Chapter 4 Burnout Symptoms and Cycles of Burnout: The Comparison with Psychiatric Disorders and Aspects of Approaches

Winitra Nuallaong

4.1 Introduction

Burnout is a term used to describe the psychological process people undergo when they react to chronic stress at work (Kim et al. 2010; Hsu et al. 2010; Ahola and Hakanen 2007; Ahola et al. 2006). Many scholars agree that the three components of burnout are emotional exhaustion, cynicism, and lack of professional competence (Kanste et al. 2006). It gradually begins with intrapersonal factors in the context of work, such as unrealistic expectations of the job, narcissistic traits, as well as a maladaptive perfectionism in which the individual has unrealistically high standards, intense ruminative concern over mistakes, compulsive doubting of their ability to accomplish tasks, and intention to avoid negative consequences (Wei et al. 2004; Enns et al. 2002; Grosch and Olsen 2000).

When people start working at a new job, they usually have unrealistic expectations of themselves, colleagues, conditions and benefits or incentives from work, career path development, etc. After the failure of these unrealistic expectations and unsuccessful coping strategies, chronic job stress is apparent and becomes progressively worse (Rella et al. 2009; Maslach 1982; Cherniss 1980; Maslach 1976). Other individual factors affecting higher rates of burnout include single marital status (Castelo-Branco et al. 2007), low education (Dai et al. 2006), lower hardiness (commitment, control, and challenge) (Garrosa et al. 2008; Kelley 1994), professional value (Leiter et al. 2009), generational value mismatch between generation X (born between 1965 and 1980) and baby boomers (born between 1946 and 1964) (Leiter et al. 2009; Stephey 2008), lack of recognition for work (Günüşen and Ustün 2009), and female gender (Norlund et al. 2010; Embriaco et al. 2007; Dai et al. 2006; Chen

© Springer Science+Business Media New York 2013

W. Nuallaong (🖂)

Department of Psychiatry, Faculty of Medicine, Thammasat University (Rangsit campus) Klong-one Klongluang, Pathumthani 12120, Thailand e-mail: winitra145@yahoo.com

S. Bährer-Kohler (ed.), Burnout for Experts: Prevention in the Context

of Living and Working, DOI 10.1007/978-1-4614-4391-9_4,

Table 4.1 Risk factors for burnout	
Risk factors of burnout: organizational aspects	
Workload too heavy	
Lack of control over decision-making	
Insufficient reward	
Feeling of impersonal relationships and teamwork being undermined	
Lack of fairness, particularly regarding trust, openness, and respect	
Conflict of values between job and personal core values	

and Lu 1993). However, there is an argument that the prevalence of burnout between the genders is inconsistent because of the confounding effect of occupation and/or marital status (Houkes et al. 2011). There is evidence showing that the level of burnout decreases with age (Norlund et al. 2010). Younger people tend to have higher burnout rates than older people because of their lack of professional experience (Peisah et al. 2009; Wu et al. 2007; Chen and Lu 1993). Six major influences have been identified as common causes of burnout, including workload, lack of control over decision-making, insufficient reward, feeling of impersonal relationships and undermining of teamwork, lack of fairness (particularly regarding trust, openness, and respect), and conflict of values between job and personal core values (Table 4.1) (Maslach and Leiter 1997).

Burnout does not only originate from individual factors, but is also associated with social environmental factors, for instance, collective burnout (perceiving how burnt out one's colleagues are) (Gonzalez-Morales et al. 2011), performance-based pay (Yeh et al. 2009), demand and control imbalance (Norlund et al. 2010; Klein et al. 2010; Hansen et al. 2009; Dai et al. 2008; Imai et al. 2004), effort-reward imbalance (Klein et al. 2010; Dai et al. 2008), aggressive administrative environment and lack of support from management (Kumar et al. 2011), low organizational justice (Cheng et al. 2011), and employment insecurity (Norlund et al. 2010; Taylor and Barling 2004). High job demand and low job resources (i.e., autonomy and performance feedback) produce burnout in terms of exhaustion and cynicism (Bakker et al. 2005). A demand control imbalance could predict all dimensions of burnout; however, some researchers have argued that high emotional demand is only related to high personal accomplishment (Sundin et al. 2007). Workload is associated with burnout in terms of too much work and working long hours (Kumar et al. 2011; Günüşen and Ustün 2009; Leiter et al. 2009; Shimizutani et al. 2008; Garrosa et al. 2008; Embriaco et al. 2007; Park and Lake 2005; Janssen et al. 1999). Some reports show workload to be a predictive factor of burnout (Castelo-Branco et al. 2007; Wu et al. 2007). However, there is an argument that as long as there is sufficient time to complete a job, workload apparently reduces burnout (Elloy et al. 2001).

Interpersonal factors such as impaired relationships have been found to be independently associated with burnout (Embriaco et al. 2007). Role conflict and supervisory conflict are related to emotional exhaustion while coworker conflict is related to cynicism (Hsu et al. 2010; Elloy et al. 2001; Fujiwara et al. 2003). Moreover, people who avoid conflict have a chance of developing burnout (Wright 2011). Burnout can be developed gradually over time and presents as a cycle.

Table 4.2 Core mannestation of burnout according to Mastach and Jacks	m
Maslach and Jackson's burnout	
Emotional exhaustion	
Depersonalization or cynicism	
Lack of professional accomplishment	

Table 4.2 Core manifestation of humanit according to Maslach and Jackson

There are various ways to divide the burnout cycle into stages, such as the 12-Stage Burnout Cycle (Freudenberger and North 2006) the Five Stages of Burnout (Miller and Smith 1993), the Four Stages of Burnout (Gorkin 2004), and the Three Stages of Burnout (Girdin et al. 1996). Characteristics of burnout appear in various forms including physical, emotional, and cognitive symptoms. Some symptoms overlap with chronic fatigue in a normal exhausted person. On the other hand, some symptoms overlap with mental disorders such as depressive disorders, neurasthenia, and adjustment disorder. Individual and organizational interventions will be discussed in terms of alleviating job stress and reducing burnout.

4.2 The Development of Concepts

Burnout was first introduced by Freudenberger (1974) who defined burnout as a psychological syndrome arising from chronic job stress. The syndrome includes progressive emotional exhaustion, loss of motivation or demoralization, and lack of professional accomplishment. Pines et al. (1981) defined burnout as a result of chronic or repeated emotional pressure in long-term work in human services. Maslach and Jackson (1981) proposed the idea of three burnout components, including increased feeling of emotional exhaustion, cynical or negative attitudes toward clients, and a tendency to evaluate oneself negatively, particularly with regard to accomplishment on the job. Even though burnout is not included in the diagnostic systems of major psychiatric disorders, the concept seems to be familiar among people in terms of a common experience in the workplace that affects individual mental wellbeing (Schaufeli et al. 2009). However, some countries, such as Sweden and the Netherlands, accept burnout as a legitimate medical diagnosis. Thus, health professionals including physicians, psychiatrists, psychologists, social workers, counselors, human services officers, and organizational consultants have to be trained for burnout assessment and treatment (Friberg 2009; Schaufeli et al. 2009).

Based on Maslach and Jackson (1986), burnout consists of emotional exhaustion, depersonalization or cynicism, and lack of personal accomplishment or competence (Table 4.2). The symptoms gradually develop after long-term job stress.

Emotional exhaustion refers to a state of losing mental and psychological resources that has an impact on the quantity of mood, such as depleting and draining mental energy. It appears to be the most apparent manifestation of burnout and is considered a key dimension (Te Brake et al. 2008; Peterson et al. 2008). Evidence suggests that it precedes the development of cynicism and personal accomplishment independently (Te Brake et al. 2008). Regarding impaired sleep (i.e., sleep fragmentation, more waking time, and low sleep efficacy), sleep problems in burnout can establish exhaustion and explain why people with burnout feel sleepiness and mental fatigue most of the day on weekdays with no reduction at the weekends (Ekstedt et al. 2006). Exhaustion often outweighs the other two components (Mollart et al. 2011; Kania et al. 2009; Dai et al 2008). Some stressors affect burnout through this component, such as work-on-family conflict, perceived dangers of the job, and role strain (Smith 2011). On the other hand, emotional exhaustion can predict the consequences of job strain, for instance, job satisfaction and turnover intention (Van Bogaert et al. 2010). The syndrome differs from a lower mood state such as depression in terms of burnout representing quality of mood instead of quantity (Toker et al. 2005).

