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Title: Household Versus Neighborhood Socio-Economic Status and their Effects on Adolescent Health in Urban Johannesburg and Soweto: What Can Neighborhood Members Tell Us?

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Sessions: 1) Neighborhood effects on health 2) Explaining the SES-health gradient.

Short abstract (150 words):
To identify those at risk of ill-health and target public health resources accordingly, it is important to understand the role of neighborhood versus household socio-economic effects on health. Because of the magnitude of income inequalities, South Africa is an ideal setting to study health inequalities. Birth to Twenty (Bt20) is a birth cohort study in Johannesburg-Soweto and its longitudinal design brings an opportunity to analyze the changing role of socio-economic status (SES) on health. However, Bt20 has focussed on measuring SES at the household level, meaning little is known about neighborhood SES. Therefore this paper uses focus groups with adolescents aged 15 years and their caregivers, and key informant in-depth interviews, to establish lay knowledge and perceptions of the importance of neighborhood/school SES for health. Findings suggest that both economic and social support factors are equally important in understanding the role of neighborhood SES for adolescent health in this context.

Extended abstract (2-4 pages):

Description of the topic to be studied

Socio-economic status (SES) is known to be associated with many health outcomes. Potential for social or economic interventions to impact on such a range of health outcomes makes health inequality research a priority area, as it enables the identification of the most important dimensions of SES for health and disease. This is a particularly important subject in the context of the developing country urban environment. Research in the 1980s and 1990s has revealed diversity in the extent and depth of poverty within urban areas in developing countries, often showing poverty to be at its worst in deprived city slums (Harpham et al., 1988). It is estimated that at least 600 million of the urban residents in developing countries live in health-threatening homes and neighborhoods characterized by inadequate housing, sanitation, water supply, drainage and health care (Hardoy and Satterthwaite, 1991). Thus, a particular concern in urban developing country environments is to understand the role of contextual effects (effects of the neighborhood of residence over the features of individuals) versus compositional effects (individual or household characteristics), as well as the role of diverse SES indicators, and their relative importance for health.

The South African context is ideal for examining SES differences in health outcomes primarily because of the range of incomes observed (May, 2000). Under apartheid legislation government policies exacerbated income inequalities in South Africa, by denying a large proportion of the population access to land, assets, and services. Since the first democratic elections in 1994, the South African government has been striving to address poverty and inequality. South Africa is now a country in both economic and health transition, meaning that findings in this setting could be indicative of relationships between SES and health in other countries experiencing transition, particularly in the African region.

Theoretical focus

There are many contrasting definitions and ways to measure SES making it difficult to compare previous studies investigating SES (Fotso and Kuate-Defo, 2005). Furthermore, few tested tools exist to assess SES at the neighborhood level, particularly in developing country urban environments. Indeed, most studies tend to use aggregated individual or household level variables such as the percentage of people unemployed in a neighborhood (Macintyre et al., 2002). This leads to the problem of 'ecological fallacy' whereby relationships at the aggregated level are inferred to represent relationships at the individual or household level.

Data and research methods

Birth to Twenty (Bt20) is the largest and longest running cohort study of child health and development in Africa (Richter et al., 1995), and one of the few large-scale longitudinal studies in the world. Clearly the longitudinal design of Bt20 brings a unique opportunity to analyze the changing role of SES on health in childhood and adolescence for a range of ethnic groups in urban Johannesburg. However, a limitation of the Bt20 study for examining inequalities in health has been the lack of neighborhood SES data.

Adolescence marks the onset of increasing independence from the family and more time being spent in the neighborhood (Allison et al., 1999). Therefore as the Bt20 cohort are now 16 years of age, they have reached a critical milestone in their development and the socio-economic environment in which they live is becoming

increasingly important for lifestyle risk factors that impact health now and in later life. Furthermore, a large part of an adolescent's neighborhood is focused on the school and, in this setting, schools, especially at the high school level, can be located some distance outside of the neighborhood in which the household is positioned. In order to study the neighborhood, it is therefore necessary to understand both the schools that adolescents attend, as well as the local neighborhood in which adolescents reside.

