Job demands and job resources as predictors of absence duration and frequency[☆]

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Abstract

This study among 214 nutrition production employees uses the Job Demands–Resources (JD–R) model to predict future company registered absenteeism. According to this model, job demands are primarily responsible for health impairment, whereas job resources lead primarily to increased motivation and attachment to work and the organization. Consistent with hypotheses derived from the JD–R model and the absenteeism literature, results of structural equation modeling analyses show that job demands are unique predictors of burnout (i.e., exhaustion and cynicism) and indirectly of absence *duration*, whereas job resources are unique predictors of organizational commitment, and indirectly of absence *spells*. These findings have implications for individual and organizational interventions aimed at reducing absenteeism.
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1. Introduction

There exists basic agreement that job stress relates to physical and behavioral outcomes such as health complaints, burnout, and absenteeism (Kahn & Byosiere, 1992). However, in contrast to burnout and health complaints, absenteeism, while detrimental to the organization, is not necessarily harmful to those employees who are absent from work. Quite the contrary, their absence may be instrumental for recuperating from experienced job stress. In the current study, we use the Job Demands–Resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) to examine how different categories of work characteristics influence future absenteeism among Dutch production workers, through their relationships with burnout and organizational commitment.

1.1. Absenteeism

Generally, two different absence measures are distinguished: absence frequency and duration (Hensing, Alexanderson, Alleback, & Bjurulf, 1998). *Absence frequency* is the number of spells or times an individual has been absent during a particular period, regardless of the length of each of those spells. Usually, absence frequency is considered to be an indicator of "voluntary absenteeism" and a function of employees' motivation. In contrast, *absence duration* is the total length of time an individual has been absent over a specified period regardless of the number of absence spells. Absence duration is generally considered to be an indicator of "involuntary absenteeism" that results from the inability rather than the unwillingness to come to work, for example as a result of ill health. The correlation between absence frequency and duration ranges between a low −.05 and a moderately high .60 (see Farrell & Stamm, 1988).

Since absenteeism includes different components (i.e., frequency and duration), there seem to exist different processes that lead to frequent or long absenteeism (Kohler & Mathieu, 1993). Indeed, most empirical studies that focus on individual experiences at work as precursors of absenteeism can be classified along two main explanations for employees' decision to report themselves sick (Johns, 1997). First, employees may be absent because they want to withdraw from aversive work circumstances. Using a general '*withdrawal*' *hypothesis*, it has been found that employees who are low in job satisfaction and organizational commitment are more frequently absent than those high in job satisfaction and commitment (e.g., Cohen, 1991; Farrell & Stamm, 1988; Mathieu & Kohler, 1990; Sagie, 1998). In these studies, absenteeism is usually interpreted as an escape from, compensation for, or even protest against aversive or demoralizing work circumstances (cf. Chadwick-Jones, Nicholson, & Brown, 1982). This agrees with the notion of voluntary absenteeism.

A second explanation for absenteeism is that absence behavior is a *reaction to job stress*, where stress is conceived as a failure to cope with job demands. This explanation stipulates that absenteeism may be used as a coping mechanism to deal with job strain and that it is not simply a behavioral reaction to dissatisfaction (Johns, 1997). Several stressors (i.e., job related factors thought to cause negative psychological

reactions like tension, anxiety, and fatigue) such as workload (Dwyer & Ganster, 1991), monotony (Melamed, Ben-Avi, Luz, & Green, 1995), and role problems (Jamal, 1984) have indeed been associated with higher absence rates. However, Johns (1997) has observed that while various studies have reported relationships between stressors and absenteeism, tests of mediation models (stressor → stress reactions → absence), including the mediating role of stress reactions, are rare.

1.2. Organizational commitment and absenteeism

Meyer and Allen (1991) consider commitment as a multidimensional concept including three components: affective, normative and continuance commitment. Affective commitment refers to employees' emotional attachment to, identification with and involvement in the organization, whereas normative commitment refers to employees' attachment to the organization and to its goals because of ideology or felt obligation. Finally, continuance commitment refers to a general awareness of the costs of leaving the organization or to the perceived number of employment alternatives and degree of sacrifice.