Cynicism or depersonalization is described as a negative attitude toward relationships in a workplace. The issues often include relationship problems with a colleague and/or a client in terms of a detached response to commitment. Cynicism mediates a relationship between lack of job resources and poorer performance (Jourdain and Chênevert 2010; Bakker et al. 2008). However, some authors have argued that cynicism is not a distinctive manifestation, but is rather a dysfunctional coping mechanism of emotional exhaustion (Onder and Basim 2008). Dysfunctional coping styles that arise from different psychological defense mechanisms probably explain signs of cynicism as a self-protected process or an emotional buffer against chronic stress (Onder and Basim 2008). Detachment or negligence with regard to a duty often occurs and also turns into a dehumanizing perception as a result (Ryan 1971).

Lack of professional competence often engenders a reduced sense of personal accomplishment or a negative view of self-efficacy (Evers et al. 2002). People with burnout feel a decrease in their work performance or their inability to complete tasks. The symptom represents a distortion of thinking and inappropriate self-evaluation. There is evidence to support a nonlinear relationship between personal accomplishment and the other two components of burnout. Therefore, individuals with high levels of emotional exhaustion or cynicism do not always report lower personal accomplishment (Onder and Basim 2008). Lower educational status is associated with this component (Wu et al. 2007; Dai et al 2006), whereas social support can increase personal accomplishment (Dai et al. 2006). In the long term, individuals can experience a self-imposed conclusion of failure (Fink 2007).

4.3 Models of the Burnout Process (Burnout Cycle)

Burnout syndrome does not strike overnight; it develops gradually over time. Many authorities in the field of burnout have divided the process into phases or stages (Table 4.3). The steps do not necessarily follow one another in order. Many skip certain stages; others find themselves undergoing several stages at the same time. The length of each phase can also vary from one individual to another.

Table 4.3 Vario	us models of the stages of	burnout			
Keywords	Burnout components (Freudenberger 1974)	The 12-Stage Burnout Cycle (Freudenberger and North 2006)	The Four Stages of Burnout (Gorkin 2004)	The Three Stages of Burnout (Girdin et al. 1996)	The Five Stages of Burnout (Miller and Smith 1993)
Motivation		1. A compulsion to prove oneself			1. The Honeymoon
Coping Distress		 Working harder Neglecting their needs 			
Awareness and		4. Displacement of	1. Physical, mental and	1. Stress arousal	2. The Awakening
Avoidance		5. Revision of values	2. Shame and doubt	2. Energy conservation	
Intolerance	Cynicism	6. Denial of emerging problems	3. Cynicism and callousness	ł	3. Brownout
Isolation		7. Withdrawal			
Change		8. Obvious behavioral changes			
Unliveliness		9. Depersonalization			
Desperateness	Reduced competence	10. Inner emptiness	4. Failure, helplessness and crisis		
Depression Burnout Bounce back	Emotional exhaustion	11. Depression 12. Burnout syndrome		3. Exhaustion	 Full Scale Burnout The Phoenix Phenomenon

4.3.1 12-Stage Burnout Cycle

Freudenberger and North (2006) proposed the 12-Stage Burnout Cycle to show the psychodynamic details of the burnout process. The model begins with unrealistic expectations and then describes the dynamic process until burnout appears. Freudenberger's models (Freudenberger 1974; Freudenberger and North 2006) present fragmented stages with unnecessary chronological sequences, whereas others arrange the stages by severity. The stages include:

- 1. A compulsion to prove oneself—people have an ideal image of themselves and working hard to make colleagues recognize this.
- 2. Working harder—to make sure they are irreplaceable.
- Neglecting their needs—too much dedication to work, presenting signs of workaholics such as reduced sleeping or eating, spending less time with family and friends.
- 4. Displacement of conflicts—they are aware that their life is going wrong in some way, but still do not notice. The first physical symptoms of stress emerge, such as headaches, nausea, muscle pains, particularly low back pain, sexual problems, sleep disturbance, loss of appetite, and shortness of breath (Kahill 1988; Belcastro 1982).
- 5. Revision of values—in order to keep working hard while dismissing their basic physical needs and relationships, they feel the need to avoid self-conflict by blunting emotion.
- 6. Denial of emerging problems—intolerance of social contact with others even in a trivial way. Cynicism, callousness (lack of sympathy), aggression and blaming of others obviously occur.
- 7. Withdrawal—isolating themselves and minimizing social contact, they lose direction so they try to work strictly to rule. Substances may be used to release stress.
- 8. Obvious behavioral changes—others see huge changes from a lively and engaged person to a fearful, shy, and apathetic individual who feels worthless inside as a result of overwork.
- 9. Depersonalization—feeling like a machine, the person loses contact with themselves and no longer perceives their own needs.
- 10. Inner emptiness—the inner emptiness expands relentlessly so the person tries to overcome this by increasing impulsive activity such as exaggerated sexuality, overeating, and drug or alcohol use emerge.
- 11. Depression—mood and cognitive symptoms of depression occur, such as indifference, hopelessness, exhaustion, and neglect of the future. Life loses meaning.
- 12. Burnout syndrome—burnout victims strongly desire to escape from the situation, sometimes accompanied by suicidal thoughts. If physical and mental collapse occurs, immediate medical treatment is needed.

4.3.2 Four Stages of Burnout

Gorkin (2004) suggested the idea of the Four Stages of Burnout, which seems like a self-checking process with familiar scenarios commonly found in people with burnout, for instance: "as soon as you get home, you head for the fridge, get out the Haagen-Dazs or Ben and Jerry's, turn on the tube, collapse on the sofa and you're comatose for the rest of the evening?" The stages include:

- 1. Physical, mental, and emotional exhaustion—feeling worn-out after hard work day to day.
- 2. Shame and doubt—experiencing a deep sense of loss and change perceived as uncontrollable.
- Cynicism and callousness—chronic uncertainty and vulnerability turn into irritable and ironic responses to others.
- 4. Failure, helplessness, and crisis—coping seems to be unraveling, vulnerable not just to moodiness, but to clinical depression. It may be time for some medical or professional counseling.

The ideas of Gorkin (2004) seem to differ from those of Freudenberger and North (2006) in terms of different perspective and defining methods. Gorkin's Four Stages are looked at from the viewpoint of those suffering from burnout and are defined in a checklist. On the other hand, Freudenberger and North's Twelve Stages are from a practitioner's viewpoint and are defined as a dynamic process.

4.3.3 Three Stages of Burnout

Girdin et al. (1996) proposed the Three Stages of Burnout, which show the burnout process sequentially with symptom checklists. A criterion is met if at least two symptoms at any level occur. The stages include:

- Stress arousal—a stage of physiological and psychological responses, including
 persistent irritability, persistent anxiety, periods of high blood pressure, bruxism
 (the grinding of teeth during sleep), insomnia, and forgetfulness. Additionally,
 heart palpitations, unusual heart arrhythmia (skipped beats), concentration problems, headaches/stomach problems, and acute gastrointestinal symptoms can be
 presented. However, some have argued that stress arousal and burnout are distinct constructs (Smith et al. 2006).
- 2. Energy conservation—if an attempt to compensate for stress fails, the results include excessive lateness, procrastination (postponement), excessive time off, sexual dysfunction (desire or performance), persistent tiredness in the morning, social withdrawal from friends and family, increased cynicism, resentment, increased substance use (nicotine, caffeine, alcohol, or prescription drugs), excessive apathy, and lack or loss of spirituality (Smith and Tulane University School of Social Work 2008; Golden et al. 2004).

3. Exhaustion—people who reach this stage will be aware that life has gone wrong. They may have persistent sadness or depression, chronic stomach or bowel problems, chronic mental fatigue, chronic physical fatigue, chronic headaches or migraines, the desire to "drop out" of society, the desire to get away from family, friends, and even recurrent suicidal ideation.

Girdin's Three Stages were intended to be diagnostic criteria with clear cut-off points. It is advantageous for a researcher to be able to diagnose and follow up burnout scores. On the other hand, Gorkin's and Freudenberger and North's systems seem to focus on what burnout looks like without discrimination of levels of severity.