This paper will describe some formative qualitative research which aimed to establish the lay knowledge and perceptions of the importance of the neighborhood/school social and economic environment for health. Furthermore, this research aimed to establish what level of aggregation respondents identify as defining a local neighborhood. For example, the 'suburb' was likely to be the measure of neighborhood used in the study because it is a common administrative boundary in South Africa; however, the study verified the usefulness of this definition of neighborhood to study participants. These formative data were also used to further develop a tool to assess neighborhood/school SES data.

Twelve focus group discussions were conducted with adolescents and caregivers from the Bone Health sub-sample of the Bt20 cohort which have detailed health information. The focus groups were stratified by population group, neighborhood SES and by sex for the adolescents so that groups were homogenous. Whites were classified as high SES, Blacks living in richer Soweto neighborhoods and suburbs were classified as mid-SES and Blacks living in shacks and matchbox housing in Soweto were classified as low SES. Eighteen in-depth interviews were conducted with key informants stratified by the type of key informant and SES of the neighborhoods in which they worked. Key informants included neighborhood leaders such as councillors and health care workers, school leaders, religious leaders and estate agents.

Although the question routes varied slightly, there were five key sections to each question route. The first section asked questions to establish a definition for a neighborhood, for example to describe the area where they lived and what they called it. Indeed the participants conducted a mapping exercise where the adolescents and key informants drew the neighborhood where they lived/worked and spent most of their time. The caregivers marked these places on a map provided. The second section asked questions to establish a general definition of SES such as what they understood by being poor and living in poverty and how to describe a poor person and a wealthy person. The third section established the SES of neighborhoods by asking for descriptions of a poor and wealthy neighborhood and the best and worst things about their neighborhoods etc. School SES was addressed in the penultimate section of the question routes by asking about the importance of education for future wealth opportunities, main problems at schools and what makes a good school etc. Finally, the implications of SES were discussed. The questions asked to the estate agents, in particular, were quite different with questions asking about the desirability of areas and the role of property prices in determining the SES of neighborhoods etc.

An interpretive descriptive approach was used to understand perceptions of neighborhood and important socio-economic factors in neighborhoods for adolescent health. Transcripts were coded by a team of researchers by extracting concepts from each line of the transcripts and grouping them into preliminary codes. The analysis used 'constant comparison' of the data by asking questions about the data and making comparisons between codes, leading to an emergent set of themes.

Expected findings:

The mapping exercise revealed that some adolescents only drew their house whereas others drew their social networks, parks and indicated spatial distance. The importance of sport and social support networks was shown with football pitches, game shops and churches drawn. Furthermore, infrastructure and road networks were also sketched. Some drawings showed clear health implications of the neighborhood e.g. highlighting a local dump.

Preliminary findings indicate that most called their neighborhoods by name. The term 'suburb' had White connotations whereas 'location' had Black connotations. Nobody referred to their 'community' apart from a community health worker. In contrast, 'neighborhood' seemed a more generic term understood by everyone. Most people described the facilities in their neighbourhood such as churches, parks, streets and shops. In addition, most people described the problems in their neighborhoods such as drugs, crime, retrenchment, teenage pregnancy, alcohol, smoking and unemployment. However, most people liked living where they were living despite the problems. Furthermore, some problems like crime and retrenchment actually brought people together. Overall, Blacks were seen as more 'social' whereas Whites liked a private quiet life where people 'mind their own business'.

Participants found SES very difficult to define. However, a number of different aspects of SES were discussed. For example, material wealth in terms of possessions was mentioned e.g. cars, houses, clothing and lots of money. Social wealth was another aspect of SES discussed in terms of quality of life and happiness. Spiritual wealth was mentioned by the religious leaders in that someone is rich if they have Jesus in their life but without Jesus they were considered poor. Education was seen as wealth in itself. However, the apartheid history in South Africa seemed to underlie most of the differences behind the privileged versus under-privileged members of society.

