



Present but sick: a three-wave study on job demands, presenteeism and burnout

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Abstract

Purpose – The opposite of absenteeism, presenteeism, is the phenomenon of employees staying at work when they should be off sick. Presenteeism is an important problem for organizations, because employees who turn up for work, when sick, cause a reduction in productivity levels. The central aim of the present study is to examine the longitudinal relationships between job demands, burnout (exhaustion and depersonalization), and presenteeism. We hypothesized that job demands and exhaustion (but not depersonalization) would lead to presenteeism, and that presenteeism would lead to both exhaustion and depersonalization over time.

Design/methodology/approach – The hypotheses were tested in a sample of 258 staff nurses who filled out questionnaires at three measurement points with 1.5 years in-between the waves.

Findings – Results were generally in line with predictions. Job demands caused more presenteeism, while depersonalization was an outcome of presenteeism over time. Exhaustion and presenteeism were found to be reciprocal, suggesting that when employees experience exhaustion, they mobilize compensation strategies, which ultimately increases their exhaustion.

Research limitations/implications – These findings suggest that presenteeism can be seen as a risk-taking organizational behavior and shows substantial longitudinal relationships with job demands and burnout.

Practical implications – The study suggests that presenteeism should be prevented at the workplace.

Originality/value – The expected contribution of the manuscript is not only to put presenteeism on the research agenda but also to make both organizations and scientists attend to its detrimental effects on employees' wellbeing and (consequently) on the organization.

Keywords Stress, Jobs, Absenteeism

Paper type Research paper



Many people will recognize the feeling that one must show up for work even when too stressed or sick to be productive. Presenteeism is defined as “. . .being at work when you should be at home either because you are ill or because you are working such long hours that you are no longer effective.” (Cooper, 1996, p. 15). While presenteeism seems attractive for organizations at first glance, employers are beginning to realize that it represents a “silent” but significant drain on productivity. Some authors even suggest that presenteeism costs companies much more than absenteeism does (e.g., Hemp, 2004). Yet, only a handful of studies have examined its causes and virtually no study examined its consequences. The central aim of the present study is to investigate the longitudinal relationships between job demands, (sickness) presenteeism, and burnout among hospital nurses, who are known for having high rates of presenteeism (Aronsson *et al.*, 2000).

Our basic assumption is that high job demands will evoke pressure to attend work while employees actually feel sick, which can be viewed, from the self-regulation perspective, as an attempt to avoid performance decrements (Demerouti *et al.*, 2005; Hockey, 1993). However, eventually, presenteeism will give rise to feelings of burnout due to inadequate recovery (see Meijman and Mulder, 1998). Employees may thus get trapped in a “loss spiral” (Hobfoll and Freedy, 1993), as symptoms of burnout, in turn, lead to an accumulation of job demands and less energy to cope with these demands. This will again result in more presenteeism, and so on.

Presenteeism

In the present study, we focus on sickness presenteeism specifically, designating the phenomenon of people who, despite complaints and ill health that should prompt rest and absence from work, are still turning up at their jobs (Aronsson *et al.*, 2000). From the scarce empirical evidence it can be concluded that more than half of the employees *ever* worked when they could legitimately report sick (Roe, 2003). There are several reasons why employees go to work while they are actually sick, including perceived pressure from colleagues not to let them down and cause them more work, a “trigger point” system providing incentives for attendance, the fear that sick leave will put promotion opportunities at risk, and the fear of dismissal (Grinyer and Singleton, 2000; McKevitt *et al.*, 1998). Apart from such motives, there are also positive reasons why people continue to work when they could stay at home sick, for example, interesting and stimulating work and good relationships with colleagues and clients (Roe, 2003). Presenteeism also seems to be dependent on the type of health complaints employees experience, i.e. whether the complaint is serious enough to be considered as a legitimate excuse to stay at home sick. The highest proportion of presenteeism is exhibited by persons with upper back/neck pain, feelings of fatigue and slight depression (Aronsson *et al.*, 2000).

From the time that presenteeism was first identified, scientists view it as negative organizational behavior. Presenteeism is considered as risk behavior for employees themselves, because by repeatedly postponing sickness leave that may effectively resolve minor illnesses, more serious illnesses may develop (Grinyer and Singleton, 2000). Moreover, Roe (2003) has argued that presenteeism may have negative consequences for organizations in two ways. First, individual performance may suffer since sick employees may only be able to produce the *same* output as healthy colleagues by investing *more* time or effort. Second, collective performance may suffer

because workers become involved in helping sick colleagues, or because sick employees may pass on infectious illnesses to their colleagues and clients.

Existing studies have been concerned with identifying the prevalence of presenteeism, or the factors that contribute to it (e.g., Grinyer and Singleton, 2000). The current study is the first to test the hypothesis that presenteeism is predicted by working conditions (i.e. job demands) and is reciprocal to stress symptoms (i.e. burnout) over time. While presenteeism can also be viewed more positively, i.e. a type of organizational citizenship behavior, our basic tenet is that presenteeism will ultimately be counterproductive as it will lead to a deterioration of employee health. Because existing knowledge of the phenomenon is still limited, we will base our hypotheses on the available literature from adjacent domains.

