Use of e-Learning for Stress Management – Multi-group Moderation Analysis

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Abstract

The goal of this study is to find out the moderating role of type of industry and different levels of management with respect to eLearning perception, eLearning advantages and use of eLearning for Stress Management. Study tried to find out relationship between perceptions of eLearning, eLearning Advantages, perception of using eLearning for corporate training and more specifically for stress management. A cross sectional survey is conducted through structured questionnaire to collect the data from 686 managers working at different levels including 331 from manufacturing sector and 355 from services sector. Results of the study show positive relationship between perception of eLearning and eLearning for stress management and this relationship is significantly stronger for services industry. Positive relationship between eLearning advantages and eLearning for stress management and this relationship is significantly stronger for manufacturing industry. Study also revealed that positive relationship between eLearning perception and eLearning for stress management and this relationship is not significantly stronger for senior management than for middle management.

Keywords: Moderation, Manufacturing Sector, Services Sector, eLearning, Stress Management, Management Level.

1. Introduction

Occupational stress is a key risk for many workers. Increased workloads, downscaling, overtime, unfriendly working conditions, and shiftwork are few of the many reasons of stressful working settings.

Stress and its impact on family life of employees, impact on the health of an individual; mental as well as physical health, and behavior of an individual are the main areas of study for decades. Selye (1946) Introduced the concept of stress, the term has been variously used by researchers of various academic fields to meet their specific requirements. Perceptions of stress vary across cultures and societies (Hariharan & Rath, 2008). Cox (1993) described that there is a growing consensus on the definition of stress as a psychological state with cognitive and emotional components, and its effects on the health of both individual employees and their organizations. Ramirez, Graham, Richards, and Gregory (1996) defined that stress refers to the situation at which a person's skills

and ability do not match with the work demands and requirements, and/or when the employees' needs are not fulfilled by the job environment. According to Smith (2011) "Stress" is a term in psychology and biology, borrowed from physics and engineering, which has in more decades that are recent become part of our daily vocabulary. In human terms, it refers to the consequence of the failure of an individual to respond adequately to mental, emotional, or physical demands, whether real or imagined. Stress is a universal element experienced by employees around the globe. Stress has become major problem for employer particularly in developing nations where the employer does not realize the impact of stress on employee performance, which ultimately results in critical managerial dilemmas (Subha & Ahmad, 2009).

A stress situation broadly gives rise to a complex cluster of responses involving physiological response, emotional response and cognitive or problem solving response (Hariharan & Rath, 2008).

The concept of stress is not only of academic interest: its increasing salience in modern Western society as a metaphor for human misfortune, dissatisfaction, and suffering has been documented ((Helman, 1988); (Mulhall, 1996)). Barley and Knight (1992) argue that the rise and popularity of stress amongst the general public is largely attributable to its broad-based explanatory value, as it can be invoked to account for a variety of negative environmental actors, feeling states, physical sensations, and cognitions. Robins (2001) explained stress as a dynamic condition in which the individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important. Smith (2011) termed that stress can be thought of as resulting from an imbalance between demands placed on a person and the resources needed to deal with it. That is, pressure exceeds the perceived ability to cope. C L Cooper and Williams (1998) described that stress is an imprecise and misused term, and a system of measurement should provide a structure and a language that facilitates the understanding of the subject. One of the major factors hindering research into occupational stress is the lack of consistency in the measurement tools. Stress is a universal experience in the life of each employee even executives and managers. It is estimated that about 100 million workdays are being lost due to stress and nearly 50% to 75% disease are related to stress (Bashir, 2007). However, the reasons, and the level of stress, and impact of stress may differ from industry to industry or even from country to country. As mentioned by the Cary Lynn. Cooper and Marshall (1978) the break up for reasons for stress can be as follows:

- Factors Intrinsic to the Job

- Role in the Organization

- Relationships at work

- Career Development

- Organizational Structure and Climate

- Extra Organizational Sources of Stress

When we are talking about stress management, we are really talking about managing psychological or sociological stressors.