4.3.4 Five Stages of Burnout

For Miller and Smith (1993), the Five Stages of Burnout showed mental turning points from idealism to full burnout. Interestingly, the cycle includes a final stage of resilience. The stages are:

- 1. The Honeymoon—the job is an ideal so the person is highly motivated and enthusiastic. They strongly need to work properly and feel delight with the job, with colleagues, and with the organization.
- 2. The Awakening—the happy times wane. The person realizes that their expectations are unrealistic. Nothing satisfies their needs, neither rewards nor recognition. They feel that life has been a mistake, but cannot handle it. When working hard does not change anything, they feel tired and frustrated. Professional competence and ability are reduced.
- 3. Brownout—chronic fatigue and irritability are prominent. The victim's lifestyle is changed in order to escape frustration. Impulsive activities are seen to be sex, drinking, drugs, partying, or shopping binges. Work performance and productivity obviously deteriorate. They may project frustration onto others in terms of cynicism, detachment, and open criticism. Substance use can be found.
- 4. Full Scale Burnout—this stage occurs if brownout is unresolved. Despair is the dominant feature of this final stage. It can last for several months, but in most cases for several years. The subject experiences an overwhelming sense of failure and a devastating loss of self-esteem and self-confidence.
- 5. The Phoenix Phenomenon—after full rest and relaxation, the burnout victim can bounce back to being more realistic with regard to the job expectations, aspirations, and goals.

Girdin's Phoenix Phenomenon looks similar to a model of coping to promote resilience and preventing burnout in medical students called the "coping reservoir" (Dunn et al. 2008). The reservoir was conceptualized as consisting of personal traits, temperament, and coping styles. Resilience can be established by a combination of the reservoir and positive inputs, including psychosocial support, social/healthy

activities, mentorship, and intellectual stimulation (share diverse perspectives, are free to disagree). On the other hand, burnout can occur if the reservoir cannot be replenished over negative input, including stress, internal conflict, and time and energy demands (Dunn et al. 2008).

4.4 Manifestation of Burnout (Symptoms)

Burnout is a process rather than a state of mind. Each process describes symptoms and signs among individual, interpersonal, organizational, and societal context (Fischer and Boer 2011). To simplify, burnout symptoms can be categorized into five groups consisting of physical, affective, cognitive, behavioral, and motivational (Table 4.4) (Schaufeli and Enzmann 1998).

4.4.1 Physical Symptoms

Physical illness is more commonly found among burnout people than others. Some diseases have been found to be related to burnout, for instance, diabetes type II (Melamed et al. 2006a), and cardiovascular disease (Honkonen et al. 2006). The prevalence of illnesses increases with burnout severity, such as cardiovascular disorders and musculoskeletal diseases (Honkonen et al. 2006). People with burnout report more physical health complaints and have a faster rate of deterioration in physical health over a 1-year period (Kim et al. 2011). Evidence shows that burnout is linked to ill health by potential mechanisms such as metabolic syndrome, dysregulation of the hypothalamic–pituitary–adrenal axis (Kudielka et al. 2006), systemic inflammation, impaired immunity function, or poor health behavior (Melamed et al. 2006a).

Physical manifestations of burnout can look like those of stress, responding with sympathetic nervous system activation. The anxiety-like symptoms include headache, nausea, light-headedness, restlessness, nervous tics, sexual problems, increased heart rate, and high blood pressure (Melamed et al. 2006b). Burnout is also associated with impaired sleep (Brand et al. 2010; Ekstedt et al. 2006; Melamed et al. 2006b), impaired awakening (Stenlund et al. 2007), short sleeping

Table 4.4 Categories of burnout symptoms
Burnout symptoms
Physical
Affective
Cognitive
Behavioral
Motivational

Table 4.4 Categories of burnout symptoms

time (Tokuda et al. 2009), and insomnia (Armon et al. 2008; Vela-Bueno et al. 2008). Psychosomatic symptoms have been found, related to emotional exhaustion and cynicism (Jourdain and Chênevert 2010). Burnout can present with increased pre-menstrual tension, missed menstrual cycles, hyperventilation, ulcers, gastro-intestinal disorders, frequent and prolonged colds, flare-ups of pre-existing disorders (asthma or diabetes), and injury from risk-taking behavior. Depressive-like symptoms also occur, including chronic fatigue, physical exhaustion, weight change, loss of appetite, and shortness of breath (Armon et al. 2010; Gorter et al. 2000; Schaufeli and Enzmann 1998; Kahill 1988). Muscle pain, particularly neck and low back pain, and sleep disturbance can discriminate burnout from non-burnout (Peterson et al. 2008). Although there was a lot of evidence to support an association between burnout and physical illnesses, burnout may not directly cause the symptoms, but it mediates between job stress and poor physical health (Zhong et al. 2009).

4.4.2 Affective Symptoms

Emotional exhaustion is probably the most iconic symptom of burnout. Depressive and anxiety symptoms are commonly reported in terms of depressed mood, changing mood, decreased emotional control, undefined fears, increased tension, anxious feeling, aggression, irritability, being oversensitive, lessened emotional empathy with recipients, increased anger, and job dissatisfaction (Schaufeli and Enzmann 1998; Kahill 1988). Evidence has shown burnout to be a mediator between job stress and occurrence or exacerbation of depressive symptoms (Zhong et al. 2009). Others have supported the reciprocal relationship between burnout and depressive symptoms and that job strain predisposes to burnout via depression. However, job strain can lead to burnout directly as well (Ahola and Hakanen 2007).

Depression and anxiety can discriminate burnout from nonburnout victims in terms of different patterns of health indicators and lifestyle factors (Peterson et al. 2008). Moreover, there is evidence to support the notion that burnout, depression, and anxiety are differentially associated with microinflammation biomarkers (high-sensitivity C-reactive protein [hs-CRP] and fibrinogen), dependent on gender. In women, burnout was positively associated with biomarkers, whereas anxiety was negatively associated with them. In men, depression was positively associated with biomarkers, but not with burnout or anxiety (Toker et al. 2005).

4.4.3 Cognitive Symptoms

Helplessness is the cognitive symptom that is prominent at an individual level (Ohue et al. 2011). On an interpersonal level, burnout shows a cynical and dehumanizing perception of others, negativism, pessimism, lessened cognitive empathy, stereotyping,

labeling in derogatory ways, blaming, air of grandiosity and righteousness, hostility, suspicion, projection, paranoia, feeling of not being appreciated, and a distrust of management (Schaufeli and Enzmann 1998). At an intrapersonal level, irrational beliefs can occur, including dependency needs, problem avoidance, and helplessness (Ohue et al. 2011). Memory impairment can also occur and can discriminate burnout from nonburnout (Peterson et al. 2008).

4.4.4 Behavioral Symptoms

At the late stage of chronic job stress, behavioral changes obviously appear in terms of reaction to increased arousal. Individually, dependence and problem avoidance are irrational beliefs related to burnout (Ohue et al. 2011). Burnout sufferers are prone to hyperactivity, impulsivity, procrastination (postponement), neglect of recreational activities, and compulsive complaining. They also increase their consumption of alcohol to alleviate frustration (Peterson et al. 2008). Emotional exhaustion and lack of personal accomplishment relate negatively to citizenship behavior (Chiu and Tsai 2006). Because of poorer impulse control, aggression and violence are common. Colleagues may find them to have violent outbursts, interpersonal conflict, to respond to others in a mechanical manner, using distancing devices, jealousy, and compartmentalization (Schaufeli and Enzmann 1998). In physicians, there are more frequent instances of suboptimal patient care (Williams et al. 2007). Work performance is affected by reduced effectiveness, a tendency to make errors (Mollart et al. 2011; Williams et al. 2007), declined productivity, tardiness, theft, resistance to change, being over-dependent on supervisors, frequent clock-watching, rigidly following the rules, increased accidents, inability to organize, and poor time management (Van Bogaert et al. 2010, 2009; Zhong et al. 2009; Spence Laschinger and Finegan 2008; Schaufeli and Enzmann 1998).

At an organizational level, burnout can predict sick leave and increasing sick leave days as well as spells of sick leave per year (Borritz et al. 2006). It is also related to employee turnover (Zhang and Feng 2011; Van Bogaert et al. 2010, 2009; Goodman and Boss 2002; Lee and Ashforth 1996), intention to quit (Leiter and Maslach 2009; Armstrong-Stassen et al. 1994), and reduced organizational commitment (Lee and Ashforth 1996). However, some authors have argued that only emotional exhaustion is related to turnover intention, not all burnout dimensions (Sasaki et al. 2009).

