

Occupational Stress Impact and the Risk of Burn-Out for Employees of the

Healthcare Sector, Germany

Sabine Abbasi (Mendel University Brno, Czech Republic)

Abstract: In accordance with the German annual health report mental disorders of employees continue to grow. In particular the German employees of the healthcare sector have work challenges like demographic change, lack of specialists, etc. Thus it seems obvious that these employees suffer from risk of a high stress level. The present paper focuses primarily on quantitative analysis of the stress level of employees in the rural healthcare sector. This study analyses the mental and physical burdens. The results of this paper support the concept that employees of the healthcare sector experience a strong stress levels. The results also support the assumption that communication and company structure is influencing the individual stress level of these employees. Further results show that physical and mental comfort is strongly influenced by weekly working hours and they show there is an impact of working atmosphere and working conditions to mental and physical burdens.

Key words: education; health; welfare **JEL codes:** 11, 115

1. Introduction

Health insurance funds — as well as numerous companies — report in their health reports more and more about mental illnesses of employees — especially about the topic of burnout. Mental illnesses are listed in the World Health Organization's diagnostic classification system under the ICD (International Statistical Classification of Diseases and Related Health Problems). Almost all occupational groups already suffer from mental illnesses. Although social and, above all, helping professions (including medical personnel and teachers) are still the hardest hit. Managers, students, air traffic controllers, students or librarians are also finding these cases more frequent (Hedderich, 2009).

After the financial crisis of 2008 and the resulting consequences, the situation has since little relaxed. Nevertheless, a heavy pressure on the healthcare sector, due to the increasing privatization of hospitals and increasing globalization is still occurring. Many general practitioners in rural areas complain about a shortage of skilled workers and they have huge problems to find suitable staff. Caused by the working conditions, it is difficult for physicians and dentists in the countryside to build and maintain employer attractiveness. For example, there are little opportunities to implement flexible working hours or to enable financial or practical support in the field of childcare. Thus, the question of the physical and, above all, the psychological well-being of these

Sabine Abbasi, LL.B, M.Sc, Mendel University Brno; research areas: healthcare, management, HR. E-mail: sabine.abbasi@c-oaching.de.

employees seems to be a legitimate and important question — especially in relation to enhance the employer attractiveness.

In the field of education, there is already a great deal of information on occupational stress and the risk of burnout (BZgA, 2002). It is interesting to note that 6 percent of the 124 respondents answered "yes, partly" to 68 percent when asked whether they find their work situation harmful to their health. This raises the question whether other industries also feel that their work situation is harmful to their health. The healthcare sector therefore seems particularly interesting due to the above mentioned aspects (and furthermore in relation to the occurring demographic change).

If we compare different scenarios (Fuchs et al., 2011) on what the employment potential might look like in 2015, we can see that depending on the scenario in 2050, only between 27 and 33 million persons in employment are predicted. In addition, there is already a shortage of well-trained employees in many sectors, such as the healthcare sector, mechanical engineering and information technology (Federal Employment Agency, 2015). Comparing the evolution of average incapacity for mental illness with Statista in the period from 2006 to 2015 (incapacity day per case), Statista (statista.com is an online statistics, market research and business intelligence portal) shows a significant increase in inability to work due to mental illness. Thus, employee health also appears to be a significant factor in the employer attractiveness. For this reason, in the context of a dissertation a recent conducted study using a standardized research tool examined whether there is a high level of stress in the healthcare sector, which can lower employer attractiveness. Therefore, the study by Jungbauer (2013) is specifically adapted to the healthcare sector of physicians.

2. Literature Review

There are many literatures on stress impact in companies in the economic sector, but there is less literature regarding stress impact in the health care sector in Germany. There are many studies on burnout and the links between, for example, burnout syndrome and leadership style (Badura, 2003). For the area of educators, there is already a great deal of information on occupational stress and the risk of burnout (BZgA, 2002). It is interesting to note that 6 percent of the 124 respondents answered "yes, partly" to 68 percent when asked whether they find their work situation harmful to their health. This raises the question of whether other industries also feel that their work situation is harmful to their health. If one compares different scenarios (Fuchs et al., 2011), as the potential for employment in 2015 could look like, one sees that depending on the scenario in the year 2050, only between 27 and 33 million persons in employment will be predicted. In addition, in many industries such. For example, mechanical engineering and health and social work are already experiencing a shortage of well-trained employees (Bundesagentur für Arbeit, 2015).

