

Withdrawal and burnout in health care: On the mediating role of lack of reciprocity

Wilmar Schaufeli¹, Vicente González-Romá², José-Maria Peiró², Sabine Geurts³ & Inés Tomás²

¹ Department of Social and Organizational Psychology, Utrecht University, The Netherlands

² Research Unit on Work and Organizational Psychology, University of Valencia, Spain

³ Department of Work and Organizational Psychology, University of Nijmegen, The Netherlands

The main purpose of this article is to illustrate the role that a lack of reciprocity between employee's investments and outcomes plays in the development of burnout and withdrawal. Buunk and Schaufeli (1999) have pointed out that reciprocity plays a key role in social and organizational life, and that establishing reciprocal relationships is essential for the individual's health and well-being. They argue that the strong and universal preference for reciprocal relationships is a deeply rooted psychological mechanism that may have fostered survival and reproductive success in our evolutionary past. The notion of reciprocity is also crucial in equity theory (Adams, 1965) that postulates that employees pursue equity in their exchange with the organization. That is, employees agree to make specific contributions to an organization (e.g., skills, experience, time, and effort) for which they expect the organization to provide benefits (e.g., payment, fringe benefits, promotion prospects, and a supportive climate) that are proportional to their contributions. Classic equity theory (Adams, 1965) assumes that people's evaluation of the balance between investments and benefits is primarily based on *social* comparisons, that is, comparisons with real or hypothetical others. Pritchard (1969), however, argued that inequity could easily well arise from the lack of correspondence between investments and benefits relative to one's own *internal* standards, or between demands and resources, for that matter. Following Pritchard's line of reasoning, we define reciprocity as the equality of perceived investments and benefits *relative to one's internal standards* (cf. Schaufeli, Van Dierendonck & Van Gorp, 1996). A lack of reciprocity is experienced when the costs of the exchange with the organization outweigh

* Correspondence: Wilmar Schaufeli, w.schaufeli@fss.uu.nl

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the benefits received back in return: in that case the expectation of reciprocity remains unfulfilled.

Mental bookkeeping

Theories on job stress often assume that a discrepancy or mismatch between some kinds of investments and benefits, or demands and resources *directly* leads to poor employee health and well-being, without assuming intermediate cognitive processes. For instance, the Effort-Reward Imbalance (ERI) model (Siegrist, 1998, p.192) claims that "...lack of reciprocity between costs and gains (i.e., high cost/low gain conditions) defines a state of emotional distress (...) and associated strain reactions", but lack of reciprocity is not included in the model as a mediator. Instead it is assumed that an imbalance between efforts (i.e., high job demands) and rewards (i.e., salary, esteem, job stability, promotion prospects) directly leads to autonomic arousal and associated physical strain reactions such as cardiovascular disease, as well as to burnout (Bakker, Killmer, Siegrist & Schaufeli, 2000). In a similar vein, the Job Demand-Control-Support (JDCS) model (Karasek & Theorell, 1990) assumes that the interplay between high job demands and poor job control directly leads to psychological strain, such as burnout (De Rijk, Le Blanc, Schaufeli & De Jonge, 1998). Again, without including an intermediate cognitive process variable such as lack of reciprocity into the model. In sum: both models assume that the discrepancy between efforts and rewards (ERI) or between demands and resources (JDCS) is responsible for poor employee health and well-being (e.g., burnout) but they do *not* assume a cognitive evaluative process that assesses the relative impact of the positive (i.e., rewards, resources) and the negative (i.e., efforts, demands) characteristics of the job.

We believe that including reciprocity as a process variable into job stress models may help to illuminate the psychological mechanisms involved. Basically, we assume that an employee's global sense of reciprocity results from his or her 'mental bookkeeping' of costs and gains that go into and result from the relationship with the organization. Job demands are considered 'investments' in the sense that they require the expenditure of effort, time, energy, and skill, whereas, for instance, supportive leadership behavior is viewed as a 'benefit' that results from the exchange relationship with the organization. These two variables are selected in the present study because job demands and social support play a crucial role in most job stress models, including the ERI-model and the JDCS-model.

In case the result of the 'mental bookkeeping' is negative, that is, when a lack of reciprocity is experienced (whether or not after various failed attempts to restore the balance), employees may nevertheless not wish to leave the organization. The choice for this coping strategy – leaving the field – will namely depend, among other things, on the perceived availability of alterna-

tive employment opportunities (Rusbult & Farrell, 1983). When employees perceive barriers to leave the work situation, for instance because of high unemployment rates, they are 'forced' to stay in their jobs. At the time the current study was carried out unemployment rates in Spain were quite high. According to the Statistical National Institute, in the year that the current study was conducted 32% of the working population in the service sector was unemployed. So that it is likely that many employees in our study were 'locked in' their jobs. In addition, other pull factors may play a similar role, such as a high need for secure jobs. Typically, Spanish employees strongly favor stable, tenured jobs in the civil service. For instance, 62% of a representative sample of Spanish workers indicated that job security was "(very) important" to them so that job security ranked second on a list containing fifteen job characteristics, just after a good income (Orizo, 1991). In addition, 65% of a representative sample aged between 16 and 30 years from the Valencian region, where the current study was carried out preferred a job as a civil servant to a permanent contract in a private enterprise (Garcia-Montalvo, Pieró & Soro, 2003).

Consequences of perceived lacking reciprocity

When employees experience a lack of reciprocity at work, they not only will feel bad but they will also be motivated to restore the balance (Adams, 1965). More specifically, cognitive withdrawal (i.e., turnover intention and reduced commitment) as well as behavioral withdrawal (i.e., absenteeism) are means available to restore reciprocity. For instance, in their social-psychological theory of absenteeism Chadwick-Jones, Nicholson and Brown (1982) argued that absenteeism should be considered as negative exchange behavior: employees are withholding their presence from work to make up for workload pressures, stress, or other negative aspects of their jobs. Indeed, several studies have shown that employees report sick more often the greater the lack of reciprocity they perceive in their exchange with the organization (e.g., Geurts, Buunk & Schaufeli, 1994a; 1994b).

