

Review of the Recent Literature on the Effects of Neighbourhoods on Various Child Outcomes

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Introduction:

The present review aims to take stock of the recent literature (from 2002 onwards) on neighbourhood effects in order to expand and update the conceptual, methodological and empirical foundations of the SSRHC research project on “Neighbourhood Influences on the Developmental Trajectories of Children and Youth” (further referred to as the “SSHRC project”). The first part of the review will be devoted to a brief analysis of some of the broader conceptual and methodological issues of the current neighbourhoods literature. The main part of the paper will be organized around a set of analytical categories, which also serve the role of criteria for comparing sixteen research articles and Ph.D. dissertations published between 2002 and 2003. More specifically, the criteria selected for analysis refer to the population examined (or data used), conceptualization of individual/family and neighbourhood level factors and identification of outcome variables. Further criteria take into account the interaction between neighbourhood and family factors, whether and how these interactions are examined in a dynamic perspective, the methodology used in each study and its major conclusions. It should be mentioned that only some of the analytical categories will be discussed in the body of the paper. The rest can be found in the comparison table to be found in appendix 1.

Conceptual and Methodological Dilemmas in the Study of Neighbourhood Influences

Social Selection versus Social Causation

A basic point of contention in the literature on neighbourhoods and health is the question of whether neighbourhoods have an impact on the health outcomes of their members or whether neighbourhoods “select” members with certain health characteristics. Formulated differently, it is the problem of “choice” versus “fate”. Ichiro Kawachi and Lisa Berkman (2003: 11) seem to suggest that for poor people the place of residence is more a matter of “fate” (due to their limited economic resources) while for wealthier individuals, the neighbourhood of residence is rather the result of a deliberate decision.

Contextual versus Compositional Effects

Closely related to the above distinction is the dichotomy between compositional and contextual effects. According to the first perspective, differences between neighbourhoods stem from the different kinds of people that inhabit them. From a contextual point of view, on the other hand, it is the different places (i.e. neighbourhoods) that have a bearing on people’s health outcomes (Macintyre and Ellaway 2003: 24). It has been repeatedly argued, however, that the difference between contextual and compositional effects is largely an artificial one, since there are clear instances in which

individual-level characteristics (for example one's occupation) are determined by place-specific conditions (e.g. the local labour market) (Macintyre and Ellaway 2003: 27). Therefore, the social composition of a given neighbourhood may be determined by its local context and if this is the case, any rigid demarcation between individual characteristics and contextual influences is bound to be arbitrary. In a succinct formulation, Macintyre and Ellaway (2003: 26) claim that "people create places and places create people."

Psychosocial versus material explanations

Kawachi and Berkman point to a further dichotomy in the literature, by distinguishing between explanations premised on psychosocial versus material factors. The recommended approach is one that combines both material and psychosocial explanations in accounting for neighbourhood variations in health. Such an approach is justified because neighbourhood processes that affect health outcomes have, in most cases, both physical and social-psychological aspects. A methodological issue raised by Kawachi and Berkman (2003: 13) emphasizes the need to conduct etiological research based not only on readily available aggregate measures (e.g. percentage unemployed in a given neighbourhood) but also based on primary data collected at the neighbourhood level.

Subjective versus objective assessments

The distinction between psychosocial and material factors has its correspondent in different approaches to data collection. Psychosocial explanations will probably be based on subjective assessments of the neighbourhood environment, while the material circumstances of neighbourhood life will be assessed through more objective measurements (Kawachi and Berkman 2003: 13 – 14). It is interesting to note that the use of subjective measures of neighbourhood conditions may actually decrease the variation between neighbourhoods. For example, Macintyre and Ellaway (2003: 37) found that the differences between neighbourhoods in terms of public transportation were markedly higher when evaluated according to objective criteria (using bus and train timetables) compared to the low inter-neighbourhood variation in respondents' own evaluations of the same services. Kawachi and Berkman (2003: 14) explain this discrepancy between subjective and objective assessments through psychological adjustment and downward leveling of aspirations.