4.4.5 Motivational Symptoms

When burnout victims are aware of their unrealistic expectations, idealism is lost followed by a loss of zeal. Reduced motivation can also be seen as disillusionment, resignation, disappointment, boredom, and demoralization. Life and job satisfaction are diminished (Tokuda et al. 2009; Sarmiento et al. 2004). Colleagues may see them lose interest, be discouraged, use others to meet personal and social needs, and become over-involved. Work performance is poorer as a result of low morale, loss of work motivation, resistance to going to work and diminishing of the work initiative (Schaufeli and Enzmann 1998). It can develop into an aversion to the job (Takeda et al. 2005).

4.5 Burnout and Psychiatric Disorders

Even though burnout has devastating influences and causes many kinds of mental disorders, the syndrome itself is a mental problem in a workplace, has not been approved as a mental disorder, and yet it has been found in other areas beyond a working situation. Nevertheless, Sweden and the Netherlands have approved burnout as a nationally legitimated diagnosis (Friberg 2009; Schaufeli et al. 2009).

Although, no empirical study has clearly explained burnout to be a predictor of a mental disorder in the past decade, some reports have shown burnout to be related to mental disorders (Zhong et al. 2009; Peterson et al. 2008; Ahola and Hakanen 2007; Ahola et al. 2005). Burnout symptoms, however, are similar to some of the symptoms of psychiatric diagnoses, such as neurasthenia, adjustment disorder, and depression (WHO 1992). Thus, differentiation between burnout and the other diagnoses is extremely important to a risk-taking group for early detection and early treatment. Interestingly, symptoms in the early stages look like normal fatigue, while the late stages overlap with major psychiatric disorders, such as depression and neurasthenia. Hence, discrimination would be an important issue for a practitioner because the duration of a psychiatric episode could be reduced with early medical treatment (Kupfer et al. 1989).

4.5.1 Burnout and Chronic Fatigue

Chronic or persistent fatigue (refers to severe, continued tiredness) from job stress is a reversible process commonly seen in the general population and is also a relatively common complaint in primary health care (Huibers et al. 2003). Some symptoms are similar to those of burnout, including the themes about the overloading process triggering illness onset, the need for restoration of depleted energy, and external causal attributions (Leone et al. 2011). Nevertheless, the longitudinal courses of burnout and prolonged fatigue seem different (Leone et al. 2008). The severity of fatigue does not depend on a situation, but on physical, emotional, and mental resources. People with normal exhaustion can bounce back after adequate rest. If exhaustion is prolonged, burnout or mental disorders may occur.

According to Table 4.5, burnout victims differ from normally exhausted people who feel stress in these areas (Rakovec-Felser 2011).

Burnout	Stress
Disengagement (Lue et al. 2010; Demerouti et al. 2001)	Over-engagement
Blunted (dull) emotion	Over-reactive emotion
Primarily emotional damage	Primarily physical damage
Loss of motivation and drive	Loss of physical energy
Producing demoralization	Producing disintegration – unconscious impulses as defenses against a deeper and unspeakable dread (Kohut 1984)
Sense of helplessness and hopelessness	Sense of urgency and hyperactivity
Producing panic, phobia, or anxiety symptoms (Kuhn et al. 2009; Peterson et al. 2008)	Producing paranoia, depersonalization, and detachment

 Table 4.5
 Comparison between burnout and stress manifestations

Some symptoms of burnout and stress are shared, such as stressed people depending on tea, coffee or cola to keep them going whereas those with burnout also increase coffee and alcohol consumption in order to reduce hyperactivity or violent outbursts (Peterson et al. 2008; Schaufeli and Enzmann 1998). In addition, experiencing decreased sex drive and sexual problems is similar in both conditions (Kahill 1988).

4.5.2 Burnout and Depression

Late stages of burnout can share symptoms with depression. Although burnout is conceptually distinct from clinical depression, some symptoms overlap, such as feeling of sadness, fatigue, inability to concentrate, feelings of dysphoria, and low energy (Schaufeli and Buunk 2003). The uniqueness of burnout includes the work-related context and the depletion of emotional resources, whereas depression is nonspecific and involves a lower emotional state (Corrigan et al. 1994).

Depressive episodes according to the ICD-10 (International Classification of Diseases, 10th revision) (WHO 1992) are characterized by depressed mood most of the day for 2 weeks. There was no history of hypomanic or manic episodes and also no direct effect from substances. In addition, depressive disorders must have at least four of the somatic (biological, vital, or melancholic) symptoms present, including loss of interest and pleasurable feelings, reduced capacity for enjoyment, interest, and concentration, reduced self-esteem and self-confidence, ideas of guilt or worthlessness, sleep disturbance, depression (worst in the morning), marked psychomotor retardation or agitation, diminished appetite, weight loss (at least 5% of body weight in the last month), or loss of libido. Theoretically, depression is context-free, whereas burnout is context-specific to the emotional depletion from work. The burnout process develops in a considerably different manner from the usual development of depression (Schüler-Schneider et al. 2011). Nevertheless, there is a high positive correlation between burnout and measured depression (Schaufeli and Enzmann 1998; Meier 1984).

4.5.3 Burnout and Neurasthenia

Neurasthenia or fatigue syndrome is a disease that was incorporated into the ICD-10 diagnosis system (WHO 1992). Symptoms consist of increased fatigue after mental effort with two other additional symptoms, including bodily or physical weakness and exhaustion, muscular aches and pains, inability to relax, dizziness, tension head-aches, feelings of general instability, sleep disturbance (hypersomnia is prominent), worrying, irritability, anhedonia (inability to experience pleasure from activities), and mental fatigability (distraction, difficulty in concentrating, and generally inefficient thinking). Some symptoms overlap with those of burnout, such as:

- 1. Mental fatigability after minimal effort, often associated with being overwhelmed by uncontrollable negative thinking, poor concentration, or poor performance in general.
- 2. Bodily or physical weakness and exhaustion after minimal effort often associated with muscular aches and pains, and inability to relax.

In 2000, the Netherlands established and published a practice guideline for evaluating and treating stress-related diseases through the Royal Dutch Medical Association (van der Klink and van Dijk 2003). Diagnosis based on this practice guideline is classified according to the following three levels of stress-related diseases. Burnout occurs in the last and most severe phase.

- 1. Distress (*Spanningsklachten*) means a little stress that results in only a few work problems.
- 2. Nervous breakdown (*Overspannenheid*) means more severe distress, which results in significant work problems.
- 3. Burnout means work-related neurasthenia symptoms that result in the long-term loss of the work role.

In 2005, Sweden added the diagnosis of exhaustion disorder, F43.8 (*Utmattningssyndrom*), within its national version of ICD-10 (Friberg 2009). Diagnostic criteria consist of the same details as for burnout, i.e., physical and mental fatigue for at least 2 weeks, significantly decreased efficiency at coping with stress, irritability, sleep problems, muscle pain, and dizziness or palpitations. These symptoms must have occurred every day in the last 2 weeks and caused significant suffering from loss of work performance. In addition, these symptoms must not meet the diagnostic criteria of other mental or physical disorders, or be induced by drugs.

North America's viewpoint on burnout is different. There it is viewed as a nonmedical problem, and rather as the name of a condition that is generally accepted in society. Using this name helps to eliminate the stigma from the diagnosis of mental disorders (Shirom 1989). On the other hand, the burnout problem is widely known in Europe because it can be an official medical diagnosis that affects the provision of welfare and labor compensation, including public welfare for medical services. (Schaufeli et al. 2009)

In Asia, the name "burnout" is not very familiar as a fatigue syndrome. However, some scholars have noticed that neurasthenia is probably a cultural manifestation of

burnout called *shinkeishitsu* or *taijinkyofusho* in Japan (Russell 1989) and *Shenjingshuairuo* in China (Lin 1989). Russell (1989) suggested that neurasthenia is still used in Japan as a general expression to camouflage other severe mental disorders, such as depression or schizophrenia. People feel that neurasthenia is a curable disease to which there is no stigma attached (Machizawa 1992). In China, neurasthenia is a diagnosis in the Chinese Classification of Mental Disorders, Second Edition, Revised (CCMD-2) (Zhong et al. 2009) that refers to a state of reducing mental energy (qi) as a result of dangerous intrinsic or extrinsic factors affecting the heart, liver, spleen, lung, and kidney. If these symptoms are related to work, they seem to be similar to those of burnout. Another idea in traditional Asian medicine is known as vigor. Vigor is described as being the opposite of burnout. It is defined as a three-tiered sustained mood state that is characterized by physical energy, mental acuity, and cognitive liveliness (Talbott et al. 2010).