In addition to behavioral withdrawal, lacking reciprocity is also expected to lead to cognitive withdrawal; i.e., propensity to leave the job and reduced organizational commitment. From a social exchange perspective it can be assumed that the more employees feel that their investments into the organization outweigh the benefits they received back in return, the less attached they will feel to the organization and thus the more they will reduce their levels of commitment and the more they will be willing to leave the organization. This was supported by Syroit, Lodewijkx, Franssen and Gertsel (1993), who found that employees reduced their levels of organizational commitment in response to unfulfilled expectations of reciprocity in the employment relationship. Furthermore, Geurts, Schaufeli and Rutte (1999) observed a direct

relationship between lack of reciprocity and registered absenteeism, whereas an indirect effect was observed (via feelings of resentment) on poor organizational commitment and turnover intention. In a somewhat similar vein, studies on organizational fairness have provided empirical support for poor organizational commitment as reaction to perceived unfairness in organizations (e.g., Rutte & Messick, 1995). Finally, it has been shown that lack of reciprocity is positively related to intention to leave the organization (e.g., Rosin & Korabik, 1995).

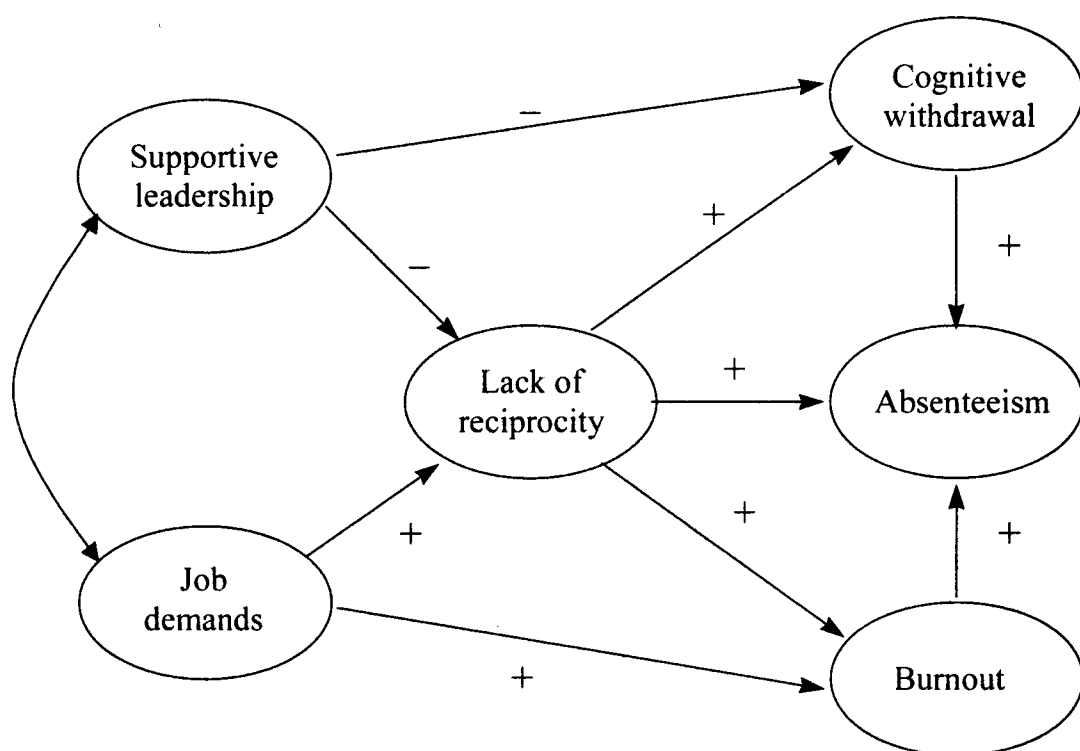
As noted before, a lack of reciprocity is also associated with psychological strain. More specifically, we expect that a lack of reciprocity is positively related to burnout. In accordance with the literature, we conceive burnout as a multidimensional construct that consists of emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach, Schaufeli & Leiter, 2001). Emotional exhaustion refers to the depletion of emotional resources in response to high job demands; depersonalization refers to an impersonal and cynical attitude towards recipients of one's care; and reduced personal accomplishment refers to the tendency to evaluate oneself negatively with regards to one's accomplishments at work. Buunk and Schaufeli (1993, 1999) have argued that lacking reciprocity in interpersonal caregiver-recipient relationships as well as in employee-organization relationships is related to burnout. They point out that investing in a social exchange relationship without receiving appropriate outcomes is frustrating and highly energy consuming. The resulting emotional exhaustion is dealt with by reducing investments, that is, by developing a detached, cynical, and impersonal ('depersonalized') attitude in an attempt to restore reciprocity. An attitude like this is dysfunctional because it increases failures, deteriorates work performance and thus fosters a sense of diminished personal accomplishment. A series of studies among nurses, mental health care professionals, teachers, police officers, prison guards, and mental retardation staff have confirmed the positive relationship between lacking reciprocity with the organization and burnout (for an overview see Buunk & Schaufeli, 1999).

The research model

In figure 1 our research model is displayed. The signs indicate the expected direction of the relationships.

As can be seen from figure 1, not only indirect paths via lack of reciprocity are assumed, but also *direct* paths linking demands and burnout, and linking supportive leadership and cognitive withdrawal, respectively. In other words the model assumes that lack of reciprocity '*partially_mediates*' the relationship between job demands and supportive leadership on the one hand, and cognitive and behavioral (i.e., absenteeism) withdrawal and burnout on the other hand.

Figure 1: The research model



Job demands such as work-overload and role problems have been identified as major determinants of various stress reactions or strains, including burnout (for overviews see; Lee & Ashforth, 1996; Schaufeli & Enzmann, 1998, pp. 82-83). In addition, because of the particular relevance for the medical setting, the present study includes environmental demands such as poor physical climate and the exposure to toxic substances, radiation, and biological agents (Tan, 1991). Thus, we expect a positive relationship between job demands and burnout (see figure 1).

Research findings also suggest that supportive leadership behaviors are associated with stronger organizational commitment (e.g., Glisson & Durick, 1988), and a lower propensity to leave the organization (Rosin & Korabik, 1995). Thus, we expect that supportive leadership is negatively related to cognitive withdrawal from the organization (see figure 1).

Our research model not only assumes that lack of reciprocity is related to absenteeism, but also that cognitive withdrawal is affecting levels of absenteeism. Based on the so-called withdrawal model of absenteeism (Johns, 1997) it is expected that the loosening of the attachment to the organization precedes actual absenteeism. Indeed, several meta-analyses report sample-sized-weighted correlations between organizational commitment and absenteeism that range from -0.10 to -0.12 (e.g., Mathieu & Zajac, 1990). Hence, a weak positive relationship is expected between cognitive withdrawal and absenteeism.