Quantitative versus qualitative approaches

Following the distinctions outlined under the previous two headings, the difference between qualitative and quantitative perspectives captures a "further tension" (Kawachi and Berkman 2003: 14) in neighbourhood studies, which is, however, in no case restricted to it. The editors admit that their book is prone to the charge of laying much emphasis on quantitative research in social epidemiology, demography, sociology, and medical geography to the relative detriment of qualitative studies. One of the major advantages of an ethnographic understanding of neighbourhood life comes from the fact that it offers historically contextualized data on local social processes. Kawachi and Berkman (2003: 15) advocate a combined approach in which the "thick" descriptions of neighbourhoods are complemented by the more generalizable findings of quantitative analyses.

Neighbourhoods versus communities

Another distinction analyzed by Kawachi and Berkman points to a basic conceptual challenge to neighbourhood research, which can be formulated as follows: is it justified to focus on neighbourhood effects on health while ignoring other contexts (workplaces, schools, shopping areas) that might also have an effect on health outcomes? The answer is clearly “no” and the most promising strategy for tackling this problem is to acknowledge the existence of “overlapping contextual settings” and to collect data on all contexts that appear to be relevant for a given health outcome (Subramanian, Jones and Duncan 2003: 65). In support of this approach, Kawachi and Berkman (2003: 17) mention the research area on the spread of HIV, where the focus of study is on transport routes and social networks that link sometimes spatially distant communities.

The Spatial and Temporal Aspects of Neighbourhood Influences

There is often a time lag between neighbourhood influences and their manifestation in specific health outcomes. For this reason, many cross-sectional studies on neighbourhoods and health that seek to relate *current* levels of morbidity and mortality to *current* neighbourhood conditions can be severely limited in their explanatory power (Macintyre and Ellaway 2003: 36). For example, a specific neighbourhood influence (e.g. housing type) might have affected the health of children at some point in the past but it only became apparent when they were young adults. As a result, it would be incorrect to infer the poor health of the young adults from current neighbourhood circumstances when the real influence might have been exerted longer ago and over a protracted period of time.

As a further example, the epidemiologist David Barker analyzed differences in disease-specific mortality rates among adults in the 1960s and 1970s in three small towns in England by tracing the housing and working conditions in these localities at the beginning of the twentieth century (Macintyre and Ellaway 2003: 29).

Developing Explanatory Mechanisms for Neighbourhood-Related Influences

According to Macintyre and Ellaway (2003: 35), one of the greatest challenges for those researching neighbourhood influences on health is the lack of sufficiently developed theories linking the social, psychological and biological factors of neighbourhood life to defined health outcomes. The dominant, albeit implicit, explanatory model rests on a so-called “social miasma” assumption according to which the collective characteristics of one’s neighbours affect the individual’s own state of health (Macintyre and Ellaway 2003: 35). This implicit assumption can be inferred from the use of census data on individuals aggregated to a higher (e.g. census tract) level.

In order to overcome this limitation, Macintyre and Ellaway (2003: 35) call for a systematic analysis of *chains of causation* linking physical, biological, social, psychological and cultural factors. For example, they propose a set of causal relations linking the price and availability of healthy foods, dietary patterns (themselves shaped by

norms and traditions), levels of obesity and eventually morbidity and mortality caused by diseases for which obesity is a contributing factor (2003: 35).

Dimensions of Analysis: Family Factors, Neighbourhood Influences and Cross-level Interactions

It is generally accepted in the literature that, albeit household characteristics have a definite bearing on various child outcomes, the attributes of households are, in turn, *“intimately bound up with neighbourhood context”* (SSHRC project, p.1, emphasis in original). As a result, a substantial area of research developed focusing on neighbourhood effects on children and their development.

The properties of neighbourhoods are frequently seen in relation to the quality of local schools. Neighbourhoods with few resources will tend to have lower quality schools, less supportive peers and a parenting behaviour less conducive to positive child outcomes (SSHRC proposal, p. 2). Those characteristics of neighbourhoods that are considered to have an influence on the developmental trajectories of children are captured by the concepts of “social isolation”, “social exclusion” and “marginalization” from mainstream institutions. Furthermore, the notions of “neighbourhood disadvantage” or “neighbourhood social capital” have frequently been invoked in the study of neighbourhood influences on child outcomes (SSHRC project, p. 2).

One of the major neighbourhood-level factors assumed to have a decisive effect on child outcomes is neighbourhood income. Lower income levels characterize neighbourhoods with less desirable housing stock are also frequently associated with higher levels of social disorder and lower levels of social cohesion and collective efficacy (SSHRC project, p. 2).

