

Results are presented of a cross-national study on burnout among 200 Polish and 183 Dutch female nurses. The reliability and the factorial validity of the Maslach Burnout Inventory (MBI) is satisfactory in both countries. However, evidence for the content validity of the MBI is likewise equivocal in both samples. Polish nurses are significantly more burned out than their Dutch colleagues, even after controlling for differences in work situations in both countries. Subjective work stressors (i.e., uncertainty and a perceived imbalance between investments and outcomes in relationships with patients) contribute most strongly to burnout in Polish as well as in Dutch nurses. Personality characteristics and aspects of the work situation play a less prominent role. Although the work situation of Polish and Dutch nurses differs considerably, psychological variables—notably, experienced job stress—are likewise crucial in understanding burnout among nurses of both countries.

BURNOUT AMONG NURSES A Polish-Dutch Comparison

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Nurses are considered to be particularly susceptible to burnout because their jobs are stressful and emotionally demanding. According to Maslach (1982), burnout is a three-dimensional syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in need. It is considered to be a response to the chronic stress of dealing with other people, particularly when they are troubled or having problems. In fact, burnout is positively correlated with the amount of time nurses spend with their patients (Cronin-Stubbs & Brophy, 1985), with the emotional demands of their patients (Lewinson, Conley, & Blessing-Moore, 1981), and with exposure to patients with a poor prognosis (Hare, Pratt & Andrews, 1988). Moreover, recent studies show that burnout among nurses is also associated with work-related factors, such as high workload (Landsbergis, 1988), poor interpersonal support (Firth, McIntee, McKeown, & Britton, 1986a), role conflict and role ambiguity (Pines & Kanner, 1982), full-time working week (Mor & Laliberte, 1984), and more work experience (Haack, 1988). Additionally, individual factors have been

identified that are related to burnout in nurses, including low levels of "hardiness" (Topf, 1989), job dissatisfaction (Dolan, 1987), physical ill-health (Firth & Britton, 1989), and death anxiety (Mallett, Price, Jurs, & Slenker, 1991). Generally speaking, work-related factors are more strongly associated with burnout than individual factors. Typically, the emotional exhaustion component of burnout is correlated most strongly with the independent variable, followed by reduced personal accomplishment and depersonalization, respectively.

In this study, we focus on potential stressors that are related to the nurses' objective work situation (i.e., *work experience, affiliation time at the present hospital, number of hours employed per week, team size, and amount of patient contact*). It is hypothesized that nurses who are burned out have more work experience, are longer affiliated with the current hospital, work more hours per week, are employed in larger teams, and spend more time in direct contact with their patients. In addition, three subjective stressors are included. The first subjective stressor, *uncertainty*, refers to the lack of clarity about what to feel and think, or how to act. Although the role of the nurse may seem quite clear at first glance, considerable uncertainty exists on how to carry out this role. For instance, Cherniss (1980) considers "doubts about competence" to be a major source of stress that can lead to burnout in human services professionals. In the same vein, Gray-Toft and Anderson (1981) found that "inadequate preparation" and "uncertainty concerning treatment" were among the most severe stressors in nursing. The second subjective stressor, *imbalance* between investments and outcomes in the relationship with patients, is based on social exchange theory (see Walster, Walster, & Berscheid, 1978). The assumption is that a characteristic human tendency exists to expect some rewards, such as gratitude, in return from others to whom we provide caring, empathy, and attention. However, in the health professions, such expectations are often not fulfilled (see Maslach, 1982). As a consequence, nurses may often feel that what they invest in their relationships with patients is not in proportion to what they get out of it. The resulting experience of imbalance between investments and outcomes is strongly associated with all three components of burnout (Van Yperen, Buunk, & Schaufeli, 1992). The third subjective stressor is *lack of control*, a variable that plays a central role in most stress theories, and is generally acknowledged to affect mental and physical health of people in organizations (see Sauter, Hurrell, & Cooper, 1989). For nurses, many aspects of the work environment are beyond their control, including the recovery of patients and decisions made by physicians and the hospital administration. Landsbergis (1988) found that burnout (i.e., depersonalization and reduced personal accomplishment) in Swedish nurses

was significantly higher in jobs that combine high workload demands with low perceived control.

