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# Going ill to work – What personal circumstances, attitudes and work-related factors are associated with sickness presenteeism?☆

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ABSTRACT

The aim of this study is to assess the impact of a broad range of possible factors relating to work, personal circumstances and attitudes towards sickness absence on a person's decision to go to work despite feeling ill, a phenomenon that has been termed sickness presence (SP), or 'presenteeism', in the literature. Using data from a random sample of 12,935 members from the core Danish work force the hypotheses were tested in a cross-sectional design utilising ordered logistic regression models. The results indicate that more than 70% of the core work force goes ill to work at least once during a 12-month period. This means that SP is just as prevalent a phenomenon as sickness absence. Many of the results from earlier studies of SP were replicated and new factors were discovered: for example time pressure (having a supervisory role and/or working more than 45 h per week) and relationship with colleagues (measured by working in a small company, having non-standard hours and degree of cooperation) both increase the likelihood of SP. However, personal circumstances and attitudes, e.g. treating work as home (cf. Hochschild's thesis) and being over-committed to work, were also found to lead to higher levels of SP. Finally, we found that those with a conservative attitude to absence were most likely to turn up ill at work. Overall, work-related factors seem to be slightly more important than personal circumstances or attitudes in determining people's 'decision' to go ill at work. However, the relatively low explanatory power of these combined factors suggests that there are still many unknowns in this field of research.



## Introduction

In a recent article, Aronsson and Gustafsson (2005) reveal that research into the phenomenon of sickness presenteeism, in which an employee goes to work despite feeling ill, has become increasingly widespread over the last decade. However, a comparison of the amount of research devoted to sickness presenteeism (SP) as opposed to sickness absenteeism (SA) shows a staggering contrast: the number of articles dealing with SP is only 0.01% of the number dealing with SA (Dew, Keefe, & Small, 2005). While SP may be a relatively new research area, it is by no means a new phenomenon. In fact one might argue that SP both pre-dates and is more fundamental than SA. Before the advent of paid sick leave or publicly financed compensation for illness, it was probably more common to turn up ill at work than to stay at home if one was suffering from a non-fatal, non-incapacitating disease. In the early 20th century employees simply could not afford to stay home when ill.

One could argue that the lack of research into SP reflects its irrelevance. However, several factors count against this interpretation. First, the results from the Whitehall II study show that people with poor self-rated health who took no

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absence from work were twice as likely to experience serious coronary events when compared to those who took 1–7 sick days per year (Kivimäki et al., 2005). SP may thus cause serious health problems at a later stage. Second, illness at work may severely decrease productivity, making SP a costly affair for employers as well as society at large (Hemp, 2004). Finally, studying SP could enhance our understanding of SA, because both phenomena are 'outcomes' of the same 'decision process' (Kristensen, 1991).

An alternative explanation for the lack of SP research might lie in the difficulty of defining the phenomenon (Vingård, Alexanderson, & Norlund, 2004, chap. 10). If SA cannot be thought of merely as a function of a person's objective health status, because it involves her *perception* of her own health as well, this will also be true for SP. In addition, contextual factors play a major role, since the difficulty of working when already suffering the symptoms of illness will depend a good deal on the nature of one's work. This makes studies of SP quite different from those of SA, where more objective outcome measures, such as company registers, exist.

In this study, we define SP as the situation in which an employee goes to work despite perceiving herself to be sufficiently ill to have legitimately called in sick. Using legitimacy as the criterion for defining SP means that our focus is on the *sociological* aspects of the phenomenon (i.e. those relating to SP as a way of acting in a given context) rather than on the medical aspects (e.g. the long-term health consequences of SP).

### *Existing studies of SP*

A recent review of SA research devoted one small chapter to SP in which eight studies dealing exclusively with the causes of SP were described (Vingård et al., 2004, chap. 10). This confirms that current knowledge of the subject is very sparse. This is due partly to the small number of studies, and partly to the limited theoretical understanding of SP that these studies evince, most of them containing only tentative hypotheses put forward in various articles that do not deal with SP per se.

One exception is the study by Aronsson and Gustafsson (2005), which gives a brief summary of the main hypotheses relating to SP and proposes a theoretical model. The authors distinguish between 'work-related demands for presence' and 'personally related demands for presence', both *external* factors that may in some way influence the decision to go ill to work. While these two factors are certainly of importance, we believe it is necessary to draw further distinctions between different *types* of factors within these categories, as well as to incorporate the influence of attitudes, norms and values on the 'decision' to go ill to work. Norms cannot be attributed exclusively to a single individual but are instead internalised and appropriated by the individual in various ways that do not follow automatically (or deterministically) from the norms prevailing in society or the workplace. This is what Kristensen (1991) calls the *voluntaristic* aspect of SA theory. But voluntarism applies to SP as well, since SA and SP are part of the same 'decision-making process' in which the employee 'decides' whether to go ill to work or to call in sick. One way of describing this dialectic between external and internal forces can be found in the work of Pierre Bourdieu (1984) and the uses to which his theory has been put by Virtanen, Nakari, Ahonen, Vahtera, and Pentti (2000). From this vantage point SP would be seen as one element of an individual's SA practice rooted in habitus and in the interplay between, on one hand, the structure of social fields and the constraints they pose on action, and, on the other, the way these structures are appropriated and perceived by the individual.