Job demands and presenteeism

One of the popular explanations of sickness absence considers absence as a rational decision toward goal attainment (Johansson and Lundberg, 2004; Nicholson, 1977). Specifically, absence is viewed as rational behavior determined by cost-benefit evaluations associated with the possible outcomes of the alternative behavior, namely presenteeism. Next to the vital role of individual cost-benefit evaluations, Johansson and Lundberg (2004) emphasize the role of the work environment as a constraint that may limit individual choices. Constraints are presence-inducing situations or demands for attendance including both positively valued factors (e.g., rewards for low absence), and negative factors (e.g., individual financial position). The focus in this study is placed on job demands for two reasons. First, if we demonstrate that job demands, presenteeism and burnout are positively related over time, job demands can be a pretext of workplace interventions and therefore of improvement. Second, job demands in general (Kivimäki *et al.*, 2005) but also specific demands like time pressure, conflicting demands (Aronsson and Gustafsson, 2005) and work pressure (European Foundation for the Improvement of Living and Working Conditions, 2003) are found to be positively related to presenteeism.

Job demands refer to those physical, social or organizational aspects of the job that require sustained physical and/or psychological (i.e. cognitive or emotional) effort on the part of the employee and are therefore associated with certain physiological and/or psychological costs (e.g., exhaustion) (Demerouti *et al.*, 2001). Although job demands are not necessarily negative, they may turn into job stressors when meeting those demands requires additional effort while the employee has not adequately recovered from previous work sequences (Meijman and Mulder, 1998). In present study we include a classical and more general measure of job demands (see Karasek, 1998), i.e. workload, and two demands that are typical for the nursing profession, namely patient demands and physical demands (Bakker *et al.*, 2003).

Our assumption is that job demands enhance the propensity of employees to work on days that they actually feel sick. Since job demands have to be met in order to perform adequately, employees will be inclined to do everything they can to meet these demands so that their performance remains at the desired level. According to Hobfoll (2001), demanding characteristics of work result in loss because they draw on people's resources. When losses occur, people apply resource conservation strategies (based on anticipated outcomes) by investing resources available to them in order to adapt successfully (Hobfoll, 2001). Therefore, we expect that the higher the job demands, the higher the effort employees will invest in meeting them and the higher the probability

that they will work while sick in order to avoid performance decrements (i.e. resource loss). From this point of view, job demands not only imply feeling pressure to work harder, but also feeling pressure to attend.

H1. Job demands lead to presenteeism.

Presenteeism and burnout

Burnout is defined as a multifaceted syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach *et al.*, 2001). Evidence of the past decade consistently suggests that (reduced) personal accomplishment shows a relatively low correlation with the core dimensions of burnout, i.e. exhaustion and cynicism (Green *et al.*, 1991), and a different pattern of correlations with other variables (e.g., Lee and Ashforth, 1996). Also, it has been considered as a personality construct (Shirom, 2003). Due to this ambivalent nature of personal accomplishment, we followed Schaufeli and Bakker's (2004) recommendation and included only the core dimensions of burnout.

Burnout represents a chronic ongoing reaction to one's work and a negative affective response to prolonged stress (Shirom and Melamed, 2005), which is not immediately reversible after changes in tasks or the working conditions and by adequate recuperation. The chronic nature of burnout is illustrated by a recent longitudinal epidemiological study among a representative sample of over 12,000 Dutch employees that estimated the average duration of severe burnout to be about 2.5 years (Kant *et al.*, 2004).

Does presenteeism lead to burnout in the long run? Our assumption is that this will indeed be the case, according to the following mechanism: When employees feel sick, their performance at work is under threat (Wright and Cropanzano, 1998). In order to reach the desired performance standards, they will use performance protection strategies (Hockey, 1993). Among the strategies that employees can use, those that are of particular relevance to the present study are to invest more effort in order to perform as good as healthy employees and not to stay sick at home. In this way, they can try to minimize their resource losses related to their sickness (see Hobfoll, 2001). However, sickness presence impairs physical and psychological recuperation and recovery after strain or disease.

Meijman and Mulder (1998) suggest that if opportunities for recovery –, e.g. from work-related fatigue during the non-working period – are insufficient, one's psychobiological systems remain activated and recovery to homeostatic levels may not be achieved (also known as sustained activation; Ursin, 1980). The employee, who is still in a sub-optimal state, will thus have to make additional (compensatory) efforts during the next working period. As a result, negative load effects accumulate, leading to a further draining of one's energy, and chronic fatigue or even a total breakdown. Thus, presenteeism, because of its potential for reducing recovery, is likely to lead, in the long run, to higher levels of exhaustion. Alternatively, sickness absence could be health-promoting since it would facilitate recuperation following strain or disease (Aronsson and Gustafsson, 2005). Moreover, because of inadequate recuperation, employees may develop negative attitudes towards their work (towards patients in the case of nurses) and thus develop depersonalization over time (Sonnetag, 2005).

While there is no empirical evidence yet that presenteeism leads to burnout, we do know that sufficient recovery during the weekend decreases burnout complaints and fosters general well-being after the weekend (Fritz and Sonnentag, 2005). Thus, staying away from work contributes to the reduction of burnout. The only study that shows the effects of presenteeism on health is the eight-year prospective study of Kivimäki *et al.* (2005) among male civil servants. The incidents of serious coronary events was, after correction for conventional risk factors, twice as high among unhealthy employees with *no* sickness absenteeism as among unhealthy employees with *moderate* levels of sickness absenteeism reflecting the adverse consequences of working while ill. Hence, working while ill may produce a cumulative psychological burden with psycho-physiological consequences. Thus, we formulated the following hypotheses:

H2a. Presenteeism leads to emotional exhaustion.

