The Problem

Stress and college tend to go together; a non-stop balancing act of school, work, relationships, and finances. Stress impacts our lives (and affects our health) in ways that medical research is only now discovering. However, not all stress is bad. Like animals, our instinctive stress response can be a life-saving defense mechanism. The nerve chemicals and hormones released during stressful times prepare us to face a threat or flee the scene. When we face a dangerous situation, our pulse quickens, we breathe faster, our muscles tense, and brain activity increases; all functions aimed at survival. Once the threat has passed, other body systems attempt to restore normal functioning.

However, with chronic unmanaged stress (either real or perceived), these same nerve chemicals and hormones that are life-saving in the short term can suppress vital functions that aren’t needed for immediate survival. The impact can be devastating to nearly every system of the body.

With that said, keep in mind the words of Dr. Kenneth Cooper, of the Cooper Institute, “it’s not stress that kills, it’s the way you handle it.” It is virtually impossible to eliminate (or avoid) all forms of stress that the world hands us. Learning to manage life's ups and downs is the key that will lock away the negative effects of stress. Why a stressor impacts some people more than others is often viewed as a mystery. However, our perception (how we view or perceive) a thing or event (stressor) often determines the impact that it has on our lives.

America’s top stressors of today include economics or financial, health issues, and unemployment (or underemployment).

Know the Terms:

1. **Adaptive response**: The body’s adjustment to overcome a stress stimulus in order to preserve homeostasis.
2. **Allostatic Load**: The physiological consequences of chronic stress exposure.
3. **Autonomic Nervous System (ANS)**: Part of the peripheral nervous system that controls visceral (organ) function in an involuntary manner (person does not consciously control).
4. **Coping**: Stress-management practice; Managing the conditions or events to lessen the effects of high levels of stress.
5. **Cortisol**: Referred to as the “stress hormone”; secreted by the adrenal glands it is involved in a multitude of functions, including making stored nutrients more readily available to meet energy demands.
6. **Distress**: Negative stress; stress that can have damaging effects on health.
7. **Epinephrine**: Adrenaline; hormone released in the fight-or-flight response that stimulates body systems.
8. **Eustress**: Positive stress and/or challenges.
9. **Fight-or-Flight Response**: A heightened stage of arousal when faced with a real or perceived threat that prepares the body to fight or flee. The first stage of alarm in the general adaptation syndrome.
10. **General Adaptation Syndrome (GAS)**: The progressive physiological response to stress, consisting of the alarm, resistance, and exhaustion phases.
11. **Homeostasis**: Greek terms homeo meaning "same", and stasis meaning "stable"; to maintain balance or return systems to functioning within a normal range.
12. **Hypothalamus**: An area of the brain located near the pituitary gland that controls a multitude of body functions including maintaining homeostasis.
13. **Meditation**: The practice of mind relaxation techniques; a type of mind-body complementary medicine.
14. **Overload**: The presence of on-going and intense stress causing a person to feel overwhelmed, and “out of control”.

15. **Parasympathetic Nervous System**: Branch of the autonomic nervous system responsible for slowing or lowering stress arousal levels.

16. **Stress**: The body’s reaction to a change, demand, or threat, triggering a series of physiological responses. Stressors (cause) can be negative (distress), or positive (eustress).

17. **Stressors**: Event or condition which triggers the stress response.

18. **Sympathetic Nervous System**: Branch of the autonomic nervous system responsible for stress arousal or excitation levels.

**Stress: Basic Training**

1. **Stress Defined**:
   - Stress can be defined as the brain’s response to any demand, threat or change.
     - Many things can trigger this response, these triggers are known as stressors:
       - Changes can be positive (eustress) or negative (distress)
       - Changes also be can be real or perceived, and may be recurring, short-term, or long-term
       - Changes can be mild and relatively harmless, such as winning a race, watching a scary movie, or riding a rollercoaster, or major, such as marriage, divorce, serious illness, or a car accident.
       - Other changes are extreme, such as exposure to violence, and can lead to traumatic stress reactions.

