennan D. (eds) (2012b) *Understanding neighbourhood dynamics: new insights for neighbourhood effects research*. Dordrecht: Springer.

van Ham M, Hedman L, Manley D, Coulter R & Östh J. (2012c) *Intergenerational transmission of neighbourhood poverty in Sweden. An innovative analysis of individual neighbourhood histories*. IZA Discussion Paper No. 6572 (www.iza.org).

Wacquant L. (2008) *Urban Outcasts.* Polity Press.

Willets D. (2010) *The Pinch: How the Baby Boomers Took Their Children's Future - And How They Can Give it Back*. Atlantic Books.

Wilson WJ. (1987) *The truly disadvantaged: the inner city, the underclass and public policy*. Chicago: University of Chicago Press.

Wyly E & Ponder CS. (2011) Gender age and race in subprime America. *Housing Policy Debate* 21(4): 529-564.