

Education for Sustainable Development (ESD)

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**EDUCATION FOR
SUSTAINABLE
DEVELOPMENT**

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Contents

Page

Acknowledgments	v
1 Towards Education for Sustainable Development: The Need for Strategic Planning <i>Moronkola, O.A.</i>	1
2 Partnership in the Management of Nigerian Education for Good Governance and Sustainable Development <i>Oluchukwu, E. E.</i>	9
3. Roles of Technical and Vocational Education in Achieving Sustainable Development in Nigeria <i>Ayeni, A. O.</i>	21
4. Education for People with Special Needs in Nigeria: Challenges and Way Forward <i>Osakwe, R.N.</i>	33
5. Education for Special Populations in Troubled and Difficult Circumstances <i>Mbachu, E.C.</i>	44
6. Role of Information and Communication Technology (ICT) in the Sustainability of Health Care Delivery in Nigeria <i>Ogundele, O. B. & Onyezere, J. O.</i>	59

7. **Administration of Instructional Technology in Tertiary Institutions**
Major Nanighe B. & Okure, S. J. 72
8. **Promoting Nigeria's Inclusive Education for Sustainable Development: Some Challenges and the Way Forward**
Adelua, O.O., Oseni, I.A. & Oladejo, M.A. 88
9. **Information Literacy and Education for Sustainable Development**
Emeahara, E. N. 100
10. **University Education Expansion and Relevance Of Graduates in the Labour Market: Way Forward for Sustainable Development**
Jaiyeoba, A.O. & Atanda, A.I. 112
11. **Teaching of Computer Science Education in Primary Schools In Nigeria**
Ihebereme, C.I. 127
12. **Capacity Building of Teachers: Challenges and Opportunities**
Chukwu, C. L. 135
13. **Economic Relevance of Widening Access to Higher Education in Nigeria**
Isuku, E.J. & Emunemu, B.O 149

- 14 **Stress and Its Health Consequences: The Reduction Strategies for Sustainable Development**
Famuyiwa, S.A. 165
- 15 **Repositioning Technical, Vocational Education and Training (TVET) for Sustainable Development in Nigeria**
Erwat, E. A. & Isah, E. A. 178
- 16 **Citizenship Education Knowledge Management Towards Successful Academic Sustainable Development in Africa**
Dampkor, I. M. & Okure, S.J. 196
- 17 **Information and Communication Technology for Sustainable Educational Development**
Olatunbosun, S. M. 209
18. **The Role of Research and Evaluation in Ensuring Sustainability in West African Educational Development**
Omobola Adedoyin. & Johnson Nenty. H. 221
19. **Rethinking The Roles of Open and Distance Learning in Educational Innovations For Sustainable Development: Challenges and the Way Forward**
Adedeji, S.O., Oladejo, M.A., & Ige, N.A. 234

Stress and Its Health Consequences: The Reduction Strategies for 14 Sustainable Development

Famuyiwa, S.A

Introduction

Health was defined by the World Health Organisation, (1948) as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. The inevitability of the stress, which is a mental aspect of health that people are always prone to, renders everybody not be completely healthy at one point or the other, as mental health connotes emotional well being, the capacity to live a full and creative life and the flexibility to deal with life's inevitable challenges

Moronkola, (2003) stated that some of what many experts conceived as stress include; cosmopolitan malady: disturbance in the body homeostasis, general or acute enough to result to body responses including respiratory, metabolic and circulatory reactions, the reaction of human body so real or perceived change in what the body is used to or desires, thereby leading to a change in equilibrium which call for adapting to the human physical and social environment.

Stress in defined by Getchell, Pippin, Varnes and Podolsky, (1991) as the body's response to physical or mental demand or pressure. Hans Selye, (1974), a doctor and a pioneer in the area of stress related research defined stress as the non specific response of the body to any demand made upon it. He suggested further that stress is the 'spice of life' that to be without stress means to be without life: To individuals' body, stress is synonymous with change. Anything that causes change in one's life causes stress, it doesn't matter if it is a "good"

change or "bad" change, they are both stress, Fawole, (2004) observed that man by nature is bound to be excited or otherwise at some given time of the day' what gets him excited or unexcited rests either on himself, his family and /or the environment, to mention a few. His (man's) positive or negative experiences in his journey of life often result in stress which without doubt affect his performance or behaviour. He explained further that pressure leads to stress and to distress and the stress is the physiological response of the body to pressure; the greater the pressure, the greater the stress. Thomas, Paul and Walton, (1999) observed that stress is popularly viewed as an uncomfortable response to a negative event, which probably describes nervous tension more that the cluster or physical and psychological responses that actually constitute stress. They stated further that stress is not limited to negative situations,' it is also a response to pleasurable physical challenges and the achievement or personal goals, whether stress is experienced as pleasant or unpleasant depends largely on the situation and the individual.

