

Burnout in the Working Population: Relations to Psychosocial Work Factors

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This study investigated levels of burnout in the general population irrespective of occupation and relations between burnout and psychosocial work factors. A cross-sectional survey featuring sleep problems, psychological distress, burnout (Maslach Burnout Inventory–General Survey), and psychosocial factors at work, was mailed to a random sample of 3,000 participants, aged 20–60. Response rate was 61%. A high level (18%), a low level (19%), and an intermediate group (63%) for burnout were constructed. The high level group was associated with those who were > 50 years old, women, those experiencing psychological distress, and those with a poor psychosocial work climate. The analyses on variables significant in previous analyses showed that the high level group was strongly related to high demands, low control, lack of social support, and disagreeing about values at the workplace even when accounting for age, gender, and psychological distress. We conclude that psychosocial work factors are important in association to burnout regardless of occupation.

Key words: burnout, stress, MBI-GS, general population, psychosocial work factors

It is reasonable that people may feel strained and exhausted by the recurrent changes in working life the last decade. An intensification of work, insistence on flexibility, lack of control, and greater customer demands are the reality for many workers in the European Union today. The second most common group of work-related health problems in Europe, at the turn of the millennium, was stress (28%; Paoli & Merllié, 2001). Even though there has been an obvious decrease in health and well being, there are still difficulties in defining and separating the concepts that are causing work-related ill health. Stress, burnout, anxiety, and depression are all considered important aspects of psychological ill health when examining causes of sick listing. However, to date there is little data on the extent of burnout in the general population, that is, in the variety of occupations that exists, or its association with working life. Knowledge about burnout levels in the population should be of importance for dealing with high sick-leave percentages.

If one meets a person who cannot restore from tiredness, with a variety of bodily symptoms, who withdraws from social contacts, and has an increasing feel-

ing of inefficiency, one is most likely encountering a man or a woman in the process of burning out. Accordingly, this process may be context free, and not necessarily have any connections with work. Hallsten (1993), for example, has suggested that a threatening environment is one key factor for burnout. In addition, Pines & Aronson (1988) described burnout to be found in situations that have been emotionally difficult for an extended time. Nevertheless, most frequently, the burnout process is exclusively linked to work and based on the same theories as the development of work-related stress. Brill (1984) considered that burnout is job related, where adequate performance in a steady job situation has turned into a dysphoric and dysfunctional state and recovery will not occur without external help or organizational restructuring. Several theories have been developed concerning work-related stress emanating from the concept of interaction between the worker and the work environment, for example, Karasek's (1979) job demand-control theory (JD-C); effort-reward imbalance model (ERI), developed by Siegrist, Peter, Junge, Cremer, and Seidel (1990); and a model of interaction based on reciprocity (Schaufeli, Van Dierendonck, & Van Gorp, 1996). According to these theories, work-related stress is not a sudden event. It is a process where expectations of some kind of positive feedback, a kind of reward for hard effort, are not met, leading to even more effort and a prolongation of exhaustion and stress reactions. This process of prolonged work stress is also the core aspect of burnout theories.

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Six areas in the work environment have been stated as being crucial, not only for building engagement at work, but also for their contribution to the process of burnout (Maslach & Leiter, 1997). From work stress research we recognize demands, control, and social support but Maslach and Leiter (1999) also added reward, fairness, and corresponding values. These six areas, or psychosocial work factors, cover research approaches in the burnout field and should be included in studies regarding antecedents of burnout.

Defining burnout as a process of work-related stress points at the necessity to investigate the relation between psychosocial work factors and levels of burnout. A number of instruments have been developed with the purpose of assessing burnout. Despite the quantity of inventories (for an overview, see Schaufeli & Enzmann, 1998), most of them lack psychometric evaluation with the exception of the Burnout Measure (Pines, Aronson, & Kafry, 1981) and the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986).

MBI assumes the relation to work in that all items reflect work conditions. It has, for nearly 20 years, been the most utilized instrument in research on burnout. It was initially constructed for professionals working with service recipients such as patients, clients, inmates (Human Services Survey, MBI-HSS), and students (Educators Survey, MBI-ES). MBI-HSS and MBI-ES have been used globally, and there is an extensive amount of studies regarding levels of burnout in the human service and teaching sectors (Schaufeli & Enzmann, 1998). However, the development of a general version of MBI (MBI-GS) was suggested to extend research on burnout across all kinds of occupations. The dimensions in the MBI-GS, developed in 1996, are exhaustion, cynicism, and professional efficacy (Maslach, Jackson, & Leiter, 1996). Certainly, in the last ten years people with burnout symptoms have indeed expanded to other areas of working life, raising the need for studies addressing levels of burnout in all work places. The MBI-GS makes this feasible, provided that the sample is randomly selected and large enough to encompass all professions.