1.1 Work Stress

Cary L. Cooper and Sutherland (2000) described that research evidence indicates that a wide variety of workplace conditions cause stress, strain or pressure that are associated with a wide range of physical and psychological ill-health problems. However, for many people at work the changing nature of work environment is a potent source of stress and pressure. Stress affects the employees' performance that indirectly fests the organization survival because if employees reduce their work efficiency and can't work best for their organizations, so this situation couldn't be only affected the organizational performance but also lost healthy shares in an increasingly competitive market, and may even jeopardize their survival (Kazmi, Amjad, & Khan, 2008). Work Stress can be a particular problem in customer-oriented fields because employees often experience conflicting demands of the company, supervisors, and customers and these conflicts create dissonance for employees (Ruyter, Feinberg, & Wetzels, 2001). Work stress has a considerable importance for the organization considering that it has a direct impact in employee's health and consequently impacts work performance (Bytyqi, Reshani, & Hasani, 2010). In the pursuit for organizational excellence, managers need to work under highly stressful circumstances. Managers in the manufacturing sector have been found to be experiencing high stress (Jestin & Gampel, 2002).

1.2 Manufacturing and Services Sectors in Pakistan

In Pakistan Major sectors contributing to the growth of the Manufacturing sector includes Textile, Cement, Dairy products, Shoe Industry, Paper Industry, Sugar, Transportation, Hotel, and Restaurants etc. Services sector is the largest and the fastest growing sector in the world economy, accounting largest share in total output and employment in most developed countries. The share of services sector in total GDP is 47 percent in low-income countries, 53 percent in middle-income countries, and 73 percent in high-income countries. As mentioned by Anderson (2006) managers in the service sector are faced with increasing challenges. The span of control of these managers continues to grow, while the demand for customer satisfaction is also on the rise. With more employees to manage and greater demands on performance, service sector managers can easily feel restricted in their ability to develop relationships with employees on the dyad-level. Indeed, managing employees in a service sector setting provides unique challenges for managers, particularly if the manager attempts to develop quality dyadic relationships with employees.

Services sector contributes over 50 per cent to Pakistan's GDP. Major sub-sectors are finance and insurance, transport and storage, wholesale and retail trade, public administration and defense. Services contribution to GDP is gradually increasing. On the other hand, Pakistan has opened up its market for Foreign Service providers, particularly in banking, insurance, telecommunications, retail, and some other sectors, which were flooded by foreign services providers(Khan, 2011). Bowen and Ford (2002) suggested that managing employees in the service sector is different than managing employees in the manufacturing sector on several fronts: first, the process of delivering a

service involves the customer in the production process; second, service employees must respond to each situation in a unique manner; third, "emotional labor" is an important part of the work in a service setting; and fourth, service employees not only perform work, they are required to manage the service delivery process. It is the human element of service delivery that distinguishes management practice in a service setting from management practice in a manufacturing setting.

1.3 eLearning

Many terms have been used to define eLearning in the past. For example web-based training, computer-based training or web-based learning, and online learning are a few synonymous terms that have over the last few years been labeled as eLearning. Each of this implies a "just-in-time" instructional and learning approach. eLearning covers a wide array of activities from supported learning, to blend or hybrid learning (the combination of traditional and e-learning practices), to learning that occurs 100% online. According to Guri-Rosenblit (2005) eLearning, is a relatively new phenomenon and relates to the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution for the face-to-face meetings by online. One of the basic purposes of eLearning technology is that it is capable of reaching learners at distance, where conditions might prevent them from accessing full time education. E-Learning has been integrated in many university programs, and is one of the new learning trends that challenge the banking concept of education (i.e. assumes that the instructor or teacher owns the knowledge and deposits it into the students who attend the class). eLearning is not intended to replace the traditional classroom setting, but to provide new opportunities for interaction and communication between students and instructor or teacher (Masrom, 2007). With the fast pace of modern life, most people cannot afford to take formal courses in the classroom. Therefore, more and more people turn to distance learning for its flexibility in time and space. Different from face to face learning, both the learners and tutors can resort to information technology to facilitate communication and information transfer. E-Learning is nonlinear i.e. learners determine how, what and when they access information. It is a dynamic process- transformed, personalized and customized on demand in response to learner and environmental variables. It is available on demand and just in time. The learner controls their own interaction with the content and presentation (Chawla & Jindia, 2011). In this new knowledge based economy, the gap between the existing knowledge of employees and what is necessary to know is growing day by day. However, with the growth of the internet, online education is accessible to more people than ever: people in corporations, schools and universities, government and other sectors profit from its growth.

The convenience of eLearning training with on-demand availability, user controlled training pace and chunked segments were identified as elements that enhanced the e-learning training method (Ibrahim, Mohd Rozar, Razik, & Kormin, 2011).