2. **Your Body; The Stress Response**:
   - **Fight or Flight**
     - A basic survival instinct of both animals and humans; the brain initiates the stress response by triggering a series of chemical chain-reactions that prepare the body to defend itself or flee.
     - This chain-reaction is triggered by the hypothalamus, a collection of tissues in the brain, which stimulates the pituitary gland in the brain, which then stimulates the adrenal gland on top of each kidney to release its stress hormones.
     - These hormones trigger the Autonomic Nervous System (ANS) to increase heart-rate, breathing, blood pressure, and blood flow to muscles in the Fight or Flight process.
     - The autonomic nervous system is divided into 2 divisions:
       - The Sympathetic Nervous System which initiates the stress response.
       - The Parasympathetic Nervous System which induces the relaxation response.
   - **General Adaptation Syndrome (GAS)**:
     - Homeostasis, Greek terms, homeo meaning 'same', and stasis meaning 'stable'; to maintain balance or return systems to functioning within a normal range.
       - A body in homeostasis operates smoothly and maintains equilibrium.
     - Known as "the father of stress research", Scientist Hans Selye developed the theory linking chronic stress with disease, defining the body’s struggle to maintain balance (or homeostasis) in the face of stress.
     - Selye termed this process, the General Adaptation Syndrome.
     - GAS is an adaptive response by the body in an attempt to restore homeostasis following a stressor or trigger.
     - Three Phases (or Stages) of the General Adaptation Syndrome (GAS):
       1. **Alarm Phase**:
          - When exposed to a stressor (real or perceived), the fight-or-flight response immediately triggers the autonomic, sympathetic, and parasympathetic nervous systems.
          - During this phase, primary stress hormones such as cortisol, adrenaline (epinephrine), and noradrenaline (norepinephrine), is released to provide instant energy.
          - The duration of the Alarm Stage or Phase is second(s) or less.
2. **Resistance Phase:**
   - When stressor persists, the body attempts to restore homeostasis and return to a normal biological state by restoring spent energy and repairing damage.
   - Arousal levels remain high and Alarm Phase organs and systems are active, but at a less intense level.
   - Continued use of the body’s defense mechanism in this phase eventually leads to emotional reactions (irritability, anger), fatigue, and possibly disease.

3. **Exhaustion Phase:**
   - This stage is characterized by issues such as burnout and exhaustion.
     - Burnout is referred to as a stress-induced state of physical and mental exhaustion or fatigue.
   - Continued exposure to a prolonged response leads to Allostatic load
     - Allostasis, refers to "maintaining stability (or homeostasis) through change",
     - Allostatic Load refers to the exhaustive wear-and-tear (physiological damage) on the body due to repeated cycles of allostatic, and the inability to stop or shut down these responses.
       - Systemic fatigue results when the physical and emotional energy used to fight a stressor has been depleted.
       - The body loses its resistance to fight stress, and the body’s immune system is weakened, increasing the risk of both infectious disease and mental health issues.

- **Traits, Types and Stress:**
  - **Self-Esteem** refers to a sense of positive self-regard, or how you feel about yourself.
  - **Self-Efficacy** is an important factor in the ability to cope with challenges; refers to belief or confidence in personal skills and performance abilities.
  - Personality Types can have a big influence on our ability to manage the stress in our lives:
    - **Type A** personalities are defined as hard-driving, competitive, time-driven perfectionists.
    - **Type B** personalities are described as relaxed, noncompetitive, and more tolerant of others.
    - **Type C** personality is described as responding to stress with hopelessness and helplessness.
    - **Type D** personality is characterized by a tendency toward excessive negative worry, irritability, gloom, and social inhibition.

3. **Stress, Health, and Disease:**
   - **Stress and Immunity:**
     - During periods of stress the hormone cortisol is produced by the adrenal glands; which, in small amounts is helpful in the process of "Fight-or-Flight".
     - Continued, ongoing stress raises cortisol levels.
       - Elevated cortisol levels slow the production of “good” prostaglandins.
         - Good prostaglandins support immune function, dilate blood vessels, inhibit blood clotting, and are anti-inflammatory.
         - Slowed production allows inflammation and immune suppression.
     - Studies show that levels of natural killer cells (NKC) are lower during periods of chronic stress, causing decreased immune function.
   - **Stress and Heart Disease:**
     - Studies show that Stress:
       - Constricts (narrows) arteries which restricts blood flow to the heart itself (and causes an increase in heart rate).
       - Alters normal heart rhythms, presenting a risk for serious arrhythmias (rhythm abnormalities) in people with existing heart rhythm disorders.
       - Causes blood to become stickier, more prone to clotting (Fight-or-Flight, preparation for potential injury).
       - Causes an increased presence of hormones that promote the formation of fat in the viscera (upper abdominal fat), accelerating atherosclerosis.
       - Increases the inflammatory response of the immune system, possibly causing blood vessel walls to become inflamed.
       - Increases blood pressure,
**Stress and Cancer:**
- With the decrease in levels of natural killer cells (above) cancer defense is lowered; natural killer cells are capable of detecting and killing cancer cells.
- Stress hormones increase the production of free radicals which can damage DNA.
- Stress hormones reduce the ability of abnormal cells to undergo a process called apoptosis, or cell death, as well as DNA repair; both important self-regulating anticancer functions.
- Stress hormones can also promote tumor cell growth.
- Chronic stress is often associated with high cancer-risk behaviors such as smoking, alcohol use, non-exercise, poor diet, obesity, and sleep deprivation.