The way burnout is manifested through exhaustion, cynicism, and reduced professional efficacy is associated with other kinds of psychological distress such as depression, anxiety, and insomnia. The question of whether burnout can be looked upon as a distinct concept has been subject to several investigations. For example, the relation between depression and the dimension exhaustion is quite strong; the variance shared is about 25% (Schaufeli & Enzmann, 1998). However, in a review of Glass and McKnight (1996), the authors conclude that even though a high correlation between depression and the burnout dimension exhaustion is present, they are not redundant concepts. Furthermore, it is not yet clear whether depression is an antecedent to, or consequence of burnout (McKnight & Glass, 1995).

Anxiety or fear of a threat one cannot control has also been investigated as a concomitant to work-related stress and burnout. Strong correlations were found for both trait and state anxiety with regard to all three dimensions of the MBI in a study of nurses at a general hospital (Turnipseed, 1998).

Insomnia is highly prevalent in individuals suffering from burnout (Bell, Davison, & Sefcik, 2002), but has to a lesser extent been studied with regard to the cause-effect of burnout. There is strong comorbidity between insomnia, anxiety, and depression that makes it even more of a hazard to separate the insomnia construct from burnout. One of the most frequent symptoms of stress at work is the inability to fall asleep or early awakening (Linton & Bryngelsson, 2000).

In conclusion, burnout dimensions and various indicators of psychological distress are not redundant but do indeed strongly overlap. Therefore, there is a need to take depression, anxiety, and insomnia into account in studies focusing on work-related stress and burnout.

Despite advances in research on burnout, more information is required. First, the samples in question have rarely been randomly selected, limiting the possibility to generalize. Second, studies have not been directed to the whole working population, due to a lack of inventories. Mostly, the target has been a few workplaces selected from special areas of working life, such as information technology works or a health care unit. Finally, there is a need to know which psychosocial work factors are related to burnout, regarding all kinds of work tasks and work places while, at the same time, accounting for psychological distress such as depression, anxiety, and insomnia that have been found to be associated with burnout. By using the MBI-GS in a random sample from a general working population, we may overcome these obstacles.

Aim

The purpose of this study was to investigate different levels of burnout in a working-age sample from the general population, irrespective of occupational branch. Furthermore, the aim was to examine any relations between levels of burnout and psychosocial work factors while accounting for insomnia, anxiety, and depression. Finally, the sample serves as part of a Swedish standardization of the MBI-GS.

Method

Population

From the population register, we obtained a randomly selected sample of 3,000 residents in Örebro County. We included adults from 20–60 years old, un-

der the assumption that they represent the work force. The response rate was 61%, based on 2,954 possible respondents (34 had unknown address and 12 had moved out of the county). Analyses could be carried out on 1,812 respondents, of which 47% were men. Among the respondents, 70% were married or cohabitants. The educational level was comparable to the whole county; 21% had 9 years of compulsory schooling; 45% had also gone through high school; 30% had attended university, and 4% were educated elsewhere. Representing the potential workforce, 82% of the respondents were active workers.

The Hospital's Board on Research Ethics approved the study.

Questionnaire

The questionnaire we used in this study contained 56 items in seven sections. Besides the background factors of gender, age, civil status, education, and employment status, there were sections about sleep, anxiety, depression, burnout, and psychosocial factors at the work place.

Sleep. Sleep problems were determined by questions detecting insomnia according to Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994) criteria of insomnia namely sleep latency, nighttime awakening, and frequency of sleep problems. In addition, one item simply asked whether sleep problems had occurred during the past three months, answered by a *yes* or *no* (Linton & Bryngelsson, 2000).

Anxiety and depression. The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) assessed anxiety and depression, each with 7 items. Both scales use 0–7 (*noncases*), 8–10 (*possible cases*), and 11–21 (*cases*) as cutoffs for clinical detection. The scale has, in a recent review, been found to have satisfactory reliability and validity (Bjelland, Dahl, Haug, & Neckelmann, 2002). Mean values for Cronbach's alpha were .83 (anxiety) and .82 (depression) and a cutoff value of 8+ gave an optimal balance between sensitivity and specificity (both approximately .80) for screening purposes.