### *Possible predictors of sickness presence*

Thus at this stage of research it is not possible to embark from *one* comprehensive theory of SP from which one could derive a set of hypotheses to be tested. Instead we can examine the validity of the various scattered remarks dealing directly and indirectly with SP, and on this basis suggest what needs to be examined more closely.

In this article, we propose to subdivide the hypotheses tested and the factors influencing the decision to turn up ill at work into *three* main areas: (1) *work-related factors*, (2) *personal circumstances* and (3) *attitudes*.

(1) There are at least four different types of work-related factors that have been hypothesised to influence the decision to turn up ill at work. (a) *Time pressure*: One set of factors is related to the results of downsizing/rationalisation and includes 'lack of resources'/'time pressure'. This may be linked directly to SP because employees who lack resources will be reluctant to take sick leave on the grounds that they will face a backlog of tasks when they return to work (Aronsson & Gustafsson, 2005). In addition, those who work in some supervisory capacity and/or routinely work a higher-than-average number of hours per week are likely to feel under greater time pressure if they take time off for illness. (b) *Control over work tasks*: Johansson and Lundberg (2004) have proposed a model of 'illness flexibility' where they hypothesise that employees with a high degree of control over their work tasks ('adjustment latitude' in their terminology) are more likely to go ill to work because they can modify their work tasks in such a way as to be able to carry on despite ill health. (c) *Relationship with colleagues*: Grinyer and Singleton (2000) point to the influence of team-work and pressure from colleagues on the decision to turn up ill at work. Higher levels of cooperation in performing work tasks are therefore hypothesised to be associated with higher levels of SP. The size of the firm/institution may also be a factor in this regard. In small companies, employees will be more dependent on each other because the tasks of a person on sick leave will have to be shared among fewer colleagues. One would thus expect that the smaller the size of the firm, the higher the level of SP. Moreover, employees who enjoy a high degree of social support from their colleagues would be more motivated by these bonds to show up ill at work than those who lack such support. Finally, those who work non-standard hours (e.g. doing shift

work) may be more likely to come ill to work because they do not want to oblige their colleagues to work at odd hours of the day. (d) *Employment conditions*: In a few studies, job insecurity has been shown to be the most plausible explanation for sudden drops in SA rates during periods of lay-offs. In two Finnish studies, an 'epidemic of good health' broke out after a round of lay-offs had been announced (Virtanen, 1994). Job insecurity is thus hypothesised to influence the decision to go ill to work in situations where people fear losing their jobs. Employees with contingent employment (e.g. fixed-term appointments) also face this type of fear because their job situation is chronically insecure; we would thus expect higher levels of SP amongst this group as well (Virtanen, Kivimaki, Elovainio, Vahtera, & Cooper, 2002).

(2) Factors outside work may also influence the 'decision' to go ill to work. As was the case with the work-related factors we should distinguish between several types of personal circumstances. (a) *Financial situation*: As noted above, we can assume that before the advent of paid sick leave, it was more common to turn up ill at work than it is today, when the majority of working people have fewer financial incentives for SP. In Denmark, all employees have the right to sick pay from their first day of illness. White collar workers are entitled to their full salary during SA. However, many blue collar and unskilled workers, and employees whose wage structure is heavily dependent on pay supplements due to e.g. working at odd hours, are entitled only to sick pay equalling 90% of the minimum wage in their trade. For this group there are financial incentives for going ill to work. (b) *Family life*: In order to find out whether family life influences the decision to go ill to work we need to examine the situations in which it can be a 'negative presence factor' (Kristensen, 1991), i.e. a factor that encourages people to turn up at work despite ill health instead of staying at home. Hochschild (1997) has put forward the thesis that for some people 'work becomes home and home becomes work': in other words, they find it more taxing to stay at home than to go to a stimulating and interesting workplace. Such people, and those who are generally dissatisfied with family life, would be more likely to go to work when ill. A large number of children or a sick spouse could also be seen as factors that make home life more exhausting and that would be likely to prompt SP. (c) *Psychological factors*: Finally, psychological characteristics are among the personal factors that may influence SP. Aronsson and Gustafsson (2005) note the influence of what they call 'individual boundarylessness', a personality characteristic that makes it difficult for people to say no to other people's wishes and demands. Along similar lines, Siegrist (1996) has described what he calls 'over-commitment'. Behind both theories is the idea that a strong commitment to work will increase the likelihood of SP.

