

JOB CONTROL AND BURNOUT ACROSS OCCUPATIONS¹

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Summary.—Researchers have reported that, for individual workers, low job control is associated with high burnout; however, as yet it is unclear whether this association holds for occupations as well. Whether differences in job control between occupations as assessed by eight expert judges could account for individual-level and occupational-level differences in burnout rates. Data were obtained from 9,503 incumbents of 28 occupations in The Netherlands (M age = 37.9 yr., SD = 8.7; 50% were men). Burnout was measured on the Maslach Burnout Inventory. Occupational-level job control was inversely correlated with burnout, explaining 16% of the variation in occupational-level burnout. Thus, between-occupation differences in job control are somewhat systematically related to burnout.

Burnout is a syndrome with three facets. Emotional exhaustion refers to a feeling of being depleted of one's emotional resources. Depersonalization involves a distant and cynical attitude towards one's task and the people with whom one works. Finally, diminished personal accomplishment refers to a lack of self-efficacy regarding one's own performance at work. Researchers have shown burnout is inversely related to perceived job control (Lee & Ashforth, 1996). Job control is a central characteristic of the work situation (Karasek & Theorell, 1990) and refers to how much workers report that they can influence their own work situation, e.g., the methods they apply and the order in which tasks are handled. As yet, it is unclear whether this inverse relation between burnout and job control extends to the occupational level as well. If objectively assessed between-occupation differences in job control could be linked to between-occupation differences in burnout, it seems less likely that burnout would be a phenomenon that evolves as a function of individual and subjective perceptions of job control. Thus, our central question is whether between-occupation differences in job control can explain between-occupation differences in burnout.

The thought that job control affects health and well-being of workers is not new. As early as 1964, Kahn, Wolfe, Quinn, Snoek, and Rosenthal assumed that the relationship between objective job characteristics (such as

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job control) and workers' health was mediated through subjective perceptions of these characteristics. One more recent stress model, Conservation of Resources theory (Hobfoll, 1989), also proposed that job control affects workers' health and well-being. This theory assumes that people strive to retain, protect, and build resources. Resources are defined as those objects, personal characteristics, conditions, or energies valued by the individual, including high job control. This implies that higher job control should be inversely related to stress, health, and well-being. Empirical results support this reasoning. For instance, research on Karasek and Theorell's (1990) Demand-Control model has shown that low control is generally associated with adverse work outcomes (including high burnout), net of the effects of other job characteristics such as high job demands (De Lange, Taris, Kompier, Houtman, & Bongers, 2003, for a review).

In the context of burnout, this idea may be elaborated as follows. According to Conservation of Resources theory, incumbents of jobs offering low control (an important resource) will experience relatively high stress and strain, i.e., emotional exhaustion. Depersonalization may be construed as a way of coping with a job that offers low resources, i.e., control, and resulting strain. By distancing oneself from a low-resource job, one may mitigate its adverse effects (Hobfoll, 1989; Lee & Ashforth, 1996). Further, based on learning theory (Bandura, 1997), it may be assumed that high job control offers workers good opportunities to experiment with different ways of solving problems at work (Karasek & Theorell, 1990; Taris & Kompier, 2005). This, in turn, would increase their self-efficacy, a concept strongly related to personal accomplishment. Based on these notions, an inverse relationship between job control across occupations and the percent of incumbents of these occupations reporting high overall burnout and its dimensions, Emotional Exhaustion, Depersonalization, and diminished Personal Accomplishment, was expected.

METHOD

Participants

The data were obtained from 9,503 Dutch workers in 28 different occupations in which the tasks involved much contact with the recipients of one's services (usually patients). This type of occupation was chosen because, when data collection started, burnout was presumed to occur in the human services sector only (Schaufeli & Enzmann, 1998, for a discussion), and the scales used to measure burnout were specifically tailored towards such professions. Although later it was acknowledged that incumbents of other professions could also report burnout (leading to the development of a general inventory to measure burnout), for the sake of comparability we restricted our study to human services jobs.

Our data set includes several subsets of data. These were collected in a series of separate studies that were conducted during 1992 to 2000. The response rates across these studies ranged from 36% to 86% (*Mdn* response rate was 67%). The average age of participants was 37.9 yr. ($SD=8.7$), and 50% were men. Information about the data collection procedures and the characteristics of the participants is reported elsewhere (Schaufeli & Van Dierendonck, 2000).

Assessment of Burnout

All participants completed the Dutch version of the Maslach Burnout Inventory–Human Services Survey (Schaufeli & Van Dierendonck, 2000). This inventory taps emotional exhaustion (5 items, Cronbach $\alpha = .87$), depersonalization (7 items, $\alpha = .65$), and diminished personal accomplishment (8 items, $\alpha = .75$). Scores on each of the burnout measures could range from 0 to 6.