Psychosocial work factors. A 10-item scale containing three subindexes: *Work content* (4 items; e.g., "Do you regard your work as interesting and stimulating?", "Have you any chance to influence your working conditions e.g. so that you can work at a pace that suits you?"), *Work load* (3 items; e.g., "Are you given too much to do at your work?", "Are the demands of your work too great for you e.g. too much responsibility, too difficult work, unclear instructions?"), and *Social support* (3 items; e.g., "Do you get help and sup-

port if you run into difficulties in your work?", "Is there a spirit of friendly cooperation among you and your fellow workers?"), assessed psychosocial work factors (Hane, Berggren, & Eriksson, 1984). Each item had four response alternatives: 1 = *yes, mostly*, 2 = *yes, sometimes*, 3 = *no, seldom* and 4 = *no, never*. Finally, we added two additional items; "Are you treated fairly by management?" and "Does the organization's values correspond with your own?" (with the same response alternatives). These two items are based on questions found in the Organizational Checkup Survey constructed by Leiter and Maslach (2000) to explore six areas contributing to burnout in working life. One of the areas, reward, was not addressed specifically. However, one of the items in the subindex work content, "Do you get feed-back when you do a good job?" does focus on reward.

Burnout. Burnout was measured using the MBI-GS (Leiter & Maslach, 2000; Maslach et al., 1996) with a Swedish translation done by Hallsten (Vingård et al., 2001; see the MBI-GS section in this article). Several studies have, since the MBI-GS was developed, confirmed the internal and external validity of the same (e.g., Schutte, Toppinen, Kalimo, & Schaufeli, 2000; Taris, Schreurs, & Schaufeli, 1999).

In addition, two single questions, "Do you feel stressed at work?" and "To what extent does your work make you feel burned out?" with response alternatives from 1 (*not at all*) to 4 (*extremely*), were included to validate MBI-GS against self-reported experience.

MBI-GS

The MBI-GS is divided into three subscales: exhaustion, containing five items (i.e., feeling emotionally drained at work), cynicism, with five items (i.e., a cynical, negative attitude towards the workplace, tasks and colleagues), and professional efficacy with six items (i.e., feeling that one's work capacity is valued in a positive way). All items use a frequency rating scale ranging from 0 (*never*) to 6 (*daily*).

High levels of exhaustion and cynicism and low levels of professional efficacy traditionally characterize indications for burnout (Maslach et al., 1996). However, to obtain a higher sensitivity, the Dutch version defines burnout as a high level on exhaustion, and *either* a high level on cynicism, *or* a low level on professional efficacy (Schaufeli & van Dierendonck, 2000). The same procedure is, therefore, used in this study. For clarification, the scores on professional efficacy are reversed so that a low score indicates a low level and a high score indicates a high level.

Construction of burnout groups. Those respondents who reported any kind of employment and had no missing items on MBI-GS were included to formu-

late three groups for burning out ($N = 1,348$, i.e., 90% of employed responders). This categorization is done to facilitate the calculation of percentages of burnout (Brenninkmeijer & Van Yperen, 2003). To establish groups for comparison, we used cut-off points proposed in the Dutch version of the inventory by using ≤ 25 th and ≥ 75 th percentiles for each of the three dimensions in MBI-GS to detect a low and a high level group respectively. Following the Dutch proposal, those scoring low on exhaustion, and either low on cynicism, or low on professional efficacy were said to form a *low level* group. Consequently, those high on exhaustion, and either high on cynicism, or high on professional efficacy formed a *high level* group. The remaining respondents formed an *intermediate* group.

Procedure

The questionnaire was mailed out together with a prestamped envelope and an information letter, in which the aim of the study was explained and anonymity was ensured. Appreciation was shown by offering respondents to take part in a seminar about individual stress management. After 2 weeks, a reminder was sent out to those who had not yet responded, and 2 weeks later, a second reminder, together with a new questionnaire, was sent out.