(3) Finally, attention should also be given to how these structures relating to work and family are appropriated and interpreted by the individual in defining and legitimating their 'choice' between SA and SP. McKevitt et al. asked a group of medical doctors and 'company fee earners' to indicate what their reasons had been for going ill to work. In addition to arguing that it would be 'unfair to their colleagues' to stay home and that 'patients were already booked' (i.e. reasons relating to the work-related factors discussed above) many mentioned 'work ethics' (e.g. 'commitment to work' and 'taking sick leave is disapproved of') as important reasons (McKevitt, Morgan, Dundas, & Holland, 1997). In a Finnish study substantial differences were found in the perception of SA across three different communities. For those who identified strongly with the working class, SA was seen as a (legal) right obtained through years of struggle with employers. Work commitment was stronger among those of middle-class origin, and entailed a sense of duty towards the workplace that might prompt people to turn up ill at work instead of taking SA (Virtanen et al., 2000). It is thus hypothesised that 'work ethics' and differences in attitude towards SA in different situations are related to SP.

An important feature of some of the above-mentioned factors is that they are related to SP by more than one causal mechanism, a phenomenon that has been dubbed 'double risk factors' by Aronsson and Gustafsson (2005). Some of these factors have already been identified as 'stressors' that are detrimental to health. This is the case for example with time pressure, the degree/absence of control over one's own work tasks and having a sick spouse. This means that in principle any factor found to be a stressor will be related to SP, albeit *indirectly*, because we can assume that worsening health status leads to more situations in which the employee has to 'decide' between taking SA or going ill to work, thereby increasing the probability of the latter. However, some of these factors are also associated *directly* with SP, i.e. they are associated with the 'decision' to turn up ill at work (e.g. being a supervisor or working closely together with colleagues). In line with our sociological perspective, we are interested here mainly in the direct effect of a given factor on SP. However, we cannot ignore the *total* effect of each of these factors on SP, which is arrived at by combining the direct and indirect effects of each factor. Unless we take this total effect into account, we are likely to underestimate the importance of 'double risk factors'. But it is also interesting to examine those factors that have a greater direct than total effect because they highlight situations in which circumstances at work or at home encourage the ill person to 'choose' presence over absence, leading to levels of SA lower than their health status would lead one to expect.

### *Aim of the study*

To sum up, this study aims to replicate existing results relating to SP as well as to test new hypotheses that have only been hinted at in the literature so far. The broad focus of the study, moreover, enables us to examine the relative influence of the three different types of factor. In an area where we still lack basic knowledge, it is particularly

interesting to see whether work-related factors, personal circumstances or attitudes play the greatest role. Finally, by distinguishing between the direct and the total effect of a factor on SP we are able to identify 'double risk factors' and those factors that conceal a group's 'true' levels of SA.

## Methods

The data were taken from a postal questionnaire sent to a random sample of the Danish core work force between the ages of 19 and 64 years. Only employees who had actually been in employment for at least 80% of the time during the previous year (i.e. core members of the work force) were included in the analysis (18,902 respondents). Employees who had taken SA for more than 10 weeks in the 12 months preceding the baseline questionnaire (sent out in September 2004) were thus excluded from the population.

In all, 12,935 of those who had been employed for at least 80% of working hours during the previous year returned the questionnaire: a response rate of 68%. By comparing the distribution of certain key variables (i.e. age, gender, region and occupational status) in our study with official statistics published by Statistics Denmark we found that the under-30 age group was slightly underrepresented, as were males and people of lower occupational social status.

### *Dependent variable*

The respondents were asked about their experience of SP in the following question: 'How many times during the last 12 months have you gone to work even though it would have been reasonable to take sick leave?' ('none', 'once', '2–3 times', '4–5 times', '6–10 times' and 'more than 10 times').

### *Independent variables (IVs)*

The questionnaire also included several questions on issues relating to working conditions, family situation, and attitudes towards absence, as well as questions about health status. Unless otherwise noted these variables were recoded into dichotomous variables for use in the analysis. The cut-off points were chosen from theoretical considerations so that in each case they reflected a problematic situation: e.g. the cut-off point for the variable 'insufficient time and resources' (measured by the question: 'Do you have sufficient time and resources to perform your tasks satisfactorily', to which the possible answers were: 'to a very great extent', 'to a great extent', 'to some extent', 'to a lesser extent', 'to a very little extent' and 'hardly at all') was 'to a lesser extent', this answer and the following two answers being deemed to reflect a situation in which time pressure is a problem.

### *Work-related factors*

#### *Time pressure*

'Insufficient time and resources' was measured by the question 'Do you have sufficient time and resources to perform your tasks satisfactorily?'. 'Psychological demands' of work were measured by the question 'How demanding do you feel your work is, all in all?'. Respondents were asked to indicate the average weekly number of hours they worked, including any overtime. This variable was recoded into three categories: fewer than 37 working hours/week, 37–45 h/weeks and more than 45 h/week. Finally, one question asked whether the respondent had supervisory status or not.

#### *Control over work tasks*

'Control' was measured by the question: 'How much influence do you normally have on the organisation and execution of your work?'

