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## Social class, psychosocial factors and disease

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# 1 Introduction

This thesis deals with the question of the extent to which socioeconomic status (SES) is related to disease. The main focus is the explanation of this relation, applying a multifactor approach aimed at the integration of socioeconomic, psychosocial factors and health-related behavior. Some of the major findings of two research projects on this issue are brought together in this thesis. A variety of related issues were examined, which are indirectly connected with, and relevant to this topic. In this introductory chapter, an overview will be given of the entire book, which will make clear the coherence between the chapters. I will start by giving a global introduction into the theoretical framework of the thesis. The key issues in the area of socioeconomic differences in health will be outlined; hence, the introduction should not be read as an exhaustive theoretical account of the studies undertaken. Instead, in each chapter, an extended introduction into the topic under study is given.

## Theoretical framework

A large body of literature has documented the fact that, in various Western countries, there are consistent differences in health between subjects in different socioeconomic groups (Feinstein, 1993; Illsley & Svensson, 1990; Townsend & Davidson, 1988). Research findings indicate that, when compared to higher socioeconomic groups, the lower socioeconomic groups generally occupy an adverse position with respect to health conditions, irrespective of whether somatic or psychological health is being considered. Although there has been some scientific debate as to the validity of the research findings, it is now generally recognized that these reflect true differences in health between the socioeconomic groups. In Dutch society, these differences are viewed as unjust (Albeda, 1987), and a reduction of these disparities would be desirable.

In order to reduce socioeconomic differences in health, it is of great importance to gain insight into the mechanisms underlying them. Explanatory theories posed thus far have focused on two main questions (Feinstein, 1993; Townsend & Davidson, 1988). First, it has been questioned whether social class plays a *causal* role in the development of differences in health, or whether ill health serves as a

*selection* mechanism, leading to a decrease in the social position of an individual. The present state of affairs indicates that, although selection certainly plays a role, socioeconomic status may be viewed as a causal factor in health (Van der Lucht, 1992; Wilkinson, 1986). Second, the next step is then to identify the factors which may account for the socioeconomic differences in health. The prevailing theory in this research area, originally outlined in the Black Report (Townsend & Davidson, 1988) has focused, on the one hand, on structural and materialist conditions (e.g., living arrangements, work conditions), and on the other hand on cultural and behavioral factors (e.g., attitudes toward health practices, health-related behavior). The assumption of this theory is that inequalities in health develop as a result of a higher prevalence of unhealthy behavior in the lower social classes on the one hand and different cultural values and norms on the other.

A limitation of the Townsend and Davidson theory (1988) is that the socioeconomic context is too heavily emphasized. The underlying assumption of this theory is that health behavior, values and norms are rooted in the socioeconomic context. Less attention has been paid to psychological factors, such as personality characteristics and coping abilities, which may underly behavior. Several authors have stressed the importance of integrating psychosocial factors into theories aimed at explaining socioeconomic differences in health (e.g., Adler *et al.*, 1994; Macintyre, 1986; Van den Heuvel, 1988). It is argued that inclusion of these factors may broaden insight into the development of socioeconomic differences in health. Furthermore, the prevailing theory is highly general in nature. Such a general theory may be useful for a global understanding of the mechanisms underlying socioeconomic health differences. When it comes to a reduction of socioeconomic differences, however, more detailed insight is needed into the factors contributing to the development of these differences. Since each disorder has, to a certain extent, its own specific risk factors, the explanation of inequalities in health will depend in part on the specific health indicator which is being considered. Hence, posing one uniform theory for the explanation of inequalities in health is not always tenable. Instead, one needs to develop specific theories to be applied to specific diseases, thus making possible the identification of specific factors which may contribute to the development of socioeconomic differences. These factors could serve as leads for interventions aimed at reducing the differences between socioeconomic groups.

On the basis of these issues, in the present thesis, the aim is to integrate psychosocial factors in explanatory models for socioeconomic differences in health. To this end, interrelations between socioeconomic status, disease and possible risk factors for disease were considered.

Further, several explanatory models are examined, encompassing social class, medical-biological factors, health-related behavior and psychosocial factors, in relation to various health indicators, varying in degree of specificity.

### **Data sets**

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To answer the research question, data from two studies were used. The *first* data set originates from a case-control study into the relation between myocardial infarction incidence and socioeconomic status (MYOSES), which was specifically designed to examine the explanation of socioeconomic differences in myocardial infarction (MI), applying an integrative approach. Data were collected from 1990 to 1992 in two samples: (1) a patient group, consisting of 279 men with a first and only myocardial infarction, aged between 30 and 70 years, from the northern part of the Netherlands, and (2) a random sample from the male population of eight municipalities from the northern part of the Netherlands in the same age group. Sampling of the latter group served two functions: (1) to answer the question as to the distribution of certain risk indicators of health, in particular myocardial infarction, in a population sample, and (2) to carry out case-control comparisons to examine the relation between socioeconomic status and risk factors for MI on the one hand, and the incidence of myocardial infarction on the other. For some analyses it was considered necessary to use a subsample from the control group. The reasons for the use of a subsample is given in the appropriate chapters. The results of this study cover the main part of the book, with the exception of Chapter 8 and 9. Consequently, the papers in this book focus heavily on issues related to cardiovascular disorders, in particular MI.