Neurasthenia cannot describe all contexts of burnout because it is mostly viewed in physical rather than mental dimensions. Nor does it emphasize the importance of work-related causes, and it is additionally viewed as a minor diagnosis, which varies from culture to culture. However, it is viewed as a syndrome that is still of interest among the Chinese and Japanese medical communities. It may be stated that this work-related fatigue syndrome with different names is of interest in many regions in the world but with different definitions and social contexts.

To simplify them, the Table 4.6 shows how burnout differs from neurasthenia, depressive episodes (ICD-10), major depressive episodes (DSM-IV) (APA 2000), and subthreshold depressive symptoms (NICE guideline) (NICE 2009).

In summary, the differences among neurasthenia, depressive episodes (ICD-10), major depressive episodes (DSM-IV), and subthreshold depressive symptoms (NICE) include:

- Diagnosis—burnout does not have specific criteria for diagnosis, whereas other conditions do.
- Cause—burnout and neurasthenia relate to job stress whereas other conditions are not specific.
- Physical symptoms—burnout can present any physical symptoms of depression and anxiety. However, they are not specific.
- 4. Emotional symptoms—burnout affects the quantity of mood (depleting), whereas other conditions affect the quality of mood (depression or loss of interest).
- 5. Cognitive symptoms—burnout presents with a negative attitude toward others and oneself, whereas others present with reduced mental function.
- 6. Duration—burnout does not have a specific duration whereas other conditions do.

4.5.4 Burnout and Adjustment Disorder

Adjustment disorder (F43.2) is a disease in the diagnostic system of ICD-10 that falls into a group of reactions to severe stress and adjustment disorders (F43). It is distress and emotional disturbance that often disturb the life and professional

Table 4.6 Differences	among burnout an	id neurasthenia, depressive episod	les, major depressive episodes, ar	nd subthreshold depressive sym	ptoms
	Burnout	Neurasthenia F48 (ICD-10)	Depressive episodes F32 (ICD-10)	Major depressive episodes (DSM-IV)	Subthreshold depressive symptoms (NICE)
Diagnosis	Nonspecific	The symptoms do not meet criteria for other mental disorders	2–3 symptoms for mild episodes, 4 or more for moderate/severe episodes	At least 5 symptoms presenting (must have depressed mood or loss of interest)	Less than 5 symptoms presenting (must have depressed mood or loss of interest)
Cause Physical symptoms	Job stress Nonspecific	Often related to job stress Increased fatigue after mental effort Bodily or physical weakness	Nonspecific Waking in the morning several hours before the usual time Marked psychomotor	Nonspecific Significant weight loss (more than 5% of body weight in a month) Psychomotor agitation or	
		and exhaustion	retardation	retardation	
		Muscular aches and pains Inability to relax Dizziness	Diminished appetite Reduction of energy Marked tiredness after even minimum effort	Fatigue or loss of energy Insomnia or hypersonnia	
		Tension headaches Feelings of general instability	Decrease in activity Agitation		
		Sleep disturbance (hypersonnia is prominent)	Loss of appetite Weight loss Loss of libido Sleep disturbance		

eed mood most te day ly diminished est or pleasure in ost all activities	hed concentration s of worthlessness ccessive or propriate guilt nt thoughts eath or idal ideation	2 weeks
Depress of th Marked inter almo	Diminis Feelings or ey inap Recurre of dd	At least
Lowering of mood Loss of interest and pleasurable feelings Depression worst in the morning	Reduced capacity for enjoyment, interest, and concentration Reduced self-esteem and self-confidence Ideas of guilt or worthlessness	At least 2 weeks
Worrying Irritability Anhedonia	Mental fatigability (distract- ing, difficulty in concentrating, and generally inefficient thinking)	At least 6 months
Depleting emotional resources	Cynicism Lack of professional competence	Nonspecific
Emotional symptoms	Cognitive symptoms	Duration

competence of an individual and occurs during adjustment after a major change in life or a stressful situation. Factors that can cause stress are of many types, such as:

- 1. Social network, such as departure of close persons or being abandoned.
- 2. Social assistance or appreciation, such as settlement or being an immigrant.
- 3. Age transition or crisis, such as school enrolment, parenthood, failure in one's achievement or retirement.

Symptoms may appear to vary in each person depending on their sensitivity. However, this diagnosis must always result from stress-induced factors. Symptoms found include sadness, anxiety, and inability to cope with problems or situations, including decreased daily routine performance. An important point is that if a stressinduced factor is specifically concerned with work, this diagnosis will fall under sub-topic F43.8, which is "other reactions to severe stress."

4.6 Aspects of Individual and Organizational Approaches

Less burnout relates to higher self-rated emotional factors, higher job satisfaction, and higher client satisfaction (Weng et al. 2011; Van Bogaert et al. 2010). Since burnout originates from intrapersonal and social–environmental factors, approaches can be categorized into individual and organizational interventions. To achieve better results, the intervention implemented to reduce burnout risk should include enhancement of individual hardiness rather than just decreasing environmental stressors (Günüşen and Ustün 2009; Garrosa et al. 2008).

4.6.1 Individual Approaches

People with higher resilience appear to have less emotional exhaustion or cynicism than individuals with lower levels of resilience because they are less vulnerable to burnout and have better engagement skills (Menezes de Lucena Carvalho et al. 2006). Some personal characteristics predict less burnout, such as optimism and hardiness (Otero-López et al. 2008). Personal stress management and interpersonal skill development have a strong negative correlation with cynicism and lack of accomplishment (Taormina and Law 2000). Increasing work performance can also reduce cynicism (Bakker et al. 2008).

Since cognitive reinterpretation and problem solving predict low levels of cynicism and high levels of professional efficacy, enhancement of cognitive coping skills and problem-solving skills could contribute to the reduction of burnout (Sasaki et al. 2009). Among nurses, enhancing cognitive empathy, perceived power, and improving working relationships with physicians can reduce levels of burnout (Kanai-Pak et al. 2008; Lee et al. 2003). Increasing assertiveness and satisfaction with their own care provision also contribute to burnout prevention among nurses (Suzuki et al. 2009).

4.6.2 Organizational Approaches

Environmental and interpersonal factors have an impact on stress and burnout levels in employees. From an organizational perspective, there are various interventions that can be implemented to reduce or prevent burnout. The organization can play a role, for example:

- 1. To strengthen coping resources to prevent burnout, including job redesign
- 2. Modification of the shift work system
- 3. Offering occupational health education (Wu et al. 2007)

Creating a work environment, such as balancing effort and reward, can prevent burnout and foster positive health (Spence Laschinger and Finegan 2008). To alleviate burnout, the dual strategy of decreasing job demands and increasing job resources can reduce the levels of emotional exhaustion (Jourdain and Chênevert 2010). Reducing job control is associated with cynicism, while a chance to access a higher educational level and social support may affect the accomplishment index (Dai et al. 2006). Providing clear job descriptions and work expectations may reduce the level of burnout (Lee et al. 2003). Even though work overload seems to be an important risk factor, evidence has been found that the amounts of work may not be the issue. Sufficient time to complete a job appears to be the factor that diminishes burnout (Elloy et al. 2001).

Among individual factors, support from facilitators or supervisors appears to be an important preventing factor (Lederer et al. 2008; Castelo-Branco et al. 2007). Co-worker and client support are significantly related to all three dimensions of burnout, whereas supervisor support is only related to emotional exhaustion (Sundin et al. 2007). Work-related social support is closely associated with emotional exhaustion (Otero-López et al. 2008; Mitani et al. 2006; Jenkins and Elliott 2004). Cultivating appropriate coping behaviors, such as disengagement and solving client-related conflict, can reduce client-related burnout (Shimizutani et al. 2008). Job training can predict less emotional exhaustion, whereas organizational understanding about burnout can predict less cynicism (Taormina and Law 2000). Participation in educational rotation not only expands the professional role, but can also prevent burnout (Huff et al. 1983).