H2b. Presenteeism leads to depersonalization.

In principle, feeling exhausted does not prevent employees from remaining fully occupied with their work, in order to reach company and/or personal goals. This is illustrated by Demerouti *et al.* (2005), who found that the in-role performance of salespersons who experienced elevated levels of exhaustion did not differ from the performance of non-burnout employees. It is likely that the former spent more effort than the latter so that, in the long run, they may exhaust their energy and eventually may burn out. However, for the time being, they are still at work and their performance is not yet decreased. Given the importance of the job resource “relationship with recipients” (for service providers), employees who experience emotional exhaustion will be inclined to limit their losses, and will work harder to compensate for their feelings of exhaustion (Freudenberger and Richelson, 1980). Similarly, Freudenberger (1974) observed that employees who are prone to burn out work too much, too long and too intensively because they feel pressure both from within and outside of work. Thus, presenteeism can be viewed as a performance protection strategy (see Hockey, 1993) utilized by employees to avoid decrements in primary task performance in case of fatigue and consequently to avoid resource losses (Hobfoll, 2001). This leads to the following hypothesis.

H3. Feelings of exhaustion lead to presenteeism. Taken together, *H2a* and *H3* imply that presenteeism and exhaustion are reciprocal.

Employees who develop negative attitudes towards patients (i.e. depersonalization) are presumably better able to compartmentalize their remaining resources (e.g., energy, time, effort) than exhausted employees. They will invest their efforts in important tasks and ignore less obvious job requirements. Indeed, it has been shown that depersonalization is at par with diminished extra-role performance, e.g. voluntary behavior towards colleagues, but not with reductions in in-role performance (Bakker *et al.*, 2004; Demerouti *et al.*, 2005). Such employees provide services to patients (because this belongs to their important tasks) but, simultaneously, they use strategies like derogating, stereotyping and blaming their patients, thus creating a psychological distance in order to protect themselves (Schaufeli and Enzmann, 1998). Therefore, we expect that depersonalization towards patients will not perpetuate presenteeism.

Burnout and job demands

The relationship between specific job demands (e.g., workload and emotional demands) and exhaustion has been observed frequently (see Lee and Ashforth, 1996). Moreover, recent research shows that (self-reported and observed) job demands may have a strong (longitudinal) impact on exhaustion (Demerouti *et al.*, 2001; Demerouti *et al.*, 2004). Specific job demands such as quantitative demands (Peeters and Le Blanc, 2001) or stressful events (Lee and Ashforth, 1996) have been found to be related to depersonalization (though not as strong as to emotional exhaustion). In addition, the literature on “emotion work”, which is defined as the requirement to display organizationally desired emotions towards clients (Zapf *et al.*, 2001), shows that hiding or faking feelings towards service recipients is uniquely related to depersonalization (Brotherridge and Grandey, 2002).

Conversely, some studies have shown that job strain, including burnout, may also have an impact on job demands over time. In their review, Zapf *et al.* (1996) identified six out of 16 longitudinal studies, which showed reversed causal relationships between working conditions and strain. More recent studies provide additional evidence for reversed causation; e.g. between depersonalization and the quality of the doctor-patient relationship (Bakker *et al.*, 2000), and between exhaustion and work pressure (Demerouti *et al.*, 2004).

One possible explanation for reversed causal effects is that the behaviors of employees experiencing strain or disengagement place additional demands upon them like exhausted employees who fall behind with their work (Demerouti *et al.*, 2004) or depersonalized employees evoking more stressful and difficult interactions with their future customers (e.g., Bakker *et al.*, 2000). Another explanation is that job demands may also be affected by employees’ perceptions of the working environment (Zapf *et al.*, 1996). Burned-out employees may evaluate job demands more critically and complain more often about their workload, thus creating a negative work climate (Bakker and Schaufeli, 2000). On the basis of this overview, we formulated the last hypotheses (see Figure 1 for an overview of the hypotheses):

H4a. Job demands and emotional exhaustion are reciprocal.

H4b. Job demands and depersonalization are reciprocal.

Method

Participants and procedure

The data were collected as part of a research project on work-related well-being of staff nurses in general hospitals in The Netherlands. Participants were approached three times to fill out a questionnaire; between Time 1 and Time 2 there was an interval of one year and between Time 2 and 3 of half a year. With the first questionnaire, participants received an information letter in which the aims of our study were explained and confidentiality was assured. A postage-paid, addressed envelope was provided for the return of completed questionnaires to the research team. In total, a sample of 1,060 nurses was approached for participation at T1, of which 781 (74 percent) returned the first questionnaire. One year later, at T2, 166 of the 781 nurses that responded at T1 had left because of a job transfer. Of the 615 second questionnaires that were sent out, 385 (63 percent) were returned. The third questionnaire was distributed among 615 nurses and returned by 323 (53 percent).