Akinboye, (1986) defined stress as the body's physical, mental and chemical reactions to circumstances that frighten, excite, confuse, endanger or irritate a person. Amusa (1985) opined that if stress is not handled well, it becomes an enemy which can lead to such diseases like hypertension, ulcer, asthma, loss of appetite, headache, stomach upset, insomnia and frequent urination. Stress has a negative and positive results. A negative effect of stress is called distress (unpleasant stressor) while the positive effect of stress is eutress (pleasant stressor).

Stages of Stress

Getchell, Pippin, Varnes and Padolsky, (1991) quoting Hans Selye, (1974) General Adaptation syndrome of stress stated that there are three stages of stress: Alarm, Resistance and Exhaustion Stage.

Alarm Stage: As soon as one recognizes a stressor, one's body reacts. This quick physical warning is the alarm stage when you felt fear, one's body releases adrenaline. Adrenaline is the hormone that causes a rush of energy in times of danger. The heart rate and breathing speed up. Blood rushes from stomach and other internal organs to arms, legs, and brain. These prepare persons to fight with greatest energy or to flee at top speed. The body immediate to stress is called *fight or flight response*.

Resistance Stage: This is the body working against the stress. Although one may not be able to fight or flee, the body still works to resist a threatening stressor; in many cases the body continues to responds as if it were in danger even after the stressor is gone. The body develops a new level of homeostasis in which it is more resistant to disease and injury than normal. In this stage people overcome stress with defense mechanisms known as coping mechanism such as laughing or joking instead of losing temper when face with a bad situation.

Exhaustion: If a stressor persists or if several stressors occur in succession, general exhaustion results. This is not the sort of exhaustion people complain after a long, busy day. It is a life threatening type of physiology. Exhaustion is characterized by such symptoms as distorted perceptions and disorganized and disorganized thinking. The body and mind are so tired, one can no longer resist the stressor. During this exhaustion stage, people often become ill.

Causes of Stress

Human beings are surrounded by stressors-at home, at school, on the job and within ourselves. Fawole, (2006) noted that the common form of stress are linked to work, money matters and relationships with partners, children or other family members. Major upheavals and life events such as separation of spouse, unemployment and bereavement, or minor irritations

such as feeling undervalued at work or dealing with difficult children can also cause stress.

Thomas, Paul and Walton, (1999) expatiated on the following common sources of stress:

Major Life changes: Any major changes in life that requires adjustment and accommodation can be source of stress. Early adulthood and the college years are typically associated with many significant changes, such as moving out of the family home, establishing a new relationship, setting educational and career goals and developing a sense of identify and purpose. Even changes typically thought of as positive graduation, job prmotion, marriage can be stressful.

Daily Hassles: They can be greater source of stress because they occur much more often. La Place, (1987) defined hassles as the small irritation events that come up unexpectedly in the course of a day, such as misplaced things, over scheduling and becoming angry at other people's behaviour e.g wasting one's time at police checkpoints while travelling or as a result of the banks inability to access account due to server's failure network. All these minor's destruct the predictable flow of daily events and thus become stressful.

College Stressor: College is a time of major life changes and abundant minor hassles, students are learning new information and skills and making major decisions about their future. One may be away from home for the first time, or may be adding extra responsibilities to a life already filled with job and family, some common sources of stress associated with college include academic responsibilities, having many assignments to complete within the same time frame, moving from one lecture room to another, contending with hostel accommodation problem, social and interpersonal changes, time-related pressures and financial concerns. (Dill and Henkey, 1989)

Job Related Stressors: Job is one of the key stressors in people's life. Tight schedules and overtime leave less time to exercise, socialize and engage in other stress coping activities, worries

about job performance, salary and job security. Interactions with boss, co-workers and customers can contribute to stress. High levels of job stress are also common for people who are left out of important decision relating to their jobs. (Achal, 1993).

Interpersonal and Social Stressor: Although social support is a key buffer against stress, one's interactions with family members and old friends may change during college years as one develops new interest and new course for life. One may be meeting new people and establishing new relationships. All these changes and experiences are potential stressors.

The community and society in which one lives can also be a major sources of stress. Social stressors include prejudice and discrimination; one may feel stress as one tries to relate to people of other ethnic or socioeconomic groups.

Other Stressors: These are found in the environment and in ourselves. Environmental stressors-external conditions or events that cause stress include loud noise, unpleasant smell, industrial accidents and natural disaster. Internal stressors can occur as we put pressure on ourselves to reach personal goals and evaluate our progress and performance. Physical and emotional stress such as illness and exhaustion are examples of internal stressor.