#### *Relationship with colleagues*

'Cooperation with colleagues' was measured by a single item: 'To what extent does your work require that you cooperate with others?', to which there were three possible answers ('To a high degree', 'To some degree', 'To a low degree'). From the IDA-register at Statistics Denmark we obtained information on the number of equivalent full-time jobs at the respondent's workplace. This was recoded into a variable with four categories (1–10, 11–50, 51–250, more than 250), a division that is frequently used to categorise firm sizes in Denmark. 'Social support' was measured by two questions: 'If you have problems with your work, can you obtain the necessary help and support from management?' and 'If you have problems with your work, can you obtain the necessary help and support from your colleagues?'. The scores were then summated and recoded to one single dichotomous variable. The respondents were also asked to indicate their primary working time ('normal 9–5 day job', 'work in the evenings', 'night work', 'alternating shift work', 'irregular work hours'). This information was used to create a variable indicating whether the respondents had non-standard working times (i.e. did not work 9–5).

#### *Employment conditions*

'Job insecurity' was measured by one item: 'In general, how much do you worry about becoming unemployed' from the National Research Centre for the Working Environment (Denmark) standard questionnaire on job insecurity (Kristensen, Borg, & Hannerz, 2002). In addition the respondents were asked to indicate whether their current employment contract was for a fixed-term or not.

### *Personal circumstances*

#### *Family life*

To assess whether home was a 'negative presence factor' we used one question to measure satisfaction with family life: 'In general, how satisfied are you with your family life?' as well as a question that tapped into Hochschild's thesis about 'home becoming work': 'In the last 12 months, how often have you felt that it is more taxing to be at home than at work'. From the IDA-register in Statistics Denmark we obtained information about the number of children (<18 years of age) living at home. In order to assess the number of dependents other than children we used information from another register ('Sygesikringsregisteret')

about the number of weeks in which the respondent's partner had visited his/her general practitioner in 2004 (in order to measure the spouse's health status). This information was recoded into one variable indicating whether the partner had had contact with his/her GP during more than six different weeks that year (4th quartile).

*Financial situation*

We did not have access to information on the sick pay available to each of the participants in our study. Instead we used average pay per hour as a proxy for this, on the grounds that low earners are less likely than high earners to get full compensation when absent from work. Information on average pay was obtained from the IDA-register at Statistics Denmark. This variable was recoded into quartiles and was used as an indicator of the respondent's economic incentives to take SP.

*Over-commitment*

Over-commitment or 'boundarylessness', the psychological characteristic that makes it hard to say no to others' requests, was measured using the six-item version of Siegrist's over-commitment questionnaire ($\alpha = 0.78$). This scale was afterwards recoded into three categories indicating the degree of over-commitment ('high over-commitment', 'some over-commitment', 'no over-commitment').

*Attitudes towards absence*

Seven items measuring attitudes towards (sickness) absence were used to create a scale ($\alpha = 0.69$). In one item, for example, respondents were asked to react to the following scenario: 'F has a temperature of 38.2 degrees Celsius and feel a bit uncomfortable. F knows, however, that there are already too few colleagues to carry out the work tasks at her/his workplace'. Response categories ranged from 1 to 5 – 1 indicating that it would be 'completely unreasonable to take sick leave' and 5 indicating that it would be 'completely reasonable' to do so. The scale for all seven items thus ranged from 7 to 35 and was recoded into three categories: conservative absence attitudes (scores 7–14), balanced absence attitudes (scores 15–21) and liberal absence attitudes (scores 22–35) (Hansen, Andersen, & Mikkelsen, submitted for publication). 'Liberal absence attitudes' was chosen as the reference category because it was hypothesised that this group would be least likely to turn up ill to work.

*Health status*

Individual health status was assessed by asking respondents whether they had suffered from one or more listed (or other) diseases during the year prior to baseline. This information was recoded into a variable indicating some disease vs. no disease. Short Form-36 (Ware, Snow, Kosinski, & Gandek, 1993) was used to assess mental wellbeing ($\alpha = 0.81$). SA in the preceding 12 months was measured by the question: 'How many times have you been off sick from work in the last 12 months?'

*Socio-demographic information*

Age was recoded into five categories: ('19–29 years', '30–39 years', '40–49 years', '50–59 years', '60–64 years'). A measure of social class was constructed using the Eriksson–Goldthorpe–Portacarero class scheme (EGP-6) by recoding occupational titles in ISCO format (Ganzeboom & Treiman, 2003).

## Statistical analysis

Ordered logistic regression models were used to examine the associations between the IVs and SP. Four models were tested: we calculated the relationships between each of the IVs and SP, adjusted for socio-demographic variables only (Model 0), then a model with all factors relating to work, personal circumstances and attitudes adjusted for socio-demographic variables (Model 1), one model with all the health measures adjusted for socio-demographic variables (Model 2) and finally one model that included all variables (Model 3) was tested. Models 1 and 2 show the *total* effect of the IVs on SP, i.e. the combined effect of the different factors on the participants' 'decisions' to go to work when ill, as well as the effect of these on their health. Model 3 shows only the *direct* effect of the IVs on SP, i.e. the effect of the factors on the 'decision' to go ill to work. All regression models were conducted using only respondents with no missing data. All in all, the sample used for the analyses consisted of 11,270 respondents. The analyses were performed using STATA v9.