Finally, our research model assumes that burned-out employees are more likely to be absent because their symptoms – particularly emotional exhaustion – interfere with attendance at the job. It has been found across ten studies (Schaufeli & Enzmann, 1998, p. 91) that the relationship between absenteeism and emotional exhaustion is most consistent (r 's about .15), followed by depersonalization (r 's about .10). Reduced personal accomplishment was related to absenteeism only in three studies with an average explained variance less than 1%. Accordingly, we expect small, positive effects of burnout on absenteeism.

Gender differences

Our study includes male as well as female health-care workers. It seems that structural differences exist in the absence behaviors of men and women. For instance, VandenHeuvel and Wooden (1995) report that absence behavior of women is more sensitive to external pressure to the workplace, whilst absence behavior of males is more sensitive to factors internal to the workplace. Results from a large-scale epidemiological study seem to concur with these findings since it was observed that low levels of job control, job demands, and social support were associated with higher rates of sickness absenteeism among males, but not among females (North, Syme, Feeney, Shipley & Marmot, 1996). Although it seems that absenteeism is related to different factors in male and female employees, study results are not entirely conclusive. Therefore, we will investigate our research model also separately for each sex.

Method

Participants and procedure

A sample of 1,000 subjects was drawn from a population of 35,805 employees who were employed by the Regional Public Health Service (RPHS) in the Valencian region in Spain by means of a two-stage randomized procedure. In the first stage, 250 work teams were randomly selected. Next, in the second stage, four members of each work team were sampled; one of them being the team supervisor, the remaining three were randomly selected from the team. A professional interviewing agency approached about 1,000 employees on their jobs and asked them to fill out the questionnaire. The total number of usable questionnaires returned was 932.

Team supervisors responded to a slightly different questionnaire in which items on supervisor's supportive behaviors were worded as self-perceptions (i.e., "I coach my employees adequately so that they can do a proper job") rather than as employees' perceptions (i.e., "Your supervisor coaches you so

that you can do your job properly"). Because our research model includes supportive leadership behaviors as perceived by subordinates, team supervisors are excluded, leaving a total sample of 721 non-supervisor employees. Female respondents who were on maternity leave were excluded (see below), so that a final sample of $n = 715$ remained. With regard to gender, 63.1% of these employees were women. The study sample average age was 41.1 years ($SD = 9.6$), and the average organizational tenure was 14.3 years ($SD = 8.3$). Twenty-three percent were physicians, 33% were nurses, 15% were nursing auxiliaries, 14% were maintenance personnel, and the remaining 15% worked in administrative or technical jobs.

Measures

Supportive leadership behaviors (SLB). Following Yukl (1990), three supportive leadership behaviors were measured: acknowledgment, consideration and communication. Each type of behavior was measured by three items: the *acknowledgment* scale refers to the extent to which the supervisor acknowledges the employees' efforts, work outcomes, and initiatives (e.g., "My supervisor acknowledges my initiatives for improving work"). The *consideration* scale refers to the extent to which the supervisor shows interest in subordinates and trusts them (e.g., "My supervisor shows interest in us as persons"). The *communication* scale indicates the extent to which the supervisor informs subordinates about the organization, the job, and other relevant issues (e.g., "My supervisor informs us about the issues that may affect us"). Each employee was asked to rate his/her supervisor using a 5-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree'). Cronbach's α of the three SLB scales were as follows: acknowledgment: 0.94, consideration: 0.89, and communication: 0.89.

Job demands. Two scales were used to measure different job demands. The first 3-item scale (Camman, Fichman, Jenkins & Klesh, 1979) assessed perceived *work overload* (e.g., "The amount of work I have to do is excessive"). Items were scored on a 5-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree'). Cronbach's α for this scale was 0.83. The second scale assessed perceived job stress and consisted of 11 items that were selected from the Occupational Stress Indicator (OSI; Cooper, Sloan & Williams 1988). Subjects were asked to indicate how demanding different aspects of their jobs are, such as the physical work environment (e.g., noise, heat), shift work, poor work team climate, and the risk of being exposed to radiation, toxic substances, or biological agents. Items were scored on a 5-point Likert scale ranging from 1 ('not at all') to 5 ('very much'). In order to investigate the dimensionality of the job stress scale, a principal component analysis with subsequent varimax rotation was carried out that included all 11 items of the scale. Two components emerged with Eigenvalues greater than 1

explaining 48% of the variance in total. Six items that referred to role stress (i.e., role conflict and role ambiguity) and to the social-communicative aspects of the job (i.e., the organization's political gossip, discrimination, and favoritism) loaded high (i.e., equal or greater than 0.50) on the first component that was labeled *organizational demands*. The remaining five items that referred to various working conditions (physical dangers, poor environmental conditions shift work, and physical and mental effort) loaded high on the second component that was labeled *demanding_working conditions*. The α coefficient for the first component was 0.83, whereas it was slightly lower for the second component (0.66).

Perceived lack of reciprocity was measured by a 3-item scale that was used previously in studies on absenteeism (e.g., Geurts, Schaufeli & Buunk, 1993) and burnout (e.g., Van Dierendonck, Schaufeli & Buunk, 1996): (1) "I invest more in my work than what I get out of it"; "Considering what I'm paid for my work, I put too much effort into it"; "What I do in my work is in balance with what I'm paid for" (reversed). Subjects responded using a 5-point Likert scale ranging from 1 ('*strongly disagree*') to 5 ('*strongly agree*'). The α coefficient was 0.76.

Burnout. For reasons of economy, all three burnout dimensions (i.e., *emotional exhaustion*, *depersonalization* and *lack of personal accomplishment*) were measured by three items each. Items were selected from the Maslach Burnout Inventory (Maslach & Jackson, 1986) on their face-validity (Peiró, González-Romá, Tordera & Mañas, 2001). The response scale ranged from 1 ('*never*') to 5 ('*always*'). Cronbach's α for the three scales were 0.79 (emotional exhaustion), 0.71 (depersonalization) and 0.76 (lack of personal accomplishment).

Cognitive withdrawal was assessed by three indicators: propensity to leave the organization, propensity to leave the unit, and poor organizational commitment. *Propensity to leave the organization* was measured by a 3-item self-constructed scale (e.g., "If a private health care organization would offer me a job with the same pay and status that I have now, I would quit my present job") with a 5-point Likert answering format ranging from 1 ('*strongly disagree*') to 5 ('*strongly agree*'). Coefficient α was 0.69. *Propensity to leave the unit* was measured by a single item ("When I'm offered the same job conditions, I'd rather work in a different RPHS unit"), using a similar response scale. *Organizational commitment* was measured by three items (e.g., "I share the goals of my organization") that were selected from the scale developed by O'Reilly and Chatman (1986). The response scale was identical to the one used in both propensity to leave scales. Coefficient α was 0.82.