In terms of family or individual level factors, most studies reviewed here include measures of parental socioeconomic status (SES). In some of the studies, individual SES includes income, measured directly or with reference to the (US) poverty line (Caughy, o'Campo, and Muntaner 2003) or as “income-to-needs ratio” (i.e. income divided by family size) (Lee and Cubbin 2002). Other studies refer to “social class” (measured through occupation – McMulloch 2003: 1430). It is interesting to note, however, that five of the sixteen studies reviewed do not include measures for individual or family SES.

Five of the sixteen studies include measures of what could be broadly identified with the notion of social capital measured at the individual level. With one exception (Caughy, o'Campo and Muntaner 2003), however, individual social capital is measured only as the extent to which the parents know their neighbours or their children's peers (South, Baumer and Lutz 2003; Turley 2003). The other two studies refer to “social support” (respondent has someone to offer support to) (McCulloch 2003) and “social ties” (Vogt Yuan 2003).

Health-related individual factors are included in six of the sixteen analyses reviewed here. Of these, two studies (Wheaton and Clarke 2003; Ewart and Suchday 2002) refer to child mental health, one is concerned with maternal psychological wellbeing (Hwang 2002) while another (Brooks-Gunn and Leventhal. 2003) takes into account both parental and child mental health. The two remaining articles (Wen, Browning and Cagney 2003; Browning and Cagney 2002) use health behaviour as individual-level variables.

Most of the studies included in the analysis use various measures of *neighbourhood socioeconomic position*, either as economic impoverishment (Caughy, o'Campo, and Muntaner 2003), neighbourhood socio-economic disadvantage (Wheaton and Clarke 2003, Vogt Yuan 2003), neighbourhood SES (South, Baumer and Lutz 2003; Lee and Cubbin 2002) or concentrated disadvantage (Browning and Cagney 2002). All these variables include aggregated measures of the neighbourhood population below a given income level (i.e. the poverty level or a similar level proposed by researchers). The Townsend material deprivation score¹ is used in two studies (Haynes, Reading and Gale 2003; McCulloch 2003). Four studies take into account measures of both concentrated affluence and concentrated poverty (Sampson, Morenoff and Earls 1999; Wen, Browning and Cagney 2003; Browning, Cagney and Wen 2003; McCulloch 2003). Interestingly, Wen, Browning and Cagney (2003) and Browning, Cagney and Wen (2003) found no contextual effects of poverty/disadvantage but a significant positive effect of *neighbourhood affluence* on health outcomes. Consistent with these results, Sampson, Morenoff and Earls (1999) and McCulloch (2003) found a positive influence of concentrated affluence on collective efficacy for children and on their cognitive ability, respectively.

The interpretation of these findings offers the possibility of addressing the criticisms directed at the “social miasma” theory (Macintyre and Ellaway 2003: 35). In contradistinction to the subculturally based models of neighborhood disadvantage, which claim that concentrated poverty contributes to health-compromising attitudes and behaviors (Fitzpatrick and LaGory cited in Browning, Cagney and Wen 2003: 1231), the above mentioned findings suggest what appears to be a more plausible causal mechanism. Neighbourhood affluence indicates the presence of wealthier individuals that are able to mobilize and secure the institutional and cultural resources needed for better health outcomes for all residents of the neighbourhoods. In other words, “measures of the concentration of poverty may be functioning as proxies for the absence of stabilizing middle class residents with higher levels of access to potentially health-relevant social and economic resources” (Browning, Cagney and Wen 2003: 1231).

Of the sixteen studies reviewed, nine take into account interactions between individual and neighbourhood-level factors. Caughy, o'Campo, and Muntaner (2003) report an unexpected interaction between psychological sense of community (“respondent know neighbours” – a measure of social capital) and the economic impoverishment score of the

¹ This includes “proportions of the population who were unemployed, not owning a car, living in overcrowded accommodation and not owning their accommodation” in a neighbourhood (Townsend, Phillimore, and Beattie, 1988 cited in Haynes, Robin, Richard Reading and Susan Gale 2003: 627).

neighbourhood. The finding was that not knowing one's neighbors (i.e. low social capital) was a risk factor for behavior problems (total and internalizing) for children living in wealthy communities but a protective factor for children living in highly impoverished neighborhoods. A similar finding is reported by Mitchell and LaGory (2002)². They discovered that in high-poverty, high-minority, inner-city communities, active participation in the local area is not necessarily beneficial for the individual (citation from the abstract).

