Chapter 1
Introduction

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1.1 Aspects of Burnout

Social factors in general and socio-economic factors in particular are important in the context of mental health (Bährer-Kohler 2011a). As the World Health Organization (WHO) documented with regard to mental health aspects in 2004, the clearest evidence is associated with indicators of poverty, including low levels of education, and in some studies with poor housing and insufficient income (WHO 2004). Income may be generated by work, which has a demonstrable effect on health. Burnout has often been documented in the context of work and specific occupation groups (Innstrand et al. 2011), and it has often been associated with stress and/or chronic stress (Gusy 1995; Weber and Jaekel-Reinhard 2000). At the same time, burnout has been analyzed in connection with partners (Ekberg et al. 1986), parental burnout (Lindström et al. 2011, 2010), and situations in which dementia patients, for example, require care and support (Valente et al. 2011; Lilly et al. 2011). The symptomatology of burnout that emerges is extraordinarily diverse.

Burnout can be described as a condition based on the protracted depletion of an individual's energies (Shirom 1989), characterized by emotional exhaustion, reduced personal accomplishment, and feelings of insufficiency and depersonalization (Melamed et al. 2006; Houkes et al. 2011). Burnout features certain facets and other characteristics that are related to the individual, always context- and/or organization-related and influenced by living conditions. It may be the personal response, with emotional core elements, of an individual to persistent stress, displaying psychic and somatic symptoms (Melamed et al. 2006; Ahola et al. 2009), even though the immediate causes may not be clear (Korczak et al. 2010).

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To date, there has been no conclusive scientific proof of what causes burnout—one of the reasons being that burnout is described as a dynamic process (Schaufeli and Enzman 1998).

There is no unified international definition of burnout (Korczak et al. 2010), neither in the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), nor in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV). The ICD-10 merely documents *problems associated with difficulties in coping with life* under item Z 73. In Sweden, on the other hand, burnout has been a legitimate diagnosis since 1997 (Friberg 2009). Many questions remain, such as: Is burnout a process in which the burnout syndrome might form a building block of depression? Starting out from chronic stress, burnout might thus develop into depressive symptoms and/or a clinical depression (von Känel 2008a, b) and/or a self-reported depression with many symptoms (Peterson et al. 2008). Alternatively, it may be merely an individual adjustment disorder.

At the onset of the condition, people with burnout are often distinguished by high motivation, high commitment, and outstanding performance and ambition, aspects that are also described in the various phase models (Freudenberger and North 1992; Lauderdale 1982; Burisch 2006).

The number of phases may range from three (e.g., in the concept of Lauderdale 1982) to 12 (in the concept of Freudenberger and North 1992), and the sequence of phases may vary. According to Freudenberger and North, burnout starts in phase 1 with a feeling of having to prove oneself, proceeding via enhanced commitment, the neglect of one's own needs, and the displacement of conflicts to stage 7, personal withdrawal, that may end in burnout in stage 12. According to Burisch (2006), burnout begins with an excessive deployment of energy and experiences of exhaustion, and ends, in phase 7, in profound despair, often marked by a negative attitude toward life, hopelessness, and a feeling of futility.

Other potential symptoms include tiredness, sleep disturbances (Ekstedt et al. 2009, 2006), irritability, cynicism, and lack of concentration. Individual characteristics, such as age, gender, sector, occupation, employment status, and environmental and societal factors interact with stress and/or coping with stress at work (European Agency for Safety and Health at Work 2009, p. 10). Unmarried men and divorced women have been described to be potential at-risk groups (Soares et al. 2007; Ahola et al. 2006), and women (Bakker et al. 2002; Roth et al. 2011), particularly those with multiple functions (Norlund et al. 2010; Van Emmerik and Euwema 2001; Innstrand et al. 2011), have been the object of a broad scientific debate (Ahola et al. 2006, 2008; Norlund et al. 2010; Houkes et al. 2011). The current publication by Houkes et al. documents that, while burnout affects both genders, it is more likely to be triggered by depersonalization in men and by emotional exhaustion in women. Others again found that men suffered more emotional exhaustion and a higher degree of depersonalization than women (Van Horn et al. 1997). There is no such thing as a typical burnout personality (Burisch 2006). Nevertheless, burnout can be influenced by factors like intrinsic motivation (Ten Brummelhuis et al. 2011) or neuroticism (McCrae and Costa 1987). Neuroticism refers to characteristics such as anxiety, lack of self-respect, susceptibility to guilt, and low self-esteem.

Among other institutions, the European Agency for Safety and Health at Work (2009) emphasizes the possibility of burnout being linked to stress at work, e.g., in the context of low support for those affected.

The burnout process may be reinforced by

- High work load and complexity (Leiter et al. 2009; Ten Brummelhuis et al. 2011)
- Time pressure (Kaschka et al. 2011)
- Job uncertainty (Msaouel et al. 2010)
- Work conflicts, problems of leadership and collaboration (Kaschka et al. 2011)
- Bullying (Kaschka et al. 2011)
- Lack of control (Cerimele 2011)
- Demands for and/or lack of flexibility (Weber and Jaekel-Reinhard 2000, p. 513)
- Lack of autonomy (Nahrgang et al. 2011)
- Reduced job resources (Ten Brummelhuis et al. 2011)
- Poor teamwork (Kaschka et al. 2011)
- A disorganized work environment (Cerimele 2011)
- Low job satisfaction (De Oliveira et al. 2011)

Work-related stress is one of the biggest health, mental health, and safety challenges. Various studies document the high prevalence of the professional stress syndrome. It has been shown that, in Europe alone, one in four workers is affected by it, an average of 22% in 2005 (European Agency for Safety and Health at Work 2011).

