

Quality of Working Life and Productivity: An Overview of the Conceptual Framework

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Abstract: *This study aimed to discuss some relationships regarding the Quality of Working Life (QWL) and human productivity performance. For this, a bibliographical review was raised achieving the theoretical foundation to support this discussion, the research question was: in nowadays is already possible to think in an effective quality of working live dissociated from productivity? From results, we evidenced that substantial loss of productivity was related with absenteeism presenteeism and several work-diseases, consequently decreasing the health and welfare of employee's. Moreover, the management of quality must influence the decisions of employee's, thus enhancing their commitment and insuring self-wellness, ergo increasing their productivity. Concluding, the harms which afflict humans are the result between the combinations of their work development with their lifestyle outside of work.*

Keywords: *Anthropotechnology, employment security, human relations, job satisfaction, work-life balance, work-diseases.*

1. INTRODUCTION

Ever since the concept Quality of Working Life (QWL) was first used over 30 years ago, ranges of definitions and theoretical constructions have been succeeded, mitigating the many problems facing this concept (Martel and Dupuis, 2006).

QWL has several interpretations, passing through the focus of medical diagnoses to the requirement of building structural elements for the development of a productive activity. Although it is a concern of very remote humans and the idea was always geared to facilitate or bring satisfaction and well-being to the employees in the execution of their tasks.

Work is a part of life that attracts the attention of many researchers. In one hand, regardless of incomes it provides some of the basic human necessities such as confidence, competence and value. In the other hand, it is a major source of stress together with other psychological and physiological diseases.

While over the last decade, emphasis was given on the personal life (outside of work) in nowadays the concept QWL has emerged as a main social subject in contemporary management on a global scale (Adhikari & Gautam, 2010). The empirical research on QWL has implicitly, if not explicitly, and has adopted a contemporary view of job satisfaction, stress, labour relations and a broad based view of occupation (Shahbazi et al., 2011). Although the research has uncovered important predictors regarding the QWL, however, it has been absent and not fully explored.

Studies regarding the influence of QWL on productivity are somewhat limited and require more inclusive research. Within this context this study aimed to discuss some relationships between the Quality of Working Life and the human productivity performance.

1.1 Quality of Life (QoL)

The World Health Organization defines QoL as an individual's perception of their position in life, in a context of culture and values in relation to their goals, expectations, standards, and concerns (Herrman et al., 1993).

A more contemporary interpretation points out that "Quality of Life is the gap between what a person is capable to doing and being, and what they would like to do and be, essentially this is the gap between capability and expectations" (Ruta et al., 2007).

Factors relevant to QoL may thus range from emotional functioning and happiness; through to material well-being and education, thereupon it is difficult to measure, not least with a single generic instrument (Kyle et al., 2010).

So quality of life (like happiness) is a general term, all of us know what it means, but for every patient quality of life has its own meaning for two reasons. First quality of life has many aspects. Are we talking about money and incomes, about the quality of an intimate relationship and family life, about satisfaction with work, or about bodily or mental health? Second we must differentiate how a particular patient is affected by a work disease (Riss and Kargl, 2011).

1.2 Quality of Working Life (QWL)

The term Quality of Working Life was originated from the concept of the open socio-technical system designed in the 1970s helping to ensure the autonomy in work, interdependence, and self-involvement with the idea of "best fit" between technology and social organizations. Although the open socio-technical system is a traditional concept, in practice it assumes that optimal system performance and the "right" technical organization coincide with those job conditions in which the social and psychological needs of the workers are satisfied (Bolweg, 1976).

As a concept QWL was first introduced at the International Labor Relations Conference in New York in 1972, aimed to share knowledge and initiate a coherent theory and practice on how to create the conditions for a "humane working life" (Ryan, 1995). Since then, QWL has gained substantial interest and importance among management researchers and practitioners (Rathi, 2009).

QWL is generally associated with a series of organizational objectives, conditions and practices which enables employees of an organization to perceive that they are virtually safe, satisfied and have better chances of growth and develop themselves as individual human beings.

In nowadays, QWL is globally drawing more attention. In our modern society people spend about more than one-third of their lives at their workplace. Hence, the eminence and importance of QWL is unparalleled and unquestionable (Ahmad, 2013).

When organization offers quality of work life to their employees, it is a good indicator to boost its image, consequently attracting and retaining employees. This is important as it indicates that firms are able to offer appropriate working environment to their employees (Noor & Abdullah, 2012).

The QWL is also a combination of strategies, procedures and ambiance related to a workplace that altogether, enhance and sustain the employee satisfaction by aiming at improving work conditions for the employees of the organizations (Nazir et. al, 2011).

Between this and that, quality of work life can be defined as the consideration for the exigency and longing of an employee with regards to the working conditions, remuneration, and chances of professional development, work-family, role-balance, safety and social interactions at workplace.

1.3 Evaluating the QWL

Several methods were developed in attempting to quantify several issues regarding QWL influence on productivity. However, the most of studies still adopt the Walton's concept.

Walton pointed out that the QWL is emphasized in humanistic values and social responsibilities and suggests that the QWL has eight dimensional constructs (Boonrod, 2009), as showed in Figure 1.