In addition to the objective and subjective stressors, we included two personality variables. It is hypothesized that reduced personal accomplishment is particularly and substantially related to poor *self-esteem*. As a matter of fact, a sense of reduced personal accomplishment can be considered as a state of temporarily reduced work-related self-esteem (Caron, Corcoran, & Simcoe, 1983). *Reactivity* refers to a basic dimension of temperament that determines the intensity of reaction to both external and internal stimuli (Strelau, 1983). Specifically, highly reactive individuals exhibit stronger physiological stress reactions than do low reactive individuals to an objectively identical stimulus. It has been shown in a sample of Polish scientists that highly reactive individuals are more susceptible to all three dimensions of the burnout syndrome than are nonreactive individuals (Noworol & Marek, 1994).

Thus far, we have discussed burnout among nurses only in general terms. However, as we will see below, differences in objective working conditions may vary largely between countries. And so may the levels of burnout. To date, no study deals with cross-national differences of burnout among nurses. However, some cross-national studies on burnout in other occupational groups have been carried out. Etzion, Kafry, and Pines (1982) used the "Tedium Measure," which is conceptually related to emotional exhaustion (see Schaufeli & Van Dierendonck, in press) and showed that the level of burnout among Israeli managers was lower than that of their American colleagues. This was an unexpected finding, as life in Israel is considered to be much more stressful than life in the United States because of political tensions and huge inflation rates. In explaining this remarkable result, the authors suggested that Israeli managers benefit from both a strong supportive social network of family and friends and a strong sense of social cohesion that is characteristic for the Israeli society. A few years later, Etzion and Pines (1986) replicated their counterintuitive results in a heterogeneous sample that included teachers, social workers, and counselors. Golembiewski, Scherb, and Boudreau (in press) compared the incidence of burnout in different work settings of seven countries, using a well-validated phase model in which eight "progressive phases of burnout" are distinguished. Differences in levels of burnout between countries were highly significant, whereas differences between various work settings within countries were nonsignificant. Burnout was most common in Canada, Polish, U.S., and Yugoslavian samples showed intermediate burnout levels. Unfortunately, the samples are not described in detail and correlates of burnout are lacking, so we can only speculate

about the reasons for these obvious cross-national differences in levels of burnout.

The most notable cross-national study surveyed over 1,000 Norwegian and U.S. social workers, who were carefully drawn from randomly selected national samples (Himle, Jayaratne, & Thyness, 1986; 1989). The Norwegian professionals reported higher levels of burnout than their American colleagues. Moreover, the relationships of burnout with work stressors differed across nations. The authors speculate that this is due to organizational differences in agency structure between the two countries.

In conclusion, there is some evidence concerning cross-national differences of burnout, but little is known about the backgrounds of these differences. However, such differences between nations should be interpreted with caution, as the cross-cultural validity of the burnout instrument has not been demonstrated. It is precisely this concern that the present article addresses.

The current study is on burnout among Polish and Dutch nurses. Their work situation differs greatly. For instance, Dutch nurses receive four years of practical and theoretical training. Different training programs and certificates exist for specialized fields, such as psychiatric nursing, community nursing, intensive care, and radiology. In recent years, a rapid professionalization of nursing has taken place. More and more subspecializations emerged, modern nursing concepts were developed and applied, and academic nursing schools were founded. In short, in the Netherlands, nursing is recognized as an independent profession in health care. In Poland, nurses are either trained in nursing schools for a period of four years or receive on-the-job training for two years. Student nurses are formally supervised by physicians, but this supervision is rather poor because their supervisors are usually too busy. As a result, Polish nurses have to perform their jobs rather independently. No nursing specializations exist that are sanctioned by particular certificates. In Poland, nursing is not considered an independent profession in its own right but merely a menial supplement to the medical profession. Accordingly, the social status of the nursing profession is relatively low.

Compared to Poland, Dutch hospitals are modern and well-equipped. Dutch nurses work in small teams on specialized wards. They are employed for a maximum of 38 hours a week and part-time jobs are not uncommon. In Poland, nurses work 42 hours a week, and part-time jobs are very rare.