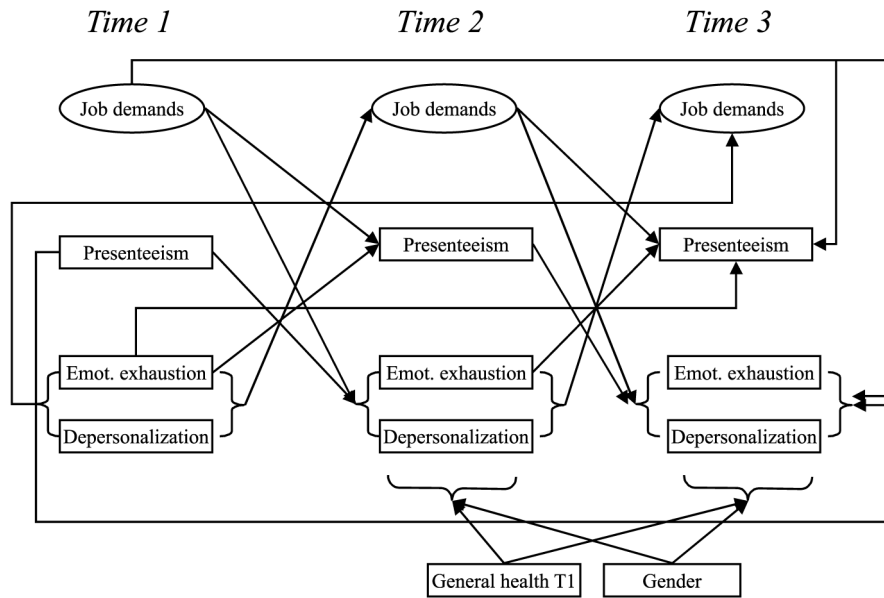


Figure 1.
The hypothesized
three-wave model of
presenteeism

Some questionnaires had missing values, leaving 258 usable questionnaires that had been filled out during all three measurements. The sample included 196 women (76 percent) and 62 men (24 percent). Their mean age was 37 years ($SD = 8.5$) and mean organizational tenure was 7.5 years ($SD = 6.1$).

Measures

Job demands: quantitative demands (workload). Job demands: quantitative demands (workload) were measured by a ten-item scale based on an original scale by Furda (1995) and assessed, e.g. how often respondents are confronted with demands like: “having to work under time pressure”, “having to provide care to many different patients at the same time”. Items are scored on a five-point Likert scale, ranging from (1) “not at all” to (5) “extremely often”.

Patient demands. This 12-item scale was based on an original scale by Herschbach (1992) assessed the extent to which respondents were confronted with demands such as “questions from patients that you cannot answer”, “patients that want to control everything that you do”. Items are scored on a five-point Likert scale, ranging from (1) “not at all” to (5) “extremely often”.

Physical demands. Physical demands were assessed with one item: “My job is physically demanding”. Participants could respond to this item using a five-point rating scale ranging from (1) “totally disagree” to (5) “totally agree”.

Burnout. The Dutch version (Schaufeli and Van Dierendonck, 2000) of the Maslach Burnout Inventory – Human Services Survey (Maslach *et al.*, 1996) was used to measure the two core dimensions of burnout, i.e. emotional exhaustion and depersonalization. The emotional exhaustion subscale includes eight items, including “I feel emotionally drained from my work”. The item “Working with people directly puts too much stress on me” was omitted in the Dutch version since it

does not load on the intended exhaustion factor, and thus creates problems with factorial validity (see also Byrne, 1993). The depersonalization subscale includes five items, for example, "I don't really care what happens to some patients". The items of both burnout dimensions were scored on a seven-point frequency scale, ranging from (0) "never" to (6) "every day".

Presenteeism. The focal question on presenteeism was: "Has it happened over the previous 12 months that you have gone to work despite feeling sick?" (Aronsson *et al.*, 2000) There were two response options: 0 = "no" and 1 = "yes". Since presenteeism items inevitably require retrospective recalling of information using longer time frames (in order for presenteeism to appear), we did not ask employees to report the frequency with which they exhibited this behavior in order to minimize response errors (due to the need to recall easy to forget situations).

General health. General health at time 1 was included as a control variable in order to minimize the possibility that the reported relationships are confounded by an impaired health status and thus do not represent true relationships between the constructs (Johansson and Lundberg, 2004). General health was measured by means of one item "In general, how is your health status" with response categories ranging from "bad" (1) to "excellent" (5). Answers were reversed coded such that a higher score indicates a worse health status. This question has proven to be both reliable and valid (Lundberg and Manderbacka, 1996).

Results

Non-response analysis

The panel group had comparable tenure with the dropouts ($t = -1.43; p < 0.10$), and there were no significant differences in gender distribution ($\chi^2 = 2.29, p < 0.10$). The panel group was only slightly older than the dropouts ($M = 37.26$ v. $M = 35.73; t = -2.38; p < 0.05$). Moreover, there were no significant differences between the panel group and the dropouts with regard to the mean levels of the study variables. The panel group did score slightly higher on Time 2 patient demands than the dropouts ($M = 1.77$ v. $M = 1.66; t = -2, 17; p < 0.05$), but the mean difference was less than one-third of the standard deviation. Based on these results, we concluded that the dropouts were comparable to the panel group and that no serious selection problems due to panel loss had occurred.