At the same time, burnout is also influenced by societal aspects (Weber and Jaekel-Reinhard 2000, p. 513), such as individualization factors (Fischer and Boer 2011), the loss of traditional support systems, changing values, anonymity, etc.

1.2 Models for Coping with Stress and the Development of Burnout

While some models concentrate on the individual, others focus on outside influences such as occupational, organizational, and societal factors (Cooper et al. 2001).

Stress is a nonspecific reaction of the body (Selye 1936) and, as Richard S. Lazarus (1966) explains in his transactional theory of stress, it is essentially a cognitive phenomenon. This theory assumes that a person experiences a situation, perceiving and evaluating it, and searching for solutions or the ability to respond (Ladegard 2011).

Another concept that particularly addresses stress in a work situation is the requirement control model of Karasek & Theorell. It explains that the relationship among requirements at work, controllability (see uncontrollable stress, Hüther 1997), reward, and social support could be imbalanced (Karasek and Theorell 1990).

At the international level, three theoretical models have been repeatedly used to explain burnout. The first is that conceived by Golembiewski, Munzenrider, and Stevenson; the second is the process model by Leiter and Maslach, and the

third is the model by Lee and Ashforth. In the model of Golembiewski et al. (1986), burnout begins with depersonalization, while Leiter and Maslach (1988) describe burnout as beginning with emotional exhaustion that can then lead to depersonalization and subsequently to reduced personal accomplishment. Like Leiter and Maslach, Lee and Ashforth (1996) show that, while emotional exhaustion forms the basis of further depersonalization, reduced personal accomplishment develops independently of depersonalization, directly emanating from emotional exhaustion. However, these models have also been analyzed critically (Taris et al. 2005; Houkes et al. 2011).

1.3 Biological Measurability of Stress

Recently, various studies have been published on the biological measurability of stress, which, of course, relates to burnout (Kudielka et al. 2006; Tops et al. 2007). One objective is to discover whether there are different biological burnout types. Danhof-Pont et al. (2011) analyzed 31 studies on 38 biomarkers involved in the hypothalamus–pituitary–adrenal axis, the autonomic nervous system, the immune system, metabolic processes, the antioxidant defense, hormones, and sleep, but were unable to find any potential biomarkers for burnout. One of the reasons for this was that the studies were difficult to compare. Henry's stress model, on the other hand, offers some clues as to the biological traces that might be left behind by anger, fear, and depression (Henry 1992).

1.4 Burnout Is Becoming Increasingly Prominent in the Literature

PubMed (US National Library of Medicine) listed more than 7,200 scientific articles on the subject of burnout in November 2011. The first dates back to 1973, and one of the most recent, by Bagaajav et al., on burnout and job stress among Mongolian doctors and nurses, appeared in August 2011. Although a few meta-analyses on the subject, including those by Fischer and Boer (2011) and Melchior et al. (1997) have been published, there are still no high-quality control studies on the burnout syndrome in the literature (Kaschka et al. 2011). For around 35 years, the subject increasingly attracted the attention of researchers, practitioners, and the general public almost all over the world (Schaufeli et al. 2008). It is probable, however, that burnout has existed at all times and in all cultures (Kaschka et al. 2011). In 1974, Freudenberger used the term to describe emotional depletion, loss of motivation, and reduced commitment in individuals (Schaufeli et al. 2008, p. 205), and as early as 1981, Maslach et al. judged burnout to be a highly diverse multi-dimensional construct (Maslach and Jackson 1981).

In the literature, there are various data relating to the prevalence of burnout:

- 2.4% prevalence of severe burnout in the Finnish working population (Ahola et al. 2006)
- 13% prevalence of high-level burnout in the general population of northern Sweden (Norlund et al. 2010)
- 16% of the caregiver burden is related to burnout, dementia-related factors being the most significant predictors (Kim et al. 2011a)
- 22.3% with psychiatric morbidity and 27.5% with emotional exhaustion in the medical profession (Grassi and Magnani 2000)
- 34% overall burnout prevalence among internal medicine interns (Ripp et al. 2010)
- 38% of pediatric oncologists have high levels of burnout (Roth et al. 2011)
- 46.5% high-level burnout (Embriaco et al. 2007) among physicians working in intensive care units
- 54% of mental health workers (mental health nurses and occupational therapists) with high levels of burnout (Oddie and Ousley 2007)
- 72% of pediatric oncologists with moderate levels of burnout (Roth et al. 2011)

Further information has been presented by, for example, Gencay and Gencay (2011) on judo coaches, Mazurkiewicz et al. (2011) on medical students, Kim et al. (2011b) on social workers, Sehlen et al. (2009) on nurses and physicians, and Wu et al. (2011) on female nurses and female physicians.

