|  |  |  |
| --- | --- | --- |
|  |  | |
|  | Introduction  I am a Senior in high school and up until this year I don�t think I really knew what stress was. Now that I have so many things going on in my life in a single year it often seems hard to fit a days work into the time span of a single day. Knowing how stress makes me feel made me start thinking about what can help reduce the amount of stress I feel. It seemed that a biology project would be a great way to check out a theory on how to do just that. My first step was to research stress in general and learn a little bit more on how and what it was. This is where I got stuck on what to choose as my stress reducer to check out. It seemed every time I looked up stress it went straight to a health page on the internet, so of course my mind wandered in that direction. Finally I settled on the idea of how having a healthy body could mean a healthy mind. From that point I started looking a fitness books and seeing what I could find about health and fitness coupled together. I found many things that were very inconclusive, but did hint to the idea that I was going to test so I figured why not and went ahead started on my way to a science project.  Stress  "Stress is the state of discomfort that arises when our problems exceed our resources to cope with them." (Flannery 55) This is something that has often become a normal part of our every day lives. It has many causes but often not enough cures. Our bodies have evolved many ways of handling things that happen in our lives. Some attributes that have evolved in us are our stress response for survival, homeostasis, circadian rhythm, and general adaptation syndrome. As we look back at our ancestors 40,000 years ago, we see that our ancestors, the hunter/gatherers, did not live the complicated lifestyles that we do today. Stress for them was only endured when they were not able to meet their needs for survival. Physically we are not very different from those ancestors, but our technological advances are far different from 40,000 years ago. These advances create a far more stressful world than that of our ancestors which were primarily comprised of hunting and procreation. This simplified life also consisted of natural stress reducers. Since they were self-sufficient they had diets which were much healthier than the fast food that are so often a major part of the diets of modern day man. They had not yet discovered tobacco or alcohol, known to increase the level of stress one feels. Compared to the rate of change in our environment, the evolution we have encountered are much lower and therefore makes it hard for us to lower are stress level in the new complex world.  How Stress Affects Us  Stress affects us in many ways in both the short and the long term. In the short term it can cause our muscles to tense up, cause adrenaline to flow which increases blood pressure, cause our systems in our bodies that maintain our sense of well-being function less efficiently, and it can cause our brain to perceive the threat and focus on the potential harm. These systems all help us to deal with stressful situations, but it is not healthy to be under constant stress because if you do it can cause your immune system to be weakened making you more vulnerable to diseases. Although stress can not be avoided completely there are many ways to try and reduce the amount of stress you feel.  Fitness  A persons overall fitness includes many things such as diet and exercise. Although it can be hard on the body to be constantly undergoing physical activity, the rewards for being fit are great. One reward that is very good is that by being fit one is less likely to become ill, and people that live most of their life trying to be physically fit will spend less time near the end of their life being ill. Many more benefits could be listed to being more physically fit, but one that I would hope to prove through some data collecting would be that it reduces the vulnerability to stress.  The Problem  The problem driving my research project is to make the connection between one�s fitness and how susceptible he or she is to stress. One of the main reasons we feel this thing called stress is because of epinephrine, but when you exercise you release endorphins which help fight stress, so a lot of aerobic exercise will keep that constant flow of endorphins to your body every so often relaxing the body as well as the mind. Something else that is interesting is that having a healthy mind can be the cause for a healthy body. A new area being study called psychoneuroimmunology (PNI) studies links among the brain, the nervous system, and the immune system. Thoughts or emotions, such as stress, can effect the immune system. So it is true that if being fit does reduce stress then you are getting more out of it than just a tone body. These ideas give good reason to the idea that a being fit really helps your overall health especially reducing your susceptibility to stress and hopefully my research on this project will prove this. | |
|  |  | |