

Chapter 10

Emotional Exhaustion and Psychosocial Work Factors

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10.1 Introduction

The structure of age groups in western countries will change in the future. Birth rates are declining, which results in a situation where the number of older people is growing while the number of younger people is decreasing. This structure of society will be reflected in working life. In the future, people will have to work longer.

Even though the lifespan has grown and people stay healthier to an older age, there is still a huge number of people who leave working life before the retirement age. There are many reasons for this, personal as well as medical, but one reason for the untimely termination of employment is burnout. One of our challenges in the future will be how to prevent burnout and improve employees' well-being.

Burnout develops as a prolonged response to long-term emotional and interpersonal stressors, which appear repeatedly in the employees' work environment. Burnout is a syndrome that is characterized by three dimensions. These dimensions are emotional exhaustion, cynicism, and reduced personal accomplishment (Maslach et al. 2001). Exhaustion represents the strain dimension of burnout. It refers to feelings of being overextended and depleted of one's emotional as well as physical resources. Cynicism represents the interpersonal context dimension of burnout and it refers to a negative attitude toward work and toward the recipients of one's service. Professional inefficacy represents a self-evaluation dimension of burnout and it refers to feelings of insufficiency and lack of competence at work (Maslach and Leiter 2008). It is widely agreed that burnout develops gradually and that emotional exhaustion is the core dimension of burnout. Exhaustion has synchronous associations with cynicism, whereas reduced personal accomplishment has more complex associations with the two other dimensions of burnout. In some studies personal

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accomplishment is rather an independent dimension of burnout, but in others it has direct associations with exhaustion and cynicism (Golembiewski et al. 1986; Lee and Ashforth 1996; Maslach and Leiter 2008; Taris et al. 2005).

When considering the development of burnout, it is also relevant to consider gender differences. The onset of burnout can be different for men and women and the early signs of burnout can differ too (Maslach and Leiter 2008). Several studies have found that women experience slightly more emotional exhaustion than men, whereas men are more cynical than women (Purvanova and Muros 2010; Lindeberg et al. 2011; Houkes et al. 2011).

It is significant to identify early signs of burnout and add to our knowledge about the factors that may contribute to burnout among employees. As exhaustion is the key component of burnout, it is vital to understand which factors in the work environment might promote exhaustion. The central aim of this chapter is to analyze associations between emotional exhaustion and the psychosocial work environment. In this chapter the author will refer to the findings of some of the studies that are related to the psychosocial work environment and emotional exhaustion. In these studies the study population consists of middle-aged employees. The ages of the subjects vary between 35 and 65 in the most of the studies. Younger age groups are included only in studies defining the phenomenon of bullying in the workplace. These studies include the age group 18–34 years. In studies on the association between bullying and employees' health the mean age of the study population varies from 40 to 50 years.

10.2 Psychosocial Work Environment

Karasek (1979) has described two key components of the psychosocial work environment. These two components are job demands and job decision latitude. Job demands act as a psychological stressor at work, while decision latitude focuses on the employee's decision authority and skill discretion. According to Karasek's job strain model, jobs can be classified into four types:

1. High-strain jobs, where the demands of the job are high and the employee's decision latitude is low. These are the highest-risk jobs for psychological strain and physical illness.
2. Active jobs, where the demands of the job are high and the employee's control over the job is high. Active jobs can be demanding, but employees have control over the tasks and the autonomy to use the skills that are needed. These jobs are associated with only an average level of psychological strain.
3. Low-strain jobs, where the demands of the job are low and the decision latitude is high. The employee has a high level of authority relative to the strain level, which allows the employee to respond optimally to the job's challenges.
4. Passive jobs, where the demands are low and the decision latitude is low. These jobs are associated with only an average level of psychological strain and physical illness.

Active jobs are optimal for the employee's motivation, learning, and engagement. According to several studies, high-strain jobs with high demands and low decision latitude are prospective risk factors for common mental health disorders, i.e., mild to moderate depression and anxiety disorders (Stansfeld and Candy 2006), as well as for emotional exhaustion (de Jonge et al. 2000; Lindeberg et al. 2011).

