STRESS AS A MOTIVATING TOOL TO INCREASE THE QUALITY IN EDUCATION

Jesus Antonio Alvarez-Cedillo^{1,2}, Juan Carlos Herrera-Lozada¹, Patricia Pérez Romero ¹ Teodoro Alvarez-Sanchez³ and Elizabeth Acosta Gonzaga⁴

¹Instituto Politécnico Nacional , Centro de Innovación y Desarrollo Tecnológico en Cómputo (CIDETEC), Av. Juan de Dios Bátiz s/n esq. Miguel Othón de Mendizábal, Col. Nueva Industrial Vallejo, Del. Gustavo A. Madero, México, D.F., C.P. 07700.

² UNIVERSIDAD DE BAJA CALIFORNIA, Campus Colima. Av. Calzada Galván #100 Colonia Centro, C.P. 28000 Colima, Colima. México

³Instituto Politécnico Nacional , CITEDI-IPN, Ave. Instituto Politécnico Nacional No. 1310 Colonia Nueva Tijuana :: Tijuana, Baja California, México. C.P. 224350.

> ⁴Instituto Politécnico Nacional , UPIICSA-IPN, Av. Té 950, Iztacalco, Granjas México, 08400 Ciudad de México, D.F.

Emails: jaalvarez@ipn.mx, jlozada@ipn.mx, promerop@ipn.mx, talvarezs@ipn.mx, egonzagae@ipn.mx

Abstract

Stress is a protective mechanism that humans have created to react to an alertness and survive, most of the literature identifies it as an element eventual negative and such as part job wrong because was associated with the development of many diseases. In this article, we will show the positive aspects found by applying stress to some extent to increase the quality of teaching.

Keywords: Stress, educational factors, learning factors, quality of education.

1 Introduction

More than half a million years, the first men in the world, began to evolve by the same need for survival and was needed to descend from the trees to more dangerous places. Every noise, every movement or shadow, was a possible hazard warning. Given this amount of notice, his whole body began to develop a mechanism for survival, today it called Stress. When receiving any notice, the brain reacted sending the alert to the entire body. A number of hormones are released into the bloodstream which activated the autonomic nervous system [1].

When this happened, the brain to activates in the maximum alert and the senses of smell, sight and hearing are optimized to capture any information about the alert, also may need the energy generated by the muscles and this are prepared, ready for action. The membranes of the nose and throat are expanded to facilitate the passage of air. The heart meanwhile prepared to take action and quicken their pace, pumping more blood, and lungs were preparing to oxygenate the muscles. The same blood, grew thicker and changed its clotting factor so that if you have a wound that was not important by the moment [2].

Its primary target was to affect the performance of the large muscles of the legs and arms, ready to spring into action. It is also deviated from the stomach and higher cognitive centers of the brain and heavy sweating helped cool a body system and eliminate waste. Whole body was placed on alert.

2 METODOLOGY.

More than half a million years, the first men in the world, began to evolve by the same need for survival and was required to descend from the trees to more dangerous places. Every noise, every movement or shadow, was a possible hazard warning. Given this amount of notice, his whole body began to develop a mechanism for survival; it called Stress. When receiving any notice, the brain reacted sending the alert to the entire body. Some hormones released into the bloodstream which activated the autonomic nervous system (SEBASTIÁN, 1999).

When this happened, the brain to enables in the maximum alert and the senses of smell, sight and hearing are optimized to capture any information about the signal, also may need the energy generated by the muscles, and this is prepared, ready for action. The membranes of the nose and throat are expanded to facilitate the passage of air. The heart meanwhile prepared to take action and quicken their pace, pumping more blood, and lungs were making to oxygenate the muscles. The same blood, grew thicker and changed its clotting factor so that if you have a wound that was not important at the moment KASPER(1999).

Its primary target was to affect the performance of the large muscles of the legs and arms, ready to spring into action. It also deviates from the stomach and higher cognitive centers of the brain and heavy sweating helped calm a body system and eliminate waste. The whole body placed on alert.

2.1 Identification of Items that allow the Stress.

Nowadays, there are a lot of very diverse elements that cause stress, such as exposure to noise conditions, high temperatures, lack of ventilation or small workplaces or poorly designed where space is not suited to the characteristics anthropometric teachers or work needs (MARTÍNEZ Jarreta B, 1998).

Other elements can contribute as a causal factor of stress reactions, for example, work overload (LÓPEZ García,1999) high demands of care without sufficient breaks, repetitive or tedious work (MARTÍNEZ Plaza ,2001).