Most absenteeism studies have examined the correlates of affective and continuance commitment (Gellatly, 1995). Affective commitment, that is expected to increase when work experiences are personally rewarding, has consistently been found to relate negatively to absenteeism (see Johns, 1997, for a review). In contrast, continuance commitment is expected to *encourage* absence behavior. As Brehm (1966) noted, feeling 'locked in' might provoke reactance expressed in short episodes of escape. This positive relationship between continuance commitment and absenteeism (frequency) has indeed been confirmed in some studies (e.g., Gellatly, 1995), although other studies found no relationship (e.g., Allen & Meyer, 1990; Somers, 1995). Normative commitment is expected to stimulate attendance due to the feeling of obligation. However, there is hardly any empirical support for the relationship between normative commitment and absenteeism (Gellatly, 1995).

Following the withdrawal paradigm, people will be more likely to withdraw from organizations to which they lack commitment. Indeed, Farrell and Stamm (1988) found a corrected mean correlation of −.12 between commitment and *absence duration* in their meta-analysis including 11 samples. Interestingly, they found a higher corrected mean correlation (−.23) when they restricted themselves to the six samples that measured *absence frequency,* which agrees with our previous reasoning that absence frequency primarily reflects voluntary absence. Furthermore, Cohen (1991) reports a corrected mean correlation of −.11 between commitment and absence on the basis of 11 studies. Thus, in general, the relationship between organizational commitment and absenteeism is rather low with absence frequency being more strongly related than absence duration.

1.3. Burnout and absenteeism

Burnout can be defined in general terms as a syndrome of exhaustion, cynicism and reduced professional efficacy (Maslach, Jackson, & Leiter, 1996). Whereas

emotional exhaustion and cynicism (or depersonalization) have been considered as the core dimensions of burnout, feelings of reduced efficacy seem to play a different role. For instance, reduced efficacy may also be interpreted as a possible consequence of burnout (Koeske & Koeske, 1989; Shirom, 1989). Furthermore, there is accumulating evidence that personal accomplishment largely develops in parallel with the two other burnout dimensions (Lee & Ashforth, 1996; Schaufeli & Enzmann, 1998). These findings support the notion that emotional exhaustion and depersonalization (or cynicism) constitute a syndrome, which is loosely related to professional efficacy. Therefore, professional efficacy is excluded from our research model.

Absenteeism is generally considered as an important consequence of burnout at the organizational level. However, emotional exhaustion, depersonalization and reduced efficacy explain on average not more than 2% of the variance in absenteeism (e.g., Lawson & O'Brien, 1994; Price & Spence, 1994). After reviewing the literature, Schaufeli and Enzmann (1998) conclude therefore that: "... despite the popular assumption that burnout causes absenteeism, the effect is rather small and is most related to emotional exhaustion" (p. 91). Indeed, several meta-analytic studies on absenteeism show that work-related stress is but one of many variables accounting for employee absence behavior, so we should not expect job stress and absenteeism to be strongly correlated (Beehr, 1995; Nicholson, 1993). Non-work variables accounting for absenteeism include a wide range of factors, such as personal characteristics, sport injuries, smoking, alcohol consumption, psychological disorders, and physical pain (see Johns, 1997; Youngblood, 1984). These non-work variables may also interact with work-related variables, and show complex relationships with absenteeism. For example, in their study among 211 employed, married parents, Erickson, Nichols, and Ritter (2000) found that family demands moderated the effect of job burnout on absence frequency. Experiencing a high level of burnout was associated with increased absenteeism if employees had children under 6 living at home, or reported having difficulty with their child care arrangements.

1.4. The Job Demands–Resources model

At the heart of the Job Demands–Resources (JD–R) model (Demerouti et al., 2001) lies the assumption that whereas employees in different organizations may be confronted with different working environments, the characteristics of these environments can be always classified in two general categories—job demands and job resources—thus constituting an overarching model that may be applied to various occupational settings, irrespective of the particular demands and resources involved. *Job demands* refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort and are therefore associated with certain physiological and/or psychological costs. Examples are a high work pressure, role overload, poor environmental conditions and problems related to reorganization. *Job resources* refer to those physical, psychological, social, or organizational aspects of the job that are either/or: (1) functional in achieving work goals; (2) reduce job demands and the associated physiological and psychological costs; (3) stimulate personal growth and development.