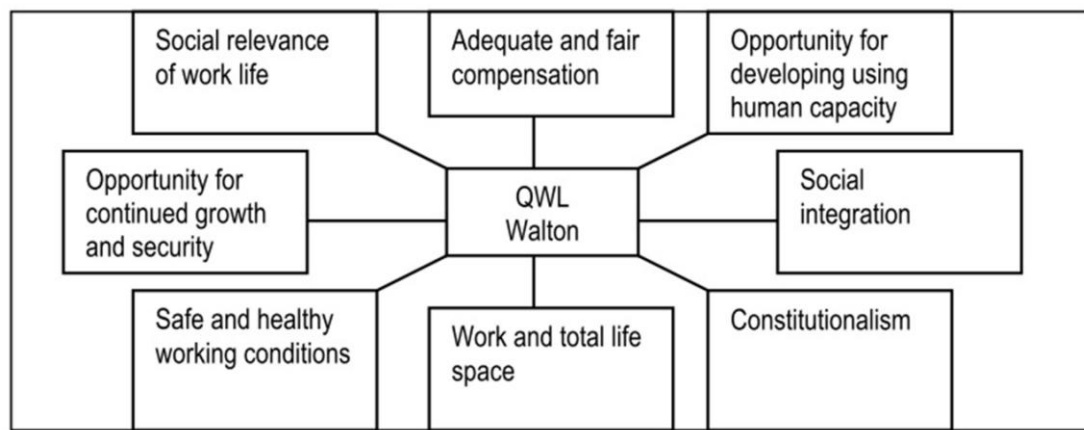


Figure 1. The eight dimensional constructs of Walton’s QWL

Source: (Kanten and Sadullah, 2012).

Walton proposed eight major conceptual categories: (1) adequate and fair compensation; (2) safe and healthy working conditions; (3) immediate opportunity to use and develop human capacities; (4) opportunity for continued growth and security; (5) social integration in the work organization; (6) constitutionalism in the work organization; (7) work and total life space; and (8) social relevance of work life (Tabassum et. al, 2011).

Despite the growing complexity of working life, the Walton’s eight-part typology of the QWL dimensions still remains a useful analytical tool (Daud, 2010).

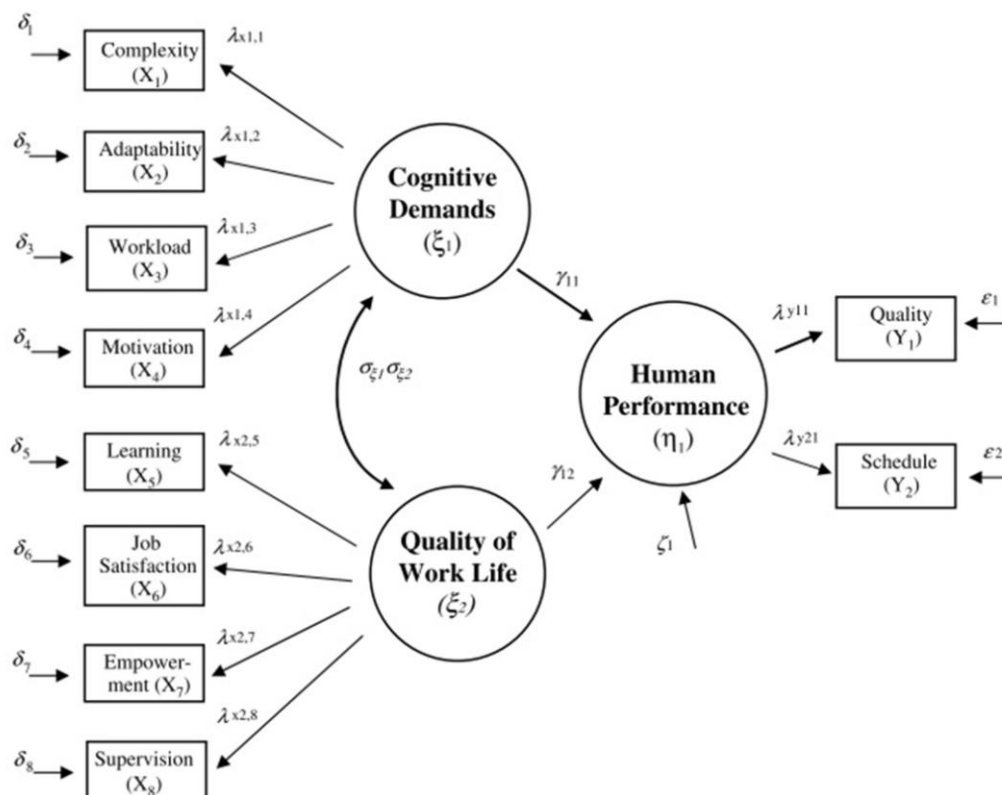


Figure 2. Specified structural equation model, indicating path coefficients and the independent latent variable of covariance.

Source. (Layer et al., 2009).

A method developed by Layer et al., (2009) implies that the human performance is associated with cognitive demands. This structural causal model hypothesizes that the relationships between particular tasks and human performance (the dependent variable) are enabled by the cognitive

demands utilized during the task and the quality of work life attributes experienced prior to and during the task, as showed in Figure 2.

In this case, the human performance indicated to be a causal result of the combined and uncorrelated effect of cognitive demands and quality of work attributes experienced by the workers. This causal relationship was found to be dependent on the context of, but not necessarily the time exposed to the particular task that the operator was involved with (Layer et al., 2009).