## Results

*The prevalence of SP*

Table 1 contains descriptive statistics of all variables. Only 27% of working Danes have no episodes of SP over a one-year period. Of those respondents who had episodes of SP, 38% had gone ill to work 2–3 times while approximately 8% had done so more than five times. These figures were somewhat lower for employees who reported no serious health problems (defined as those indicating no disease, no significant musculoskeletal pain and high mental health): of this group, 44% had no SP episodes and only a very small minority (<2%) went to work despite feeling ill on more than five occasions (results not shown). There is a very strong association between SA and SP, indicating that the 'choice' between the two is in no way exclusive: those who had taken SA were also more likely to have been in a situation where they went to work despite believing they could legitimately have stayed at home, and vice versa.

*SP and factors influencing the decision to go ill to work*

Table 2 shows the associations between all the independent variables and SP; Model 0 adjusting only for demographic characteristics and all other models adjusting for the full set of IV's included in each model. Overall, time pressure in various forms is the single most influential work-related factor in the 'decision' to turn up ill at work. However, variables relating to employees' relationships with colleagues and to their conditions of employment are also associated with SP, although the evidence here is more ambiguous because some of the IV's are associated

**Table 1**
Means/proportions and standard deviations for variables used in the analysis ($N = 11{,}270$)

| Variables | Mean (SD) |
|---|---|
| % Insufficient time and resources | 17.83 |
| % Very demanding job | 37.76 |
| % Supervisor | 31.12 |
| % <37 h/week | 18.15 |
| % 37–45 h/week | 65.00 |
| % >45 h/week | 16.84 |
| % Low control | 15.37 |
| % Low social support | 19.97 |
| % High degree of cooperation | 64.68 |
| % Some degree of cooperation | 28.08 |
| % Low degree of cooperation | 7.24 |
| % Non-standard work time | 18.42 |
| % 0–10 Employees | 15.90 |
| % 11–50 Employees | 26.14 |
| % 51–250 Employees | 37.80 |
| % More than 250 employees | 20.16 |
| % Job insecurity | 16.14 |
| % Fixed-term | 14.95 |
| % Home more taxing than work | 1.59 |
| % Dissatisfied with family life | 8.38 |
| Number of children | 0.78 (0.01) |
| % Sick spouse | 19.53 |
| Earnings (in Danish kroner) | 186.73 (0.96) |
| % Not over-committed to work | 36.85 |
| % Slightly over-committed to work | 48.72 |
| % Highly over-committed to work | 14.43 |
| % Conservative absence attitudes | 43.09 |
| % Balanced absence attitudes | 41.53 |
| % Liberal absence attitudes | 15.39 |
| % 18–29 Years | 11.40 |
| % 30–39 Years | 25.73 |
| % 40–49 Years | 29.73 |
| % 50–59 Years | 27.62 |
| % 60–64 Years | 5.51 |
| % Managerial/professional | 43.48 |
| % Routine non-manual | 19.71 |
| % Self-employed | 4.46 |
| % Skilled worker | 10.77 |
| % Unskilled worker | 19.67 |
| % Agricultural | 1.91 |
| % Women | 48.57 |
| Musculoskeletal pain | 3.83 (0.02) |
| Mental health | 71.43 (0.11) |
| % Reporting disease | 56.27 |
| % 0 Spells of SA | 30.28 |
| % 1 Spell of SA | 31.22 |
| % 2–3 Spells of SA | 29.82 |
| % 4–5 Spells of SA | 5.79 |
| % 6–10 Spells of SA | 2.37 |
| % >10 Spells of SA | 0.51 |
| % 0 Episodes of SP | 27.29 |
| % 1 Episode of SP | 15.73 |
| % 2–3 Episodes of SP | 38.27 |
| % 4–5 Episodes of SP | 11.41 |
| % 6–10 Episodes of SP | 3.58 |
| % >10 Episodes of SP | 3.71 |

with SP in the opposite direction to what was expected (e.g. social support) and some IV's in each category are not associated with SP at all (e.g. fixed contract, cooperation with colleagues). The only work-related factor that has no effect on SP at all is 'control over work tasks'; this is consistent with other studies and can perhaps be explained by our measure of SP (i.e. perhaps people will not report the instances where they go to work despite minor ailments if they have a high degree of control over works tasks because they can adjust these to their work ability) (cf. Aronsson & Gustafsson, 2005; Johansson & Lundberg, 2004).

Two of the three types of factors described under the heading personal circumstances are associated directly with SP, the most important being over-commitment. The results indicate that in some instances 'family life' discourages people from taking absence despite feeling ill; however, the association is relatively weak for three out of the four indicators subsumed under this heading. This should make us cautious in drawing conclusions on this matter before the association has been examined in other studies. Contrary to our expectations and to the results of the study by Aronsson and Gustafsson (2005), level of pay is not associated with the 'decision' to go ill to work. This may be because the average-pay proxy used in this study was too imprecise to distinguish employees not entitled to full compensation in case of sickness.

As expected, employees with the most restrictive views on when it is legitimate to take sick leave are most likely to go ill to work. These attitudes therefore have a direct, though not very marked, effect on the 'decision' to take SP.