Furthermore, the social welfare system in the Netherlands is more supportive than in Poland. Dutch nurses, for example, receive nearly 100% of their net salaries in case of illness, against only 75% in Poland. It follows that for Polish nurses the threshold for absenteeism is higher than for Dutch nurses. Although nurses in the Netherlands are not paid very well (about \$1,500 a month), wages in Poland are extremely low (about \$60 a month),

even by Polish standards. Although no exact figures are available, many young Polish nurses leave their jobs within one or two years because of low salaries, poor working conditions, and low social status of their jobs. Key persons we interviewed in Polish hospitals estimated turnover rates among nurses to be over 30%. In the Netherlands, these rates range from 15% to 20% in different health care settings (Boon, 1990). Life outside work is much harder in Poland as well, due to competition for resources, housing shortages, and immense inflation rates. These circumstances can bring people in Poland to an "emotionally charged, negative evaluation of their life situation" (Nowak, 1981; p. 52).

Taking into account these cross-national differences in education, working conditions, salaries, welfare systems, and extrawork stressors, it is reasonable to assume that Polish nurses will exhibit higher levels of burnout than their Dutch colleagues. However, despite these differences in levels, it is expected that the pattern of relationships with objective and subjective stressors is similar in the Polish and the Dutch sample because the daily work of nurses is basically identical in both countries. Finally, nursing remains a stressful and emotionally demanding job, as described by Hingley (1984), who wrote that "Nursing is, by its very nature, an occupation subject to a high degree of stress. Every day the nurse confronts stark suffering, grief, and death as few other people do. Many nursing tasks are mundane and unrewarding. Many are, by normal standards, distasteful, even disgusting, others are often degrading; some are simply frightening" (p. 19).

In this article, two questions are answered. Are Polish nurses more burned out than their Dutch colleagues? Is burnout in both countries similarly associated with aspects of the objective and subjective work situation and with personality variables? However, before we answer these questions, the validity of the burnout concept has to be considered because the comparison of means presupposes construct equivalence in both samples (Poortinga, 1989). First, the *cross-national invariance* of the three domains of burnout (i.e., emotional exhaustion, depersonalization, and reduced personal accomplishment) is investigated. Although the factorial validity of the Maslach Burnout Inventory (MBI) has been successfully assessed by employing confirmatory factor-analysis in national samples (Gold, Bachelor, & Michael, 1989; Lee & Ashforth, 1990), convincing cross-national evidence is lacking. Recently, Green, Walkey, and Taylor (1991) confirmed the cross-cultural invariance of the three MBI subscales across samples from four countries (i.e., Northern Ireland, New Zealand, Great Britain, and Estonia). Unfortunately, the three-factor structure was not *tested* by employing, for instance, linear structural models as in the studies by Gold et al. (1989) and Lee and Ashforth (1990). Second, to investigate the *construct validity* of

burnout we included three related strains in our study: self-reported *mental and physical health*, and *tedium*. Pines and Aronson (1988) define tedium as "a state of physical, emotional, and mental exhaustion caused by long-term involvement in situations that are emotionally demanding" (p. 9).

METHOD

SAMPLES

The Polish sample consists of 200 female nurses employed at three general hospitals in the Kraków region (response rate 80%). Initially, 250 nurses were approached individually by the second author in those wards of the hospitals that agreed to participate in the study. Nurses from the following seven wards completed the questionnaires: maternity ($n = 38$), neurology ($n = 28$), surgery ($n = 20$), cardiology ($n = 12$), intensive care ($n = 51$), internal medicine ($n = 20$), and orthopedics ($n = 31$). The Dutch sample consists of 183 female nurses (response rate 86%) employed in five types of health care settings: general hospitals ($n = 80$), mental hospitals ($n = 21$), institutions for mentally retarded ($n = 40$), hospices ($n = 30$), and other health institutions ($n = 12$). Initially, 213 nurses were approached collectively by the first author when attending a follow-up training course at the Nijmegen Nursing School. The data from both samples were gathered in April and May 1990. In Table 1, some characteristics of both samples are compared.

Compared to Dutch nurses, their Polish colleagues are younger, have less work experience, and have worked for a shorter time with the current hospital. The higher Polish turnover rates are probably responsible for these differences. Moreover, Polish nurses are employed more hours per week, work in larger teams, and have more direct contact with patients than do Dutch nurses.