By another point of view, in recent years the idea of ethics institutionalization has attracted increased interest, with emphasis on improving work climate in business organizations.

A conceptual model developed by Koonmee et al., (2010) by investigating the association between institutionalization of ethics QWL, and employee job-related outcomes, suggests that ethics institutionalization positively influences the QWL.

However ethics and QWL are two intertwined work environment factors of organizations, ethics refers to the rules or standards governing the conduct of individuals or the members of a profession, while QWL refers to the perceptions in which the organizational environment meets the full range of employees' needs for their well-being at work (Koonmee et al., 2010), as showed in Figure 3.

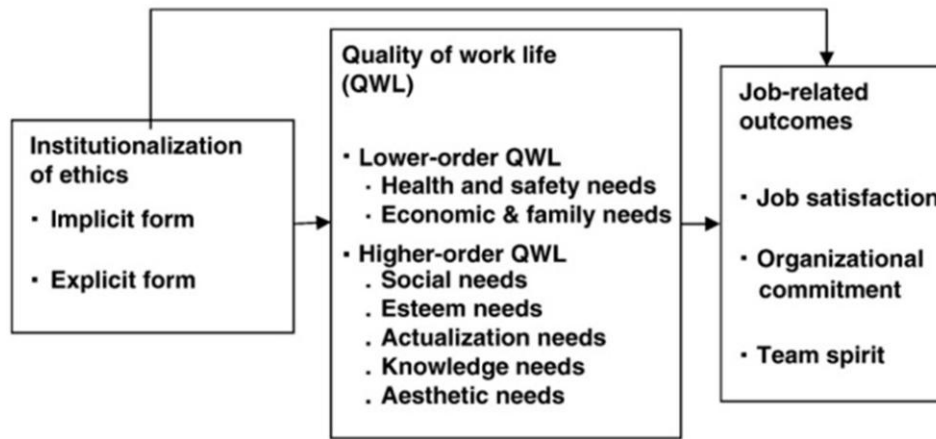


Figure 3. Ethics and QWL conceptual model
Source. (Koonmee et al., 2010).

Findings demonstrate that an implicit institutionalization of ethics was positively related with quality of work life and different job-related outcomes (job satisfaction, organizational commitment and team spirit).

Furthermore, a study developed by Marta et al., (2013) suggests that the institutionalization of ethics standards in businesses improves employees' perceptions about their QWL, in both developed and developing countries. Businesses can and should work toward institutionalizing these standards, regardless of whether governments mandate they do, as showed in Figure 4.

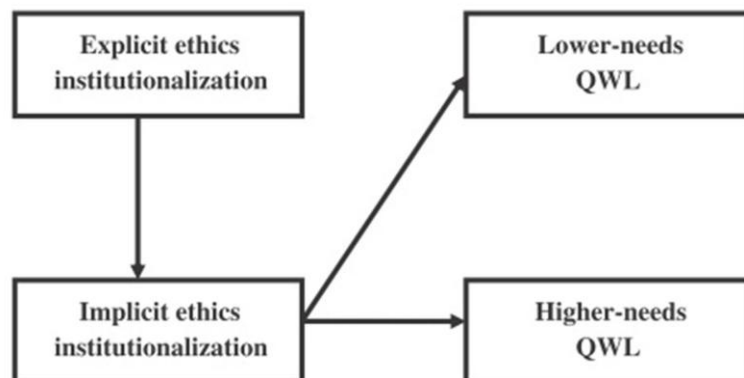


Figure 4. Ethics institutionalization conceptual model
Source: (Marta et al., 2013).

A more general model developed by Aziz et al., (2011) indicates the conceptual framework as the best plan to show the relationship of the independent variables and dependent variables, the dependent variable was the primary interest of the study whether this variable can be affected by any independent variable, as showed in Figure 5.

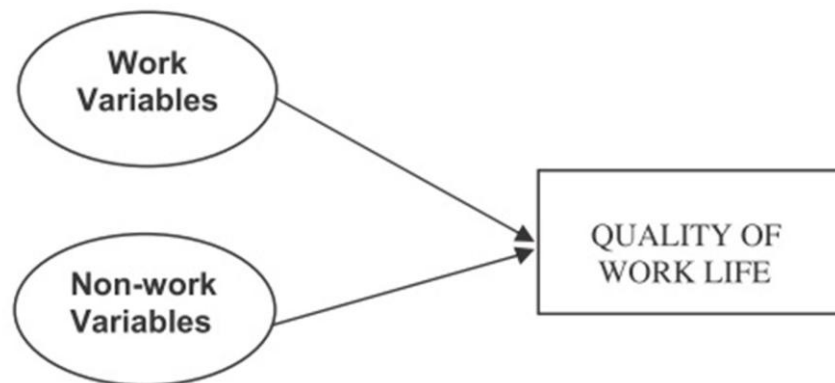


Figure 5. Relationship of the independent variables and dependent variable

Source: (Aziz et al., 2011).

Findings indicated that both work and non-work variables do matter in determining the quality of work life.

A study conducted by Dickson et al., (2012) when searching older working adults with cardiovascular disease, proposes a decision-making model of self-care and organization of work, as showed in Figure 6.

