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Occupational Stress and Burnout among University Teachers in Pakistan and Finland





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ISBN printed: 978-952-12-3804-8

ISBN digital: 978-952-12-3805-5

Painosalama OY, Turku, Finland 2019

Abstract

Objective: The overall aim of the thesis is to investigate occupational stress and burnout among university teachers in a developing country (Pakistan) and a developed country (Finland). Secondary aims are to explore perceived reasons and psychosocial concomitants of occupational stress, mental and musculoskeletal health issues, burnout, and the potentially mediating effect of the relationships with family and colleagues on the link between workplace bullying and occupational stress.

Method: Quantitative data were collected from permanent/ fulltime university teachers in Pakistan and Finland by use of a web-based questionnaire. A link to the questionnaire was sent to e-mail addresses of university teachers available at the homepages of universities in the two countries. The questionnaire included seven different scales.

Results: Female teachers in both countries experienced more stress than male teachers. The percentages of sick leave due to burnout was significantly higher in Pakistan. In Pakistan, the youngest age group, i.e., 26–35-year-olds, were especially at risk of burnout. Universities in Finland were rated to have better working conditions, better social support at work, and better promotion opportunities. Workplace bullying was significantly more frequent in Pakistan. Family relationships had a mediating effect on the link between workplace bullying and stress symptoms, whereas relationships with colleagues had not. The effect was discernible within both sexes, in both countries. Overall, responding teachers from Pakistan were experiencing more stress and health problems than Finnish university teachers.

Conclusion: Occupational stress is common among university teachers, and female teachers were in this sample facing more health-related issues than male teachers. Overall, the work environment in Finnish universities was reported to be better than in Pakistani universities.

Keywords: Occupational stress, burnout, university teachers, Pakistan, Finland

Acknowledgments

First and foremost, I am grateful to “GOD Almighty” for all the blessings He bestowed upon me and gave me the strength to overcome every difficulty to complete my doctoral research.

I express my sincere gratitude to my supervisor Professor Kaj Björkqvist for being kind, supportive, and was always available to address the concerns and guide me during the doctoral journey. I would also like to thank my co-supervisor Karin Österman for the kindness and support she provided despite all her commitments.

I want to thank Åbo Akademi University for providing the opportunity to pursue my dream. A special thanks to Högskolestiftelsen i Österbotten for their financial support during my studies. I want to thank my dear friends and colleagues Farida Anwar and Nazia Nazar who are like sisters to me, it was a pleasure to be in their company. I would sincerely like to thank all my departmental colleagues for being supportive.

My gratitude for my parents who taught me the values of life, prayed for my success and bestowed confidence in me which helped me reach this far. I want to thank my sisters and brothers in Pakistan for their prayers, keeping faith in my ability to achieve this goal and always being concerned for my wellbeing.

Last but not least, a special thanks to my family. Words cannot express how grateful I am to my beloved husband who has always motivated and stood by me. I am thankful to my sweet sons Ibrahim and Usman for being so loving, caring and understanding at such a young age and support during these years. This accomplishment would not have been possible without them. I dedicate this work to the loving memory of my beloved parents (May their souls always rest in eternal peace...Ameen) who taught me how to live life.

Vasa, Finland, April 2019

Naima Akhtar Malik

List of original publications

Study I

Malik, N. A., Björkqvist, K., & Österman, K. (2017). Sick-leave due to burnout among university teachers in Pakistan and Finland and its psychosocial concomitants. *European Journal of Social Sciences Education and Research, 10, 2*, 203–212.

Study II

Malik, N. A., Kaj Björkqvist, K., & Österman, K. (2017). Factors associated with occupational stress among university teachers in Pakistan and Finland. *Journal of Educational, Health and Community Psychology, 6*, 1–14.

Study III

Malik, N. A., & Björkqvist, K. (in press). Workplace bullying and occupational stress among university teachers: Mediating and moderating factors. *Europe's Journal of Psychology (EJOP)*.

Study IV

Malik, N. A., & Björkqvist, K. (2018). Occupational stress and mental and musculoskeletal health among university teachers. *Eurasian Journal of Medical Investigation, 2*, 139–47.

Author contribution

Naima Akhtar Malik is the first author of all four studies that are included in this doctoral thesis and has written most of the text. Malik is responsible for the data collection of Studies I–IV. Statistical analyses have been conducted jointly within the research group.

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1. Introduction

Today's workplaces are challenging environments, both psychologically and economically. Job demands along with family demands easily bring down enthusiasm and energy. A decrease in commitment and dedication towards one's job has been claimed to be going on (Maslach & Leiter, 1997). Due to the changing nature of work and the rapid globalisation, work-related stress is possibly becoming more of an issue than before.

Occupational stress has negative consequences on health, safety, productivity, and the cost-effectiveness of the workforce. This is becoming a growing problem, especially in developing countries. The fast changes in economic and social conditions require flexibility and, at the same time, there is a risk for traditional societal values to be overridden. A major problem is the relative lack of research on occupational stress in developing countries, a fact which inhibits the growth of awareness about the issue (Kortum, Leka, & Cox, 2010).

Work-related stress is a matter of growing concern in so called developed countries as well. The Fourth European Working Conditions Survey (Parent-Thirion, Fernández Macías Hurley, & Vermeylen, 2007) found, by use of questionnaires administered to a total of 21,000 employees, that 28-29% of them reported that their health was negatively affected because of work-related stress. Mental health and stress-related disorders are the most significant overall cause of death and health concerns in Europe (European Commission, 2004).

Occupational stress is widespread within several sectors; for example, academics all over the globe experience a considerable degree of continuous occupational stress (Kinman, 2001). Jobs such as teaching, which include exhaustive contact with others, may have a negative influence on employees' health (Figley, 1995). Stress among teachers can damage their professional and personal capability, and decrease their efficiency (Watts & Robertson, 2011). It is a matter of concern that job stress among teachers in the higher education sector may have injurious effects

also on students' understanding and accomplishment, and the achievement of the whole learning organisation, the university (Gillespie, Walsh, Winefield, Dua, & Stough, 2001).

1.1 The Concept of Stress

Whenever some positive or negative changes occur in life, people experience stress. Some amount of stress is bearable, but extreme and unbearable stress causes mental and physical changes in individuals (Canadian Centre for Occupational Health and Safety, 2000). Stress is defined as changes that occur in the mental and physical condition of an individual as a result of a challenging or threatening environment (Krantz, Grunberg, & Baum, 1985; Zimbardo, Weber, & Johnson, 2003). According to Derogatis (1987) and Baum (1990), stress is a distasteful emotional experience or a feeling of pressure deployed by the environment on an individual's personality, giving rise to negative emotional reactions. Usually, stress is experienced as a feeling of pressure and discomfort, though stress is highly subjective and at times inconsistent (Lazarus & Folkman, 1984). Stress is defined by the Health and Safety Executive (2007) as the adverse reaction people have to excessive pressures or other types of demand placed on them. Lazarus and Folkman (1984) defined stress as a real or perceived imbalance between environmental demands required for survival, and an individual's capacity to adapt to these demands.

1.1.1 Occupational Stress

A brief definition of occupational stress is that it is a feeling of psychological strain due to work stressors (Gershon, Barocas, Canton, Li, & Vlahov, 2009). The psychological strain consists of the experience of unpleasant emotions, such as anger, tension, anxiety, frustration, and depression, due to work-related factors (Kyriacou & Sutcliffe, 1977). According to Borg and Riding (1991), any feature of the job setting which causes risk for a person, either extreme demands or inadequate facilities to meet his/her needs, should be considered as occupational stress.

Karasek and Theorell (1990) defined occupational stress as a sense of psychological pressure due to experiencing different stressors at work.

Studies within various fields of research, such as higher education, psychology, and medicine, have shown that occupational stress is a major source of health problems (Takahashi, 2016). A meta-analysis of longitudinal and cross-sectional studies by Nixon, Mazzola, Bauer, Krueger, and Spector (2011) supported the fact that there are significant relationships between occupational stress and physical symptoms of stress. A chronic stressful situation at the workplace may lead to anxiety, depression, aggression, burnout, sleeping problems (Gershon et al., 2009; Williams & Cooper, 1998), psychological strain and job dissatisfaction (Winefield, Gillespie, Stough, Dua, Hapuarachchi, & Boyd, 2003), physiological and psychological disorders (Colligan & Higgins, 2005), hypertension, mental disorders (Wang, Lesage, Schmitz, & Drapeau, 2008), suicidal tendencies (Olkinuora, Asp, Juntunen, Kauttu, Strid, & Äärimala, 1990), fatigue, headaches, neck and back pain, muscle pain, gastrointestinal problems (Nixon, Mazzola, Bauer, Krueger, & Spector, 2011), heart problems (Brotman, Golden, & Wittstein, 2007; Dimsdale, 2008), and diabetes (Wellen, & Hotamisligil, 2005).

In addition to these symptoms, teachers exposed to stress run a higher risk than other occupations of having a low level of job satisfaction (Brewer & McMahan-Landers, 2003; Collie, Shapka, & Perry, 2012; Jepson & Forrest, 2006), a lower level of self-efficacy (Skaalvik & Skaalvik, 2017), a higher level of burnout (Martinussen, Richardsen, & Burke, 2007; Yu, Wang, Zhai, Dai, & Yang, 2015), and poor job commitment (Jepson & Forrest, 2006).

Ross (2005) found that in higher education institutions, stress is not only adding cost and producing undesirable results, but also affecting performance. Moreover, he emphasised that due to stress, university employees show unacceptable behaviour and emotions, inadequate mental health, and poor physical health. Kinman (2001) claims that psychological health among teachers is comparatively weak. A study

conducted by Kelly, Charlton, and Jenkins (1995) indicated that teachers at the university level run a 50% higher risk of stress than employees at an average.

Kinman and Wray (2013) pointed out that a certain level of stress is expected in any professional responsibility, but the stress in adult education is a cause for concern. Bubb and Earley (2004) reported that in the UK, 30% of teachers felt they had no social life due to the extreme workload; 85% said excessive workloads were negatively affecting their personal lives, and 35% reported that their workloads left them fatigued and stressed out daily. Research by the Teacher Support Network in 2007 found that in Scotland, 71 % of teachers felt their job was spoiling their health, with stress, mood swings, exhaustion, and poor sleep patterns (Hill, 2008). One in three teachers had turned to smoking, drugs, alcohol, and binge-eating, because of demands at work. Some have had suicidal thoughts (Hill, 2008). In general female workers are more prone to face emotional exhaustion male workers (Purvanova & Muros, 2010) and female university teachers specifically reported more stress than male university teachers (Slišković, & Seršić, 2011).

1.1.2 Theories of Work-related Stress

Several current theories have been proposed in order to explain sources and mechanisms that enhance work-related stress. Three prominent theories will be mentioned in this context.

Person-Environment Fit Theory: The P-E Fit theory claims that stress can evolve due to a scarcity of fit between the job demands and an individual's skills, abilities, and resources. It suggests that the work environment should meet the knowledge, needs, and skills of the employees (Hassard & Cox, 2011). It also emphasises the significance of employees' perception of the environment, and the interaction between the individual and the environment. Lack of fit can initiate difficulties; the more significant the gap between the individual and the work environment, the more significant the stress, as demands go beyond the abilities, and needs go

above the resources. This stress can correlate with various job problems, health issues, and a decrease in productivity (Hassard & Cox, 2011).

Job Demand-Control (Support) Model: For more than two decades, the Job Demand-Control (JDC) model (Karasek, 1979) and its revised version, the Job Demand-Control-Support model (JDCS; Johnson & Hall, 1998; Karasek & Theorell, 1990) have been extensively mentioned in the field of occupational stress research. The demand-control model emphasises the balance between job demands and autonomy. The JDC theory proposes that employees facing high job demands combined with low control are expected to go through psychological strain, occupational stress, and, in the long term, deteriorating mental and physical health. The basic rationale behind the JDC model is that having a feeling of control over the situation decreases the negative effect of job demands on stress and increases the level of job satisfaction among individuals (Kain & Jex, 2010). The Job Demand-Control-Support (JDCS) model proposes that excessive job demand paired with low support may develop serious health issues (Mark & Smith 2012). The JDSC model suggests that the adverse effect of job stress on employees mental and physical health can be mediated by the provision of social support (Van der Doef & Maes, 1999).

Effort-Reward Imbalance Model: The Effort-Reward Imbalance (ERI) model (Siegrist, 1996; Siegrist, Siegrist, & Weber, 1986) suggests that strain results from a perceived imbalance between efforts put into work by the employees and the rewards they receive, in terms of respect, money, job security, or career opportunities (Van Vegchel, De Jonge, Bosma, & Schaufeli, 2005). The non-reciprocal relationship between the effort consumed and rewards obtained may produce emotional distress combined with a physical stress response, and an increased risk of ill-health. The experience of an effort-reward imbalance is considered to be more frequent in employees who are over-committed to their work (Kinman & Jones, 2008).

None of the studies included in the current thesis was designed to test any particular of the aforementioned models. The author considers the models as complementary to each other, not as mutually exclusive.

1.1.3 Stressors at the Workplace

According to Kyriacou (1987), teacher stress may be defined as the experience by a teacher of unpleasant emotions, such as tension, frustration, anxiety, anger, and depression, resulting from aspects of his/her work as a teacher. Research has shown that teaching is a stressful profession, and this is true not only in Western societies; teacher stress is a global phenomenon (Kokkinos, 2007; Liu & Onwuegbuzie, 2012; Stoeber & Rennert, 2008; Travers & Cooper, 1996; Wilhelm, Dewhurst-Savellis, & Parker, 2000). In general, teachers are experiencing a medium to a high level of stress at their workplace (Safaria, 2013). Teacher stress affects not only the teachers themselves but also the quality of the teaching-learning process and the output of the students (Safaria, 2013).

A wide variety of workplace stressors have been identified in empirical studies, such as negative work relations (Spector, & Jex, 1998), lack of administrative support (Lambert, Minor, Wells, & Hogan, 2016), poor communication, heavy workload (Popov, Popov, & Damjanović, 2015), time pressure (Premi, Ohly, Kubiceki, & Korunka, 2017; Skaalvik & Skaalvik, 2011), job insecurity (Tytherleigh, Webb, Cooper, & Ricketts, 2005), lack of resources, salary, and benefits (Malik, Björkqvist, & Österman, 2017b), an effort-reward imbalance (Siegrist, 1996), lack of control, student misbehaviour, and lack of motivation among students (Kinman & Wray 2013).