Resources may be located at the level of the organization at large (e.g., pay, career opportunities, job security), at the interpersonal level (e.g., supervisor and co-worker support, team climate), at the level of the organization of work (e.g., role clarity, participation in decision-making), and at the task level (e.g., performance feedback, skill variety, task significance, task identity, autonomy; see also Hackman & Oldham, 1976).

A second proposition in the JD–R model is that work characteristics may evoke two different processes. First, high job demands (i.e., work overload) may exhaust employees' mental and physical resources and may therefore lead to health problems or burnout (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2000, 2001; Lee & Ashforth, 1996; Leiter, 1993). Second, poor or lacking job resources preclude actual goal accomplishment, which is likely to cause failure and frustration. In its turn this may lead to withdrawal from work, and reduced motivation or commitment. When the external environment lacks resources, individuals cannot reduce the potentially negative influence of high job demands and they cannot achieve their work goals. In such a situation, reducing commitment can be an important self-protection mechanism that may prevent the future frustration of not obtaining work-related goals (cf. Antonovski, 1987; Hackman & Oldham, 1976, 1980).

1.5. The present study

This study uses the JD–R model to examine how job demands and job resources influence absence duration and frequency among Dutch production employees, through their relationship with burnout and organizational commitment. On the basis of this model, we hypothesize that the work environment influences employees' absence behavior in two different ways. First, we expect that demanding aspects of work (e.g., extreme job demands) lead to impaired health (i.e., burnout). Therefore, and in accordance with the 'stress' explanation for absenteeism, we predict that job demands (and not job resources) will have a positive impact on absence *duration,* through the experience of burnout (*Hypothesis 1*). In other words, we expect that burnout will play a mediating role in the relationship between job demands and total number of days absent, being an indicator of strain-related absence from work.

Second, we expect that job resources facilitate actual goal accomplishment (including dealing with demands), which provokes feelings of success, which further enhance organizational commitment. Therefore, and in line with the 'withdrawal' explanation for absenteeism, we predict that job resources (and not job demands) will have a negative effect on absence *frequency,* through their (positive) influence on organizational commitment (*Hypothesis 2*). Thus, we expect that commitment will play a mediating role in the relationship between job resources and absence frequency, being an indicator of voluntary absence from work. Both hypotheses are graphically depicted in Fig. 1. Finally, the two absence measures were assumed to influence each other, since the frequency measure may also include absence due to involuntary factors such as illness, and the duration measure may also include voluntary, or avoidable, absence (cf. Thomson, Griffiths, & Davison, 2000).
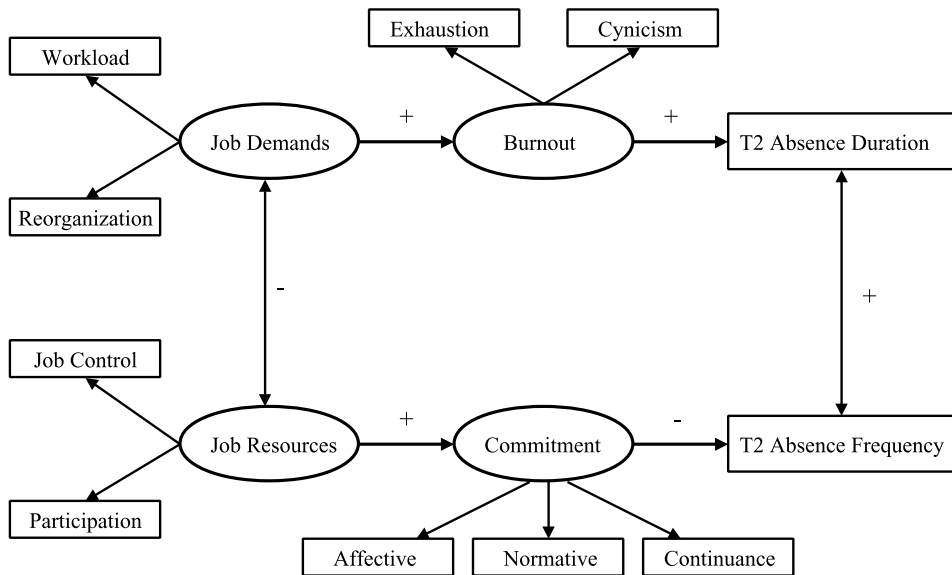
Fig. 1. The Job Demands–Resources model applied to absenteeism.