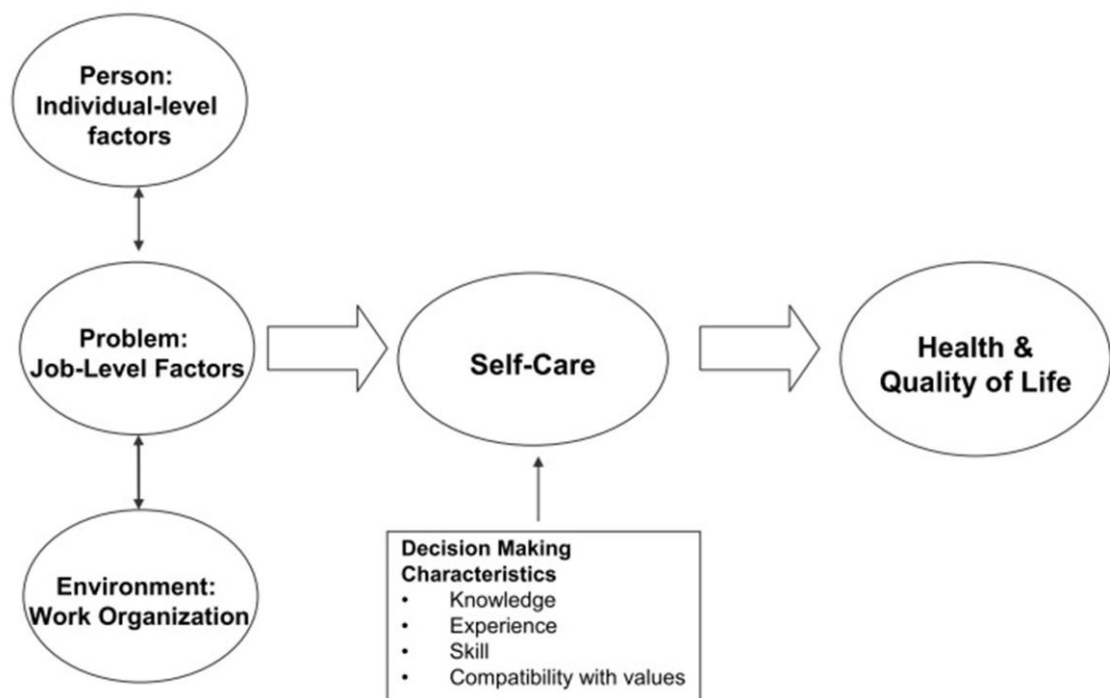


Figure 6. Decision-making model of self-care and organization of work.

Source: (Dickson et al., 2012).

According to the naturalistic decision-making framework of self-care, people's decisions are influenced by the interaction among the individual, the problem and the current setting or environment.

Applying this model, workers with cardiovascular diseases (CVD) must make daily decisions about engaging in self-care within the context of the workday. These decisions will have an effect on job-level factors, such as job demands, job control, workplace support, and work organization, e.g. workplace policies (Dickson et al. 2012).

All models those models are valid examples of efforts which have been undertaken in attempting to quantify and correlate the QWL, regardless the dependent and independent variables to be measured. However, the evolution of a model to be adopted depends on the cultural characteristics of the company or employment and the nature of the research.

Within this context, organizations need to pay greater attention to the practices and provide a productive and welcoming work environment conducive to their employees in gaining recognition to their career achievements. The organizations can and should formulate practical and effective plans to improve the working climate in order to achieve the desirable quality of work life (Aziz et al., 2011).

2 METHODS

A bibliographic review was performed raising the background supporting this discussion. This methodology provides systematic ways to assist the definition and resolution of known problems, also permits to explore new areas with a different approach, thereby producing new empirical findings. Furthermore, it allows the coverage of a range of phenomena much broader, especially when the research problem requires the collection of data widely dispersed in space (Stebbins, 2001).

2.1 Research Question and Hypothesis

The question guiding this study was: in our current model of living in society is it possible already to think in an effective QWL dissociated from the human productivity performance?

To answer the problem two hypotheses were formulated:

Hypothesis A – QWL influences productivity.

Hypothesis B – QWL does not influence productivity.

3 RESULTS AND DISCUSSION

The QWL assimilates two conflicting issues: the claim of the employees regarding the well-being and job satisfaction, and interest of organizations regarding their potential effects on productivity and quality.

Furthermore, QWL involves both intrinsic (content) and extrinsic (context) aspects from office. It affects personal attitudes and behaviors relevant to individual and group productivity, such as work motivation, adaptability to changes in the working environment, creativity and willingness to innovate and accept changes.

Thereupon it is important to consider several factors: 1) satisfaction with the work performed; 2) possibilities for future in the organization; 3) recognition of achievements; 4) salary received; 5) benefits accrued; 6) human relationship within the group and the organization; 7) psychological environment and physical work; 8) freedom and responsibility to decide; and 9) possibilities to participate.

In the one hand, the importance of human needs vary according to the culture of each individual and organization. Therefore, QWL is not only determined by the individual characteristics (needs, values, expectations) or situational (organizational structure, technology, reward system, internal policies), but especially for systemic action of these individual and organizational characteristics. In the other hand, the advent of modern technology has created a significant shift in the value placed on the benefits of industrialization, leading to reckoning its costs in what is known today as quality of work life.

The pressures of modern life have led to the stunted growth and development of the person which adversely affects his life experiences (Ouppara & Sy, 2012).