Absence frequency (i.e., the number of absence episodes during the previous 18 months preceding the interview as registered in the organization's files)

was chosen as an indicator of behavioral withdrawal. Absence frequency measures are more stable than time lost measures and it is believed that the former best reflects voluntary absence; that is, absences in which employees have some freedom of choice in deciding whether or not to stay away from work (Hammer & Landau, 1981). For administrative reasons only absences longer than two days were registered into the RPHS personnel files because under the current law, all absences longer than two days have to be certified by the employee's family physician. Spanish employees are fully financially compensated for their absence at work. As noted before, female respondents who were on maternity leave were excluded from further analysis.

Because the distribution of absenteeism measures was truncated, the absence frequency measure showed high levels of kurtosis (5.84) and skewness (2.13). Therefore, the following transformation was applied: $\ln(\text{absence frequency} + 1)$ (Aiken & West, 1991). After this transformation levels of kurtosis (0.13) and skewness (.98) were acceptable for using the estimation method described below.

Analysis

Structural equation modeling (SEM) methods as implemented by LISREL 8 (Jöreskog & Sörbom, 1993) were used to test the hypothesized model. Maximum likelihood (ML) estimation methods were used and the input for each analysis was the variables covariance matrix. As the ML method assumes multivariate normal observed variables, this distributional assumption of the data was tested. The tests of univariate and multivariate normality yielded by PRELIS 2.30 indicated that the observed variables could not be considered as strictly normal. However, simulation studies that have analyzed the robustness of ML estimators to violations of distributional assumptions when the observed variables are discrete (e.g., Muthén & Kaplan, 1985) reported that when the sample sizes are reasonable, the non-normality of the data is not expected to produce incorrect parameter estimates. Moreover, not much distortion of the ML χ^2 goodness-of-fit statistic is to be expected with non-normal ordered categorical variables, if they show a moderate departure from normality, that is, most variables having univariate skewness and kurtosis in the range -1.0 to +1.0 (Muthén & Kaplan, 1985). All the variables in our study but one showed a moderate departure from normality; only propensity to leave the unit showed a kurtosis statistic (-1.15) outside the aforementioned range.

The goodness-of-fit of the models was evaluated using absolute and relative indices. The absolute goodness-of-fit indices calculated were the χ^2 goodness-of-fit statistic, the Adjusted Goodness-of-Fit Index (AGFI, Jöreskog & Sörbom, 1989), and the Root Mean Square Error of Approximation (RMSEA, Browne & Cudeck, 1993). For AGFI no critical values exist, whereas values

for RMSEA smaller than 0.08 are indicative of an acceptable fit, and values greater than 0.1 should lead to model rejection (Browne & Cudeck, 1993). The relative goodness-of-fit indices computed were the Non-Normed Fit Index (NNFI) and the Comparative Fit Index (CFI), the two incremental fit indices recommended by Marsh, Balla and Hau (1996). For both indices, values greater than 0.90 are considered as indicating a good fit (Hoyle, 1995).

Before testing the hypothesized structural model (see figure 1), we tested the implied measurement model to ascertain whether the observed variables measured by means of questionnaires were adequate indicators of their corresponding latent variables, and whether these latent variables could be considered distinct constructs (Anderson & Gerbing, 1988). The measurement model showed an adequate fit to data ($\chi^2 = 331.5$, $df = 80$, $p < 0.01$; AGFI = 0.91; RMSEA = 0.069; CFI = 0.93; NNFI = 0.91). The parameter estimates obtained revealed that the model latent variables were discriminable constructs, and that all factor loadings were statistically significant ($p < 0.01$), except the loading of lack of personal accomplishment ($\lambda = 0.01^1$). Therefore, this observed variable was removed from the measurement (and further) model(s). When the measurement model was re-estimated, a slightly improved goodness-of-fit indices was obtained ($\chi^2 = 216.9$, $df = 67$, $p < 0.01$; AGFI = 0.93; RMSEA = 0.057; CFI = 0.96; NNFI = 0.94).

Results

Descriptive statistics and correlations among the study variables are displayed in table 1. As expected, the correlation coefficients obtained showed that lack of reciprocity was negatively associated with the three supportive leadership behaviors (SLB), and positively related to the three job demands variables.

