Stress and the Human Body

In today’s world, you are likely to hear someone at least once daily say they are “stressed” or that they have so much going on. There are many studies that show that a certain amount of stress can actually be good for a person, but there is always the risk of crossing the normal line which can then lead to chronic stress. An interesting topic among scientists and healthcare professionals, is how much stress can the human body take, and is there dangerous effects on the body if someone is facing too much stress. Dr. Matthew Lovern and his team of scientists at Oklahoma State University are in fact interested in this topic and have performed a study using lizards. They wanted to study the lizards in high stress situations to see whether the lizard would use their remaining energy to mate/reproduce or if they would use the energy to focus on taking care of their own health. When it comes to stress in humans, many times people start to stress about whatever situation they may be in and may neglect their health by eating very unhealthy foods, drinking alcohol, or using drugs. Life is full of tradeoffs, but in stressful situations, many times people do not prioritize their health.

When it comes to the study that Dr. Lovern and his colleagues performed, they wanted to introduce the lizards into a high stress environment to then be observed if they would use their little available energy to mate or too build their own immunity back up. The hormone leptin was used in this experiment, which is a hormone that tells the body there is energy to be burned. The focus of this study was to exercise the lizards and make them expend all of their energy, and when they were done exercising, the scientists would then inject leptin into the lizards to try to make their bodies think they still had energy to burn, when in reality they did not. This would put the lizard in a high stress environment. The scientist predicted that if the extra leptin was injected then the lizards would use that energy to reproduce, even though their bodies really had no more expendable energy and were just wearing their bodies down. The results of this experiment were not in conclusion with the hypothesis of the scientists. It was found that the lizards rarely responded to the excess leptin injected and instead of starting the mating process, they would take the time to care for themselves, so they could be once again healthy for the next mating cycle.

This experiment can be easily applied into the lives of people all over of the world. For example, many college students who work and go to school would say they are in a state of chronic stress. Many times, students push their bodies to the limit, whether that being staying up all night studying or never stopping to relax from school and work. An energy drink or caffeine could be the example of the hormone leptin from the experiment. The student may put this into their body, but in reality, it is not something that will replenish their energy. This is why many people who push their bodies to this amount of stress are sick or do not feel well most of the time. All in all, this experiment tells us that they best remedy for stress cannot be found from an energy drink, but by spending time relaxing and learning natural healthy ways to cope with the stress.

Wang, A. Z., Husak, J. F., & Lovern, M. (2019, January 21). Leptin ameliorates the immunity,

but not reproduction, trade-off with endurance in lizards. Retrieved from

https://link.springer.com/article/10.1007/s00360-019-01202-2