Several different aspects to SES at the neighborhood level were also discussed. First, services such as education and health care were seen as important as well as facilities such as libraries and shopping centers. Infrastructure was also an issue with roads, lighting, electricity, water and sanitation being discussed. Physical factors such as parks and sports grounds were also mentioned. Social factors were also seen as important. For example, the age of the people in the neighborhood, how quiet or noisy the neighborhood was, the need to 'keep up with the Joneses', the church community and community spirit. Property also seemed to be something which played a role in determining the SES of the neighborhood. In particular, property prices, double storey houses, the type of housing as well as space around the housing. Crime and security were major factors that came up a lot in the discussions. In particular, it was discussed that Whites tended to have dogs, weapons and high walls or fences as security measures to prevent crime. Large inequalities also seemed to exist within neighborhoods. The worst things in neighborhoods seemed to be crime, drugs, unemployment and teenage pregnancy whereas security and community spirit and support were the best things.

Education was seen as very important for future wealth opportunities. A good school was one which had good teachers, management, disciplined learners, parent participation and neighborhood friendly schools which allowed their premises to also be utilized as a church or community center. The main problems in schools included drugs, overcrowding, teenage pregnancy, lack of dedicated teachers, not enough schools, alcohol consumption by both learners and teachers, lack of resources, lack of ability and skills from educators to teach, safety, bunking off and quality.

Organisations that had a positive influence on the neighborhood were the church as well as political organisations. In contrast, the people themselves e.g. gangsters were seen to have a negative influence on the neighborhood.

Finally, the majority of participants thought that there were health risks of being poor and living in poverty. For example, in terms of the access and quality of health care, HIV/AIDS, poor sanitation, pollution and malnutrition. Furthermore, they thought that the neighborhood was important for health because of the availability of health care and education as well as the aspirations that neighborhoods provide. They thought that poverty could be reduced by job creation, education and empowerment.

In summary, this paper recognizes that it is important to understand neighborhood SES in Bt20 to identify those at greatest risk of ill-health and target resources and social policies appropriately. Furthermore, it was important to involve neighborhood members in the understanding of the local SES environment. Preliminary findings suggest that local people perceive both economic and social support factors as equally important in understanding the role of neighborhood SES for adolescent health in this context. The formative qualitative research presented here also informed the development of an interviewer administered questionnaire to be administered to the sub-sample of Bt20 adolescents in year 16 to assess neighborhood SES in urban Johannesburg/Soweto. Future analyses will contrast these findings by SES of the neighborhood, by adolescents, caregivers and key informants as well as by sex of the adolescents to establish whether there are differences in meanings across these groups.

References:

ALLISON, K., BURTON, L., MARSHALL, S., PEREZ-FEBLES, A., YARRINGTON, J., KIRSH, L. N. & ET AL (1999) Life Experiences Among Urban Adolescents: Examining the Role of Context. *Child Development,* 70, 1017-29.

FOTSO, J.-C. & KUATE-DEFO, B. (2005) Socioeconomic Inequalities in Early Childhood Malnutrition and Morbidity: Modification of the Household-Level Effects by the Community SES. *Health and Place,* 11 (3), 205-225.

HARDOY, J. E. & SATTERTHWAITE, D. (1991) Environmental Problems of Third World Cities: A Global issue Ignored? *Public Administration and Development,* 11, 341-61.

HARPHAM, T., LUSTY, T. & VAUGHAN, P. (1988) *Community Health and the Urban Poor.* Oxford: Oxford University Press.

MACINTYRE, S., ELLAWAY, A. & CUMMINS, S. (2002) Place Effects on Health: How Can We Conceptualise, Operationalise and Measure Them? *Social Science and Medicine,* 55 (1), 125-139.

MAY, J. (2000) *Poverty and Inequality in South Africa: Meeting the Challenge.* Cape Town: David Philip Publishers.

RICHTER, L., YACH, D., CAMERON, N., GRIESEL, R. & DE WET, T. (1995) Enrolment into Birth to Ten: Population and Sample Characteristics. *Paediatric and Perinatal Epidemiology,* 9, 102-20.