Tytherleigh et al. (2005) analysed 14 UK universities and colleges and provided evidence that universities not any longer offer the low stress working conditions they once possibly did. The study highlighted that work-life balance, job security, work relations, control, workload, overall job nature, communication and resources, salary and benefits are possible sources of stress. Blix, Cruise, Mitchell, and Blix (1994) conducted

questionnaire-based research with 400 randomly selected university teachers in the US as respondents and concluded that excessive workload was the main reason for considering a job change. In the US, occupational stress is considered to be one of the top five work-related health problems. They corroborated the findings of previous studies suggesting adverse effects of academic stress on the psychological well-being of the university employees (Blix et al., 1994).

Locke, Cummings, and Fisher (2011) found that teachers in Canada, Finland, Japan, Korea, and the Netherlands are extremely stressed but at the same time satisfied, because these countries are economically stable. They are not only providing well-organised working conditions, but due to the global competition, they also emphasise performance-based management systems. According to Perkiö-Mäkelä (2010), in the Finnish education sector of the year 2009, 46% perceived their work as mentally straining. Moreover, experiences of stress symptoms and mental abuse were more common in the education sector than in any other one.

A study from Pakistan (Ramzan & Riaz, 2013) found that about 49% of teachers reported high blood pressure, 26% reported low blood pressure because of stress, 82% of teachers faced stomach problems, and 37% experienced physical weakness due to strains and pressure. Another 43% of teachers reported that when they are stressed, they sleep more than usual (Ramzan & Riaz, 2013). Some other studies on occupational stress conducted in Pakistan suggest that role ambiguity and performance pressure (Bhatti, Hashmi, Raza, Shaikh, & Shafiq, 2011), job insecurity (Khalid, Irshad, & Mahmood, 2012), leadership style, organisational politics (Saleem, 2015), workplace bullying (Malik, Björkqvist, & Österman, 2017b), time management (Ramzan & Riaz, 2013), role conflict, and workload (Akbar & Akhter, 2011) are some of the major stressors in higher education institutions in Pakistan.

1.2 Burnout

Burnout is an extensively explored area within occupational health psychology, as the syndrome has devastating effects on health (Bakker & Costa, 2014). Burnout is strongly correlated with occupational stress (Doyle & Hind, 1998; Guglielmi & Tatrow, 1998; Kyriacou, 1987; Wu, Zhu, Li, Wang, & Wang, 2008; Yu et al., 2015). Burnout has been described as a stress syndrome that includes a reduction of physical and emotional energy (Schaufeli & Buunk, 2003). Furthermore, the burnout syndrome may well be considered as the logical outcome when constant stressful demands go beyond the individual's resources (Malik, Björkqvist, & Österman, 2017).

Maslach and Jackson (1986, p. 1) defined burnout as “a syndrome of emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment, which can occur among individuals who work with people in some capacity.” Emotional exhaustion is the depletion of emotional resources; employees feel that they are not able to deliver at a psychological level. Early signs of depersonalisation may be recognised in the form of an undesirable sarcastic approach to one's clients or colleagues. Finally, the reduced sense of personal accomplishment mentioned in the definition refers to the growing feeling of dissatisfaction towards one's performance (Maslach & Jackson, 1981). The outcomes of burnout are detrimental not only for the employees themselves but for clients and the organisation as a whole as well. Maslach and Leiter (1997) suggested that it is not enough to focus only on the individuals, but research should also address the interaction between employees and their work environment, as it plays a crucial role in the development of burnout among employees. The authors emphasised that an increase in work tempo will lead to an increased workload, which in turn hurts quality, disrupts collegial relationships, kills innovation, and instigates burnout. In turn, burnout may seriously affect life quality and hurt both work and family life. Burnout is a disorder of reduced professional efficacy,

cynicism, and, above all, mental exhaustion (Maslach, Schaufeli, & Leiter, 2001).

Maslach and Jackson (1981) suggested burnout to be a central cause of absenteeism, job turnover, and low morale. Moreover, burnout appears to be associated with personal suffering, including insomnia, memory loss, neck and back pain (Peterson, Demerouti, Bergström, Samuelsson, Åsberg, & Nygren, 2008), physical exhaustion, excessive use of alcohol (Seidman, & Zager, 1991), and family and marital problems (Stout, & Williams, 1983). A higher level of burnout among employees may result in physical and psychological health issues like depression, anxiety, emotional exhaustion, and sleep disorders (Grossi, Perski, Evengård, Blomkvist, & Orth-Gomér, 2003), decreased self-efficacy, increased health problems, and decreased performance (Maslach et al., 2001).

Occupations which are considered to provide more risks of burnout than others are those in which a direct relationship with the clients is required and cannot be avoided, and research indicates that the teaching profession is one such occupation (Guglielmi & Tatrow, 1998; Lackritz, 2004; Merrill, 2001; Rothmann & Barkhuizen, 2008; Watts & Robertson, 2011; Xu, 2017). University teachers are especially at risk to suffer from burnout (Navarro, Mas, & Jimenez, 2010; Otero-Lopez, Marino, & Bolano, 2008; Watts & Robertson, 2011). The constant pressures faced by teachers in higher education institutions are likely to have a negative impact on the quality of work life and cause burnout (Johnsrud, 2002). Though individual and organisational factors both are important, the latter has frequently been found to predispose burnout among teachers (Bilge, 2006; Easthope & Easthope, 2000; Friedman, 1995; Grayson & Alvarez, 2008). Major organisational factors causing burnout are disruptive student behaviour (Brouwers & Tomic, 2000), lack of social support at work, lack of resources, poor working conditions, workplace bullying (Kinman, Wray, & Strange, 2011; Malik, Björkqvist, & Österman, 2017) work overload (Beer, Pienaar, & Rothmann, 2016), negative interpersonal relationships (Van Droogenbroeck, Spruyt, & Vanroelen, 2014) and low

self-efficacy (Shoji, Cieslak, Smoktunowicz, Rogala, Benight, & Luszczynska, 2016).

1.3 Workplace Bullying

Workplace bullying is a situation in which one or more than one individual constantly, and over a period, perceive that s/he is experiencing negative behaviours from the seniors and the colleagues, and the individual feels powerless to defend him or herself against those negative actions (Einarsen & Skogstad, 1996).

Einarsen, Hoel, Zapf, and Cooper (2011, p. 22)) defined workplace bullying as harassing, offending, socially excluding someone or negatively affecting someone's work tasks. For the label bullying to be applied to a particular activity, interaction or process, it has to occur repeatedly and regularly (e.g., weekly) and over a period (e.g., about six months). Bullying is an escalating process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts. A conflict cannot be called bullying if the incident is an isolated event or if two parties of approximately equal 'strength' are in conflict.

Workplace bullying occurs at all organisational levels and in all work-life sectors (Zapf, Escartin, Einarsen, Hoel, & Vartia, 2011). In a Norwegian study (Einarsen & Skogstad, 1996), about 8.6% of employees reported that they experienced bullying at their workplace. However, the figure was lower in more recent investigations: in 2005, it was 4.6%, and in 2009 about 6.8% (Nielsen, Skogstad, Matthiesen, Glasø, Aasland, Notelaers, & Einarsen, 2009).

Findings from different studies in European countries suggest that the percentage of workplace bullying in the UK is 10.6% (Hoel, Cooper, & Faragher, 2001), in Lithuania 23% (Malinauskiene, Obelenis, & Dopagiene, 2005), and in Belgium 3-20% (Notelaers, De Witte, Vermunt, & Einarsen, 2006). In the US, the reported percentage is approximately 50% (Lutgen-Sandvik, Tracy, & Alberts, 2007), although this high percentage may be due to differences in operationalisations between studies. Workplace

bullying occurs distinctively less in Scandinavian countries. In developing countries, this phenomenon has not been studied extensively (Ahmer, Yousafzai, Siddiqi, Faruqui, Khan, & Zuberi, 2009).

As a field of research, workplace bullying is related to other research areas such as aggression (Sojo, Wood, & Genat, 2016), and occupational stress (Turner, 2013). In comparison with other stressors in organisational settings, its effects are considered to be more harmful. Being bullied in the workplace is likely to develop psychological exhaustion and lead to other health-damaging effects (Sojo, Wood, & Genat, 2016). Therefore, bullying is a serious workplace issue, and it needs to be managed and controlled (Hauge, Skogstad, & Einarsen, 2010).

Over the last decades, various studies have shown that victimisation from bullying at the workplace is associated with increased levels of stress symptoms among victims, typically depressive and psychosomatic symptoms (Bernotaite & Malinauskiene, 2017; Björkqvist, Österman, & Hjelt-Bäck, 1994; Matthiesen & Einarsen, 2004; Nielsen, Matthiesen, & Einarsen, 2008). The research findings also show that the experience of workplace bullying negatively influences family relationships (Pellegrini, Gonçalves, & Tolfo, 2018). There is a lack of research on workplace bullying in an Asian context as less is known about the possible mechanisms connecting workplace bullying and employee well-being (Yoo & Lee, 2018).

1.4 Interpersonal Relationships

1.4.1 Relationships with Colleagues

Interpersonal relationships between colleagues in an organisation make them form a unique social system with its own characteristics (Sparrowe & Liden, 1997; Sparrowe & Liden, 2005; Cole, Schaninger, & Harris, 2002). Good interpersonal relationships are crucial for useful teamwork, and they improve performance (Kostova & Roth, 2003).

Good interpersonal relationships will also enhance an environment of trust and positive emotions alongside the improved performance of the employees. Good interpersonal relationships are not enough to improve employees' performance per se, but they can contribute significantly to it. Job commitment, job satisfaction, career success, and organisational outcome have all been shown to be directly related to the quality of workplace relationships (Cherniss, 1991; Morrison, 2004, 2009; Sias & Cahill, 1998; Markiewicz, Devine, & Kausilas, 1997). Employees spend 50 hours per week on average at their workplace (Stokes, Henley, & Herget, 2006); accordingly, it is inevitable that the quality of the relationships between colleagues will have a substantial effect on organisational outcomes. When positive, they will encourage participation, the formation of a supportive environment, increase productivity (Berman, West, & Richter, 2002), positive work attitude (Song & Olshfski, 2008), and job involvement, job satisfaction and reduce job turnover (Riordan & Griffeth, 1995).

Positive relationships with colleagues have been found to be positively related with personal achievement and negatively related with emotional exhaustion in teachers; also, the intensity of experienced episodes of burnout are directly related to the quality of interpersonal relationships between teachers (Anthony-McMann, Ellinger, Astakhova, & Halbesleben, 2017; Van Droogenbroeck, Spruyt, & Vanroelen, 2014).

Interpersonal relationships may affect not only an individual's behaviour but also his/her cognitions (Frone, 2000). Poor relationships may have a more profound influence on individuals' lives than good relationships (Berscheid & Reis, 1998).

Bruk-Lee and Spector (2006) found that the social settings of an organisation play a key role in determining the welfare of its employees. One of the main reasons for stress in the workplace is interpersonal conflict. It is the most common source of stress for college professors, and university staff in general described conflict to be the third leading reason

for stress out of nine possible sources (Narayanan, Menon, & Spector, 1999).

Keenan and Newton (1985) found that social interaction with bosses, colleagues or assistants is an underlying cause for 74% of distressing incidents at the workplace. Smith (1995) suggested on the basis of statements by professionals from different fields that interpersonal conflict is the potentially most upsetting stressor in the work environment.

Frone (2000) assumed that conflict with colleagues would lead to individual level outcomes, such as depression and lowered self-esteem, whereas conflict with administrators would be seen in organisational outcomes, such as turnover and job dissatisfaction. Nervousness and frustration were also positively correlated with conflict, in a longitudinal study by Spector and O'Connell (1994). A meta-analysis by Spector and Jex (1998) indicated that a positive correlation exists between conflicts and negative emotions, such as depression, anxiety, and frustration.

1.4.2 Family Relationships

The domains of family and work cannot be fully separated from each other, they are mutually dependent and interconnected; whatever happens in one area affects the quality of the other (Allen, Herst, Bruck, & Sutton, 2000; Ilies, Huth, Ryan, & Dimotakis, 2015; Liu, Wang, Chang, Shi, Zhou, & Shao, 2015). Work-family conflict emerges when the work and family domains coincide with each other, and generate disputes (Kossek, Pichler, Bodner, & Hammer, 2011). In the past decades, the work-family conflict has been recognised as a major potential stressor. However, Wilczyński, Swamad, Subotic, Wizner, Mazgaj, and Wajda (2015) found that family relationships do not markedly influence job commitment and burnout. On the other hand, Repetti and Wang (2017) found that regular job stressors influence family relations by affecting an individual's attitudes and emotional state, which in turn may have either a positive or a negative influence on family relationships. Whenever an individual experience a stressful situation, it affects his/her emotions, cognitions, and

psychophysiology, and the individual may carry over these effects into a new social situation as a spillover (Repetti & Wang, 2017). Negative mood spillover indicates manifestations of intolerance, frustration, and nuisance at home, although their reasons initially were generated at the workplace. Sometimes an individual prefers to adopt social withdrawal from his/her family to avoid tension; these are common patterns of short-term responses to everyday job stressors. The conduct at home is an attempt to manage and recover from the spillover effects of stress experienced at work (Repetti & Wang, 2017). Negative effects of working life on family life increase the risk of depression (Hämmig & Bauer, 2009).

1.5 Mental Health

The World Health Organization (2014) defines health as not only an absence of ailment or disability, but a condition of mental, physical, and social well-being. Mental health constitutes a subdomain of general health. According to the World Health Organization (2014), good mental health is a form of well-being in which individuals appreciate their potentials, are able to manage the usual life stresses, can work efficiently and successfully, and contribute to their society. The importance of mental health issues among employees is gaining attention also among directors and owners of organisations, because of the increase in compensation claims and medical costs caused by stress-related ailment (Smith, Karsh, Carayon, & Conway, 2003). It has become a severe societal and public health-care burden (Fu, Liu, Jiang, Zhao, Zhang, & Liu, 2017), not to mention the human suffering involved. The estimated annual health care cost in Japan is 232 billion dollars, in the US 200–350 billion dollars, and 65–66 billion dollars in the UK (Miree, 2007).