On the basis of these data, we determined which participants had an elevated risk of burnout. Schaufeli and Van Dierendonck (2000) proposed that workers have an elevated risk for burnout if their scores are high on exhaustion and also on either depersonalization or diminished personal accomplishment. As the cutoff scores for high scores on these three dimensions, they proposed use of the 25% highest percentile in their reference group of 13,076 workers in a broad range of occupations.

Specifically as a cutoff score, 3.6 was employed for Emotional Exhaustion (i.e., 25% of the observations in the reference group obtained a higher score on Emotional Exhaustion than 3.6), 2.7 for Depersonalization, and 4.7 for Diminished Personal Accomplishment, respectively. Table 1 presents the scores for all 28 occupations, showing that the percent of incumbents with an elevated risk of burnout ranged from 4.5% for military police officers to 41.4% for General Practitioners (*Mdn* percentage was 14.0%).

Assessment of Job Control

The amount of job control offered by the 28 occupations was assessed by eight expert judges (6 men, 2 women; *M* age 37 yr; all experts held at least a college degree). They were working as professional consultants in a large Dutch occupational health and safety institution and were specialists in the field of job redesign and working conditions. As such, they routinely judged work characteristics, including amount of job control, in particular occupations. On the average, they had been working for 12 yr. in their present jobs ($SD=3.4$). The experts rated all 28 occupations regarding the amount of control incumbents of these positions typically have over (i) their work, (ii) the methods they apply, and (iii) the order in which they handle their tasks (anchors: 1=little control, 2=moderate control, 3=much control). Based on these three aspects, experts were required to give a single

TABLE 1
JOB CONTROL AND BURNOUT ACROSS 28 OCCUPATIONS

Occupation	n	Job Control		Elevated Risk of Burnout, %	Emotional Exhaustion		Depersonalization		Diminished Personal Accomplishment	
		M	SD		M	SD	M	SD	M	SD
General practitioners	562	1.00	.00	41.4	2.29	.87	1.93	.81	2.19	.46
Helpers/institutions for care for drug addicts	85	1.00	.00	17.6	1.73	.95	1.23	.83	2.02	.75
Occupational health specialists (MDs)	760	1.00	.00	23.5	2.06	1.26	1.26	.94	2.08	.81
Intensive care nurses	1,520	1.12	.35	14.6	1.53	.83	1.41	.85	2.07	.67
Midwives	316	1.12	.35	23.5	2.15	.90	1.23	.81	1.75	.48
Therapists/paramedics	200	1.13	.35	10.0	2.00	1.20	.96	1.03	1.10	.72
X-ray technicians	287	1.37	.52	6.3	1.51	.87	.94	.81	1.73	.89
Nurses/B-level (secondary education required)	376	1.50	.52	20.5	1.94	.91	1.28	.87	1.89	.64
Geriatric assistants	161	1.87	.35	16.8	1.86	.98	1.12	.89	1.92	.69
Social workers	303	1.87	.35	17.1	1.83	1.08	1.04	.93	1.91	.88
District nurses	116	2.00	.00	13.8	1.95	1.10	1.07	.84	1.68	.78
Geriatric nurses	223	2.00	.00	10.3	1.74	.84	.99	.69	1.77	.63
Group leaders/mental health institutions	352	2.00	.00	9.7	1.50	.91	.81	.77	1.49	.79
Oncology nurses	410	2.00	.00	9.1	1.67	.86	.92	.73	1.48	.77
Penitentiary guards	117	2.00	.00	18.9	1.69	.92	2.09	.94	2.27	.62
Social psychiatry nurses	165	2.00	.52	12.7	2.04	1.06	1.27	1.05	1.06	.73
Sociotherapists	117	2.25	.46	17.7	1.78	.80	1.17	.74	2.27	.75
Dentists	708	2.37	.52	14.0	1.71	1.07	1.16	.85	1.60	.84
Nurses/A-level (primary education required)	414	2.75	.46	18.6	1.92	.87	1.29	.79	1.98	.57
Nurses, general care	729	2.75	.46	17.9	1.91	1.00	1.35	1.01	1.62	.78
Oncologists	179	2.75	.46	7.9	1.50	.91	1.06	.77	1.34	.75
Physiotherapists	444	2.75	.46	12.8	1.73	1.09	1.04	.82	1.34	.68
Military police officers	333	2.83	.35	4.8	1.43	1.07	1.10	1.01	1.86	1.17
Psychologists	166	2.83	.35	10.2	1.83	.99	.95	.81	1.26	.70
Charge nurses	214	3.00	.00	13.1	1.77	.96	1.08	.88	1.48	.83
Police officers	358	3.00	.00	7.0	1.22	.74	1.42	.81	1.93	.84
Psychiatrists	55	3.00	.00	21.8	2.21	1.14	1.39	1.11	1.08	.66
Psychotherapists	166	3.00	.00	15.1	1.97	1.14	1.15	.99	1.10	.75

overall rating of the amount of job control in each occupation. The experts received the descriptions of the occupations in randomized order to balance possible order effects. Each expert was instructed to work independently of other persons. Analysis of their assessments showed high interrater reliability ($\alpha = .91$). Therefore, the assessments of the eight experts were averaged, providing a measure of the amount of job control estimated for each occupation.