### *The relative importance of the three types of factor*

By running the ordered logit regressions for each of the three domains of factors separately and comparing McFadden's Pseudo $R^2$ for each of these models (adjusted for the number of variables used), we found that work-related factors were slightly more important than personal circumstances (Adj. Pseudo $R^2_{McF} = 0.021$ vs. 0.016, respectively), while attitudes were of very little importance (Adj. Pseudo $R^2_{McF} = 0.001$). The overall explanatory power of the variables included in this study is low (Adj. Pseudo $R^2_{McF} = 0.083$) and stems mainly from the respondents' indicated health status.

### *Direct vs. total effects of the factors*

More than half (10 out of 18) of the factors have a higher total than direct effect on SP. This suggests that these factors both increase the probability of choosing presence over absence *and* increase the likelihood of bad health, thus increasing the number of occasions on which the employee must 'decide' between absence and presence. This is true, for example, of the factor 'insufficient time and resources', which not only leads to more episodes of SP (as shown in Table 2) but also to higher levels of musculoskeletal pain (MP), spells of SA and a greater probability of suffering chronic disease (CD) (OR for SA: 1.35, OR for MP: 1.67, OR for CD: 1.39). We take this to indicate that this type of time pressure is a 'double risk factor', and this applies also to job insecurity, dissatisfaction with one's family life and over-commitment, each of which was found to be associated with one or more of the three health measures (results not shown).

The difference in estimates between Model 1 and Model 3 with regard to the effect of supervisor status, work hours, non-standard work time and firm size indicates that these factors are related to SP via the 'decision process' only, and that the association between the factor and one or more

**Table 2**
Associations between health measures, work- and family related factors and sickness presence

| | | Model 0 | Model 1 | Model 2 | Model 3 |
|---|---|---|---|---|---|
| *Work-related factors* | | | | | |
| Time pressure | | | | | |
| Insufficient vs. sufficient time and resources | | 2.40*** | 1.75*** | – | 1.30*** |
| Very demanding vs. non-demanding job | | 1.46*** | 1.24*** | – | 1.22*** |
| Supervisor vs. not supervisor | | 1.15** | 1.10* | – | 1.26*** |
| Hours worked | | | | | |
| <37 h/week | Ref. | 1.00 | 1.00 | – | 1.00 |
| 37–45 h/week | | 1.08 | 1.09 | – | 1.09 |
| >45 h/week | | 1.33*** | 1.26** | – | 1.45*** |
| Control over work tasks | | | | | |
| Low vs. high control | | 1.27*** | 1.07 | – | 0.96 |
| Relationship with colleagues | | | | | |
| Low vs. high social support | | 1.98*** | 1.55*** | – | 1.24*** |
| Cooperation with colleagues | | | | | |
| High degree of cooperation | | 1.21** | 1.18* | – | 1.12 |
| Some degree of cooperation | | 1.16* | 1.18* | – | 1.14 |
| Low degree of cooperation | Ref. | 1.00 | 1.00 | – | 1.00 |
| Non-standard vs. standard work time | | 1.12* | 1.12* | – | 1.16* |
| Size of firm | | | | | |
| 0–10 employees | | 1.24*** | 1.28** | – | 1.49*** |
| 11–50 employees | | 1.32*** | 1.32*** | – | 1.38*** |
| 51–250 employees | | 1.19*** | 1.16*** | – | 1.21*** |
| More than 250 employees | Ref. | 1.00 | 1.00 | – | 1.00 |
| Employment conditions | | | | | |
| Job insecurity vs. no job insecurity | | 1.64*** | 1.40*** | – | 1.19** |
| Fixed-term vs. tenure | | 1.01 | 0.97 | – | 0.97 |
| *Personal circumstances* | | | | | |
| Family life | | | | | |
| Home more taxing than work vs. home no more taxing | | 2.01*** | 1.51** | – | 1.40* |
| Dissatisfied vs. satisfied with family life | | 1.72*** | 1.42*** | – | 1.08 |
| Number of children | | 1.03 | 1.05* | – | 1.05* |
| Sick spouse vs. spouse not sick | | 1.18*** | 1.16** | – | 1.09* |
| Financial situation | | | | | |
| Earnings | | | | | |
| 1. Quartile | Ref. | 1.00 | 1.00 | – | 1.00 |
| 2. Quartile | | 1.12 | 1.06 | – | 1.09 |
| 3. Quartile | | 0.98 | 0.94 | – | 1.03 |
| 4. Quartile | | 0.87* | 0.79** | – | 0.95 |
| Psychological factors | | | | | |
| Over-commitment | | | | | |
| Not over-committed to work | | 1.00 | 1.00 | – | 1.00 |
| Slightly over-committed to work | | 1.82*** | 1.55*** | – | 1.34*** |
| Highly over-committed to work | | 2.57*** | 1.89*** | – | 1.49*** |
| *Attitudes* | | | | | |
| Sickness absence attitudes | | | | | |
| Conservative absence attitudes | | 0.85** | 1.04 | – | 1.21*** |
| Balanced absence attitudes | | 0.98 | 0.90* | – | 1.13* |
| Liberal absence attitudes | Ref. | 1.00 | 1.00 | – | 1.00 |
| *Demographic variables* | | | | | |
| Age | | | | | |
| 19–29 Years | | 1.00 | 1.00 | 1.00 | 1.00 |
| 30–39 Years | | 0.92 | 0.90 | 0.95 | 0.90 |
| 40–49 Years | | 0.80*** | 0.81** | 0.93 | 0.88 |
| 50–59 Years | | 0.66*** | 0.69*** | 0.79*** | 0.78*** |
| 60–64 Years | | 0.44*** | 0.53*** | 0.60*** | 0.64*** |
| Social class (EGP-6) | | | | | |
| Managerial/professional | | 1.00 | 1.00 | 1.00 | 1.00 |
| Routine non-manual | | 0.97 | 0.99 | 0.87** | 0.98 |
| Self-employed | | 1.35** | 1.26* | 1.47*** | 1.27* |
| Skilled worker | | 1.12 | 1.14* | 1.02 | 1.10 |
| Unskilled worker | | 1,17** | 1.13* | 1.03 | 1.13* |
| Agricultural | | 1.21 | 1.14 | 1.37* | 1.23 |
| Gender | | | | | |
| Female vs. male | | 1.27*** | 1.26*** | 0.87** | 0.97 |
| *Health measures* | | | | | |
| Disease vs. no disease | | 2.42*** | – | 1.47*** | 1.44*** |
| Musculoskeletal pain | | 1.49*** | – | 1.31*** | 1.29*** |
| Mental health | | 0.95*** | – | 0.97*** | 0.98*** |
| No. of spells of sickness absence last 12 months | | | | | |
| 0 | Ref. | 1.00 | – | 1.00 | 1.00 |
| 1 | | 2.03*** | – | 1.65*** | 1.78*** |
| 2–3 | | 3.32*** | – | 2.19*** | 2.51*** |
| 4–5 | | 5.63*** | – | 2.87*** | 3.31*** |
| 6–10 | | 9.86*** | – | 4.24*** | 4.86*** |
| More than 10 | | 14.62*** | – | 6.04*** | 8.07*** |