1.4 Future of eLearning

As business world has also started using the eLearning considering its advantages and benefits to corporations, eLearning is here to stay and one can always expect to have more advanced techniques and more widely use of eLearning. eLearning will offer endless benefits and opportunities to corporations which use it wisely and will play vital role in reducing their cost and increasing the benefits to the employees and corporations in general. Every business is striving for its survival in this competitive world by maximizing their profits, therefore, employing a successful e-learning strategy will allow a corporation to cut costs tremendously, while increasing workplace satisfaction and raising employee motivation. It may be beyond our imagination that what a wonderful future of eLearning is going to be and the benefits its users will be having in future. Corporate sector world-wide keeps arranging trainings in-house and also keep sending its employees at different levels of hierarchy for training to different cities and countries but this involves a huge cost to them. This practice is very common in the corporate sector specially the big group of companies and multinational companies which arrange training as part of their policy to improve the working skills of their employees or we can call it as part of their Human Resource Development policy.

1.5 eLearning for Training in Corporate Sector

Like traditional system of learning, eLearning have its advantages and disadvantages. Mainly, the learners have the advantage of flexibility, convenience, reduced time and cost. Learners can learn at any time, at any place, and any pace according to his work and family requirements. Learners have the flexibility to select the course content according to their specific requirements. Corporate managers are constantly looking for more cost-effective ways to deliver training to their employees. eLearning is less expensive than traditional classroom instruction. In addition, many expenses – booking training facilities, travel costs for employees or trainers, plus employee time away from the job – are greatly reduced (Strother, 2002). Corporations using eLearning do it for strategic reasons, including accessibility, speed, geography, attraction and retention, productivity and investment purposes. Strother (2002) mentioned that Cost Effective, convenience, standardized delivery, self-paced learning, and variety of available content, have made eLearning a high priority for many corporations. There is no doubt that corporations are increasing their emphasis on eLearning. Even so, more corporations are looking at such options as blended learning, using more than one method of delivery (e.g., eLearning plus traditional classroom delivery of content, to increase training effectiveness), even if it raises costs (Strother, 2002). According to Zornada (2005) internet technologies and the advent of eLearning applications in many organizations have made a fundamental difference to the way organizations deliver training and development content, activities and experiences to their employees. To respond to a changing work environment that is demanding "just-in-time training" for employees, most of company organization not only depend on traditional training, they have already mobile to e-learning and emphasizing it in safety and health since they were trust of the benefits of e-learning training to the company cost effective (Ibrahim et al., 2011). The ultimate goal of eLearning is not only

to train employees for better performance, but to gain greater business advantages as well. More and more companies today are turning to eLearning solutions to meet their training and knowledge management challenges. Online training yields large dividends that result in reduced employee turnover, decreased new employee ramp-up time, productivity, actual cost savings, return on investment (ROI), and more.

1.6 eLearning for Stress Management

Like any other area of training/knowledge Stress in corporate sector can also be managed through eLearning rather different consulting firms are offering customized solutions to corporate sector in different developed countries. Stress management is very important in corporations as it have serious impacts not only on the individual who is facing it but it also have serious impact on productivity, quality and profitability of the organization. Recently, eLearning is becoming popular due to the advantages it offers to the corporate sector and also facilitates to the employees/learners. Besides, in order to remain competitive in the global market, the consultants and trainers need to develop efficient and effective learning systems to cater the requirements of the ever-changing and developing corporate sector. Work stress is not a recent issue faced by employees at all levels although the intensity of stress may differ from person to person or may also depend upon the mature of job and work environment. Advances in the technology and technology-led changes in the society are creating new paradigms in the area of training. This study will focus on the training of executives at all levels to manage stress. eLearning is at an early stage of its introduction in corporate Sector. How well it can be used to manage work stress in corporate sector and how the employees in manufacturing and services sector perceive it is an important area in our study.

1.7 Research Objectives

If we look at the working conditions and environment of manufacturing and services sector, one can easily find out similarities and differences. The study explored the perception of the employees regarding the use of eLearning to manage stress. Main objective was to develop a model of eLearning. To explore a relationship between eLearning perception, eLearning advantages and eLearning for stress management controlling for gender, age, experience and qualification.

Main objectives of the study are to:

Determine the perception of the employees about eLearning and its advantages.

Evaluate perception of Employees about eLearning to manage stress and their willingness to use eLearning to manage stress.