Poor mental health is, therefore, a critical global issue (Conway & O'Connor, 2016). Growing research in the field of occupational stress has provided clear evidence that there is an association between work stress and poor health (Guglielmi & Tatrow, 1998). Poor psychosocial working conditions linked with particular occupational groups are associated with

multiple ailments, including mental health disorders (Cheng, & Cheng, 2016; Stansfeld & Candy, 2006). According to the World Health Organization (2017), there is an increase of 18.4% in the number of individuals suffering from depression between 2005 and 2015, and in 2015, the percentage of the total population of the world facing anxiety disorders is about 3.6%. Increasing figures may be attributed to better reporting and measurement, and accordingly, a factual decrease in mental health in recent years may not be unequivocally established. Depression and anxiety disorders are more common among females (4.6%) than males (2.6%), at the global level. Johnson, Cooper, Cartwright, Donald, Taylor, and Millet (2005) explored the psychological health of individuals in 26 different occupations and found that teaching is one of the six most stressful occupations. It has been suggested that knowledge workers are facing more mental health issues than manual workers because of the harsh psychosocial conditions in their occupations (Kutcher, Wei, Gilberts, Ubuguyu, Njau, Brown, Sabuni, Magimba, & Perkins, 2016; Lopes, Moraes, Junger, Werneck, & Ponce de Leon, 2015). Depression is the most common effect of stress among teachers, along with constant fatigue and burnout (Betoret, 2006; Friedman & Farber, 1995; Shirom, 1997). Some teachers are facing more psychological problems than others, ranging from slight irritation and anxiety to emotional exhaustion, and to more severe depressive and psychosomatic symptoms (Dunham, 1992; Kyriacou & Pratt, 1985; Schonfeld, 1992). Kovess-Masféty, Rios-Seidel, and Sevilla-Dedieu (2007) observed that female teachers are facing higher levels of psychological distress than male teachers.

1.6 Musculoskeletal Health

Stress is not healthy for the human body, when it does not decrease but continues for prolonged periods; employees do not have enough time to recover. This eventually causes mental and physical disorders, harming the immune system, and resulting in sicknesses and absence from work. The long-term risks of reduced health include high blood pressure, angina

complaints, burnout, depression, disturbed metabolism, alcohol addiction, and musculoskeletal disorders (World Health Organization, 2007).

The term musculoskeletal disorder (MSD) refers to the poor health of the locomotor apparatus. This apparatus consists of the muscles, tendons, the skeleton, cartilage, ligaments, nerves, and the vascular system. Work-related MSDs comprise all musculoskeletal health issues that are caused or aggravated as a result of the harmful effects of work and the work environment on the body (World Health Organization, 2003). According to the European Agency for Safety and Health at Work (2010), the central area that is affected are the upper limbs and back, although all the parts of the body may be affected in some way, as these painful disorders can affect all muscles, tendons, joints, and nerves within the human body.

MSDs are common in most countries, with considerable costs, and their negative effect on employees' quality of life. They are at least the third most common of registered occupational diseases within the United States, Scandinavia, and Japan (Bernard, 1997; Panel on Musculoskeletal Disorders, 2001; Sjøgaard, Sejersted, Winkel, Smolander, Jørgensen, & Westgaard, 1993). Others suggest that MSDs are now the most common and expensive occupational health challenge in the work setting (Cho, Hwang, & Cheng, 2012; Bandpei, Ehsani, Behtash, & Ghanipour, 2014; Picavet & Schouten 2003). Undoubtedly, MSDs have a significant effect on health-related quality of life (Bandpei et al., 2014; Chiu, Lau, Ho, Ma, Yeung, & Cheung, 2006; Maguire & O'Connell 2007).

The European Agency for Safety and Health at Work (2010) stated that musculoskeletal diseases make up 39% of the total amount of the occupational diseases, and thus, they are one of the most common occupational diseases at the European level. They are not only a cause for concern because of the negative impact that they bring upon individual employees, but they also have a significant impact on the businesses and social costs of European countries. Recent statistics from the European Surveys on Working Conditions show that in the EU-15, backache is the

most common work-related health problem. In the newer Member States, backache takes the second spot on the health issues list after overall fatigue (European Agency for Safety and Health at Work, 2010).

Many surveys report that 20 to 30%, or even higher amounts of the working population, have registered upper extremity symptom prevalence (Punnett, & Wegman, 2004). MSDs cause more work absenteeism or ineffectiveness than any other disease in countries such as the United States (Punnett, & Wegman, 2004), Canada (Badley, Rasooly, & Webster 1994), Finland (Riihimäki, 1995), Sweden (Leijon, Hensing, & Alexanderson, 1998), and England (Feeney, North, Head, Canner, & Marmot, 1998).

It has been established that psychosocial stressors at work are among the risk factors for work-related MSDs (Lacey, Lewis, & Sim, 2007; Simon, Tackenberg, Nienhaus, Estry-Behar, Conway, & Hasselhorn, 2008; Sobeih, Salem, Daraiseh, Genaidy, & Shell, 2006). The evidence is growing about the fact that psychosocial work factors influence the development of musculoskeletal problems, in the lower back and upper extremity complaints (Bongers, Kremer, & Lack, 2002). Likewise, the US National Institute for Occupational Safety and Health (1997) suggested that there is a relationship between psychosocial factors at a workplace and the presence of musculoskeletal problems. Poor mental health, lack of social support, low job satisfaction, high job stress, job dissatisfaction, low rewards (Erick & Smith, 2013), and excessive mental demands (Smith, Wei, Zhao, & Wang, 2004) are psychosocial factors which have been associated with work-related MSDs.

Jobs that involve standing for an extended period of time are often linked with an increased risk of low back pain (Nelson-Wong & Callaghan, 2010). Teaching is one of the occupations that demonstrate a high prevalence of low back pain (Yue, Liu, & Li, 2012). The development of MSD in the teaching profession has been correlated with numerous work-related factors, such as excessive workload, high job stress, use of inappropriate furniture, excessive job demands, lack of support from

colleagues and supervisors (Erick & Smith, 2011; 2013), prolonged sitting, prolonged standing, low job satisfaction, high job demands, frequent reading, static posture, preparing lessons, and work constantly while sitting in offices are all part of the problem and may increase musculoskeletal stress (Yue et al., 2012).

Furthermore, inappropriate sitting posture, high anxiety levels, poor mental health are common complaints in teaching that may lead to high risk of MSDs in this group (Durmus & Ilhanli 2012; Nurul, Haslinda, Saidi, Shamsul, & Zailina 2010). A study identified backache among university teachers to be related to prolonged standing (Kashif, Darain, Sharif, Jamil, & Majeed, 2016).

1.7 The Significance of the Study

University teachers are globally under stress due to the competitive environment. Continuous performance expectations affect teachers' behaviour, health, and relationships. There is a need to acquire positive ways to maintain feelings of happiness and to help teachers and organisations to cope with the issue of occupational stress effectively. Quite a number of studies have already focused on stress among students (Bayram, & Bilgel, 2008; Behere, Yadav, & Behere, 2011; Hemamalini, Ashok, & Sasikala, 2018; Ndahepele, Daniels, Nabasenja, & Damases-Kasi, 2018) but still, few studies have investigated the consequences of teachers' stress, and even fewer have specifically focused on university teachers (Watts & Robertson, 2011). There is a need to focus on teachers in higher education institutions. This study helps to fill this research gap (Ahsan, Abdullah, Gun Fie, & Alam, 2009; Marke & Smith, 2010; Mostert, Rothmann, Mostert, & Nell, 2008; Zabrodska & Kveton, 2013) by focusing on university teachers in two different cultural settings (cf. Barkhuizen & Rothmann, 2008) and by analysing the relation between work-related stress and health outcomes (cf. Hessels, Rietveld, & Van der Zwan, 2017).

One special feature of this research project is that it compares two completely different countries, a developing one (Pakistan), and a

developed one (Finland). The reason for comparing these two countries is that developing countries would do wise to try to benefit from the more effective practices of developed countries and improve their institutional practices. As the world is rapidly transforming into a global village, the disparity between developed and developing countries should be narrowed down; however, this can only be possible by understanding effective practices in various contexts. The research findings could hopefully be used globally by both developed and developing countries in order to improve their work practices.

1.8 Aims

The present thesis aims at expanding the existing literature by identifying and comparing psychosocial stressors related to occupational stress and sick-leave due to burnout among university teachers in Pakistan and Finland (Studies I and II).

A second aim of the thesis is to investigate whether exposure to workplace bullying predicts symptoms of occupational stress and whether interpersonal relationships mediate this association, and further, whether this link is moderated by sex and nationality. Relationships with colleagues and family serve as potential mediating variables between workplace bullying and occupational stress (in Study III).

A third aim of the thesis is to empirically identify the effects of occupational stress on mental and musculoskeletal health among teachers of higher education institutions in Pakistan and Finland (IV).

A fourth aim of the study is to find sex difference among male versus female university teachers in Pakistan and Finland (Studies I – IV).

2. Method

2.1 Participants

In all four articles, the data were collected with the help of web-based questionnaires. This method is not only economical, but it is also a relatively fast way to collect data. The samples consisted of permanent/fulltime university teachers in Pakistan and Finland. The official lists of e-mail addresses of teachers were obtained from the websites of public universities in Pakistan and Finland. E-mails were sent out including the link to the web-based questionnaire, with the purpose of the study explained in instruction; the questionnaires were presented in English, in both countries. Full confidentiality was guaranteed. The procedure for selecting universities depended on the availability of e-mail addresses: not all universities had e-mail addresses available on their websites. An exact response rate is impossible to estimate, since there is no way to certify how many of the e-mail addresses were, in fact, active and valid. There were reasons to believe that a substantial number of the addresses were no longer active since some emails were bounced back to the sender. The scales used in articles III and IV were sent in the same questionnaire at the same time, so the number of respondents for both papers are the same. The numbers of female and male respondents from Finland and Pakistan in all four studies are presented in Table 1.

Table 1 *Number of Participants in the Four Papers*

	Pakistan		Finland		Total Number of Participants
	Male	Female	Male	Female	
Article 1	138	63	139	136	476
Article 2	166	92	139	136	531
Article 3	196	133	152	129	610
Article 4	196	133	152	129	610

2.2 Measures

Seven instruments were used to collect data for these studies. They were the following:

2.2.1 *Psychosocial Stressors Scale (Article I-II)*

A questionnaire used to determine potential causes for work stress was adapted from previous research on this topic (Dua, 1994; Kinman, 1998). It comprised five subscales: Good Working Conditions, Social Support at Work, Promotion and Development Opportunities, Workplace Bullying (Einarsen, Hoel, & Notelaers, 2009) and the Work Stress Symptoms Scale (Björkqvist & Österman, 1992) was used. The responses for all scales were given on a five-point scale ranging from 0 (never) to 4 (very often) or 0 (strongly disagree) to 4 (strongly agree). The reliability of the scales was measured with Cronbach's alpha. The reliability scores of the scales were between .73 and .92, depending on the sample in question. For the measurement of sick leave due to burnout, the following question was asked: "Have you been on sick leave due to burnout?" The participants could then respond on a dichotomous scale, either "yes" or "no". This method has previously been employed by Varhama and Björkqvist (2004b) who investigated municipal employees in Finland, industrial workers in both Poland and Finland (Varhama & Björkqvist, 2004a), and municipal employees in Spain (Varhama et al., 2010).

2.2.2 *Work Stress Symptoms Scale (Articles I, II, III, IV)*

To measure symptoms of work stress, the Work Stress Symptoms Scale (Björkqvist & Österman, 1992) was used. This scale was used in all articles of the present study. The responses for the scale were given on a five-point scale, ranging from 0 (never) to 4 (very often). The reliability of the scale, assessed with Cronbach's alpha, was $\alpha = .92$.

2.2.3 Workplace Bullying Scale (Article III)

Workplace bullying was measured with subscales from DIAS-Adult (Österman & Björkqvist, 2009). This questionnaire contains 24 items assessing the frequency of experiences of bullying behaviour at the workplace (e.g., unnecessary criticism, unpleasant remarks about one's personal life, ridicule in the presence of others, etc.) in the past six months. There were five response alternatives for each item: 0 = never, 1 = seldom, 2 = occasionally, 3 = often, and 4 = very often. The reliability of the scale was assessed with Cronbach's alpha, which was $\alpha = .97$.

2.2.4 Colleagues Relationships Scale (Article III)

Relationships with colleagues were measured with an instrument designed particularly for this study. Some of the items were adapted from the Relationship Structures (ECR-RS) Questionnaire by Fraley, Heffernan, Vicary and Brumbaugh (2011). The response alternatives for all scales were on a five-point scale ranging from 0 = strongly disagree to 4 = strongly agree. The Cronbach's alpha of the scale was $\alpha = .95$.

2.2.5 Family Relationships Scale (Article III)

Family relationships were assessed with a questionnaire developed specifically for this study; items from Jackson and Maslach (1982) were also adapted. The response options were on a five-point scale ranging from 0 = strongly disagree to 4 = strongly agree. The Cronbach's alpha of the scale was $\alpha = .90$.

2.2.6 Mental Health Scale (Article IV)

The General Health Questionnaire GHQ 12 (Goldberg, 1978) was used to measure mental health among university teachers. GHQ-12 is a relatively concise, yet comprehensive measure commonly used in population-based research. There were 60-items in the first version of the questionnaire, but now a variety of edited versions of this instrument (GHQ-30, GHQ-28, GHQ-20, and the GHQ-12) are available. The scale inquires about recent

particular symptoms and behaviours of the respondents. Each question is assessed on a four-point scale (less than usual, no more than usual, somewhat more than usual, or much more than usual). In this study, the reliability of the scale, measured by Cronbach's alpha, was $\alpha = .90$.

2.2.7 Nordic Musculoskeletal Questionnaire (Article IV)

To assess musculoskeletal disorders, the Musculoskeletal Nordic questionnaire was used (Kuorinka, Jonsson, Kilbom, Vinterberg, Biering-Sørensen, Andersson, & Jørgensen, 1987). The Nordic Musculoskeletal Questionnaire (NMQ) is a standardized tool for the evaluation of musculoskeletal problems, e.g. low back, neck, shoulder and general complaints for use in epidemiological studies. The tool was not developed for clinical diagnosis (Crawford, 2007). The Cronbach's alpha score of the scale was $\alpha = .92$ in this study. Response alternatives were on a five-point scale, ranging from 0 (never) to 4 (very often).

2.3 Statistical Analysis

The SPSS software was used for the analysis of the data, and the macro PROCESS (Hayes, 2013) adapted to SPSS was used for conducting mediation and moderation analyses (Article III). For articles I, II, and IV, multivariate analyses of variance (MANOVA) were conducted in order to identify group differences.