Statistics

Differences between respondents and nonrespondents on age, gender, and feelings of stress and burnout were tested through t test and χ^2 analyses. A choice was made to treat burnout as a dichotomous variable to distract the percentages of the working population with low and high levels of burnout. Burnout levels are presented in means and standard deviations for each of the three subscales. Differences between the three burnout levels on gender and age were examined through χ^2 test and ANOVA, respectively. Spearman's rho was used to examine agreement between the MBI-GS and self reported experiences of being stressed, as well as burned out, at the work place. Spearman's rho and Point biserial correlations were calculated to examine the interrelations between the subindexes on psychosocial work factors, MBI-GS dimensions, anxiety, depression, and insomnia.

The aim of our study was to examine relations between psychosocial work factors and three MBI-GS levels. For that purpose, we applied multinomial logistic regression analysis, which is capable of handling more than two outcomes. In the first stage, several multinomial logistic regressions were performed for each of the psychosocial work factors, as well as each of the psychological distress variables. In the second stage, a multiple multinomial regression analysis simultaneously examined all variables. In doing so, we

could investigate which variables could be considered independent. In all the analyses, age and gender were accounted for. Multinomial logistic regression analyses assume that independent variables are either continuous or dichotomous. However, for continuous independent variables, the odds ratio relates to each unit increase on the scale. This may be difficult to interpret; therefore, we chose to dichotomise those variables. Moreover, by this procedure skewness on some of the variables were addressed (anxiety and depression). Psychosocial work factors were dichotomized into 0 (*seldom, never*) and 1 (*sometimes, mostly*), thus formulating the subindexes work content, work load, and social support. Due to cutoff values for screening, the depression and anxiety scales were split into two subgroups, 0–7 and 8–21. Insomnia was also dichotomized based on whether or not they fulfilled criteria according to Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994). For overall tests of each variable's relation to MBI-GS level, likelihood ratio tests were performed, in addition to the Wald's tests, for the comparisons between the *low level* group, the *high level* group, and the *intermediate* group respectively.

Results

Analysis of Nonrespondents

Respondents and nonrespondents differed significantly in both age, $t(901) = 1.93$, $p = .053$, and gender, $\chi^2(1, N = 1,903) = 4.85$, $p = .28$, with more women among the respondents, who were also slightly older. We randomly selected 15% of the nonrespondents ($N = 182$) for a standardized telephone interview. After three calls without contact, no further attempt was made. Two main questions from the questionnaire, addressing feelings of stress or burnout at work, were used in addition to employment status and educational level. Interviews were carried out with 98 participants.

Significant differences were found on aspects of feeling stressed, $\chi^2(1, N = 1,545) = 4.68$, $p = .03$, and burned out, $\chi^2(1, N = 1,542) = 8.15$, $p = .004$, at work. Respondents reported more stress and feelings of burnout at work. These variables were entered into a logistic regression analysis together with age and gender and, as can be seen in Table 1, there is still a difference between respondents and nonrespondents regarding gender and feeling burned out at work, but not on age and feeling stressed at work.

Burnout Levels

Three burnout levels, low, intermediate, and high were created through cut-off scores based on the 25th and 75th percentiles. In the population sample, 17.9%

Table 1. Logistic Regression Analysis of Stress/Burnout Variables in Respondents Versus Nonrespondents with Age and Gender as Covariates

Variable	Odds Ratio	95% CI	Sign
Age	1.01	0.99–1.04	.14
Gender	1.67	1.04–2.68	.03
Stressed at work	1.29	0.78–2.13	.33
Feel burned out at work	2.09	1.00–4.37	.05

Note. Sign = significance.

(*n* = 241) were in a *high level* group on burnout: exhaustion (range 3.4–6.0), cynicism (range 2.8–6.0), and professional efficacy (range 1.8–6.0). On the opposite, 18.9% (*n* = 255) were in a *low level* group: exhaustion (range 0–1.2), cynicism (range 0–0.6) and professional efficacy (range 0–0.5). The remaining respondents (*n* = 852, 63.2%) belonged to an *intermediate* group. Analysis where respondents could have one missing value in each of the three dimensions (exhaustion, cynicism, and professional efficacy) yielded no differences regarding mean values or range. Therefore, the procedure of not accepting missing values was considered a proper way to deal with this issue.

Table 2 presents standard deviations, reliability coefficients, and correlations between all variables included in the further analyses. Reliability was acceptable in all variables except the subindex *work load*. Altogether, significant correlations were found between all variables at the .01 levels. Considering the large sample and the known interrelations between these concepts, this was not a surprising result. Note however, that most correlations were on a relatively low or medium level. Depression and anxiety were highly correlated (*r* = .71) and exhaustion was highly correlated with both depression and anxiety.