3. Model Specification

Stress is difficult to define because there are many different interpretations. For this study, stress was defined as follows: stress eats the stress (impact of stress) of the human being through internal and external stimuli or stress (objective, human factors and their magnitudes and periods). These can be both artificial and natural, both biotic and abiotic, acting on the body as well as the psyche of the human being and ultimately being perceived as positive or negative or having an impact.

4. Methodology and Data

The present study is a cross-sectional study. The data collection took place from 22.06.2017 to 20.10.2017. As a measuring instrument, the burnout screening scales BOSS were applied. Since the questionnaires of the Burnout Screening Scales (BOSS I, II and III) can be used individually or in combination, the data collected in this study were based on the fully standardized questionnaire BOSS I and BOSS II. The processing time for the two questionnaires together was about 15-20 minutes (BOSS I about 10-15 minutes and BOSS II about 5 minutes), with no time limit set.

The burnout screening scales are used as a method of self-assessment for the detection of subjective mental and physical burdens, as they also occur in burnout syndrome and strongly stressful experienced situations. The BOSS I contains four scales that record subjective burdens in the areas of work, one's own person, family and friends over an evaluation period of three weeks (Hagemann & Geuenich, 2010). Thus, differentiation is made between different, elementary spheres of life, thereby permitting a reflection of the overall system of the person affected by work and the social environment (Hagemann & Geuenich, 2010). The BOSS II consists of three scales that record physical, cognitive and emotional burdens over a period of seven days. This questionnaire should help to better understand the subject's situation and symptoms at a clinical level (Hagemann & Geuenich, 2010). In the evaluation, a distinction is made between a latitude, intensity and total value per scale. The evaluation provides information on whether and to what extent a person is affected by physical, mental or psychosocial burdens (Hagemann & Geuenich, 2010).

The burnout screening scales can be used in persons over the age of 18 years. In addition, the burnout screening scales are not restricted to a specific occupational group, so that the BOSS questionnaires can be used regardless of the profession or special sectors. The procedure is suitable for the progress and success control in prevention and promotion measures, such as e.g. in internal or individual psychological context (Hagemann & Geuenich, 2010). Reference is made to the BOSS Manual by Hagemann & Geuenich (2010) for further information and background information, as well as the detailed proof of the reliability and validity of BOSS I and BOSS II. For the study, only employees from the healthcare sector, in particular employees of general practitioners and general hospitals, as well as executives who themselves have assigned a further executive hierarchically to themselves, were interviewed. For the participation in the survey it was absolutely necessary to speak the German language.

4.1 Hypotheses

Derived from the initial situation, the following hypotheses were derived and set up:

Hypothesis 1: Healthcare workers suffer from psychosomatic and psychological burdens.

Hypothesis 2: There is a negative relationship between

a) Stressfulness (dependent variable (DV)) and satisfaction with the Structure in the company (independent variable (IV))

b) between stress levels (DV) and satisfaction with communication in operation (IV)

c) between stress levels (DV) and the safety of the patient workplace (IV).

Hypothesis 3: There is a negative correlation between stress levels (DV) among health workers and workplace safety (IV).

5. Results

The item analysis has an average rating of 3 (applies mostly). This suggests that for all these employees in the healthcare sector a subjectively perceived stress is present.

In the BOSS I the item 11 (concern and tension around the workplace) was rated on average 4.22. This means that on average the burdens are clearly true for the subjects. This is interesting because in the question previously asked about the safety of the workplace, this is rated by most subjects as predominantly to very safe. Therefore it can be assumed that this divergence stems from the fact that the general safety of the workplace (in stress-neutral circumstances) appears to be more at risk due to burdens caused by stress. It is noticeable that in the area of the BOSS I all items are to some extent perceived as stressful, with the exception of the fear regarding the own image and the joy about the successes. This may indicate that the view of one's own image could depend on the joy of success. Furthermore, the evaluation shows that the areas of family, friends and, for the most part, one's own person correlate more strongly with assessment area 3 than is the case in the occupational stress/burnout risk in the sample surveyed. Missing standards are not omissions, but should reflect the data.



Figure 1 Mean T-values (totals) in the Four Scales of BOSS I

The results of the burnout screening scales used (BOSS I & BOSS II) provide information on the extent to which a person is affected by somatic, mental or psychosocial burdens "as they typically occur as part of a burnout syndrome or a chronic stress situation" (Hagemann & Geuenich, 2010, p. 33).