Thus the pursuit for productivity and quality became a major factor for companies providing quality of life within organizations and not outside them as compensatory mechanisms, as to promote the health and wellbeing of its employees, noting tasks, performances, professional development elements that QWL manage, you get increased motivation, satisfaction and workers performance.

It is necessary that the keep processes under control, so it is necessary that the raw materials, inputs and parts are in compliance with the technical specifications and procedures followed all stages of the production system, to be delivered products with the quality required by the customer effectively and efficiently, it is therefore necessary training and involvement by the people who will carry out these activities. Therefore, the quality of the product depends on the quality of life of the people involved.

A better QWL initiative supports to fulfill technical and social requirements of job in our organizations (Adhikari and Gautam, 2010). QWL is a comprehensive and expanded program that increases member satisfaction, reinforces their learning with the environment, and helps them to manage changes. Member dissatisfaction of QWL is a problem that harms all employees, without considering rank and situation (Mirkamali and Thani (2011). The aim of many organizations regards to increase member's satisfaction in all levels. However, this is a complex problem, because the separation and determination that what factors relate to QWL is difficult (Seraji, 2006).

Recognizing employees' efforts and demonstrating respect by seeking their opinions on matters that affect their personal and social lives, including not ignoring feedback on issues raised, not only can produce a favorable work environment but also show that the organization truly has the best interests of employees at heart (Penny & Joanne 2013). Therefore QWL, job satisfaction, organizational commitment and team spirit are generally recognized as essential factors in organizational productivity and performance (Koonmee et al., 2010).

The total quality of management in organizations depends crucially on the optimization of human potential, that is, depends on how well people feel about working in the organization. QWT is the degree in which members of the organization are able to satisfy their personal needs through their work in the organization.

Quality of working life can be simply defined by a collection of real work situations in an organization such as salaries and benefits, facilities welfare, health and safety, participation in decision making, democratic administration, richness and variety of jobs among others (Konrad and Mendel, 2000; Althin and Behrenz, 2005). Productivity can be defined as the system's success in using resources to achieve their goals. Revitalizing employees by improving their quality of work life is a key to organizational success.

3.1 Hypothesis A – QWL Influences Productivity

Today it is clear that merely increasing labor productivity doesn't mean much more work. Studies indicate that today's productivity and quality of working life are considered the main driving force for corporate performance. In recent years, quality of work life programs plays a key role in increasing labour productivity in many companies and large enterprises (Mousavi et al., 2011).

The world of competitive manufacturing demands that production systems must become more flexible, more adaptable, more productive, more cost efficient, more schedule efficient, and more quality driven (Lewis and Boyer, 2002).

In their quest to remain profitable in this environment, many corporations strive to maximize human and system performance associated with adaptable production processes that increase quality, decrease costs, or improve delivery schedules. Improving adaptability necessarily implies a focus on the human operator, the center of the manufacturing processes (Genaidy et al., 2005).

The rising complexity of the competitive business world and the cumbersome process of implementing effective social laws make ethics an important strategic factor in protecting companies from unwanted disasters.

During the last decade, the increasing effects of factors such as globalization, information technology, world business competitiveness, and limited natural resources have changed people's

views of how a good company is defined. In the past, financial figures were the major factor in defining “a good company” (Ferrel, 2008). Still with the same author, in recent years, ethics, QWL and job satisfaction are increasingly being identified as progressive indicators related to the function and sustainability of business organizations.

Indeed, in our ever-changing fast-paced society, determining what makes employees feel satisfied about their lives at work is vital so that human resources (HR) practitioners can deal with the policies and practices affecting employees effectively and efficiently.

Understanding whether employees have a good QWL is particularly crucial to hospitality and tourism organizations not only to respond to contemporary needs and demands but also to attract and retain skilled employees who may have responsibilities to balance work, family, and other life matters (Penny & Joanne 2013).

3.2 Hypothesis B – QWL Does Not Influence Productivity

Diverse studies related the influences of absenteeism and presenteeism together with several work–diseases on the human productivity performance. A major feature is techno stress, a negative psychological link between people and the introduction of new technologies. Psychological stress can manifest itself physically. Similarly there are a number of symptoms of technostress. One is anxiety, which can appear as: irritability, headaches, mental fatigue, depression, nightmares, panic, resistance, and a feeling of helplessness (Tarafdar et al., 2007).

Stress affects the individual performance in organizations, putting the health and hygiene at risk. Indeed in recent decades, stress and its effects has become one of the main features in the organizational behavior (Feizabadi et al., 2011).

The anxiety expressed by those which experiencing technostress can increase errors in judgement and poor job performance if not dealt with. Outcomes of technostress include decreased job satisfaction, organizational commitment and productivity (Riedl et al., 2012).

Another important feature is Gastro–Esophageal Reflux Disease (GERD), a chronic and costly disease that impairs health-related quality of life (HR–QOL) considerably. A previous study has shown that GERD symptoms adversely affect HR–QoL and QWL in the same way as other chronic diseases, such as back pain and headaches (Dean et al., 2003; Des Varannes et al., 2013).

The indirect costs of GERD, including reduced work productivity (presenteeism) and work loss (absenteeism), are higher than the direct costs. In fact, a 10% loss of work productivity due to GERD can reach a total GERD–related loss of \$75 billion per year, based on average wages in the United States in 2005 (Wahlqvist et al., 2006).

