Towards Statistical Judgements of Occupational Stressor versus Performance Indication with Impact on Mental and Physical Health of Female College Teachers

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Abstract

The present world is full of challenges and opportunities for the women at work. Every woman works hard for academic growth and professional development. For the same reason they also face challenges every day such as stresses, tensions, problems and competitions. When these factors exceed above the strengths, the capabilities of a woman start drowning under stress. Stress is generally thought negative characteristic, but stress or tension maintained up to some level is necessary and effective towards work done at job. This paper covers the study relationship between job stressor and female teacher's performance. The study was carried out in Government Colleges of District Hyderabad, Pakistan. The teacher student relationship was selected as a stressor for female teachers. The study is descriptive in nature followed by method of correlation. A five point "Likert Scale" was developed to collect the data from the sample size of 158 college teachers drawn randomly and the collected data was assessed quantitatively. The relationship between the "teacher student" (as an indicator of job stress) and "female teachers' performance" was calculated by Pearson Correlation formula. The findings of the study show the significant correlations between the teacher student relationship and job stress in female teachers' performance where it is found that the stressor caused the poor Physical and Mental health of female teachers working in colleges.

Keywords
College Education, Female Teachers, Job Stressor, Mental Health, Performance Indicator;

1. Introduction

Teaching is a noble profession. It is thought to be a thankless job, hence it is one of the most stressful job. A teacher has to cope with their departmental heads, peers, students and their parents as well. At the same time especially a female teacher has to take care of his family including children, husband, and sometime in-laws with utmost responsibility. She has to meet a number of challenges and to complete a number of expectations and demands from employer, colleagues, students, parents, family and society as well [1].

Upon a discussion question asked on ResearchGate platform on December 13th, 2017 "Whether teaching is only a service? A profession? A business? Or something else?" The best recommended and popular answer received from Hussain Saleem, a scholar from University of Karachi, Pakistan was "Teaching with honesty and devotion as a Profession make a non-wealthy person "A Real King". A King of his own "Kingdom", the "Kingdom of knowledge and wisdom" can think and teach to any depth, and can do anything that he want, can rule over the population, and can bring revolution easily. He can build nations peaceful and organized. It is a matter of Soul. Hence it is a Noble Profession. People who feel themselves un-able to devote and sacrifice should not opt Teaching as their Profession [2]."

Another relevant question asked sometimes later on ResearchGate platform on July 27th, 2019 "What is the greatest strength of a woman?" Again, the best recommended and popular answer received from Hussain Saleem was "The sincere, honest, responsible, and devoted to take care of each and every member of house with patience, sacrifice, tolerance and with tireless effort over each day of her life doesn't matter she feel her health well or suffer from any problem. Despite this she do much of the work parallel and with proper time management, much times more productive than man, she is engaged in service as full-time 24/7 over 365 days of every year of her life. Much respect for daughter, sister, mother, wife, colleague, friend and every women of the world. Salute [3]."

The role of a female teacher is a motivator. She performs as an instructor, facilitator, role model and a leader. She strives hard to build strong character of her students like her own kids. In South Asian countries, especially in Pakistan, women expect to get much respect in family, society, and at workplace. But most commonly, she works in a constantly isolated atmosphere surrendered by a number of critics. The staff of the college, students as well as society observe her aggressively and keep an eye on her every movement. The female teachers therefore remain under a constant fear and threat of accountability for their actions and deeds. Even if

any student of that teacher make any offense on campus or do something wrong; the teacher is thoroughly blamed and made responsible for that. These are such main reasons of tension and stress.

The National Institute for Occupational Safety and Health (NIOSH) has defined work-stress as the negative and harmful physical and hurtful responses of an employ that occur due to non-achievement of organizational goals or job requirements. These job requirements are not achieved due to the workers capabilities, resources or needs. The harmful responses create a number of health conditions in an employee including mental and physical distributions [4].