Explore the relationship between perception of eLearning, advantages of eLearning, using eLearning for Corporate Trainings, and more specifically for stress management.

Explore the moderating role of Manufacturing and Services Sector; and different levels of management.

Four different hypotheses were tested from the collected data:

H1a: The positive relationship between perception and eLearning for stress management will be stronger for services industry than for manufacturing industry.

H1b: The positive relationship between perception eLearning advantages and eLearning for Stress Management will be stronger for manufacturing industry than for services industry.

H2a: The positive relationship between perception and eLearning for stress management will be stronger for Senior Management than for Middle Management.

H2b: The positive relationship between eLearning advantages and eLearning for stress management will be stronger for Senior Management than for Middle Management.

H2c: The positive relationship between Qualification and eLearning for stress management will be stronger for Senior Management than for Middle Management.

2. Research Methodology

Structured questionnaire was to collect data f. Response was measured on the likert scale (1 for strongly disagree and 5 for strongly agree). Reliability of the questionnaire was also checked using Cronbach Alpha. Target population for collecting the data was the different level of managers working in the manufacturing and services sector public limited and private limited organizations in Pakistan. The target population for the study included managers working at different levels, in organizations having their setups/offices in and around Lahore City. At first stage, companies from manufacturing sectors and services sector were selected randomly. Around 1,100 questionnaires were distributed, whereas, total duly filled questionnaires received back were 686. So the response rate was almost 62.36 %. IBM SPSS, Microsoft Excel, Stat Tools and AMOS were used for the data entry and to develop different models. Perception of employees to use eLearning as a tool for the stress management were compared and analyzed thoroughly.

3. Results

In this section we report the results of our survey. First, descriptive analyses of the study sample are discussed along with reliability analysis of the study instrument. Second part deal with exploring relationship between perception and eLearning for stress management is discussed. Finally, we also present the multigroup analyses based on type of industry and management level.

Table 1: Demographic Profile

Category		Frequency (%)
Gender	Male	621 (90.5)
	Female	65 (9.4)
Age	Under 26	69 (10)
	26-35	313 (45.6)
	36-45	176 (25.6)
	46-45	97 (14.1)
	56 +	31 (4.5)
Qualification	Less than Bachelor	36 (5.2)
	Bachelor	218 (31.7)
	Higher than Bachelor	432 (62.9)
Experience	=< 1 year	37 (5.3)
	>1 years and =< 3 years	86 (12.5)
	>3 years and =< 6 years	122 (17.7)
	> 6 Years and =< 9 Years	131 (19)
	> 9 years	310 (45.1)
Co-Functions	Manufacturing	331 (48.2)
	Services	355 (51.7)
Mgmt. Level	Senior Management	124 (18)
	Middle Management	384 (55.9)
	Lower Management	178 (25.9)

Table 1 contains the details of the data which was gathered from 686 respondents. The analysis of demographic data represents the analysis of different characteristics of the participants of the study.

To check the reliability of the data Cronbach's alpha was calculated. "Cronbach's alpha is a test for a model or survey's internal consistency, called a 'scale reliability coefficient sometimes.

Table 2: Cronbach's Alpha Results

	Cronbach Alpha	No. of Item
Perception of eLearning	0.879	11
Perception of eLearning Advantages	0.864	12
Perception of eLearning for Corporate Training	0.905	16
Perception of eLearning for Stress Management	0.941	12

Cronbach's Alpha score for all the major sections of the questionnaire and for the complete questionnaire was greater than 0.70. Results of Cronbach Alpha's score shows our questionnaire was reliable enough to be tested at any place.

Both the sectors had almost equal representation as we had 52 % respondents from services sector and 48 % from manufacturing sector. From the demographic profile we can see that more than 90 % of our respondents were male. More than 80 % respondents were having more than 3 years' experience and fall between the age of 26 and 45 years. Highest numbers of respondents i.e. 66 % were from middle management level. Employees from Public and Private limited companies have a ratio of 65 % and 35 % respectively. Overall we had a good mix of respondents from both the sectors.

3.1 Multi Group Moderation - Manufacturing and Services Sectors

Purpose was to test the hypothesis that the eLearning for stress management is a function of multiple factors, and more specifically whether industry characteristics moderate the relationship between eLearning for stress management and eLearning perception and eLearning advantages.