2.4 Ethical Considerations

Participation was entirely voluntary, participants were all adults, and full confidentiality was guaranteed. The study adhered to the principles concerning human research ethics of the Declaration of Helsinki (World Medical Association, 2013), as well as the guidelines for the responsible conduct of research of the Finnish Advisory Board on Research Integrity (2012).

3. Overview of the Studies

This section presents the key findings from the four studies. Comprehensive results are available in the original papers.

3.1 Study I: Sick-leave due to burnout among university teachers in Pakistan and Finland and its psychosocial concomitants

Sick leave due to burnout among university teachers in Pakistan and Finland, and psychosocial factors related to having been on sick leave were examined. A total of 476 respondents completed the web-based questionnaire. The results showed that there was a significant difference between the countries regarding sick leave due to burnout, and the percentage was significantly higher in Pakistan. However, this discrepancy was primarily due to differences among the female teachers in both countries. Pakistani female teachers had more frequently been on sick leave due to burnout than Finnish female teachers (25.4% *vs* 8.8%), while the difference between male teachers of both countries was not significant (Pakistan: 15.2%, Finland: 10.1%). Results show that the overall percentage of Pakistani teachers in the sample who had occasionally been on sick leave due to burnout was 8.3 % in comparison with 9.4 % among the Finnish teachers.

Another notable result of the study was that in the Pakistani sample, the teacher above 56 years had never been on sick leave due to burnout, while in Finland, 10 % in this age group had been on sick leave due to burnout sometimes in their working life. It can be concluded that the responding Pakistani teachers above 56 years of age were not over-worked at present, and were not over-worked as young teachers, either. On the other hand, with growing job demands, young teachers are currently facing this problem. Perhaps the most startling result was that in the youngest age group, i.e., 26–35-year-olds, 19.2% of the teachers in Pakistan had been on sick leave due to burnout, whereas in Finland, the percentage

for this age group was zero. It is a serious issue. This result implies that young university teachers in Pakistan may be more at risk for burnout and stress. The multivariate analysis showed a significant effect for both country and sick leave due to burnout, and also for the interaction effect between country and burnout.

Analyses of country differences showed that working conditions, social support at work, and promotion opportunities all yielded substantially lower scores in Pakistan than in Finland. Workplace bullying was significantly higher in Pakistan.

Teachers who had been on sick leave, in both countries, scored higher on both work stress symptoms and workplace bullying, but lower on working conditions and social support at work.

University teachers in Pakistan who had been on sick leave due to burnout received the lowest scores on social support at work and the highest scores on work stress symptoms.

3.2 Study II: Factors associated with occupational stress among university teachers in Pakistan and Finland

This study aimed at identifying psychosocial factors related to occupational stress in university settings. A total of 531 university teachers in Pakistan and Finland completed a web-based questionnaire distributed to them via an email link. The data were analysed with MANOVA.

The multivariate analysis showed significant effects for country and sex; the univariate analyses revealed, as in Study I, that working conditions, promotion opportunities, and social support at work were rated to be considerably better in Finland than in Pakistan. There was only one significant but comparatively weak sex difference, namely regarding stress symptoms, with males scoring lower than females. Workplace bullying was reported to occur significantly more frequently in Pakistan. The interaction effect between country and sex indicated that Pakistani

males scored highest on the scale of workplace bullying, while Finnish males scored lowest.

The results suggest that there are more stressful conditions at Pakistani universities, whereas only a tendency for more work stress symptoms was found in Pakistan than in Finland. This apparent discrepancy may be due to personal factors, response trends, or perhaps a bias based on the nature of self-reported data. However, it could also be caused by a recent change in legislation about Finnish universities some years before the data collection took place, a revision causing restructuring and downsizing at Finnish universities. To explore it further, twenty interviews with Finnish university teachers were conducted (not reported in the article). All the interviewed teachers mentioned that they felt distressed because of the downsizing of teaching staff, and they felt pressure to publish to secure their jobs. This finding suggests that job insecurity is one of the major stressors in the work environment. Employees may have all the facilities they need in the work environment, but if their jobs are not secure, they cannot be satisfied. This is in line with findings from previous studies (Burgard & Seelye, 2017; De Witte, Pienaar, & De Cuyper, 2016; Tytherleigh, Webb, Cooper, & Ricketts, 2005; Vander Elst, Notelaers, & Skogstad, 2017).

3.3 Study III: Workplace bullying and occupational stress among university teachers: Mediating and moderating factors

The study aimed at exploring whether exposure to workplace bullying at the workplace can result in symptoms of occupational stress and whether interpersonal relationships mediate this connection, in the direction that good interpersonal relationships are associated with fewer symptoms and poor interpersonal relationships with more symptoms. It was further investigated whether the potential mediation effect was moderated by country and sex. A total of 610 university teachers in Pakistan and Finland completed a web-based questionnaire providing data for the analysis. A

conditional process model (Hayes, 2013) was employed to test the mediation and moderation hypotheses, with workplace bullying as the independent variable (the predictor), stress symptoms as the dependent (outcome, or predicted) variable, relationships with (a) family and (b) colleagues as mediators, and sex and country as moderators.

It was found that family relationships indeed had a mediating effect on the influence of workplace bullying on stress symptoms, but relationships with colleagues had no such mediating effect. The results highlight the significance of having good relations with one's family. The findings suggest that if a person has good relationships with the family, it decreases the negative influence of workplace bullying, and stress symptoms are considerably reduced. Neither country nor sex moderated this effect. This result indicates that the mediating effect of family relationships is quite stable, since it was present in two relatively different cultures, and within both sexes, in both countries.

3.4 Study IV: Occupational stress and mental and musculoskeletal health among university teachers

In this study, the association between occupational stress and mental and musculoskeletal health among university teachers was investigated. Again, data were obtained by the use of a web-based questionnaire, completed by 610 university teachers in Pakistan and Finland. The correlations between the scales were highly significant, suggesting a clear association between occupational stress and poor mental and musculoskeletal health. A multivariate analysis of variance was conducted with country and sex as independent variables, and the scales of occupational stress, mental health, and musculoskeletal health as dependent variables, with age as a covariate due to age differences within the sample.

The MANOVA results were significant for both country and sex, and the interaction between country and sex. It was shown that female teachers faced more stress and health problems than male teachers.

Teachers in Pakistan were experiencing more stress and health problems than Finnish university teachers. The univariate analyses revealed that scores for occupational stress were higher in Pakistan than in Finland, while scores for mental health and musculoskeletal health were significantly lower. The multivariate analysis indicated the existence of interaction effects between sex and country, but the univariate analyses did not identify variable specific interaction effects.

Prior studies have found strong positive associations between stress and musculoskeletal disorders in various groups of working populations (Feyer, Herbison, Williamson, De Silva, Mandryk, Hendrie, & Hely, 2000), including teachers (Nurul, Haslinda, Saidi, Shamsul, & Zailina, 2010; Korkmaz, Cavlak, & Telci, 2011). The findings of the present study showed this to be the case also in the current samples of university teachers.

4. Discussion

4.1 Summary of the Findings

The findings of the present study are in line with previous research on occupational stress. The results exposed some important dissimilarities between the responses of Pakistani and Finnish university teachers. Finnish teachers gave higher scores than Pakistani teachers on the scales of working conditions, social support at work, and promotion and development opportunities. There was a substantial difference between the scores of Pakistani and Finnish university teachers on the scale of workplace bullying, with lower scores among Finnish university teachers.

An unexpected finding in both the first and second article of this thesis was that although the results suggested that working conditions were considerably better in Finnish than in Pakistani universities, still, in Studies I and II, only a tendency was found for work stress symptoms to be more frequent in Pakistan than in Finland. However, in the fourth article, the difference was significant. It was concluded that it might be due to individual factors, perhaps due to the subjectivity of self-reported data, or response tendencies. It was also assumed that the reported stress among Finnish university teachers could be the result of new legislation related to Finnish universities which changed the job scenario somewhat before the time of the data collection. These studies also found that irrespective of country, female teachers were showing more stress symptoms than male teachers. This finding is in line with earlier studies (Ahola, Hakanen, Perhoniemi, & Mutanen, 2014; Johnson et al., 2005; Skaalvik & Skaalvik, 2016; Stallman, 2010). Thus, there is evidence that women more easily become distressed by their working conditions than men.

The results also provided support for the notion that burnout is connected to increased risk of sick leave among university teachers. This was the case in both countries. The percentage of teachers who had been on sick leave due to burnout was considerably higher in Pakistan.

However, this variance was primarily due to differences between the female teachers of both countries. Female teachers in Pakistan had been more often on sick leave due to burnout than their Finnish female counterparts (25.4% *vs* 8.8%). The difference between Pakistani and Finnish male teachers regarding burnout was not significant.

Among Pakistani university teachers, there was not a single one aged over 56 years who had ever been on sick leave due to burnout; yet in Finland, 10 % of this age group had been on sick leave due to burnout at least once during their working life. It seems that Pakistani teachers over 56 years of age were not over-worked at the time of the data collection, nor were they over-worked as young teachers either. However, with growing job demands, young teachers are now confronting this issue. In the youngest age group, the 26–35-year-olds, 19.2% of the Pakistani university teachers had been on sick leave due to burnout, but in Finland, the percentage for this age group was zero. This is an alarming situation and a matter which should be taken seriously. This result suggests that young university teachers in Pakistan possibly are more at risk of stress and burnout than previously.

Workplace bullying has been identified as an important occupational stressor, and the current study supports this notion, in line with previous research (Sheehan, McCabe, & Garavan, 2018; Yıldırım, 2009; Hauge et al., 2010; Nielsen & Einarsen, 2012; Nielsen, Hetland, Matthiesen, & Einarsen, 2012; Baillien, Bollen, Euwema, & De Witte, 2014). Workplace bullying harms their physical and mental health (O'Donnell & MacIntosh, 2016; Yamada, Duffy, & Berry, 2018; Duffy, 2018; Hurley, Hutchinson, Bradbury, & Browne, 2016; Schilpzand, De Pater, & Erez, 2016; Matthiesen & Einarsen, 2001). Workplace bullying can cause depression, decreased ability to concentrate, reduced work motivation, poor performance, lack of commitment towards the job, and poor social and working relationships (Yıldırım, 2009). Finne, Knardahl, and Lau (2011) found that bullying at the workplace was a key predictor of mental distress. Numerous studies (Balducci, Alfano, & Fraccaroli, 2009; Balducci, Fraccaroli, & Schaufeli,

2011; Matthiesen & Einarsen, 2004; Tehrani, 2004) have found that workplace bullying is even associated with post-traumatic stress among targeted victims (Baron, Franklin, & Hmieleski, 2016).

Although much attention has been given to the incidence, causes, and consequences of workplace bullying, no study has so far, to the knowledge of the present author, examined whether family relationships and/or relationships with colleagues mediate the link between workplace bullying and stress, and how it may vary depending on gender and country status. The results indicated that at least in this particular sample, family relationships mediated the link between workplace bullying and occupational stress, but relationships with colleagues did not. This finding is in line with the JDCS model (Karasek & Theorell, 1990), according to which social support alleviates stress symptoms. Neither country nor sex moderated the mediating effect of family relationships.

The present thesis also explored the effects of occupational stress on mental and musculoskeletal health among university teachers in Pakistan and Finland. The findings showed that, as expected, associations between the variables were found. There is a vast body of research suggesting that occupational stress is strongly negatively related to mental health (Tajvar, Saraji, Ghanbarnejad, Omid, Hosseini, & Abadi, 2015; Oshio, Tsutsumi, & Inoue, 2015; Wang, Ramos, Wu, Liu, Yang, Wang, & Wang, 2015), and to musculoskeletal health (Barzideh, Choobineh, & Tabatabaee, 2014; Lee, Lee, Gillen, & Krause, 2014; Tabatabaee, Jazani, Dolanghar, Rostami, & Najafi, 2017). A large body of research shows that teachers face a great deal of stress which may have injurious effects on their physical (Lazuras, 2006; Zhong, You, Gan, Zhang, Lu, & Wang, 2009) and mental health (Guglielmi, & Tatrow, 1998; Lee, Tsang, & Kwok, 2007; Tang, Au, Schwarzer, & Schmitz, 2001; Vandenberghe & Huberman, 1999). Wieclaw, Agerbo, Mortensen, and Bonde (2005) found that female teachers, to a larger extent than male teachers, were at risk of hospitalisation for mental illness. Research in Finland (Kokkinen, Kouvonen, Koskinen, Varje, & Väänänen, 2015) has shown that teachers, social workers, and health care

workers experience considerably high ratios of hospitalisation for acute mental health problems.

4.2 Limitations of the Studies

There are some limitations of the studies which need to be pointed out.

The first limitation concerns the choice of using a cross-sectional design for the data collection. Due to that, issues of cause and effect cannot be ascertained, but only speculated upon. Longitudinal studies are required to draw better conclusions about both reasons for and consequences of occupational stress. However, budget concerns rendered the choice of a longitudinal design impossible.

A second limitation concerns representativity. Even though an effort was made to gather data from various parts of both countries, it is not possible to ascertain that the samples were fully representative. Moreover, an exact estimation of the response rate is not possible, as it is hard to evaluate the accurate number of valid e-mail addresses to which the electronic questionnaire was sent.

A third limitation concerns generalisability. Occupational stress may differ between occupations, and any conclusions drawn from these studies may not be generalised to other professions.

4.3 Implications of the Studies

Despite the limitations that the studies have, some conclusions may be drawn. In developing countries, occupational stress is an issue of growing concern, as it has adverse effects on the health and well-being of employees. Universities in a country like Pakistan would be wise to learn from the experiences of higher-level educational institutions in countries like Finland, in order to decrease the levels of occupational stress. Clearly, the studies showed that stress levels were considerably higher in Pakistan, and the young university teachers were especially at risk. Future studies could be addressing possible reasons for these circumstances.

Another undisputable finding was that female university teachers were more at risk of developing occupational stress than male teachers. This was the case for both countries, and it may well be a world-wide problem (Blix, Cruise, Mitchell, & Blix, 1994; Yang, Hu, Chi, & Wang, 2009).

The results of these studies indicate the need for higher education institutions to identify stressors in the work environment and take initiatives to eliminate them before they cause serious damage to the health of the teachers. There is a dire need to improve working conditions, provide social support at work, and offer equal opportunities for promotion and development, in both developed and developing countries. It is essential to ensure job security to every employee, as this study indicates that teachers may have all the required facilities and opportunities, but if their job is not secure, they are at risk of developing stress symptoms.