Many studies have used the job strain model, as described above with the four stress categories. When these two key components, job demands and job control, have been examined separately, it has been found that job demands are associated with high levels of emotional exhaustion (Demerouti et al. 2001; Jourdain and Chênevert 2010), whereas associations between emotional exhaustion and job control have been found to be weaker and more complicated (de Jonge et al. 2000).

Karasek's job demand-control model has also been criticized because it does not take into account the social context of the workplace. Johnson and Hall (1988) added a third dimension to this model known as occupational social support. This third dimension was added after it had been noted that support received from supervisors or colleagues acted as a buffer against the harmful effects of high job demands and low job control (Johnson and Hall 1988; Karasek and Theorell 1990). This job demand-control-support model is also known as the "iso-strain" model. Lindeberg et al. (2011) measured the independent associations of high job demands, low job control, and low social support as emotional exhaustion. Of the three dimensions studied, low social support had the strongest independent association with emotional exhaustion among men and women (Lindeberg et al. 2011).

In our study (Helkavaara et al. 2011), we examined the associations between each of the three psychosocial work factors (job decision latitude, organizational justice, and the presence of bullying in the workplace) and emotional exhaustion. The participants in the study were employees of the City of Helsinki, which is the biggest employer in Finland, with nearly 40,000 employees. The age of the participants ranged from 40 to 60 years. Participants completed the Emotional Exhaustion Subscale of the Maslach Burnout Inventory (MBI) (Maslach and Jackson 1981) and the job control dimension from Karasek's (1979) demand-control model. Organizational justice was measured using two subscales. These subscales measured relational and procedural justice. One question asked whether the employee had observed bullying in the workplace. The questionnaire also included 18 questions measuring physical work factors.

First, we calculated the prevalence data for emotional exhaustion with independent variables, which were age, occupational classes, job control, organizational justice, and observing bullying in the workplace. Second, we used logistic regression analysis to examine the association between psychosocial work factors as well as other independent variables and emotional exhaustion. We conducted all analyses separately for men and women. Among women, job control had the weakest association with emotional exhaustion when all three psychosocial work factors were mutually adjusted. Among men, job control lost its significance after mutual adjustment for the three psychosocial work factors, and our results suggested that low job decision latitude is interrelated with the other two psychosocial

work factors, organizational injustice and the presence of bullying in the workplace. This is in line with previous studies in which it was found that job control affects job strain through justice evaluations (Elovainio et al. 2001). A high level of job control seems to indicate more favorable evaluations of procedural and relational justice. This, in turn, mediates the influence on health (Elovainio et al. 2001). Our results also suggested that the predictive value of job control for exhaustion among men is not as strong as it is, for example, for coronary heart disease. Associations between low job decision latitude and risks of coronary heart disease have been established in several studies (e.g., Theorell and Karasek 1996; Bosma et al. 1998). Low job control was a risk factor for emotional exhaustion only among women. Of the three psychosocial work factors studied it was the weakest for both genders (Helkavaara et al. 2011).

10.3 Organizational Justice

Organizational justice refers to the fairness of employee treatment by an organizational system (Elovainio et al. 2009) and is relevant when employees determine whether or not they have been treated fairly in their jobs and in other work-related variables. Four sources of organizational justice are acknowledged:

1. Procedural justice refers to the fairness of the decision-making procedures within the organization.
2. Distributive justice relates to the outcome for the employee and to the fairness of the outcome compared with the input of the employee.
3. Interpersonal justice refers to the fairness of the treatment of the employee by the supervisors.
4. Informational justice focuses on the information given to the employee about why certain procedures were followed (Colquitt et al. 2001).

There has been discussion about the dimensionality of organizational justice. In this chapter studies are presented that have used organizational justice scales with four dimensions, with two dimensions or a combined scale.

It has been argued that fairness confirms a employee's self-worth and communicates respect for the employee (Maslach et al. 2001). Lack of justice is associated with low self-esteem and social isolation (Tyler et al. 1996). Fair and respectful treatment by the authorities communicates feelings of pride and respect in return. These feelings are in turn related to self-esteem, feelings of obligation to the authorities, and a willingness to help the group beyond what is required (Tyler et al. 1996).

Recent studies have established that organizational justice is not only associated with emotions and behavior, it is also associated with employees' health. Kivimäki et al. (2004) found that low relational justice predicted decreasing health among male and female employees. Low relational justice was also associated with long spells of sick leave among both genders. Especially among women, relational injustice seemed to be a strong predictor of long sick leave (Head et al. 2007).