This stress can be witnessed as indicators of a number of physical, emotional and behavioral reactions. These indicators or symptoms of stress vary among males and females from person to person. Some common symptoms are sleep disturbances, muscular stretch (muscle tension or muscle pull), aches (headache, backache or stomachaches), and anxiety (depression or fear to cope-up) etc. Fig.1. shows the phenomena and impact of work overload delegated by employer on Teacher (employee) in the form of complains, issues and regular un-resolved matters linked with students, parents, and District coordinators along with fear to maintain honour, grace, and self-respect among colleagues, friends, family, and society; may indicate deviation in performance observed as deteriorated Physical, Emotional, and Behavioural health that triggers sleep disorder, headaches, muscular pains, with anxiety, depression (due to fear of disgrace), sometimes results in un-informed job quit, protest against employer administration, and dis-integrity among staff members.

The survey was conducted and restricted to female teachers working in Public and Private, Higher Secondary and Degree Colleges of Hyderabad District, Sindh Pakistan. The study encompasses only one Job Stressor i.e. issues surrounds to Teacher due to internal and external entities.

2. Objectives and Significance of the Study

The female Teachers play vital role in any society through teaching enthusiastically. The students learn and trained to behave like decent, well-behaved, self-responsible and productive citizens of the society. When a female teacher develop healthy relationship with her students then she will be able to teach with full concentration and peace of mind. Otherwise she will remain in anxiety, depression, confusion, and stress due to fear.

As a result they engage themselves in a number of unhealthy behaviors. These harmful reflections affect their teaching performance and further increase the damage to the house hold work and family relations which indirectly affects the overall performances.

The following main objectives were set for this study to explore the impact of occupational stressor versus performance indicator on mental and physical health of the female college teachers with statistical judgements.

- To study and highlight the nature of Teacher-Students relationship.
- To assess the correlation between Teacher-Students relationship and Female Teachers' performance in Colleges.
- To analyze the effects of correlation on Female teachers' performance as Job stressor.
- To suggest the measures for the improvement of Teacher-Students relationship in Colleges situated at district Hyderabad.

Those female teachers who are not professionally and academically sound cannot face these challenges and competitions. They are dragged into tension and stress.

The female teacher assume that her job may be at risk if she fails approaching to the target or achieving the goals. She also feel it may lower her esteem and efficacy as a result.

3. Literature Review

Various opinions have been studied regarding the statistical judgements of occupational stressor versus performance indication with impact on mental and physical health of female college teachers.

Stress in organizations or at workplace is the reason by a number of factors. These stress factors are called as "Stressors" (Karen Larson, 2007) [7]. These stressors can be internal and external that affects the physical and psychological health of the individual.

The European Commission (2011) has defined the stress as the sum of behavior and psychological reactions that occur due to unwanted or adverse aspects of environment in which an individual work. These reactions create anxiety and distress and further lead to the feelings of non-coping with the situations [5].

According to the Mojoyinola (2008), stress is necessary characteristic and the same cannot be avoided in life or at work. It is a spontaneous response of the body when some demand is posed on it [6].

NIOSH (1999) has defined the Job stress as the emotions and state of mind that creates due to demands or job requirements that cannot be fulfilled by the employee due to lack of resources or personal capabilities [4].

Boyd and Wylie (1994) in their study on New Zealand University teachers concluded that almost half of the sample was under stress and about 80% reported that their level of stress is increased due to increase in workload [8].

Cooper and Kelly (1993) in their study on occupational stress among head teachers summarized that the main factors

of stress were 'work overload' and 'handling relationships with staff' [1].

Mohamed (2018) in his study on sources of occupational stress among Teachers concluded with the two major sources of occupational stress: (1) First one was nature of work and (2) Second was salaries and incentives [9].

Kumar, Wani, & Parrey (2013) concluded in their study on "Occupational Stress" among Male and Female Elementary School Teachers that female teachers remain in more stress than male teachers [10].

Kokkinos (2011) concluded that teaching is highly stressful job and the same create negative effects of the teachers. The results of his study indicated that personality and work related stresses were linked to burnout of teachers [11].

4. Method

This study was descriptive in nature and survey type. Pearson's Chi-Square model was used to verify null hypotheses and Pearson's Correlation Coefficient was used to investigate the level of impact between the variables. Data was initially recorded in Microsoft Excel spreadsheets. A computing software SPSS was used later for data analysis and production of results.

