

Professional Fatigue: An Unseen Peril Slowly Annihilating Engaged Employees



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Over the past decade, and particularly in the past few years, employers and employees have faced human capital challenges and an uncertain economy. The economic downturn, global competition and ever emerging technologies have taken toll on the overall emotional and physical wellbeing of employees, resulting into burnout or professional fatigue which is affecting the otherwise highly engaged employees in not so positive manner. This paper is an attempt to bring into the notice the perils of professional fatigue which is slowly penetrating and bringing down the productivity and passion of engaged employees.

Preamble of the Professional Fatigue

The phrase "Professional Fatigue" has become part of everyday language in the last few years. Some use it as an excuse, some as a badge of honor and others as a negative symptom of the times in a fast changing society. The phrase encapsulates a kernel of truth wrapped in attractive language. In the past the word "fatigue" had often been used with reference to the people in the human service fields, but in an increasingly professionalized society it has come to encompass a vast segment of society including doctors, lawyers, executives, school teachers, social workers etc. The terms, Professional Fatigue, Job Burnout and Occupational Stress are used interchangeably, though few writers define it separately with little difference.

Professional Fatigue

Professional Fatigue has been defined as a psychological response to chronic interpersonal stressors in the work place manifesting feelings of emotional exhaustion, depersonalization, and lack of personal efficacy (Maslach, Schaufeli, & Leiter, 2001). Emotional exhaustion deals with the feeling of being overextended, drained and detached as a result of job-related stress (Maslach & Leiter, 2008; McLaurine, 2008; Parker & Wall, 1998). Depersonalization more commonly referred to as cynicism involves the feelings of distrust and skepticism of others and can result in one being callous, negative and excessively detached (Cook, 2006; Jackson & Maslach, 1982; Maslach & Leiter, 2008). Finally, the lack of personal efficacy can create feelings of low self-esteem and the feeling of not being able to achieve goals (Maslach & Leiter, 2008).

Professional Fatigue is characterized by exhaustion, lack of enthusiasm and motivation, feeling 'drained', and may also have the dimension of frustration and/or negative emotions and cynical behaviour, and as a result reduced professional efficacy within the workplace.

More accurately defined, "Professional Fatigue is a state of emotional, mental, and physical exhaustion caused by excessive and prolonged stress", thus in the emotional plan exhaustion refers to the depletion or draining of emotional resources, from which cynicism stem and cynicism refers to the indifference or distant attitude of work, and reduced professional efficacy refers to the lack of satisfaction with past/present expectations.

Professional Fatigue is typically and particularly found within human service professions. Such jobs that naturally experience high levels of Professional Fatigue include: social workers, nurses, teachers, lawyers, engineers, physicians, customer service representatives, and police officers. One reason why Professional Fatigue is so prevalent within the human services field is due in part, to the high stress work environment and emotional demands that might be independent of the effort exerted by the individual.

The individuals who are most vulnerable to Professional Fatigue are ones who are strongly motivated, dedicated, and involved in the work in which they partake. As work for these individuals is the source of importance in which they derive meaning in life, it is significant that they find meaning by achieving their goals and expectations. At the same time Professional Fatigue is a type of stress condition and as such results in concentration problems or decreased problem solving abilities. Thus the desire to achieve these high goals and expectations may collide with physical, emotional and mental exhaustion resulting from an inability to achieve them, which can lead to a type of burnout that may involve even a reflection on the failure to find meaning and growth in life. Usually Professional Fatigue is associated with increased work experience, increased workload, but also absences and time missed from work, it shows up as an impaired empathy and cynical attitudes toward clientele and/or colleagues, and thoughts of quitting. Professional Fatigue also affects social relationships and attitudes making interactions at home and at works difficult either because of the social withdrawal of the burned-out person or of making him more prone to conflict. Withdrawing is a type of defense mechanism but in fact this has a negative effect because of the importance of social interactions for one's well-being. Burnout problems may lead to general health problems because of the stress becoming chronic, symptoms like headaches, colds, and insomnia may appear together with overall tiredness. At this point the person may attempt self-medication like drinking alcohol, smoking, taking sleep pills, stimulants like coffee,

mood elevators, etc. which may pose a further risk for his health. However burnout itself is not an ailment and is not recognized as a neurosis.