Descriptives

As can be seen in Table I, all scales show satisfactory reliabilities, save one exception. The internal consistency of the depersonalization scale was less than optimal, i.e. Cronbach's alpha's ranged between 0.62 (T3) and 0.68 (T2) (for similar findings see Lee and Ashforth, 1996; Schaufeli and Enzmann, 1998). However, as with most of the other model variables, depersonalization was stable over time. Test-retest reliabilities for all study variables including presenteeism were higher than 0.58 ($p < 0.01$), indicating that the constructs are rather stable. At each measurement point about 50 percent of the employees agreed that they had come to work when they were sick; 29 percent answered yes at all measurement points while 23 percent reported that they never came to work when sick. In an additional analysis, we found that employees who reported presenteeism at each measurement wave also had significantly more often experienced loss of appetite, sleeplessness, fatigue as well as stomach aches, tremor,

Table I.
Means, standard deviations, correlations, and internal consistencies (Cronbach's alpha; on the diagonal) of the study variables, ($n = 258$)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1. Gender	0.74	0.44																					
2. General health	1.82	0.72	0.01																				
3. Physical demands	3.25	1.01	0.11	0.18**																			
4. Workload	2.75	0.76	0.05	0.17**	0.43**																		
5. Patient demands	1.77	0.56	0.08	0.10	0.29**	0.85**																	
6. Emot. exhaustion	2.04	0.86	-0.01	0.30**	0.26**	0.44**	0.82																
7. Depersonalization	1.86	0.58	-0.07	0.16**	0.19**	0.32**	0.10	0.86**															
8. Presenteeism 1a	-0.04	-0.13*	0.38**	0.10	0.15**	0.32**	-0.01	0.38**	0.64														
9. Physical demands 2	3.23	0.94	0.04	0.10	0.65**	0.28**	0.13	0.10	0.06	0.06													
10. Workload 2	2.83	0.79	0.02	0.09	0.31**	0.74**	0.31	0.35**	0.17**	0.38**	0.85**												
11. Patient demands 2	1.77	0.56	0.15*	0.06	0.16**	0.29**	0.10	0.24**	0.01	0.28**	0.40**	0.80**											
12. Emot. exhaustion 2	2.56	0.95	0.01	0.25**	0.13*	0.36**	0.12*	0.66**	0.28**	0.20	0.43**	0.19**	0.87**										
13. Depersonalization 2	1.93	0.65	-0.06	0.21**	0.07	0.26**	0.36**	0.58**	0.13*	0.10	0.31**	0.32**	0.50**	0.68**									
14. Presenteeism 2a	0.00	-0.16**	0.27**	0.13*	0.25**	-0.06	0.38**	0.08	0.58**	0.17**	0.25**	-0.02	0.51**	0.18**	0.10								
15. Physical demands 3	3.22	0.94	0.12*	0.12*	0.69**	0.31**	0.15**	0.12*	0.08	0.01	0.67**	0.30**	0.10	0.15**	0.07**	0.10							
16. Workload 3	2.86	0.76	-0.01	0.10	0.32**	0.71**	0.30**	0.38**	0.30**	0.16	0.32**	0.83**	0.33**	0.41**	0.30**	0.25**	0.35**	0.83**					
17. Patient demands 3	1.75	0.58	0.09	0.11	0.15**	0.29**	0.62**	0.10	0.32**	0.01	0.21	0.36**	0.64**	0.22**	0.37**	-0.01**	0.16**	0.39**	0.85**				
18. Emot. exhaustion 3	2.59	0.94	-0.02	0.23**	0.15**	0.32**	0.09**	0.65**	0.28**	0.26	0.14*	0.35**	0.11**	0.71**	0.34**	0.41**	0.12**	0.44**	0.08**	0.90**			
19. Depersonalization 3	1.93	0.62	-0.05	0.20**	0.16**	0.30**	0.25**	0.43**	0.55**	-0.03	0.16**	0.26**	0.25**	0.48**	0.64**	0.23**	0.11**	0.30**	0.25**	0.53**	0.62**		
20. Presenteeism 3a	0.00	-0.18**	0.22**	0.11	0.18**	0.09	0.29**	0.12*	0.12*	0.58**	0.17**	0.27**	0.18**	0.28**	0.21**	0.60**	-0.02	0.32**	0.09	0.48**	0.28**		

Notes: * $p < 0.05$; ** $p < 0.01$.^a The correlations between presenteeism and the study variables are tetrachorial and their means represent thresholds

heart palpitations, dizziness and headaches. This substantiates that what employees considered as sickness was not a minor but rather a considerable health problem.

Preliminary analyses revealed that gender was the only sociodemographic characteristic that was related to presenteeism such that men reported more presenteeism than women at T2 and T3 (T1 χ^2 (1 df) = 2.91, n.s.; T2 χ^2 (1 df) = 4.14, $p < 0.05$; T3 χ^2 (1 df) = 5.21, $p < 0.05$). Therefore, we controlled for gender in the subsequent analyses.

Longitudinal analysis

The model including all hypothesized relationships was tested with cross-lagged structural equation modeling (SEM) analyses using the Mplus software package (Muthén and Muthén, 1998) because it easily accommodates both continuous and categorical variables simultaneously in the same analysis (Vandenberg, 2006). We used weighted least square parameter estimates (WLSMV), which is appropriate when dependent variables are categorical (see presenteeism). The proposed model includes a latent “job demands” factor (indicated by workload, patient demands and physical demands), and emotional exhaustion, depersonalization and presenteeism as observed variables for each of the three measurement waves. Temporal stabilities were specified as correlations between model variables for each possible pair of waves. Synchronous relationships were specified as correlations between job demands, emotional exhaustion, depersonalization and presenteeism within each wave[1].

The measurement errors of the observed variables collected at different time points were allowed to co-vary over time (including the indicators of the latent variable job demands) (Pitts, West and Tein, 1996). Moreover, the measurement model of job demands was assumed to be invariant over time, i.e. the factor loadings of each manifest variable were constrained to be equal in each measurement time. Further, we imposed the restriction that the correlations between latent factor “job demands” were equal cross the three measurement waves. Such equality constraints are necessary for computation reasons (Zapf *et al.*, 1996).