Nwajei, (2004) listed the following as causes of stress: childlessness, sexual difficulties: mostly impotence, pregnancy, divorce and other marital problems; unemployment, loss of job or retirement, failure in examination, disappointments, poverty, family responsibilities, poor job satisfaction; transfer or redeployment, death of spouse or loved one, poor accommodation or sudden change of residence, poor performance as in athletics and games, noise and pollution within the environment.

Physiology/Physical Response to Stress

When one is faced with stressor, there are two major control systems in the body that are responsible for one's physical response to stressors, the nervous system and endocrine system.

The Nervous System: This consists of the brain, spinal cord and nerves. The part of the body system, control one's heart rate, breathing, blood pressure and hundreds of other functions that one normally takes for granted. The autonomic nervous system consists of two divisions; the *parasympathetic* division is in control when one is relaxed: it aids digestion of food, storing energy and promoting growth. In contrast, *sympathetic* division is activated when there is emergency such as severe pain, anger or fear. Sympathetic nerves acts on many muscles which enable one's body to handle an emergency. In general the sympathetic division commands one's body to stop storing energy and instead to mobilize all energy resources to respond to the crisis.

The Endocrine System: This is being activated by the sympathetic nervous system. The endocrine system, which consists of tissues and cells, helps to control body functions by releasing hormones chemicals acts on a variety of target throughout the body. The nervous endocrine systems work together in an emergency in the sense that when one is in fearfull situation, something outside one's awareness will happen to prepare one to meet the danger. Chemical messages cause the release of key hormones and these hormones trigger a series of profound physiological changes such as hearing and vision become more acute, acceleration of heart rate to pump more oxygen through the body, Adrenal glands stimulate secretion of epinephrine and norepinephrine increasing blood sugar, blood pressure and heart rate to provide an energy boost. The liver releases extra sugar into the blood stream to provide an energy boost to the muscles and the brain, perspiration increases to cool the skin. Bladder relaxes,

emptying of bladder contents releases excess weight, making it easier to flee. Bronchi dilate to allow more air into lungs, fat is removed from storage and broken down to supply extra energy. Pancreas decreases secretions because digestion has halted. Voluntary (skeletal) muscles contract throughout the body, readying them for action. Taken together, these almost instantaneous physical changes are called the "fight or flight reaction."

The Return to Homeostasis: Once a stressful situation ends; the parasympathetic division of the autonomic nervous system takes command and halts the reaction. It initiates the adjustment necessary to restore homeostasis; a state in which blood pressure, heart rate, hormone levels and other vital functions are maintained within a narrow range of normal and the body resumes to its normal housekeeping functions gradually such as digestion and temperature regulation (Pike, 1997).

Health Consequences of Stress

Stress can cause physiological, physical, emotional and behavioural disorders with its consequent effects on the health of the people. If stress is handled poorly, one is at risk of a wide range of health problems. In the short term, the problem might just be a cold, a stiff neck or a stomach ache, but if it is prolonged one may be exposed to severe health problems such as cardiovascular disease, high blood pressure or impairment of the immune system. Physiologically, during a prolonged or severe stress, heart rate increases and blood vessels constrict, causing blood pressure to rise. Chronic high blood pressure is a major cause of atherosclerosis, a disease in which the wall of the blood vessels become damaged and caked with fatty deposits. These deposits can block arteries, causing heart attack and strokes. Stress can alter the function of the immune system as there are some stress that one can least afford; such as during examination week, preparation

for wedding, or any social function; or having a job interview. Research shows that the illness is not just a mere coincidence. Some of the health problems linked to stress related changes in immune function include vulnerability to colds, asthma and allergic attacks, susceptibility to cancer, and flare ups of chronic diseases such as genital herpes.

Nwajei, (2004), Fawole, (2004) stated the physical disorders from stress include insomnia, a feeling of constant fatigue, headache, skin rashes, digestive disorders such stomach aches, diarrhea, constipation, irritable bowel syndrome, ulcers. Loss of appetite or excessive eating, feeling of nausea, breathlessness or dry mouth, marked decline in personal appearance, a quick and sharp temper, and general withdrawal from social activities. Emotional disorder can be in form of unnecessary aggression in conflict situations, exhibit poor concentration and difficulty in remembering, while behavioural disorders can call for excessive eating, drinking and smoking. Thomas, Paul and Walton, (1999) in addition to the above health consequence of stress, stated psychological problems including depression (mood with overwhelming feelings of sadness and grief, lost of interest and pleasure in all or most activities). Anxiety, panic attack, post traumatic stress disorder (PTSD) which afflicts people who have suffered or witnessed severe trauma, injuries, including on the job injuries caused by repetitive strain, menstrual irregularities, impotence and pregnancy complication, tension headaches and migraines.