On the other hand, stress can be defined as the emotional and physiological reactions to stressors. A stressor is a demand, situation or circumstance that disrupts a person's equilibrium and initiates the stress response of increased autonomic arousal. Prolonged stress is associated with chronic anxiety, psychosomatic illness and a variety of other emotional problems. Professional Fatigue is a particularly serious feature of chronic stress and one that can impair the human service worker's effectiveness. Professional Fatigue is a syndrome with dimensions of emotional exhaustion, depersonalisation, and reduced feelings of personal accomplishment. A key dimension of the Professional Fatigue syndrome is increased feelings of emotional exhaustion where workers feel they are no longer able to give of themselves at a psychological level. A second dimension is depersonalisation, meaning that workers respond to persistent stress by developing negative, cynical attitudes and feelings about their clients. The third dimension is reduced personal accomplishment, meaning the worker views their work negatively and feels dissatisfied with their work accomplishments.

Dr. Arch Hart has differentiated between the two in the following way:

- Professional Fatigue is a defense characterized by disengagement; Stress is characterized by over engagement.
- In Professional Fatigue the emotions become blunted; in Stress the emotions become over-reactive.
- In Professional Fatigue the emotional damage is primary; in Stress the physical damage is primary.
- The exhaustion of Professional Fatigue affects motivation and drive; the exhaustion of Stress affects physical energy.
- Professional Fatigue produces demoralization; stress produces disintegration.
- Professional Fatigue produces a sense of helplessness and hopelessness; stress produces a sense of urgency and hyperactivity.
- Professional Fatigue produces paranoia, depersonalization and detachment; stress produces panic, phobic, and anxiety-type disorders.
- Professional Fatigue may never kill you but your long life may not seem worth living; stress may kill you prematurely, and you won't have enough time to finish what you started.

Employee Engagement

Employee engagement is the level of commitment and involvement an employee has towards his or her organization and its core values and beliefs. An engaged employee is presumed to be aware of business context, and work dynamics with colleagues and peer groups to improve performance within the job for the benefit and excellence of the organization. It is a positive attitude held by the employees towards the organization and its values.

Professional Fatigue and work engagement

Professional Fatigue is characterized by exhaustion (draining of mental energy), cynicism (a negative attitude towards work) and reduced professional efficacy (the belief that one is no longer effective in fulfilling one's job responsibilities) (Maslach et al., 2001). Green, Walkey, and Taylor (1991) refer to exhaustion and cynicism as the core components of Professional Fatigue, which is illustrated by the relatively low correlations of professional efficacy with both other components (Lee & Ashforth, 1996). Furthermore, professional efficacy shows a different pattern of correlations with other work-related variables (Lee & Ashforth, 1996), and seems to develop in parallel to exhaustion and cynicism (e.g., Leiter, 1992). In contrast to Professional Fatigue, work engagement is defined as a positive, fulfilling, work-related state of mind, characterized by vigor (high levels of energy while working, willingness to invest effort in work, and persistence in the face of difficulties), dedication (sense of enthusiasm, inspiration, pride, and challenge), and absorption (being happily engrossed in one's work, whereby time passes quickly and one has difficulties detaching) (Schaufeli, Salanova, Gonz lez-Roma, & Bakker, 2002b). Vigor and dedication are considered as the core dimensions of work engagement (Schaufeli & Bakker, 2004), whereas absorption resembles flow, a state of optimal experience (Csikszentmihalyi, 1990) and seems to act as a consequence of work engagement. Professional Fatigue and work engagement are independent states that are negatively, but not perfectly, related (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001; Schaufeli & Bakker, 2004; Schaufeli et al., 2002b). More particularly, vigor and dedication are the direct positive opposites of exhaustion and cynicism, respectively (Gonz lez-Roma, Schaufeli, Bakker, & Lloret, in press). Schaufeli and Bakker (2001) proposed a particular positioning in the existing two-dimensional model that consists of activation and a pleasure dimension. They presume that the activation dimension is spanned by exhaustion and vigor, whereas the pleasure dimension is likewise spanned by cynicism and dedication. In the present paper, we state that due to Professional Fatigue, work engagement can be affected. This seems plausible since these two dimensions seem to overlap with the dimensions that are used to conceptualize affect (e.g., Russell & Carroll, 1999) and personality (e.g., Clark & Watson, 1999; Eysenck, 1990).

