

Introduction:

College freshmen represent one of the largest groups of people who are considered adults that have the least experience with healthy eating skills. Even the young adults who come from households where they experienced healthy eating habits, such as nutritious meals, eating at designated times with their family, and having few issues with food scarcity, tend to branch out and enjoy the freedom of eating exactly what they want, when they want, in the amounts they want, as long as they can afford it.¹ Typically, this is a phase that doesn't last due to further education and real world experience. People often gravitate back toward the healthful diets they were raised with or learn new diets through experience eating with others. However, stress and factors such as peer activities tend to lead to cravings, overeating, and making less healthful selections when it comes to food within this age group.²

We decided to study the behaviors of freshmen college students by developing a questionnaire to understand more about the decision-making process when it came to foods consumed, how students in this age group dealt with their cravings, and what kind of issues might be underlying with the less-than-healthy choices. Our goal is to understand why they make the decisions they do when it comes to cravings, and then to design an intervention to help educate about the benefits of making better choices when it comes to various foods, give them

¹ Smith T, Hawks S. Intuitive eating, diet composition, and the meaning of food in healthy weight promotion. *Am J Health Ed.* 2006; 37:130-136.

² Levitsky D, Halbmaier C, Mrdjenovic G. The freshman weight gain: a model for the study of the epidemic of obesity. *Int J Obes Relat Metab Disord.* September 14, 2004;28:1435-1442.

tools such as creating pre-portioned snacks to make satisfying cravings easier, and help them learn to savor the food they consume rather than overeat to fill some unidentified need.

Some tools we propose using to help with this intervention include:

- Helping students understand the reasons they overeat.
- Teach them simple physiological reasons for food cravings such as lack of sleep.
- Why taking time to really savor the food they are consuming will benefit their health and help them reduce unnecessary intake.
- Show them why eating several small meals or “grazing” will prevent them from becoming overly-hungry and want to overeat.
- Give them tools such as pre-preparing serving-sized portions of snack foods in portion-controlled baggies or containers that make eating foods they enjoy easy and make overeating more difficult.
- How to use constructs such as reinforcement, reciprocal determinism, and perceived benefits and barriers to improve their success in conquering cravings.

In order to determine the best way to present information in our intervention as well as to find the issues most important to help freshmen students overcome the barriers to improved eating habits, we recruited freshmen students and distributed surveys in order to find out which issues they struggle with the most.

Analyze needs and behaviors & Identify relevant mediators:

The recruitment methods used to conduct our cravings control survey was in a classroom setting. Students were asked to put their grade level and gender at the top and then fill out the survey. This helped us to know which students were freshmen and gave us a mixed result of both men and women. The participants we surveyed for this study included 5 males and 5 females.

When done, they were asked to bring their surveys to the front of the room and put them in one big pile. They were asked not to put their name on them in order to allow for anonymity.

All questions were multiple-choice except one, which asked the subjects what they wanted to learn or gain from this intervention regarding cravings control. Some example survey questions include the following: “Do you feel like you have to finish your food after you take a bite? (a.) Yes (b.) No.” This helped us to assess if the person taking this survey savored their food while they ate it and stopped when they were full, or whether they felt compelled to finish their food once they started. In addition, we also asked a question stating, “What causes you to overeat foods you crave? (a.) Fear that others will eat it first? (b.) Guilt (I don't know when I'll get this food again so I better binge) (c.) Distracted while eating (d.) Emotional eating (e.) Taste.” This helped us to discover if the students were overeating simply because they really enjoyed the taste of their food or if there was an underlying reason why they were over-indulging. Another example of a question on the survey included, “How many hours of sleep, on average, do you get a night? (a.) 8 hours (b.) 7 hours (c.) 6 hours (d.) 5 hours (e.) Less than 5 hours.” This question was aimed at evaluating if students were bingeing due to increased Ghrelin levels from lack of sleep. Ghrelin is the hormone that is produced in the stomach and functions by signaling the brain that the body needs to be fed. For this reason, it is considered the “hunger hormone.” When one does not get enough sleep, Ghrelin levels go up, causing a person’s appetite to rise and their want for food to increase. By asking this question, we hoped to determine if the students were getting enough sleep in order to strengthen their control over their cravings. It is said that our body functions best after getting 8 hours of sleep, so the people sleeping 7 hours a night on average are doing pretty well, but the students at 5 hours were more likely to have increased Ghrelin levels.

After reviewing the surveys, the results showed that:

- 43% of the students liked the taste of the craved food, so they kept eating even though they were full.
- 29% were distracted while they were consuming food so they did not realize how much they were consuming.
- 70% of the people could not stop eating until they finished the whole thing.
- 30% of the students slept 5 hours, 6 hours, and 7 hours on average.

The overall results of our survey helped us to determine that a lot of the binge cravings were due to distraction during eating, lack of sleep, the taste of food, skipping meals, and waiting until a person was starving before they ate. These points helped us to choose our objectives and goals by shifting our focus to eating intuitively instead of restricting cravings.

Select Theory, philosophy and components

The Social Cognitive Theory was proposed by Albert Bandura in the 1970's. This theory explains how behavior is influenced by environmental cues and by personal factors. This theory can be used to change certain behaviors by observational learning, knowledge and skill, self-efficacy, reinforcements, and through reciprocal determinism. People must believe through change, that the perceived benefits will be greater than the perceived barriers. When they start wanting to make the change, they will see positive outcomes and expectancies. The only way they will be able to start making a change is through self-efficacy.

The freshman students we surveyed were skipping and restricting meals, causing them to overindulge and obsess over “good/bad” foods. This behavior leads to a feeling of guilt after consumption. They also don't get many hours of sleep or savor their food. Through behavior knowledge and skills, they will have the self-efficacy to indulge in these cravings mindfully and

have better self-control, thus they will feel less guilty. By using reinforcement, reciprocal determinism and perceived benefits and barriers, they will be able to meet long-term goals. By using this theory and incorporating the constructs to our intervention, we will have an effective outcome and these students will learn through moderation.

Educational Objectives

Goal: Participants will learn to eat foods they crave intuitively to help curb cravings. After surveying college freshmen, the behavior that most of them wanted to increase their self-efficacy in was overeating. An important aspect to curbing a craving is to eat the necessary amount of food throughout the day. Our intervention focuses on being mindful of the cravings indulged in. A large majority of the participants surveyed skipped meals and waited until they were “starving” to eat. They also ate most of their calories at dinnertime, ate everything on their plate, and did not savor their food. All of these behaviors lead to a circular behavior of overeating and feelings of guilt through loss of self control. When a person is very hungry, they are more likely to crave a food high in calories and eat more of it. High calorie packaged foods often include more than one serving which leads to increased consumption. A large majority of surveyed freshmen answered that if they have a small bite of a craving they end up eating the whole thing. Frequently, people are raised with a mentality of not wasting food which can lead to overeating.

General Objectives

- Behavior knowledge: Participants will increase their knowledge of how skipping meals and not indulging a food craving affects their eating behavior.
- Self-efficacy: Participants will experience self-efficacy of being mindful when satisfying a craving.

- Reciprocal Determinism: Participants will become more aware of their environment while consuming a food craving.
- Expectations: Participants will become more aware of perceived barriers and benefits of eating "craving foods" intuitively.

Specific Learning Objectives

- Participants will be able to list 3 repercussions of skipping meals or avoiding a craving.
- Participants will be able to identify how many pieces of a "craving food" are required to satisfy a specific craving.
- Participants will be able to recite at least 3 external factors that could contribute to overindulging in a craving.
- Participants will be able to identify 3 perceived barriers and benefits of mindfully consuming a "craving food".