MEASURES

Burnout was assessed by the 22-item Maslach Burnout Inventory (MBI, Maslach & Jackson, 1986), which contains three subscales: Emotional Exhaustion (9 items), Depersonalization (5 items), and Personal Accomplishment (8 items). Scores on the MBI range from 0 (*never*) to 6 (*always*). The 21-item Tedium Measure (TM; Pines & Aronson, 1988) was included as an alternative instrument to assess the crucial element of burnout: exhaustion. Scores on the TM range from 1 (*never*) to 7 (*always*). *Physical and mental health* were measured with the corresponding subscales of the Dutch version

TABLE 1
Characteristics of the Samples

Variable	Poland (N = 200)		Holland (N = 183)		t
	M	SD	M	SD	
Age	26.0	5.6	30.6	5.2	8.33**
Work experience (years)	5.8	5.6	10.5	5.7	7.94*
Affiliation time (years)	2.7	1.6	7.2	4.5	13.03**
Hours employed/week	42.4	2.5	36.5	4.3	-15.65**
Team size	30.7	11.7	16.7	10.8	12.10**
Patient contact (%)	65.7	14.5	59.0	24.5	3.22*

NOTE: M = mean, SD = standard deviation.

* $p < .01$, ** $p < .001$.

of the Organizational Stress Questionnaire (Bergers, Marcelissen, & de Wolff, 1986). The subscales consist of 14 and 11 items, respectively, and are scored on a 4-point rating scale, ranging from 1 (*never*) to 4 (*very often*). For each nurse, the total number of physical and mental health complaints is computed that are experienced *often* (3) or *very often* (4). *Self-esteem* was assessed by the eight-item scale of Warr and Jackson (1982). A 5-point rating scale was used, ranging from 1 (*completely disagree*) to 5 (*completely agree*). The nurses' level of *reactivity* was measured by a 22-item subscale of Strelau's (1983) Temperament Inventory. Items were scored on a 3-point rating scale: 0 (*no*), 1 (*?*), and 2 (*yes*). Finally, the three *subjective work stressors* were measured by employing self-constructed scales (e.g., "To what extent do you feel uncertain about what to do about certain problems at work" [Uncertainty]; "To what extent do you feel that you can change the way you react to the problems at your work that bother you?" [Lack of Control]; and "To what extent do you feel that you invest more in relations with patients than you get back in return?" [Imbalance]). These three scales contain four, two, and two items, respectively, and were scored on 5-point rating scales, ranging from 1 (*never*) to 5 (*often*).

The English questionnaires were translated by members of the Polish and Dutch research teams. Additionally, the semantic and syntactic equivalence of the two translated and the English versions was judged by bilingual Polish and Dutch experts with university degrees in English. Only minor changes in the phrasings of some items had to be made. As a final check, the Polish version of the MBI was translated into Dutch by a Polish student who was studying psychology in the Netherlands. This translation was practically identical with the Dutch version of the MBI.

Table 2 shows the means, standard deviations, and internal consistency coefficients (Cronbach's α) of the measures.

TABLE 2
Internal Consistency (Cronbach's α), Means,
and Standard Deviations of the Scales Used in the Study

Scale	Poland (N = 200)			Holland (N = 183)			t
	α	M	SD	α	M	SD	
MBI-EEX	.83	20.0	8.23	.88	16.2	7.83	4.51**
MBI-DEP	.69	8.7	4.80	.71	5.4	3.66	7.50***
MBI-PAC	.70	27.3	6.18	.81	32.7	4.13	-9.98***
Tedium	.90	3.3	.67	.94	2.8	.71	6.59***
Physical health	.79	1.1	1.74	.77	0.5	1.04	3.65***
Mental health	.77	2.1	.41	.74	1.8	.37	7.19***
Self-esteem	.60	27.8	3.80	.73	32.6	3.81	-12.00***
Reactivity	.67	16.6	5.27	.71	14.2	4.82	4.00***
Uncertainty	.60	9.7	2.41	.71	9.2	2.08	2.09*
Control	.41 ^a	6.7	1.56	.45 ^a	8.7	1.15	-14.2***
Imbalance	.40 ^a	4.2	1.93	.40 ^a	4.0	1.44	1.36

NOTE: EEX = Emotional Exhaustion, DEP = Depersonalization, PAC = Personal Accomplishment, M = mean, SD = standard deviation

^a Pearson correlation, * $p < .05$, ** $p < .01$, *** $p < .001$

Generally speaking, most scales are somewhat less internally consistent in the Polish sample. Particularly, the α coefficients of self-esteem, reactivity, and uncertainty are rather low. Nevertheless, they are considered sufficiently high for research purposes (see Nunnally, 1978).

