Reviewer’s report

Title: Schizophrenia, urbanization and the geographical distance to nearest major road

Version: 1 Date: 26 July 2005

Reviewer: Jack Dekker

Reviewer’s report:

General
This study is a important study in its field and earns absolutely a publication. The original idea of linking the two databases of traffic distances and treated psychiatric diseases, has leaded to solid analyses and shall hopefully lead to more imitations and reprises in this field. It brings the science to a higher level.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) the title is unsatisfactory and a little laughable. Geographical distance to nearest major road is a operationalization of several riskfactors and it is not a theoretical conception as polution or noise Therefor I suggest a better title as “Urbanization and traffic related exposures as riskfactors for schizophrenia”. Also in the Summary these or such changements must be carried through
2) I don’t get the picture of the sentence on page 6 ‘The study population and their mothers, fathers and siblings were linked with the Danish Psychiatric Central Register …. ‘; please, explain more in detail what the key elements are of this database
3) I think it is better to describe the analyses of table 1 more in detail; for understanding this table correctly you have to read the table and his legenda now several times
4) Before presenting table one I think it is recommendable to explain firstly the relation between urbanization and the road distances; a crosstabulation with percentages will inform the readers about the possible relationship between these vavariables; I think there is one such as ‘more country roads in the rural area’, so I am interested to get the picture of this relation

5) Furtheron I think it is recommendable to add a interaction variable (urbanization * road distance) in the analyses
6) Is it also possible to test the relation between the key variabels and the incidence rates on linearity? I think you will find a significant lineair relation between urbanization and incidence rate, very remarkable and in line with our studies (Peen and Dekker in Acta Psychtr Scandinavica in 1997) and other ones as that from Jim van Os in Britisch Journal of Psychiatry some years ago
7) I don’t understand fully the next phrase on page 11 “The lack of dose-response relationship between geographical distance to nearest major road and schizophrenia risk does not support that causal factors associated with geographical distance to road are responsible for this association, and may suggest that geographical distance to nearest major road is only a poor proxy for the degree of urbanization”. When you are saying that the traffic exposures are poor proxy for urbanization, you have to check firstly the relation between these exposures and urbanization (the crosstabulation I have asked before in point 4). In my opinion urbanization is a container conception of several agents. One of these agents seems to be traffic related exposures. But in this study these exposures explain very little, so I think that these agents do not explain the influence of urabnization. So, we have to look for other agents.
8) I don’t think the next phrase in the discussion on page 11 and 12 is a right postulate: “The degree of urbanization is calculated using the number of inhabitants in the largest city in each municipality, and therefore all people living in the same municipality share the same degree of urbanization


irrespectively of the local density of people at their place of residence”. Every municipality has its bad and good areas, and these areas are also related to treated incidence rates of psychiatric diseases (see our article in Soc Psychiatry Psychiatr Epidemiol, 1977, Dekker e.a.)

9) in the discussion you mention that the distance variable is a poor proxy of urbanization; I think that it is not the right way to say it; see mine remarks in point seven; I think you have to give some more attention to the relation between the distance variable as an indication of traffic related exposures; is the distance variable the right variable to assess these exposures; are there not confounding variables as the quality of the houses? Please, explain more in detail in the discussion the benefits and disadvantages of this variable!

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after discretionary revisions

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests