

PROCEEDINGS



A
CONFERENCE
FOR
STUDENT SCHOLARS
AT
TWO-YEAR COLLEGES

WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York

FUNDED BY A COALITION OF TWO-YEAR COLLEGES

Dear Reader:

The 2002 Beacon Conference was dedicated to Joseph Abeles and his late wife, Sofia Abeles, friends and promoters of academic excellence at Westchester Community College.

The WCC Faculty Senate, the WCC Library Department, and 17 Holders of Endowed Chairs in a variety of disciplines have joined us in our tribute by sponsoring 14 of the 15 panels held.

We gratefully acknowledge their support.

Sincerely,
Carol Klein and Mira Sakrajda
Beacon 2002 Co-Directors

INTRODUCTION

Beacon '02

is a conference for student scholars at two-year colleges. This conference is funded by a coalition of two-year colleges. In addition to Westchester Community College, the other sponsoring colleges are Bergen Community College (NJ), Bronx Community College (NY), Brookdale Community College (NJ), Community College of Philadelphia (PA), Dutchess Community College (NY), Frederick Community College (MD), Harford Community College (MD), Lehigh Carbon Community College (PA), Montgomery College (MD), Northampton Community College (PA), Ocean County College (NJ), Queensborough Community College (NY), Raritan Valley Community College (NJ), Reading Area Community College (PA), Rockland Community College (NY), and Ulster County Community College (NY).

Panels of students presented papers on diverse subjects in the various fields of inquiry explored at two-year colleges. Each panel was judged by a scholar in the field, and the outstanding presenter on each panel, along with his or her faculty mentor, were awarded prizes of \$100 each.

In this booklet, the most outstanding papers are reprinted. In the overview of panels, these presentations are indicated by an asterisk.

Stress: The Root of All Evil

Identifying and Managing Stress in Your Life

by Kellie Yaskanich

Stress, once dubbed the “epidemic of the ‘80’s,” by *Time* magazine (June, 1983), is now believed to play an adverse role in the lives of as many as forty-three percent of all adults. Seventy-five to ninety percent of all visits to primary care physicians are for stress-related complaints or disorders. It has also been linked to all of the leading causes of death including heart disease, cancer, lung ailments, accidents, cirrhosis, and suicide. On average, nearly one million workers are absent on any given workday due to stress related complaints and it is believed to cost industry more than 225 million lost workdays annually (American Institute of Stress (AIS), 2001).

As defined by the “father of the modern stress theory,” Hans Seyle (1974), stress is the non-specific response of the body to any demand made on it. The source of stress may be internal thoughts and emotions, or external environmental factors. Everything has some effect on the body: good, bad, acute, chronic, severe or minimal (Huffman, et. al., 2000). A basic understanding of what stress is, its physiological and psychological symptoms, its general causes, and ways to recognize them are all instrumental to finding effective methods of stress-management. Learning how to cope with this potentially detrimental and everyday element of life can lead to a healthier and longer life.

Seyle made the distinction between positive forms of stress (eustress), negative forms (distress), excess stress (hyperstress), and inadequate levels of stress (hypostress). Stress in the right quantities and of the right kind promotes motivation in an individual, encouraging success while helping to prevent boredom from a lack of stimuli. In short, it is good for us. Distress, on the other hand, can be extremely detrimental to all aspects of human well being including the behavioral and cognitive processes of the mind; it disrupts the body’s steady state of normal functioning—homeostasis. In general, when speaking of stress, it is distress, that is most commonly being referenced (Huffman, et. al., 2000, and Manning, et. al., 1999).

In 1936, Seyle identified the generalized physiological reaction, which results from exposure to extreme stressors, as the General Adaptation Syndrome (GAS). The GAS is broken down into three stages: the alarm reaction, the stage of resistance, and the stage of exhaustion (Huffman, et. al., 2000, and Manning, et. al., 1999).

In the first stage, the alarm reaction, temperature, blood pressure, blood fluid and potassium levels are initially decreased. The body then enters an aroused physiological state to help cope with the stressor, releasing powerful hormones called catecholamines, specifically adrenaline and noradrenaline. Sporadic heart-rate surges and elevated blood sugar levels generally accompany this state. It also causes a rerouting of the blood from the digestive organs to both the skeletal muscles and the brain, quickened blood clotting, increased rate of breathing, and a release of pain-killing endorphins and hormones. These allow for increased visual and auditory sensitivity. Prolonged endurance of this stage can cause sickness or even death, or in the case of less severe stressors, it can lead to the second stage of the GAS (Huffman, et. al., 2000, and Manning, et. al., 1999).

Decreased sexual desire, persistent tiredness, and tightness of the neck and shoulder muscles physiologically characterize this next stage, the resistance stage. The behavioral symptoms may include tardiness, missed deadlines, excess smoking, eating and sleeping, as well as increased caffeine and alcohol or drug consumption. Psychological characteristics such as procrastination, resentment, loneliness, a lost sense of humor, a cynical or indifferent attitude, and a sense of constant

worrying are common. When the natural resources of the body are exhausted, the final stage of the General Adaptation Syndrome, the exhaustion stage, begins (Huffman, et. al., 2000, and Manning, et. al., 1999).

The stage of exhaustion, formally referred to as a breakdown, is now commonly known as burnout. Chronic sadness or depression, mental fatigue, a sense of hopelessness, and an overall desire to "quit" are common characteristics. The ability to make decisions, even minor ones, is often difficult and withdrawal from friends, family, and life routines is common. (Huffman, et. al., 2000, and Manning, et. al., 1999).

At this stage, it is not uncommon for the sufferer to experience chronic headaches, physical fatigue, and stomach or bowel problems. By now the immune system is considerably weakened and the breakdown of tissues increases the chance of an infection occurring. Continual strain on the heart and the blood vessels resulting from the body's continuous state of excitement eventually takes its toll and heart disease is a common result. The weakening of the body's natural immune system increases the body's susceptibility to colds, flues, infections and other diseases. When the body's resources for combating stressors are depleted, sickness and/or death becomes possible (Huffman, et. al., 2000, and Manning, et. al., 1999).

Walter Cannon's fight-or-flight syndrome illustrates this destructive process. Any threat to the body or the psyche of the individual triggers the activation of a subcortical component of the brain, the hypothalamus. It, in turn, activates both the endocrine system and sympathetic component of the autonomic nervous system (Huffman, et. al., 2000, and Manning, et. al., 1999).

Within the endocrine system, the pituitary gland releases adrenocorticotrophic hormone (ACTH) into the blood stream. This stimulates the outer layer, or cortex, of the adrenal gland to produce large quantities of neurotransmitters called glucocorticoids, which include cortisol, a chemical known to raise blood sugar levels and quicken the body's metabolism rate. Corticosteroid hormones, released in this process, increase the energy available and prevent inflammation of body tissue (Huffman, et. al., 2000, and Manning, et. al., 1999).

Simultaneously, neurotransmitters within the sympathetic nervous system activate the medulla, near the brain stem, resulting in the release of adrenaline (epinephrine) into the bloodstream. A release of catecholamine hormones allows the body to prepare mobilization. Glucose levels are increased to fuel muscle and nervous system activities. Noradrenaline (norepinephrine) increases heart rate and blood pressure.

Altogether, however, it takes only seconds for the body to reach optimum preparation for fight-or-flight (Huffman, et. al., 2000, and Manning, et. al., 1999).

While this natural defense system is believed to have been extremely beneficial to our ancestors for survival, it plays no real role in today's modern society. The human body has yet to adapt to our contemporary behavioral routines—it is not often that we are attacked by a fierce lion or neighboring tribe on the way to work each day. We seldom need to escape from or battle with predators for survival. Instead, our "battles" are often fought on the freeway or the checkout line at the grocery store (Huffman, et. al., 2000).

The physical enhancements that accompany the sympathetic response to stress are futile in combating modern stressors. The traditional outlet for this mounting energy is not realistic today, and therefore the energy is instead stored. The level of metabolites in the bloodstream increases and internal organs undergo harmful deterioration. The heightened stress level begins to take its toll and heart attacks, strokes, ulcerative colitis and other serious health concerns are common aftereffects.

In extreme cases, stress has been linked to disorders such as depression, post-traumatic stress disorder, hypertension, cardiac disease, increased cancer susceptibility, and even schizophrenia. In the case of schizophrenia, however, it is more of an enabling factor than it is a root cause.

Fortunately, most stress does not lead to such severe abnormalities. In the case of depression and post-traumatic stress disorder, an overall sense of learned helplessness dominates the psyche, preventing the individual from conquering the source(s) of their stress. The body weakens and becomes an easy victim for many viruses and diseases, including cancer cells. In this condition, the body is unable to defend itself. (Huffman, et. al., 2000, and Manning, et. al., 1999).

Hypertension is a common cardiovascular disorder characterized by excessive muscular tension and chronically elevated blood pressure. Essential hypertension, being the most common form of hypertension, appears to have no medical basis for the condition (Manning, et. al., 1999). Hypertension and heart disease now account for more than half of all deaths in the nation. They are not only two of the most common, but also the deadliest of all stress-related disorders. Although modern medicine has helped to reduce the threats imposed by many diseases such as tuberculosis and pneumonia, the fast-paced lifestyle of the twenty-first century is a breeding ground for stress-related disorders. Its far-reaching tentacles have become the nation's number one killer (Corbin, et. al., 2001).

When faced with a stressor (any stimulus which causes stress), which causes emotions of fear, anger, or anxiety, the hypothalamus activates the sympathetic nervous system; this results in the transmission of biochemical impulses which constrict the arteries. The resulting blood pressure elevation is sustained for as long as the threat is present.

People with essential hypertension tend to exaggerate stressful situations and hence, suffer prolonged blood pressure increases, making them a strong candidate for stroke. Aneurysms result when the extra pressure in the cerebral blood vessels causes weakened or clogged vessels to burst. The probability of suffering a heart attack increases in hypertensive people. High blood pressure forces the heart to work harder and accelerated wear and tear on the organ is inevitable. Combined with smoking, high cholesterol, obesity, or diabetes, the risks magnify. Prolonged hypertension can cause driving surges of blood with the potential to damage the inner linings of the arteries. When the lining is roughened, fats are deposited, narrowing the inner diameter of the blood vessels, forcing the heart to pump the same amount of blood through a smaller opening. Thus, the amount of pressure needed to pump the blood through increases (Manning, et. al., 1999).

Coronary heart disease has also been positively correlated with high blood pressure and, contrary to popular belief, can develop early in life (Manning, et. al.)

Modern behavioral and cognitive practices also help to stack the deck against us. Today's fast-paced lifestyles place greater demands upon us than in times of yesteryear, and therefore, poor nutritional habits have become the norm and sleep habits are often inadequate. These secondary factors contribute the body's inability to cope with demands made on it. Consequently, a "catch-22" cycle initiates: poor nutrition and sleep deprivation prevent homeostasis and decreases immune system efficiency. This, in turn, hinders the ability to cope with tomorrow's stressors. These stressors, combined with new ones, continue to take their toll and nutritional habits deteriorate and sleep becomes impossible, again effecting coping ability. This perpetual cycle is difficult to overcome. If not addressed, the wear and tear on the body eventually results in organ failure (Corbin, et. al. 2001).

To compound this problem, some individuals are inherently prone to higher stress levels through genetic factors. For many others, a fast-paced lifestyle manifests the many detriments. Certain human behavioral characteristics have been specifically attributed to promoting higher stress levels. The Type A personality, which has been linked to higher levels, possesses qualities such as intense ambition, competition, drive, constant preoccupation with responsibilities, great time urgency, and a cynical, hostile outlook (Friedman and Rosenman, 1959 in Huffman, et. al., 2000). Specific characteristics of the Type A personality: hostility, anger, and vigorous speech, are the most damaging and lead to a heightened reaction of the sympathetic nervous system, increased stress

levels, and greater susceptibility to coronary heart disease. Many researchers believe that aggression results from both environmental factors and genetic predisposition; leaving individuals little choice but to find effective ways of management (Huffman, et. al., 1999)

In the fast-paced world of today, stress is unfortunately as much a part of everyday life as coffee in the morning; it is an intricate part of life changes, long-term circumstances, daily hassles, frustrations, and conflicts. Events that are stressful to some, however, may not pose the same threat to others. Whether a person perceives the specific event(s) as positive, threatening, or irrelevant, determines the level of stress inflicted (Lazarus and Folkman, 1984 in Huffman, et. al., 2000).

For example, if Christie, who is 16 years old and lives home with her parents, free of financial burdens, loses her job as a grocery store clerk, the stress caused from that loss may not be as great as if Karen, who is 32, unmarried with two children, loses hers.

Life changes are generally the most traumatic of the stressors and can again be positive or negative. Examples of significant life changes include: rape and childhood abuse, death of a loved one, starting a new job, moving, becoming a parent, marriage, work schedule shift, or learning of a terminal or permanent illness (Huffman, et. al., 2000). Many of the victims of the recent World Trade Center attack have undergone several severe life changes since September 11. In short, life changes are events that disrupt the routine flow of our daily lives, both large and small.

In the late 1960's psychological researchers Thomas Holmes and Richard Rahe developed the Social Readjustment Rating Scale (SRRS) to aid in rating these life changes on the severity of their impact (Huffman, et. al., 2000).

Chronic stressors, endured over an extended period, may not initially appear to be an immediate threat. The impact of these types of stressors intensifies the longer that they are endured. These might include enduring a chronic or terminal illness, involvement in a bad marriage, holding a meaningless or monotonous job, or even exposure to a loud and chaotic environment such as a construction site or assembly line. Often times, the pressures of work-related stress play adversely on personal relations, in turn, causing unwarranted tension at home and inevitably more stress (Doby and Caplan, 1995; Piorkowske and Stark, 1985 in Huffman, et. al., 2000).

Hassles are the little things. Individually, they are minute and insignificant in themselves—necessary, but inconvenient. Some examples of hassles are the morning commute, laundry day, or vacuuming. Effective planning and proper time-management help to reduce the amount of stress suffered from these everyday bothers (Huffman, et. al., 2000, and Manning, et. al., 1999).

Frustration occurs when the desire to achieve a specific goal is blocked beyond immediate control. It creates an unpleasant state of tension, anxiety, and heightened sympathetic activity within the autonomic nervous system (ANS). Frustration can result from an admission rejection to your college of choice, a concert sell-out before getting your tickets, or a traffic jam that causes you to be late for an appointment. Frustrations are specific to personal motivations and are caused by the inability to achieve that goal (Huffman, et. al., 2000, and Manning, et. al., 1999).

Conflicts occur when a choice is present which causes a negative emotional state resulting from an inability to choose. Conflicts come in three basic varieties: approach-approach, avoidance-avoidance, and approach-avoidance. Approach-approach conflicts occur when both choices are favorable, both having benefits, or comparable outcomes. This type of conflict produces the least amount of stress of the three. Avoidance-avoidance conflicts occur when a choice must be made and the outcome of either choice is undesirable. Cancer patients who are given the choice between certain death and the limited hopes of chemotherapy are faced with this type of decision. Approach-avoidance conflicts are those in which the choice made will lead to both positive and negative effects and the chooser is left to evaluate the pros and cons of each. These types of choices are easier to analyze than avoidance-avoidance conflicts and generally produce only moderate levels of stress (Huffman, et. al., 2000, and Manning, et. al., 1999).

Having identified all of the possible sources and scenarios of stress, it becomes easy to see why it had been dubbed an epidemic; it is everywhere and inescapable. Stress doesn't have to dominate your life though. Fortunately, researchers have developed many methods to manage and minimize the destructive capabilities of stress. Successful stress management depends greatly upon an individual's belief system, social supports, environment, routines, and overall sense of well-being and physical health. It is also dependent upon the specific stressor(s) involved, the degree of severity, and any correlation with or proximity to other stressors. In general, two basic types of coping skills are employed depending upon the conditions: *emotion-focused forms of coping* and *problem-focused forms of coping* (Huffman, et. al., 2000).

Emotion-focused forms of coping are those in which the methods used rely on altering one's perception of the stressful event. Psychological defense mechanisms such as rationalization and denial are common examples of emotion-focused coping. Problem-focused forms of coping, on the other hand, use problem-solving techniques designed to either decrease or eliminate the source of stress. These techniques involve identifying the stressor, generating possible solutions, choosing the correct one, and then applying the solution, thereby eliminating the stressor (Huffman, et. al., 2000).

Unnecessary arterial buildup can be minimized by learning to control the autonomic system's reaction to stressful events. Effective stress-reducing techniques often include some form of physical exercise to help use up the unwanted fatty tissue stored in the arteries, increase blood flow, and increase oxygen uptake. Other forms of stress management, like problem-solving techniques, mediation, or anything else that lessens the likelihood of overreaction to a stressor, help to limit the impact on health and the body (Corbin, et. al). For a long and healthy life then, it is essential to develop adequate coping skills to help limit the adverse environmental effects that inhibit us mentally, emotionally, and physically (Huffman, et. al., 2000, and Manning, et. al., 1999).

According to Dr. Dennis Waxman, of the Liberty Professional Plaza, high stress levels consume great quantities of Vitamin B from the body's reserve. Therefore, a diet that is high in Vitamin B, yet otherwise balanced, will help to defeat some of the negative effects of stress, like fatigue. This, combined with adequate sleep and regular exercise, keeps the immune system functioning at high capacity.

Exercise has proven to release natural biological painkillers called endorphins into the bloodstream. It improves the cardiovascular and coronary systems allowing for increased blood flow, and therefore oxygen and nutrients to the brain. This energizes the thought process for productive solution-orientated brainstorming while, at the same time, dulling the emotional and physical pains imposed by the stressor(s) (Corbin, et. al., 2001).

Other key elements to successful stress-management include: an optimistic frame of mind, an accurate perception of the events involved and their inevitable impact, a prioritization of values, and a dependable social support-network (Manning, et. al., 1999). When life's little annoyances are beyond control, stressing over them becomes a futile act. St. Francis of Assisi once asked, "Give me the serenity to accept what cannot be changed, courage to change what should be changed, and the wisdom to distinguish one from the other." (Benjamin, G. as cited in Manning, et. al., 1999). Defense mechanisms, such as denial, can be a hindrance to this belief; therefore, an accurate perception of events is crucial to success. (Huffman, et. al., 2000) On the other extreme, those who are highly critical of themselves and others often suffer low-self esteem and depression because unmet expectations promote disappointment, anger, and frustration. Man has proven capable of handling as many as four primary tasks comfortably. Prioritizing values and limiting the number of major commitments to three, leaving one opening for any unexpected emergencies, dramatically reduces the likelihood of stress-related 'burnout' (Manning, et. al., 1999).

The Greek philosopher Aristotle once wrote, "Moderation, moderation, everything in moderation." (Aristotle as cited in Manning, et. al.) Moderation means to avoid the extremes in life

and to seek balance in all of life's functions. If, however, it is not possible to cut back on current obligations, the delegation of some of the responsibilities may be a feasible solution, which possesses many benefits within itself. A strong social support network consisting of friends, families, coworkers, therapists, counselors, and/or support groups, is also invaluable in handling stress. It has also been well-documented, as the science of psychology can attest, that talking problems out with a trusted someone can alleviate many of the psychological and physiological detriments of stress. (Manning, et. al., 1999)

Other techniques for reducing or eliminating stress come from the beauty of living itself. Stop and enjoy the little things in life; take notice of everyone and everything that you encounter. Help others. Helping others is a natural way to "de-stress." Take up a hobby. A hobby allows for a mental break from the harshness of stressors; it allows for a time of solitude and regrouping. If the hobby is a physically active one, it also helps to achieve physical fitness, improved cardiovascular fitness, and the release of endorphins and other neurotransmitters to aid in combating an imposing stressor. The "decompression chamber" is a coping technique that uses any routine, specific to the individual, to make the daily transitions from home to work and work to home to prevent the intermingling of the two environments. This transitional period might be in the form of a specific activity or may involve a special place; whatever it consists of, it should allow for a reflection of past events and for preparation of future ones. It helps to focus on the positive aspects of life (Manning, et. al., 1999).

These techniques work best to reduce or eliminate stress when applied in conjunction with one another. No one technique alone is effective in all situations. By correctly identifying the specific causes and the resulting effects of a stressor, the appropriate coping skills can be effectively applied and the healing process begun (Corbin, et. al., 2001).

When improperly managed, stress can lead to a number of physical and mental disorders, many of which are potentially fatal. Effective stress-management skills offer the best defense known to protect against its unyielding wrath. So, be a statistic—be part of that forty-three percent of Americans suffering from the aftermath of daily wear and tear—or apply the techniques shown here and take control of your life. Seyle offers this advice:

True age depends largely on the rate of wear and tear, on the speed of self-consumption; for life is essentially a process which gradually spends the given amount of adaptation energy that we inherited from our parents. Vitality is like a special kind of bank account which you can use up by withdrawals but cannot increase by deposits. Your only control over this most precious fortune is the rate at which you make your withdrawals. The solution is evidently not to stop withdrawing, for this would mean death. Nor is it to withdraw just enough for survival, for this would permit only a vegetative life, worse than death. The intelligent thing to do is to withdraw and expend generously, but never wastefully for worthless efforts. (Manning, et al., p.12)

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