Another alternative idea is to change the negative organizational view of burnout into a more positive view of wellness. Strategic interventions include promoting cultural change by developing a shared definition of wellness, raising awareness of burnout and its symptoms, decreasing the stigma attached to burnout, enabling prevention strategies such as increasing engagement with work, which reframes burnout, and creating a more positive and strength-based approach to burnout (Eckleberry-Hunt et al. 2009; Maslach, and Goldberg 1998; Patrick 1984).

4.7 Conclusion

Burnout is a syndrome related to prolonged stress at work. There are three components: emotional exhaustion, cynicism, and diminished professional competence and sense of accomplishment. Burnout is a process that gradually develops after loss of unrealistic expectations. If problem-solving strategies are ineffective and cannot encourage individuals to bounce back to a normal status, burnout may occur within a short period. A cycle of burnout can be present, with physical, emotional, cognitive, behavioral, and motivational symptoms, while each stage does not necessarily develop sequentially. Even though burnout shares some physical and emotional symptoms with chronic stress, depression, neurasthenia, or adjustment disorder, the core emotional and cognitive symptoms are quite different. Discrimination would be advantageous because early individual and organizational approaches to either burnout or mental illnesses can predict a better prognosis.

References

- Ahola, K., & Hakanen, J. (2007). Job strain, burnout, and depressive symptoms: A prospective study among dentists. *Journal of Affective Disorders*, 104(1–3), 103–110.
- Ahola, K., et al. (2005). The relationship between job-related burnout and depressive disorders Results from the Finnish Health 2000 Study. *Journal of Affective Disorders*, 88(1), 55–62.
- Ahola, K., et al. (2006). Contribution of burnout to the association between job strain and depression: The health 2000 study. *Journal of Occupational and Environmental Medicine/American College of Occupational and Environmental Medicine*, 48(10), 1023–1030.
- American Psychiatric Association (APA). (2000). Diagnostic and statistical manual of mental disorders DSM-IV-TR (4th ed.). Washington, DC: American Psychiatric Association.
- Armon, G., et al. (2008). On the nature of burnout-insomnia relationships: A prospective study of employed adults. *Journal of Psychosomatic Research*, 65(1), 5–12.
- Armon, G., et al. (2010). Elevated burnout predicts the onset of musculoskeletal pain among apparently healthy employees. *Journal of Occupational Health Psychology*, 15(4), 399–408.
- Armstrong-Stassen, M., et al. (1994). Determinants and consequences of burnout: A cross-cultural comparison of Canadian and Jordanian nurses. *Health Care for Women International*, 15(5), 413–421.
- 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.
- Bakker, A. B., Van Emmerik, H., & Van Riet, P. (2008). How job demands, resources, and burnout predict objective performance: A constructive replication. *Anxiety, Stress, and Coping*, 21(3), 309–324.
- Belcastro, P. A. (1982). Burnout and its relationship to teachers' somatic complaints and illnesses. *Psychological Reports*, 50(3 Pt 2), 1045–1046.
- Borritz, M., et al. (2006). Burnout as a predictor of self-reported sickness absence among human service workers: Prospective findings from three year follow up of the PUMA study. *Occupational and Environmental Medicine*, *63*(2), 98–106.

- Brand, S., et al. (2010). Associations between satisfaction with life, burnout-related emotional and physical exhaustion, and sleep complaints. *The World Journal of Biological Psychiatry: The Official Journal of the World Federation of Societies of Biological Psychiatry*, 11(5), 744–754.
- Castelo-Branco, C., et al. (2007). Stress symptoms and burnout in obstetric and gynaecology residents. *BJOG: An International Journal of Obstetrics and Gynaecology*, 114(1), 94–98.
- Chen, W. W., & Lu, L. P. (1993). Assessment of job-related burnout among health education specialists in Taiwan. International Quarterly of Community Health Education, 14(2), 207–214.
- Cheng, Y., et al. (2011). Employment insecurity, workplace justice and employees' burnout in Taiwanese employees: A validation study. *International Journal of Behavioral Medicine*. Available at: http://www.ncbi.nlm.nih.gov/pubmed/21380932. Accessed 14 Oct 2011.
- Cherniss, C. (1980). *Staff burnout: Job stress in the human services*. Beverly Hills: Sage Publications.
- Chiu, S. F., & Tsai, M. C. (2006). Relationships among burnout, job involvement, and organizational citizenship behavior. *The Journal of Psychology*, 140(6), 517–530.
- Corrigan, P. W., et al. (1994). Staff burnout in a psychiatric hospital: A cross-lagged panel design. Journal of Organizational Behavior, 15(1), 65–74.
- Dai, J. M., Yu, H. Z., Wu, J. H., Xu, H. H., Shen, W. R., Wang, Z. B., & Fu, H. (2006). [Hierarchical regression analysis for relationship between job stress and job burnout in Shanghai employees]. Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi = Zhonghua Laodong Weisheng Zhiyebing Zazhi = Chinese Journal of Industrial Hygiene and Occupational Diseases, 24(8), 450–453.
- Dai, J. M., Collins, S., Yu, H. Z., & Fu, H. (2008). Combining job stress models in predicting burnout by hierarchical multiple regressions: A cross-sectional investigation in Shanghai. *Journal of Occupational and Environmental Medicine/American College of Occupational and Environmental Medicine*, 50(7), 785–790.
- Demerouti, E., et al. (2001). The job demands-resources model of burnout. *The Journal of Applied Psychology*, 86(3), 499–512.
- Dunn, L. B., Iglewicz, A., & Moutier, C. (2008). A conceptual model of medical student well-being: Promoting resilience and preventing burnout. Academic Psychiatry: The Journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry, 32(1), 44–53.
- Eckleberry-Hunt, J., Van Dyke, A., Lick, D., & Tucciarone, J. (2009). Changing the conversation from burnout to wellness: Physician well-being in residency training programs. *Journal of Graduate Medical Education*, 1(2), 225–230.
- Ekstedt, M., et al. (2006). Disturbed sleep and fatigue in occupational burnout. *Scandinavian Journal of Work, Environment & Health*, 32(2), 121–131.
- Elloy, D. F., Terpening, W., & Kohls, J. (2001). A causal model of burnout among self-managed work team members. *The Journal of Psychology*, 135(3), 321–334.
- Embriaco, N., et al. (2007). High level of burnout in intensivists: Prevalence and associated factors. American Journal of Respiratory and Critical Care Medicine, 175(7), 686–692.
- Enns, M. W., Cox, B. J., & Clara, I. (2002). Adaptive and maladaptive perfectionism: Developmental origins and association with depression proneness. *Personality and Individual Differences*, 33(6), 921–935.
- Evers, W. J. G., Brouwers, A., & Tomic, W. (2002). Burnout and self-efficacy: A study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *The British Journal of Educational Psychology*, 72(Pt 2), 227–243.
- Fink, G. (2007). *Encyclopedia of stress*, 3-Vol. Set: *Encyclopedia of stress*, 4-Vol. Set (2nd ed.). Academic. Boston: Elsevier/Academic Press.
- 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.
- Freudenberger, H. J. (1974). Staff burn-out. Journal of Social Issues, 30(1), 159-165.