¹ *All parameter estimates throughout the paper are standardized.*

Table 1: Means, standard deviations and correlations among the study variables

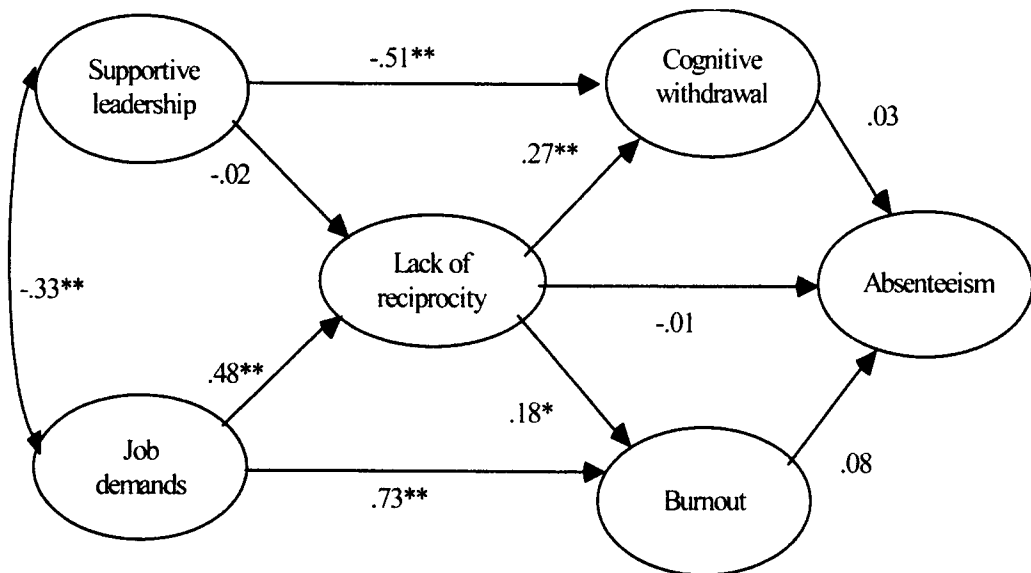
Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Acknowledgement	3.2	1.3	--													
2. Consideration	3.6	1.2	.82**	--												
3. Communication	3.2	1.2	.76**	.76**	--											
4. Role overload	3.0	1.1	-.08*	-.07	-.07	--										
5. Organizational demands	3.0	1.0	-.33**	-.31**	-.32**	.24**	--									
6. Demanding working conditions	2.9	0.9	-.18*	-.17**	-.15*	.28**	.51**	--								
7. Lack of reciprocity	3.7	1.0	-.14**	-.14**	-.14**	.31**	.26**	.30**	--							
8. Depersonalization	1.8	0.8	-.14**	-.11**	-.07	.12**	.22**	.21**	.07*	--						
9. Emotional exhaustion	3.0	0.9	-.09*	-.09*	-.07*	.42**	.37**	.46**	.38**	.25**	--					
10. Personal accomplishment	2.0	0.8	-.14**	-.14**	-.10**	-.06	.10**	-.03	-.08*	.27**	-.03	--				
11. Propensity to leave the organization	2.0	0.9	-.27**	-.24**	-.26**	.13**	.29**	.16**	.14**	.20**	.16**	.10**	--			
12. Propensity to leave the unit	2.5	1.5	-.24**	-.22**	-.21**	.13**	.23**	.16**	.10**	.22**	.17**	.14**	.28**	--		
13. Organizational commitment	3.6	1.0	.31**	.28**	.31**	-.12**	-.36**	-.23**	-.22**	-.13**	-.22**	-.18**	-.35**	-.20**	--	
14. Absenteeism	0.4	0.5	-.03	-.03	-.06	.04	.04	.01	.02	.00	.09*	-.05	.02	.06	-.02	--

* $p < .05$; ** $p < .01$

Furthermore, and again as expected, lack of reciprocity was negatively related to organizational commitment, and positively related to propensity to leave the organization and the unit. Also in accordance with our expectations, the correlation coefficient between lack of reciprocity, and depersonalization and emotional exhaustion were positive. Finally, lack of reciprocity was not correlated with absenteeism. Only emotional exhaustion showed a statistically significant correlation with absenteeism.

The hypothesized model showed a satisfactory fit to data ($\chi^2 = 299.8$, $df = 81$, $p < 0.01$; AGFI = 0.92; RMSEA = 0.06; CFI = 0.94; NNFI = 0.92). The parameter estimates obtained (see figure 2) showed that SLB was negatively related to cognitive withdrawal (-0.51 , $p < .01$), but contrary to our expectations it was not related to lack of reciprocity (-0.02 , *n.s.*). Job demands were positively related to lack of reciprocity (0.48 , $p < .01$) and burnout ($.73$, $p < 0.1$). As expected, lack of reciprocity was positively related to cognitive withdrawal (0.27 , $p < .01$) and burnout (0.18 , $p < .01$), but it was not related to absenteeism (0.03 and 0.08 , respectively).

Figure 2: Standardized parameter estimates for the structural parameters of the hypothesized model



Note: ** $p < 0.01$; * $p < 0.05$.

As to the hypotheses referring to the mediating role of lack of reciprocity, these results pointed out that lack of reciprocity did *not* mediate the impact of SLB on cognitive and behavioral withdrawal and burnout, because SLB and lack of reciprocity were not related. Lack of reciprocity *partially* mediated the relationship between job demands and burnout, because job demands and lack of reciprocity were significantly related, and the relationship between lack of reciprocity and burnout was still significant when the impact of job demands on burnout was simultaneously estimated. However, lack of reciprocity did not mediate the relationship between job demands

and absenteeism, because the relationship between lack of reciprocity and absenteeism was not significant. To ascertain whether lack of reciprocity mediated the impact of job demands on cognitive withdrawal, the hypothesized model was re-estimated including the coefficient estimating the impact of job demands on cognitive withdrawal. This model showed a good fit to data ($\chi^2 = 245.8$, $df = 80$, $p < .01$; AGFI = 0.93; RMSEA = 0.055; CFI = 0.95; NNFI = 0.94). The new coefficient estimating the impact of job demands on cognitive withdrawal was statistically significant (0.50, $p < .01$), and the coefficient estimating the impact of lack of reciprocity on cognitive withdrawal lost its statistical significance (0.02, $p > .05$). The difference in fit between both nested models was statistically significant ($\Delta\chi^2 = 54$, $\Delta df = 1$, $p < 0.01$). Hence, these results revealed that lack of reciprocity did *not* mediate the relationship between job demands and cognitive withdrawal.

As argued in the introduction, absence behaviors of males and females should be studied separately as well. Therefore we performed a multi-group analyses including the male ($n = 264$) and female ($n = 451$) subsamples. The research model showed an acceptable fit to the data of ($\chi^2 = 393.2$, $df = 162$, $p < 0.01$; AGFI = 0.95; RMSEA = 0.045; CFI = 0.94; NNFI = 0.92) with largely comparable path coefficients for both subsamples. Only in three cases these path coefficients differed significantly: (1) supportive leadership \rightarrow lack of reciprocity was – as expected – significantly negative for males but insignificant for females; (2) job demands \rightarrow lack of reciprocity was significantly stronger positive for females; (3) burnout \rightarrow absenteeism was significant and positive for males and insignificant for females. When the model was re-estimated with all structural parameters – except these three – constrained to be equal, and the non-significant relationships of cognitive withdrawal \rightarrow absenteeism and lack of reciprocity \rightarrow absenteeism fixed to zero, its fit was satisfactory ($\chi^2 = 394.6$, $df = 171$, $p < 0.01$; AGFI = 0.96; RMSEA = 0.04; CFI = 0.94; NNFI = 0.93). The difference in fit between both multi-group models was not statistically significant ($\Delta\chi^2 = 1.4$, $df = 9$, $p > 0.05$). This points to the fact that the parameter restrictions as imposed in the final model could be maintained. In this final model, the path coefficient linking burnout to absenteeism was 0.17 ($p < 0.05$) in the male subsample and 0.01 (*n.s.*) in the female subsample. In other words, the expected positive relationship between burnout and absenteeism was observed among male employees only.