When stress is so prevalent, it becomes a chronic condition, which causes problems. High emotional demands sufferers who work serving others as is the case of teachers and school managers, usually present a factor leading to multiple reactions, many of which mediated stress responses. Conflicts in relationships between co-workers, managers, school events and

overloaded, are also common causes of complaint of stress in an educational body. Similarly, changes unprepared and fear of job loss anxiety sensations originate usually expressed as severe stressors.

For nearly ten years the labor harassment or Moobing (RIQUELME Alfonso,2006) was described by RIQUELME Alfonso such as it as a social phenomenon end resulting in some biological and psychological reactions own stress that, in turn, can affect other people.

Other authors have documented the multiple effects that cause people intense stress or sustained for long. Various factors usually cause any condition, however, in some cases it is possible to identify the presence of situations that cause stress reactions, gastrointestinal diseases, cardiovascular diseases, mental and muscular stress (emotional, cognitive and behavioral). Psychological level and at the level physiological (nervous, endocrine and immune systems) (Asociación Psiquiatría Americana, 1998) (Field, Tim, 1996).

The main effects include cases of gastrointestinal disorders such as irritable bowel syndrome and peptic ulcer disease, primary hypertension, angina pectoris, stroke and even heart attacks (Gonzales de Rivera, 2002).

Also abound scientific advances explanatory hypotheses posed severe muscle disorders, immune affectations, endocrine problems, and produce sleep disturbances, headaches, and headaches (Gonzales de Rivera, 1997). There are also studies linking the occurrence of associated effects to specific psychosocial factors such as shift work activity usually associated with gastrointestinal disorders and sleep disturbances (AYUSO,2014), (MARTÍN, J.,1995), (SCHAUFELI, 1993).

The type of temporary contracts has proven to be a factor in the accident and is affected by stress. In articles published in (SELIGMAN, 1975), (SELYE, H. ,1936), (STEPTOE, 1986). These aspects indicate that temporary employment is a determining factor, and that results do not seem to occur, especially in school organizations are shown to be related to the characteristics personnel workers, but with different working conditions.

School of Medicine, University of Washington, psychiatrists T. H. Holmes and R.H. Rahe, (Holmes TH, 1967) (Rahe RH, 1978), (Rahe RH, 1970), (Rahe RH, 1972), they conducted a major study with the intention of linking stress caused diseases. They developed, and they called Scale Life Events Scale Measure or Social Readjustment that evaluates the potential problems of stress. Note Table 1.

It should highlight the importance of investigating other effects of psychosocial, such as absenteeism factors, often reflected as effects of a common disease, which highlights the importance of screening studies of pathologies, as reflected (Buitrago, 1999) the study of psychiatric disorders conducted in a working population.

3 STRESS SUCH AS AN ÍTEM TO INCREASE THE QUALITY TEACHING.

However, the effects of stress have far-reaching consequences for each item that is part of an education agency and is assumed to be an element that is part of the system as it affects equally:

- 1. Directors: In administrative and daily social activity.
- 2. Teachers: In your daily activity when dealing with different people.
- 3. Administrative Staff: In your daily activity to follow and implement school and administrative policies and deal with numerous elements of the organization.
- 4. Student: influenced by the environment.

Under such conditions, you might think that stress is a negative aspect, desired and represents little chaos in the organization.

The research question is: School stress can increase the quality of education or is a factor that affects women.

"Modern or man learns to control and manage your stress or will be doomed to failure, illness, and death." (Hans Selye)

All the references and information above allow confirming the destructive nature of stress, which represents the administrative, organizational chaos and failure in leadership roles. However, it also has a little stress recognized as a builder element, motivating and positive instigator.

In his book "Stress without distress," Hans Selye (Hans Selye, 1976), states that it is necessary to apply a certain amount of stress to everyday work, he called eustress, to get an estimable performance, motivation and feel happy with the work. The minimum term measure stress refers to keeping stress levels low not to cause a chronic bad little poison does not kill. If your stress is very low human being feels apathy, boredom.

When stress increases to a level considered, so does motivation. The body and mind enter a state of alert, and creative responses to the situation given. However, this facilitates increased performance. In the field of education facilitates decision-making, improved resource management, enables innovation in education and promotes the treatment of people.

If stress levels continue to rise unchecked, the behavior and performance decrement is reflected as a bell curve where the maximum performance level indicated. Note Figure 1.

Table 1. Degree of stress proposed by Holmes and Rahe.