- Freudenberger, H. J., & North, G. (2006, June/July). *The burnout cycle*. Scientific American MIND, p. 31.
- Friberg, T. (2009). Burnout: From popular culture to psychiatric diagnosis in Sweden. Culture, Medicine and Psychiatry, 33(4), 538–558.
- Fujiwara, K., et al. (2003). Interpersonal conflict, social support, and burnout among home care workers in Japan. *Journal of Occupational Health*, 45(5), 313–320.
- Garrosa, E., et al. (2008). The relationship between socio-demographic variables, job stressors, burnout, and hardy personality in nurses: An exploratory study. *International Journal of Nursing Studies*, 45(3), 418–427.
- Girdin, D. A., Everly, G. S., & Dusek, D. E. (1996). *Controlling stress and tension*. Needham Heights, MA: Allyn & Bacon.
- Golden, J., et al. (2004). Spirituality and burnout: An incremental validity study. *Journal of Psychology and Theology*, 32, 115. Rosemead School of Psychology.
- Gonzalez-Morales, M. G., et al. (2011). Perceived collective burnout: A multilevel explanation of burnout. Anxiety, Stress, and Coping, 25(1), 43–61.
- Goodman, E. A., & Boss, R. W. (2002). The phase model of burnout and employee turnover. Journal of Health and Human Services Administration, 25(1), 33–47.
- Gorkin, M. (2004). *Practice safe stress: Healing & laughing in the face of stress*. AuthorHouse: Burnout+Depression.
- Gorter, R. C., Eijkman, M. A. J., & Hoogstraten, J. (2000). Burnout and health among Dutch dentists. European Journal of Oral Sciences, 108(4), 261–267.
- Grosch, W. N., & Olsen, D. C. (2000). Clergy burnout: An integrative approach. Journal of Clinical Psychology, 56(5), 619–632.
- Günüşen, N. P., & Ustün, B. (2009). Turkish nurses' perspectives on a programme to reduce burnout. International Nursing Review, 56(2), 237–242.
- Hansen, N., Sverke, M., & Näswall, K. (2009). Predicting nurse burnout from demands and resources in three acute care hospitals under different forms of ownership: A cross-sectional questionnaire survey. *International Journal of Nursing Studies*, 46(1), 95–106.
- Honkonen, T., et al. (2006). The association between burnout and physical illness in the general population–results from the Finnish Health 2000 Study. *Journal of Psychosomatic Research*, 61(1), 59–66.
- Houkes, I., et al. (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, 240.
- Hsu, H. Y., et al. (2010). Job stress, achievement motivation and occupational burnout among male nurses. *Journal of Advanced Nursing*, 66(7), 1592–1601.
- Huff, M. R., et al. (1983). Preventing burnout: An alternative approach. *Hospital Pharmacy*, 18(11), 588–589.
- Huibers, M., et al. (2003). Fatigue, burnout, and chronic fatigue syndrome among employees on sick leave: Do attributions make the difference? *Occupational and Environmental Medicine*, 60(Suppl 1), i26–i31.
- Imai, H., et al. (2004). Burnout and work environments of public health nurses involved in mental health care. *Occupational and Environmental Medicine*, *61*(9), 764–768.
- Janssen, P. P., Jonge, J. D., & Bakker, A. B. (1999). Specific determinants of intrinsic work motivation, burnout and turnover intentions: A study among nurses. *Journal of Advanced Nursing*, 29(6), 1360–1369.
- Jenkins, R., & Elliott, P. (2004). Stressors, burnout and social support: Nurses in acute mental health settings. *Journal of Advanced Nursing*, 48(6), 622–631.
- 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(6), 709–722.
- Kahill, S. (1988). Symptoms of professional burnout: A review of the empirical evidence. Canadian Psychology/Psychologie Canadienne, 29(3), 284–297.
- Kanai-Pak, M., et al. (2008). Poor work environments and nurse inexperience are associated with burnout, job dissatisfaction and quality deficits in Japanese hospitals. *Journal of Clinical Nursing*, 17(24), 3324–3329.

- Kania, M. L., Meyer, B. B., & Ebersole, K. T. (2009). Personal and environmental characteristics predicting burnout among certified athletic trainers at National Collegiate Athletic Association institutions. *Journal of Athletic Training*, 44(1), 58–66.
- Kanste, O., Miettunen, J., & Kyngäs, H. (2006). Factor structure of the Maslach Burnout Inventory among Finnish nursing staff. Nursing & Health Sciences, 8(4), 201–207.
- Kelley, B. C. (1994). A model of stress and burnout in collegiate coaches: Effects of gender and time of season. *Research Quarterly for Exercise and Sport*, 65(1), 48–58.
- Kim, W. O., Moon, S. J., & Han, S. S. (2010). Contingent nurses' burnout and influencing factors. *Journal of Korean Academy of Nursing*, 40(6), 882–891.
- Kim, H., Ji, J., & Kao, D. (2011). Burnout and physical health among social workers: A three-year longitudinal study. *Social Work*, 56(3), 258–268.
- Klein, J., et al. (2010). Effort-reward imbalance, job strain and burnout among clinicians in surgery. Psychotherapie, Psychosomatik, Medizinische Psychologie, 60(9–10), 374–379.
- Kohut, H. (1984). How does analysis cure? (1st ed.). Chicago: University of Chicago Press.
- 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.
- Kuhn, G., Goldberg, R., & Compton, S. (2009). Tolerance for uncertainty, burnout, and satisfaction with the career of emergency medicine. *Annals of Emergency Medicine*, 54(1), 106–113.e6.
- Kumar, S., et al. (2011). Stresses experienced by psychiatrists and their role in burnout: A national follow-up study. *The International Journal of Social Psychiatry*, *57*(2), 166–179.
- Kupfer, D. J., Frank, E., & Perel, J. M. (1989). The advantage of early treatment intervention in recurrent depression. Archives of General Psychiatry, 46(9), 771–775.
- Lederer, W., et al. (2008). Fully developed burnout and burnout risk in intensive care personnel at a university hospital. *Anaesthesia and Intensive Care*, *36*(2), 208–213.
- 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(2), 123–133.
- Lee, H., et al. (2003). A comprehensive model for predicting burnout in Korean nurses. *Journal of* Advanced Nursing, 44(5), 534–545.
- Leiter, M. P., Frank, E., & Matheson, T. J. (2009). Demands, values, and burnout: Relevance for physicians. *Canadian Family Physician Médecin De Famille Canadien*, 55(12), 1224–1225. 1225.e1-6.
- Leiter, M. P., & Maslach, C. (2009). Nurse turnover: the mediating role of burnout. Journal of Nursing Management, 17(3), 331–339.
- Leone, S. S., et al. (2008). A comparison of the course of burnout and prolonged fatigue: A 4-year prospective cohort study. *Journal of Psychosomatic Research*, 65(1), 31–38.
- Leone, S. S., et al. (2011). Two sides of the same coin? On the history and phenomenology of chronic fatigue and burnout. *Psychology & Health*, *26*(4), 449–464.
- Lin, T. Y. (1989). Neurasthenia revisited: Its place in modern psychiatry. *Culture, Medicine and Psychiatry*, 13, 105–129.
- Lue, B. H., et al. (2010). Stress, personal characteristics and burnout among first postgraduate year residents: A nationwide study in Taiwan. *Medical Teacher*, 32(5), 400–407.
- Machizawa, S. (1992). Neurasthenia in Japan. Psychiatric Annals, 22(4), 190-191.
- Maslach, C. (1976). Burned-out. Human Behavior, 5(9), 16-22.
- Maslach, C. (1982). Burnout: The cost of caring. Englewood Cliffs: Prentice-Hall.
- Maslach, C., & Goldberg, J. (1998). Prevention of burnout: New perspectives. Applied and Preventive Psychology, 7(1), 63–74.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. Journal of Organizational Behavior, 2(2), 99–113.
- Maslach, C., & Jackson, S. E. (1986). Maslach burnout inventory. Palo Alto: Consulting Psychologists Press.
- Maslach, C., & Leiter, M. P. (1997). The truth about burnout: How organizations cause personal stress and what to do about it (1st ed.). San Francisco: Jossey-Bass.
- Meier, S. T. (1984). The construct validity of burnout. *Journal of Occupational Psychology*, 57, 211–219.