2. Method

2.1. Participants and procedure

In March 1998, a questionnaire was distributed among all 330 employees of a nutrition production company in The Netherlands. Employees were kindly requested to fill out the questionnaire, and to post it in a special box at their workplace. The confidentiality of the answers was emphasized. By means of a unique code, questionnaire data could be linked with absenteeism data that were retrieved from the company's computerized registration system. A total of 214 employees filled out and returned the questionnaire (response rate = 65%). The sample included 147 males (69%) and 67 females (31%). Their mean age was 41 years ($SD = 9$) and mean organizational tenure was 13 years ($SD = 9$). Most employees worked full-time (91%). Meetings with management and employees' representatives facilitated the identification of the most important and relevant job demands (workload and problems with reorganization) and job resources (job control and participation in decision making) at the time of the study.

2.2. Measures

Job demands. Workload was assessed with five items from the Dutch version (Furda, 1995) of Karasek's (1985) Job Content questionnaire. The scale includes items

that refer to quantitative, demanding aspects of the job (e.g., working hard, having too much work to do). A sample item is: "My work requires working very hard." Items are scored on a four-point Likert-scale, ranging from (1) "never" to (4) "always." The internal consistency of the job demands scale was satisfactory: Cronbach's α was .74. *Problems with reorganization* were assessed with a four-item scale based on Van Veldhoven & Meijman (1994), including "Do changes in your tasks pose difficulties to you? (1 = never, 4 = always). Cronbach's α was .76.

Job resources. Job Control was assessed with six items from Van Veldhoven & Meijman's (1994) questionnaire (see also De Jonge, Bosma, Peter, & Siegrist, 2000). The items refer to employees' control regarding job content and the timing of work tasks. An example item is: "Are you allowed to decide by yourself how to perform your work?" Participants could use the same answer categories as for job demands (Cronbach's α = .91). *Participation in decision-making* was measured with a six-item scale based on Karasek (1985), including "I have influence over decisions that are made by my supervisor" (1 = never, 4 = always). Cronbach's α was .86. All responses were coded such that higher scores referred to higher job demands and more job resources, respectively.

Burnout was assessed using the Dutch version (Schaufeli & Van Dierendonck, 2000) of the Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996). Two sub-scales from this inventory were used in the current study, namely exhaustion and cynicism. *Exhaustion* was measured with five items, such as: "I feel emotionally drained from my work." The internal consistency of the exhaustion scale was high: Cronbach's α was .88. The second burnout dimension, *cynicism,* was also assessed with five items, including "I have become less enthusiastic about my work" (Cronbach's α = .72). All items were scored on a seven-point rating scale, ranging from (0) "never" to (6) "every day." High scores on exhaustion and cynicism are indicative for burnout.

Organizational Commitment was measured using a reliable and validated Dutch version (De Gilder, Van den Heuvel, & Ellemers, 1997) of Meyer & Allen's (1991) three-dimensional questionnaire. Exemplary items are: "I feel emotionally attached to the organization" (*affective* commitment; Cronbach's α = .87); "I believe that people should be loyal to their organization" (*normative* commitment; Cronbach's α = .90); and "Right now, I have the feeling that I have too few alternatives to quit from my job" (*continuance* commitment; Cronbach's α = .89). All items were scored on a five-point rating scale, ranging from (1) "not at all" to (5) "to a large extent." High scores on affective, normative and continuance commitment are indicative for organizational commitment.