1. Introduction

In modern society, quality management and service on the job represent a challenge for individuals and organizations. In this context, organizations should use strategies to foster healthy work conditions, with the goal of preventing and protecting the worker from currently pressing problems like work-related stress. Many of the studies related to psychological health of the employed people show that the unsuitable conditions of the work places left negative effects on the mental and psychological

health of the workers. This unsuitable condition can even be seen in the family life of the employed people. The pressures and psychological problems related to jobs can cause some bodily and mental consequences on the individuals and in spite of the continuing it may cause professional fatigue. Professional fatigue is a variable which has been under the spotlight by the scientists during the last years. This problem can be seen in the human society and work places. Professional fatigue is based on continues pressures and deadly professional fatigue. It even can make the individuals feel like lack of energy and a need for preserving their job position. Professional fatigue is often common in the jobs which they directly spend much time with their clients or directly have contacts with their customers. These factors could be a start for suffering from Professional fatigue tensions which in the end causes the falling of working quality and presenting services.

Why to give importance to stress

Issues of employee wellbeing have never been more important than now (Cropanzano & Wright, 2001). Research related to the wellbeing of employees is necessary; not only because of the happy-productive worker thesis, but also because of claims that many people are unhappy (Myers & Diener, 1997). Work represents an important context for studying the wellbeing of individuals, especially because it provides a source of income that impact on various life roles, and because it demands a significant part of individuals' time and energy. Work also ranks high among the determinants of life satisfaction. Regarding the relationship between professional fatigue and work engagement, research has shown that even when exposed to high job demands and working long hours, some individuals do not show symptoms of disengagement. Instead, they seem to find pleasure in dealing with these stressors (Schaufeli & Bakker, 2004).

Stress is a significant and expensive workplace challenge for employees and employers. For example, it has been estimated that workplace stress costs in US employers only, an estimated \$200 billion dollars a year through absenteeism, decreased productivity, turnover, workers compensation claims and health insurance costs (Maxon, 1999). In fact, health care expenditures are nearly 50% more for employees who report having high levels of stress, additionally, work stress has been exacerbated by the current economic downfall; unemployment is the highest it has been in at least 10 years (9.4%) (BLS, 2010), with stress symptoms, including turnover, being at 10 year highs (Segal, Howitz, Jaffe-Gill, Smith & Segal, 2010). The economic downfall has only added to the level of stress of employees, and the poor state of the economy only feeds this issue through reorganization and layoffs. Employees who have kept their jobs through this economic recession fear losing their jobs to new technology or are faced with retraining and extra work to accommodate the loss of other employees (Maxon, 1999). Employees are distracted by worries of losing their job through budget cuts and layoffs resulting in increased fear, uncertainty and stress levels. Demands such as time, energy, and exertion on employees have increased, while resources such as money, technology and support are shrinking, generally to the detriment of the employees' well-being and personal lives (Cartwright & Holmes, 2006). This can lead to frustration and disenchantment among employees who instead look for a different outlet (Bunting, 2004). In fact, to put it bluntly, stress can be a killer. Studies have shown that stress can cause deterioration in many organs and systems of the body, including the heart, and can weaken the immune system (Science Daily, 2008). Minimizing job stress could be a productive endeavor for organizations. In addition, researching some of the factors of stress such as conflict, ambiguity and overload can help us better identify when stress is present. Reducing these stress levels through increased engagement will increase productivity and retention of key personnel through the reduction of stress and subsequent professional fatigue. As these statistics suggest, stress is a significant workplace problem for employees and their employers. As noted earlier, previous research has found that work related stress takes a toll on the employee by contributing to increased professional fatigue and decreased engagement, which in turn, can take a toll on the organization through decreased productivity, decreased retention and decreased reliability (Bryner, 2006; Weaver, 2003). As a result, it is imperative that empirical research be done exploring the role that work-related stress has on employee professional fatigue, engagement and turnover intent, and also to determine empirically what mediates these relationships. This is the purpose of this study. Regarding stress and professional fatigue more than half of all workers say they work under a great deal of stress with 77% reporting that they feel burned out on the job (Careerbuilder.com, 2009). Over 75% of employees report some type of stress symptom in any given month, including physical and psychological symptoms (American Psychological Association Study, 2007). The Cleveland Clinic (2010) reports that when one's job lacks positive stress (a healthy level of stress that keeps us motivated and challenged) that person can develop the symptoms of professional fatigue (decreased efficiency and productivity, boredom, depression and negative attitude); with resignation from ones' position as the ultimate effect of professional fatigue. Multiple studies have found positive correlations between work stress and professional fatigue, showing that as stress increased, Professional Fatigue also increased (Devereux, Hastings, Noone, Firth & Totsika, 2009; Fogarty, Singh, Rhoads & Moore, 2000; Lee & Ashforth 1996). This increase in Professional Fatigue could result in an abundance of employees who are emotionally exhausted, physically fatigued and cognitively weary (Bryner, 2006). Regarding stress and employee engagement, a study by the Research Works (2009) group of the American Psychiatric Association found multiple studies that report that decreased resources, low level of support and high stressor levels were found in employees with low engagement. Providing job resources was effective in reversing this trend and increasing engagement. With the current economic concerns it is even more important to keep an organization's employees engaged or end up losing the best employees.