Discussion

Although the hypothesized model (see figure 1) fitted well to the data, the current study did not confirm the central mediating role of lack of reciprocity. In fact, lack of reciprocity only (partially) mediated the relationship between job demands and burnout. That is, high job demands are associated with lack of reciprocity (an unfavorable perceived imbalance between investments in and outcomes from the organization), which, in its turn is associated with burnout (emotional exhaustion and depersonalization). Another possible mediating effect of lack of reciprocity disappeared when an

alternative model was fitted to the data that included a direct path between both variables involved (job demands and cognitive withdrawal). Unfortunately, lack of reciprocity did neither play a mediating role with respect to both remaining outcome variables in the model (i.e., cognitive withdrawal and absenteeism) nor with respect to supportive leadership. Below we will discuss these somewhat disappointing results. On the other hand, strong direct relationships were found between job demands and burnout, and between non-supportive leadership and cognitive withdrawal (i.e., organizational commitment and propensity to leave). In other words, employees who experience high job demands report high levels of burnout, whereas those who have poor support from their supervisors show an increased tendency to withdraw from the organization.

Lacking relations with absenteeism

We can only speculate why absenteeism is not related to any of the structural variables in the model, except weakly to burnout in the male subsample. For instance, employees in health care might feel highly responsible for their patients so that they will not easily desert them and stay absent from work. An additional reason for not reporting sick might be that health care workers feel quite committed to their colleagues; staying home means an increased workload for those who remain on the job. Statistically speaking, this could mean that the variability in absence is too low to allow for significant relationships with other variables in the model (restriction of range).

It is quite remarkable that emotional exhaustion is significantly and positively related to absenteeism, whereas the remaining cognitive variables (depersonalisation, organizational commitment and propensity to leave) are not. So perhaps health care workers overcome cognitive barriers relatively easy and do not report sick because of loyalty to their patients and to their colleagues. In contrast, high levels of emotional exhaustion make it much more difficult for them to go to work, despite their loyalties. However, also the correlation of emotional exhaustion with absenteeism is weaker in this study ($r = 0.09$) than typically found (about $r = 0.15$) (Schaufeli & Enzmann, 1998, p. 91). The loyalty and high commitment of health care employees to other people is illustrated by a study of Garden (1991) who showed that in the human services 'feeling types' who are characterized by concern for other people outnumber 'thinking types' who tend to neglect other people by a ratio of four to one. Interestingly, in business environments this ratio is exactly opposite and 'thinking types' are four times more common.

Gender differences

Our multi-group analysis in which males and females were distinguished pointed to the fact that structural differences exist in the absence behavior of men and women². This agrees with VandenHeuvel and Wooden (1995), who showed that absenteeism in women is more strongly related to external pressures such as life events, whereas in males absenteeism is more strongly influenced by work related factors, such as job satisfaction. Instead of job satisfaction as in the study of VandenHeuvel and Wooden (1995), we included burnout but the results are similar: burnout is associated with absenteeism in males but *not* in females. This also agrees with the results of a recent Dutch national population study that showed that – despite higher prevalence rates – mental health in working women was *not* predictive for future absenteeism, whereas in males it was (Laitinen-Krispijn & Bijl, 2000). Of course, the results of our analyses need replication, but at least for the time being they suggest that in future research on absenteeism men and woman should be studied separately.

Direct effects of job demands and supportive leadership

It appeared that job demands and unsupportive leadership have relatively strong direct relationships with burnout and cognitive withdrawal, respectively. This is in line with the recently developed Job-Demands Resources (JD-R) model (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). This model distinguishes between two sets of variables, job demands and job resources, which have different effects on particular outcome measures. Job demands are those aspects of the job (physical, psychological, social, or organizational) that require sustained effort and are therefore associated with certain physiological and psychological costs. Job resources refer to those aspects of the job that either/or (1) reduce job demands; (2) are functional in achieving work goals; (3) stimulate personal growth, learning and development. More specifically, the JD-R model assumes that demanding aspects of work, such as work overload may lead to chronic overtaxing and the draining of energy and eventually exhaustion – the core symptom of burnout. On the other hand, lacking resources (i.e., not being acknowledged or treated with consideration by one's supervisor, or being poorly informed) precludes actual goal accomplishment and thus may cause failure and frustration and may eventually result in disengagement and withdrawal from work. Hence, two processes seem to be at work: the former being energetically in nature, the latter motivational (*cf.* Bakker, Demerouti & Schaufeli, 2003). As in the study of Demerouti et al. (2001), we observed relatively strong direct relationships between job demands and burnout (exhaustion) and between job resources and cogni-

² Women ($M = 0.4$; $SD = 0.5$) show higher absenteeism rates than men ($M = 0.3$; $SD = 0.4$); $t(647) = 2.95$, $p < .01$. Also the variance in absence rates is significantly higher for woman: $F(450, 263) = 1.56$ ($p < .001$).

tive withdrawal (disengagement). A likewise negative relationship between demands and resources was observed in our study as in the study of Demerouti et al. (2001): the higher the job demands, the less supportive the leadership is perceived (and vice versa). This negative correlation might be interpreted in two ways: either job demands are so high because leadership is inadequate, or because of high job demands leadership is bound to be inadequate.

In addition, a relatively strong and positive relationship was observed in our alternative model between job demands and cognitive withdrawal. That is, when health care employees experience high demands, they are less committed to the organization and they think more about quitting their jobs. Probably, this direct effect reflects a protective reaction akin to burnout (Maslach, Schaufeli & Leiter, 2001). In a way, both burnout (especially the depersonalization component) and cognitive withdrawal are ways of mentally distancing oneself from the job in order to cope with the high demands. Reducing one's identification with the job counteracts the potential negative effects of high job demands. Indeed, small but significant positive correlations have been found between work overload and organizational commitment, for instance (e.g., Mathieu & Zajac, 1990).