A comparison of the three group levels revealed significant differences on gender, $\chi^2(2, N = 1,339) = 6.199, p = .045$, and age, $F(2, 1341) = 10.25, p < .001$.

There was a greater amount of women in the *high level* group compared with the other two groups, and a post hoc test for age showed that respondents in the *high level* group were older (> 50) than respondents in the *intermediate* group but not older than respondents in the *low level* group. Relations between the three group levels on other background variables while accounting for age and gender, as well as variables concerning psychosocial work factors and psychological distress (depression, anxiety and insomnia), are shown in Table 3. The analyses indicated an association between burnout levels and psychosocial work factors, as well as an association with psychological distress. Most odds ratios are very high and although many of the confidence intervals are wide, the lower limits of the intervals indicate that, with 95% certainty, the odds ratios are at least that high. Civil status and educational level were not significantly related to burnout levels. Analyses of agreement between MBI-GS and self reported feelings of stress and burnout at work, using two single items, gave correlations of .49 for stress at work and .60 for feeling burned out at work.

Taken together, participants in the *high level* group and *intermediate* group differed from participants in the *low level* group. High and intermediate levels of burnout were associated with a subjective feeling of poorer psychosocial work climate and also with depression, anxiety, and sleep problems. In addition, having a high level of burnout was associated with being a woman and being older than respondents in the *intermediate* group.

Relations Between Psychosocial Work Factors and Burnout

In a subsequent step, a multiple multinomial logistic regression analysis was performed on those variables that were significant in the previous analyses, accounting for psychological distress (depression, anxiety, and insomnia), in addition to age and gender. Table 4 shows

Table 2. Correlations Between Psychosocial Work Factors, Psychological Distress and Burnout Dimensions

Variables	<i>M</i>	<i>SD</i>	α	Correlations											
				1	2	3	4	5	6	7	8	9	10	11	
1 Work content	7.8	2.5	.67	—											
2 Social support	4.8	1.8	.68	.52	—										
3 Work load	7.7	1.8	.49	.28	.30	—									
4 Being treated fairly	1.5	0.8	-.37	.55	.25	—									
5 Values correspond	1.7	0.8	-.46	.44	.24	.46	—								
6 Insomnia ^a	—	—	—	-.15	-.18	-.20	-.11	-.09	—						
7 Anxiety	6.6	4.2	.87	.37	.37	.44	.25	.24	-.33	—					
8 Depression	5.0	3.8	.86	.41	.39	.40	.28	.29	-.30	.71	—				
9 Exhaustion	2.4	1.5	.89	.48	.42	.50	.32	.33	-.29	.67	.63	—			
10 Cynicism	1.8	1.5	.81	.56	.45	.34	.35	.41	-.18	.46	.50	.55	—		
11 Professional efficacy	1.2 ^b	1.0	.75	-.43	-.29	-.16	-.20	-.34	-.10	-.25	-.35	-.26	-.38	—	

Note. Possible *N* = 1,497. All correlations were significant at the .01 level.

^aPoint-biserial correlation. ^bScores are reversed.

Table 3. *Multinomial Logistic Regression Analyses. High Level Group and Intermediate Group Versus Low Level Group With Age and Gender Accounted for*

Variable	High Level Group		Intermediate Group		Overall Sign
	Odds Ratio	95% CI	Odds Ratio	95% CI	
Civil status					
Married/cohabit	1		1		
Single	1.27	0.83–1.93	1.05	0.75–1.48	.49
Education					
Higher education	1		1		
Comp. schooling	1.55	0.99–2.41	1.17	0.81–1.70	.13
Work content					
Mostly/sometimes	1		1		
Seldom/never	29.11	16.21–52.26	5.91	4.07–8.58	< .001
Social support					
Mostly/sometimes	1		1		
Seldom/never	16.58	9.13–30.11	3.79	2.21–6.52	< .001
Work load					
Mostly/sometimes	1		1		
Seldom/never	12.48	4.37–35.60	2.94	1.91–4.51	< .001
Being treated fairly					
Mostly/sometimes	1		1		
Seldom/never	8.48	4.59–15.53	1.92	1.07–3.44	< .001
Values correspond					
Mostly/sometimes	1		1		
Seldom/never	34.88	13.81–88.08	7.68	3.10–19.03	< .001
Insomnia					
No	1		1		
Yes	16.83	6.61–42.86	4.57	1.82–11.48	< .001
Depression					
0–7	1		1		
8–21	78.31	31.07–197.35	13.12	5.32–32.32	< .001
Anxiety (0–21)					
0–7	1		1		
8–21	55.62	30.82–100.35	7.68	4.60–12.85	< .001

Note. CI = confidence interval; sign = significance; cohabit = cohabitation; comp = compulsory.