Recently, a study conducted in Korea concluded that GERD presented loss of work productivity of around 11.7 h/week per employee. The disease was associated with substantial work productivity loss, mainly due to presenteeism rather than absenteeism, in Korean full-time employees (Shin et al., 2012).

Studies focused on women’s urinary incontinence, proved that this disease greatly diminishes the QWL and consequently reduces productivity (Fitzgerald et al., 2002; Coyne et al., 2008; Riss & Kargl 2011).

Depression is another of the most prevalent workplace health problems. A recent report from the Office of Applied Studies of Substance Abuse and Mental Health Services Administration showed that 7.0% of adult full-time workers (10.1% for women vs. 4.7% for men) experienced a major depressive episode (MDE) during the past year (SAMHSA, 2007).

Another study focused on depression showed that substantial productivity loss arises from major depressive disorder and that this loss can be reduced with psychiatric intervention after a time period as short as 8 weeks. Mental health professionals should work with employers to devise a cost-effective system to provide workers with accessible quality care (Woo et al., 2011).

Studies regarding insomnia pointed that it is clear that insomnia does have a measurable negative impact on domains of QoL, and that these impairments are not simply limited to obvious domains, like vitality and energy, but also extend to other aspects of mental, social and physical functioning. Also, comparisons with other illnesses, linear trends with insomnia severity, and

additive effects of insomnia beyond a primary/co-occurring illness, all support and strengthen this perspective (Varkevisser & Kerkhof, 2005; Sivertsen et al., 2006; Kyle et al. 2010).

A previous study on endometriosis demonstrates that this disease impairs the work productivity across countries and ethnicities, yet women continue to experience diagnostic delays in primary care (Oehmke et al., 2009; Fourquet et al., 2010). Another study points out that each woman affected lost on average 10.8 hours of work weekly, mainly owing to reduced effectiveness while working. Loss of work productivity translated into significant costs per woman/week, from US\$4 in Nigeria to US\$456 in Italy. Heightened awareness of the disease in primary care should lead to earlier diagnosis, less suffering, and improved work productivity (Nnoaham et al., 2011).

Studies regarding emotional intelligence showed relationships with human productive performance (Khorshidi, 2008; Modassir, 2008). A recent study focused on the emotional intelligence of school principals found a positive correlation between quality of work life and emotional intelligence, and its subscales namely, self awareness, self management, relation control and social awareness. Furthermore, results demonstrated that the QWL of principals was high, but regarding the emotional intelligence, principals obtained lower means in comparison to the ideal mean of the questionnaire. Increasing the emotional intelligence can provide a better work environment for principals and consequently grow their performance (Farahbakhsh 2012).

Patients with anxiety disorders reported significantly lower QoL than the community sample. A shorter duration of illness was associated with lower quality of life (Quilty et al., 2003; Henning et al., 2007; Olatunji et al., 2007)

QWL is also correlated with severity of anxiety, depression and stress as well as with measures of disability and adjustment. Partial correlations indicated that depression did not significantly impact the relationship between work and social adjustment (Sudhir et al., 2012).

Studies concerning both occupational and work-related diseases, provides important opportunity for the action on prevention, improving the quality of working life, however these diseases constitute only a small portion of the current causes of mortality and morbidity among employees, although cardiovascular disease and other chronic degenerative may have direct or indirect relation with the evils aroused from the pressure developed in the workplace.

Positive associations were related between absenteeism, presenteeism and several work–diseases on productivity, consequently affecting the human performance, thereby supporting the first hypothesis (A). However there was not enough evidences supporting the hypothesis (B) thereupon rejecting this last hypothesis.

4 CONCLUSION

Today's productivity does not mean much more work, by the course of time labor relations have been change and the organizations begun to understand that QWL cannot be dissociated from the quality of human life, thereby affecting the human productivity performance even indirectly. The intensification of an increasing competitiveness in business and rapid changes require to companies' a greater ability to adapt itself to new realities and needs to achieve the total quality. A good management of QWL makes employees healthier, more committed, living more, working and producing more, wherefore reducing organizational spending. The analysis of the work and its dimensions should approach the worker as a whole, developing hypotheses about the relationship between the conditions and organization of work and demonstrations expressed, such as indirect fatigue, wear, discomfort, malaise or disease. The harms that afflict humans are the result between the combinations of their work development with their lifestyle outside work.

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REFERENCES

Adhikari DR and Dhruva KG (2010) Labor legislations for improving quality of work life in Nepal. *International Journal of Law and Management* 52(1): 40–53.