McCulloch reports that cross-level interactions in which the effect of neighbourhood conditions on social capital varies according to individual social class, were identified for women but not for men. More exactly, effects of neighborhood characteristics are larger for women in professional, managerial and skilled non-manual occupations (2003: 1436). Browning, Cagney and Wen (2003: 395) found that health-related collective efficacy influences the protective impact of education on health.

A number of studies have documented interactions between various neighbourhood-level characteristics and race/ethnicity. Turley (2002) found that the effect of neighbourhood income varies significantly by race for both outcome variables (mathematics/verbal test scores and self-esteem). In a subsequent study, Turley (2003: 77) discovered that racial composition seems to play an important role in conditioning the effects of neighborhood income for black children. More exactly, she found that black children would benefit from higher neighborhood income when they also live in higher-proportion black neighbourhoods. If the higher income neighborhoods are also predominantly inhabited by whites, and if the neighborhood racial composition interacts with neighborhood income, it is expected that black children will not reap the benefit of increased neighborhood income. Vogt Yuan (2003: 261) found that Blacks get more emotional social support from adults but these benefits are attenuated by socioeconomic status and family structure disadvantages. Additionally, Blacks benefit and at the same time are penalized regarding social support by living in higher percent Black and disadvantaged neighbourhoods. As part of their effort to construct and test a "neighbourhood stress index", Ewart and Suchday (2002) found that the correlation between percent of population born to unmarried women and neighborhood disorder was the only association that varied with ethnicity. The study by Sampson, Morenoff and Earls (1999) focuses on the *main effects* on parameter variance across neighborhoods in collective efficacy for children, controlling for individual-level differences in socio-demographic composition. Although they are explicitly not interested in estimating multilevel interactions, they nevertheless discovered a significant interaction between race/ethnicity and perceived violence (1999: 654).

Albeit Brooks-Gunn and Leventhal (2003) do not explicitly take into account possible interactions between neighbourhood and family factors, they carried out their analyses on child outcomes by sex and age subgroups. Their data was obtained from a randomized, controlled trial in which volunteers from public-housing, high-poverty neighbourhoods were assigned to one of three groups: an *experimental group* which was offered housing vouchers to move only to low poverty neighbourhoods, a *comparison group* which

² Article not available online despite the U of T subscription to Blackwell Synergy.

received housing vouchers for unrestricted move and an “in-place” *control group*, that did not move from the original neighbourhoods. The authors found that the comparison group children, aged 8 to 13 years, were significantly less likely to have headstrong problems compared to the control group. The children from the experimental group experienced a marginally significant reduction in anxious/depressive problems. In terms of dependency problems (e.g. need to be near adults etc.), marginally significant effects were found for children in both the experimental and comparison groups. Interestingly, no significant differences were found for youths aged 14 to 18 years (2003: 1579).

Accounting for interactions in dynamic perspective

Of the sixteen studies reviewed here, seven use more or less elaborate measures of a temporal dimension of neighbourhood influence. I will first refer to the studies that did not address the temporal dimension of neighbourhood phenomena. In one of the studies (Caughy, o'Campo and Muntaner 2003), the authors acknowledge the absence of a temporal dimension as one of the limitations of their study. In another study (South, Baumer and Lutz 2003), although the data used were from the US National Survey of Children (including three waves), the authors seem to have failed to taken advantage of the availability of longitudinal data and have instead used logistic regression. In still another study (Turley 2003), the temporal aspect appears only as a caveat referring to the fact that the neighbourhood measures were collected seven years prior to the time when children's outcomes were measured.

One of the less elaborate research designs, in terms of accounting for changes in time, is the one by Wen, Browning and Cagney (2003), which included an indicator on *prior neighbourhood health*. The most elaborate treatment of the temporal aspect appears in Wheaton and Clarke's article. The authors explicitly focus on an individual life course perspective and seek to trace the *history* of the social contexts that individuals live in and their effect on mental health.

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