Absenteeism data were retrieved from the company's computerized registration system. We included absence frequency (i.e., amount of absence spells) and absence duration measures (i.e., total days lost). A period of one year was chosen to increase stability in the absence measures (Hammer & Landau, 1981). Absence data for each participant were collected during the one-year period *following* the administration of the questionnaire. The mean absence frequency was 1.18 (*SD* = 1.31) times and the mean absence duration was 15.92 days (*SD* = 34.94).

2.3. Analyses

The model was tested with structural equation modeling (SEM) analyses using the AMOS computer program (Arbuckle, 1997). Maximum likelihood estimation methods were used and the covariance matrix of the items was the input for the analysis. The goodness-of-fit of the model was evaluated using absolute and relative indices. The absolute goodness-of-fit indices calculated were the χ^2 goodness-of-fit statistic and the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993). Non-significant χ^2-values indicate that the hypothesized model fits the data, and RMSEA-values smaller than or equal to .08 are indicative of an acceptable fit (Browne & Cudeck, 1993).

However, the χ^2 goodness-of-fit statistic is sensitive to sample size, so that the probability of rejecting the hypothesized model increases with increasing sample size. To overcome this problem, the computation of *relative* goodness-of-fit indices is strongly recommended (Bentler, 1990). As suggested by Marsh, Balla, & Hau (1996), we used the Non-Normed Fit Index (NNFI), the Incremental Fit Index (IFI), and the Comparative Fit Index (CFI). For these relative fit-indices, as a rule of thumb, values of .90 or higher are considered as indicating a good fit (Hoyle, 1995).

The latent exogenous factors, job demands and job resources, were both operationalized by two exogenous observed variables (see Fig. 1). The manifest indicators of job demands were workload and problems with reorganization. Job resources were indicated by job control and participation in decision-making. In addition, the structural model includes two types of endogenous variables: (1) burnout and organizational commitment as latent (mediator) variables, and (2) absence duration and frequency as observed variables. The latent endogenous factor 'burnout' was assessed by two observed variables, namely exhaustion and cynicism, whereas the latent endogenous factor 'organizational commitment' was indicated by affective, normative and continuance commitment.

3. Results

3.1. Descriptive statistics

Means, standard deviations and correlations among all study variables are presented in Table 1. Both job demands show weak to moderate negative correlations with the two job resources. The two absenteeism measures show a moderate positive correlation ($r = .45$), and they both correlate significantly with the specific job demands and job resources (except reorganization–absence frequency). In our study, only the total duration of absenteeism has *considerable* skewness (i.e., 3.34) and kurtosis (i.e., 11.34), since the skewness index is larger than 2 and the kurtosis index is larger than 5 (cf. Kendall & Stuart, 1958). For absence frequency, the skewness and kurtosis values were 1.59 and 3.10, respectively. Therefore, we decided to utilize the log-transformed scores of absence duration and the raw scores of absence frequency in the following analyses.

Table 1

Means, standard deviations and correlations of the variables included in the SEM-analyses, $N = 214$

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Workload	1.88	.51										
2. Reorganization	1.87	.42	.38**									
3. Job control	2.52	.65	−.36**	−.19**								
4. Participation	1.63	.76	−.20**	−.31**	.41**							
5. Exhaustion	1.69	1.13	.46**	.36**	−.29**	−.19*						
6. Cynicism	1.58	1.04	.31**	.32**	−.23**	−.38**	.62**					
7. Affective commitment	3.24	.83	−.16*	−.18*	.26**	.46**	−.25**	−.32**				
8. Continuance commitment	3.12	1.18	.14*	.18*	−.28**	−.13*	.16*	.14*	.15*			
9. Normative commitment	2.66	1.07	.03	.02	−.19**	.09	−.03	−.09	.37**	.46**		
10. Absence duration	1.18	1.31	.19**	.16*	−.23**	−.15*	.16*	.13*	−.07	.20**	.13*	
11. Absence frequency	15.92	34.94	.24**	.04	−.19**	−.15*	.06	.10	−.06	.24**	.08	.45**