H1a: The positive relationship between perception and eLearning for stress management will be stronger for services industry than for manufacturing industry.

H1b: The positive relationship between perception eLearning advantages and eLearning for Stress Management will be stronger for manufacturing industry than for services industry.

Table 3 shows positive relationship between perception of eLearning and eLearning for stress management (eLearning_stress<---perception) and this relationship is significantly stronger for services industry than for manufacturing industry (H1a: Z-score 2.623, p-value <0.001). Positive relationship between eLearning advantages and eLearning for stress management (eLearning_stress<---eLearning_advantages) and this relationship is significantly stronger for manufacturing industry than for services industry (H1b: Z-score 2.189, p-value <0.05).
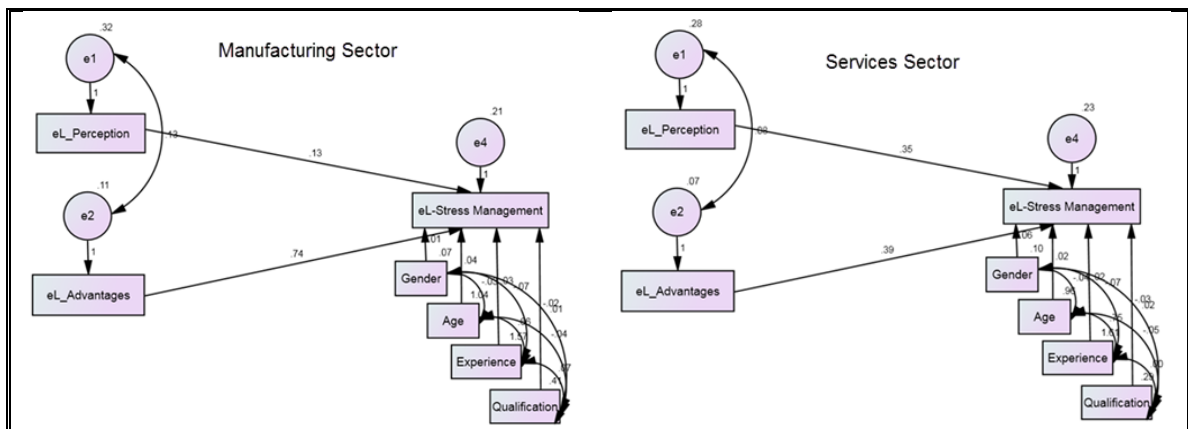

Figure 1: Showing Moderation Models of Manufacturing and Services Sector

Table 3: Group differences Manufacturing Sector vs. Services sector

			Manufacturing		Services		
			Estimate	P-Value	Estimate	P-Value	z-score
eLearning_stress	<---	perception	0.128	0.039	0.354	0.000	2.623***
eLearning_stress	<---	eLearning_advantages	0.739	0.000	0.393	0.000	-2.189**
eLearning_stress	<---	Gender	0.006	0.954	0.056	0.494	0.392
eLearning_stress	<---	Age	0.042	0.151	0.016	0.636	-0.590
eLearning_stress	<---	Experience	0.032	0.185	0.025	0.333	-0.200
eLearning_stress	<---	Qualification	-0.022	0.583	-0.028	0.564	-0.094

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

3.2 Multi Group Moderation – Different Levels of Management

Purpose was to test the hypothesis that the eLearning for stress management is a function of multiple factors, whether different levels of management moderate the relationship between eLearning for stress management, eLearning perception and elearning advantages.

H2a: The positive relationship between perception and eLearning for stress management will be stronger for Senior Management than for Middle Management.

H2b: The positive relationship between eLearning advantages and eLearning for stress management will be stronger for Senior Management than for Middle Management.

H2c: The positive relationship between Qualification and eLearning for stress management will be stronger for Senior Management than for Middle Management. Model Fit Data is given below:

CMIN/DF	2.571
GFI	0.984
AGFI	0.942
NFI	0.957
RFI	0.89
IFI	0.973
TLI	0.927
CFI	0.972
RMSEA	0.028

Table 4 shows positive relationship between perception and eLearning for stress management (eLearning_stress<---perception) and this relationship is not significantly stronger for senior management than for middle management (H2a: Z-score -1.396, p-value>0.1). Positive relationship between eLearning advantages and eLearning for stress management (eLearning_stress<---eLearning_advantages) and this relationship is not

significantly stronger for senior management than for middle management (H2b: Z-score 0.195, p-value>0.1).

