



**Wise Eating for Youth**  
Discover the  
Satisfaction Factor

**K·STATE**  
Research and Extension

## Module 3: Discover the Satisfaction Factor

### Purpose

- This module will help youth discover the satisfaction factors during eating.

### Learners' General Goal

- Increase awareness of the sensory properties related to food by the end of this module.

### Learners' Objectives

- Use the Hunger Scale to assess fullness levels.
- Identify ways to eat wisely.
- Describe the differences between fullness and satisfaction.
- Use Nutrition Facts label to make informed food choices.

### Activities

- The Portion Distortion
- Read the Label



### Discussion

**1. Ask youth to raise their hands if they have heard the following statements from their friends or family members:**

- Sweets are bad for you.
- We don't eat cake often because it is bad for you.
- For the last time, no, you cannot have ice cream.
- You should not eat it — it has too many calories.
- It is so fattening.
- Point out: Eating should be a normal and enjoyable activity. Do not label food simply as "good" or "bad." No one food has the power to make you healthy and look better, or the opposite.

**2. Ask youth if chocolate, candy, cookies, ice cream, etc. became available when they were not hungry, would they eat it anyway?**

- The majority would probably say yes.
- Point out: Eating these food items is not bad, but you must be careful about eating these items when you are not hungry. Wise Eating is all about enjoying foods you like, but in moderation. Therefore, eating any food when you are not hungry, regardless if it is some candy or a piece of fruit, would not be a good thing.

**3. Ask youth if they have been told to follow some of the table rules from their friends or family members:**

- Finish everything on your plate.
- Respect the value of food — "thou shalt not waste."
- Point out: These rules probably will make you overeat.

4. **Discuss with youth the reasons why they may feel they must finish everything on the plate.**

- Youth may have been taught to finish everything on their plate by parents.
- They may have been taught to respect the value of food.
- They may have developed a habit of eating until food is gone, regardless of the portion size.
- Point out: When you are taught to eat everything on your plate, you are slowly learning to ignore your body's fullness signals. Ignoring your body's fullness signals can cause you to overeat because you would have trained yourself to eat when not physically hungry.

5. **Discuss with youth the differences between feel full and feel satisfied.**

- Ask youth to describe how they feel when they are full?
  - Possible answers may include:
    - Have had enough food.
    - Feel good.
    - Feel stuffed.
    - Feel nauseated.
- Ask youth to describe how they feel when they are satisfied?
  - Possible answers may include:
    - A slight feeling of stomach fullness.
    - Feeling satisfied and comfortable.
    - Neither hungry nor full.
    - Feel good.
    - Feel comfortable.
- The feelings related to fullness may be easier to describe, but the feelings related to satisfaction are often unclear and difficult to describe.
- Point out: The feeling of fullness and satisfaction is highly individual. It's something that needs to be experienced at a personal level.
- Note: Feeling satisfied could be a step before feeling full. Satisfaction means you no longer feel hungry, while fullness means there is plenty of food in the gut.

6. **How to respect your fullness and stop eating when you have had enough?**

- Wise eaters learn to stop eating when he or she has had just enough to fill the stomach comfortably without feeling stuffed.
- Be mindful when eating. You might not pay attention between bite 1 and bite 100, but there will be a significant difference in the feelings.
- Pay close attention to your body's hunger and fullness cues.

7. **Introduce youth in assessing fullness by using the Hunger Scale.**

- Besides assessing hunger level, the Hunger Scale can also help you assess your fullness level.
- When dining, eat slowly so your brain and stomach have time to "talk." There's a gap of about 20 minutes after you eat and before you start feeling full or



satisfied. To slow down, take smaller bites, eat foods that take longer to chew, and talk between bites.

- Don't get too full! It might make you physically uncomfortable.
- After you are finished eating, check out your fullness level.
- If you are at level 6 — moderately full — that's perfect. However, Wise Eating takes time to practice so don't get frustrated if you are somewhere else on the scale.

## HUNGER SCALE



### 8. Eating wisely can help you find the fullness and satisfaction factors. Discuss with youth ways to increase mindfulness when eating.

- Eat without distractions.
  - Value and enjoy your eating experience when possible.
  - Meal time is designated for eating only.
  - Don't watch TV while eating.
- Respect your decision to stop eating.
  - Be mindful about your body's hunger and fullness signals.
  - Eat slowly and let your brain and stomach "talk" to each other.
- Listen to your body.
  - Practice saying, "No, thank you! I have had enough."
  - Try to take small portions at the beginning. You can definitely have more if you feel you are not satisfied by the amount of food you had.

### 9. Discuss with youth the factors associated with fullness.

- The amount of time.
  - How long has it been since the last time you ate? The more often you eat, the less hungry you will be. (But remind youth, this is not a green light to eat if they are not physically hungry.)
- The kind of food you eat.
  - Protein, carbohydrates, and fat influence your fullness level, and they contribute to the total energy associated with food in the stomach.
  - Fiber will affect fullness because it attracts water.
- The amount of food still remaining in the stomach.
  - When eating, the amount of food still in your stomach can affect your fullness level.