1.5 Survey Tools

A variety of survey tools have been used in inventories, such as the Maslach Burnout Inventory (MBI; Maslach et al. 1996), which comprises 22 items addressing three dimensions: emotional exhaustion, depersonalization, and reduced accomplishment. Another tool is the Shirom Melamed Burnout Questionnaire (SMBQ; Shirom 1989), which similarly comprises 22 items. Other tools include the Copenhagen Burnout Inventory (Kristensen et al. 2005), the Oldenburg Burnout Inventory (Demerouti and Bakker 2008), and the Spanish Burnout Inventory (Gil-Monte and Olivares Faúndez 2011).

1.6 Burnout Costs Money

Burnout is costly for individuals, as well as for employers and societies.

Studies conducted within the EU indicate that between 50 and 60% of absence from work is related to stress in the workplace (Cox et al. 2000).

In 2002, the annual economic costs of work-related stress amounted to approximately EUR 20,000 million in the EU 15 (15 countries that were members of the European

Union at that time) (European Agency for Safety and Health at Work 2011). In France, for example, between 220,500 and 335,000 employees were affected by illnesses related to stress at work in 2000, a number equivalent to 1–1.4% of the entire workforce. Depending on the inclusion criteria, the estimated cost amounted to EUR 830–1,656 million (INRS 2000). In Germany, the cost of psychological disorders, including depression, amounted to around EUR 3,000 million in 2001 (Badura et al. 2004).

Certainly, such calculations should not omit the indirect costs of work-related stress; thus, the study by Kessler et al. (2008) focuses on one source of indirect costs, loss of earnings. Based on the American Comorbidity Survey Replication (NCS-R), which covers 5,000 individuals, the analysis documents other additional costs amounting to billions of dollars.

1.7 What Can Be Done?

1.7.1 Options for Individuals

- Self-observation (Kanfer et al. 2000)
- Self-care (Kravits et al. 2010)
- Self-regulation and action regulation (Cameron and Leventhal 2003; Raabe et al. 2007; Forgas et al. 2009; Baumeister and Vohs 2004)
- Training one's own perceptivity in health matters (Krasner et al. 2009)
- Prevention (Peterson et al. 2008; Caplan 1964; Leka et al. 2004, p. 15; Roth et al. 2011)
- Exercise/leisure activities (Jonsdottir et al. 2010)
- Promotion of resources (Lee and Ashforth 1996; Bakker et al. 2005)
- Promotion of self-esteem (Pierce and Gardner 2004)
- Promotion of self-efficacy (Doménech Betoret and Gómez Artiga 2010)
- Target reflection and motivation promotion (Gray 2006; Nahrgang et al. 2011)
- Maintenance and enhancement of social networks (Van Dierendonck et al. 1998; Gray-Stanley and Muramatsu 2011)
- Emotional intelligence (Weng et al. 2011)
- Dealing with role conflicts (Hsu et al. 2010)
- Promoting the ability to deal with conflicts (Wright 2011; Ohue et al. 2011)
- Interpersonal skill development (Taormina and Law 2000)
- Personal stress management (Taormina and Law 2000)
- Short interventions (Bährer-Kohler 2011b) with refresher sessions
- Communication training (Emold et al. 2011; Kim and Lee 2009)
- Coping (Lazarus 1966)
- Coping skills for women and problem-solving skills for men (Sasaki et al. 2009)
- Balance between work and family life (Ladegard 2011)

1.7.2 Options for Employers, Organizations, and Society

- Appreciation of employees and workers
- Identification of early signs of burnout (Maslach and Leiter 2008)
- Creation of an organizational culture that, among other things, reflects value systems and beliefs (Leka et al. 2004, p. 23)
- Raising awareness and education (Leka and Cox 2008)
- Improved corporate communications and successful communications (Zerfass 2007)
- Clearly structured tasks and responsibilities (Pedrini et al. 2009)
- Structured administrative support (Paisley and Powell 2007)
- Promotion of job resources, such as knowledge and autonomy (Nahrgang et al. 2011), as opposed to job demands (Bakker et al. 2004, 2005)
- Employee participation in decision-making (Gray-Stanley and Muramatsu 2011)
- Decision-making options for employees (Bond and Bunce 2001)
- Reconciliation of family and working life (Noor and Zainuddin 2011; Avgar et al. 2011)
- Prevention of bullying (Sá and Fleming 2008)
- Promotion of stress management resources and individual skills (Gray-Stanley and Muramatsu 2011; Leka and Cox 2008)
- Interventions (Awa et al. 2010; Leka and Cox 2008)
- Ongoing preventive interventions (Selmanovic et al. 2011)
- Organizational level interventions (Bergerman et al. 2009)
- Workplace coaching (Ladegard 2011)
- Supervisory support (Paisley and Powell 2007)
- Support, particularly in the event of organizational changes (Fugate et al. 2008)
- Short interventions (Bährer-Kohler 2011b; Salyers et al. 2011; Issaksson Ro et al. 2010)
- Co-worker support (Shimazu et al. 2005; Taormina and Law 2000)

Around 80% of the person-directed and organization-directed intervention programs analyzed ultimately caused the burnout syndrome to weaken (Awa et al. 2010). In this context, the effectiveness, especially of cognitive behavioral interventions, has been documented (Van der Klink et al. 2001). In a study with a 35-year follow-up, Hakanen et al. (2011) found that various individual, socioeconomic, and work-related resources accumulated over a lifetime can protect employees from job burnout.