The findings underscore the significance of preventing workplace bullying, as it was identified as a highly significant stressor in the university work environment. Therefore, higher education institutions should pay attention to provide a bullying free work environment. Universities should design policies to ensure not only physical but also psychological safety for their teaching staff. The results of Study III showed that family relationships mediated the link between workplace bullying and occupational stress. Thus, families are important for alleviating the negative effects of exposure to bullying. An employee without a supporting family runs a greater risk of developing occupational stress.

This research further suggests that psychosocial stressors are the leading cause of occupational stress, which is related to both mental and musculoskeletal health. It is in the interest of higher education institutions to take this issue seriously. Governing bodies of the universities should design policies which focus on the welfare and wellbeing of university teachers and find long-term solutions to prevent work-related stress and burnout.

References

- Ahmer, S., Yousafzai, A. W., Siddiqi, M., Faruqi, R., Khan, R., & Zuberi, S. (2009). Bullying of trainee psychiatrists in Pakistan: a cross-sectional questionnaire survey. *Academic Psychiatry, 33*, 335–339. doi:10.1176/appi.ap.33.4.335
- Ahola, K., Hakanen, J., Perhoniemi, R., & Mutanen, P. (2014). Relationship between burnout and depressive symptoms: A study using the person-centred approach. *Burnout Research, 1*, 29–37. doi: 10.1016/j.burn.2014.03.003
- Ahsan, N., Abdullah, Z., Fie, D. G., & Alam, S. S. (2009). A study of job stress on job satisfaction among university staff in Malaysia: Empirical study. *European Journal of Social Sciences, 8*, 121–131.
- Akbar, A., & Akhter, W. (2011). Faculty stress at higher education: A study on the business schools of Pakistan. *World Academy of Science, Engineering and Technology, 49*, 1079–1083.
- Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278–308. doi.org/10.1037/1076-8998.5.2.278
- Anthony-McMann, P. E., Ellinger, A. D., Astakhova, M., & Halbesleben, J. R. (2017). Exploring different operationalizations of employee engagement and their relationships with workplace stress and burnout. *Human Resource Development Quarterly, 28*, 163–195. doi:10.1002/hrdq.21276
- Badley, E. M., Rasooly, I., & Webster, G. K. (1994). Relative importance of musculoskeletal disorders as a cause of chronic health problems, disability, and health care utilization: Findings from the 1990 Ontario Health Survey. *The Journal of Rheumatology, 21*, 505–514.
- Baillien, E., Bollen, K., Euwema, M., & De Witte, H. (2014). Conflicts and conflict management styles as precursors of work-place bullying: A two-wave longitudinal study. *European Journal of Work and Organizational Psychology, 23*, 511–524. doi:10.1080/1359432X.2012.752899
- Bakker, A. B., & Costa, P. L. (2014). Chronic job burnout and daily functioning: a theoretical analysis. *Burnout Research, 1*, 112–119. doi:10.1016/j.burn.2014.04.003
- Balducci, C., Alfano, V., & Fraccaroli, F. (2009). Relationships between mobbing at work and MMPI-2 personality profile, posttraumatic stress symptoms, and suicidal ideation and behavior. *Violence and Victims, 24*, 52–67. doi:10.1891/0886-6708.24.1.52
- Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2011). Workplace bullying and its relation with work characteristics, personality, and post-traumatic stress symptoms: An integrated model. *Anxiety, Stress & Coping, 24*, 499–513.
- Bandpei, M. A. M., Ehsani, F., Behtash, H., & Ghanipour, M. (2014). Occupational low back pain in primary and high school teachers: prevalence and associated factors. *Journal of Manipulative and Physiological Therapeutics, 37*, 702–708.
- Barkhuizen, N., & Rothmann, S. (2008). Occupational stress of academic staff in South African higher education institutions. *South African Journal of Psychology, 38*, 321–336. doi:10.1177/008124630803800205.
- Baron, R. A., Franklin, R. J., & Hmieleski, K. M. (2016). Why entrepreneurs often experience low, not high, levels of stress:

- The joint effects of selection and psychological capital. *Journal of Management*, 42, 742–768. doi: 10.1177/0149206313495411
- Barzideh, M., Choobineh, A. R., & Tabatabaee, H. R. (2014). Job stress dimensions and their relationship to musculoskeletal disorders in Iranian nurses. *Work*, 47, 423–429. doi:10.3233/WOR-121585
- Baum, A. (1990). Stress, intrusive imagery, and chronic distress. *Health Psychology*, 9, 653–675. doi:10.1037/0278-6133.9.6.653
- Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology*, 43, 667–672.
- Beer, L. T., Pienaar, J., & Rothmann, S. Jr. (2016). Work overload, burnout, and psychological ill-health symptoms: A three-wave mediation model of the employee health impairment process. *Anxiety Stress & Coping*, 29, 387–99. doi:10.1080/10615806.2015.1061123
- Behere, S. P., Yadav, R., & Behere, P. B. (2011). A comparative study of stress among students of medicine, engineering, and nursing. *Indian Journal of Psychological Medicine*, 33, 145–148.
- Berman, E. M., West, J. P., & Richter, Jr, M. N. (2002). Workplace relations: Friendship patterns and consequences (according to managers). *Public Administration Review*, 62, 217–230.
- Bernard, B.P. (1997) (Ed.), U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Cincinnati, OH. <https://stacks.cdc.gov/view/cdc/21745>
- Bernotaite L., & Malinauskiene, V. (2017). Workplace bullying and mental health among teachers in relation to psychosocial job characteristics and burnout. *International Journal of Occupational Medicine and Environmental Health*, 30, 629–640. doi:10.13075/ijomeh.1896.00943.
- Betoret, F.D. (2006). Stressors, self-efficacy, coping, resources and burnout among secondary school teachers in Spain. *Educational Psychology*, 26, 519–539.
- Bhatti, N., Hashmi, M.A., Raza, S.A., Shaikh, F. M., & Shafiq, K. (2011). Empirical analysis of job stress on job satisfaction among university teachers in Pakistan. *International Business Research*, 4, 264–270. doi:10.5539/ibr.v4n3p264
- Bilge, F. (2006). Examining the burnout of academics in relation to job satisfaction and other factors. *Social Behavior and Personality: An International Journal*, 34, 1151–1160. doi:10.2224/sbp.2006.34.9.1151
- Bíró, É., Ádány, R., & Kósa, K. (2011). Mental health and behaviour of students of public health and their correlation with social support: A cross-sectional study. *BMC Public Health*, 11, 871–878. doi:10.1186/1471-2458-11-871
- Björkqvist, K., & Österman, K. (1992a). *Work Stress Symptom Scale*. Åbo Akademi University, Finland.
- Björkqvist, K., Österman, K., & Hjelt-Bäck, M. (1994). Aggression among university employees. *Aggressive Behavior*, 20, 173–184.
- Blix, A. G., Cruise, R. J., Mitchell, B. M., & Blix, G. G. (1994). Occupational stress among university teachers. *Educational Research*, 36, 157–169.
- Bongers, P. M., Kremer, A. M., & Laak, J. T. (2002). Are psychosocial factors, risk factors for symptoms and signs of the shoulder, elbow, or hand/wrist?: A review of the epidemiological literature. *American Journal of Industrial Medicine*, 41, 315–342. doi: 10.1002/ajim.10050
- Borg, M. G., & Riding, R.J. (1991). Occupational stress and satisfaction in teaching. *British Educational Research*

- Journal*, 17, 263–281. doi: 10.1080/0141192910170306
- Brewer, E. W., & McMahan-Landers, J. (2003). The Relationship Between Job Stress and Job Satisfaction of Industrial and Technical Teacher Educators. *Journal of Career and Technical Education*, 20, 37–50.
- Brotman, D. J., Golden, S. H., & Wittstein, I. S. (2007). The cardiovascular toll of stress. *The Lancet*, 370, 1089–1100.
- Brouwers, A., & Tomic, W. (2000). A longitudinal study of teacher burnout and perceived self-efficacy in classroom management. *Teaching and Teacher Education*, 16, 239–253. doi:10.1016/S0742-051X(99)00057-8
- Bruk-Lee, V., & Spector, P. E. (2006). The social stressors – counterproductive work behaviors link: Are conflicts with supervisors and co-workers the same? *Journal of Occupational Health Psychology*, 11, 145–156. doi:10.1037/1076-8998.11.2.145.
- Bubb, S., & Earley, P. (2004). Managing teacher workload: Work-life balance and wellbeing. London: Paul Chapman.
- Burgard, S. A., & Seelye, S. (2017). Histories of perceived job insecurity and psychological distress among older US adults. *Society and Mental Health*, 7, 21–35. doi:10.1177/2156869316679466
- Canadian Centre for Occupational Health and Safety. (2000). Workplace stress—general. <http://www.ccohs.ca/oshanswers/psychosocial/stress.html>
- Cheng, W. J., & Cheng, Y. (2017). Minor mental disorders in Taiwanese healthcare workers and the associations with psychosocial work conditions. *Journal of the Formosan Medical Association*, 116, 300–305. doi:10.1016/j.jfma.2016.05.004
- Cherniss, C. (1991). Career commitment in human service professionals: A biographical study. *Human Relations*, 44, 419–437. doi:10.1177/001872679104400501
- Chiu, T. T. W., & Lam, P. K. (2007). The prevalence of and risk factors for neck pain and upper limb pain among secondary school teachers in Hong Kong. *Journal of Occupational Rehabilitation*, 17, 19–32. doi: 10.1007/s10926-006-9046-z.
- Chiu, T. W., Lau, K. T., Ho, C. W., Ma, M. C., Yeung, T. F., & Cheung, P. M. (2006). A study on the prevalence of and risk factors for neck pain in secondary school teachers. *Public Health*, 120, 563–565. doi:10.1016/j.puhe.2006.01.007
- Cho, C. Y., Hwang, Y. S., & Cherng, R. J. (2012). Musculoskeletal symptoms and associated risk factors among office workers with high workload computer use. *Journal of Manipulative and Physiological Therapeutics*, 35, 534–540. doi:10.1016/j.jmpt.2012.07.004
- Cole, M. S., Schaninger Jr, W. S., & Harris, S. G. (2002). The workplace social exchange network: A multilevel, conceptual examination. *Group & Organization Management*, 27, 142–167. doi:10.1177/1059601102027001008
- Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social-emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology*, 104, 1189–1204. doi:10.1037/a0029356
- Colligan, T. W., & Higgins, E. M. (2006). Workplace stress: Etiology and consequences. *Journal of Workplace Behavioral Health*, 21, 89–97. doi: 10.1300/J490v21n02_07
- Conway, M., & O'Connor, D. (2016). Social media, big data, and mental health: Current advances and ethical implications. *Current Opinion in Psychology*, 9, 77–82. doi: 10.1016/j.copsy.2016.01.004

- Cooper, C. L., & Cartwright, S. (1994). Healthy mind; healthy organization—A proactive approach to occupational stress. *Human Relations*, 47, 455–471. doi:10.1177/001872679404700405
- Crawford, J. O. (2007). The Nordic musculoskeletal questionnaire. *Occupational Medicine*, 57, 300–301.
- Derogatis, L. R. (1987). The Derogatis stress profile (DSP): Quantification of psycholo stress. *Research Paradigms in Psychosomatic Medicine*, 17, 30–54. doi:10.1159/000414005
- De Witte, H., Pienaar, J., & De Cuyper, N. (2016). Review of 30 years of longitudinal studies on the association between job insecurity and health and well-being: Is there causal evidence? *Australian Psychologist*, 51, 18–31. doi:10.1111/ap.12176
- Dimsdale, J. E. (2008). Psychological stress and cardiovascular disease. *Journal of the American College of Cardiology*, 51, 1237–1246. doi:10.1016/j.jacc.2007.12.024
- Doyle, C., & Hind, P. (1998). Occupational stress, burnout and job status in female academics. *Gender, Work and Organization*, 5, 67–81. doi:10.1111/1468-0432.00047
- Dua, J. K. (1994). Job stressors and their effects on physical health, emotional health, and job satisfaction in a university. *Journal of Educational Administration*, 32, 59–78. doi: 10.1108/0957 8239410051853.
- Duffy, M. (2018). The psychosocial impact of workplace bullying and mobbing on targets. In: Duffy, M & Yamada, D. C. (Eds.), *Workplace bullying and mobbing in the United States [2 volumes]*, 131– 150. Santa Barbara, California: Praeger.
- Dunham, J. (1992). *Stress in teaching* (2nd ed.). London, UK: Routledge.
- Durmus, D., & Ilhanli, I. (2012). Are there work-related musculoskeletal problems among teachers in Samsun, Turkey? *Journal of Back and Musculoskeletal Rehabilitation*, 25, 5–12. doi:10.3233/BMR-2012-0304.
- Easthope, C., & Easthope, G. (2000). Intensification, extension and complexity of teachers' workload. *British Journal of Sociology of Education*, 21, 43–58. doi:10.1080/01425690095153
- Einarsen, S., & Skogstad, A. (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology*, 5, 185–201. doi:10.1080/1359432 9608414854
- Einarsen, S., Hoel, H., Zapf, D., & Cooper, C. L. (Eds.) (2003). *Bullying and emotional abuse in the workplace*. London, UK: Taylor & Francis.
- Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress*, 23, 24– 44. doi:10.1080/02678370902815673.
- Erick, P. N., & Smith, D. R. (2011). A systematic review of musculoskeletal disorders among school teachers. *BMC Musculoskeletal Disorders*, 12, 260–270.
- Erick, P., & Smith, D. (2013). Musculoskeletal disorder risk factors in the teaching profession: a critical review. *OA Musculoskeletal Medicine*, 1, 29– 39.
- European Agency for Safety and Health at Work. (2010): OSH in figures: Work-related musculoskeletal disorders in the EU — facts and figures. European risk observatory report. <https://osha.europa.eu/en/publications/reports/TERO09009ENC/view>
- European Commission, (2004). The of Mental Health in the European Union http://ec.europa.eu/health/ph_projects/2001/monitoring/fp_monitoring_2001_fre_p_06_en.pdf