**Stress and Diabetes:**
- Stress hormones elevate blood sugar levels. (also associated with obesity)
- Unmanaged chronic stress can lead to an increase in visceral fat (upper belly fat) impacting liver and pancreas function.
- Studies show a link between chronic, unmanaged stress, and an increase in insulin resistant cells.

**Stress and Obesity:**
- Studies have shown that during periods of extreme stress such as war, serious trauma, or grief, victims tend to decrease their food intake, often resulting in weight loss. However, recent studies suggest that everyday hassles or social stress, such as driving a car, taking school exams, public speaking, problems with work or relationships, may have the opposite effect, resulting in overeating and increased fat deposits.
- Recent studies show a link between chronic stress and obesity; eating larger meals, eating less frequently, and a significant gain in visceral (belly) fat.

**Stress and Other Health Issues:**
- In addition to decreasing immunity and increasing the risk for obesity and chronic disease, long-term stress exposure can:
  - Contribute to infertility,
  - Accelerate the aging process.
  - Rewire the brain, leaving a person more vulnerable to anxiety and depression.
  - Decrease in testosterone levels in males and irregular menstrual cycles in females.
  - Increase (tension) headaches, and stomach or digestive problems.

**Talk’n Stats:**
- 91 percent of female college students reported feeling overwhelmed by all they had to do during; 14 percent higher than college men. (American College Health Association)
- A recent poll showed that as many as 85% of college students said they feel stressed in their daily lives and are concerned with school performance, work performance, money issues and relationship issues.
- Suicide is the leading cause of death in college students, second only to accidents. (WebMD)
  - Half of all college students have had suicidal thoughts (USA Today)
- Sleep difficulties and anxiety are the biggest life issues that American college students say affects their studies. (American College Health Association)
- According to statistics from an mtvU AP 2009 Economy, College Stress and Mental Health Poll of more than 2,200 college students across 40 colleges and universities:
  - 85 percent of students reported feeling stressed on a daily basis.
  - Academic concerns like school work and grades, with 77 percent and 74 percent respectively, maintain their positions as the top drivers of student stress, even over financial woes in today’s economy.
  - Six out of 10 students report having felt so stressed they couldn’t get their work done on one or more occasions.
  - Since starting college, over 70 percent of students have not considered talking to a counselor to help them deal with stress or other emotional issues.
- A 2010 study of more than 200,000 incoming full-time students at four-year colleges, the percentage of students rating themselves as “below average” in emotional health rose; the percentage of students who said their emotional health was above average fell from 64 percent in 1985 to 52 percent. (American Freshman National Norms, Fall 2010)
- Research suggests that 40 percent of all deaths, and 70 percent of disease in the United States are related in whole or in part to stress.
• Ohio State University researchers found that stress from engaging in a memory task activated the immune system, whereas the stress from passively watching a violent video weakened immunity.

Know Your Numbers:

Learning to recognize how we respond to ongoing stress (including the warning signs) can help us manage stress better, earlier, and in healthier ways. This allows the body to correct itself, while reducing the devastating effects of chronic, long-term health problems. The following table from HelpGuide.org lists some of the common warning signs and symptoms of stress. The more signs and symptoms you notice in yourself, the closer you may be to stress overload.

Keep in mind that the signs and symptoms of stress can also be caused by other psychological and medical problems. If you’re experiencing any of the warning signs of stress, it’s important to see a doctor for a full evaluation. Your doctor can help you determine whether or not your symptoms are stress-related.