RESULTS

The results are presented in three sections. First, the cross-national validity and the construct validity of the MBI are addressed. Next, both research questions are answered about the levels of burnout and about the correlates of burnout in both samples, respectively.

VALIDITY

To study the equivalence of the burnout construct in both samples, a confirmatory factor analysis of the MBI was performed. More specifically, the equivalence of the three-factor oblique model from the MBI manual was tested simultaneously across both samples by employing the LISREL VII computer program (Joreskog & Sorböm, 1989). Recently, Watkins (1989) advocated the use of such structural modeling techniques for testing the cross-cultural equivalence of factor structures. However, structural models

TABLE 3
MBI Factor Loadings as
Estimated by LISREL (standardized solution)

Item	Poland (N = 200)			Holland (N = 183)		
	EEX	DEP	PAC	EEX	DEP	PAC
E1	.57			.74		
E2	.58			.71		
E3	.59			.64		
E4	.48			.68		
E5	.64			.81		
E6	.69			.73		
E7	.60			.46		
E8	.51			.56		
E9	.71			.71		
D1		.61			.51	
D2		.72			.76	
D3		.47			.77	
D4		.44			.40	
D5		.37			.27	
P1			.44			.58
P2			.34			.63
P3			.49			.54
P4			.59			.56
P5			.48			.70
P6			.59			.65
P7			.39			.56
P8			.55			.58

NOTE: E(EX) = Emotional Exhaustion, D(EP) = Depersonalization, P(AC) = Personal Accomplishment

are difficult to evaluate in absolute terms when—as in our study—both the sample and the number of measured variables are large. In that case, the chi-square goodness-of-fit is very powerful and even quite good model fits will produce statistically significant differences (Bentler & Bonett, 1980). Therefore, several alternative fit indexes have been proposed (see Marsh, Balla, & McDonald, 1988). Among the simplest of these is the ratio of the chi-square statistic to its degrees of freedom ($\chi^2/df = 2.23$).

To evaluate the *construct validity* of burnout a second-order factor analysis (principle components analysis with subsequent varimax rotation) was performed in each sample separately (see Table 4).

The second-order factor structures are quite similar in both samples. The first factor includes only strains: physical and mental complaints and burnout symptoms, such as tedium, emotional exhaustion, and depersonalization. The second factor includes personality characteristics (i.e., self-esteem and reac-

TABLE 4
Second-Order Factor Loadings

Scale	Poland (N = 200)		Holland (N = 183)	
	1	2	1	2
MBI-EEX	.76		.77	-.43
MBI-DEP	.71		.49	-.51
MBI-PAC		.80		.64
Tedium	.70		.80	
Physical health	.73		.82	
Mental health	.63		.77	
Self-esteem		.55		.81
Reactivity		-.69		-.69
% explained variance	43.6	13.5	50.7	13.5

NOTE: Only factor loadings > .40 are displayed. EEX = Emotional Exhaustion, DEP = Depersonalization, PAC = Personal Accomplishment

tivity). As expected, personal accomplishment is more strongly related to personality factors than to strains. Obviously, in both samples, burnout is a multidimensional construct that consists of a state component that is associated with similar strains and a trait component that is associated with personality factors. The substantive factor loading of the TM on the first factor illustrates the convergent validity of this measure with the exhaustion and depersonalization dimensions of the MBI.

LEVELS OF BURNOUT

Because both samples are heterogeneous, differences in levels of burnout within each sample were evaluated first by carrying out ANOVAs with additional tests for multiple comparisons between means (LSDMOD) for each dimension of burnout. Only three of 93 possible differences in group means reached significance: Polish nurses who work at surgery wards are less emotionally exhausted than their colleagues at maternity and intensive care units, $F_{(6, 193)} = 3.63$; $p < .01$, whereas Dutch nurses caring for mentally retarded patients experience less feelings of personal accomplishment than their colleagues from general hospitals, $F_{(4, 175)} = 3.68$, $p < .05$. Despite these slight differences, both samples are considered to be homogeneous as far as their levels of burnout are concerned.

