Trifecta of the Tumultuous Behaviors - Sleep, Stress, Diet

The three greatest influences on you reaching your goals in an effective manner are greatly determined by three key aspects of your life: your stress levels, how much you sleep, and what you eat. As is always true, the more knowledgeable you are on this subject, the greater control you have toward reaching your goals. Developing a proper understanding of how these aspects affect your progress. This will be a three part series focusing on each of these aspects. Let’s tackle sleep deprivation first!

# What is the issue here?

## **Effect on hunger**

Sleep deprivation has a rather large influence on energy levels, how well the body recovers, as well as influencing hunger levels. Studies have shown that within one night of sleep deprivation there is a significant difference in hunger levels; males were shown to have twice the hunger levels after sleep deprivation and only one bout of sleep deprivation was needed to produce this change in hunger (Schmid SM, 2008, pp. 331-334). Even with partial sleep deprivation, there is a marked increase in hunger levels, with a greater craving for carb-dense products (Speigel K, 2004, pp. 846-850). Additional studies have demonstrated after a few nights of partial sleep deprivation, individuals were more likely to snack and to eat later in the night, consume approximately 12% more of their typical caloric intake (females showed an increase by 20%!), and desire high carbohydrate foods (Schmidt et al., 2009, pp. 1476-1482). Four separate studies have shown that alterations to your sleep schedule, either quality or duration, resulted in an increased caloric consumption between 300 to 559 Calories. Although correlations do not equal causation, it is clear that the amount of sleep as well as the quality of the sleep greatly influence your hunger levels as well as what you eat and that only a small deviation from the required sleep can elicit these negative effects.

## **Effect on exercise performance**

Within the last decade, scientists finally began to analyze the relationship between sleep deprivation and how well one performs physically, both in training and competition. Sadly, numerous studies show that with moderate sleep deprivation there is a significant inhibition in performance, especially regarding your spatial memory. Spatial memory is an integral portion in the development of proprioception. Sleep deprivation inhibits synaptic plasticity within the hippocampi, resulting in a lack of development of self awareness of limb positioning that is crucial for fitness growth (Zielinski, Mark R. et al, 2013, pp. 74-80). In addition, a lack of sleep significantly increases the chances for injury and greatly increases the recovery time from an exercise bout. Even more disturbing, lack of sleep in healthy adults has a positive correlation with metabolic syndrome, with males showing a greater exhibition of hyperglycemia (Wu, Man-Chun, et. al., 2012, pp. 305-309). So even if you bust your ass and consistently train your body, you are still at a higher risk to develop issues such as diabetes and heart disease. Morale of the story? Sleep!

# **How do I address this issue?**

This is the part where I get on that soapbox and yell at the top of my lunges to sleep sleep SLEEP. We all try to cram far too much into our lives with sleep usually the aspect we reduce. Please stop! Your body needs at least eight hours of sleep each night for a myriad of reasons, ranging from memory consolidation to allowing the body to burn the proper nutrients as fuel sources. Sleep is your friend. Actually, it is your best friend. It’s the lover who will never cheat on you! It is easy for me to tell you to fix your sleep cycle, whole different boat for you to actually accomplish this. The typical excuse we hear for a lack of sleep is that everyone’s lives are too busy or there is too much to complete each day to sleep as much as needed. Increasing the amount you sleep requires you to be more efficient with your time, requires a bit more finesse in coordinating our daily activities. If you find yourself not falling asleep quickly (within 20 minutes) get out of bed and move about your home for 10 or so minutes. Go read a book or complete a menial task that doesn’t engage your brain greatly and then head back to bed. This helps reset the brain and helps prepare it to enter sleep mode. Also, avoid engaging in non-sleep activities in bed; doing so confuses the brain and loosens the association between bed and sleep. Spending less time in your bed during the day will also greatly increase your chances of falling asleep quickly. Classically train that brain of yours to understand that being in your bed equates to sleep and not other activities!

Lucky for you, we can combat some of the detrimental effects of sleep deprivation through exercise! Light cardio exercise can help blunt the effects of sleep deprivation. Zagaar et. al were able to demonstrate that regular treadmill exercise provided a protective effect against sleep deprivation induced spatial memory impairment (Zagaar M, et al.,2013, pp. 375-383). So if you are indeed someone who literally cannot increase how long you sleep, performing 20 to 30 minutes of light cardio will significantly reduce the toll on your body. Although this will delay some of the effects, the lack of sleep will still negatively impact the efficacy of your workout routines. So back on that soapbox: SLEEP!