- Feeney, A., North, F., Head, J., Canner, R., & Marmot, M. (1998). Socioeconomic and sex differentials in reason for sickness absence from the Whitehall II Study. *Occupational and Environmental Medicine*, *55*, 91–98. doi: 10.1136/oem.55.2.91
- Feyer, A. M., Herbison, P., Williamson, A. M., de Silva, I., Mandryk, J., Hendrie, L., & Hely, M. C. (2000). The role of physical and psychological factors in occupational low back pain: a prospective cohort study. *Occupational and Environmental Medicine*, *57*, 116–120. doi:10.1136/oem.57.2.116
- Figley, C.R. (1995). *Compassion fatigue: Coping with secondary traumatic stress disorder*. London, UK: Bruner-Routledge.
- Finne, L. B., Knardahl, S., & Lau, B. (2011). Workplace bullying and mental distress— A prospective study of Norwegian employees. *Scandinavian Journal of Work, Environment & Health*, *37*, 276–287.
- Finnish Advisory Board on Research Integrity (2012). *Responsible conduct of research and procedures for handling allegations of misconduct in Finland*. Helsinki: Finnish Advisory Board on Research Integrity.
- Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The experiences in close relationships – Relationship Structures Questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment*, *23*, 615–625. doi:10.1037/a0022898
- Friedman, I. A. (1995). Student behavior patterns contributing to teacher burnout. *The Journal of Educational Research*, *88*, 281–289.
- Friedman, I.A., & Farber, B.A. (1995). *Professional self-concept and teacher burnout*. Jerusalem: Henrietta Szold Institute.
- Frone, M. R. (2000). Interpersonal conflict at work and psychological outcomes: Testing a model among young workers. *Journal of Occupational Health Psychology*, *5*, 246–255. doi:10.1037/1076-8998.5.2.246.
- Fu, A., Liu, B., Jiang, Y., Zhao, J., Zhang, G., & Liu, J. (2017). A mental health survey of different ethnic and occupational groups in Xinjiang, China. *International Journal of Environmental Research and Public Health*, *14*, 46–56. doi:10.3390/ijerph14010046
- Gershon, R., Barocas, B., Canton, A., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, *36*, 275–289. doi:10.1177/0093854808330015
- Gillespie, N. A., Walsh, M. H. W. A., Winefield, A. H., Dua, J., & Stough, C. (2001). Occupational stress in universities: Staff perceptions of the causes, consequences and moderators of stress. *Work & stress*, *15*, 53–72. doi:10.1080/02678370110062449
- Goldberg, D. P. (1978). *Manual of the general health questionnaire*, Windsor: Nfer-Nelson.
- Grayson, J. L., & Alvarez, H. K. (2008). School climate factors relating to teacher burnout: A mediator model. *Teaching and Teacher Education*, *24*, 1349–363. doi:10.1016/j.tate.2007.06.005
- Grossi, G., Perski, A., Evengård, B., Blomkvist, V., & Orth-Gomér, K. (2003). Physiological correlates of burnout among women. *Journal of Psychosomatic Research*, *55*, 309–316. doi:10.1016/S0022-3999(02)00633-5
- Guglielmi, R. S., & Tatrow, K. (1998). Occupational stress, burnout, and health in teachers: A methodological and theoretical analysis. *Review of Educational Research*, *68*, 61–99. doi:10.3102/00346543068001061

- Hämmig, O., & Bauer, G. (2009). Work-life imbalance and mental health among male and female employees in Switzerland. *International Journal of Public Health*, *54*, 88–95.
- Hassard, J., & Cox, T. (2011). Work-related stress: Nature and management. Bilbao, Spain: EU-OSHA (European Agency for Safety & Health at Work). https://oshwiki.eu/wiki/Work-related_stress:_Natur...
- Hauge, L. J., Skogstad, A., & Einarsen, S. (2010). The relative impact of workplace bullying as a social stressor at work. *Scandinavian Journal of Psychology*, *51*, 426–433. doi:10.1111/j.1467-9450.2010.00813.x
- Hayes, A. F. (2013). PROCESS procedure for SXPSS release 2.16.3. www.guilford.com/p/hayes3
- Health and Safety Executive (HSE), (2007). Managing the causes of work-related stress: A step by step approach using the management standards. Hse Books. <http://www.poweringimprovement.org/wp-content/uploads/2017/05/HSE-Managing-the-causes-of-stress-hsg218.pdf>
- Hemamalini, R., Ashok, V., & Sasikala, V. (2018). A study on stress management and its impact among students. *Sciences*, *7*, 101–110.
- Hessels, J., Rietveld, C. A., & Van der Zwan, P. (2017). Self-employment and work-related stress: The mediating role of job control and job demand. *Journal of Business Venturing*, *32*, 178–196. doi:10.1016/j.jbusvent.2016.10.007
- Hill, A. (2008). Depressed, stressed: teachers in crisis. *The Guardian*. <http://www.guardian.co.uk/education/2008/aug/31/teaching.teachersworkload>
- Hoel, H., Cooper, C. L., & Faragher, B. (2001). The experience of bullying in Great Britain: The impact of organizational status. *European Journal of Work and Organizational Psychology*, *10*, 443–465. doi:10.1080/13594320143000780
- Hurley, J., Hutchinson, M., Bradbury, J., & Browne, G. (2016). Nexus between preventive policy inadequacies, workplace bullying, and mental health: Qualitative findings from the experiences of Australian public sector employees. *International Journal of Mental Health Nursing*, *25*, 12–18. doi.org/10.1111/inm.12190
- Ilies, R., Huth, M., Ryan, A. M., & Dimotakis, N. (2015). Explaining the links between workload, distress, and work–family conflict among school employees: Physical, cognitive, and emotional fatigue. *Journal of Educational Psychology*, *107*, 1–14. doi.org/10.1037/edu0000029
- Jackson, S. E., & Maslach, C. (1982). After-effects of job-related stress: Families as victims. *Journal of Organizational Behavior*, *3*, 63–77.
- Jepson, E., & Forrest, S. (2006). Individual contributory factors in teacher stress: The role of achievement striving and occupational commitment. *British Journal of Educational Psychology*, *76*, 183–197. doi:10.1348/000709905X37299
- Johnson, J. V., & Hall, E. M. (1988). Job strain, work place 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.
- Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, *20*, 178–187. doi:10.1108/02683940510579803
- Johnsrud, L. K. (2002). Measuring the quality of faculty and administrative work life: Implications for college and university campuses. *Research in Higher Education*, *43*, 379–395.

- Kain, J., & Jex, S. (2010). Karasek's (1979) job demands-control model: A summary of current issues and recommendations for future research. In P. L. Perrewé, & D. C. Ganster (ed.), *New developments in theoretical and conceptual approaches to job stress* (pp. 237–268). Bingley, UK: Emerald Group Publishing.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285–307.
- Karasek, R., Theorell, T. (1990). *Healthy work: stress, productivity, and the reconstruction of working life*. New York: Basic Books.
- Kashif, M., Darain, H., Sharif, F., Jamil, M., Majeed, S., & Ullah, I. (2016). Association between low back pain and prolonged standing in university teachers. *Annals of Allied Health Sciences*, 2, 87–91.
- Keenan, A., & Newton, T. J. (1985). Stressful events, stressors and psychological strains in young professional engineers. *Journal of Occupational Behaviour*, 6, 151–156. doi:10.1002/job.4030060206.
- Kelly, S., Charlton, J., & Jenkins, R. (1995). Suicide deaths in England and Wales, 1982–1992: The contribution of occupation and geography. *Population Trends*, 80, 18–21.
- Khalid, S., Irshad, M. Z., & Mahmood, B. (2012). Job satisfaction among academic staff: A comparative analysis between public and private sector universities of Punjab, Pakistan. *International journal of Business and Management*, 7, 126–136. doi: 10.5539/ijbm.v7n1p126
- Kinman, G. (1998). *Pressure points: A survey into the causes and consequences of occupational stress in the UK academic and related staff*. London, UK: Association of University Teachers. <http://www.ucu.org.uk/media/pdf/pressurepoints.pdf>
- Kinman, G. (2001). Pressure points: A review of research on stressors and strains in UK academics. *Educational psychology*, 21, 473–492.
- Kinman, G., & Jones, F. (2008). Effort-reward imbalance, over-commitment and work-life conflict: testing an expanded model. *Journal of Managerial Psychology*, 23, 236–251. doi.org/10.1108/02683940810861365
- Kinman, G., Wray, S., & Strange, C. (2011). Emotional labour, burnout and job satisfaction in UK teachers: The role of workplace social support. *Educational Psychology*, 31, 843–856.
- Kinman, G. & Wray, S. (2013). Stressed out: The report of a survey into occupational stress in adult education University and College Union UK. <https://docplayer.net/19380561-Stressed-out-the-report-of-a-survey-into-occupational-stress-in-adult-education.html>
- Kokkinen, L., Muntaner, C., Kouvonen, A., Koskinen, A., Varje, P., & Väänänen, A. (2015). Welfare state retrenchment and increasing mental health inequality by educational credentials in Finland: a multicohort study. *BMJ Open*, 5, 1–9.
- Kokkinos, C. M. (2007). Job Stressors, Personality and burnout in primary school teachers. *British Journal of Educational Psychology*, 77, 229–243. doi:10.1348/000709905X90344
- Korkmaz, N. C., Cavlak, U., & Telci, E. A. (2011). Musculoskeletal pain, associated risk factors and coping strategies in school teachers. *Scientific Research and Essays*, 6, 649–657. doi: 10.5897/SRE10.1064.
- Kortum, E., Leka, S., & Cox, T. (2010). Psychosocial risks and work-related stress in developing countries: Health impact, priorities, barriers and solutions. *International Journal of Occupational*

- Medicine and Environmental Health*, 23, 225–238. doi:10.2478/v10001-010-0024-5
- Kosseck, E., Pichler, S., Bodner, T., & Hammer, L. (2011). Workplace social support and work–family conflict: A meta-analysis clarifying the influence of general and work–family-specific supervisor and organizational support. *Personnel Psychology*, 64, 289–313. doi: 10.1111/j.1744-6570.2011.01211.x
- Kostova, T., & Roth, K. (2003). Social capital in multinational corporations and a micro–macro model of its formation. *Academy of Management Review*, 29, 297–317. doi:10.5465/amr.2003.9416356
- Kovess-Masfety, V., Rios-Seidel, C., & Sevilla-Dedieu, C. (2007). Teachers' mental health and teaching levels. *Teaching and Teacher Education*, 23, 1177–1192. doi: 10.1016/j.tate.2006.07.015
- Krantz, D., Grunberg, N., and Baum, A. (1985). Health psychology. *Annual Review of Psychology*, 36, 349–383.
- Kuorinka, I., Jonsson, B., Kilbom, A., Vinterberg, H., Biering-Sørensen, F., Andersson, G., & Jørgensen, K. (1987). Standardized Nordic questionnaires for the analysis of musculoskeletal symptoms. *Applied Ergonomics*, 18, 233–237. doi: 10.1016/0003-6870(87)90010-X.
- Kutcher, S., Wei, Y., Gilberds, H., Ubuguyu, O., Njau, T., Brown, A., Sabuni, N., Magimba, A., & Perkins, K. (2016). A school mental health literacy curriculum resource training approach: effects on Tanzanian teachers' mental health knowledge, stigma and help-seeking efficacy. *International Journal of Mental Health Systems*, 10, 50– 58. doi:10.1186/s13033-016-0082-6
- Kyriacou, C. (1987). Teacher stress and burnout: An international review. *Educational Research*, 29, 146–152.
- Kyriacou, C., & Pratt, J. (1985). Teacher stress and psychoneurotic symptoms. *British Journal of Educational Psychology*, 55, 61–64.
- Kyriacou, C., & Sutcliffe, J. (1977). Teacher stress: A review. *Educational Review*, 29, 299–306.
- Lacey, R. J., Lewis, M., & Sim, J. (2007). Piecework, musculoskeletal pain and the impact of workplace psychosocial factors. *Occupational Medicine*, 57, 430–437. doi:10.1093/occmed/kqm048
- Lackritz, J. R. (2004). Exploring burnout among university faculty: Incidence, performance, and demographic issues. *Teaching and Teacher Education*, 20, 713–729. doi:10.1016/j.tate.2004.07.002
- Lambert, E. G., Minor, K. I., Wells, J. B., & Hogan, N. L. (2016). Social support's relationship to correctional staff job stress, job involvement, job satisfaction, and organizational commitment. *The Social Science Journal*, 53, 22–32. doi:10.1016/j.soscij.2015.10.001
- Lazarus, L. (2006). Occupational stress, negative affectivity and physical health in special and general education teachers in Greece. *British Journal of Special Education*, 33, 204–209. doi: 10.1111/j.1467-8578.2006.00440.x
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lee, S., Tsang, A., & Kwok, K. (2007). Stress and mental disorders in a representative sample of teachers during education reform in Hong Kong. *Journal of Psychology in Chinese Societies*, 8, 159–178.
- Lee, S. J., Lee, J. H., Gillen, M., & Krause, N. (2014). Job stress and work-related musculoskeletal symptoms among intensive care unit nurses: a comparison between job demand-control and effort-reward imbalance models. *American Journal of Industrial Medicine*, 57, 214–221.
- Leijon, M., Hensing, G., Alexanderson, K. (1998). Gender trends in sick listing with musculoskeletal symptoms in a Swedish county during a period of rapid increase