In addition, the engagement level of employees has been found to decrease when presented with increased stress (Hakanen, Bakker and Schaufeli, 2006; and Koyuncu, Burke and Fiksenbaum, 2006). Studies have shown that only 29% of active employees are fully engaged with the job and 19% of these employees are actually disengaged (BlessingWhite, Inc; 2008). For an employee and his/her organization, this can make a big difference in productivity and outcomes. More recent research

has been focusing on the correlations of engagement and business performance. This research is consistently finding that increased engagement equals increased productivity. For example, a study by Towers Perrin (2010) found that firms who were considered high engagement had earnings per share growth rate of 28% while those organizations considered low engagement actually had an 11.2% decline. Gallup's research shows that disengaged employees actually cost US organizations up to \$350 billion in lost productivity. Recent research involving stress, engagement and professional fatigue has raised several important questions. One question is if it is better to measure engagement or professional fatigue levels of an individual or of that of the unit or entire organization. Macey and Schneider (2008) reported that in order for the research to be helpful to organizations, the research should be completed on the organization rather than on the individual. Human resource development (HRD) has tended to focus on the individual, the unit, and the organization. Another point to consider is what relationship, if any, would be introduced by using antecedents and mediators. Would work role stress as an antecedent have any effect on professional fatigue and/or engagement? What part would these constructs or others, even unknowns, play regarding a relationship to engagement and professional fatigue? Would introducing mediators make a difference, specifically mediators that focus on the work environment?

2. Position and the Concept of Professional Fatigue

Stress could be so unhealthy for the personnel's and the organizations due to its consequences based on the research in recent years. Disease, Stress and professional fatigue are some examples of the consequences which come from the factors of working places. There could be a direct relation between job stress and health. Stress set the stage for disease acceleration and professional fatigue is a reflection of gathering stress making job condition. In fact, there is direct relation between the worse working places and mental and psychological health which finally sets the stage for preparing professional fatigue. Job stress could be the reason behind the gathering stress making factors and the conditions related to job. Most people accept the stress making one. In other words, the job stress is for a special individual on a special job. This problem is followed by being pessimistic about the values of others work and losing the feeling of being valuable. The psychological sensitivity in each job is a good stage for stress and jobs accidents, so prevention of professional fatigue as the main issue of public healthcare is under the spotlight. In 1974, Freudenberger used the term Professional Fatigue to describe a situation of physical and emotional exhaustion among young social workers who were employed in substance abuse projects. He pointed at the finding that especially idealistically motivated individuals run the risk of becoming emotionally exhausted. They work too hard, too long and are involved in too many troubles. They act in this way because of their emotional engagement in their work, which is also characterized by cherishing unrealistic expectations. In 1981 Maslach and Jackson re-examined Professional Fatigue and developed generally accepted Professional Fatigue model and defined Professional Fatigue as emotional exhaustion, increase in desensitization and decrease in personal accomplishment feeling.