The model includes the following paths between T1-T2, T2-T3 and T1-T3 variables: job demands (emotional exhaustion, depersonalization, presenteeism; presenteeism (emotional exhaustion, depersonalization; emotional exhaustion (presenteeism; emotional exhaustion, depersonalization (job demands (see Figure 1). Finally, the model includes gender and general health at T1 as two control variables. Both control variables were allowed to correlate with the T1 variables and had cross-lagged effects on T2 and T3 job demands, presenteeism and burnout.

In general, the model yielded a satisfactory fit to the data, chi square (33 df) = 98.56, RMSEA = 0.08, TLI = 0.91, CFI = 0.85. The resulting significant paths are displayed in Figure 2.

In line with *H1*, we found one significant effect of T2 job demands on T3 presenteeism. However, the two other panel paths were non-significant in Model 1. Thus, we found only partial support for *H1*. T1 emotional exhaustion had positive effects on both T2 and T3 presenteeism, whereas T2 presenteeism showed positive relationships with T3 emotional exhaustion, respectively. Taken together, these findings provide partial support for *H2a* and *H3* implying that exhaustion and presenteeism are reciprocal over time. Thus, presenteeism leads to more exhaustion in a shorter time lag (i.e. six months), and exhaustion leads to increased presenteeism over time.

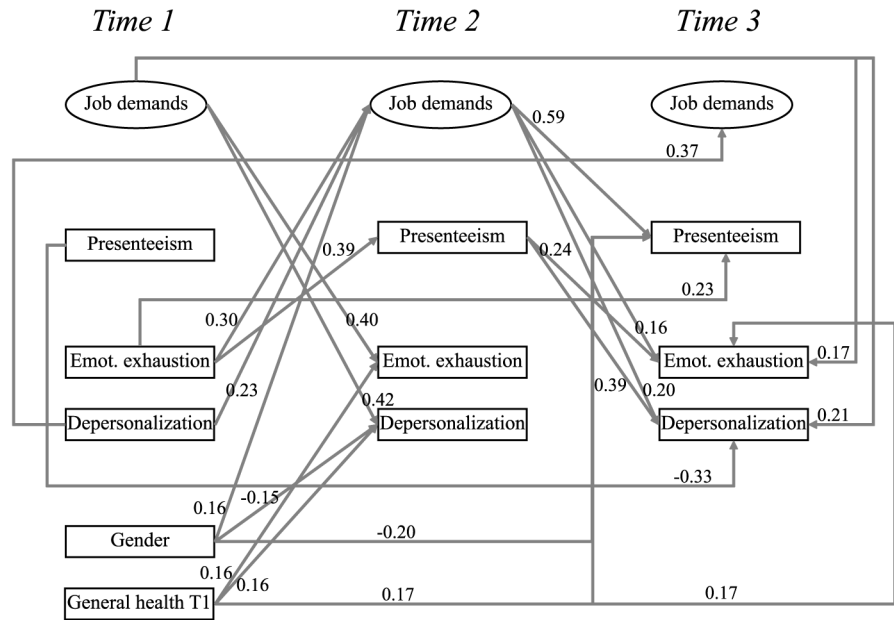


Figure 2. Standardized solution (maximum likelihood estimates) of the three-wave model of presenteeism, $N = 258$

As results indicate, T1 and T2 presenteeism have significant relationships with T3 depersonalization, corroborating *H2b*. While the second path was positive (i.e. the more presenteeism the more depersonalization over time), the first path (T1 presenteeism (T3 depersonalization) was negative which is not in the expected direction. Because the correlation between T1 presenteeism and T3 depersonalization is zero, the effect is most probably a statistical artifact known as the suppressor effect (Maassen and Bakker, 2001) and therefore it is not further taken into consideration. Moreover, adding the paths from depersonalization to presenteeism in the model did not result in a significantly better model ($\Delta\chi^2$ (2 df) = 3.76, n.s.) and none of the respective paths was significant. As expected, depersonalization does not lead to more presenteeism over time.

T1 emotional exhaustion and depersonalization had significant positive effects on T2 job demands and T1 depersonalization had an additional positive effect on T3 job demands. Simultaneously, T1 job demands have a significant, positive effect on T2 and T3 emotional exhaustion and depersonalization and T2 job demands have an effect on both T3 burnout dimensions. These findings suggest that job demands increase feelings of exhaustion and depersonalization (i.e. burnout), and that burnout increases job demands over time. In conclusion, consistent with *H4a* and *H4b*, we found significant cross-lagged reciprocal relationships between job demands and both burnout dimensions. Note, however, that T2 burnout had no effect on the T3 job demands.¹

Thus, all four hypotheses were generally supported. However, as can be seen in Figure 2, the hypothesized panel paths were not significant for all waves. One out of the three hypothesized longitudinal paths was significant for *H1*. Similarly, one out of the three hypothesized longitudinal paths was significant for *H2a*, *H2b*, implying that the longitudinal impact of presenteeism on burnout mainly takes place within a shorter time lag. For *H3*, two out of three hypothesized longitudinal paths were

significant suggesting a substantial influence of emotional exhaustion on presenteeism. Four out of the six hypothesized longitudinal paths were significant for *H4a* and for *H4b*. In general, the longitudinal influence of job demands on burnout seems to be stronger than the other way around. Finally, both control variables, T1 general health and gender, were significantly related to presenteeism (positively and negatively, respectively) only at the third wave.