- Ahmad S (2013) Paradigms of Quality of Work Life. *Journal of Human Values* 19: 73–82.
- Althin R and Behrenz L (2005) Efficiency and productivity of employment offices: evidence from Sweden. *International Journal of Manpower* 26(2): 196–206.
- Aziz RA, Nadzar FM, Husaini H, Maarof A, Radzi AM, Ismail I (2011) Quality of work life of librarians in government academic libraries in the Klang Valley, Malaysia. *The International Information & Library Review* 43: 149–158.
- Bolweg JF (1976) Job design and industrial democracy: The case of Norway. *International Series of Quality of Work Life*, Martinus Nijhoff Social Sciences Division, 139p.
- Boonrod W (2009) Quality of Working Life: Perceptions of Professional Nurses at Phramongkutklo Hospital. *Journal of the Medical Association of Thailand* 92(1): 7–15.
- Coyne KS, Sexton CC, Irwin DE, Kopp ZS, Kelleher CJ, Milsom I (2008). The impact of overactive bladder, incontinence and other lower urinary tract symptoms on quality of life, work productivity, sexuality and emotional well-being in men and women: results from the EPIC study. *BJU International* 101(11): 1388–1395.
- Daud N (2010) Investigating the Relationship between Quality of Work Life and Organizational Commitment amongst Employees in Malaysian Firms. *International Journal of Business and Management* 5(10): 75–82.
- Dean BB, Aguilar D, Crawley JA, et al. (2003) Impact of gastroesophageal reflux disease on worker productivity in an employed US population. *Gastroenterology* 124(4): A505.
- Des Varannes SB, Ducrotté P, Vallot T, Garofano A, Bardoulat I, Carrois F, Ricci L (2013) Gastroesophageal reflux disease: Impact on work productivity and daily-life activities of daytime workers. *Digestive and Liver Disease* 45: 200–206.
- Dickson VV, Howe A, Deal J, McCarthy MM (2012) The relationship of work, self-care, and quality of life in a sample of older working adults with cardiovascular disease. *Heart & Lung* 41: 5–14.
- Farahbakhsh S (2012) The role of emotional intelligence in increasing quality of work life in school principals. *Procedia - Social and Behavioral Sciences* 46: 31–35.
- Ferrell OC, Fraedrich J, Ferrell L (2008) *Business ethics: ethical decision making and cases*. Houghton-Mifflin, Boston MA, 496 pages.
- Fitzgerald ST, Palmer MH, Kirkland VL, Robinson L (2002) The impact of urinary incontinence in working women: a study in a production facility. *Women Health* 35(1): 1–16.
- Fourquet J, Gao X, Zavala D, Orengo JC, Abac S, Ruiz A, Laboy J, Flores I (2010) Patients' report on how endometriosis affects health, work, and daily life. *Fertility and Sterility* 93: 2424–2428.
- Genaidy A, Karwowski W, Shell RA, Khalil S, Tuncel S, Cronin R, Salem O (2005) Work compatibility: an integrated diagnostic tool for evaluating musculoskeletal responses to work and stress outcomes. *International Journal of Industrial Ergonomics* 35: 1109–1131.
- Henning E, Turk ME, Mennin D, Fresco-Heimberg RG (2007) Impairment and quality of life in individuals with anxiety disorders. *Depression and Anxiety* 24: 342–349.
- Herrman H, Metelko Z, Szabo S, Rajkumar S, Kumar S, Vanheck G, et al. (1993) Study protocol for the World-Health-Organization project to develop a quality-of-life assessment instrument (WHOQoL). *Quality of Life Research* 2: 153–159.
- Kanten S, and Sadullah O (2012). An empirical research on relationship quality of work life and work engagement. *Procedia - Social and Behavioral Sciences* 62: 360 – 366.
- Khorshidi, S (2008) Study of relationship between Quality of work life and productivity of school principals of Broujerd City. MA. Master's Dissertation, Faculty of Postgraduate, Islamic Azad University, Khorramabad Branch.
- Koonmee K, Singhapakdi A, Virakul B, Lee D-J (2010) Ethics institutionalization, quality of work life, and employee job-related outcomes: A survey of human resource managers in Thailand. *Journal of Business Research* 63: 20–26.
- Konrad AM, Mengel R (2000) The Impact of Work life Program on firm Productivity. *Strategic Management Journal* 21(12): 1225–1237.
- Kyle SD, Morgan K, Espie CA (2010) Insomnia and health-related quality of life, *Sleep Medicine Reviews* 14: 69–82.
- Layer JK, Karwowski W, Furr A (2009) The effect of cognitive demands and perceived quality of work life on human performance in manufacturing environments. *International Journal of Industrial Ergonomics* 39: 413–421.