<table>
<thead>
<tr>
<th>Cognitive Symptoms</th>
<th>Emotional Symptoms</th>
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<tbody>
<tr>
<td>Memory problems</td>
<td>Moodiness</td>
</tr>
<tr>
<td>Inability to concentrate</td>
<td>Irritability or short temper</td>
</tr>
<tr>
<td>Poor judgment</td>
<td>Agitation, inability to relax</td>
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<tr>
<td>Seeing only the negative</td>
<td>Feeling overwhelmed</td>
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<tr>
<td>Anxious or racing thoughts</td>
<td>Sense of loneliness and isolation</td>
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<tr>
<td>Constant worrying</td>
<td>Depression or general unhappiness</td>
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<table>
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<tr>
<th>Physical Symptoms</th>
<th>Behavioral Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aches and pains</td>
<td>Eating more or less</td>
</tr>
<tr>
<td>Diarrhea or constipation</td>
<td>Sleeping too much or too little Isolating yourself from others</td>
</tr>
<tr>
<td>Nausea, dizziness</td>
<td>Procrastinating or neglecting responsibilities</td>
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<tr>
<td>Chest pain, rapid heartbeat</td>
<td>Using alcohol, cigarettes, or drugs to relax</td>
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<tr>
<td>Loss of sex drive</td>
<td>Nervous habits (e.g. nail biting, pacing)</td>
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<tr>
<td>Frequent colds</td>
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Source: Table from HelpGuide.org

Thoughts for Living:

1. Managing Stress in College: Dealing with the pressures and demands of school, family, finances, and relationships can be very overwhelming. As a student, here are a few basics that may help.

• Prioritize, Plan Ahead, and Manage your Time:
  o Prioritize your academic and personal interests, including leisure and study time.
  o Make a written schedule and stay with it. Consider work schedules, syllabus/exam schedules, family/friends time, etc.
  o Set Sleep and down-time as a priority when scheduling.
  o Set your clocks forward by ten minutes. This is a dirty little psychological trick that many people play on themselves. The crazy thing is, it really works!

• When You Study, Terminate the Texting and Learn to Say "No":
  o Frequent study-interruptions are common sources of student stress.
  o Put your phone in silent-mode to avoid frequent text-alerts
  o Learn to say "no" to added responsibilities and interruptions during scheduled study time.

• What Can You Control:
  o Identify the stressor(s) that you can control and approach them realistically.
  o Stressful situations often look worse than they really are; take a realistic look.

• Keep your Residence, House, Apartment, Dorm Clean and Organized:
  o A clean and organized environment lifts your mood.
  o Also help you find things when you’re in a hurry (keys, backpack, notebook etc.)
Focus on Goals:
- Write down your academic/career goals and hide them away; only share them with people who can help. In difficult times - read them to yourself as a reminder of why you are in school!
- Stay positive in your focus and self-talk.
- Picture your success, even in the face of difficulties.
- Remember that setbacks are opportunities to learn.

Be Accountable to Yourself:
- Take responsibility for your own efforts.
- Never over-focus on the teacher; Learning is a student responsibility.

Social Support and Recreation:
- Look for emotional and technical support from teachers, counselors, classmates, family, friends, and even pets.
- Counselors often know of sources or opportunities for additional grant or scholarship monies.
- Recreation literally means to "Re-Create", thus, recreation-time tends to refresh your body, mind, and spirit through relaxation and enjoyment; Schedule it in!
- Avoid the stress-related hazards in college of tobacco and alcohol.

It's Test Time:
- Focus on process and content, never on outcomes or results; i.e. focus on playing the game and not the scoreboard!
- In your test preparation visualize taking the test; picture the classroom, environment, and test.

If You Commute to School:
- Keep your gas tank full.
- Have extra car keys.
- Never store your book bag, laptop, books, etc in your car at night; they may not be there in the morning!

Focus on Your Emotions:
- Studies show that both Laughing and Crying have beneficial in reducing stress and stress-related symptoms.
- Identify you anger style and learn to control it, or walk away.

Downshift:
- If burnout is on the horizon, taking a step back and "downshifting" to a simpler life is a common stress "management" option.
- Focus on your schedule and learn to say "No" if possible to added duties and responsibilities.

Remember the Two "M's:"
- Music: A great stress reliever.
- Movement: Exercise helps rid the body of all of those nasty stress hormones.

2. When in Doubt, Breathe: Most stress-relaxation techniques help control the experience of stress and the physical impact on the body. During stressful times breathing tends to be shallow, only using our upper chest muscles, and becomes rapid and semi-erratic. The technique of controlled breathing is a powerful tool to counter this stress response and induce a state of relaxation or calm within a few short minutes.

Steps in Breathing for Relaxation:
- Either site or lie on your back, eyes closed
- With your mouth closed, inhale slowly and deeply through your nose for a count of four
- Hold your breath for a brief period; a count of 3 or 4
- Exhale slowly through the mouth or nose for a count of 4 or 5
- Repeat for 8-10 full breaths
- Progressively work up to 2 or 3 sets of 8-10 breaths each

When Breathing:
- Stop if you feel light-headed or dizzy
- Breathe in a smooth, regular pattern
- Focus on filling the lower portion of the lungs