Professional fatigue is a reflection of emotional exhaustion, lack of energy, bodily tiredness, psychological diseases, increase of alcoholism and drugs, being pessimistic, Angry, Depression, and lack of individual success. Bodily and emotional exhaustion are the effects of Professional fatigue which includes being pessimistic on your job, resigning and having negative feelings toward the customers and the clients. In other words, this syndrome is related to bodily problems, psychological health and variables of job performance like being unsatisfied about job, absenteeism and efficacy. Professional fatigue cause the emotional sources of the individuals diminish. Today, it's estimated that around 3% to 7% of the employed population across the world are suffering from professional fatigue. Professional fatigue is recognized as a special job related disease which happens due to stresses related to work place in service provider jobs. Because of this bodily and emotional exhaustion is created in the personnel's. This disease has three dimensions which include emotional exhaustion, depersonalization and lack of individual success. In investigating the Professional Fatigue problem, we should notice that the Professional Fatigue is indeed the consequence of continues working which could be gradually disappeared by taking some rest. The symptoms of professional fatigue disease are a lot and we should not mistake this kind of professional fatigue with ordinary and temporarily tiredness. This disease is like an internal tiredness and anxiety feeling which has some effects on emotional and physical aspects of employed individuals. Finally it causes the reduction of mental and psychological health and diminishes the ability. Although researchers has been working on professional fatigue for three decades, but there are still some doubts on this ,for example some of them recognize professional fatigue a kind of stress or Depression by mistake, while researchers recognize job stress an overpressure which is imposed on individuals while working. Practically, professional fatigue is a personal pattern response to job stress. This kind of fatigue is also different with Depression, since job Depression is related to work, while Depression by itself affects all aspects of personal life Based on Maslach multi dimension theory, Professional fatigue factors are as the following:

Emotional exhaustion. It's a kind of tiredness which shows the base of individual tensions. It suggests the feelings which cause the reduction of individual excitements and start of a new work especially if the tiredness stays for a long time. Emotional exhaustion dimension is recognizable through physical, mental and emotional statues. The researches have shown that emotional exhaustion is toper than to w dimensions of Depersonalization and efficacy emotion.

Depersonalization. It's related to more or less negative responses of the individuals toward different working condition which cause creation of negative view, the feeling of being unacceptable and in the end creation of a gap between the individuals and their jobs.

The third aspect of *decrease in personal accomplishment* feeling: it's related to lack of capacity and success of the individuals which are related to job.

The Difference of Professional Fatigue with Stress

Professional fatigue often considered in the framework of researches related to stress. Stress making jobs are mostly united with the feeling of pressure than professional fatigue, while the importance of job is mostly in contact with professional fatigue than job pressures. Professional fatigue is mostly related to the results and consequences; like lack of happiness in job, desire to leave the job, bodily symptoms and the level of the perceived performance than job Pressures. Schoufeli and Enzmann both recognize Professional fatigue as a special kind of long term professional stresses which are the results of inter individual needs. Moreover, there are some evidences which prove that Professional Fatigue is not always the result of high stress

Ways for Preventing Professional Fatigue

The plans for prevention of professional fatigue are either related to the individuals or to the organization. They may also be a combination of personal attendance. Individual plans which prevent professional fatigue have usually some programs for increasing job proficiency, prevention skills, social supporting and different relaxation exercises. In organization level, this plan usually focuses on methods like reconstructing job duties, goals of analyzing jobs, reducing job demands and attending in decision making. Those individuals who attend in prevention programs usually face less stress compared to others, so it's expected such plans result in positive mental effects and prevention of professional fatigue.

Individual strategies for overcoming

Practical resignation is a response to thoughts, feelings and unwanted excitements which individuals try to avoid from due to bad experiences which may disturb their performance. So we have presented some solutions to overcome this problem. By these solutions we can reduce or stop side effects of professional fatigue. Here are some suggested individual solutions:

- If possible, physical or psychological conditions must be changed. If a person is not able to create such changes, then he should modify some of his behaviors and also he should not accept the responsibilities he think he can't deal with.
- Using special methods of Relaxation. On the very first session, its effects on the individuals should be determined.
- Finally, in spite of lack of effect, you may temporarily change our job or position and do another business.