The burnout syndrome should always be surveyed and analyzed within the comprehensive context of the person concerned, making use of interdisciplinary professional support.

References

Ahola, K., Honkonen, T., Isometsä, E., Kalimo, R., Nykyri, E., Koskinen, S., Aromaa, A., & Lönnqvist, J. (2006). Burnout in the general population. Results from the Finnish Health 2000 Study. *Social Psychiatry and Psychiatric Epidemiology, 41*(1), 11–17.

Ahola, K., Honkonen, T., Virtanen, M., Aromaa, A., & Lönnqvist, J. (2008). Burnout in relation to age in the adult working population. *Journal of Occupational Health, 50*(4), 362–365.

Ahola, K., Toppinen-Tanner, S., Huutanen, P., Koskinen, A., & Väänänen, A. (2009). Occupational burnout and chronic work disability: An eight-year cohort study on pensioning among Finnish forest industry workers. *Journal of Affective Disorders, 115*, 150–159.

Avgar, A. C., Givan, R. K., & Liu, M. (2011). A balancing act: Work–life balance and multiple stakeholder outcomes in hospitals. *British Journal of Industrial Relations, 49*, 717–741.

Awa, W. L., Plaumann, M., & Walter, U. (2010). Burnout prevention: A review of intervention programs. *Patient Education and Counseling, 78*(2), 184–190.

Badura, B., Schellschmidt, H., & Vetter, C. H. (Eds.). (2004). *Fehlzeiten-Report 2003: Schwerpunktthema: Work-Life-Balance - Zahlen, Daten, Analysen aus allen Branchen der Wirtschaft*. Berlin: WIdO und der Universität Bielefeld.

Bagaajav, A., Myagmarjav, S., Nanjid, K., Otgon, S., & Chae, Y. M. (2011). Burnout and job stress among Mongolian doctors and nurses. *Industrial Health, 49*(5), 582–588.

Bährer-Kohler, S. (Ed.). (2011a). *Social determinants and mental health.* https://www.novapublishers.com/catalog/product_info.php?products_id=23736. Accessed 8 Nov 2011.

Bährer-Kohler, S. (2011b). *BUSCH. Handout zum lösungsorientierten Burnoutprogramm*. http: www.stress-burnout.ch. Accessed 3 Nov 2011.

Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2002). Validation of the Maslach Burnout Inventory – General survey: An internet study. *Anxiety, Stress and Coping, 15*(3), 245–260.

Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management, 43*, 83–104.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10*(2), 170–180.

Baumeister, R. F., & Vohs, K. D. (Eds.). (2004). *Handbook of self-regulation, research, theory and applications*. New York: Guilford Publications.

Bergerman, L., Corabian, P., & Harstall, C. H. (2009). IHE Report. Effectiveness of organizational interventions for the prevention of workplace stress. *The Institute of Health Economics (IHE)* http://www.ihe.ca/documents/Interventions_for_prevention_of_workplace_stress.pdf. Accessed 2 Nov 2011.

Bond, F. W., & Bunce, D. (2001). Job control mediates change in a work reorganization: Intervention for stress reduction. *Journal of Occupational Health Psychology, 6*(4), 290–302.

Burisch, M. (2006). *Das Burnout-Syndrom –Theorie der inneren Erschöpfung*. Heidelberg: Springer.

Cameron, L. D., & Leventhal, H. (Eds.). (2003). *The self-regulation of health and illness behaviour*. London/New York: Routledge.

Caplan, G. (1964). *Principles of preventive psychiatry*. New York: Basic Books.

Cerimele, J. M. (2011). Does post-call syndrome exist, and is it related to physician burnout? *Academic Psychiatry, 35*, 272.

Cooper, C., Dewe, P., & O'Driscoll, M. (2001). *Organizational stress: A review and critique of theory, research and applications*. Thousand Oaks: Sage.

Cox, T., Griffith A. J., & Rial-Gonzalez, E. (2000). *Research on work-related stress*. Report to the European Agency for Safety and Health at Work. Luxembourg.

Danhof-Pont, M. B., Van Veen, T., & Zitman, F. G. (2011). Biomarkers in burnout: A systematic review. *Journal of Psychosomatic Research, 70*(6), 505–524.

De Oliveira, G. S., Ahmad, S., Jr., Stock, M. C., Harter, R. L., Almeida, M. D., Fitzgerald, P. C., & McCarthy, R. J. (2011). High incidence of burnout in academic chairpersons of anesthesiology: Should we be taking better care of our leaders? *Anesthesiology, 114*(1), 181–193.

Demerouti, E., & Bakker, A. B. (2008). The Oldenburg Burnout Inventory: A good alternative to measure burnout and engagement. In J. Halbesleben (Ed.), *Handbook of stress and burnout in health care* (pp. 65–78). New York: Nova.