4.1 Population and Sampling

The study is conducted to find out the effects of socio-economic background based on demographic variables and parental financial and educational status on student's academic achievement at secondary school level. The students taking science as major in their intermediate level and have recently passed matriculation (SSC) examination.

Grade-wise Distribution of Female Students

Among overall 649 Female students, 25.73% (167) have secured "A1" Grade in their Matriculation (SSC). Whereas Grade "A" were 42.06% (273), Grade "B" were 26.5% (172), Grade "C" were 4.47% (29), and Grade "D" were 1.24% (8).

Grade-wise Distribution of Male Students

Among overall 448 Male students, 20.98% (94) have secured "A1" Grade in their Matriculation (SSC). Whereas Grade "A" were 44.87% (201), Grade "B" were 23.88% (107), Grade "C" were 8.71% (39), and Grade "D" were 1.56% (7).

Grade-wise Distribution of Rural Territory

Among overall 641 Rural territory students, 27.46% (176) have secured "A1" Grade in their Matriculation (SSC). Whereas Grade "A" were 44.62% (286), Grade "B" were

22.31% (143), Grade "C" were 4.21% (27), and Grade "D" were 1.40% (9).

Grade-wise Distribution of Urban Territory

Among overall 456 Urban territory students, 18.64% (85) have secured "A1" Grade in their Matriculation (SSC). Whereas Grade "A" were 41.23% (188), Grade "B" were 29.82% (136), Grade "C" were 8.99% (41), and Grade "D" were 1.32% (6).

4.2 Analysis on Academic Performance of Students

Pearson's Chi-Square Results (Gender Distribution)

A comparison of the student's performance is graphically presented in Fig.1 according to their Gender distribution of Female and Male students. It can be seen that female students slightly performed better than their male counterparts in SSC/matriculation examinations.

A relationship between the variables is statistically analyzed and recorded in Table-2. The Pearson's Chi-Square test results indicate that a significant association is found between the variable $\chi^2(4) = 12.565$, and p-Value which is $p < 0.05$. This rejects the null hypothesis and confirms that "the gender based student's achievement exists and female students performed better than male students".

Pearson's Chi-Square Results (Locale Distribution)

A comparison of the student's performance is graphically presented in Fig.2 according to their Locale based distribution on Urban and Rural territories of Hyderabad division. It can be seen that students belonging to Rural areas performed better in SSC/Matriculation examination than their counterparts living in Urban areas.

A relationship between the variables is statistically analyzed and recorded in Table-3. The Pearson's Chi-Square test results indicate that significant association is found between the variable $\chi^2(4) = 26.11$, and p-Value which is $p < 0.05$. This rejects the null hypothesis and confirms that "the Locale based student's achievement exists and the students belonging to Rural areas in Hyderabad division performed better than the students living in Urban areas".

4.3 Annual Parental Income

Annual income in Million Pakistani Rupees (PKR) of the parents belonging to the respondent students is given in Table-5. It can be seen that most of the students belong to lower-middle class to middle class group having parent's earning less than 0.1 Million to 1 Million rupees per Annum.

According to the collected responses, the annual parental income of 4.6% (50) students lies in the group of greater than PKR 2 million Rupees i.e. Rs. 20 Lacs per annum having

monthly income Rs.1,66,667/- approx., whereas 5.6% (61) were found in the group of greater than PKR Rs. 1.5 million i.e. Rs. 15 Lacs per annum having monthly income Rs.1,25,000/- approx., 9% (99) were found in the group of greater than PKR Rs. 1 million i.e. Rs. 10 Lacs per annum having monthly income Rs.83,333/- approx., 19.5% (214) in the group of PKR Rs. 0.5 million i.e. Rs. 5 Lacs per annum having monthly income Rs.41,667/- approx., 25.4% (279) in the group of PKR Rs. 0.1 million i.e. Rs. 1 Lac per annum having monthly income Rs.8,333/- approx., whereas 35.9% (394) student's parents come under the group of less than PKR Rs. 0.1 million i.e. Rs. 1 Lac per annum having monthly income of Rs.8,333/- approximately which is much low.