As can be seen from Table 2, Polish nurses experience significantly more burnout than Dutch nurses on all MBI dimensions. Because the burnout dimensions are related and because the samples differ significantly in age and work situation (see Table 1), an additional MANOVA was carried out

TABLE 5
Mean MBI Item Scores

Item	Poland (N = 200)		Holland (N = 183)		F
	M	SD	M	SD	
Exhaustion					
1 Feel emotionally drained	3.60	1.32	3.00	1.19	22.65***
2 Feel used up at end of the day	4.30	1.13	3.48	1.19	50.53***
3 Feel fatigued in the morning	3.53	1.31	2.69	1.16	46.54***
4 Working with people is a strain	2.70	1.57	2.65	1.26	.24
5 Feel "burned out"	3.13	1.39	2.62	1.29	14.16***
6 Feel frustrated by job	3.06	1.41	2.55	1.28	14.43***
7 I'm working too hard	3.51	1.43	3.93	1.34	9.63**
8 Working directly with people	2.56	1.57	2.58	1.20	.01
9 Feel at end of the rope	2.59	1.43	2.37	1.17	2.95
Depersonalization					
1 Treat patients as objects	2.39	1.46	2.93	1.14	16.90***
2 Have become callous	2.21	1.51	2.14	1.19	.30
3 Job is hardening me emotionally	3.45	1.43	2.15	1.20	98.39***
4 Don't care what happens to patients	2.63	1.57	1.75	1.18	40.29***
5 Patients blame me for problems	3.01	1.41	1.80	1.02	98.13***
Personal accomplishment					
1 Can understand how patients feel	5.14	1.21	5.33	.62	4.19*
2 Deal effectively with patients	3.72	1.35	5.20	.66	196.35***
3 Positive influence through work	4.59	1.43	4.73	.82	1.52
4 Feel energetic	4.45	1.19	4.95	.71	25.68***
5 Can create relaxed atmosphere	4.14	1.29	5.35	.73	136.17***
6 Feel exhilarated after work	4.44	1.31	5.05	.86	31.06***
7 Accomplished worthwhile things	4.32	1.54	5.00	.83	30.37***
8 Deal calmly with problems	4.49	1.47	5.00	.91	17.80***

NOTE: M = mean, SD = standard deviation
* $p < .05$, ** $p < .01$, *** $p < .001$

with nation as the independent variable and EEX, DEP, and PAC as dependent variables. Furthermore, in this MANOVA, six covariates were included: age, work experience, affiliation time, number of hours employed per week, team size, and intensity of patient contact. A highly significant multivariate result was obtained, $F_{(5, 354)} = 11.96$; $p < .001$. Subsequent univariate testing revealed that again Polish nurses scored significantly higher than Dutch nurses on all burnout dimensions. EEX, $F_{(1, 356)} = 7.39$, $p < .01$, DEP, $F_{(1, 356)} = 21.18$, $p < .001$, and PAC, $F_{(1, 356)} = 36.78$, $p < .001$. Accordingly, differences in burnout between Polish and Dutch nurses remain significant after controlling for differences in age and in work situation.

TABLE 6
Correlates of Burnout (standardized regression coefficients)

Variable	Poland (N = 200)			Holland (N = 183)		
	EEX	DEP	PAC	EEX	DEP	PAC
Work stressors						
Uncertainty	.29***	.39***		.32***	.18*	-.35***
Imbalance	.26***	.23**		.26***	.25**	-.24**
Lack of control			-.23**			
Personality						
Self-esteem				-.21**	-.21*	-.21**
Reactivity	-.29**		.22**			
Work situation						
Hours employed					-.14*	
Team size			.16*			
R ²	.32	.23	.18	.34	.21	.32

NOTE: EEX = Emotional Exhaustion, DEP = Depersonalization, PAC = Personal Accomplishment
 * $p < .05$, ** $p < .01$, *** $p < .001$

In Table 5 differences in mean values of MBI items between both samples are displayed.

Polish nurses report significantly higher burnout levels than Dutch nurses on 16 items. On four items, no significant differences are observed, whereas Polish nurses score significantly *lower* than Dutch nurses on only two MBI items. Quite remarkably, five of these six items concern relationships with patients (e.g., "I feel that I treat some patients as if they were impersonal objects") Obviously, burnout in Polish nurses does *not* typically manifest itself in relationships with patients.

CORRELATES OF BURNOUT

In each sample, three stepwise multiple regression analyses were performed with EEX, DEP, and PAC as dependent variables. Subjective work stressors (i.e., uncertainty, imbalance between investments and outcomes, and lack of control), personality characteristics (i.e., self-esteem and reactivity) and work situation variables (i.e., work experience, affiliation time, number of hours employed per week, team size, and intensity of patient contact) were entered stepwise in the regression equation (see Table 6).