Table 4. *Multiple Multinomial Logistic Regression Analysis for High Level Group and Intermediate Group With Low Level Group as Reference, Accounting for Age, Gender, and Psychological Distress*

Variable	High Level Group			Intermediate Group			Overall Sign
	Odds Ratio	95% CI	Sign	Odds Ratio	95% CI	Sign	
Age	1.02	1.00–1.05	.050	0.99	0.97–1.01	.285	.002
Gender	0.89	0.51–1.54	.675	0.81	0.56–1.17	.255	.487
Insomnia	2.52	0.75–8.43	.134	1.48	0.48–4.5	4.493	.105
Depression (11–21)	7.84	2.47–24.94	< .001	3.67	1.23–10.95	.019	< .001
Anxiety (11–21)	16.47	7.50–36.13	< .001	4.17	2.19–7.93	< .001	< .001
Work content	8.15	4.12–16.12	< .001	4.02	2.67–6.04	< .001	< .001
Social support	3.05	1.45–6.42	.003	1.63	0.88–3.02	.118	.006
Work load	8.27	2.10–32.54	.002	1.90	1.15–3.13	.012	.001
Being treated fairly	1.18	0.47–3.00	.721	0.63	0.28–1.42	.27	.044
Values correspond	10.90	3.47–34.21	< .001	3.78	1.30–11.00	.01	< .001

Note. $N = 961$. Psychological distress defined as depression, anxiety and insomnia. CI = confidence interval; sign = significance.

that work content, social support, work load, being treated fairly, and disagreeing about values, all were related to MBI-GS level on an overall basis. The Wald's tests showed that social support at work was related only to the high level group. For the high level group, discrepancies regarding values produced the largest odds ratio (10.89) even though work load (OR = 8.27) and work

content (OR = 8.15) also increased the possibility of being in the high level group for burning out. These results indicate that a score in the upper quartile of MBI-GS is strongly related to too much work load, low control, and lack of social support at the workplace, in addition to disagreeing about values, even when psychological distress were taken into account.

Discussion

This study applied the Maslach Burnout Inventory-General Survey on a large, randomized sample from the general population, thereby involving a considerable variety of work places. High levels of burnout scores were relatively frequent, regardless of different work situations. Psychosocial work factors were specifically related to high levels of burnout despite individual emotional states. This information may be valuable in the effort to prevent burnout.

A high level of burnout was experienced by 17.9% of the respondents. The cutoff levels we employed influence this percentage. Nevertheless, the levels of burnout could be compared with those in other population samples using other cutoffs. Recently, for example, a Dutch population study was published (Kant et al, 2003). If we use their cutoff values, quite surprising results emerge: 32% of our sample would be assigned to the *high level* group and 19.8% would be assigned to the *low level* group. At present, it is difficult to know whether these are relevant differences between the two countries, because some investigations show similarities between the two countries according to working life conditions, for example, sick leave due to work related health problems (Paoli & Merllié, 2001). As far as we know, these are the only population studies done so far using MBI-GS with 25th and 75th percentiles as cutoff values. A search in Medline and PsychINFO for population studies using MBI-GS produced two results. In the working population in Holland, a prevalence rate of 13.7% was found for burnout (Kant et al., 2003). A Finnish population study on burnout using MBI-GS was done in 1997 (Kalimo, 2000). The prevalence rate of burnout was 7% with the use of a weighted total score. One population study has also been performed with Pines Burnout Measure (Hallsten, Bellagh, & Gustafsson, 2002). By employing a cut off level of 4 or higher, 11.7% was burned out in the working part of the sample ($n = 3,502$).