Discussion

This study examined how job demands, burnout and presenteeism are related over time. Our central assumption was that job demands lead to presenteeism and burnout, and that presenteeism intensifies the experience of burnout in the long run. To study these relationships, we adopted a three-wave panel design, which may reveal a better understanding of the concept of presenteeism.

Presenteeism

Our analyses confirm that emotional exhaustion and presenteeism are reciprocal, since T1 exhaustion led to T2 presenteeism which in turn caused more exhaustion at T3. As predicted, because of efforts to compensate for the negative effects of progressive energy depletion (on performance), emotional exhaustion led to inappropriate non-use of sick leave over time, which in turn resulted in enhanced feelings of exhaustion. It is plausible to assume that appropriate use of sick leave is health promoting insofar as it provides the opportunity for physical and mental recuperation after strain or illness (Aronsson *et al.*, 2000). Not surprisingly, research provides increasing evidence (e.g., McEwen, 1998) that a lack of recuperation after episodes of strain makes up an important linking mechanism between stress and ill-health (Ursin, 1980). Presenteeism may not be a smart strategy to compensate for decrements in performance due to energy depletion, because it may ultimately lead to a further deterioration in employees' mental and physical condition, confirming the notion of loss spirals (Hobfoll and Freedy, 1993), as well as to employees working less efficiently, making even more mistakes at work, and (depending on their symptoms) passing on their sickness to colleagues and/or clients. Thus, although presenteeism may be seen as a sign of high commitment, it is ultimately detrimental for both employee well-being and the quality of care, i.e. the fundamental requirement of health professions.

In line with our prediction, presenteeism led to more depersonalization half year later but depersonalization was unrelated to the (forced) attending behavior of employees. A depersonalized attitude towards patients did not drive employees to be at work (when they could be at home sick) and thus have more contact with their patients. By comparison, these employees probably tend to invest the minimum efforts that are required to meet the expected targets (e.g., to provide the daily medication and care), and distance themselves emotionally from their patients. Depersonalization has been viewed as a way of protecting oneself from intense emotional arousal (due to contact with clients) that could interfere with functioning effectively on the job (Maslach *et al.*, 2001). This might be a useful short-term strategy to manage depleted resources, but it is not effective in the long run, since, over time, depersonalization leads to higher job demands (Bakker *et al.*, 2000).

Our findings suggest that the perception of high job demands induces pressure to work through sicknesses over time (Aronsson and Gustafsson, 2005) though the role of job demands was not as prevalent as expected (see the non-significant path from T1

job demands to T2 and T3 presenteeism). This finding is important from the perspective of job design and underscores that presenteeism does not solely result from internal (e.g. feeling irreplaceable) but also from work-related pressures. Perhaps the nurses in the present study, like the doctors in the study of McKeivitt *et al.* (1998), worked through illness because they believed that work could not wait or be delegated. Also the studies of Grinyer and Singleton's (2000) and Dew *et al.* (2005) emphasized economic and social constraints, the organization of work and workplace cultures and ethic as forces promoting presenteeism by influencing the (more or less forced) choice of employees to work when sick.

All reported relationships between job demands, presenteeism and burnout were independent of the general health of employees, since in the initial level (T1) of general health was controlled for. Employees with a worse health status at Time 1 reported more presenteeism over time (Burton *et al.*, 2006) but not more burnout. Thus, general health influences over time the decision to work when sick and can be viewed as a starting point for deciding between staying sick at home or going to work (Johansson and Lundberg, 2004). Contrary to Aronsson's findings (Aronsson *et al.*, 2000; Aronsson and Gustafsson, 2005) where women tended to show slightly higher presenteeism than men, we found that men were more likely to report presenteeism than women did. This difference might be explained by the fact that our sample mainly consisted of female nurses while Aronsson's studies were conducted among representative samples.

Burnout and job demands

Our findings are consistent with several authors' claims that job demands are causally related to emotional exhaustion (e.g., Lee and Ashforth, 1996; Schaufeli and Enzmann, 1998), although some of the cross-lagged relationships were nonsignificant. Job demands were also related to increased depersonalization over time, which partly contradicts some previous findings in which depersonalization was more an outcome of lack of resources (Demerouti *et al.*, 2001). One explanation for this finding is that in contrast to earlier studies, the present study included emotional demands i.e. patient demands, which are probably the most important, context-specific reason why employees become depersonalized towards patients (Bakker *et al.*, 2000). Taken together, these findings imply that nurses who are exposed to demanding patients, a high workload and physical demands become fatigued and impersonal, and develop negative attitudes towards their patients. This is an alarming finding, since it may signal deterioration in the quality of care.

Additionally, the present study provides evidence for the reversed causation hypothesis, and points at a 'loss spiral' of burnout. Both burnout components, emotional exhaustion and depersonalization, had lagged, positive effects on job demands (though not between T2 and T3). The findings are also consistent with results of earlier longitudinal studies where emotional exhaustion was a predictor of psychological job demands (De Jonge *et al.*, 2001), and future work overload (Leiter and Durup, 1996) and depersonalization predicted the intensity and frequency of patient demands over time (Bakker *et al.*, 2000).