Among men, low organizational justice was clearly associated with chronic pain (Saastamoinen et al. 2009). Organizational injustice may also intensify the effect of poor health on the retirement intentions of middle-aged employees (Heponiemi et al. 2008).

Disturbed sleep is a marker of prolonged stress, which is suggested to be a common indicator of prolonged negative emotional states and related physiological changes (Espie 2002). In a longitudinal study, long-term exposure to low organizational justice predicted sleeping problems even 10–16 years later among men and women (Elovainio et al. 2009). Exposure to organizational justice was measured at two time-points and sleep problems were measured at three time-points, which enabled a prospective study of the long-term effects of organizational justice on sleep problems to be conducted. Other potential confounders in the relationship between perceived organizational injustice and sleep problems are depressive symptoms and obesity. These potential confounders were also adjusted for, but they did not help to explain the justice effect (Elovainio et al. 2009).

A lack of justice is associated with burnout in two ways. First, a lack of fair treatment is emotionally upsetting and exhausting. Second, the unfair treatment accelerates feelings of cynicism about the workplace (Maslach et al. 2001). Cynicism refers to distancing, negative or insensitive responses to the various aspects of the job (Maslach et al. 2001; Maslach and Leiter 2008).

In our study, low organizational justice was strongly associated with emotional exhaustion (Helkavaara et al. 2011). Maslach and Leiter (2008) found that organizational justice is a key factor in predicting future burnout in employees.

Based on previous studies, organizational justice and fair treatment of employees are central to planning ways of promoting employees' health. However, it is important to notice that organizational justice is quite a novel psychosocial work factor in health research and it is obvious that more studies on this issue are needed. It is important to study organizational justice within a broader framework of psychosocial work factors (Sutinen et al. 2002; Helkavaara et al. 2011) and more longitudinal settings are also needed (Maslach and Leiter 2008).

10.4 Bullying in the Workplace

Workplace bullying is a severe problem in organizations. The prevalence of bullying depends on the definition of bullying and on the study population, but studies from different countries show that workplace bullying is a prevalent problem in different organizations all around the world (Zapf et al. 2003). Based on studies from European countries it is possible to estimate that about 5–10 % of the working population is subjected to workplace bullying (Kivimäki et al. 2000; Vartia 2001; Ortega et al. 2009; Niedhammer et al. 2009).

There is no generally accepted definition of workplace bullying, but it is commonly agreed that workplace bullying refers to situations in which the individual (or a few individuals) is subjected to frequent and long-lasting hostile acts, unethical

communication like rumors, threats or persistent criticism, and behavior that is annoying and oppressing. The individual is pushed into a defenseless position and is held there by continuous bullying or mobbing activities (Leymann 1996). Workplace bullying by colleagues may include for example isolating and ignoring the individual, laughing and gossiping about the individual's personal matters, and refusing to talk or listen to the individual. Management may bully by giving the individual meaningless work tasks or by not giving any work tasks at all, by attacking the individual verbally regarding work tasks, or by silencing the individual or forbidding the individual to talk to others. Bullying may also include verbal and physical threats, physical attacks, and sexual harassment (Leymann 1996). This definition of bullying excludes temporary work conflicts (Leymann 1996). A salient point when defining workplace bullying is the frequency and duration of the acts.

It has been argued that serious interpersonal problems at work could have more serious and negative consequences for an individual compared with the same kind of problems outside of work (Bolger et al. 1989). Recent studies have shown that bullying is associated with many kinds of problems with employees' well-being. Bullying has been found to be associated with psychosomatic complaints and somatic symptoms (Zapf et al. 1996; Niedl 1996), sleep disturbances (Niedhammer et al. 2009), and depressive symptoms (Niedhammer et al. 2006). Bullying has also been found to be associated with an increase in sick leave (Kivimäki et al. 2000), and to be more strongly associated with medically certified sick leave than with self-certified absence. It has been suggested that medically certified sick leave might be a more accurate measure of employees' health than self-certified sick leave. Self-certified sick leave may also reflect voluntary absenteeism, especially in shorter spells of sick leave, where the influence of work satisfaction is an important factor in sick leave, as well as employees' health status (Marmot et al. 1995; Hensing et al. 1998).

