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Sociale ongelijkheid en gezondheid bij kinderen

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Summary

This thesis deals with socioeconomic health differences (SEHD) among children aged 10-11. Children of parents with a low socioeconomic status are relatively less healthy than children of parents with a high socioeconomic status. With respect to this issue both causes and consequences of health problems are described.

In chapter 1 the problem is introduced. Socioeconomic health differences (SEHD) are referring to the relation between socioeconomic indicators like educational level, income or occupational level on the one hand and health status on the other. Among children socioeconomic status is determined by the socioeconomic status of the parents. Children from parents with a relatively low socioeconomic status prove to be less healthy than children from parents with a high socioeconomic status. Especially on the field of the explanation of SEHD much is still not clear. With respect to the explanation two kinds of mechanisms are distinguished, namely causation and selection mechanisms. The causation mechanism refers to the explanation of SEHD by factors associated with socioeconomic status. The parents' socioeconomic status is causally related with the child's health status. The selection mechanism implies a relation in the opposite direction, health problems have a causal effect on the (future) social position. For example, health problems may influence the occupational career. As for the selection mechanism among children the relation between health and schoolperformance is of importance. The questions in this research are focused on the mechanisms operating among children:

1. Do socioeconomic health differences exist among 10-11 year old primary school children?
2. If so, what can explain the existence of socioeconomic health differences and what is the contribution of the different determinants of health? (causation)
3. What are the consequences of health problems for school performance among children aged 10-11? (selection)

In chapter 2 health status among children and especially health status measurement is discussed. Health is a wide and multidimensional concept and is difficult to define which has consequences for the measurement. By using various health indicators, related to certain health aspects, an appropriate picture of the health status can be given. A health status measurement among children provides some specific problems. The most important problem concerns the relatively good health status among children. Commonly used health status measurements do not provide enough differentiation within a young population. This is illustrated in chapter 2 by a description of several health indicators by age.

In chapter 3 the present knowledge about socioeconomic health differences is described. First of all the appearance and extent of SEHD is discussed. In virtually all Western European countries a relation between socioeconomic indicators and

health is found. SEHD also prove to exist in The Netherlands. Such differences occur already among children, although in this agegroup they are relatively small and less consistent.

Much is still not clear about the explanation of SEHD. Four kinds of explanations for the relation between socioeconomic status and health are distinguished:

- artefact explanations;
- natural or social selection explanation;
- cultural/behavioural explanation;
- materialist structuralistic explanation.

In artefact explanations the existence of SEHD is explained by the way both health and socioeconomic status are measured. The natural or social selection explanation refers to the fact that health status influences social mobility. Already at a young age selection mechanisms may play a role; as a consequence of health problems children may perform less at school and there may be a long term influence on their educational career, which has consequences for their future social position. Next to this, selection is of importance in relation to the occupational career. In the cultural/behavioural explanation the differences in lifestyle between the socioeconomic groups are emphasized, e.g. smoking, food and physical exercise. The materialist structuralistic explanation emphasizes the social environment, the working and living conditions, as an explanatory source for SEHD. In this study the cultural/behavioural and material structuralistic explanations are merged into the term *causation* mechanism. Intermediating factors, like personality and social-psychological factors are added to this mechanism. Intermediating factors exert an indirect influence on health by e.g. health damaging behaviour. The different explanations can be put together and described in a model. In chapter 3 several models are treated and discussed, eventually resulting in a hypothetical model for children. In this model causation and selection mechanisms are combined. The socioeconomic status of the parents (social class of origin) influences health along determinants of health and health influences school performance.

In chapter 4 the design and method of the study are described and in chapter 5 a first description of the material and of the data reduction is given. The research is carried out in two regions in the northern part of The Netherlands: Western and Northern Groningen and South-Eastern Drenthe. In these areas a random sample of primary schools was drawn. From these schools all the children in grade 7 and their parents were asked to cooperate. This resulted in a sample of 908 children and their parents. More sources of data are used to get information about the social class of origin, determinants of health, health status and school performance. First, data are collected through JGZ (Youth Health Service) records. Secondly, information from the periodical medical examination by the school doctor is used. Third, a questionnaire for the child, taken in the classroom, is used. Fourth, the parents answered a questionnaire. Finally, the teacher gave information about school absence and school performance. Data analysis techniques are described in chapter 4, in which also the multilevel analysis. With this analysis possible effects on the level of the school can be traced. Chapter 5 deals with the way the data have been reduced. Five composed health measures, used in the analysis, are constructed.