Organization Strategies of Overcoming

- One of the duties of management in every organization is to make less the pressures imposed on individuals in the organizations. Organizations mostly bring psychological pressure on their personnel's on different fields. There are some ways for preventing stressful elements which organizations can take.
- Using scientific methods in choosing and appointing human resources.
- Holding suitable training courses. Of course you should notice that factors like planning, designing and performing such courses must be based on the results of statistics of jobs among attendants during the courses.
- Methods like punishing should be done less than before. If the personal are going to work under better supervisions, you may use conditional conditions. So when they show a good behavior you may boast them and not use punishment ways.

3. Conclusion

No one knows exactly how many of us are currently burned out or flickering fast in that direction. Many organizational psychologists, however, suspect that the problem has risen dramatically in recent years, thanks to a series of economic forces that keep nudging up the thermostat: global competition, downsizing, and outsourcing. Increasingly we work in job settings in which human values place a distant second behind economic ones. What inspires us to work well and work hard is ignored. In uncertain times, organizations need to focus on harnessing the discretionary effort that engaged employee. This makes a difference in how companies are affected during the economic downturn, how quickly they emerge from it, and how strong they are in the future after the downturn passes.

4. References

1. A. Shukla and T. Trivedi, "Burnout in Indian Teachers ", *Asia Pacific Education Review*, Vol. 9 , No.3 , pp. 320-334, 2008.
2. B. Kang, N. Twigg and J. Hertzman, "An examination of social support and social identity factors and their relationship to certified chefs' burnout ", *International Journal of Hospitality Management*, Vol. 29 , pp.168-176, 2010.
3. Brown, C., & O'Brien, K. (1998) Understanding Stress and Burnout in Shelter Workers. *Professional Psychology: Research and Practice*, 29, 383-385.
4. D. Clutterbuck, "Learning from Burnout ", *International Journal of Evidence Based Coaching and Mentoring*, Vol.7, No.1, February. PP 188-189, 2009.
5. Demerouti, E., Bakker, A. B., Janssen, P. P. M., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment & Health*, 279-286.
6. Demerouti, E., Bakker, A.B., Nachreiner, F. & Ebbinghaus, M. (2002). From mental strain to burnout. *European Journal of Work and Organizational Psychology*, 11, 423-441.
7. E. Demerouti, B. Bakker, B. Arnold, and W. Schaufeli, "Spillover and crossover of exhaustion and life satisfaction