EVENT ASSIGNED	VALUE
Death of spouse	100
Divorce	73
Marital separation	65
Incarceration	63
Death of a close family member	63
Serious illness or injury	53
Marriage	50
Layoff	47
Marital reconciliation	45
Retirement	45
Illness of a close family member	44
Pregnancy	40
Sexual problems	39
New family member	39
Readjustment in business	39
Change in the economic situation	38
Death of a close friend	37
Changing type of work	36
Domestic disputes	35
Important mortgage	31
Mortgage or loan maturity of 30	20
Changing work responsibilities	29
Son leaves the house	29
Problems with in-laws	29
Important personal success	28
Wife starts or stops an outside job	26
Beginning or end of studies	26 25
Change in living conditions	23
Changing personal habits Trouble with boss	23
Change in working conditions	20
Change of residence	20
Change Studies	20
Amusement change	19
Change in social activities	18
Average mortgage	17
Change in sleeping habits	16
Change in the number of families	10
who meet	15
Change in dietary habits	15
Holiday	13
Christmas	12

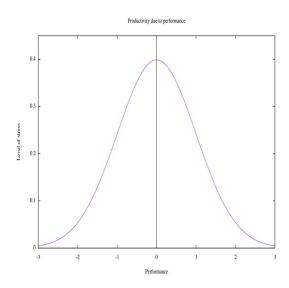


Figure 1. Bell curve showing productivity due to performance.

As shown in Figure 2, Jerkes & Dodson, show the limits where it starts and ends eustress, and becomes distressed, performance begins to decline, slowly at first, then very quickly until entering a danger zone, show bell-shaped yield variation when it does stress. Eustress is very functional in its highest part. Also the distress, at first, but quickly becomes dysfunctional, and begins to be dangerous to health, performance, and relationship with others. Underachievement accompanied by anxiety and anguish that can lead even blockage.

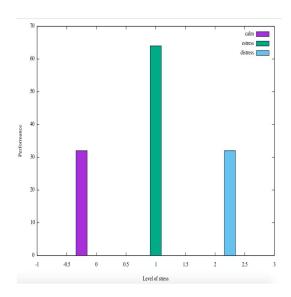


Figure 2. Bell Gauss showing the limits of eustress and distress

The optimal curve will be the final area Eustress immediately before the maximum. It is likely that many people unconsciously look for themselves, their team or their children. And

it's nice to do. But overstay in that stressful situation is also dangerous because the body can not keep without entering certain risks. The resources generated therein are extraordinary and are intended for exceptional circumstances and not steadily. The body needs interim periods of relaxation.

Of course, the size of the curve depends on the capacity and resilience to stress that the person has. And it can grow to these characteristics so that the stress involved to bear at a given moment can be motivating after that, with the variation of the curve will produce the experience and personal development.

4 RESULT

To determine the level of stress in each element involved in education was developed a survey, the parameters of the interview shown in Listing 1. The interview conducted on 100 people of which 20 are administrative, 40 teachers and 40 students.

This scale is an instrument of a self report assessing the level of perceived stress; it consists of 14 items with a response format a five-point scale (0 = never, 1 = rarely, 2 = occasionally when, 3 = often, 4 = very often).

The total score of the PSS is obtained by inverting the dozens of items 4, 5, 6, 7, 9, 10 and 13 (in the following sense: 0 = 4, 1 = 3, 2 = 2, 3 = 1 and 4 = 0) and then adding the 14 items. The direct score indicates a higher score corresponds to higher levels of perceived stress.

Listing 1. Applied interview

	Never	Rarely	Occasionall y when	often	Very often
1. In the last month, how often has been affected by something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous or stressed?	0	1	2	3	4
4. In the last month, how often has successfully managed small vexing problems of life?	0	1	2	3	4
5. In the last month, how often have you felt that it has effectively addressed the important changes that have been happening in your life?	0	1	2	3	4
6. In the last month, how often you've been unsure about your ability to handle your personal problems?	0	1	2	3	4
7. In the last month, how often have you felt that things go well?	0	1	2	3	4

73

8. In the last month, how often have you felt that you could not afford all the things you had to do?	0	1	2	3	4
9. In the last month, how often have you been able to control the difficulties of his life?	0	1	2	3	4
10. In the last month, how often have you felt that he had everything under control?	0	1	2	3	4
11. In the last month, how often has been angry because things have happened that were out of his control?	0	1	2	3	4
12. In the last month, how often have you thought about the things that you have left to do?	0	1	2	3	4
13. In the last month, how often have you been able to control how to pass the time?	0	1	2	3	4
14. In the last month, how often have you felt that difficulties accumulate so much that can not be overcome?	0	1	2	3	4