$^*p < .05.$
$^{**}p < .01.$

3.2. Model testing

The proposed model including all hypothesized relationships (see Fig. 1) was tested with SEM-analyses. Results indicated that the model did *not* fit adequately to the data, $\chi^2(41) = 201.36, \text{GFI} = .84, \text{RMSEA} = .14, \text{CFI} = .76, \text{IFI} = .76$, and $\text{NNFI} = .68$. Inspection of the modification indices revealed that this lack of fit between the model and the data was mainly due to covariations between the measurement errors of both burnout dimensions, and between the measurement errors of the three commitment dimensions (i.e., between the errors of the indicators of each of the two mediator variables). The existence of an additional variable that is not included in the model might be responsible for such error-correlations (De Jonge et al., 2001), and is necessary in order to explain the outcome variables more fully (Long, 1983; MacCallum, Wegener, Uchino, & Fabrigar, 1993). In addition, it is important to note that items with identical rating scales often have measurement errors that are correlated (Byrne, 1989). This means that the fit of the proposed model can be improved if the measurement errors among the items of the subscales are considered. Indeed, the revised model—including the four covariations—shows a reasonable fit to the data, with only the NNFI slightly below the criterion level of .90, $\chi^2(37) = 95.55$, GFI $= .92$, RMSEA $= .08$, CFI $= .91$, IFI $= .91$, and NNFI $= .87$. In this revised model, all manifest variables load significantly on the intended latent factors, except normative commitment ($\lambda = -.07$, *n.s.*)

As can be seen in Fig. 2, the paths from job demands to burnout and from burnout to absence duration were positive and significant ($p < .05$). This means that the
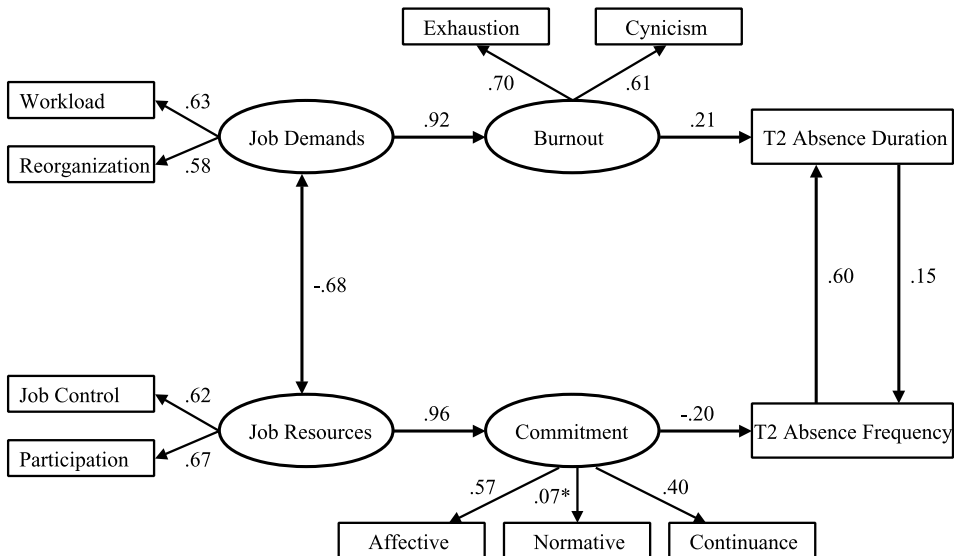

Fig. 2. Maximum likelihood estimates for the JD–R model, $N = 214$. *Note*. All factor loadings and path coefficients are significant at the $p < .05$ level, except the factor loading marked with an asterisk.

higher the job demands reported by the employees, the higher their level of burnout, and the longer their absence duration (cf. *Hypothesis 1*). In addition, the path-coefficient from job resources to commitment was highly positive and significant, whereas the coefficient of the path from commitment to absence frequency was negative and significant. This means that more job resources coincided with higher levels of commitment, which in turn resulted in less absence spells (cf. *Hypothesis 2*). Furthermore, Fig. 2 shows that absence frequency and duration influence each other. More specifically, our findings suggest that absence frequency influences absence duration ($\beta = .60$, $p < .01$; $R^2 = .35$) and vice versa ($\beta = .15$; $p < .05$; $R^2 = .02$). Even after controlling for these effects, the JD–R model explained 4% of the variance in absence duration and 4% of the variance in absence frequency.

