

## **“How Food Affects Our Mood”**

### **Effects of Food Intake on Stress and Emotions in College Students**

There are numerous effects of food intake on emotions and stress, ranging from a general decrease in negative affect or the stress response after eating a meal, to specific nervous system effects of particular macro- and micronutrients resulting in changes in affective states. The purpose of this essay is to review the research literature on the effects of eating behaviors on stress and emotions, and the mechanisms of these effects, with a focus on college students. Accordingly, the effects of food intake on stress and emotions will be discussed, including specific emotions and the stress response after eating and the effects of specific macro- and micronutrients on emotion.

#### **Emotions and Stress Response after Eating**

After a meal, people tend to experience a decrease in negative emotion (Wallis & Hetherington, 2009; Hartwell, Edwards & Brown, 2012). After consuming high-fat, highly palatable snacks, females reported significantly decreased anxiety and stress and increased relaxation (Wallis & Hetherington, 2009). It could be that these palatable foods that are sweet and high in fat, such as sweets and chocolate, alleviate stress better than other types of food (Gibson, 2006), leading college students to choose them, particularly under the stress of academic demands.

A study on the effect of nutrition on stress management and interpersonal relationships in college students showed that students with poorer nutrition had almost double the risk of having poor interpersonal relationships than students with good nutrition (Wilson-Salandy & Nies, 2012). Though this finding was not significant, it is interesting as far as its potential implications in college populations, where stress and poor nutrition are common. If poor nutrition contributes

to poor interpersonal relationships, then nutrition potentially contributes to stress not only physically, but socially!

### **Effects of Specific Macro- or Micronutrients**

Relative to low-sugar, high-protein foods, foods high in carbohydrates and low in protein improve mood (Gibson, 2006). This could be due to an increase in serotonin synthesis, as decreased serotonin is implicated in depressive mood (Gibson, 2006; Christensen, 1993). However, since protein-rich meals increase tyrosine, the precursor to dopamine, in the body, protein-rich lunches may increase positive affect (Gibson, 2006). In fact, protein has been shown to induce feelings of contentment (Hartwell, Edwards & Brown, 2012). High-fat meals, on the other hand, tend to reduce alertness and increase fatigue (Gibson, 2006).

When college students gravitate toward food high in sugar and fat and drinks high in sugar, they may be acutely improving mood and alleviating negative affective states. In fact, lower carbohydrate foods left subjects feeling “unfulfilled” in a survey study of emotions and food consumption in a college setting (Hartwell, Edwards & Brown, 2012). However, over time, this propensity toward sugary and fatty foods can have a profoundly negative effect on health. In fact, in a study of metabolic syndrome and cardiovascular risk factors in university students, college students who consumed more snacks had significantly higher LDL-cholesterol levels (Vergetaki, Linardakis, Papadaki & Kafatos, 2011), increasing cardiovascular risk!

Alcohol intake—which is not uncommon for college students, as 60.6% of college students reported drinking alcohol at least once a week in a Midwest USA survey study (Thiagarajah & Torabi, 2008)—acutely improves mood (Christensen, 1993). However, anxiety and depression also accompany alcohol consumption after the initial improved mood, and tend to last longer (Christensen, 1993). This suggests that, while students may use alcohol alleviating

negative mood states due to alcohol's sedative and disinhibitive effects, alcohol use could be leaving students vulnerable to worsened anxiety and depressive mood, on top of the anxiety induced by academic demands!

The research literature reveals that the foods (and drinks) chosen by college students subsequently impact their later affective states. Particularly, the overconsumption of snack foods high in sugar and fat, along with alcohol consumption and breakfast skipping, all impact the emotional and health outcomes of already-stressed college students.

## Works Cited

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