The results obtained from application of the test are shown in Figure 3

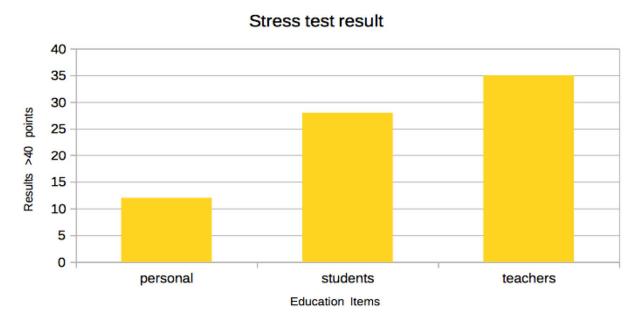


Figure 3. Stress test result

To calculate the stress graphic of a group the following formula was applied: Stress = a total number of people per group/people in their assessment with more than 40 points in their evaluation. See Figure 4.

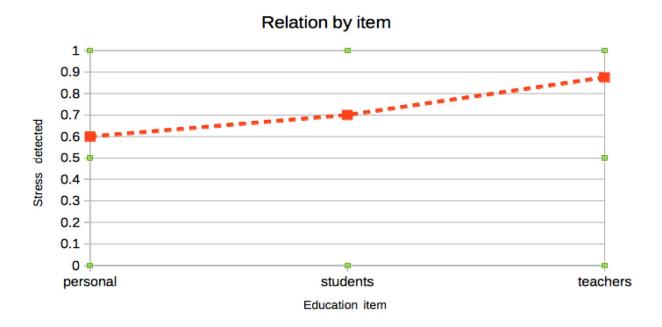


Figure 4. Stress reported by group

There are several suggestions to transform bad stress into good stress in each educative item.

- 1) Do not let residual value or unfinished business: If possible, try to resolve outstanding issues, either in the actual world or everyday life, on the technical side or the psycho-emotional plane. Technically are aspect related with try to conclude the new graduate or master's course, finish the book that started reading a year ago, finish the school.
- 2) Make a daily plan with the activities undertaken: Program tasks you have to perform daily. Also, to get up every day, try to remember that we are born again and have a whole day to organize it and make the most possible.
- 3) Beware toxic thoughts or negative: It is very necessary to learn where to put our attention during the day.
- 4) Discover the meaning of life: It is essential to know what we like to do and like what we do. The desire to do something does not mean we effort and time will be quick. However, if the will or obligation, we are making an effort and time seems never to happen.
- 5) Avoid to justify not to act: Often the self-justification can lead to stagnation in development. The story of a teacher who asked his disciple to approach the side of the cliff and looks toward the bottom of it counted. When he did, the teacher gave him a shove in the back. As you begin to fall, the disciple began waving his arms like wings and started flying. Remember that when faced with difficult situations we generate the forces we need. Already said Friedrich Nietzsche: "What does not kill you makes you stronger."

6) Know the 'why' does not always help: Knowing the "why" of a situation we can alleviate some awareness, but not necessarily help us change.

- 7) Remember that the real perception of suffering can be critical to leave.
- 8) Stop resisting or generate more conflict
- 9) Remember that ideas are just ideas
- 10) Live in the here and now

The past is gone, and you can not change. The future has not arrived yet and did not know what will happen.

Because the above tips are only advice and in many cases each item should be treated by a professional. However, strictly speaking, stimulate educational performance and achieve better levels of school and educational achievement, the survey is the unique kind form to detect, and it can channel with a professional. Only in this manner, the to reduce the impact of stress on the individual and an improvement will be achieved and reach the Eustress.

5 CONCLUSION

Responding to the research question, "School stress can increase the quality of education or is a factor that affects it."

As it can be seen the proper channeling of stress improves the ability of any element of the educational organization, knowing that the director and principal head of this should be aware refer you to increase the quality not only of education but each process is conducted in schools.

Allows a calibration tool which can be an analogy with a grand piano, where for musical instrument sound correct: It must well calibrate if the strings are loose, do not look good; if they are too tense, the piano sounded horrible and may even break. They need accurate voltage for the piano work correctly.

In humans, the accuracy is not so necessary but needs some stress, stress.

To achieve better standards in education requires a degree of close to the maximum eustress.

Coaches of sports teams and Olympic competitors use stress for minding his players that "the game is not won" and give maximum effort, even within the party, it is often necessary to renew stress, when is winning, it to avoid a surprise comeback.

In conclusion, an essential skill of any element of the educational organization is to bring each of their teachers or regulatory element to its maximum degree of eustress without reaching distress.

The application of stress as a motivator begins to be practiced in advanced organizations and also stress counseling to employees who suffer. Programs such aid can be individual or collective. They have the dual effect of addressing the problem and show the interest of the organization to its staff. This support is, as mentioned before, a therapeutic effect.

