

**Comment on Mahmood Arai and Peter Skogman  
Thoursie: Sickness absence: Person and establishment  
effects**

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Sickness absence is a major public health problem with great consequences for society, employers, absentees, and their families, in terms of economic as well as other aspects. In some western countries, including Sweden, the costs for sickness absence and its more permanent equivalent disability pension, are very large and have risen dramatically in the last few years. In spite of this, relatively few studies have been performed, the scientific knowledge base is surprisingly small, and the research area warrants major development regarding theories, methods, and concepts (Alexanderson et al., 2003; Hansen, 1999).

Most of the research on sickness absence is done within economics, medical science, and sociology and the focus has mainly been on causes of sickness absence. The practices around sickness certification among physicians, insurance staff, or employers have been less scrutinized, and the consequences of sickness absence for the absentee, work mates, employers, or society have been analysed to an even smaller extent (Alexanderson et al., 2003). Also this study focuses on factors that might affect sickness absence. There are very large variations in sickness absence, not only between individuals but also between regions, municipalities, and organisations. The knowledge on the reasons for this is very limited.

Factors that might lead to sickness absence can be found at different structural levels, including the individual, family, worksite, local community, organisation of health care and insurance, or the societal level (Alexanderson, 1998). So far, mainly factors at the individual level and, to some extent, at the worksite level have been included in sick-leave studies. However, there is a lack of studies on interaction between factors at different structural levels, and the need for such studies has been expressed many times during the last decade.

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This background is necessary for understanding the important contribution of the study by Arai and Skogman Thoursie in the research of sickness absence.

In social epidemiology, we would call this study a multi-level analysis and the data set used here is well suited for performing such analyses. Data about factors at both the individual and the worksite level are included, the latter not only as a sum of the data for the included individuals. That so many observations, both at an individual level and at an establishment level, are included is a great advantage of this study.

Since the study has a cross-sectional study design, mainly conclusions about associations, but not causal relationships, can be drawn. A longitudinal study design is required for knowledge on causal relations, which might be the next step if the results from this study can be confirmed in other cross-sectional studies.

The analyses performed here could be done in several other ways. Both cut off points in outcome and determinants could be altered, for instance regarding the number of sick-leave days in the different groups.

There is a very large number of measures of sickness absence used in the literature; already in 1960, an author found 41 different measures when searching the literature and there are even more now (Hensing et al., 1998; Tellnes, 1990). As the use of different measures often leads to different results, regarding for instance sex, age, or nationality, the choice of measure requires attention. Given the available data, it seems that a good measure of sick leave was chosen, where duration rather than the alternative, namely the incidence of having been sickness absent at all or for a specific number of days, such as 14 or 90 days, is calculated. It is, however, important to be aware of the fact that the outcome measure used here will lead to that a company with 35 employees where one person was sickness absent for the whole year will be equated with a company where 18 of the 35 workers were absent for 20 days each. If the outcome measure had been the incidence of persons having been sickness absent for at least 14 days, the first establishment would have had a rate of 0.03 and the second a rate of 0.54.

Regarding the possibility of generalizing the results to other nations, there is one obstacle: in Sweden there is no limit to how long a sick-leave spell can last, which is why some of those included might have been sick-listed for several years—in other countries, they would

probably have been disability pensioned and thus not contributing to the number of sick-leave days. The rate of persons with very long sick-leave spells is related to many aspects, such as practises at the local social insurance offices—at some, actions to initiate the process for disability pension are taken early, at others, very late in a sick-leave spell. Furthermore, there seems to be a gender bias in such practises, which might thus influence the results differently with regard to the number of women employed in an establishment (Marklund, 2001).

The authors highlight the problem of not having sufficient data on many of the factors that probably have an impact on sickness absence, both at an individual level and at the establishment level. Such data are health status of the included individuals, physical and psychosocial work load in paid and unpaid work, diversity of the local labour market, unemployment frequency, and family situation. Another, probably important, such factor might be related to working full or part time. Data on this, both at the individual level and at the establishment level in terms of the rate of people employed part time would be needed. In Sweden, half of the employed women work part time.

Probably, selection mechanisms of healthy workers both in and out of specific types of establishments play a crucial role.

Although the labour market is extremely segregated by sex in all countries, this is seldom highlighted in studies of health aspects. Nevertheless, the few such studies performed show a large variation in morbidity, in terms of sickness absence, illness, or myocardial infarction, with the level of sex segregation (Marklund, 2001). Most of these studies have focused on sex segregation of occupations, and not at actual establishments. This study provides evidence of this phenomenon being well worth future studies.

That the authors use the data to illustrate and analyse the variations in sickness absence in several different ways is a great advantage of this study. Sickness absence is a very complex phenomenon, related to many different factors; especially at the present stage of this line of research, it is important to explore different ways to analyse data. Further analyses can be made using the data set in other ways. This study will hopefully inspire such attempts.

This study contributes to the understanding of the very complex processes leading to sickness absence and possible return to work. As the authors point out, the study mainly leads to more questions and confirms that these types of multi-level analyses are needed.

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