The percentage of explained variance in aspects of burnout is comparable in both samples, except for personal accomplishment. In the Dutch sample, more variance in accomplishment is explained than in the Polish sample.

Furthermore, the correlates of burnout are rather similar across nations, again except for personal accomplishment. In both samples, uncertainty and

imbalance are the most prominent correlates of burnout. In the Dutch sample, these work stressors are strongly positively associated with *all* aspects of burnout. In the Polish sample, this is only true for emotional exhaustion and depersonalization. Personality characteristics play a different and less significant role in "predicting" burnout in both samples. In the Polish sample, reactivity is the most prominent personality variable that is positively related to burnout, whereas in the Dutch sample this is self-esteem. Only two features of the work situation are weakly related to burnout in both samples. In the Polish sample, nurses who work in *larger* teams experience *more* feelings of personal accomplishment. Maybe in larger teams nurses have more autonomy because they work more independently from physicians. In the Dutch sample, nurses who are employed *less* hours per week are *more* emotionally exhausted. A selection effect cannot be excluded here. Perhaps, nurses who feel exhausted have decided to accept part-time jobs.

DISCUSSION

Four sets of conclusions can be drawn from the current study. First, the three dimensions of burnout as measured with the MBI are invariant across nations. This finding agrees with Green, et al. (1991), who suggested cross-national invariance of the MBI dimensions across samples from four different countries. Moreover, in both the Polish and the Dutch sample, emotional exhaustion and depersonalization can be distinguished from personality factors (i.e., self-esteem and reactivity) but *not* from related strains, such as physical and mental health and "tedium." The latter finding agrees with the results of a well-designed multitrait-multimethod validity study carried out by Meier (1984). He showed in a sample of faculty members that burnout and depression overlap considerably. Similar substantive correlations between burnout and depression were reported in a study among nurses (Firth, McIntee, McKeown, & Britton, 1986b). In our study, the third dimension of burnout—personal accomplishment—is strongly related with personality characteristics, such as self-esteem and reactivity. This result agrees with Williams (1989), who in a study among nurses also observed a strong positive relationship between this particular burnout dimension and another personality factor (i.e., empathy).

In conclusion, our psychometric findings support Shirom's (1989) point of view that emotional exhaustion and depersonalization are the "core elements" of burnout. In the same vein, Green et al. (1991) suggest that a substantial general factor underlies the Emotional Exhaustion and Depersonalization subscales of the MBI. They labeled this common factor *Core of*

Burnout. On the other hand, our results also cast some doubts on the discriminant validity of these core elements. But most important, the psychometric findings are remarkably similar in both samples.

Second, the level of burnout is much higher in Polish nurses than in Dutch nurses on all dimensions involved. Despite their higher levels of burnout, Polish nurses have *not* been absent from work more days than their Dutch colleagues during the past year, $t_{(379)} = -.75$, *n.s.*, although they use significantly more tranquilizers and other drugs, $t_{(379)} = 5.86$, $p < .001$. This illustrates the higher threshold for absenteeism in Poland, probably because of serious negative financial consequences.

The mean level of burnout of the Polish nurses is comparable with that found in similar American samples (Bartz & Maloney, 1986; Brown-Ceslowitz, 1989; Haack, 1988; Hare et al., 1988; Leiter & Maslach, 1988; Stout & Williams, 1983; Topf, 1989) but higher than the burnout levels reported in European studies by Girault (1989) in France, Firth, McIntee, McKeown, and Britton (1985) in Britain, Enzmann and Kleiber (1989) in Germany, Pedrabissi and Santinello (1988) in Italy, and Dolan (1987) in Ireland. Generally, it appears that European nurses outside Poland are *less* burned out than their American colleagues. A satisfactory explanation for these differences in levels of burnout between North American and European samples cannot be given yet. It cannot be ruled out that sampling bias and response tendencies play a significant role. Besides, it should be emphasized that these differences in levels of burnout must be interpreted with caution, even in the case of Poland and the Netherlands, because construct equivalence—a prerequisite for comparing means—is only suggested and not proven by confirmatory factor analysis of the MBI. Moreover, similar analysis of other translated MBI versions are completely lacking.