4.4 Parental Education level

Education level received by the parents of the respondents is recorded in Table-2. According to survey record, among 1097 respondents, 14.6% i.e. 160 respondents were found as "Both parents have finished Graduate degree", 22% i.e. 241 were those where "One parent either mother or father have finished graduate degree", 16% i.e. 175 were "Both parents who went for college degree", 12% i.e. 132 were "One parent either mother or father who went for college degree", 8.3% i.e. 91 were found "Both parents who finished their high school", 6% i.e. 66 were "One parent either mother or father who finished high school", 7.7% i.e. 85 were "Both parents who attended primary school only", 4.5% i.e. 49 were "One parent either mother or father who attended primary school only", 2.1% i.e. 23 were "Either one or both parents attended Madrasah i.e. Religious School" whereas 6.8% i.e. 75 were families where "Both parents were found illiterate".

This could be reflected that most of the parents are highly or moderately educated and finished graduation or college level education.

4.5 Relationship between Academic Performance and Financial Conditions

In Fig.3 Comparison of student's performance vs financial conditions of the families Fig.3 the performance of the students (their matric grades) is compared against financial conditions of their families. Here we can see that students belonging to higher income group families achieve higher grades. Perhaps, this is due to their higher access to resources as compared to lower income group families. In order to further analyze the relationship between the variables, analysis of the standardized residuals is given in Table-5. The positive standardized residuals (residuals divided by standard deviation) indicate that there was higher number of respondents belonging to certain grades for the students belonging to certain financial group than expected. Whereas, the negative standardized residuals indicate opposite to that. It can be seen clearly that higher grades or better

performance of the students is more than expected for high income group respondents. Pearson's Chi-Square test is also conducted to verify the relationship between the student's performance and parental financial conditions. The data shown in Table-6 indicates significant association between the variable ($X2(20) = 42.4$, $p < .005$) exists. Which further confirms that student's achievement is highly associated with their financial conditions. Table-6 indicates that significant positive correlation exists between annual income (financial condition) of the parents and student's academic performance ($r = 0.131$ and $p = 0.00$) at correlation significance level of 0.01, therefore, the null Hypothesis "there is no significant relationship between Parental financial condition and student's academic performance" is rejected.

4.6 Relationship between Academic Performance and Parental Education Level

It is commonly considered that children belonging to educated families perform better in schools (Simpson & Oliver, 1990). Here we present a graphical comparison in Fig.4. In the figure performance of the students is compared against their parental education level. Here we can see that students belonging to highly educated families achieve higher grades. In order to further analyze the association between the variables, analysis of the standardized residuals is given in Table-7. The positive standardized residuals indicate that students belonging to higher level of parental education get higher grades than expected. Whereas, the negative standardized residuals indicate opposite to that. It can be seen clearly that higher grades or better performance of the students is more than expected for students belonging to higher educated families. Pearson's Chi-Square test shown in Table-8 indicates significant relationship between the student's performance and parental education level i.e, $X2(36) = 150.86$, $p < .005$. Significant positive correlation also exists between parental education level and student's academic performance ($r = .245$ and $p = 0.00$) at correlation significance level of 0.01, hence, the null Hypothesis "there is no significant relationship between Parental education level and student's academic performance" is rejected.

5. Results and Discussion

This study was conducted to investigate the underlying factors effecting student's performance at school and primarily focused to find the connection between student's performance or achievement and parental financial conditions and educational background. Further to this, impact of demographic factor also studies. The gender base impact revealed that female students slightly perform better as compared to their male counterparts in matriculation (Class-IX-X) examinations. Similarly, students Locale base difference in performance revealed that students belonging to Rural areas of Hyderabad division performed better as

compared to those who lives in Urban areas of the same division.

One of the significant finding of the study is based on analyzing the impact of socio-economic condition on students 'performance in school. It can be easily concluded from the study that those students belonging high income group has performed better in their matriculation results. Further to this, it was also found that student's performance was positively correlated with family income. The study discloses that the family whose annual income is above 1.5 million has significant positive effect on students 'academic performance. The findings of this study are in complete agreement with previously findings of the studies conducted in Khyber-Pakhtunkhwa Province of Pakistan by Ghazi, et al. (2013). Another major finding of this study disclosed the impact of parental education level on their children's performance in school. It can easily be concluded from this study conducted in Sindh province, that students belonging highly educated families perform better in schools and significant positive correlation exists between the parameters.