Limitations and critical notes

A serious weakness of the present research concerns the single-item measure of presenteeism that can be criticized for having unknown error variance and for providing no information as to when or why individuals go to work while sick. Our

measure corresponds to that of previous studies (Aronsson *et al.*, 2000; European Foundation for the Improvement of Living and Working Conditions, 2003) and shows a high test-retest reliability (>0.58). This suggests that the measurement error should not be a serious threat for the presenteeism item (otherwise answers would have given inconsistent and unrelated over time). Our aim was to investigate whether presenteeism as a behavior pattern or lifestyle (in which symptoms of ill health are ignored and medical care not sought; Kivimäki *et al.*, 2005) would lead to burnout and unfavorable changes in job demands irrespective of its frequency. Wanous *et al.* (1997, p. 247) suggest that if “the construct being measured is sufficiently narrow or is unambiguous to the respondent, a single-item measure may suffice”. The convergent validity between single-item and multi-item measures has been confirmed for overall job satisfaction (Wanous *et al.*, 1997) and for global satisfaction (Diener, 1984). Moreover, comparing the study of Boles *et al.* (2004) who used a one-item measure of presenteeism (though different from our measure) with the study of Burton *et al.* (2005) who used an eight-item measure of presenteeism, shows that results of both studies were similar. This suggests that the one-item measure of Boles *et al.* (2004), adequately uncovers the underlying relationships. While the use of a well-constructed scale is crucial, single-item scales should not be considered a fatal flaw. However, the development of sophisticated, more detailed and, if possible, more objective measures of presenteeism is strongly encouraged. For example, studying incidents of presenteeism collected by means of diaries could uncover additional reasons why people choose to work through sickness and could help the development of a valid presenteeism scale.

A second limitation is that all variables were exclusively measured with self-report instruments which might cause biases due to common method variance. However, such influences should be more likely in cross-sectional rather than across-time studies because only a few participants might be able to recall their Time 1 scores during the second or the third wave of the study. A final limitation is the study population which consisted of hospital nurses only, and thus the question is to what extent the results are valid for other occupational groups. It is possible that hospital employees, for reasons of collegiality, prefer to work through sickness rather than have a colleague obliged to replace them. Thus, a generalization of our findings to other occupations awaits further empirical tests.

At this point, two critical notes should be made regarding the SEM results. First, a suppressor effect resulted for the relationship between T1 presenteeism and T3 depersonalization (i.e. a zero relationship turned to a negative one). Such suppressor effects are highly probable in SEM analysis with longitudinal data (because of the often high stability coefficients), and in models with latent concepts (Maassen and Bakker, 2001) as was the case in our study. However, all other effects were plausible and consistent with the correlations, indicating that suppression was not a serious threat to our findings. Second, SEM analysis confirmed only one of the possible complex processes linking presenteeism, job demands and burnout over time. Namely, T1 burnout predicted T3 presenteeism partly through T2 job demands. This underscores the complexity of the investigated phenomena. Future studies should examine whether this process can be generalized in other occupational contexts and using different time frames.

Study contributions and implications

The study expands the literature on sickness presenteeism, job stress and burnout in two important ways. Firstly, our study gives insight in some causes and consequences of presenteeism, which has not been studied before using longitudinal designs. Secondly, we show that in addition to the “conventional” causal effects (job characteristics lead to employee (un)well-being) also reversed causal effects may take place over time, in which employee well-being influences (perceived) working conditions (see Zapf *et al.*, 1996). Thus, the findings illustrate that occupational health is not static, but rather a dynamic and self-perpetuating phenomenon and these dynamics should be taken into consideration by both practitioners and researchers.

Presenteeism seems to be a growing health and productivity risk. As such, employers should approach presenteeism like any other health risk, namely with both prevention and mitigation strategies. To limit the potential impact of presenteeism on productivity, companies should identify key worksite risk factors driving it and develop strategies to minimize it. As shown in the present study, job demands and burnout (which is also predicted by job demands) are important (causal) factors influencing presenteeism. Therefore, a way to reduce presenteeism is to (re)design job demands such that they do not have undesirable effects on employee health, by providing, e.g. ergonomic facilities for physical tasks, variation between tasks involving direct care for patients and tasks without patient contact as well as between demanding tasks and recovery.

Another way is to discourage employees to continue working when not fully fit to do so. This can be achieved by developing a culture that clearly removes the ambiguity regarding what employees have to do when they are sick. Managers and occupational health professionals should be aware that presenteeism might be good in the short-term but in the long term it will create more problems in terms of employee sicknesses and enhanced costs. Therefore, they need to create a climate in which staying home when being sick is not a taboo. On the work floor, supervisors should encourage sick employees to stay at home and, as role models, they should also behave the same way themselves. The ultimate ideal is to reject a macho or workaholism culture and instead to emphasize the right of and the importance for employees to stay at home when sick. Maybe some employees will be more difficult to comply with such a culture and supervisor’s interventions since Type A personality types (Kivimäki *et al.*, 2005) and employees who find it hard to say no to other’s wishes and expectations (i.e. boundarylessness; Aronsson and Gustafsson, 2005) are inclined to exhibit more presenteeism than their counterparts. If future studies indeed confirm the robustness of such relationships between personality types and presenteeism, the countermeasures against presenteeism have to take a tailor-made approach by providing additional attention to such high “risk” individuals.

Note

1. In additional analyses we conducted nested models comparison in which we successively eliminated the hypothesized structural paths from the proposed model. In this way we evaluated whether elimination of the hypothesized paths would result in a significant deterioration of the model fit. Results indicated that the fit of the proposed model was significantly better than the fit of all possible nested models. These additional results are available to the readers by the first author upon request.

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