- in sickness absence. *Scandinavian Journal of Social Medicine*, 26, 204–213.
- Liu, S., & Onwuegbuzie, A. J. (2012). Chinese Teachers' Work Stress and Their Turnover Intention. *International Journal of Educational Research*, 53, 160–170. doi: 10.1016/j.ijer.2012.03.006
- Liu, Y., Wang, M., Chang, C. H., Shi, J., Zhou, L., & Shao, R. (2015). Work–family conflict, emotional exhaustion, and displaced aggression toward others: The moderating roles of workplace interpersonal conflict and perceived managerial family support. *Journal of Applied Psychology*, 100, 793–808.
- Locke, W., Cummings, W. K., & Fisher, D. (2011). *Governance and management in higher education: The perspective of the academy*. Berlin, Germany: Springer.
- Lopes, C.S.; Moraes, C.L.; Junger,W.L.;Werneck, G.L.; Ponce de Leon, C.; Faerstein, E. (2015). Direct and indirect exposure to violence and psychological distress among civil servants in Rio de Janeiro, Brazil: A prospective cohort study. *BMC Psychiatry*, 15, 109–118. doi:10.1186/s12888-015-0487-9
- Lutgen-Sandvik, P. (2005). *Water smoothing stones: Subordinate resistance to workplace bullying* (Doctoral dissertation, Arizona State University).
- Lutgen-Sandvik, P. (2018). Vicarious and Secondary Victimization in Adult Bullying and Mobbing: Coworkers, Target-Partners, Children, and Friends. *Workplace Bullying and Mobbing in the United States [2 volumes]*, 171–200.
- Lutgen-Sandvik, P., Tracy, S. J., & Alberts, J. K. (2007). Burned by bullying in the American workplace: Prevalence, perception, degree and impact. *Journal of Management Studies*, 44, 837–862. doi: 10.1111/j.1467-6486.2007.00715.x
- Maguire, M., & O'connell, T. (2007). Ill-health retirement of schoolteachers in the Republic of Ireland. *Occupational Medicine*, 57, 191–193. doi:10.1037/0021-9010.57.3.427
- Malik, N. A., Björkqvist, K., & Österman, K. (2017a). Sick-leave due to burnout among university teachers in Pakistan and Finland and its psychosocial concomitants. *European Journal of Social Sciences Education and Research*, 10, 203–212.
- Malik, N. A., Kaj Björkqvist, K., & Österman, K. (2017b). Factors associated with occupational stress among university teachers in Pakistan and Finland. *Journal of Educational, Health and Community Psychology*, 6, 1–14.
- Malinauskiene, V., Obelenis, V., & Dopagiene, D. (2005). Psychological terror at work and cardiovascular diseases among teachers. *Acta Medica Lituanica*, 12, 20–25.
- Mark, G., & Smith, A. P. (2012a). Occupational stress, job characteristics, coping, and the mental health of nurses. *British journal of health psychology*, 17, 505–521. doi:10.1111/j.2044-8287.2011.02051.x
- Mark, G., & Smith, A. P. (2012b). Effects of occupational stress, job characteristics, coping, and attributional style on the mental health and job satisfaction of university employees. *Anxiety, Stress & Coping*, 25, 63–78. doi:10.1080/0144341960160104
- Markiewicz, D., Devine, I., & Kausilas, D. (2000). Friendships of women and men at work: Job satisfaction and resource implications. *Journal of managerial Psychology*, 15, 61–184. doi:10.1108/02683940010310346
- Martinussen, M., Richardsen, A., & Burke, R. (2007). Job demands, job resources, and burnout among police officers. *Journal of Criminal Justice*, 35, 239–249. doi:10.1016/j.jcrimjus.2007.03.001

- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior, 2*, 99–113.
- Maslach, C., & Jackson, S. E. (1986). *Maslach burnout inventory* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Leiter, M. P. (1997). *The truth about burnout*. San Francisco: Jossey-Bass, Inc.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397–422.
- Matthiesen, S. B., & Einarsen, S. (2001). MMPI-2 configurations among victims of bullying at work. *European Journal of Work and Organisational Psychology, 10*, 467–484. doi:10.1080/13594320143000753
- Matthiesen, S. B., & Einarsen, S. (2004). Psychiatric distress and symptoms of PTSD among victims of bullying at work. *British Journal of Guidance and Counselling, 32*, 335–56, doi: 10.1080/03069880410001723558
- Miree, L.F. (2007). Financial implications of employee job stress. Research presented at the Annual Student/Faculty Research Conference, American University of Bulgaria.
- Morrison, R. L. (2005). Informal Relationships in the Workplace: Associations with Job Satisfaction, Organisational Commitment and Turnover Intentions [Doctoral dissertation, Massey University, Albany].
- Morrison, R. L. (2009). Are women tending and befriending in the workplace? Gender differences in the relationship between workplace friendships and organizational outcomes. *Sex Roles, 60*, 1–13. doi:10.1007/s11199-008-9513-4
- Mostert, F. F., Rothmann, S., Mostert, K., & Nell, K. (2008). Outcomes of occupational stress in a higher education institutions. *Southern African Business Review, 12*, 102–127.
- Narayanan, L., Menon, S., & Spector, P. E. (1999). Stress in the workplace: A comparison of gender and occupations. *Journal of Organizational Behavior, 20*, 63–73.
- National Institute for Occupational Safety and Health, (1997). Musculoskeletal disorders and workplace factors: A critical review of epidemiologic evidence for work-related musculoskeletal disorders of the neck, upper extremity, and low back. Department of Health and Human Services, Cincinnati, US.
- Panel on Musculoskeletal Disorders and the Workplace (2001). *Musculoskeletal disorders and the workplace: Low back and upper extremities*. Washington, DC: National Academy Press.
- Navarro, M. L. A., Mas, M. B. & Jimenez, A. M. L. (2010). Working conditions, burnout and stress symptoms in university professors: Validating a structural model of the mediating effect of perceived personal competence. *The Spanish Journal of Psychology, 13*, 284–296. doi:10.1017/S1138741600003863
- Ndahepele, M. R., Daniels, E. R., Nabasenja, C., & Damases-Kasi, C. N. (2018). Factors contributing to stress among radiography and nursing students at University of Namibia. *South African Radiographer, 56*, 20–25.
- Nelson-Wong, E., & Callaghan, J. P. (2010). Is muscle co-activation a predisposing factor for low back pain development during standing? A multifactorial approach for early identification of at-risk individuals. *Journal of Electromyography and Kinesiology, 20*, 256–263. doi:10.1016/j.jelekin.2009.04.009
- Nielsen, M. B., Matthiesen, S. B., & Einarsen, S. (2008). Sense of coherence as a protective mechanism among targets of

- workplace bullying. *Journal of Occupational Health Psychology*, 13, 128–136. doi:10.1037/1076-8998.13.2.128
- Nielsen, M. B., Skogstad, A., Matthiesen, S. B., Glasø, L., Aasland, M. S., Notelaers, G., Einarsen, S. (2009). Prevalence of workplace bullying in Norway: Comparisons across time and estimation methods. *European Journal of Work and Organizational Psychology*, 18, 81–101. doi:10.1080/13594320801969707
- Nielsen, M. B., & Einarsen, S. (2012). Outcomes of exposure to workplace bullying: A meta-analytic review. *Work and Stress*, 26, 309–332. doi:10.1080/02678373.2012.734709
- Nielsen, M. B., Hetland, J., Matthiesen, S. B., & Einarsen, S. (2012). Longitudinal relationships between workplace bullying and psychological distress. *Scandinavian Journal of Work, Environment & Health*, 38, 38–46. doi:10.5271/sjweh.3178
- Nixon, A. E., Mazzola, J. J., Bauer, J., Krueger, J. R., & Spector, P. E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, 25, 1–22.
- Notelaers, G., De Witte, H., Vermunt, J., & Einarsen, S. (2006). Pesten op het werk, gewikt engewogen: Een latente klassen benadering op basis van de negatieve Acts-vragenlijst [How to measure bullying at work? A latent class analysis of the Negative Acts Questionnaire]. *Gedrag en Organisatie*, 19, 149–160.
- Nurul, I., Haslinda, A., Saidi, M., Shamsul, B., & Zailina, H. (2010). Prevalence of low back pain and its risk factors among school teachers. *American Journal of Applied Sciences*, 7, 634–639.
- O'Donnell, S. M., & MacIntosh, J. A. (2016). Gender and workplace bullying: men's experiences of surviving bullying at work. *Qualitative Health Research*, 26, 351–366. doi:10.1177/1049732314566321
- Olkinuora, M., Asp, S., Juntunen, J., Kauttu, K., Strid, L., & Äärimala, M. (1990). Stress symptoms, burnout and suicidal thoughts in Finnish physicians. *Social Psychiatry and Psychiatric Epidemiology*, 25, 81–86.
- Oshio, T., Tsutsumi, A., & Inoue, A. (2015). Do time-invariant confounders explain away the association between job stress and workers' mental health?: Evidence from Japanese occupational panel data. *Social Science & Medicine*, 126, 138–144. doi:10.1016/j.socscimed.2014.12.021
- Österman, K., & Björkqvist, K. (2009). *DIAS-Adult*. Åbo Akademi University, Vasa, Finland.
- 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, 766–772.
- Parent-Thirion, A., Fernández Macías, E., Hurley, J., & Vermeylen, G. (2007). *Fourth European Working Conditions Survey, Report*. European Foundation for the Improvement of Living and Working Conditions, Dublin: Official Publications of the European Communities. https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef0698en.pdf
- Pellegrini, P. G., Gonçalves, J., & Tolfo, S. D. R. (2018). Repercussions of workplace bullying on marital relationships. *Qualitative Research in Organizations and Management: An International Journal*, 13, 98–120.
- Perkiö-Mäkelä, M. (2010). Koulutus [Education]. In: T. Kauppinen et al. (Eds.), pp. 234–238. Työ ja terveystieteet Suomessa 2009 [Work and Health in Finland 2009]. Helsinki: Finnish Institute of Occupational Health.

- Peterson, U., Demerouti, E., Bergström, G., Samuelsson, M., Åsberg, M., & Nygren, Å. (2008). Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing*, *62*, 84–95.
- Picavet, H. S. J., & Schouten, J. S. A. G. (2003). Musculoskeletal pain in the Netherlands: Prevalences, consequences and risk groups, the DMC3-study. *Pain*, *102*, 167–178. doi: 10.1016/s0304-3959(02)00372-x
- Popov, S., Popov, B., & Damjanović, R. (2015). The role of stressors at work and irrational beliefs in the prediction of teachers' stress. *Applied Psychology*, *8*, 5–23.
- Premi, R., Ohly, S., Kubiceki, B., & Korunka, C., (2017). Thriving on challenge stressors: Exploring time pressure and learning demands as antecedents of thriving at work. *Journal of Organizational Behavior*, *38*, 108–123. doi:10.1002/job.2115
- Punnett, L., & Wegman, D. H. (2004). Work-related musculoskeletal disorders: the epidemiologic evidence and the debate. *Journal of Electromyography and Kinesiology*, *14*, 13–23.
- Purvanova, R. K., & Muros, J. P. (2010). Gender differences in burnout: A meta-analysis. *Journal of Vocational Behavior*, *77*, 168–185.
- Ramzan, M., & Riaz, A. (2013). Recognition of stress and manifestation of stress among university teachers. *Interdisciplinary Journal of Contemporary Research in Business*, *4*, 634– 647.
- Repetti, R., & Wang, S. (2017). Effects of job stress on family relationships. *Current Opinion in Psychology*, *13*, 15–18. doi:10.1016/j.copsyc.2016.03.010
- Riihimäki, H. (1995). Hands up or back to work—Future challenges in epidemiologic research on musculoskeletal diseases. *Scandinavian Journal of Work, Environment & Health*, *21*, 401–403.
- Riordan, C. M., & Griffeth, R. W. (1995). The opportunity for friendship in the workplace: An underexplored construct. *Journal of Business and Psychology*, *10*, 141–154.
- Rothmann, S., & Barkhuizen, N. (2008). Burnout of academic staff in South African higher education institutions. *South African Journal of Higher Education*, *22*, 439–456.
- Safaria, T. (2013). Job stress among academic staff: A cross-cultural Qualitative study. *International Journal of Public Health Science*, *2*, 43–58.
- Saïas, T., Du Roscoät, E., Véron, L., Guignard, R., Richard, J. B., Legleye, S., ... & Beck, F. (2014). Psychological distress in French college students: demographic, economic and social stressors. Results from the 2010 National Health Barometer. *BMC Public Health*, *14*, 256–264. doi: 10.1186/1471-2458-14-256
- Saleem, H. (2015). The impact of leadership styles on job satisfaction and mediating role of perceived organizational politics. *Procedia-Social and Behavioral Sciences*, *172*, 563–569. doi: 10.1016/j.sbspro.2015.01.403
- Schaufeli, W. B., & Buunk, B. P. (2003). Burnout: An overview of 25 years of research and theorizing. *The handbook of work and health psychology*, (2nd ed), 384–426.
- Schilpzand, P., De Pater, I. E., & Erez, A. (2016). Workplace incivility: A review of the literature and agenda for future research. *Journal of Organizational Behavior*, *37*, 57–88. doi: 10.1002/job.1976
- Schonfeld, I. S. (1992). Assessing stress in teachers: Depressive symptoms scales and neutral self-reports of the work environment. In J. C. Quick, L. R. Murphy, & J. J. Hurrell, Jr. (Eds.), *Stress and well-being at work: Assessment and*

- interventions for occupational mental health* (pp. 270–285). Washington, DC: American Psychological Association.
- Seidman, S. A., & Zager, J. (1991). A study of coping behaviours and teacher burnout. *Work & Stress, 5*, 205–216. doi:10.1080/02678379108257019
- Sheehan, M., McCabe, T. J., & Garavan, T. N. (2018). Workplace bullying and employee outcomes: A moderated mediated model. *The International Journal of Human Resource Management, 1*–38. doi:10.1080/09585192.2017.1406390
- Shirom, A. (1997). Teacher burnout in the Israeli education system: A review and an intervention strategy. *Studies in Educational Administration and Organisation, 21*, 61–101.
- Shoji, K., Cieslak, R., Smoktunowicz, E., Rogala, A., Benight, C. C., & Luszczynska, A. (2016). Associations between job burnout and self-efficacy: A meta-analysis. *Anxiety, Stress, & Coping, 29*, 367–386. doi:10.1080/10615806.2015.1058369
- Sias, P. M., & Cahill, D. J. (1998). From coworkers to friends: The development of peer friendships in the workplace. *Western Journal of Communication, 62*, 273–299. doi:10.1080/10570319809374611
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology, 1*, 27–41.
- Siegrist, J., Siegrist, K., & Weber, I. (1986). Sociological concepts in the etiology of chronic disease: The case of ischemic heart disease. *Social Science & Medicine, 22*, 247–253.
- Simon, M., Tackenberg, P., Nienhaus, A., Estryng-Behar, M., Conway, P. M., & Hasselhorn, H. M. (2008). Back or neck-pain-related disability of nursing staff in hospitals, nursing homes and home care in seven countries—results from the European NEXT-Study. *International Journal of Nursing Studies, 45*, 24–34.
- Sjøgaard, G., Sejersted, O. M., Winkel, J., Smolander, J., Jørgensen, K., & Westgaard, R. H. (1995). Exposure assessment and mechanisms of pathogenesis in work-related musculoskeletal disorders: significant aspects in the documentation of risk factors. In O. Svane & C. Johansen (Eds.), *Work and health: Scientific basis of progress in the working environment* (pp. 75–87). Copenhagen, Denmark: European Commission, Directorate-General V, Employment, Industrial Relations and Social Affairs.
- Skaalvik, E. M., & Skaalvik, S. (2009). Does school context matter? Relations with teacher burnout and job satisfaction. *Teaching and Teacher Education, 25*, 518–524. doi:10.1016/j.tate.2008.12.006
- Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education, 27*, 1029–1038. doi:10.1016/j.tate.2011.04.001
- Skaalvik, E. M., & Skaalvik, S. (2016). Teacher stress and teacher self-efficacy as predictors of engagement, emotional exhaustion, and motivation to leave the teaching profession. *Creative Education, 7*, 1785–1799. doi:10.4236/ce.2016.713182
- Skaalvik E.M., Skaalvik S. (2017) Teacher Stress and Teacher Self-Efficacy: Relations and Consequences. In: McIntyre T., McIntyre S., Francis D. (eds) *Educator Stress. Aligning Perspectives on Health, Safety and Well-Being*. Springer, Cham. doi:10.1007/978-3-319-53053-6_5
- Slišković, A., & Seršić, D. (2011). Work stress among university teachers: Gender and position differences.