Positive relationship between Qualification and eLearning for stress management (eLearning_stress<---Qualification) and this relationship became negative for middle management and this group difference is significant (H2c: Z-score -1.676, p-value<0.1). No significant group differences were found for senior management vs. lower management and middle management vs. lower management
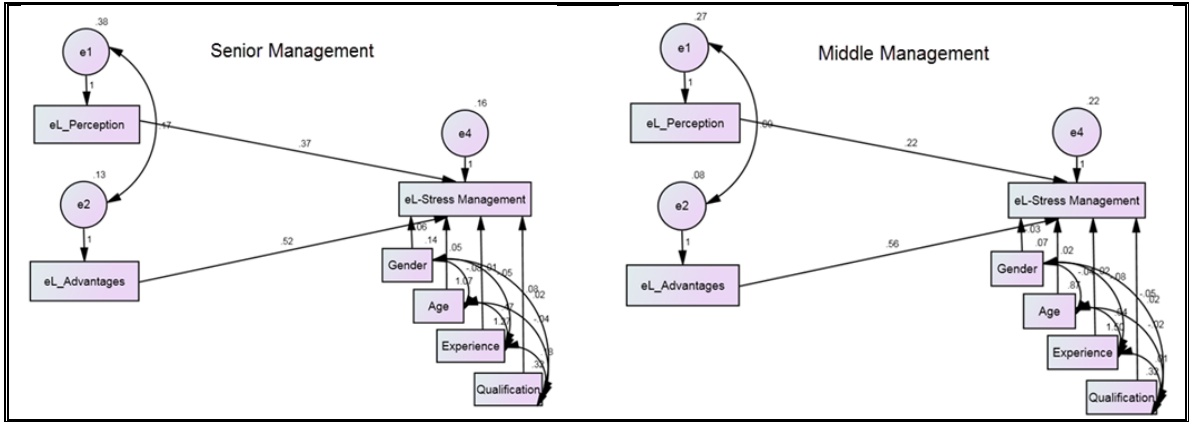

Figure 2: Showing Moderation Models of Manufacturing and Services Sector

Table 4: Group differences Manufacturing Senior Management vs. Middle Management

			Senior Management		Middle Management		
			Estimate	P-Value	Estimate	P-Value	z-score
eLearning_stress	<---	perception	0.366	0.000	0.217	0.000	-1.396
eLearning_stress	<---	eLearning_advantages	0.521	0.000	0.557	0.000	0.195
eLearning_stress	<---	Gender	0.059	0.556	-0.034	0.729	-0.663
eLearning_stress	<---	Age	0.052	0.184	0.022	0.487	-0.602
eLearning_stress	<---	Experience	0.010	0.778	0.016	0.512	0.128
eLearning_stress	<---	Qualification	0.084	0.214	-0.051	0.244	-1.676*

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

4. Conclusions and Discussion

On the basis of data analysis as depicted in Table 3 and Table 4 and Figures therein, moderating Factors as type of Industry: Manufacturing and Services Sector, and different levels of Management as moderating factor, we can conclude that: Positive relationship exists between perception of eLearning and eLearning for stress management, however, this relationship is significantly stronger for services industry as compared to the manufacturing Sector as a moderating factor. Also Positive relation exists between

eLearning advantages and eLearning for stress managemnt, however, this relationship is stronger in manufacturing sector as compared to services industry as a moderating factor. Study also confirms positive relationship exists between eLearning perception and eLearning for stress management; however, this relation is significantly stronger in middle management as compared to the senior management so far as moderating role of different level of management is concerned. No relationship exists between eLearning perception and eLearning for stress management so far as moderating role of Middle management is concerned.

References

1. Anderson, J. R. (2006). Managing Employees in the Service Sector: A Literature Review and Conceptual Development. *Journal of Business and Psychology, Vol. 20, No. 4, Published by Springer, Retrieved from http://www.jstor.org/stable/25092955, on September 07, 2011*, pp. 501-523.

2. Barley, S. R., & Knight, D. B. (1992). Toward a Cultural Theory of Stress Complaints. . *Research in Organisational Behaviour*, pp. 1-48.

3. Bashir, A. (2007). *Employees' Stress and Its Impact on Their performance.* Paper presented at the First proceedings of International Conference on Business and Technology, Islamabad.