By means of a representative calibration sample, normal values were determined taking into account the mean values and the standard deviations by means of surface transformation (Dragon, 2008). The skewed distribution of the standard sample is taken into account by the area transformation or "normalized" in the calculation of the T values. If the percentile calculations of the standard sample are used, a transfer of the arithmetic operations to T values is permitted. The T-transformation requires that the mean of the standard sample be set at 50 (Hagemann & Geuenich, 2010).

T-values are used to interpret the results. The statistical mean of the T-scale is 50. The standard deviation is 10. The range between 40 and 60 thus marks the average range. T-values greater than or equal to 60 or less than or equal to 40 have a clinically relevant deviation from the average range of the standard sample.

The statistical averages of the T-value scale deviate from the standard sample for all four areas of BOSS I.

All four mean values are above the standard mean of the T-value scale (M = 50).

The scope "occupation" (M = 67), which usually seems to be decisive for the perception of stress in individual clients, and the scope "own person" (M = 67), which interrogates mental and psychosomatic burdens, deviates significantly from the standard sample. Thus, it can already be stated at this point that the examined sample from the health care sector in all investigated scopes of the BOSS I is disproportionately affected by stress-related burdens. The statistical averages of the T-value scale deviate from the standard sample for all four areas of BOSS I. All four mean values are above the standard mean of the T-scale (M = 50). The appeal area "occupation" (M = 67), which usually seems to be decisive for the perception of stress in individual clients, and the burden area "own person" (M = 67), which interrogates mental and psychosomatic burdens, deviates significantly from the standard sample. Thus, it can already be stated at this point that the health sample examined in all examined burdens areas of BOSS I is disproportionately affected by stress-related burdens.



Figure 2 T-value Distribution of Psychosomatic Burdens

Figure 2 shows in the area of psychosomatic burdens (median = 76) that the T-values of the sample vary from 20 to 80. Many T-values scatter around a mean of 50 (which are therefore unremarkable), but the T-values are in the range 65-80 (significantly to very much increased). It can be seen that the T-values (75-80, very much increased) also have the highest frequency. Very high T-values are thus frequently represented.



Figure 3 T-Value Distribution of Mental Burdens

Figure 3 clearly shows in the area of mental burdens (median = 58) that the T-values of the sample vary from 20 to 80. Often the T values range from 50 to 65 (normal to slightly elevated). Very high T-values (75-80) are less common. Hypothesis 1 was only partially confirmed. It is confirmed that employees of health care sector suffer from psychosomatic burdens, it is not confirmed that the employees of the automotive/supplier industry suffer from mental health problems.

Quality of working conditions	В	t(307)	p <	R ²			
Satisfaction with the structure in the company	-3.860	-9.507	.001	.227			
Satisfaction with communication in the company	-3.737	-8.918	.001	.206			
Safety of workplace	-2.413	-5.626	.001	.093			

Table 1 Related Variables on Quality of Working Conditions and Stress Levels

All variables have a significant negative correlation with the stress burden. The evaluation of the datasets considering the variables stress load and safety at work shows:

It is assumed that the independent variables structure in the enterprise, communication and safety at work have an influence on the averages of the dependent variables 11-40 of the BOSS I. These variables are collectively referred to as "stress levels". The following table shows the results related to the satisfaction with the structure in the company, satisfaction with the communication in the company and the security of the workplace. All variables have a significant negative correlation with the stress burden. Hypothesis 2 was thus fully confirmed.

Table 2 1-values and p-values — Safety in the workplace						
	В	t(307)	p <	R²		
Safety at work	-2.307	-4.953	.001	.074		

 Table 2
 T-values and p-values — Safety in the Workplace

The evaluation of the data sets considering the variables stress load and safety at the workplace is shown in the table. The p-value shows a significant negative linear relationship between workplace safety and stress levels. If one interprets the B-weight, it can be seen that per point of safety in the workplace, the stress load is reduced by about 2 T-value points. Overall, workplace safety accounts for 7.4 percent of variance with stress levels. Hypothesis 3 was confirmed.

6. Conclusions

This paper highlights that occupational stress in general, is caused by multifactorial factors, e.g., there are not just one or a few linear causes of stress, but there is a variety of different, complexly interacting stressors and conditions in individual stress management. Results show that the employees of health care sector are affected by stressrelated burdens. Health workers suffer from psychosomatic burdens. Satisfaction with the company structure, communication and safety of workplace have a significant negative correlation with stress burdens.