6 REFERENCES.

- 1. SEBASTIÁN, O(1999). Efectos del ambiente físico de trabajo sobre las personas. Centro Nacional de Nuevas Tecnologías, Instituto Nacional de Seguridad e Higiene en el Trabajo. Instituto Nacional de Seguridad e Higiene en el trabajo. Madrid. 1999.
- 2. KASPER, A.S., KLINE, H.B., CURBOW, B., GRIFFIN, J.M., SHIBLEY, H.J., MASLACH, C(1999). Overwork: Causes And Consequences. APA-NIOSH Work Stress and Health 99 Organization of Work in a Global Economy-Abstracts. 1999
- 3. MARTÍNEZ Jarreta B(1998). Turnicidad y ritmos circadianos. Factores de riesgo en patología cardiovascular. Revista Mapfre Medicina Volumen 9, No. 1, 1998
- 4. LÓPEZ García Silva J. A., Camps Del Saz P(1999). Aspectos clínicos y prevención del Psicoterror laboral. Revista Mapfre Medicina, Vol 10 No. 34. 1999.
- 5. MARTÍNEZ Plaza C. A(2001). Estrés Aspectos Médicos Instituto Nacional de Seguridad e Higiene en el Trabajo. Madrid. 2001
- 6. RIQUELME Alfonso(2006), Mobbing, a kind of violence at the working place, Ciencias Sociales Online, julio 2006, Vol. III, No. 2. Universidad de Viña del Mar Chile.
- 7. Asociación Psiquiatría Americana (1998). "Manualdiagnóstico y estadístico delos trastornos mentales" (DSM-IV). Editorial Masson 4ta. Edición. Barcelona, España.
- 8. Field, Tim (1996). "Bully in Sight". Ed. Wessex Press. Oxfordshire. England.
- 9. Gonzales de Rivera, José Luis(2002), "Los Síndromes de Acoso" Editorial Espasa Madrid, España.
- 10. Gonzales de Rivera, José Luis.(1997), "El Trastorno por Mediocridad Inoperante Activa". Psiquis, 18: 229-231
- 11.AYUSO MARENTE José (2014), Profesión docente y estrés laboral: una aproximación a los conceptos de Estrés Laboral y Burnout, Revista Iberoamericana de Educación (ISSN: 1681-5653), Universidad de Cádiz, España ,2014
- 12. MARTÍN, J., y DÍAZ, E. (1995): "Carga mental y estrés: dos conceptos relacionados", en Ansiedad y estrés, vol. 1, n.o 2-3, pp. 131-139.
- 13.SCHAUFELI, W. B., y DIERENDONCK, D. (1993): "The Construct Validity of Two Burnout Measures", en J. of Occupational Behavior; n.o 14, pp. 631-647.
- 14.SELIGMAN, M. E. P. (1975): Helpessness: on Depression, Development, and Death. San Francisco, Freeman.
- 15.SELYE, H. (1936): "A Syndrome Produced by Diverse Nocivous Agents", en Nature, n.o 138, pp. 22-49.

16. STEPTOE, A., y VÖGELE, A. (1986): "Are Stress Sesponses Influenced by Cognitive Appraisal? An Experimental Comparison of Coping Strategies", en British Journal of Psychology, n.o 77, pp. 243-255.

- 17. Holmes TH, Rahe RH (1967). "The Social Readjustment Rating Scale". J Psychosom Res 11 (2): 213–8. doi:10.1016/0022-3999(67)90010-4. PMID 6059863.
- 18.Rahe RH, Arthur RJ (1978). "Life change and illness studies: past history and future directions". J Human Stress 4 (1): 3–15. doi:10.1080/0097840X.1978.9934972. PMID 346993.
- 19. Rahe RH, Mahan JL, Arthur RJ (1970). "Prediction of near-future health change from subjects' preceding life changes". J Psychosom Res 14 (4): 401–6. doi:10.1016/0022-3999(70)90008-5. PMID 5495261.
- 20. Rahe RH, Biersner RJ, Ryman DH, Arthur RJ (1972). "Psychosocial predictors of illness behavior and failure in stressful training". J Health Soc Behav 13 (4): 393–7. doi:10.2307/2136831. JSTOR 2136831. PMID 4648894.
- 21. Buitrago, F, y otros (1999). Prevención de los trastornos de la salud mental desde la atención primaria de salud Recomendaciones del PaPPS Salud Mental.. Atención Primaria, Vol. 24, Suppl 1. 133-192.
- 22. Hans Selye(1976), Stress without Distress, Springer Psychopathology of Human Adaptation, 1976, pp 137-146