RESULTS AND DISCUSSION

Hypotheses were an inverse relationship between occupational-level job control ratings and between-occupation scores on scores for Overall Burnout, Emotional Exhaustion, Depersonalization and Diminished Personal Accomplishment. To test these hypotheses, correlations were computed across the ratings of the amount of job control in a particular job and the percentage of incumbents of that job with an elevated risk of burnout, as well as the median ratings for Exhaustion, Depersonalization, and Diminished Personal Accomplishment in that job. Table 2 displays respective correlations, showing that there was indeed a significant negative correlation between job control across occupations and the percentage of employees in these occupations with an elevated risk of burnout ($r = -.40, p < .05$), so 16% of the between-occupation variation in burnout scores was accounted for by job-control rating. The correlations between ratings for occupational-level job control and Exhaustion, Depersonalization, and Diminished Personal Accomplishment were in the expected direction, but only the correlation between job control and Diminished Personal Accomplishment was statistically significant ($r = -.41, p < .05$).

TABLE 2
PEARSON CORRELATIONS BETWEEN OCCUPATIONAL-LEVEL JOB CONTROL AND PERCENT OF INCUMBENTS IN THAT JOB WITH ELEVATED BURNOUT SCORES AND MEDIAN SCORES ON THREE BURNOUT DIMENSIONS ($N = 28$)

Measure	r With Occupational-level Job Control
% With Elevated Risk of Burnout	-.40*
Emotional Exhaustion	-.27
Depersonalization	-.15
Personal Accomplishment	-.41*

* $p < .05$.

The results largely supported the expected inverse relationships between job control and occupational-level burnout. Four limitations are worth noting. First, our database included only 28 relatively similar occupations in which contacts with clients or patients constitute an important part of the

tasks. The homogeneity of the occupations in the present study will probably have led to an underestimation of the effects of job control due to a restriction-of-range effect and suggests effects of control may be stronger had more diverse occupations been included. To explore this issue further, researchers should focus on a broader range of occupations. Indeed, since many studies of burnout and job characteristics have been done on various jobs, this might be one area in which meta-analysis could fruitfully be applied.

Second, it should be noted that we employed a rather crude, three-category measure of job control. On the one hand, this might have led to a restriction-of-range effect, thereby decreasing systematic variance on this measure. On the other hand, the limited number of categories for this measure may have biased interrater-reliability upwards; with only three categories, even two random ratings would have a 33% chance to correspond perfectly. For both reasons, we recommend that researchers employ a more differentiated measure of job control.

Further, only 16% of the differences in between-occupation levels of burnout was accounted for by between-occupation variations in job control. This implies that 84% of these differences have not been accounted for. One explanation for the relatively low explanatory power of job control is that at present many jobs in The Netherlands are already designed using sociotechnical design principles (Schaufeli & Enzmann, 1998), that is, jobs usually include a sufficient amount of job control to execute the tasks.

Finally, it is interesting that two of the three occupational groups with the lowest score on job control, i.e., score = 1, are medical doctors. Incumbents of these jobs have little control, in that in the Dutch setting, a major part of the tasks of MDs is dictated by outside forces. In the morning, patients will be coming to see the doctor during office hours; in the afternoon secretaries will have planned visits to patients who cannot come to see the doctor. In the meantime uncontrollable emergencies may require MDs' immediate presence elsewhere and interrupt activity while even a doctor's freedom of choice of treatment of a particular complaint is restricted by the omnipresence of protocolled therapies in the form of "best practices" and "evidence-based medicine," as well as by the fact that many potentially effective but expensive medicines cannot be prescribed because they will not be refunded by health insurance companies. This low job control for MDs, however, may be unique to the Dutch health care system.

In short, the current study shows that the amount of job control present in a particular occupation is somewhat systematically linked to the extent to which incumbents thereof report high burnout. Scientifically, this finding strengthens the evidence for the idea that objectively measured job control and burnout are related, i.e., that burnout is not merely a matter of

individual and subjective perceptions of one's work environment. Practically, this finding suggests that burnout could be reduced by enhancing possibilities for workers to exert influence on their own work situation.

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