- Archives of Industrial Hygiene and Toxicology*, 62, 299–307.
- Smith, C. S. (1995). An investigation of job-related coping strategies across multiple stressors and samples. In L. R. Murphy, J. J. Hurrell, Jr., S. L. Sauter, & G. P. Keita (Eds.), *Job stress interventions* (pp. 109–123). Washington, DC, American Psychological Association. <http://dx.doi.org/10.1037/10183-008>
- Smith, M.J., Karsh, B., Carayon, P., & Conway, F.T. (2003). Controlling occupational safety and health hazards. In J.C. Quick & L.E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 163–189). Washington, DC, American Psychological Association.
- Smith, D. R., Wei, N., Zhao, L., & Wang, R. S. (2004). Musculoskeletal complaints and psychosocial risk factors among Chinese hospital nurses. *Occupational Medicine*, 54, 579–582. doi:10.1093/occmed/kqh117
- Sobeih, T. M., Salem, O., Daraiseh, N., Genaidy, A., & Shell, R. (2006). Psychosocial factors and musculoskeletal disorders in the construction industry: A systematic review. *Theoretical Issues in Ergonomics Science*, 7, 329–344. doi:10.1080/14639220500090760
- Sojo, V. E., Wood, R. E., & Genat, A. E. (2016). Harmful workplace experiences and women's occupational well-being: A meta-analysis. *Psychology of Women Quarterly*, 40, 10–40. doi:10.1177/0361684315599346
- Song, S. H., & Olshfski, D. (2008). Friends at work: A comparative study of work attitudes in Seoul city government and New Jersey state government. *Administration & Society*, 40, 147–169. doi:10.1177/0095399707312827
- Sparrowe, R. T., & Liden, R. C. (1997). Process and structure in leader–member exchange. *Academy of Management Review*, 22, 522–552. doi:10.5465/amr.1997.9707154068
- Sparrowe, R. T., & Liden, R. C. (2005). Two routes to influence: Integrating leader–member exchange and network perspectives. *Administrative Science Quarterly*, 50, 505–535. doi:10.2189/asqu.50.4.505
- Spector, P. E., & O'Connell, B. J. (1994). The contribution of personality traits, negative affectivity, locus of control and Type A to the subsequent reports of job stressors and job strains. *Journal of Occupational and Organizational Psychology*, 67, 1–11. doi: 10.1111/j.2044-8325.1994.tb00545.x
- Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology*, 3, 356 – 366.
- Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist*, 45, 249–257. doi: 10.1080/00050067.2010.482109
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health—a meta-analytic review. *Scandinavian Journal of Work, Environment & Health*, 32, 443–462.
- Stoeber, J., & Rennert, D. (2008). Perfectionism in school teachers: Relations with stress appraisals, coping styles, and burnout. *Anxiety, Stress & Coping: An International Journal*, 21, 37–53. doi: 10.1080/10615800701742461
- Stokes, G., Henley, N., & Herget, C. (2006). Creating a culture of wellness in the workplace. *North Carolina Medical Journal*, 67, 445– 448.

- Stout, J. K., & Williams, J. M. (1983). Comparison of two measures of burnout. *Psychological Reports, 53*, 283–289.
- Tabatabaei, S., Jazani, R. K., Dolanghar, A. K., Rostami, K., & Najafi, Z. (2017). The relationship between rate and sources of job stress and musculoskeletal pains among the staff of one hospital in Tehran city, Iran. *Majallah-i Dānishgāh-i 'Ulūm-i Pizishkī-i Qum, 11*, 72–79.
- Tajvar, A., Saraji, G. N., Ghanbarnejad, A., Omid, L., Hosseini, S. S. S., & Abadi, A. S. S. (2015). Occupational stress and mental health among nurses in a medical intensive care unit of a general hospital in Bandar Abbas in 2013. *Electronic Physician, 7*, 1108–1113. doi:10.14661/2015.1108-1113
- Takahashi, A. N. (2016). Job stress in Japanese academia: The role of relative income, time allocation by task, and children. *Journal of Asian Economics 43*, 12–17. doi:10.1016/j.asieco.2016.01.004
- Tang, C. S. K., Au, W. T., Schwarzer, R., & Schmitz, G. (2001). Mental health outcomes of job stress among Chinese teachers: Role of stress resource factors and burnout. *Journal of Organizational Behavior, 22*, 887–901. doi: 10.1002/job.120
- Tehrani, N. (2004). Bullying: A source of chronic post traumatic stress. *British Journal of Guidance & Counselling, 32*, 357–366. doi:10.1080/03069880410001727567
- Travers, C. J., & Cooper, C. L. (1996). *Teachers under pressure: Stress in the teaching profession*. London, UK: Routledge.
- Turner, R. J. (2013). Understanding health disparities: The relevance of the stress process model. *Society and Mental Health, 3*, 170–186.
- Tytherleigh, M. Y., Webb, C., Cooper, C. L., & Ricketts, C. (2005). Occupational stress in UK higher education institutions: A comparative study of all staff categories. *Higher Education Research & Development, 24*, 41–61. doi: 10.1080/072943605200318569
- Tytherleigh, M. Y., Jacobs, P. A., Webb, C., Ricketts, C., & Cooper, C. (2007). Gender, health and stress in English university staff—Exposure or vulnerability?. *Applied Psychology, 56*, 267–287.
- Van der Doef, M., & Maes, S. (1999). The job demand-control (-support) model and psychological well-being: A review of 20 years of empirical research. *Work & Stress, 13*, 87–114. doi: 10.1080/026783799296084
- Van Droogenbroeck, F., Spruyt, B., & Vanroelen, C. (2014). Burnout among senior teachers: Investigating the role of workload and interpersonal relationships at work. *Teaching and Teacher Education, 43*, 99–109. doi:10.1016/j.tate.2014.07.005
- Van Vegchel, N., De Jonge, J., Bosma, H., & Schaufeli, W. (2005). Reviewing the effort-reward imbalance model: Drawing up the balance of 45 empirical studies. *Social Science & Medicine, 60*, 1117–1131. doi: 10.1016/j.socscimed.2004.06.043
- Vandenberghe, R., & Huberman, A. M. (Eds.). (1999). *Understanding and preventing teacher burnout: A sourcebook of international research and practice*. Cambridge, UK: Cambridge University Press.
- Vander Elst, T., Notelaers, G., & Skogstad, A. (2017). The reciprocal relationship between job insecurity and depressive symptoms: A latent transition analysis. *Journal of Organizational Behavior, 1–22*. doi: 10.1002/job.2250
- Varhama, L. M., & Björkqvist, K. (2004a). Conflicts, workplace bullying and burnout problems among municipal employees. *Psychological Reports, 94*, 1116–1124.

- Varhama, L. M., & Björkqvist, K. (2004b). Conflicts, burnout, and bullying in a Finnish and a Polish company: a cross-national comparison. *Perceptual and Motor Skills, 98*, 1234–1240.
- Von Thiele Schwarz, U. (2011). Inability to withdraw from work as related to poor next-day recovery and fatigue among women. *Applied Psychology, 60*, 377–396. doi:10.1111/j.1464-0597.2011.00440.x
- Wang, J., Lesage, A., Schmitz, N., & Drapeau, A. (2008). The relationship between work stress and mental disorders in men and women: findings from a population-based study. *Journal of Epidemiology & Community Health, 62*, 42–47.
- Wang, Y., Ramos, A., Wu, H., Liu, L., Yang, X., Wang, J., & Wang, L. (2015). Relationship between occupational stress and burnout among Chinese teachers: A cross-sectional survey in Liaoning, China. *International Archives of Occupational and Environmental Health, 88*, 589–597. doi: 10.1007/s00420-014-0987-9
- Watts, J., & Robertson, N. (2011). Burnout in university teaching staff: A systematic literature review. *Educational Research, 53*, 33–50. doi: 10.1080/00131881.2011.552235
- Wellen, K. E., & Hotamisligil, G. S. (2005). Inflammation, stress, and diabetes. *Journal of Clinical Investigation, 115*, 1111–1119.
- Wieclaw, J., Agerbo, E., Mortensen, P. B., & Bonde, J. P. (2005). Occupational risk of affective and stress-related disorders in the Danish workforce. *Scandinavian Journal of Work, Environment & Health, 31*, 343–351.
- Wilczyński, K. M., Swamad, M. A., Subotic, V., Wizner, D., Mazgaj, E., & Wajda, W. (2015). Factors influencing the levels of work engagement in physicians from Poland, Serbia and Bulgaria. *Psychiatria Danubina, 27*, 492–496.
- Wilhelm, K., Dewhurst-Savellis, J., & Parker, G. (2000). Teacher stress: An analysis of why teachers leave and why they stay. *Teachers and Teaching: Theory and Practice, 6*, 291–304. doi:10.1080/713698734
- Williams, S., & Cooper, C. L. (1998). Measuring occupational stress: Development of the Pressure Management Indicator. *Journal of Occupational Health Psychology, 3*, 306–321. doi:10.1037/1076-8998.3.4.306
- Winefield, A. H., Gillespie, N., Stough, C., Dua, J., Hapuarachchi, J., & Boyd, C. (2003). Occupational stress in Australian university staff: Results from a national survey. *International Journal of Stress Management, 10*, 51–63. doi: 10.1037/1072-5245.10.1.51
- World Health Organization, (2003). Protecting Workers' Health Series No. 5: Preventing musculoskeletal disorders in the workplace. http://www.who.int/occupational_health/publications/muscdisorders/en/index.html
- World Health Organization, (2007). Raising awareness of stress at work in developing countries: A modern hazard in a traditional working environment: Advice to employers and worker representatives. Protecting workers' health series; no. 6. World Health Organization, Geneva. http://www.who.int/occupational_health/publications/raisingawarenessofstress.pdf
- World Health Organization, (2014). http://www.who.int/features/factfiles/mental_health/en/
- World Health Organization, (2017). Depression and other common mental disorders: Global health estimates. <http://apps.who.int/iris/bitstream/10665/>

- 254610/1/WHO-MSD-MER-2017.2-eng.pdf
- World Medical Association (2013). Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, *310*, 2191–2194. <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>
- Wu, S., Zhu, W., Li, H., Wang, Z., & Wang, M. (2008). Relationship between job burnout and occupational stress among doctors in China. *Stress & Health*, *24*, 143–149. doi:10.1002/smi.1169
- Xu, L. (2017). Teacher–researcher role conflict and burnout among Chinese university teachers: A job demand–resources model perspective. *Studies in Higher Education*, 1– 17. doi:10.1080/03075079.2017.1399261
- Yamada, D. C., Duffy, M., & Berry, P. A. (2018). Workplace bullying and mobbing: definitions, terms, and when they matter. *Workplace bullying and mobbing in the United States, volume 1*.
- Yang, X., Ge, C., Hu, B., Chi, T., & Wang, L. (2009). Relationship between quality of life and occupational stress among teachers. *Public Health*, *123*, 750–755.
- Yıldırım, D. (2009). Bullying among nurses and its effects. *International Nursing Review*, *56*, 504– 511. doi:10.1111/j.1466-7657.2009.00745.x
- Yoo, G., & Lee, S. (2018). It doesn't end there: workplace bullying, work-to-family conflict, and employee well-being in Korea. *International Journal of Environmental Research and Public Health*, *15*, 1548– 1560.
- Yu, X., Wang, P., Zhai, X., Dai, H., & Yang, Q. (2015). The effect of work stress on job burnout among teachers: The mediating role of self-efficacy. *Social Indicators Research*, *122*, 701–708. doi:10.1007/s11205-014-0716-5
- Yue, P., Liu, F., & Li, L. (2012). Neck/shoulder pain and low back pain among school teachers in China, prevalence and risk factors. *BMC Public Health*, *12*, 789–796. doi:10.1186/1471-2458-12-789
- Zabrodska, K., & Kveton, P. (2013). Prevalence and forms of workplace bullying among university employees. *Employee Responsibilities and Rights Journal*, *25*, 89–108.
- Zapf, D., Escartín, J., Einarsen, S., Hoel, H., & Vartia, M. (2011). Empirical findings on prevalence and risk groups of bullying in the workplace. In *Bullying and harassment in the workplace: Developments in theory, research, and practice*, Boca Raton, FL: CRC Press.
- Zhong, J. I. E., You, J., Gan, Y., Zhang, Y., Lu, C., & Wang, H. (2009). Job stress, burnout, depression symptoms, and physical health among Chinese university teachers. *Psychological Reports*, *105*, 1248–1254.
- Zimbardo, P., Weber, A., & Johnson, R. (2003). *Psychology: Core concepts* (4th ed.). Boston, MA: Allyn & Bacon. *Psychological Reports*, *105*, 1248–1254.
- Zimbardo, P., Weber, A., & Johnson, R. (2003). *Psychology: Core concepts* (4th ed.). Boston, MA: Allyn & Bacon.

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Occupational Stress and Burnout among University Teachers in Pakistan and Finland

Occupational stress in universities is alarmingly widespread and, globally, university teachers are under stress due to a growing competitive environment. Therefore, there is a need to identify job stressors and to help universities to improve their work environment. This study investigates psychosocial concomitants of occupational stress and burnout among university teachers in Pakistan and Finland. Female teachers in both countries experienced more stress than male teachers. The percentage of sick leave due to burnout was significantly higher in Pakistan. In Pakistan, young university teachers were especially at risk of burnout. Workplace bullying was significantly more frequent in Pakistan. In both countries, good family relationships had a reducing effect on the link between workplace bullying and stress symptoms.

The research findings may hopefully be useful for universities in both developed and developing countries which aim at improving their work practices.