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.
Ordered logit regression. Odds ratio.
Model 0 shows the association between each independent variable controlling only for demographic characteristics (age, gender, social class).
Models 1–3 are fully adjusted for all of the other independent variables (included in each model) as well as demographic characteristics.

of the indicators of health status runs in the opposite direction. A high number of working hours and non-standard work times are associated with SA only (OR for >45 h: 0.66 – OR for non-standard work time: 0.89) indicating that those who work more than 45 h a week or have non-standard work times have less SA as well as higher levels of SP: in other words, these groups choose to go ill to work rather than taking sick leave, despite having the same levels of morbidity as other groups. For employees with supervisory status and or those who work in smaller firms there is also an association with the two other health measures (MP and CD), indicating that these groups are on average healthier than those they are compared with.

## Discussion

### *The prevalence and measurement of SP*

The results presented above show that SP is just as prevalent in the working population as SA. This confirms Dew

et al.'s (2005) claim that SP is under-prioritised as a research subject. If we compare our results to those from the Swedish studies by Aronsson we find that they are quite similar (Aronsson & Gustafsson, 2005; Aronsson, Gustafsson, & Dallner, 2000). The strong association between SA and SP indicates that the two phenomena are indeed outcomes of the same 'decision process' and that taking sick leave on one occasion will make a person more reluctant to do so subsequently, thereby leading to SP.

Several objections could be raised against this interpretation: (1) First, by comparing self-reports with information registered by companies, some studies (e.g. van Poppel, de Vet, Koes, Smid, & Bouter, 2002) have shown that employees tend to under-report their SA. If they do so in order to appear more desirable in the eyes of others (the social desirability thesis), we would also expect employees to over-report SP. Unfortunately it was not possible to take social desirability into account in this study. While this factor would be likely to lead to an overestimate of the prevalence of SP, it would not necessarily bias the validity of the associations between the IVs and SP. (2) Second, the definition of SP raises certain questions: because we rely solely on the respondents' own perception of health and their evaluation of the legitimacy of taking sick leave in a given instance, we cannot judge their objective health status. It is possible therefore that SP might be a proxy for chronic disease. We examined whether this was true by using measures of 16 specific diseases instead of the dichotomous variable 'disease vs. no disease'. No association with SP was shown for chronic diseases that do not affect work capacity (e.g. diabetes, epilepsy, eczema), whereas there was a strong association with more debilitating diseases (e.g. rheumatoid arthritis OR: 1.69, migraine/recurrent headaches OR: 1.51). We interpret this as evidence that our measure of SP is *more* than just a proxy for chronic illness.

Likewise, the fact that so many people report having turned up at work despite feeling ill should alert us to the possibility that the current levels of SA in Denmark are lower than they would be if employees called in sick *every time* they felt it was legitimate. From the perspective of employers and society in general one should thus note that there is a 'hidden potential' for an *increase* in SA levels, due to the fact that many people consider that they go to work when they could legitimately have stayed at home. The very close relationship between SA and SP suggests that studies of the former would benefit from including a measure of SP. If such a measure is not included, there is a risk that low levels of SA will be misinterpreted as reflecting good health rather than high levels of SP (cf. Caverley, Cunningham, & MacGregor, 2007).