6. Conclusion

The study was aimed to work out the association between the parent's socio-economic conditions and education level and their children's academic performance at Secondary level in Sindh, Pakistan. Significant association was found between the parameters. Higher the financial condition and education level of the parents, better their children perform in the schools.

In the past years, major research activities have been undertaken which showed socio-economic background of the parents does have significant effect on their children's academic achievements. The findings of this research study conducted in Sindh province also follow the previous findings. But still it is not clear yet how this effect is transferred. This indicates new ways that need to be followed to develop fully understanding of this phenomenon. In order to fully understand the impact for parental socio-economic status and educational level on their children's performance in schools, research studies need to be conducted on various education levels especially primary and secondary levels. Further to this studies need to be conducted for identifying and characterize underlying factors might be affecting student's performance, such as parental role, school environment, teacher's role, as well as use of modern technological gadgets such as mobile phones and tablets. In order to enhance student's performance at schools, their parental financial conditions need to be improved.

References

[1] O. Serin and B. Mohammadzadeh, "The Relationship Between Primary School Students' Attitudes Towards Science and Their Science Achievement (Sampling: Izmir)," *Journal of Educational Sciences,* vol. 2, no. 6, pp. 68-75, 2008.

[2] S. Thomson, "Achievement at School and Socioeconomic Background - An Educational Perspective," *NPJ Science of Learning,* vol. 3, pp. 1-2, 2018.

[3] H. Saleem, S. Mehdi and S. N. Ahmed, "Software Has Become A Driving Force," *Jazba, University of Karachi, Press,* pp. 1-5, 2004.

[4] H. Saleem and F. A. Zaidi, "Identification and Realization of Trace Relationships within Requirements," in *International Conference on Software Engineering (ICSE'06)*, Lahore, Pakistan, 2006.

[5] S. M. A. Burney and H. Saleem, "Inductive and Deductive Research Approach," University of Karachi, Karachi, 2008.

[6] M. S. A. Khan and H. Saleem, "Proposed Secure Protocol for Online Health System in Cellular Communication," *Karachi University Journal of Science,* vol. 36, pp. 23-26, 2008.

[7] A. Burney, N. Mahmood, T. Jilani and H. Saleem, "Conceptual Fuzzy Temporal Relational Model (FTRM) for Patient Data," *WSEAS Transactions on Information Science and Applications (Journal),* vol. 7, no. 5, pp. 725-734, 2010.

[8] S. M. A. Burney, H. Saleem, N. Mehmood and T. A. Jilani, "Traceability Management Framework for Patient Data in Healthcare Environment," in *3rd IEEE International Conference on Computer Science and Information Technology (ICCSIT)*, Chengdu, China, 2010.

[9] S. Afzal, M. Z. A. Khan and H. Saleem, "A Proposed OEIC Circuit with Two Metal Layer Silicon Waveguide and Low Power Photonic Receiver Circuit," *International Journal of Computer Science Issues (IJCSI),* vol. 9, no. 5(1), pp. 355-358, 2012.

[10] S. Afzal, M. Z. A. Khan and H. Saleem, "A Proposed Silicon Optical Electronic Integrated Circuit with Monolithic Integration of LED, OPFET and Receiver Circuit," *International Organization for Scientific Research - Journal of Computer Engineering (IOSR-JCE),* vol. 6, no. 4, pp. 42-46, 2012.

[11] M. Z. A. Khan, H. Saleem and S. Afzal, "Application of VLSI In Artificial Intelligence," *International Organization for Scientific Research - IOSR Journal of Computer Engineering (IOSR-JCE),* vol. 6, no. 2, pp. 23-25, 2012.

[12] H. Saleem, M. Z. A. Khan and S. Afzal, "Review of Various Aspects of Radio Frequency IDentification (RFID) Technology," *International Organization for Scientific Research - IOSR Journal of Computer Engineering (IOSR-JCE),* vol. 8, no. 1, pp. 1-6, 2012.