4. Bowen, J., & Ford, R. C. (2002). Managing Service organizations: Does having "thing" make a difference? *Journal of Management, 28(3)*, pp. 447-469.

5. Bytyqi, F., Reshani, V., & Hasani, V. (2010). Work Stress, Job Satisfaction and Organizational Commitment among Public Employees before Privatization. *European Journal of Social Sciences – Volume 18, Number 1*, pp. 156-162.

6. Chawla, S., & Jindia, A. (2011). Students' Inclination Towards E-Learning: A Study. *International Journal of Emerging Technology and Advanced Engineering, Vol. 1, Issue 2*, pp: 65-69.

7. Cooper, C. L., & Marshall, J. (1978). *Understanidng Executive Stress*. Bath: The Pitman Press.

8. Cooper, C. L., & Sutherland, V. J. (2000). *Strategic Stress Management: An Organizational Approach*. London: McMillan Press Limited.

9. Cooper, C. L., & Williams, S. (1998). Measuring Occupational Stress: Development of the Pressure Management Indicator. *Journal of Occupational Health Psychology, Vol. 3, No. 4,*, pp. 306-321

10. Cox, T. (1993). Stress Research and Stress Management: Putting Theory to Work. Nottingham: Health and Safety Executive (HSE) Contract Research Report No. 61/1993.

11. Guri-Rosenblit, S. (2005). Distance education' and 'e-learning': Not the same thing. *Higher Education (2005) 49: by Springer*, pp: 467–493.

12. Hariharan, M., & Rath, R. (2008). *Coping with Life Stress*. New Delhi: Sage Publicationds Pvt. Limited.

13. Helman, C. G. (1988). *Culture, Health and Illness* London: Butterworth Heinemann.

14. Ibrahim, A., Mohd Rozar, N. B., Razik, M. A. B., & Kormin, K. B. (2011). *Comparing Effectiveness E-learniing Training and Traditional Training in Industrial Health and Safety*, UK.

15. Jestin, W., & Gampel, A. (2002). *The Big Valley, Global Outlook. .* Toronto: McGraw Hill.

16. Kazmi, R., Amjad, S., & Khan, D. (2008). Occupational stress and its effect on Job performance: A case study of Medical House Officers of District Abbotabad. *Journal of Ayub Medical College. 20*, pp. 135-139.

17. Khan, M. Z. (Producer). (2011, September 13). http://www.dawn.com. Retrieved from http://www.dawn.com/2011/09/13/service-sector-exports-record-23pc-growth.html

18. Masrom, M. (2007). *Technology Acceptance Model and E-learning.* Paper presented at the 12th International Conference on Education, Sultan Hassanal Bolkiah Institute of Education Universiti Brunei Darussalam, Brunei Darussalam.

19. Mulhall, A. (1996). Cultural discourse and the Myth of Stress in Nursing and Medicine. *International Journal of Nursing Studies, 33*, pp. 455 - 468.

20. Ramirez, A. J., Graham, J., Richards, A. C., & Gregory, W. M. (1996). Mental health of hospital consultants: the effect of stress and satisfaction. *The Lancet (347 March)*, pp. 724-728.

21. Robins, S. P. (2001). *Organizational Behavior. 9th.* New Jersey: Prentice-Hall, Inc.

22. Ruyter, K., Feinberg, R., & Wetzels, M. (2001). Role Stress in Call Centres: Its effects on Employee performance and Job Satisfaction. *Journal of Interactive Marketing 15(2)*, pp. 23-35.

23. Selye, H. (1946). The General Adaptation Syndrome and Diseses of Adaptation. *Journal of Clinical Endrocrinology, 6:*, pp.117-230.

24. Smith, M. (Producer). (2011, December 30). Retrieved from The Fiji Times Online,"Psychology of Suicide", http://www.fijitimes.com/story.aspx?id=183527

25. Strother, J. B. (2002). An Assessment of the DEffectiveness of E-Learning in Corporate Training Programs. *The International Review of Research in Open and DIstance Learning, Vol. 3, No. 1; Retrieved from http://www.irrodl.org/index.php/irrodl/index on July 30, 2012*.

26. Subha, I., & Ahmad, S. (2009). Impact Of Stress On Employee Productivity, Performance And Turnover; An Important Managerial Issue *International Review of Business Research Papers, Vol. 5 No. 4*, pp. 468-477

27. Zornada, M. (2005). E-Learning and the Changing Face of Corporate Training and Development. pp: 59-75.