Doménech Betoret, F., & Gómez Artiga, A. (2010). Barriers perceived by teachers at work, coping strategies, self-efficacy and burnout. *Spanish Journal of Psychology, 13*(2), 637–654.

Ekberg, J. Y., Griffith, N., & Foxall, M. J. (1986). Spouse burnout syndrome. *Journal of Advanced. Nursing, 11*(2), 161–165.

Ekstedt, M., Söderström, M., Akerstedt, T., Nilsson, J., Søndergaard, H. P., & Aleksander, P. (2006). Disturbed sleep and fatigue in occupational burnout. *Scandinavian Journal of Work, Environment & Health, 32*(2), 121–131.

Ekstedt, M., Söderström, M., & Akerstedt, T. (2009). Sleep physiology in recovery from burnout. *Biological Psychology, 82*(3), 267–273.

Embriaco, N., Azoulay, E., Barrau, K., Kentish, N., Pochard, F., Loundou, A., & Papazia, L. (2007). High level of Burnout in Intensivists – Prevalence and associated factors. *American Journal of Respiratory and Critical Care Medicine, 175*, 686–692.

Emold, C., Schneider, N., Meller, I., & Yagil, Y. (2011). Communication skills, working environment and burnout among oncology nurses. *European Journal of Oncology Nursing, 15*(4), 358–363.

European Agency for Safety and Health at Work. (2009). *OSH in figures: Stress at work—facts and figures*. http://osha.europa.eu/en/publications/reports/TE-81-08-478-EN-C_OSH_in_figures_stress_at_work. Accessed 3 Nov 2011.

European Agency for Safety and Health at Work. (2011). *Stress*. http://osha.europa.eu/en/topics/stress/index_html. Accessed 9 Nov 2011.

Fischer, R., & Boer, D. (2011). What is more important for national well-being: Money or autonomy? A meta-analysis of well-being, burnout, and anxiety across 63 societies. *Journal of Personality and Social Psychology, 101*(1), 164–184.

Forgas, J. P., Baumeister, R. F., & Tice, D. M. (Eds.). (2009). *Psychology of self-regulation: Cognitive, affective, and motivational processes* (Sydney symposium in social psychology). New York: Taylor & Francis Group.

Freudenberger, H., & North, G. (1992). *Burnout bei Frauen. Über das Gefühl des Ausgebranntseins*. Frankfurt: Krüger.

Friberg, T. (2009). Burnout: From popular culture to psychiatric diagnosis in Sweden. *Culture, Medicine and Psychiatry, 33*(4), 538–558.

Fugate, M., Kinicki, A. J., & Prussia, G. E. (2008). Employee coping with organizational change: An examination of alternative theoretical perspectives and models. *Personnel Psychology, 61*, 1–36.

Gencay, S., & Gencay, O. A. (2011). Burnout among Judo coaches in Turkey. *Journal of Occupational Health, 53*(5), 365–370.

Gil-Monte, P. R., & Olivares Faúndez, V. E. (2011). Psychometric properties of the "Spanish Burnout Inventory" in Chilean professionals working to physical disabled people. *Spanish Journal of Psychology, 14*(1), 441–451.

Golembiewski, R. T., Munzenrider, R. F., & Stevenson, J. G. (1986). *Phases of burnout: Developments in concepts and applications*. New York: Praeger.

Grassi, L., & Magnani, K. (2000). Psychiatric morbidity and burnout in the medical profession: An Italian study of general practitioners and hospital physicians. *Psychotherapy and Psychosomatics, 69*, 329–334.

Gray, D. E. (2006). *Executive coaching:* Towards a dynamic alliance of psychotherapy and transformative learning processes. *Management Learning, 37*(4), 475–497.

Gray-Stanley, J. A., & Muramatsu, N. (2011). Work stress, burnout, and social and personal resources among direct care workers. *Research in Developmental Disabilities, 32*(3), 1065–1074.

Gusy, B. (1995). *Stressoren in der Arbeit, Soziale Unterstützung und Burnout—Eine Kausalanalyse*. Band 1. Munich, Vienna: Profil Verlag GmbH.

Hakanen, J. J., Bakker, A. B., & Jokisaari, M. (2011). A 35-year follow-up study on burnout among Finnish employees. *Journal of Occupational Health Psychology, 16*(3), 345–360.

Henry, J. P. (1992). Biological basis of the stress response. *Integrative Physiological and Behavioral Science, 27*(1), 66–83.

Houkes, I., Winants, Y., Twellaar, M., & Verdonk, P. (2011). Development of burnout over time and the causal order of the three dimensions of burnout among male and female GPs. A three wave panel study. *BMC Public Health, 11*(1), 240.

Hsu, H.-Y., Chen, S.-H., Yu, H.-Y., & Lou, J.-H. (2010). Job stress, achievement motivation and occupational burnout among male nurses. *Journal of Advanced Nursing, 66*(7), 1592–1601.

Hüther, G. (1997). *Biologie der Angst. Wie aus Stress Gefühle werden*. Göttingen: Vandenhoeck & Ruprecht.