- Melamed, S., Shirom, A., Toker, S., & Shapira, I. (2006a). Burnout and risk of type 2 diabetes: A prospective study of apparently healthy employed persons. *Psychosomatic Medicine*, 68(6), 863–869.
- Melamed, S., Shirom, A., Toker, S., Berliner, S., et al. (2006b). Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. *Psychological Bulletin*, 132(3), 327–353.
- Menezes de Lucena Carvalho, V. A., et al. (2006). Resilience and the burnout-engagement model in formal caregivers of the elderly. *Psicothema*, 18(4), 791–796.
- Miller, L. H., & Smith, A. D. (1993). *The stress solution: An action plan to manage the stress in your life*. New York: Pocket Books.
- Mitani, S., et al. (2006). Impact of post-traumatic stress disorder and job-related stress on burnout: A study of fire service workers. *The Journal of Emergency Medicine*, *31*(1), 7–11.
- Mollart, L., et al. (2011). Factors that may influence midwives work-related stress and burnout. Women and Birth: Journal of the Australian College of Midwives. doi:10.1016/j. wombi.2011.08.002.
- National Institute for Health and Clinical Excellence (NICE). (2009). Depression: The treatment and management of depression in adults. London: MidCity Place.
- 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.
- 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: JJNS*, 8(1), 76–86.
- Onder, C., & Basim, N. (2008). Examination of developmental models of occupational burnout using burnout profiles of nurses. *Journal of Advanced Nursing*, 64(5), 514–523.
- Otero-López, J. M., Santiago Mariño, M. J., & Castro Bolaño, C. (2008). An integrating approach to the study of burnout in university professors. *Psicothema*, 20(4), 766–772.
- Park, S., & Lake, E. T. (2005). Multilevel modeling of a clustered continuous outcome: Nurses' work hours and burnout. *Nursing Research*, 54(6), 406–413.
- Patrick, P. K. (1984). Organizational strategies: Promoting retention and job satisfaction. Family & Community Health, 6(4), 57–67.
- Peisah, C., et al. (2009). Secrets to psychological success: Why older doctors might have lower psychological distress and burnout than younger doctors. Aging & Mental Health, 13(2), 300–307.
- Peterson, U., et al. (2008). Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing*, 62(1), 84–95.
- Pines, A. M., Aronson, E., & Kafry, D. (1981). Burnout: From tedium to personal growth. New York: Free Press.
- Rakovec-Felser, Z. (2011). Professional burnout as the state and process What to do? *Collegium Antropologicum*, *35*(2), 577–585.
- Rella, S., Winwood, P. C., & Lushington, K. (2009). When does nursing burnout begin? An investigation of the fatigue experience of Australian nursing students. *Journal of Nursing Management*, 17(7), 886–897.
- Russell, J. G. (1989). Anxiety disorders in Japan: A review of the Japanese literature on Shinkeishitsu and taijinkyofusho. *Culture, Medicine and Psychiatry, 13*, 391–403.
- Ryan, W. (1971). Blaming the victim (1st ed.). New York: Pantheon Books Inc.
- Sarmiento, T. P., Laschinger, H. K. S., & Iwasiw, C. (2004). Nurse educators' workplace empowerment, burnout, and job satisfaction: Testing Kanter's theory. *Journal of Advanced Nursing*, 46(2), 134–143.
- Sasaki, M., et al. (2009). Relationship between stress coping and burnout in Japanese hospital nurses. *Journal of Nursing Management*, 17(3), 359–365.
- Schaufeli, W. B., & Buunk, B. P. (2003). Burnout: An overview of 25 years of research and theorizing. In *Handbook of work and health psychology* (pp. 383–429). Chichester: Wiley.
- Schaufeli, W. B., & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis* (1st ed.). CRC Press.
- Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International*, 14(3), 204–220.

- Schüler-Schneider, A., Schneider, B., & Hillert, A. (2011). Burnout as a disease category. *Psychiatrische Praxis*, 38(7), 320–322.
- Shimizutani, M., et al. (2008). Relationship of nurse burnout with personality characteristics and coping behaviors. *Industrial Health*, 46(4), 326–335.
- Shirom, A. (1989). Burnout in work organizations. In International review of industrial and organizational psychology (pp. 25–48). New York: Wiley.
- Smith, K. J. (2011). Work-family conflict and job burnout among correctional staff: A comment on Lambert and Hogan (2010) 1. Psychological Reports, 108(1), 23–26.
- Smith, B. C. S., & Tulane University School of Social Work. (2008). Job burnout, spirituality and social support in women who are perinatal social workers: A quantitative and qualitative study. Tulane University, School of Social Work. New Orleans: LA.
- Smith, K. J., Davy, J. A., & Everly, G. S., Jr. (2006). An assessment of the construct distinctiveness of stress arousal and burnout. *Psychological Reports*, 99(2), 396–406.
- Spence Laschinger, H. K., & Finegan, J. (2008). Situational and dispositional predictors of nurse manager burnout: A time-lagged analysis. *Journal of Nursing Management*, 16(5), 601–607.
- Stenlund, T., et al. (2007). Patients with burnout in relation to gender and a general population. Scandinavian Journal of Public Health, 35(5), 516–523.
- Stephey, M. J. (2008). Gen-X: The ignored generation? *Time*. Available at: http://www.time.com/ time/arts/article/0,8599,1731528,00.html. Accessed 3 Dec 2011.
- Sundin, L., et al. (2007). The relationship between different work-related sources of social support and burnout among registered and assistant nurses in Sweden: A questionnaire survey. *International Journal of Nursing Studies*, 44(5), 758–769.
- Suzuki, E., et al. (2009). Relationship between assertiveness and burnout among nurse managers. Japan Journal of Nursing Science: JJNS, 6(2), 71–81.
- Takeda, F., et al. (2005). The relationship of job type to burnout in social workers at social welfare offices. *Journal of Occupational Health*, 47(2), 119–125.
- Talbott, S., Christopulos, A. M., & Ekberg, E. (2010). Ancient wisdom meets modern ailment traditional Asian medicine improves psychological Vigor in stressed subjects. *Progress in Nutrition*, 12(1), 64–69.
- 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.
- Taylor, B., & Barling, J. (2004). Identifying sources and effects of carer fatigue and burnout for mental health nurses: A qualitative approach. *International Journal of Mental Health Nursing*, 13(2), 117–125.
- Te Brake, H., et al. (2008). Burnout development among dentists: A longitudinal study. *European Journal of Oral Sciences*, 116(6), 545–551.
- Toker, S., et al. (2005). The association between burnout, depression, anxiety, and inflammation biomarkers: C-reactive protein and fibrinogen in men and women. *Journal of Occupational Health Psychology*, *10*(4), 344–362.
- Tokuda, Y., et al. (2009). The interrelationships between working conditions, job satisfaction, burnout and mental health among hospital physicians in Japan: A path analysis. *Industrial Health*, 47(2), 166–172.
- Van Bogaert, P., et al. (2009). Hospital nurse practice environment, burnout, job outcomes and quality of care: Test of a structural equation model. *Journal of Advanced Nursing*, 65(10), 2175–2185.
- Van Bogaert, P., et al. (2010). Impacts of unit-level nurse practice environment and burnout on nurse-reported outcomes: A multilevel modelling approach. *Journal of Clinical Nursing*, 19(11–12), 1664–1674.
- van der Klink, J. J. L., & van Dijk, F. J. H. (2003). Dutch practice guidelines for managing adjustment disorders in occupational and primary health care. *Scandinavian Journal of Work*, *Environment & Health*, 29(6), 478–487.
- Vela-Bueno, A., et al. (2008). Insomnia and sleep quality among primary care physicians with low and high burnout levels. *Journal of Psychosomatic Research*, 64(4), 435–442.

- Wei, M., et al. (2004). Maladaptive perfectionism as a mediator and moderator between adult attachment and depressive mood. *Journal of Counseling Psychology*, *51*(2), 201–212.
- Weng, H. C., et al. (2011). Associations between emotional intelligence and doctor burnout, job satisfaction and patient satisfaction. *Medical Education*, 45(8), 835–842.
- Williams, E. S., Manwell, L. B., Konrad, T. R., & Linzer, M. (2007). The relationship of organizational culture, stress, satisfaction, and burnout with physician-reported error and suboptimal patient care: Results from the MEMO study. *Health Care Management Review*, 32(3), 203–212.
- World Health Organization (WHO). (1992). The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines. Geneva: World Health Organization.
- Wright, K. B. (2011). A communication competence approach to healthcare worker conflict, job stress, job burnout, and job satisfaction. *Journal for Healthcare Quality: Official Publication of* the National Association for Healthcare Quality, 33(2), 7–14.
- Wu, S., et al. (2007). Relationship between burnout and occupational stress among nurses in China. *Journal of Advanced Nursing*, 59(3), 233–239.
- Yeh, W. Y., Cheng, Y., & Chen, C. J. (2009). Social patterns of pay systems and their associations with psychosocial job characteristics and burnout among paid employees in Taiwan. *Social Science & Medicine* (1982), 68(8), 1407–1415.
- Zhang, Yimin, & Feng, X. (2011). The relationship between job satisfaction, burnout, and turnover intention among physicians from urban state-owned medical institutions in Hubei, China: A cross-sectional study. BMC Health Services Research, 11(1), 235.
- Zhong, J., et al. (2009). Job stress, burnout, depression symptoms, and physical health among Chinese university teachers. *Psychological Reports*, *105*(3 Pt 2), 1248–1254.