These measures are 'health at birth', 'morbidity in the past', 'health according to school doctor', 'perceived health' and 'school absence rate'.

In chapter 6 to 9 the results of the study are presented. Chapter 6 deals with the first question 'do socioeconomic health differences exist'. In chapter 7 the second question, which is focused on the causation mechanism, is treated. Chapter 8 is focused on the relation between health and school performance, the third question. In chapter 9 causation and selection mechanisms are put together and quantified by means of pathanalysis.

Several health indicators and the composed healthindices are studied as for their relation with the socioeconomic indicators, the occupational and educational level of both father and mother. The correlation coefficients for the relation between socioeconomic status and health are on the whole relatively low. From the (five) health indices only the health according to the school doctor, the perceived health and school absence rate are significantly related with socioeconomic status. Health according to the school doctor is especially related with the socioeconomic indicators of the father. The perceived health has a significant relation with all the socioeconomic indicators. The schoolabsence rate is finally strongest associated with the educational level of the mother. Children from parents with a lower socioeconomic status are less healthy according to the schooldoctor, have a worse health perception and a higher absence rate than children from parents with a higher socioeconomic status. The health status in the past is not or almost not related to socioeconomic status. Remarkable is the inverse relation between the occupational status of the mother and health at birth; the higher the occupational status of the mother the lower the health status at birth. The other socioeconomic indicators are not related with the health at birth and the morbidity in the past is not significantly related with any socioeconomic indicator. The relations were subsequently more closely studied by looking at the seperate health indicators. The socioeconomic indicators of the mother relate to health to a lesser extent than the indicators of the father, in particular the indicators for the occupational level.

The results show that the strength of the relation between socioeconomic status and health depends on the choice of indicators for both health and socioeconomic status. The appearance and extent of SEHD varies per health aspect. The description given here emphasizes the complexity of socioeconomic health differences. Some health problems are more strongly related with socioeconomic status, while the strength of the relation also depends on the socioeconomic indicators. With respect to the explanation of SEHD it is not useful to develop a unique explanatory model for each health and socioeconomic indicator. In chapters 7 to 9, which deals with the explanation of SEHD, only the composed health measures are used.

Socioeconomic health differences can partly be explained by caustionmechanisms. A large number of determinants of health prove to be inequally distributed. Children from the low social strata have a less healthy lifestyle and their social environment is more damaging than children from high social strata. Attitudes and orientations from both parents and child are also related to socioeconomic status.

In relation to the different health indices various determinants of health are of importance. The attitudes and orientations studied are not related to health and can therefore not explain the relationship between socioeconomic status and health. The relation between socioeconomic status and perceived health can almost entirely be explained by the determinants of health. The character of the determinants of importance is nevertheless quite diverse. Both lifestyle and social environment explain the relation between socioeconomic status and perceived health. It can be supposed that health differences are caused by a cumulation of health damaging factors.

Finally the presence of possible school effects is examined. With respect to the relation between the determinants of health and health there are no significant school effects. The relations are comparable on all the schools in the sample. The relationship between socioeconomic status and food consumption pattern differs between the schools. This result gives a starting point for a selective health promotion. An intervention on the relation between socioeconomic status and food consumption pattern must be focused on those schools, where a strong relation exists between these variables and within these schools one should focus on the children from the low social strata.

The role of determinants of health shown in chapter 7 points at the existence of a causation mechanism, which plays a role in relation to socioeconomic health differences among children aged 10-11. In addition it is probable that unequally distributed determinants of health exert an influence on the long term for the health on later age.