*Factors associated with SP*

One conclusion to be drawn from this study is that we should be more aware of the possibility that some groups have artificially low levels of SA that do not reflect their levels of morbidity. This would apply to self-employed people, employees in small firms, supervisors and people with long work hours, who in this and other studies report low levels of SA (cf. Ala-Mursula et al., 2006; Warr & Yearta, 1995). While this may be due to better health among these groups, it may also reflect the fact that they feel compelled to turn up at work instead of staying home when feeling ill.

One novel finding was that 'job insecurity' leads to an increase in SP, as suggested by studies of the consequences of e.g. downsizing (Virtanen, 1994). We believe the level of unemployment and the social security system has an effect on the magnitude of the relationship between job insecurity and SP: when unemployment is low, job insecurity is likely to be less worrying than when unemployment rates are high. Thus the fact that there is an association between job insecurity and SP in a context where unemployment rates were low (Denmark in 2004) makes a stronger case for the association. In addition, the highly acclaimed Danish 'flexicurity' system probably reduces overall worry related to job insecurity, since being temporarily unemployed is not as big a threat (financially or status-wise) as it would be under different welfare state arrangements (cf. Wilthagen & Tros, 2004).

Another novel contribution was the finding that an employee's family life can in fact serve as a 'negative presence factor', encouraging employees to turn up ill at work (Kristensen, 1991). In SA research, home is usually construed as a place where employees can rest from the demands of the workplace. While this may be true for most blue collar workers, it is not necessarily the case for many working mothers or for managers/professionals. Employees in these groups may find the practical duties at home more taxing than an interesting and creative job with lots of freedom and control, and thus prefer SP to taking sick leave (Hochschild, 1997).

While our study shows that those with the most conservative absence attitudes are more likely to 'prefer' SP than those with more liberal attitudes, the association is rather small. Does this mean that attitudes play only a minor role in the 'decision' between SA and SP? Not necessarily, because the measure of attitudes used may be too crude to shed light on how the habitus of different social classes influences their perception and legitimation of SA/SP. The associations between social class and SP suggest that this may be so. Other studies (e.g. North et al., 1993) indicate major socio-economic differences in levels of SA that cannot be explained by differences in health status. Other things being equal, we would therefore expect equally large socio-economic differences in levels of SP. This was not the case in this study, apart from the fact that self-employed people were more likely to 'choose' SP over SA. The use of legitimacy as the criterion for defining SP may be the issue here. If it is correct that SP is one aspect of an individual's SA practice, this would mean that different positions in social space and resulting differences in habitus would lead to differences in the perception of what counts as legitimate SA. What is legitimate for unskilled workers is not necessarily legitimate for managers, which makes the measure inappropriate in examining socio-economic differences.

In sum, most of the findings from Aronsson and Gustafsson's studies were replicated. The question remains, however, whether these associations can be generalised to countries with different welfare state regimes. The high degree of 'decommodification' in the Scandinavian welfare

states suggests that both job insecurity and economic issues would be more important in the liberal welfare regimes of e.g. the UK and USA (cf. Esping-Andersen, 1990). Likewise, the 'woman-friendliness' of the Scandinavian welfare states (with e.g. extensive publicly financed child-care arrangements, cf. Borchorst & Siim, 2002) may make family life less taxing than it is in countries with less extensive child-care programmes.

One final point relates to the relative importance of the three areas in determining the 'choice' between SA and SP. Our study suggests that work-related factors have slightly greater explanatory power for SP than personal circumstances. This is hardly surprising, since work-related factors will apply to a larger proportion of the work force. Given that there was only a small difference in explanatory power between the different types of factors, however, we cannot focus solely on work-related factors in future studies. Finally, the size of the estimates and the modest explanatory power of the full model raise the question whether we have neglected important aspects of this phenomenon, or – perhaps even more relevant – whether we should approach it in a radically different way. As noted above, this appears to be the case at least with regard to the importance of attitudes on SP.

### *Limitations of the study*

There are certain limitations to this study. First, the way in which SP is measured makes it impossible to distinguish between 'real' instances of SP (i.e. going to work while clinically ill), those relating to social desirability and those in which SP is a proxy for chronic illness. Secondly, the use of cross-sectional data prevents us from examining the association between the IVs proposed and SP completely, because in many cases we cannot dismiss the possible effect of reverse causality inflating the associations (e.g. people who consider their work environment bad may report more SP than they actually had). Thus future studies of the phenomenon should both be longitudinal and try to enhance the measurement of SP, e.g. by distinguishing between instances of SP in relation to different types of medical conditions. In addition, in order to determine the real influence of attitudes on SP one would need to take a more specifically sociological approach e.g. by differentiating SP not only in relation to medical conditions but also with respect to the meaning attached to the act (i.e. the reasons for going ill to work).

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