Innstrand, S. T., Langballe, E. M., Falkum, E., & Aasland, O. G. (2011). Exploring within- and between-gender differences in burnout: 8 different occupational groups. *International Archives of Occupational and Environmental Health, 84*(7), 813–824.

INRS—L'Institut national de recherche et de sécurité pour la prévention des accidents du travail et des maladies professionnelles. (2000). *Le stress au travail*. www.inrs.fr/dossier/stress. Accessed 2 Nov 2011.

Issaksson Ro, K. E., Tyssen, R., Hoffart, A., Sexton, H., Aasland, O. G., & Gude, T. (2010). A three-year cohort study of the relationships between coping, job stress and burnout after a counselling intervention for help-seeking physicians. *BMC Public Health, 10*, 213.

Jonsdottir, I. H., Rödjer, L., Hadzibajramovic, E., Börjesson, M., & Ahlborg, G., Jr. (2010). A prospective study of leisure-time physical activity and mental health in Swedish health care workers and social insurance officers. *Preventive Medicine, 51*(5), 373–377.

Kanfer, F. H., Reinecker, H., & Schmelzer, D. (2000). *Selbstmanagement-Therapie: Ein Lehrbuch für die klinische Praxis*. Berlin: Springer.

Karasek, R., & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. New York: Basic Books.

Kaschka, W. P., Korczak, D., & Broich, K. (2011). Burnout: A fashionable diagnosis. *Deutsches Ärzteblatt International, 108*(46), 781–787.

Kessler, R. C., Heeringa, S., Lakoma, M. D., Petukhova, M., Rupp, A. E., Schoenbaum, M., Wang, P. S., & Zaslavsky, A. M. (2008). Individual and societal effects of mental disorders on earnings in the United States: Results from the National comorbidity survey replication. *The American Journal of Psychiatry, 165*, 703–711.

Kim, H., & Lee, S. Y. (2009). Supervisory communication, burnout, and turnover intention among social workers in health care settings. *Social Work in Health Care, 48*(4), 364–385.

Kim, H., Chang, M., Rose, K., & Kim, S. (2011a). Predictors of caregiver burden in caregivers of individuals with dementia. *Journal of Advanced Nursing, 68*(4), 846–855, April 2012.

Kim, H., Ji, J., & Kao, D. (2011b). Burnout and physical health among social workers: A three-year longitudinal study. *Social Work, 56*(3), 258–268.

Korczak, D., Huber, B., & Kister, C. (2010). Differential diagnostic of the burnout syndrome. *GMS Health Technology Assessment, 6*, Dec 09.

Krasner, M. S., Epstein, R. M., Beckman, H., Suchman, A. L., Chapman, B., Mooney, C. J., & Quill, T. E. (2009). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. Clinician's corner. *JAMA: The Journal of the American Medical Association, 302*(12), 1284–1293.

Kravits, K., McAllister-Black, R., Grant, M., & Kirk, C. (2010). Self-care strategies for nurses: A psycho-educational intervention for stress reduction and the prevention of burnout. *Applied Nursing Research, 23*(3), 130–138.

Kristensen, T., Borritz, M., Villadsen, E., & Christensen, K. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work and Stress, 19*(3), 192–207.

Kudielka, B. M., Bellingrath, S., & Hellhammer, D. H. (2006). Cortisol in burnout and vital exhaustion: An overview. *Giornale Italiano di Medicina del Lavoro ed Ergonomia, 28*(1 Suppl 1), 34–42.

Ladegard, G. (2011). Stress management through workplace coaching: The impact of learning experiences. *International Journal of Evidence Based Coaching and Mentoring, 9*(1), 29–43.

Lauderdale, M. L. (1982). *Burnout: Strategies for personal and organizational life: Speculations on evolving paradigms*. San Diego: Learning Concepts, Subsidiary of University Associates.

Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.
Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *The Journal of Applied Psychology, 81*, 123–133.
Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment of burnout and organizational commitment. *Journal of Organizational Behavior, 9*, 297–308.
Leiter, M. P., Frank, E., & Matheson, T. J. (2009). Demands, values, and burnout: Relevance for physicians. *Canadian Family Physician, 55*(12), 1224–1225.
Leka, S., & Cox, T. (2008). *Best practice in work-related stress management interventions*. www.prima-ef.org. Accessed 9 Dec 2011.
Leka, S., Griffiths, A., & Cox, T. (2004). *Work organization and stress: systematic problem approaches for employers, managers and trade union representatives*. World Health Organization. http://www.who.int/occupational_health/publications/pwh3rev.pdf. Accessed 6 Dec 2011.
Lilly, M. B., Robinson, C. A., Holtzman, S., & Bottorff, J. L. (2011). Can we move beyond burden and burnout to support the health and wellness of family caregivers to persons with dementia? Evidence from British Columbia, Canada. *Health & Social Care in the Community, 20*(1), 103–112.
Lindström, C., Aman, J., & Norberg, A. L. (2010). Increased prevalence of burnout symptoms in parents of chronically ill children. *Acta Paediatrica, 99*(3), 427–432.
Lindström, C., Aman, J., & Norberg, A. L. (2011). Parental burnout in relation to sociodemographic, psychosocial and personality factors as well as disease duration and glycaemic control in children with Type 1 diabetes mellitus. *Acta Paediatrica, 100*(7), 1011–1017.
Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour, 2*, 99–113.
Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *The Journal of Applied Psychology, 93*, 498–512.
Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *The Maslach burnout inventory* (3rd ed.). Palo Alto: Consulting Psychologists Press.
Mazurkiewicz, R., Korenstein, D., Fallar, R., & Ripp, J. (2011). The prevalence and correlations of medical student burnout in the pre-clinical years: A cross-sectional study. *Psychology, Health & Medicine, 25*, 1–8.
McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81–90.
Melamed, S., Shirom, A., Toker, S., & Shapira, I. (2006). Burnout and risk of type 2 diabetes: A prospective study of apparently healthy employed persons. *Psychosomatic Medicine, 86*(6), 863–869.
Melchior, M. E. W., Bours, G. J. J. W., Schmitz, P., & Wittich, Y. (1997). Burnout in psychiatric nursing: A meta-analysis of related variables. *Journal of Psychiatric and Mental Health Nursing, 4*(3), 193–201.
Msaouel, P., Keramaris, N. C., Tasoulis, A., Kolokythas, D., Syrmos, N., Pararas, N., Thireos, E., & Lionis, C. (2010). Burnout and training satisfaction of medical residents in Greece: Will the European Work Time Directive make a difference? *Human Resources of Health, 8*, 16.
Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *The Journal of Applied Psychology, 96*(1), 71–94.
Noor, N. M., & Zainuddin, M. (2011). Emotional labor and burnout among female teachers: Work–family conflict as mediator. *Asian Journal of Social Psychology, 14*(4), 283–293.
Norlund, S., Reuterwall, C., Höög, J., Lindahl, B., Janlert, U., & Birgander, L. S. (2010). Burnout, working conditions and gender – Results from the northern Sweden MONICA Study. *BMC Public Health, 10*, 326.
Oddie, S., & Ousley, L. (2007). Assessing burn-out and occupational stressors in a medium secure service. *The British Journal of Forensic Practice, 9*, 32–48.
Ohue, T., Moriyama, M., & Nakaya, T. (2011). Examination of a cognitive model of stress, burnout, and intention to resign for Japanese nurses. *Japan Journal of Nursing Science, 8*, 76–86.
Paisley, K., & Powell, G. M. (2007). Staff burn-out prevention and stress management. *Child and Adolescent Psychiatric Clinics of North America, 16*(4), 829–841.

Pedrini, L., Magni, L. R., Giovannini, C., Panetta, V., Zacchi, V., Rossi, G., & Placentino, A. (2009). Burnout in nonhospital psychiatric residential facilities. *Psychiatric Services, 60*(11), 1547–1551.

Peterson, U., Demerouti, E., Bergström, G., Samuelsson, M., Asberg, M., & Nygren, A. (2008). Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing, 62*(1), 84–95.

Pierce, J. L., & Gardner, D. G. (2004). Self-esteem within the work and organizational context: A review of the organization-based self-esteem literature. *Journal of Management, 30*, 591–622.

Raabe, B., Frese, M., & Beehr, T. A. (2007). Action regulation theory and career self-management. *Journal of Vocational Behavior, 70*(2), 297–311.

Ripp, J., Fallar, R., Babyatsky, M., David, R., Reich, L., & Korenstein, D. (2010). Prevalence of resident burnout at the start of training. *Teaching and Learning in Medicine, 22*(3), 172–175.

Roth, M., Morrone, K., Moody, K., Kim, M., Wang, D., Moadel, A., & Levy, A. (2011). Career burnout among pediatric oncologists. *Pediatric Blood & Cancer, 57*(7), 1168–1173.

Sá, L., & Fleming, M. (2008). Bullying, burnout, and mental health amongst Portuguese nurses. *Issues in Mental Health Nursing, 29*(4), 411–426.

Salyers, M. P., Hudson, C., Morse, G., Rollins, A. L., Monroe-DeVita, M., Wilson, C., & Freeland, L. (2011). BREATHE: A pilot study of a one-day retreat to reduce burnout among mental health professionals. *Psychiatric Services, 62*(2), 214–217.

Sasaki, M., Kitaoka-Higashiguchi, K., Morikawa, Y., & Nakagawa, H. (2009). Relationship between stress coping and burnout in Japanese hospital nurses. *Journal of Nursing Management, 17*(3), 359–365.

Schaufeli, W. B., & Enzman, D. (1998). *The burnout companion to study and practice: A critical analysis* (Issues in occupational health). London: Taylor & Francis.

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2008). *Burnout: 35 years of research and practice* (pp. 204–220). http: www.emeraldinsight.com. Accessed 11 Nov 2011 and http:www.fss.uu.nl/sop/Schaufeli/311.pdf. Accessed 1 Nov 2011.

Sehlen, S., Vordermark, D., Schäfer, C., Herschbach, P., Bayerl, A., Pigorsch, S., Rittweger, J., Dormin, C., Bölling, T., Wypior, H. J., Zehentmayr, F., Schulze, W., Geinitz, H., & DEGRO Quality of Life Work Group. (2009). Job stress and job satisfaction of physicians, radiographers, nurses and physicists working in radiotherapy: A multicenter analysis by the DEGRO Quality of Life Work Group. *Radiation Oncology, 6*, 4–6.