Hansen et al. (2011) found that frequent bullying was associated with lower salivary cortisol compared with the nonbullied group. Cortisol is a natural energy-releasing hormone with a distinct daily rhythm. The physiological effect of cortisol is to help the organism to maintain homeostasis under conditions of stress (Heim et al. 2000). Cortisol is highest in the morning and decreases to the lowest point in the evening (Hansen et al. 2011). The regulation of cortisol can be disturbed in different ways, for example, cortisol can be high over a longer period or the curve of cortisol may be "flat" (i.e., cortisol is low in the morning and in the evening) (Chrousos 2009). A lower concentration of cortisol in the morning among bullied employees could indicate that their energy level is lower than that of nonbullied employees (Hansen et al. 2006).

Workers who are frequently bullied also reported more mental health symptoms. A lower concentration of cortisol has been previously found within individuals with post-traumatic stress disorder (Yehuda et al. 1996). It has also been found among healthy individuals who have been exposed to chronic stress in their living conditions as well as among patients with several bodily disorders, such as burnout with physical complaints, chronic fatigue syndrome, and fibromyalgia, which is a syndrome characterized by chronic and widespread musculoskeletal pain, sleep disturbances, fatigue, and some psychological impairment like depression (see Heim et al. 2000 for an overview). These results regarding physiological responses among frequently

bullied individuals support the self-reported mental health problems among those who are frequently bullied. Bullying is also associated with higher levels of job stress and burnout and lower levels of job satisfaction (Einarsen et al. 1998; Bowling and Beehr 2006).

Social climate is defined as the personality of a setting or environment (Moos 1994). Social climate is considered to consist of components defined as a set of organizational characteristics that are relatively stable and differentiate between organizations. These also influence the behaviors of organization members (Duxbury et al. 1982). Bullying reflects the social climate at the organization. An organization in which bullying occurs is a stressful place to work, not only for those being bullied, but also for those who observe bullying. It has been found that observers of bullying reported more general stress and mental stress reactions than those employed in a workplace where there was no bullying (Vartia 2001). Saastamoinen et al. (2009) found that observing bullying was associated with acute pain in women, whereas in our study (Helkavaara et al. 2011) observing bullying was strongly associated with emotional exhaustion in men and women. Repeatedly observing bullying in the workplace was the strongest predictor of emotional exhaustion in both genders.

Through increased rates of sick leave bullying causes a high financial burden for organizations and for society (Kivimäki et al. 2000). When considering the costs caused by workplace bullying, in addition to the direct costs of sick leave, it is also important to take into account the indirect costs, which cause premature termination of employment and lost productivity of employees (Kessler et al. 2008). These studies have confirmed that bullying is a threat to the psychological as well as to the physiological well-being of bullied employees and also to those who observe bullying. Bullying is a strong risk factor for emotional exhaustion and future burnout.

In the future, organizations should take into account all the problems that bullying causes and focus on reducing bullying. This would help the well-being of the victims and those who observe bullying. It would also produce financial benefits for organizations through less sick leave (Kivimäki et al. 2000) and better work ability and work engagement.

10.5 Conclusion

This chapter covers psychosocial work factors that are associated with emotional exhaustion among middle-aged men and women. When considering the results of different studies presented in this chapter, it is relevant to bear in mind that the onset of burnout can differ between men and women. These gender differences may explain some of the results of the studies in which psychosocial work factors have different kinds of associations with emotional exhaustion in men and women.

Regardless of gender differences, there are many psychosocial work factors that are associated with emotional exhaustion for both genders. These factors, such as job demands, organizational justice, and bullying in the workplace should all be taken into account in the future when planning ways of preventing burnout and improving employees' well-being.