The school performances of children in grade 7 is most strongly related to the social class of origin. The health of the children is partly influencing the school performance. With respect to the separate health indicators, most indicators are significantly related with school performance, but after controlling for socioeconomic status a number of correlation coefficients drop till below the level of significance. Remarkably, school absence rate does not influence school performance. Only the mean duration is significantly associated with school performance. The higher the mean duration of absence the worse the school performance. Absence with a short duration apparently does not influence school performance. A long mean duration can be related to more serious health problems, which may mean that especially serious health problems are related to school performance. The composed health measures are studied in a multivariate model as for their contribution to the variance in school performance. Both health according to the school doctor and perceived health are associated with school performance. Children, who are relatively less healthy perform relatively worse at school. Remarkable, the relation is stronger within the low socioeconomic strata; within the higher strata the relation between health and school performance is absent.

The relation between health and school performance found in grade 7 may have a long term effect. The present health status influences health later on in life. School performance highly influences the streaming on into higher educational levels, which subsequently affects future social position. This way, selection mechanisms in childhood can cause socioeconomic health differences in later life. With respect

to the influence of health on school performance no significant school effects are found. There is no difference in the relation among the schools in the sample. An intervention on the relation between health and school performance should be focused on the total population. If the main focus is on improving school performance and not on the relation health-school performance, than the children from the low socioeconomic strata, on schools with a low mean socioeconomic status should be concentrated upon.

The results presented in chapter 7 and 8 return for the greater part in chapter 9, with the testing of the pathmodel. The relation between socioeconomic status and health according tot the school doctor can partly be explained by the determinant food consumption; the relation between socioeconomic status and perceived health can entirely be explained by the determinants food consumption, health behaviour and density (children per bedroom). A significant school effect is found for the relation between socioeconomic status and food consumption and for the relation between socioeconomic status and sporting activities. Causes of these effects must be looked for on school level or on the level of the neighbourhood the school is situated in.

As for the selection mechanism it is remarkable that the influence of health on school performance is not going through school absence. Both health according to the school doctor and perceived health are directly related to school performance. Remarkable is the existence of a significant random (school) effect for the relation between morbidity in the past and school performance and the relation between health according tot the school doctor and school absence. On some schools there is apparently a stronger association between health status and school absence.

The influence of socioeconomic status through determinants of health and health on school performance is actually little. The socioeconomic health differences caused by the causation mechanism is only partly responsible for the differences in schoolperformance. School performance can best be explained by the socioeconomic status of the parents. Besides, schoolperformance is affected by health in especially the lower social strata.

In the final chapter the results are provided with some contemplative remarks. The results of the study point at a complex relationship of various factors that play a role with respect to socioeconomic health differences. The distinguished kinds of explanations cannot be rejected on the basis of the results, but some remarks can be made. In doing so three aspects can be distinguished. First, it is necessary to consider the existing explanations from a more dynamic point of view, in which a constant interaction exists between health, determinants of health and socioeconomic aspects. Secondly, there are more mechanisms working at the same time regarding the origin of socioeconomic health differences. Third, it remains vague how the relation between socioeconomic status and lifestyle can be explained. A possible explanatory mechanism for this relation is discussed.

In order to reduce socioeconomic health differences there are several possibilities. Through regulations and policy it is possible to e.g. exert influence on the social environment. With health promotion and education behaviour can be influenced. In

doing so, however, it is necessary to fall in with the targetgroup. A good entry for reducing socioeconomic health differences among children is their school environment, where there are possibilities for intervention in selection processes as well. The measures should specifically focus on schools with a risk factor and the there existing mechanisms. Youth Health Care can contribute to a great extent by collecting information, by recommending measures and by coordinating. The thesis ends with some suggestions for further study. For obtaining more insight in the complexity of the SEHD problems longitudinal research, specifically aimed at the continuous exchange among the various factors is recommended. In addition, qualitative research may also contribute to a deepening insight in certain relations. Also recommended is a more extensive use of multi-level analysis, by means of which contextual influences can be further studied, creating possibilities for specific interventions. Finally, intervention studies coupled with an evaluation should be started, so as to create the possibilities to study the effects of policy measures.