The *second* data set consisted of longitudinal data of 247 subjects from a random sample of the Dutch population. This data set was derived from a study which was originally designed to examine medical consumption and - in a later phase - the relation between life events and psychological distress (Jessen *et al.*, 1974; Ormel, 1980; Sanderman, 1988). This data set offered the unique possibility of examining the development of socioeconomic differences in health across the life span. Hence, secondary analyses were conducted on these data, in order to examine two longitudinal explanatory models for socioeconomic differences in health. Referring to the chapters in this book, the data have been used in Chapter 8 and 9.

The book comprises three parts. The *first part* concentrates on descriptive data concerning the relation between social class on the one hand and disease as well as risk factors for disease on the other. In *Chapter 2*, the relation between social class and the incidence of myocardial infarction in men is examined. In several Western countries a negative association between social class and cardiovascular disorders has been established. Although there are indications that a similar relation exists in the Netherlands, the evidence has not yet been conclusive. Coronary heart disease (CHD) is to some extent a behaviorally induced disorder. Behavioral factors, including psychosocial factors which may underly individuals' behavior, do not only directly influence the onset of CHD, but they also generate medical-biological risk factors for CHD, such as obesity and hypertension. Chapters 3 to 5 deal with the relation between social class and non-medical risk factors for disease, in particular coronary heart disease. The aim of these three chapters is to evaluate whether lower-class subjects run an increased risk of disease, especially CHD, due to a higher prevalence of risk factors in the lower social classes. In these chapters, the relation between SES, on the one hand, and health-related behavior, on the other, personality and social support, and stress-related factors are examined. *Chapter 3* provides a description of the construction of health-risk profiles on the basis of relevant health-related behavior, i.e., smoking, alcohol consumption, diet and exercise. Subsequently, these risk profiles are examined in relation to socioeconomic status. In *Chapter 4*, the relation between social class and personality variables, as well as social support is considered. Personality and social support are increasingly viewed as important risk factors for the onset of, as well as the adaptation to disease. The variables in this chapter were selected on the basis of their alleged contribution to the onset of, or the adaptation to CHD. In addition, their influence extend beyond CHD, given the large body of literature exemplifying the significance of these factors in other diseases as well. Further, these factors may be important in the adaptation to non-disease stressors as well. The final chapter in this part, *Chapter 5*, examines whether lower-class subjects are at increased risk of CHD - and, again, other health complaints as well - through an increased exposure to psychosocial stress.

In the first part, it was assumed that personality factors play an important role in the development of health complaints. There is perhaps no other somatic disorder that has been more often the focus of research into the causal relation between personality and health than

CHD. In order to examine whether personality factors can be included in the explanatory analyses, in the *second part* the role of personality variables is evaluated more carefully. In general, personality and disease are only weakly correlated. An exception to this weak relation is the evidence provided by Grossarth-Maticek and Eysenck (1990). They proposed a personality typology in which six personality types are distinguished. It is postulated that these personality types are predictive of either the onset of disease or the maintenance of good health in the long term. Moreover, the personality types are claimed to be equal in importance to the traditional risk factors such as smoking. These claims, and the unexpectedly strong relations between the personality types and disease, have been the subject of much debate (e.g., Amelang, 1991; Lee, 1991; Van der Ploeg, 1991). These findings led us to examine the construct and the concurrent validity of the CHD-prone personality type [Type II in the terminology of Grossarth-Maticek and Eysenck (1990)]. The results of this examination are reported in *Chapter 6*. Another personality trait posed as a risk factor for CHD is hostility. Several researchers have argued that hostility is the toxic component of the Type A behavior pattern. As a consequence, researchers typically tend to examine hostility mainly in relation to CHD. However, when the mechanisms relating hostility to CHD are examined, there is reason to assume that hostility exerts its influence on other diseases as well. *Chapter 7* reports on the exploration of the relation between hostility and various diseases, including CHD.

In the *third part* of the book, explanatory models for the development of socioeconomic differences in health are considered at length. Central to all these models is the integration of psychosocial variables into explanatory models, including health-related behavior and medical-biological factors. Three different models have been explored, which have been applied to different health indicators, varying in degree of specificity. These models all have in common the viewing of social class as an indicator of the subject's ability to cope. *Chapter 8* reports on the evaluation of a general explanatory model for inequalities in health in relation to an overall health index, including both somatic health and psychological distress, and an index for medical consumption. This model deals with the development of socioeconomic differences in themselves between subjects. It is hypothesized that one's social background, genetic factors, personality, social factors and lifestyle jointly affect the living environment of the individual, including social class. The living environment of the individual, in turn, influences his or her health status. Thus, the relation of social class to health reflects the effects of all the factors on health mentioned above. *Chapter 9* provides an attempt to integrate personality and socioeconomic status

into a model aimed at explaining differences in the occurrence and the course of chronic somatic disorders. In this model, both personality and socioeconomic status - viewed as stress-resistance resources of the subject - are posed as mediators in the relation between stress factors and somatic disorders. In *Chapter 10*, the assumption that social class serves as an indicator of the subject's ability to cope is elaborated further. In this chapter, the explanation of socioeconomic differences in myocardial incidence is the central theme. Self-report medical-biological factors, health-related behavior and stress-related factors are combined in an explanatory multifactor model. It was expected that this model could account comprehensively for the observed socioeconomic differences. In addition, a key assumption of the model is that psychosocial factors exert their influence especially in the lower social classes, because of the lesser availability of coping resources for lower class subjects. To evaluate this assumption, the multifactor model was examined in different socioeconomic groups, i.e., low, middle and high. Finally, in the last chapter of the book, *Chapter 11*, the results of the study and implications for further research are discussed.