In order to test the alternative hypothesis that job demands might also show a relationship with commitment, and job resources with burnout, we included both diagonal paths in the model. However, adding both paths did *not* result in a significant improvement of the fit between model and data, $\Delta\chi^2(2) = .87$, *n.s.* Moreover, the coefficients of both paths were non-significant (job demands → commitment: $\beta = .04$, $t = .23$, *n.s.*; job resources → burnout: $\beta = -.28$; $t = -1.72$, *n.s.*). In a second alternative model, we included the paths from burnout to absence frequency and from commitment to absence duration in order to test the hypothesis that burnout and job commitment influence *both* absence measures. These two additional paths also did not increase model fit ($\Delta\chi^2(2) = 4.02$, *n.s.*) and their coefficients failed to reach significance as well (burnout → absence frequency: $\beta = .07$; $t = .61$, *n.s.*; commitment → absence duration: $\beta = -.14$; $t = -1.49$, *n.s.*). The third alternative hypothesis to be tested was whether the working conditions would have *direct* effects on the absenteeism measures. Unfortunately, adding direct paths from job demands and job resources to the absenteeism measures, led to identification problems so that no model parameters could be estimated. Generally speaking, identification problems occur when the specified model is very poor (Bentler & Chou, 1987).

Finally, we examined the correlations between the demographics and the model variables. It turned out that only organizational tenure and age showed significant relationships. Specifically, organizational tenure and age were positively related to the latent variable job demands (.24 and .18, respectively) and negatively to the latent variable job resources (−.22 and −.31). This suggests that those with more work experience and higher age reported more job demands and less resources. In addition, age was positively related to absence duration, and organizational tenure was positively related to each of the three commitment indicators (affective .26; continuance .47; normative .23). Thus, older employees were longer absent, and those with most work experience showed strongest commitment to the organization. Inclusion of these relationships in the final model did *not* significantly affect the structural relationships. The fit of the model—including the demographics—to the data was satisfactory, and even slightly better than the model without the control variables, $\chi^2(51) = 114.18$, GFI = .92, RMSEA = .08, CFI = .93, IFI = .93, and NNFI = .89.

In sum, SEM-analyses supported the hypothesized mediating role of burnout in the relationship between job demands and the total number of days absent, as well

as the mediating role of organizational commitment in the relationship between job resources and frequency of absence spells. None of the alternative relationships between the variables included in the model were significant when added to the model, and the structural relationships did not change when demographics were included in the model as control variables.

4. Discussion

This study used the JD–R model (Demerouti et al., 2000, 2001) to examine how different categories of working conditions—job demands and job resources—are related to future absence duration and frequency. The central hypothesis was that job demands would be unique predictors of absence duration, through their impact on burnout, and that job resources would be unique predictors of absence frequency, through their impact on organizational commitment. Using absence data collected during the year following the assessment of job demands and resources, results provided strong support for the hypothesized pattern of relations. Job demands (i.e. workload and problems with reorganization) were indeed unique predictors of production workers' levels of exhaustion and cynicism (i.e. the core dimensions of burnout), and indirectly of absence duration (positive relationships). In contrast, job resources (i.e. job control and participation in decision-making) were unique predictors of commitment (positive relationship), and indirectly of absence frequency (negative relationship). Alternative models, including direct paths from job demands and job resources to the two different absenteeism measures, or including paths from job demands to commitment and from job resources to burnout did not fit better to the data than the proposed model. Moreover, none of the coefficients of the alternative paths was significant. Because the correlational analysis revealed that all working characteristics (except one) were significantly related to the two measures of absenteeism, our findings suggest that burnout and commitment *mediate* the relationship between job demands and resources on the one hand, and absence duration and frequency on the other hand, respectively.