Study limitations

One obvious limitation of the current research is that the research design is cross-sectional. Hence, the postulated relationships – as hypothesized in figure 1 – cannot be interpreted causally. Secondly, internal consistency of the demanding working conditions scale was slightly lower (0.66) than the criterion for Cronbach's α of 0.70 that is generally considered to be sufficient (Nunnally, 1978). However, it is unlikely that this might have had a negative impact on the fit of the model to the data since two other indicators of the latent job demands variable (i.e., work overload and organizational demands) were included that showed sufficient internal consistencies. Thirdly, it appeared that the fit of the model increased significantly when personal accomplishment was removed as an indicator of burnout. This is not very surprising since both remaining burnout dimensions – emotional exhaustion and depersonalization – are stronger interrelated than each of them with personal accomplishment. For instance, a meta analysis based on 47 studies showed that emotional exhaustion and depersonalization were correlated 0.64, whereas correlations with personal accomplishment were only -0.33 and -0.36, respectively (Lee & Ashforth, 1996). Furthermore, there is accumulating evidence that depersonalization develops in response to emotional exhaustion and that personal accomplishment largely develops in parallel with these two burnout dimensions (Maslach, Schaufeli & Leiter, 2001; Schaufeli & Enzmann, 1998, p. 117-119). Fourthly, because the number of employees per team that was included in the current study was relatively small (i.e., about 3) we could not use multi-level analysis. However, in future research this powerful tool should be used to test similar models, provided that the number of participants suffices. In doing so, "shared job strain" (Semmer, Zapf & Greif, 1996) – the proportion of strain that

different members of a team have in common – and “affective tone” (George, 1996) – the collective work team affective climate (see also Gonz  lez-Rom  , Peir  , Subirats & Ma  nas, 2000) – can be studied. This approach increases the validity of strain measures because it eliminates idiosyncratic perceptions of individual employees.

Practical implications

As far as prevention of job related strain is concerned results of the current study points to the crucial importance of reducing job demands instead of increasing supportive leadership. By reducing job demands burnout might be prevented, both directly because less energy has to be spent on the job, as well as indirectly because perceptions of lack of reciprocity are counteracted. In addition, reducing job demands might increase the identification with the organization, thus increasing organizational commitment and decreasing the propensity to leave. Ultimately, as multi-group analyses suggest, the reduction of burnout might decrease absenteeism – at least in men. Various ways of organization-based strategies to modify job demands have been described such as job redesign, participative management, flexible work schedules, and the design of physical settings (e.g., Quick, Quick, Nelson & Hurrell, 1997, pp. 163-185). On the other hand, increasing supportive leadership – for instance through Management Development programs – cannot assumed to be likewise successful. According to our findings, increasing supportive leadership would only decrease cognitive withdrawal; an effect that is also obtained when job demands are decreased. Thus increasing supportive leadership does not have a unique effect.

But instead of directly tackling high job demands or unsupportive leadership it is also possible to change equity perceptions of employees. For instance, Van Dierendonck, Schaufeli and Buunk (1998) showed that employees who participated in small-scale stress management groups that concentrated on changing the employee’s ‘balance of give and take’ had lower exhaustion scores and were less absent at the one year follow-up compared to those in the control group who did not participate.

Final note

The current study suggests that perceptions of lack of reciprocity do only matter to a limited degree. Such perceptions seem to be directly related only to burnout symptoms. In addition, lack of reciprocity is – albeit only in males – indirectly related to registered absenteeism through burnout. Obviously, the employee’s ‘mental book-keeping’ of job demands and job resources may have a limited negative psychological impact. The current study sheds some light on the intervening cognitive process that is involved in the stress process and that has been largely neglected by today’s leading approaches in the field such as the Effort-Reward Imbalance model (Siegrist, 1998) and the Job Demands-Control Support model (Karasek & Theorell, 1990).

References

- Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2, 267-299.
- Aiken, L. S. & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Anderson, J. C. & Gerbing, D. W. (1988). Structural equation modeling in practice - a review and recommended 2-step approach. *Psychological Bulletin*, 103, 411-423.
- Bakker, A. B., Demerouti, E. & Schaufeli, W. B. (2003). Dual processes at work in a call centre: An Application of the Job Demands – Resources Model. *European Journal of Work and Organizational Psychology*, 12, 393-417.
- Bakker, A. B., Killmer, C. H., Siegrist, J. & Schaufeli, W. B. (2000). Effort-reward imbalance and burnout among nurses. *Journal of Advanced Nursing*, 31, 884-891.
- Browne, M. W. & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. Scott Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage.
- Buunk, B. P. & Schaufeli, W. B. (1993). Burnout: A perspective from social comparison theory. In W. B. Schaufeli, C. Maslach & T. Marek (Eds.), *Professional burnout: Recent development in theory and research* (pp. 53-69). Washington, DC: Taylor & Francis.
- Buunk, B. P. & Schaufeli, W. B. (1999). Reciprocity in interpersonal relationships: An evolutionary perspective on its importance for health and well-being. *European Review of Social Psychology*, 10, 260-291.
- Camman, C., Fichman, M., Jenkins, D. & Klesh, J. (1979). *The Michigan Organizational Assessment Questionnaire*. Unpublished Manuscript. University of Michigan, Ann Arbor, Michigan.
- Chadwick-Jones, J. K., Nicholson, N. & Brown, C. (1982). *Social psychology of absenteeism*. New York, NY: Praeger.
- Cooper, C. L., Sloan, S. J. & Williams, S. C. (1988). *Occupational Stress Indicator. Management guide*. Oxford: ASE, NFER-NELSON.
- Demerouti, E., Bakker, A. B., Nachreiner, F. & Schaufeli, W. B. (2001). The Job Demands – Resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.
- De Rijk, A., Le Blanc, P. M., Schaufeli, W. B. & De Jonge, J. (1998). Active coping and need for control as moderators of the job demand-control model: Effects on burnout. *Journal of Occupational and Organizational Psychology*, 71, 1-18.
- Garcia-Montalvo, J., Pieró, J. M. & Soro, A. (2003). *El observatorio sobre la transición de los jóvenes en la Comunidad Valenciana* [A lookout on the transition of the youth in the Valencian community]. Valencia: Fundación Banciixa, IVE.
- Garden, A. M. (1991). The purpose of burnout: A Jungian interpretation. *Journal of Social Behavior and Personality*, 6, 73-93.
- George, J. M. (1996). Group affective tone. In M. A. West (Ed.), *Handbook of work group psychology* (pp.77-94). Chichester: John Wiley and Sons.
- Geurts, S. A., Buunk, A. P. & Schaufeli, W. B. (1994a). Health complaints, social comparisons and absenteeism. *Work and Stress*, 8, 220-234.