Selmanovic, S., Ramic, E., Pranjic, N., Brekalo-Lazarevic, S., Pasic, Z., & Alic, A. (2011). Stress at work and burnout syndrome in hospital doctors. *Medicinski Arhiv, 65*(4), 221–224.

Selye, H. (1936). Syndrome produced by diverse nocuous agents. *Nature, 138*, 32.

Shimazu, A., Shimazu, M., & Odara, T. (2005). Divergent effects of active coping on psychological distress in the context of the job demands-control-support model: The roles of job control and social support. *International Journal of Behavioral Medicine, 12*(3), 192–198.

Shirom, A. (1989). Burnout in work organisations. In C. Cooper & I. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 25–48). New York: Wiley.

Soares, J. J., Grossi, G., & Sundin, O. (2007). Burnout among women: Associations with demographic/socio-economic, work, life-style and health factors. *Archives of Women's Mental Health, 10*(2), 61–71.

Taormina, R. J., & Law, C. M. (2000). Approaches to preventing burnout: The effects of personal stress management and organizational socialization. *Journal of Nursing Management, 8*(2), 89–99.

Taris, T. W., Le Blanc, P. M., Schaufeli, W. B., & Schreurs, P. J. G. (2005). Are there causal relationships between the dimensions of the Maslach Burnout Inventory? A review and two longitudinal tests. *Work and Stress, 19*, 238–255.

Ten Brummelhuis, L. L., ter Hoeven, C. L., Bakker, A. B., & Peper, B. (2011). Breaking through the loss cycle of burnout: The role of motivation. *Journal of Occupational and Organizational Psychology, 84*(2), 268–287.

Tops, M., Boksem, M. A., Wijers, A. A., van Duinen, H., Den Boer, J. A., Meijman, T. F., & Korf, J. (2007). The psychobiology of burnout: Are there two different syndromes? *Neuropsychobiology, 55*(3–4), 143–150.

Valente, L. E., Truzzi, A., Souza, W. F., Alves, G. S., Alves, C. E., Sudo, F. K., Lanna, M. E., Moreira, D. M., Engelhardt, E., & Laks, J. (2011). Health self-perception by dementia family caregivers: Sociodemographic and clinical factors. *Arquivos de Neuro-Psiquiatria, 69*(5), 739–744.

Van der Klink, J. J., Blonk, R. W., Schene, A. H., & van Dijk, F. J. (2001). The benefits of interventions for work-related stress. *American Journal of Public Health, 91*(2), 270–276.

Van Dierendonck, D., Schaufeli, W. B., & Buunk, B. P. (1998). The evaluation of an individual burnout intervention program: The role of in- equity and social support. *The Journal of Applied Psychology, 83*(3), 392–407.

Van Emmerik, I. J. H., & Euwema, M. C. (2001). At risk of burnout: Gender and faculty differences within academia. In J. de Jonge, P. Vlerick, A. Büssing, & W. B. Schaufeli (Eds.), *Organisational psychology and health care at the start of a new millennium* (pp. 123–138). Munich: Rainer Hampp Verlag.

Van Horn, J. E., Schaufeli, W. B., Greenglass, E. R., & Burke, R. J. (1997). A Canadian-Dutch comparison of teachers' burnout. *Psychological Reports, 81*(2), 371–382.

Von Känel, R. (2008a). Das Burnout-Syndrom: eine medizinsche Perspektive. *Praxis, 97*, 477–487.

Von Känel, R. (2008b). *Stress bei der Arbeit und Burnout-Probleme: Ab wann macht Stress wen krank? Presse-Frühstück "Kontroverse Krankheitsbilder" Jahresversammlung SGIM*. Lausanne.

Weber, A., & Jaekel-Reinhard, A. (2000). *Burnout* syndrome: A disease of modern societies? *Occupational Medicine, 50*(7), 512–517.

Weng, H. C., Hung, C. M., Liu, Y. T., Cheng, Y. J., Yen, C. Y., Chang, C. C., & Huang, C. K. (2011). Associations between emotional intelligence and doctor burnout, job satisfaction and patient satisfaction. *Medical Education, 45*(8), 835–842.

WHO (2004). *Promoting mental health*. http://www.who.int/mental_health/evidence/en/promoting_mhh.pdf. Accessed 3 Nov 2011.

Wright, K. B. (2011). A communication competence approach to healthcare worker conflict, job stress, job burnout, and job satisfaction. *Journal for Healthcare Quality, 33*(2), 7–14.

Wu, S. Y., Li, H. Y., Wang, X. R., Yang, S. J., & Qiu, H. (2011). A comparison of the effect of work stress on burnout and quality of life between female nurses and female doctors. *Archives of Environmental & Occupational Health, 66*(4), 193–200.

Zerfass, A. (2007). Unternehmenskommunikation und Kommunikationsmanagement. In M. Piwinger and A. Zerfass (Eds.). *Handbuch Unternehmenskommunikation* [Handbook of corporate communication] (pp. 21–70). Wiesbaden: Gabler.