References

- Bolger, N., DeLongis, A., Kessler, R. C., & Schilling, E. A. (1989). Effects of daily stress on negative mood. *Journal of Personality and Social Psychology*, *57*(5), 808–818.
- Bosma, H., Peter, R., Siegrist, J., & Marmot, M. (1998). Two alternative job stress models and the risk of coronary heart disease. *American Journal of Public Health*, *88*(1), 68–74.
- Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: A theoretical model and meta-analysis. *Journal of Applied Psychology*, *91*(5), 998–1012.
- Chrousos, G. P. (2009). Stress and disorders of the stress system. *Nature Reviews. Endocrinology*, *5*, 374–381.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, *86*(3), 425–445.
- de Jonge, J., Bosma, H., Peter, R., & Siegrist, J. (2000). Job strain, effort-reward imbalance and employee well-being: A large-scale cross sectional study. *Social Science & Medicine*, *50*, 1317–1327.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512.
- Duxbury, M., Henly, G., & Armstrong, G. (1982). Measurement of the nurse organizational climate of neonatal intensive care units. *Nursing Research*, *31*(2), 83–88.
- Einarsen, S., Matthiesen, S. B., & Skogstad, A. (1998). Bullying, burnout and well-being among assistant nurses. *Journal of Occupational Health and Safety Australia and New Zealand*, *14*(6), 563–568.
- Elovainio, M., Kivimäki, M., & Helkama, K. (2001). Organizational justice evaluations, job control and occupational strain. *Journal of Applied Psychology*, *86*(3), 418–424.
- Elovainio, M., Ferrie, J. E., Gimeno, D., De Vogli, R., Shipley, M., Brunner, E. J., Kumari, M., Vahtera, J., Marmot, M. G., & Kivimäki, M. (2009). Organizational justice and sleeping problems: The Whitehall II study. *Psychosomatic Medicine*, *71*, 334–340.
- Espie, C. A. (2002). Insomnia: Conceptual issues in the development, persistence, and treatment of sleep disorder in adults. *Annual Review of Psychology*, *53*, 215–243.
- Golembiewski, R. T., Munzenrider, R. F., & Stevenson, J. G. (1986). *Phases of burnout: Developments in concepts and applications*. New York: Praeger.
- Hansen, Å. M., Hogh, A., Persson, R., Karlson, B., Garde, A. H., & Ørbæk, P. (2006). Bullying at work, health outcomes, and physiological stress response. *Journal of Psychosomatic Research*, *60*, 63–72.
- Hansen, Å. M., Hogh, A., & Persson, R. (2011). Frequency of bullying at work, physiological response, and mental health. *Journal of Psychosomatic Research*, *70*, 19–27.
- Head, J., Kivimäki, M., Siegrist, J., Ferrie, J. E., Vahtera, J., Shipley, M. J., & Marmot, M. G. (2007). Effort-reward imbalance and relational injustice at work predicts sickness absence: The Whitehall II study. *Journal of Psychosomatic Research*, *63*, 433–440.
- Heim, C., Ehler, U., & Hellhammer, D. H. (2000). The potential role of hypocortisolism in the pathophysiology of stress-related bodily disorders. *Psychoneuroendocrinology*, *25*, 1–35.
- Helkavaara, M., Saastamoinen, P., & Lahelma, E. (2011). Psychosocial work environment and emotional exhaustion among middle-aged employees. *BMC Research Notes*, *4*, 101.
- Hensing, G., Alexanderson, K., Allebeck, P., & Bjurulf, P. (1998). How to measure sickness absence? Literature review and suggestion of five basic measures. *Scandinavian Journal of Social Medicine*, *26*(2), 133–144.
- Heponiemi, T., Kouvonen, A., Vänskä, J., Halila, H., Kivimäki, M., & Elovainio, M. (2008). Health, psychosocial factors and retirement intentions among Finnish physicians. *Occupational Medicine*, *58*, 406–412.
- 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 GP's. A three-wave panel study. *BMC Public Health*, *11*, 240.