When considering burnout, it is important to make a distinction between the theoretical concept, as in this study, and the clinical diagnosis of burnout. Burnout levels in this study are not to be seen as clinical cutoff values. However, we argue that the clinical burnout patients are to be found in the *high level* group. Looking at burnout as a process from engagement to burnout, the *high level* group may well be looked upon as overstrained and in a risk situation for clinical burnout. At which level work-related stress becomes a threat is yet to be explored and is an important task in preventative efforts. In the psychometric evaluation of the Dutch version, Schaufeli and van Dierendonck (2000) achieved a higher percentage of correctly classified participants (almost twofold) by combining a high level on exhaustion and either a high level on cynicism or a high level on professional efficacy. This compared

to the use of a high level on all three dimensions of MBI-GS to correctly detect burnout. Therefore, we applied the same procedure as in the Dutch evaluation.

Three aspects of work, which have been subject for extensive research: load (e.g., time pressure, amount of work tasks), control (decision latitude, role clarity), and support (backup from both management and colleagues, feedback) are covered in this study, and our findings support previous studies. A subjective feeling of too much workload, not enough control, and a lack of social support contributed separately to high levels of burnout. In several studies, these aspects have been linked to burnout and especially to the three dimensions of exhaustion, depersonalization (cynicism), and personal accomplishment (professional efficacy). Work load in particular is connected with exhaustion (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Lee & Ashforth, 1996; Schaufeli & Enzmann, 1998), and a lack of control is related to both exhaustion and depersonalization (cynicism) depending on how control has been conceptualized (Lee & Ashforth, 1996; Schaufeli & Enzmann, 1998). Social support, in particular from supervisors, is clearly linked to burnout (Lee & Ashforth, 1996) but failed to predict burnout after controlling for demographic and work features in a study by Rafferty, Friend, and Landsbergis (2001). It might be that social support buffers the effects of psychosocial work stress (Leiter & Maslach, 1999; Schaufeli & Enzmann, 1998).

A mismatch regarding values at the work place was also associated with high levels of burnout. This supports the notion that value conflicts are important stressors at work, leading to burnout. When organizational values are in disagreement with individual values, engagement decreases, which leads to depletion of energy and involvement as well as a weakening of professional efficacy (Leiter & Maslach, 2000). Value congruence, assessed through the individual's perception of meaningfulness during radical changes in integrating two large hospitals, was related to all three dimensions of burnout in a structural model (Leiter & Harvie, 1998). Besides an interaction between the individual and the workplace regarding personal investments and outcomes, we found a significant relation between psychological distress (depression, anxiety, and insomnia) and burnout. This was accounted for in this study with regard to psychosocial work factors.

An advantage of this study is the focus on measuring burnout in the population disregarding occupational branch. From the understanding that the burnout process is not exclusively something going on in client-related occupations, we may now go on to investigate burnout levels in population studies. This would be a step toward national norms and with further research of levels in clinical samples, we may also be clearer about the issue of cutoff levels likely to be of use for individual screening.

There are some methodological concerns in this study. Regarding the concept of an interaction between the individual and the work place, it might as well be that a high level of burnout creates perceptions of work as more demanding. This study could not answer that question because of the cross sectional design that restricts conclusions about causality. However, the aim of the study was, in the first place, to investigate levels of burnout in the general population. The method of using self-report questionnaires can also be discussed. Most favorable would be to combine self-report with observational data. Due to the large sample size and the variety of work places, it was not feasible to perform observations. Dealing with the importance of how respondents assessed MBI-GS, we therefore tested the agreement between MBI-GS and two simple questions about stress and burnout at work with positive correlations as results. Furthermore, an analysis of nonrespondents was carried out due to the low response rate, showing that they were slightly older and somewhat less stressed and burned out. The population sample in this study is not necessarily representative of the total population in Sweden but may serve as a part of forthcoming Swedish norms. Future research also needs to approach the process of burnout with longitudinal studies.

In summary, we found that up to one fifth of our Swedish working population experience burnout levels that might be a risk for developing clinical burnout and ill health. A high level of burnout was related to poor psychosocial work climate and a mismatch at work regarding values, even when psychological variables as depression, anxiety, and insomnia were taken into account. It seems clear that work factors, on their own, may create serious stress, and it is important to point out that workplaces need to change. To prevent or discontinue the process of burnout, those factors that are important for balancing efforts and outcomes for the individual at the workplace may need to be addressed. In addition, it also seems that the existence of values that are congruent between the employee and the organization may contribute to low levels of burnout.

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