It seems natural that employer attractiveness decreases with rising stress burdens caused by poor perceived company procedures. Therefore it seems promising to replicate the study with a larger amount of participants, to prove the results expressivly also in other sectors like elderly care and similar branches like the social worker sector.

Stress and burnout studies are generally challenging because not all employers support surveys and studies regarding this topic. Usually a reserved, skeptical behavior is monitored. This may be related to work overload in many areas of the healthcare sector. Another important reason is that such a survey/study always carries the risk of

negative publicity for the company. Access to the staff selected for this study was therefore quite difficult. It is possible that the study changes significantly with increasing sample size (n > 307) and a high degree of diversification in the various task areas and corporate divisions. In addition, it was absolutely necessary to have a good knowledge of German in order to answer the questionnaire. This could not be verified on the basis of the present study and the questionnaire. Thus it is possible that also employees with less extensive knowledge of German, via the link in the intranet of the respective company, participated in the survey.

References

- Badura B. (2003). "Gesünder älter werden—Betriebliche Personal-und Gesundheitspolitik in Zeiten demographischen Wandels", in: *Demographischer Wandel: Herausforderung für die betriebliche Personal-und Gesundheitspolitik*, Springer Berlin Heidelberg, pp. 33-42.
- Blot W. J., Li J. Y., Taylor P. R., Guo W., Dawsey S., Wang G. Q. and Yu Y. (1993). "Nutrition intervention trials in Linxian, China: Supplementation with specific vitamin/mineral combinations, cancer incidence, and disease-specific mortality in the general population", *Journal of the National Cancer Institute*, Vol. 85, No. 18, pp. 1483-1491.
- Bundesagentur für Arbeit Federal Labour Office (2015). "Der Arbeitsmarkt in Deutschland Fachkräfteengpassanalyse Dezember 2015", available online at: https://statistik.arbeitsagentur.de/Statischer-Content/Arbeitsmarktberichte/ Fachkraeftebedarf-Stellen/Fachkraefte/BA-FK-Engpassanalyse-2015-12.pdf.
- BzGA Bundeszentrale für gesundheitliche Aufklärung, B. (2002). "Früh übt sich…" Gesundheitsförderung im Kindergarten, Impulse, Aspekte und Praxismodelle, Köln: Forschung und Praxis der Gesundheitsförderung, Bd, p. 16.
- Fuchs J., Söhnlein D. and Weber B. (2011). "Projektion des Arbeitskräfteangebots bis 2050 Rückgang und Alterung sind nicht mehr aufzuhalten. Hg. v. Institut für Arbeitsmarkt- und Berufsforschung (IAB) der Bundesagentur für Arbeit", available online at: http://doku.iab.de/kurzber/2011/kb1611.pdf.
- Greenberg E. R., Baron J. A., Tosteson T. D., Freeman Jr. D. H., Beck G. J., Bond J. H. and Mandel. J. S. et al. (1994). "A clinical trial of antioxidant vitamins to prevent colorectal adenoma", *New England Journal of Medicine*, Vol. 331, No. 3, pp. 141-147.

Hagemann W. and Geuenich K. (2010). BOSS — Burnout-Screening-Skalen: Manual, Göttingen: Hogrefe.

- Hedderich I. (2009). Burnout. Ursachen, Formen, Auswege, München: Beck (Beck'sche Reihe, 2465: Wissen).
- Jungbauer J. (2013). "Berufsbezogene Stressbelastungen und Burnout-Risiko bei Erzieherinnen und Erziehern", available online at: http://www.katho-nrw.de/fileadmin/primaryMnt/Aachen/Dateien/Forschung/igsp/Abschlussbericht_Erzieherinnenstudie.pdf.
- Kliche T. and Kröger G. (2008). "Empowerment in Prävention und Gesundheitsförderung: eine konzeptkritische Bestandsaufnahme von Grundverständnissen, Dimensionen und Erhebungsproblemen", Das Gesundheitswesen 70.12.
- Kuttler I. (2007). "Pfarrer in der Krise? Zusammenhänge zwischen Arbeitsanforderungen im Pfarrberuf und dem Burnout-Syndrom", available online at: http://kops.uni-konstanz.de/bitstream/handle/123456789/10285/Pfarrer_in_der_Krise.pdf?sequence=1.