[13] M. Z. A. Khan, H. Saleem and S. Afzal, "Review of ASITIC (Analysis and Simulation of Inductors and Transformers for Integrated Circuits) Tool to Design Inductor on Chip," *International Journal of Computer Science Issues (IJCSI),* vol. 9, no. 4(2), pp. 196-201, 2012.

[14] H. Saleem, M. Z. A. Khan and S. Afzal, "Mobile Agents: An Intelligent Multi-Agent System for Mobile Phones," *International Organization for Scientific Research - Journal of Computer Engineering (IOSR-JCE),* vol. 6, no. 2, pp. 26-34, 2012.

[15] S. A. Raza, H. Saleem and S. Habib-ur-Rehman, "MCMC Simulation of GARCH Model to Forecast Network Traffic Load," *International Journal of Computer Science Issues (IJCSI),* vol. 9, no. 3(2), pp. 277-284, 2012.

[16] H. Saleem, M. Z. A. Khan and S. Afzal, "Towards Identification and Recognition of Trace Associations in Software Requirements Traceability," *International Journal of Computer Science Issues (IJCSI),* vol. 9, no. 5(2), pp. 257-263, 2012.

[17] M. Z. A. Khan, H. Saleem and S. Afzal, "Review of ASITIC (Analysis and Simulation of Inductors and Transformers for Integrated Circuits) Tool to Design Inductor on Chip," *International Journal of Computer Science Issues (IJCSI),* vol. 9, no. 4(2), pp. 196-201, 2012.

[18] M. Z. A. Khan, H. Saleem, S. Afzal and J. Naseem, "An Efficient 16-Bit Multiplier based on Booth Algorithm," *International Journal of Advancements in Research & Technology (IJoART),* vol. 1, no. 6, pp. 43-45, 2012.

[19] A. H. Nizamani, B. Rasool, M. Tahir, N. M. Shaikh and H. Saleem, "Adiabatic ION Shuttling Protocols in Outer-Segmented-Electrode Surface ION Traps," *International Journal of Scientific & Engineering Research (IJSER),* vol. 4, no. 6, pp. 3055-3061, 2013.

[20] A. H. Nizamani, S. A. Buzdar, B. Rasool, N. M. Shaikh and H. Saleem, "Computer-Based Frequency Drift Control of Multiple LASERs in Real-Time," *International Journal of Scientific & Engineering Research (IJSER),* vol. 4, no. 6, pp. 3038-3045, 2013.

[21] S. A. Buzdar, M. A. Khan, A. Nazir, M. Gadhi, A. H. Nizamani and H. Saleem, "Effect of Change in Orientation of Enhanced Dynamic Wedges on Radiotherapy Treatment Dose," *International Journal of Advancements in Research & Technology (IJoART),* vol. 2, no. 5, pp. 496-501, 2013.

[22] A. H. Nizamani, M. A. Rind, N. M. Shaikh, A. H. Moghal and H. Saleem, "Versatile Ultra High Vacuum System for ION Trap Experiments: Design and Implementation," *International Journal of Advancements in Research & Technology (IJoART),* vol. 2, no. 5, pp. 502-510, 2013.

[23] A. M. Rana and H. Saleem, "Novel Integrated Sensor based Sleep Apnea Monitoring and Tracking System using Soft Computing and Persuasive Technology for Healthcare Support," in *9th International Conference on Innovative Trends in Management, Information, Technologies, Computing and Engineering (ITMITCE – 2014),* Istanbul, Turkey, 2014.

[24] A. M. Rana and H. Saleem, "Novel Integrated Sensor Based Sleep Apnea Monitoring and Tracking System Using Soft Computing and Persuasive Technology for Healthcare Support," *International Journal of Systems Signal Control and Engineering Application (ISSN-p: 1997-5422),* pp. 43-48, 2014.

[25] H. Saleem and M. S. A. Khan, "Towards Generation of Alternate Electrical Energy via Paddling Impact: Protracted Design and Implementation," *International Journal of Computer Applications (IJCA),* vol. 107, no. 2, pp. 1-6, 2014.

[26] H. Saleem, S. A. Khan, S. Saleem and A. M. Aslam, "Civil Use of Autonomous Pilotless Aerial Vehicle," *International Journal of Scientific & Engineering Research,* 2019.