Thus, our theoretical framework (Demerouti et al., 2000, 2001) was successful in integrating two different processes responsible for two types of absenteeism. The first process can best be described as a *health impairment* process starting with high job demands, which lead to burnout and longer periods of absence, respectively. The second process is *motivational* in nature, and starts with job resources. Employees who can draw upon job resources such as job control and participation in decision-making might be more motivated to do their job, feel stronger commitment to their organization, and report themselves less often sick than their counterparts. These findings integrate and expand previous studies, in which moderate support was found for the idea that employees who experience job stress are *longer* absent (e.g., Firth & Britton, 1989; Saxton, Phillips, & Blakeney, 1991) and for the notion that employees low in job satisfaction and organizational commitment are absent more frequently (e.g., Cohen, 1991; Farrell & Stamm, 1988). Our findings show a unique pattern of relationships that is consistent with Johns's (1997) observation that employees may be absent because

they temporarily do not want to work due to demoralizing or aversive work circumstances ('withdrawal' hypothesis), or because they are unable to work as they are stressed by their work situation ('stress' hypothesis), or both. Furthermore, the model of absenteeism tested in our study is one of the few that incorporates individually assessed job characteristics, stress-reactions and work-related attitudes for the explanation of different forms of absenteeism. Results support the notion that absenteeism is not a unitary concept since different processes seem to cause different aspects of absenteeism. Our findings are all the more convincing since our frequency measure may also have included absence due to involuntary factors such as sickness, and our duration measure may have included voluntary, or avoidable, absence. Indeed, our correlational analysis showed that the two absence measures share 20% of their variance. Nevertheless, we agree with Thomson et al. (2000) that future studies may profit from a better discrimination between absence frequency and duration, for example by examining certified and non-certified absence.

One unexpected finding was that, in contrast to affective and continuance commitment, normative commitment did not load significantly on the latent factor organizational commitment. Because this latent commitment factor had a negative effect on absence frequency, this means that employees more often reported themselves sick in case they felt more affective attachment to the organization, and perceived relatively few alternatives to their job (cf. Gellatly, 1995; Johns & Nicholson, 1982). Employees' loyalty to the organization (i.e. normative commitment) did not help to explain the frequency of absence spells. It is unclear why this type of commitment did not perform as predicted. Additional confirmatory factor analyses produced a clear three-factor solution, and showed that—at the item level—all commitment items loaded on the intended factors, and explained together 71% of the variance. Most probably, normative commitment has different predictors and outcomes than the two other commitment dimensions (see Johns, 1997).

Our study was restricted to the examination of two specific job demands and two specific resources. At the heart of Demerouti et al.'s (2001) JD–R model lies the assumption that whereas every organization may have its own specific characteristics, these factors can still be classified in two general categories (i.e., job demands and job resources). Future studies should examine a broader range of demands and resources, potentially related to absenteeism in a similar way.

The present study has several limitations. First, the measurement of the work characteristics was based solely on self-reports, which increases the possibility that the relationships between job demands and resources on the one hand, and burnout and commitment on the other hand might be due to common method variance. However, the differentiated pattern of relationships and the consistency of our findings with theory-rooted hypotheses suggest that the single method bias is not a major drawback of this study. A second limitation is that we tested our model among a specific group of professionals, namely employees from a nutrition production company who work within a specific constellation of working conditions. This calls under question the external validity of our findings. However, we believe that the current findings are not unique for production workers, since evidence for each of the relationships in our model has been found in studies among employees in a wide range of occupations.

Despite these limitations, the present findings may have important implications for organizational practice and for individuals' vocational behavior. First and foremost, our study shows that different absence measures are the result of two different processes. This underlines the importance of a systematical distinction between absence duration and absence frequency by human resource managers. Results clearly suggest that, in order to decrease the duration or frequency of absenteeism, specific countermeasures have to be taken regarding the working environment. Specifically, in order to reduce or prevent burnout and consequently *absence duration*, specific job demands (in the present study: workload and problems with reorganization) should be reduced or optimized. In addition, in order to increase commitment and lower *absence frequency*, the availability of job resources (in this study: job control and participation in decision-making) should be considered. Schaufeli & Enzmann (1998) have described several interventions at the organizational level that can be used to attain this, including job redesign, job coaching, and organizational development programs. However, it may be easier to influence absence frequency with management tools than absence duration, since reducing workload or avoiding reorganization (e.g., downsizing) processes might be difficult to realize in some cases, whereas the provision of job control and the increase of employee participation might be easier to achieve through job (re) design approaches.

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