- Geurts, S. A., Buunk, A. P. & Schaufeli, W. B. (1994b). Social comparisons: a structural modeling approach. *Journal of Applied Social Psychology*, 24, 1871-1890.
- Geurts, S. A., Schaufeli, W. B. & Buunk, B. P. (1993). Social comparison, inequity, and absenteeism among bus drivers. *European Work and Organizational Psychologist*, 3, 191-203.
- Geurts, S. A. E., Schaufeli, W. B. & De Jonge, J. (1988). Burnout and intention to leave among health-care professionals: A social psychological approach. *Journal of Social and Clinical Psychology*, 17, 341-362.
- Geurts, S. A. E., Schaufeli, W. B. & Rutte, C. (1999). Absenteeism, turnover intention and inequity in the employment relationship. *Work & Stress*, 13, 253-267.
- Glisson, C. & Durick, M. (1988). Predictors of job satisfaction and organizational commitment in human service organizations. *Administrative Science Quarterly*, 33, 61-81.
- Gonz  lez-Rom  , V., Peir  , J. M., Subirats, M. & Ma  nas, M. A. (2000). The validity of affective workteam climates. In M. Vartiainen, F. Avallone & N. Anderson (Eds.), *Innovative Theories, Tools and Practices in Work and Organizational Psychology*, (pp. 97-109). G  ttingen, Germany: Hogrefe & Huber Publishers.
- Hammer, T. H. & Landau, J. (1981). Methodological issues in the use of absence data. *Journal of Applied Psychology*, 66, 574-581.
- Hoyle, R. H. (1995) The structural equation modeling approach: Basic concepts and fundamental issues. In R. H. Hoyle (Ed.), *Structural equation modeling, concepts, issues, and applications* (pp. 1-15). Thousand Oaks, CA: Sage.
- Johns, G. (1997). Contemporary research on absence from work: Correlates, causes and consequences. *International Review of Industrial and Organizational Psychology*, 12 115-174.
- J  reskog, K. G. & S  rbom, D. (1989). *LISREL VII: Analysis of linear structural relationships by maximum likelihood, instrumental variables, and least squares methods*. Mooresville, IN: Scientific Software.
- J  reskog, K. G. & S  rbom, D. (1993). *LISREL 8: User's Reference Guide*. Chicago, Ill: Scientific Software International.
- Karasek, R. & Theorell, T. (1990). *Healthy work: Stress productivity, and the reconstruction of working life*. New York, NY: Basic Books.
- Laitinen-Krispijn, S. & Bijl, R. V. (2000). Mental disorders and employee sickness absence: the NEMESIS study. *Social Psychiatry & Psychiatric Epidemiology*, 35, 71-77.
- Lee, R. T. & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81, 123-133.
- Marsh, H. W., Balla, J. R. & Hau, K. T. (1996) An evaluation of incremental fit indices: A clarification of mathematical and empirical properties. In G. A. Marcoulides & R.E. Schumacker (Eds.), *Advanced structural equation modeling, issues and techniques*, (pp. 315-353). Mahwah, NJ: Lawrence Erlbaum.
- Maslach, C. & Jackson, S. E. (1986). *Maslach Burnout Inventory: Second edition*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Schaufeli, W. B. & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422

- Mathieu, J. E. & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108, 171-194.
- Muthén, B. & Kaplan, D. (1985). A comparison of some methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology*, 38, 171-189.
- North, F. Syme, S. L., Feeney, A., Shipley, M. J. & Marmot, M. G. (1996). Psychosocial work environment and sickness absenteeism among British civil servants: The Whitehall II study. *American Journal of Public Health*, 86, 332-340.
- Nunnally, J. C. (1978). *Psychometric theory*. New York: Academic Press.
- O'Reilly, C. & Chatman, J. (1986). Organizational commitment and psychological attachment. The effects of compliance, identification and internalization on prosocial behavior. *Journal of Applied Psychology*, 71, 492-499.
- Orizo, F. A. (1991). *Los nuevos valores de los españoles* [The new values of the Spaniards] Madrid: Fundación Santa Marie.
- Peiró, J. M., González-Romá, V., Tordera, N. & Mañas, M. A. (2001). Does role stress predict burn-out over time among health care professionals? *Psychology & Health*, 16, 511-525.
- Pritchard, R. D. (1969). Equity theory: A review and critique. *Organizational Behavior and Human performance*, 4, 176-211.
- Quick, J. C., Quick, J. D., Nelson, D. L. & Hurrell, J. J. (1997). *Preventive stress- management in organizations*. American Psychological Association: Washington, DC.
- Rosin, H. & Korabik, K. (1995). Organizational experiences and propensity to leave: A multivariate investigation of men and women managers. *Journal of Vocational Behavior*, 46, 1-16.
- Rusbult, C. E. & Farrell, D. (1983). A longitudinal test of the investment model: The impact on job satisfaction, job commitment, and turnover of variations in rewards, costs, alternatives, and investments. *Journal of Applied Psychology*, 68, 429-438.
- Rutte, C. G. & Messick, D. M. (1995). An integrated model of perceived unfairness in organizations. *Social Justice Research*, 8, 239-261.
- Semmer, N., Zapf, D. & Greif, S. (1996). 'Shared job strain': A new approach for assessing the validity of job stress measurements. *Journal of Occupational and Organizational Psychology*, 69, 293-310.
- Schaufeli, W. B. & Enzmann, D. (1998). *The burnout companion for study and practice: A critical analysis*. London: Taylor & Francis.
- Schaufeli, W. B., Van Dierendonck, D. & Van Gorp, K. (1996). Burnout and reciprocity: towards a dual-level social exchange model. *Work & Stress*, 10, 225-237.
- Siegrist J. (1998). Adverse health effects of effort-reward imbalance at work. In C. L. Cooper (Ed.), *Theories of organizational stress* (pp. 190-204). Oxford University Press.
- Syroit, J., Lodewijckx, H., Franssen, E. & Gerstel, I. (1993). Organizational commitment and satisfaction with work among transferred employees: An application of referent cognitions theory. *Social Justice Research*, 6, 219-234.
- Tan, C. C. (1991). Occupational health problems among nurses. *Scandinavian Journal of Work Environment and Health*, 17, 221-23

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- VandenHeuvel, A. & Wooden, M. (1995). Do explanations of absenteeism differ for men and woman? *Human Relations*, 48, 1309-1329.
- Van Dierendonck, D., Schaufeli, W. B. & Buunk, B. P. (1996). Equity among human services professionals: Measurement and relation to burnout. *Basic and Applied Psychology*, 18, 429- 451.
- Van Dierendonck, D., Schaufeli, W. B. & Buunk, B. P. (1998) The evaluation of an individual burn-out intervention program. *Journal of Applied Psychology*, 83, 392-407.
- Yukl, G. A. (1990). *COMPASS: The Managerial Practices Survey*. New York: Author/Manus Associates.