The Dutch nurses in our study have burnout levels that are remarkably low compared to nurses from other countries. However, their physical and mental health does *not* differ significantly from the Organizational Stress Questionnaire (Bergers, et al., 1986), $t_{(2981)} = .66$ and $t_{(2981)} = 1.89$, respectively. It can be hypothesized that the Dutch working population in general is relatively healthy compared to other countries because the threshold for leaving the job on a disablement pension is low. At present, 12% of the Dutch workforce receives such pensions, which is an exceptionally high rate according to international standards (Knepper, 1991).

The results from our study do *not* agree with the findings obtained in cross-cultural studies that compared American with Israeli professionals (Etzion, et al., 1982; Etzion & Pines, 1986) that was discussed in the introduction. In those studies, it was observed that Israeli professionals, although living under more stressful circumstances, experienced *less* burnout

than their American counterparts. We can only speculate that supportive social networks and social cohesion, which the authors held responsible for this surprising result, are obviously not available for Polish nurses. This interpretation is supported by the results of a cross-cultural study on stress among Polish and American college students, in which the former group experienced significantly less social support than the latter group (Haran, Jones, & Sek, 1988). The authors speculate that in Poland the keen competition for limited resources, such as housing and consumer goods, undermines supportive relationships among students, at the same time fostering the primary network of the family.

Third, the analyses of correlates of burnout in both samples reveal similar patterns across nations, except for personal accomplishment. Subjective work stressors (notably uncertainty and imbalance between investments and benefits in relationships with patients) are the most important correlates of burnout in both the Polish and the Dutch sample. Aspects of the work situation and personality factors are less important. These results agree with the conclusion that Schaufeli (1990) draws from a review of the literature. Subjective work stress is most strongly related to burnout, whereas relationships are much weaker with aspects of the work situation, with personality characteristics, and with the individual's biographical background. In the Polish sample, a relatively small proportion of variance of personal accomplishment was explained by a rather different set of variables. Obviously, other variables that are not included in our study play a role in explaining feelings of personal accomplishment in Polish nurses.

Taking into consideration that the work situation as well as the levels of burnout of Dutch and Polish nurses differ considerably, it is quite remarkable that the correlates of the core elements of burnout (i.e., exhaustion and depersonalization) are similar in both nations. This leads us to a most interesting but rather tentative final conclusion. Although Polish and Dutch nurses work under entirely different circumstances and experience quite different levels of burnout, the underlying psychological processes eventually resulting in burnout might be identical in nature.

In closing, we would like to point out three major weaknesses of our study. Probably the most serious weakness is the fact that our samples have not been randomly selected from the entire populations of nurses in both countries. Basically, this calls in question the cross-national generalizability of our results. However, we found comparable levels of burnout as reported in the present study in other samples of Dutch (Schaufeli & Van Dierendonck, *in press*) and Polish (Janczur & Schaufeli, *n.d.*) nurses. These findings support the robustness of the (large) cross-national differences in levels of burnout found in the present study. Future epidemiological research should establish

to what extent cross-national differences exist in levels of burnout among nurses. The present study, like most other studies in this field, exclusively relies on self-report measures. This may have invalidated our results, for instance because of method variance, demand characteristics, and overlap in item content between dependent and independent variables (see Frese & Zapf, 1988). For this reason, we recently started conducting structured interviews to validate the results of the present study (Janczur & Schaufeli, n.d.).

Finally, because the current study is cross-sectional in nature, the causal direction between burnout and work stressors cannot be determined. For instance, the experienced imbalance between investments and outcomes in relationships with patients can be the cause as well as the effect of burnout. Accordingly, longitudinal studies are needed to disentangle these and similar causal relationships. Despite these critical remarks we feel that the present study is a promising start for investigating burnout among nurses in Western and Mid-European work settings.

NOTE

1 The three-factor model oblique model showed a nearly identical fit in each of the samples Poland, $\chi^2_{(206)} = 458.03$, $\chi^2/df = 2.22$, Holland, $\chi^2_{(206)} = 464.03$, $\chi^2/df = 2.25$. This fit is slightly better than that of a similar model that was tested by Gold, Bachelor, and Michael (1989) in a sample of 147 U.S. college students, $\chi^2_{(206)} = 483.26$, $\chi^2/df = 2.35$.

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