- among dual-earner parents ” , *Journal of Vocational Behavior*, 67, pp. 266–289, 2005.
8. E. Grau-Alberola, P. R. Gil-Monte, J. A. a-Juesas, and H.Figueiredo-Ferraz, “Incidence of burnout in Spanish nursing professionals: A longitudinal study,” *Int. J. Nurs. Stud.*, 2010, doi:10.1016/j.ijnurstu.2009.12.022.
 9. F. Akça, B. Yamana, “ The Effects of internal-external locus of control variables on burnout levels of teachers” , *Procedia Social and Behavioral Sciences*, 2 ,pp 3976–3980, 2010. Available online at www.sciencedirect.com.
 10. F. T. Chiang, T. A. Birtch and H. Kwong Kwan, “ The moderating roles of job control and work-life balance practices on employee stress in the hotel and catering industry”, *Journal of Vocational Behavior*, Vol. 76,pp.68–77, 2010.
 11. J. Kh. Saleh, J. Campbell, E. S. Wesley., M. Novicoff., A. Wendy and T. Einhorn “Recognizing and Preventing Burnout among Orthopaedic Leader ”, *Clin Orthop Relat Res*, Vol. 467 , pp. 558–565, 2009.
 12. Jackson, S. E. & Maslach, C. (1982). After-effects of job-related stress: Families as victims. *Journal of Occupational Behavior*, 3, 63-77.
 13. K. Ahola and J. Hakanen, “Job strain, burnout, and depressive symptoms: A prospective study among dentists ” , *Journal of Affective Disorders* 104, pp 103–110, 2007.
 14. K. Ahola, M. Kivimaki, T. Honkonena, M. Virtanen, S. Koskinen, J. Vahtera and J. Lonnqvist, “Professional Fatigue and medically certified sickness absence: A population-based study of Finnish employees” , *Journal of Psychosomatic Research*, Vol.64, pp 185–193, 2008.
 15. K. Ahola., A. Vaananen, A. Koskinen, A. Kouvonen and A. Shirom, “Burnout as a predictor of all-cause mortality among industrial employees: a 10-year prospective register-linkage study” , *Journal of Psychosomatic Research*, 5 January, pp 1-7, 2010.
 16. K. Kounenou, G. Koumoundourou, E. Makri-Botsari, “Greek school career Counselors competencies and burnout Syndrome ”, *Proscenia Social and Behavioral Sciences*, Vol. 2 pp.1890–1895, 2010.
 17. Koeske, G. & Koeske, R. (1989). Workload and burnout: Can social support and perceived accomplishment help? *Social Work*, May, 243–248.
 18. Lee, R. & Ashforth, B. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81(2), 123-133.
 19. Leiter, M. & Robichaud, L. (1997). Relationships of occupational hazards with burnout: An assessment of measures and models. *Journal of Occupational Health Psychology*, 2(1), 35-44.
 20. M. E. L. Iglesias, R. B. B. Vallejo and P. S. Fuentes, “ the relationship between experiential avoidance and burnout syndrome in critical care nurses: A cross-sectional questionnaire survey ”, *International Journal of Nursing Studies*, Vol 47, pp30–37, 2010.
 21. M. Galanakis, M. Moraitou, J. Garivaldis and S. A. Filia, “Factorial Structure and Psychometric Properties of the Maslach Burnout Inventory (MBI) in Greek Midwives”, *Europe’s Journal of Psychology*, Vol.4 , pp. 52-70, 2009.
 22. Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52,397-422.
 23. Maslach, C., Schaufeli, W.B. & Leiter, M.P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397–422.
 24. P. A. Rupert and J. S. Kent, “Gender and work setting differences in career- sustaining behaviors” and burnout among professional psychologists”, *Professional Psychology: Research and Practice*, Vol 38, pp 88–96, 2007.
 25. Posig, M. & Kickul, J. (2003). Extending our understanding of human burnout: Test of an integrated model in no service occupations. *Journal of Occupational Health Psychology*, 8(1), 3-19.
 26. R. Webster , J. A. Beehr , T. D. Christianse, “Toward a better understanding of the effects of hindrance and challenge stressors on work behavior ” , *Journal of Vocational Behavior* , Vol.76, pp.68–77,2010.
 27. Schutte, N., Toppinen, S., Kalimo, R., & Schaufeli, W. B. (2000). The factorial validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across nations and occupations. *Journal of Occupational and Organizational Psychology*, 73, 53-66.
 28. Sethi, V., King, R., & Quick, J. C. (2004). What causes stress in information systems professionals? *Communications of the ACM*, 47(3), 99-102.
 29. Toppinen-Tanner, S., Kalimo, R. & Mutanen, P. (2002). The process of burnout in white collar and blue-collar jobs: Eight-year prospective study of exhaustion. *Journal of Organizational Behavior*, 23, 555-570.
 30. W. B. Swider and D. R. Zimmerman “Born to burnout: A meta-analytic path model of personality, job burnout, and work outcomes ”, *Journal of Vocational Behavior*, 2010, Vol.76 , pp.487–506.
 31. W. L. Awa, M. Plaumann, U. Walter, “Burnout prevention: A review of intervention programs”, *Patient Education and Counseling*, Vol. 78 , pp.184–190, 2010.
 32. W. Tomic, D. M. Tomic and W. J. G. Evers, “A question of burnout among Reformed Church ministers in The Netherlands, Mental Health” , *Religion and Culture Volume 7*, Number 3, 225 – 247, September, 2004
 33. Westman, M., Etzion, D. & Danon, E. (2001). Job insecurity and crossover of burnout in married couples. *Journal of Organizational Behavior*, 22, 467–481.
 34. Y. Lee and S. Shin, “Job stress evaluation using response surface data mining ”, *International Journal of Industrial Ergonomics*, Vol. 40 , p.379-385, 2010
 35. Zastrow, C. (1984). Understanding and preventing burn-out. *British Journal of Social Work*, 14, 141–155.