Strategies for Coping with Stress

Stress has been discussed as an inevitable part of life and to be without stress is to be without life, since stress is unavoidable, the issue at stake is how it could be managed. Thomas, Paul and Walton, (2009) listed the followings as strategies to manage the stressful situation.

Engaging in regular physical exercise is beneficial to the management of stress. Researchers have found that people

who exercise regularly react with milder physical stress responses before, during and after exposure to stressors, and that their overall sense of well being increases as well. Even light exercises as brisk walk, an easy bike outing is effective in reducing anxiety and blood pressure. However, exercise should not be too strenuous in order not to complicate the stressors. Learning to manage one's time successfully can be crucial to coping with everyday stressor; over commitment, procrastination and even boredom are significant stressors for many people. The following are tips for time management:

Set Priorities: divide your tasks into three groups; essential, important and trivial. Focus on the first two, ignore the third.

Set realistic and attainable goals: as difficult, impossible goals cause frustration and failure.

Appropriate enough time for each project: you undertake by calculating how long it will take and give extra time for accomplishment.

Schedule tasks for peak efficiency: you're undoubtedly noticed, you are most productive at certain times of the day (or night) schedule as many of your tasks for those hours as you can and stick to your schedule.

Break up long term goals into short term ones: instead of waiting for or relying on large block of time.

Delegate responsibilities: As asking for help when you have too much to do; but don't delegate the jobs you know you should do yourself.

Say no when necessary: if the demands made on you don't seem reasonable, say no tactfully, but without guilt or apology.

Stop thinking or talking about what you are going to do: and just do it. Sometimes the best solution for procrastination is to stop waiting for the right moment and just get started.

The way you think: the ideas, beliefs and perceptions you process can contribute to stress and have negative impacts on health. Engage in the following habit that can relieve you of unhealthy thought patterns: Live in the present; clear your

minds of old misfortunes and fears of the future in order to enjoy life as it is now, accept what you can't change, forgive faults and be flexible, prepare for disappointment in any situation or endeavour, if it happens unexpectedly it will not weigh you down (Reinhold, 1996).

Adequate Nutrition: Healthy diet will supply the energy needed to cope with stress and reduce excessive fatty foods to prevent overweight; avoid cigarette smoking and reduce alcohol drinking to a minimum (Hansel, 1997). Avoid the use of sleeping pills as sleeping problems are common when you are suffering from stress, but try to ensure that you get enough rest.

Social support: Friends are an important resource in coping with stress, it is easier to build friendships when things are going well than after stress has already built up, it is important to learn to share happy and sad feelings, friends may offer ideas that will reduce stress as a strong support group of friends and adults is also one of the best defenses against stress.

Relaxation: It is wise to save part of each day for relaxation. Even a few restful moments after lunch or dinner, for example, can have a refreshing effect: listening to music, working on a hobby or sharing time with a good friend are excellent ways to relax. Reading can be very relaxing; Novels, newspaper and magazines etc, Play spots for fun can also be relaxing. Some people enjoy taking a very hot bath to relax; muscle relaxation techniques are also useful to relieve stress. Relax your entire body into a comfortable position, then imagine your parts gradually from hands to other parts growing heavy. This exercise is good for a short break or for falling asleep at night.

Fawole, (2004), in addition to the above stress coping strategies explained the following;

- i) Make your life regular by sleeping soundly as much as possible, give yourself a definite wake up and sleep time.
- ii) You must give your body adequate time to repair itself if you have fatigue, aches and pains, anxiety, depression or problem sleeping.
- iii) Keeping your blood sugar steady, avoiding the sugar highs and sugar lows; take your sugar in the form of complex carbohydrates such as cereals, rice bread and yam.
- iv) Eating frequently small meals, instead of a few large ones also helps keep your blood sugar stable.
- v) Endeavour to avoid all forms of sedatives entirely (tranquilizers and calmative)
- vi) Give in; occasionally be flexible if you find you are meeting constant opposition in either your personal or professional life and go easy with criticisms.

Conclusion

Stress is an inevitable problem that human beings are prone to and it can be imposed on individuals through daily activities such as in major changes; job related stressor, academic stressor on college students, interpersonal social and environmental stressor, with its consequent negative health effects on individual. However, the excess of stress depends on how individual perceive and interpret life events. Therefore, strategies for coping with stress is worth pursuing by the people for the maintenance and promotion of good health to enhance sustainable development in the nation as the health of the people is the greatest natural resources of a nation upon which all their happiness and power as a state depend.

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