- Johnson, J. V., & Hall, E. M. (1988). Job strain, workplace social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, 78, 1336–1342.
- Jourdain, G., & Chênevert, D. (2010). Job demands-resources, burnout and intention to leave the nursing profession: A questionnaire survey. *International Journal of Nursing Studies*, 47, 709–722.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285–308.
- Karasek, R. A., & Theorell, T. (1990). *Healthy work: Stress, productivity and the reconstruction of the working life*. New York: Basic Books.
- Kessler, R. C., Maclean, J. R., Petukhova, M., Sarawate, C. A., Short, L., Li, T. T., & Stang, P. (2008). The effects of rheumatoid arthritis on labor force participation, work performance, and healthcare costs in two workplace samples. *Journal of Occupational and Environmental Medicine*, 50, 88–98.
- Kivimäki, M., Elovainio, M., & Vahtera, J. (2000). Workplace bullying and sickness absence in hospital staff. *Occupational and Environmental Medicine*, 57, 656–660.
- Kivimäki, M., Ferrie, J. E., Head, J., Shipley, M. J., Vahtera, J., & Marmot, M. G. (2004). Organisational justice and change in justice as predictors of employee health: The Whitehall II study. *Journal of Epidemiology and Community Health*, 58, 931–937.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81(2), 123–133.
- Leymann, H. (1996). The content and development of mobbing at work. *European Journal of Work and Organizational Psychology*, 5(2), 165–184.
- Lindeberg, S. I., Rosvall, M., Choi, B., Canivet, C., Isacson, S.-O., Karasek, R., & Östergren, P.-O. (2011). Psychosocial working conditions and exhaustion in a working population sample of Swedish middle-aged men and women. *European Journal of Public Health*, 21(2), 190–196.
- Marmot, M., Feeney, A., Shipley, M., North, F., & Syme, S. L. (1995). Sickness absence as a measure of health status and functioning: From the UK Whitehall II study. *Journal of Epidemiology and Community Health*, 49, 124–130.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2, 99–113.
- Maslach, C., & Leiter, M. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, 93(3), 498–512.
- Maslach, C., Schaufeli, W., & Leiter, P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397–422.
- Moos, R. (1994). *Work environment scale*. Palo Alto: Consulting Psychologists Press.
- Niedhammer, I., David, S., & Degioanni, S. (2006). Association between workplace bullying and depressive symptoms in the French working population. *Journal of Psychosomatic Research*, 61(2), 251–259.
- Niedhammer, I., David, S., Degioanni, S., Drummond, A., & Philip, P. (2009). Workplace bullying and sleep disturbances: Findings from a large scale cross-sectional survey in French working population. *Sleep*, 32(9), 1211–1219.
- Niedl, K. (1996). Mobbing and well-being: Economic and personnel development implications. *European Journal of Work and Organizational Psychology*, 5(2), 239–249.
- Ortega, A., Høgh, A., & Pejtersen, J. H. (2009). Prevalence of workplace bullying and risk groups: A representative population study. *International Archives of Occupational and Environmental Health*, 82, 417–426.
- Purvanova, R. K., & Muros, J. P. (2010). Gender differences in burnout: A meta-analysis. *Journal of Vocational Behavior*, 77, 168–185.
- Saastamoinen, P., Laaksonen, M., Leino-Arjas, P., & Lahelma, E. (2009). Psychosocial risk factors of pain among employees. *European Journal of Pain*, 13, 102–108.
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health — A meta-analytic review. *Scandinavian Journal of Work, Environment & Health*, 32(6), 443–462.

- Sutinen, R., Kivimäki, M., Elovainio, M., & Virtanen, M. (2002). Organizational fairness and psychological distress in hospital physicians. *Scandinavian Journal of Public Health, 30*, 209–215.
- Taris, T. W., LeBlanc, 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*(3), 238–255.
- Theorell, T., & Karasek, R. A. (1996). Current issues relating to psychosocial job strain and cardiovascular disease research. *Journal of Occupational Health Psychology, 1*(1), 9–26.
- Tyler, T., DeGoey, P., & Smith, H. (1996). Understanding why the justice of group procedures matters: A test of the psychological dynamics of the group-value model. *Journal of Personality and Social Psychology, 70*(5), 913–930.
- Vartia, M. (2001). Consequences of workplace bullying with respect to the well-being of its targets and the observers of bullying. *Scandinavian Journal of Work, Environment & Health, 27*(1), 63–69.
- Yehuda, R., Teicher, M. H., Trestman, R. L., Levengood, R. A., & Siever, L. J. (1996). Cortisol regulation in posttraumatic stress disorder and major depression: A chronobiological analysis. *Biological Psychiatry, 40*, 79–88.
- Zapf, D., Knortz, C., & Kulla, M. (1996). On the relationship between mobbing factors and job content, social work environment and health outcomes. *European Journal of Work and Organizational Psychology, 5*(2), 215–237.
- Zapf, D., Einarsen, S., Hoel, H., & Vartia, M. (2003). Empirical findings on bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and emotional abuse in the workplace: International perspectives in research and practice* (pp. 103–126). London: Taylor & Francis.