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## Think and Thrive Part 2: Mood and Motivation

by Sonia Herasymowych, PhD

“Although serotonin is one of possibly hundreds of neurotransmitters in your brain, it may be among the most important. Your serotonin levels influence whether or not you are depressed, prone to violence, irritable, impulsive, or gluttonous. In essence, it functions as a surrogate parent in the brain constantly telling you to just say no.”

— Barry Sears, *The Anti-Aging Zone* (1999)

There is a saying in the popular field of T-shirt philosophy: “If you are what you eat, then I’m fast and easy!” This light-humoured saying brings home some important fundamentals of the bodymind and its consequences. On an intuitive level, we know that what we eat has an effect on our thinking, performance, and overall health. Despite this inner knowledge, we invariably insist on ignoring the

consequences of our poor eating habits, and choose the fast and easy alternative. Our cognitive illusion is that we can get away with this indefinitely, and we do not give up this belief easily or readily (*InfoMine*, Vol. 2, No. 2). We continue to ignore our bodymind response until finally stress or illness captures our attention.

For the average person, figuring out the complexity of what happens with food when it is metabolized by the body can be daunting. However, recent scientific discoveries on the hormonal effects on the body from a systems perspective have allowed us to see where we can leverage our food choices to get the best results. Two hormones are key to keeping the bodymind at its peak performance. These are the hormone serotonin that also acts as a neurotransmitter in the brain, and the hormone insulin that controls blood sugar. These two hormones interact and influence each other. Their effects on our mood and motivation are not

only significant; they are critical.

In their groundbreaking book, *Naturally Slim and Powerful*, Philip Lipetz and Monica Pichler describe this crucial relationship as follows: “Insulin controls serotonin synthesis. Tryptophan, the amino acid that is made into serotonin, is ordinarily stored in reserves that are not available for serotonin synthesis. Insulin causes stored tryptophan to be released and transported into the brain where it is converted into serotonin. Insulin’s primary function is to control the blood sugar created when you digest carbohydrates. Therefore, eating carbohydrates elevates serotonin. This is why dieting women with low serotonin develop uncontrollable carbohydrate cravings.”

Lipetz and Pichler go on to give evidence that this is not true for men. **A man’s serotonin level is not affected when he skips meals, or goes on a diet.** What the research validates is what women have complained about for a long time;

namely, that men can lose weight easily and with less effort than women. Furthermore, men are not nearly so subject to the depression that accompanies low serotonin levels in the brain.

What is going on here? The answers arise from compelling scientific advances. Fundamental differences show up in the brains of men and women. To begin with, women's brains have much more serotonin. Next, female sex hormones *enhance* serotonin activity; male sex hormones *inhibit* serotonin activity. Scientists today use *Biological Evolutionary Theory* to explain why this occurs. This theory states that our biology today is a product of our evolutionary past. In effect, our bodies are still subject to the same forces and genetic drivers as when we were living in prehistoric times.

Ten thousand years ago, before the advent of agriculture, humans were hunter-gatherers. When prehistoric man got up early in the morning, and had nothing to eat, his body signaled, **"We are in a famine! Get out there and start hunting!"** His serotonin level, and hence his mood, was relatively unaffected. Nature designed his body to *protect the species*. Consequently, he could go without food all day, and still have the strength, speed, and stamina to carry out the hunt. His ability to think was not at its peak, but he could still function without feeling depressed and lethargic. Today's male still carries the ability to miss breakfast and lunch, yet go like crazy all day as long as he stays task-focused. At times like these, he is running on adrenaline and testosterone. At night, he comes home to immediately clean out the refrigerator and recharge his

batteries on the couch. His cognitive illusion is that he is thinking efficiently despite his poor eating habits.

A woman's scenario in prehistoric times was very different. As a gatherer, when prehistoric woman got up in the morning and did not eat within the hour, the body signaled, **"We are in a famine! Shut all systems down and conserve energy! Start storing fat!"** Her serotonin levels would begin to plunge, making her depressed, lethargic, and less likely to move around. In contrast to a man's body, nature has designed a woman's body to *preserve the species*, thus insuring that she stays close to her offspring and keeps them safe. Lipetz and Pilcher state, "Depression also makes women more likely to care for their young because nursing and nurturing children alters brain chemistry and relieves depression. This mechanism favoring the feeding of babies is so perfect that low serotonin even alters critical hormones to increase the production of milk and fat." The ramifications of this theory for today's modern woman are clear. **Skipping breakfast for women is a sure-fire method to gain weight and feel depressed.** Going on a diet can prove so disastrous to a woman's mood and motivation that low self-esteem develops. According to Lipetz and Pichler, "Dieting just a little — eating about 1575 calories per day — can result in impaired vigilance, poorer immediate memory, and longer reaction times."

What is the leverage point here? Women need to keep in mind that men and women have critically different nutritional requirements. **Diets that work for men do not work for women.** If women are to stay mentally sharp, they require lots

of breaks and frequent meals. Above all, they must monitor the carbohydrates they are eating. In case you have concluded that men seem to have all the benefits here, be aware that the story is not over yet. Scientists believe that lower levels of serotonin are the cause of much higher rates of suicide and violence for men. On the other hand, higher levels of serotonin in men are correlated with social dominance, approaching others, and other forms of social cooperative behaviour. The next issue focuses on the role that insulin plays in the bodies of both sexes, and *how food for thought* can give you a *head start*.

"Serotonin is what gives women the power to better withstand stress and be more nurturing, serene and peaceful than men. Women are not as subject to impulsive behaviours. They're more cooperative. They're more intuitive. Simply put, serotonin makes women different from men."

— Philip Lipetz and Monica Pichler, **Naturally Slim and Powerful** (1997)

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