- Lewis MW, Boyer KK (2002) Factors impacting AMT implementation: an integrative and controlled study. *Journal of Engineering and Technology Management* 19(2): 111–130.
- Martel J-P and Gilles D (2006) Quality of Work Life: Theoretical and Methodological Problems, and Presentation of New Model and Measuring Instrument. *Social Indicators Research* 77: 333–368.
- Marta JKM, Singhapakdi A, Lee D–J, Sirgy MJ, Koonmee K, Virakul, B (2013) Perceptions about ethics institutionalization and quality of work life: Thai versus American marketing managers. *Journal of Business Research* 66: 381–389.
- Mirkamali SM and Thani FN (2011) A Study on the Quality of Work Life (QWL) among faculty members of University of Tehran(UT) and Sharif university of Technology (SUT). *Procedia Social and Behavioral Sciences*, 29: 179–187.
- Mousavi SH, Monfared SY and Heidary A (2011) Investigating the Relationship Between Life Quality And Productivity In Physical Education Office Employees In Zanjan Province. *Procedia Social and Behavioral Sciences* 15: 3665–3668.
- Modassir A (2008) Relationship between emotional intelligence and transformational leadership and organizational citizenship behavior. *International Journal of Leadership Studies*, 4(1): 3–21.
- Nazir U, Qureshi TM, Shafaat TIA (2011) Office harassment: A negative influence on quality of work life. *African Journal of Business Management* 5(25): 10276–10285.
- Nnoaham KE, Hummelshoj L, Webster P, d’Hooghe T, Nardone F de C, Nardone C de C, Jenkinson C, Phil D, Kennedy SH, Zondervan KT (2011). Impact of endometriosis on quality of life and work productivity: a multicenter study across ten countries. *Fertility and Sterility* 96(2): 366 – 373.
- Oehmke F, Weyand J, Hackethal A, Konrad L, Omwandho C, Tinneberg HR (2009). Impact of endometriosis on quality of life: a pilot study. *Gynecological Endocrinology* 5: 722–5.
- Olatunji BO, Cisler JM, Tolin DF (2007) Quality of life in the anxiety disorders: a meta-analytic review. *Clinical Psychology Review* 27: 572–581.
- Ouppara NS and Sy MVU (2012) Quality of Work Life Practices in a Multinational Company in Sydney, Australia. *Procedia Social and Behavioral Sciences* 40: 116–121.
- Penny WYK and Joanne CSH (2013) Casino employees’ perceptions of their quality of work life. *International Journal of Hospitality Management* 34: 348–358.
- Quilty LC, Ameringen MV, Mancini C, Jonathan O, Farvolden P (2003) Quality of life and the anxiety disorders. *Journal of Anxiety Disorders* 17(4): 405–426.
- Rathi N (2009) Relationship of quality of work life with employees’ psychological well-being. *Journal of Business Insights & Transformation* 54(2): 53–60.
- Riedl R, Kindermann H, Auinger A, Javor A (2012) Technostress from a Neurobiological Perspective: System Breakdown Increases the Stress Hormone Cortisol in Computer Users. *Business & Information Systems Engineering* 4(2): 61–69.
- Riss P, and Kargl J (2011) Quality of life and urinary incontinence in women. *Maturitas* 68: 137–142.
- Ryan GM (1995) Theoretical basis for the QWL concept (esprit Project 8162). Working Paper. University of Siena.
- Riss P and Kargl J (2011) Quality of life and urinary incontinence in women. *Maturitas* 68: 137 – 142.
- Ruta D, Camfield L, Donaldson C (2007) Sen and the art of quality of life maintenance: towards a general theory of quality of life and its causation. *Journal of Socio–Economics* 36: 397–423.
- Sivertsen B, Overland S, Neckelmann D, Glozier N, Krokstad S, Pallesen S, Nordhus IH, Bjorvatn B, Mykletun A (2006) The long-term effect of insomnia on work disability—the HUNT–2 historical cohort study. *American Journal of Epidemiology* 163(11): 1018–24.
- Shahbazi B, Shokrzadeh S, Bejani H, Malekinia E, Ghoroneh D (2011) A Survey of relationship between the quality of work life and performance of Department Chairpersons of Esfahan University and Esfahan Medical Science University. *Procedia Social and Behavioral Sciences* 30: 1555–1560.
- Stebbins RA (2001) *Exploratory Research in the Social Sciences - Qualitative Research Methods*. Sage Publications, New York, 84p.
- Substance Abuse and Mental Health Services Administration (SAMHSA) (2007) *The NSDUH Report: Depression among Adults Employed Full–Time, by Occupational Category*,

-
- Rockville, MD. Retrieved: 05 May, 2014, from:
<http://oas.samhsa.gov/2k7/depression/occupation.cfm>
- Shin WG, Kim HU, Kim SG, Kim GH, Shim K-N, Kim JW, Kim JI, Kim JG, Kim JJ, Yim, D-H, Park SK, Park S-H (2012) Work productivity and activity impairment in gastroesophageal reflux disease in Korean full-time employees: A Multicentre study. *Digestive and Liver Disease* 44(28): 6–291.
- Sudhir PM, Sharma MP, Mariamma P, Subbakrishna DK (2012) Quality of life in anxiety disorders: Its relation to work and social functioning and dysfunctional cognitions: An exploratory study from India. *Asian Journal of Psychiatry* 5: 309–314.
- Tabassum A, Rahman T, and Jahan K (2011) A Comparative Analysis of Quality of Work Life among the Employees of Local Private and Foreign Commercial Banks in Bangladesh. *World Journal of Social Sciences* 1(1): 17–33.
- Tarafdar M, Ragu-Nathan TS, Ragu-Nathan B, Tu Q (2007) The Impact of Technostress on Role Stress and Productivity. *Journal of Management Information Systems* 24(1): 301–328.
- Varkevisser M, Kerkhof GA (2005) Chronic insomnia and performance in a 24-h constant routine study. *Journal of Sleep Research* 14: 49–59.
- Walton RE (1975) Criteria for quality of working life. In Davis LE, Cherns AB and Associates. *The quality of working life*. The Free Press, New York, 91–104.
- Wahlqvist P, Reilly MC, Barkun A (2006) Systematic review: the impact of gastro-oesophageal reflux disease on work productivity. *Alimentary Pharmacology & Therapeutics* 24: 259–272.
- Woo J-M, Kim W, Hwang T-Y, Frick, KD, Choi BH, Seo Y-J, Kang E-H, Kim SJ, Ham B-J, Lee J-S, Park YL (2011) Impact of Depression on Work Productivity and Its Improvement after Outpatient Treatment with Antidepressants. *Value in Health* 14: 475–482.