[27] H. Saleem, "Data Science and Machine Learning Approach to Improve E-Commerce Sales Performance on Social Web," *International Journal of Computer Science and Network Security (IJCSNS),* vol. 19, 2019.

[28] H. Saleem, S. Imam, N. Shah, S. Saleem and A. M. Aslam, "Dynamic Thresholding of Vehicle Activated Signs," *International Journal of Scientific and Engineering Research (IJSER),* 2019.

[29] H. Saleem and S. M. A. Burney, "Imposing Software Traceability and Configuration Management for Change Tolerance in Software Production," *IJCSNS - International Journal of Computer Science and Network Security (ISSN:1738-7906),* vol. 19, no. 1, pp. 145-154, 2019.

[30] H. Saleem, K. B. Muhammad, S. Saleem, R. Saleem, A. Hussain and A. M. Aslam, "Novel Intelligent Electronic Booking Framework for E-Business with Distributed Computing and Data Mining," *International Journal of Computer Science and Network Security, IJCSNS,* vol. 19, no. 4, pp. 270-278, 2019.

[31] H. Saleem, M. K. S. Uddin and S. Habib-ur-Rehman, "Strategic Data Driven Approach to Improve Conversion Rates and Sales Performance of E-Commerce Websites," *International Journal of Scientific & Engineering Research (IJSER),* 2019.

[32] M. Y. Channa, A. H. Nizamani, H. Saleem, W. A. Bhutto, A. M. Soomro and M. Y. Soomro, "Surface Ion Trap Designs for Vertical Ion Shuttling," *IJCSNS International Journal of Computer Science and Network Security,* vol. 19, no. 4, 2019.

[33] S. Boyd and C. Wylie, "Workload and Stress in New Zealand Universities," EDRS, 1994.

[34] C. Cary L. and K. Mike, "Occupational Stress in Head Teachers: A National UK Study," *British Journal of Educational Psychology,* vol. 63, no. 1, pp. 130-143, 1993.

[35] E. Commission, "Report on the Implementation of the European Social Partners' Framework Agreement on Work-related Stress," European Commission, Brussels, 2011.

[36] K. L. M.D., "Stress Overview, Types of Stress, Risk Factors," Health Communities Inc., 2007. [Online]. Available: http://www.healthcommunities.com/stress/overview-types-of-stress-risk-factors.shtml. [Accessed 2020].

[37] C. M. Kokkinos, "Job Stressors, Personality and Burnout in Primary School Teachers," *British Journal of Educational Psychology,* vol. 77, no. 1, pp. 229-243, 2011.

[38] I. A. Kumar, W. Zahoor Ahmad and P. Aijaz Ahmad, "Occupational Stress among Male and Female Elementary School Teachers of District Pulwama," *International Journal of Scientific & Engineering Research,* vol. 4, no. 4, pp. 934-941, 2013.

[39] T. Mohamed, "Sources of Occupational Stress Among Teachers: A Field of Study for Teachers Working in Libyan Schools in Turkey," *International Journal of Academic Research in Economics and Management Sciences,* vol. 7, no. 1, pp. 1-15, 2018.

[40] J. K. Mojoyinola, "Effects of Job Stress on Health, Personal and Work Behaviour of Nurses in Public Hospitals in Ibadan Metropolis, Nigeria," *Studies on Ethno-Medicine,* vol. 2, no. 2, pp. 143-148, 2008.

[41] H. Saleem, "Whether teaching is only a service? A profession? A business? Or something else?," ResearchGate GmbH, 2017. [Online]. Available: https://www.researchgate.net/profile/Hussain_Saleem/answers. [Accessed 2020].

[42] H. Saleem, "What is the greatest strength of a woman?," ResearchGate GmbH, 2019. [Online]. Available: https://www.researchgate.net/profile/Hussain_Saleem/answers. [Accessed 2020].

[43] NIOSH, "Stress at work.," National Institute for Occupational Safety and Health (NIOSH), International Labour Organization - Encyclopaedia of Occupational Health & Safety, 1999. [Online]. Available: https://casite-1158043.cloudaccess.net/. [Accessed 2020].