



SJSM Science

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The Neurophysiological Factors Associated with Comfort Foods

What kind of foods you crave when you are “up” or “down” ... tired or sick?

And what kind of food comforts students during their exciting and challenging medical training? What kind of food comforts them when they face academic, psychosocial and physical stressors, far away from home and without the support taken for granted? Are those “comfort-foods” nostalgic, indulgence, convenience or physical?

And, the most important question is probably:

Do students, while learning to help the others, neglect their own health and well-being?

Ashlyn Brown, Janice De Sousa and Elisabeth Russell

The Neurophysiological Factors Associated with Comfort Foods



Brown A, De Sousa J, Russell E.

Background

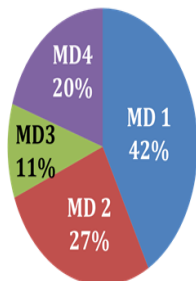
There are many ways in which medical students try to cope with stress: comfort eating, smoking, alcohol, caffeine, energy drinks. Some of chosen foods & beverages and/or additives contain artificial sweeteners and neurotoxins that have been linked to obesity, memory difficulty, and overall poor cognitive function: monosodium glutamate (MSG), high fructose corn syrup (HFCS), trans fats and refined sugar being known examples. Chips, soda, energy drinks, chocolates, candy, and ice cream are the most popular food items consumed in access when stressed ("Comfort foods").

Study objectives

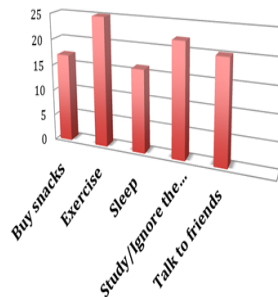
- To determine the most common "comfort foods" in SJSM students and describe their possible effects on cognitive performance.

Material and methods

A survey was conducted in October 2013 that included 100 SJSM students (95% from the States, 5% from Canada).



During a stressful situation, how do you usually cope with stress?



The results

The majority of students:

- Regularly consume coffee and tea;
- Eat less on Bonaire island
- Consume snacks, sodas and energy drinks when under the stress.

Limitations:

Study conducted in a short period of time.

Questions and answers may have been limited when it came to choices of foods.

Weight gain or weight loss was not recorded.

Mentor: Dr. Davidson

Study supervisor: Dr. Eugene

Poster by: B. Filipovic

Discussion

HFCS is used widely in sodas and energy drinks and is often added to snacks, and 66% of the participants reported consuming some or all. HFCS affects on the brain by:

Increasing blood flow to the hypothalamus (food intake and satiety);

Decreasing blood flow in Hippocampus (short term memory, emotions, coordination and consolidation of the information, highly sensitive to hypoxia), Thalamus (sensory perception, consciousness, sleep and alertness), Posterior cingulate cortex (emotions, memory, human awareness), Fusiform gyrus (identification within-category) and Visual cortex.

Does eating comfort foods with HFCS put students at risk of not being able to retain the information, possibly leading to difficulty with recognition of words, within-category identification and with processing visual information?. What is the interplay with other additives: monosodium glutamate, trans fats, refined sugar, taurine, caffeine, and lifestyle modifications?

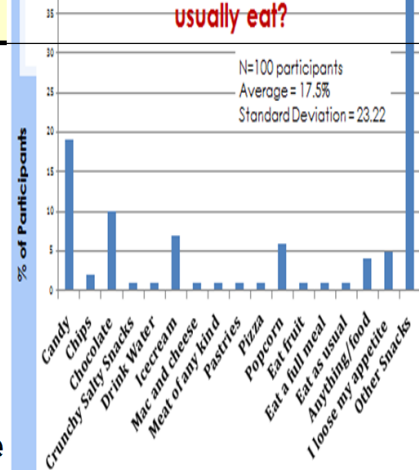
Conclusion

Students should be advised how to copy with stress and definitively should change their sweeteners from HFCS to natural sweeteners.

Selected readings:

- Statistics Related to Overweight and Obesity. CDC. 2006. Available at: <http://www.cdc.gov/obesity/data/adult.html>. Retrieved 2009-01-23.
- White, J. S. (2008). Straight Talk About High-fructose Corn Syrup: What It Is And What It Ain't. American Journal of Clinical Nutrition, 88(6), 1716S-1721S.
- Br Med J. (1986). Levels and sources of stress in medical students. NCBI, 292, 1177-1180. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/>

During a stressful situation, what do you usually eat?



High Fructose Corns Syrup contains mercury (Demand Media, 2013)