- Hunger level.
  - If you begin to eat in an over-hungry state (level 1 or 2), you are more likely to overeat and override your fullness cues.
- Social influence or peer influence.
  - Eating with other people can influence how much you eat and what you eat.

**10. Have youth engage in Activity 2 — Read the label, then discuss ways to make informed food choices.**

- Looking at how a food label fits with Wise Eating.
- If the food choices are based on your hunger and feeling satisfied from the meal, then having a general sense of the nutrient content can help guide eating decisions.
- Making wise decisions does not necessarily mean avoiding the foods you like.
- Remember, Wise Eating is about progression, not perfection.

## Activity

### 1. Portion Distortion

- Compare the portion size of foods 20 years ago and today. Have the youth guess the calorie content for foods we have today and 20 years ago.
  - Anyone eating on the run or at restaurants has probably noticed that food portions have gotten larger.
  - Some portions are called “super size,” while others have simply grown in size and provide enough food for at least two people.
  - Calories are a measure of how much energy you get from food. When you eat more calories than your body uses, extra calories turn to body fat.

Food	How Many Calories for Today? (Choose one answer)			20 Years Ago	Today	Difference
Bagel	150	250	350	140	350	210
Cheeseburger	590	620	700	333	590	257
Spaghetti	600	800	1,025	500	1,025	525
French fries	590	610	650	210	610	400
Soda	200	250	300	85	250	165
Muffin	300	400	500	210	500	290
Pizza	750	850	950	500	850	350

### 2. Read the Label

- Hand out several copies of the Nutrition Facts label from a food (macaroni and cheese) to youth.
- Have them pair up to see what they can find out from the label.
- Point out: The Nutrition Facts on the label models what they will see on almost any food package. For fun, let them guess what food it might be. (Hint: the calcium amount suggests it might fit partly in the Protein Group.)



- As a group, talk about what they found.
  - Serving size
  - Servings in the package
  - Calories in a serving
  - Nutrient amounts in a serving
  - How much you need of some nutrients
- Ask:
  - What's high and what's low in this food? How do you know?
  - Is it a good meal choice?
  - Where does this food fit in the food groups on MyPlate?
  - What other foods can also be this high in calcium?



**Portion Control**

**20 Years Ago**



140 calories  
3-inch diameter



333 calories



210 calories  
2.4 ounces

**Today**



?

How many calories are in this bagel?



?

How many calories are in today's  
cheeseburger?



?

How many calories are in today's portion  
of fries?



**20 Years Ago**



85  
6.5 ounces

**Today**



**?**  
How many calories in today's soda  
portion?



210 calories  
1.5 ounces



**?**  
How many calories in today's muffin?



500 calories



**?**  
How many calories are in 2 large slices  
of today's pizza?



## Resource

### 1. Discover the satisfaction in eating and identify the sensory properties of food.

- Satisfaction can be achieved when you take time to figure out what you really want to eat.
- The sensory property of food:
  - **Taste.** Put a food item in your mouth to see which of your taste sensations gets stimulated. Is the food sweet, salty, sour, or bitter? Is that taste pleasant, neutral, or maybe even offensive? Try this experiment at various times during the day to see if certain tastes are more pleasurable at different times.
  - **Texture.** As you taste different foods, experience the various textures foods can provide. How does crunchy feel? What reaction do you have to a food that is smooth or creamy? Certain food textures might be appealing at different times of the day or even on different days.
  - **Aroma.** Sometimes the aroma of food will affect your desire for it more than taste and texture. Walk by the bakery and smell the chocolate chip cookies or the smell of popcorn in a movie theater. If a food smells great while cooking, it probably increases your desire to eat it.
  - **Appearance.** Take a look at the food you are about to eat. Is it attractive to your eye? Is it fresh looking? Is its color interesting to you? You will probably get less satisfaction from a meal that looks plain than one that is more exciting to look at.
  - **Temperature.** A steamy bowl of soup is great for a cold and rainy day. But frozen yogurt is not desirable when you are shivering under an umbrella. Do you like the temperature of your food? Or is room temperature just fine for you for everything?
  - **Volume or Filling-Capacity.** The filling capacity of your food choices can make a difference in how much food you need to satisfy you or how you feel after you finish eating. Foods with filling-capacities tend to be high in protein, high in fiber, high in volume, and low in energy density. They are things like boiled potatoes, eggs, oatmeal, fish, chicken, fruits and vegetables, cottage cheese, legumes, bean soup, yogurt, etc.
- Think about what you really feel like eating. Take time to think about what really appeals to you when eating.
  - What do I feel like eating?
  - How will the food taste and feel in my mouth?
  - Do I want something sweet, salty, sour, or even slightly bitter?
  - Do I want something crunchy, smooth, creamy, soft, lumpy, fluid, etc.?
  - Do I want something hot, cold, or moderate?
  - How will my stomach feel when I'm finished eating?
- Check in: does it still taste good?
  - Have you ever finished a whole bag of cookies? If so, is there a difference between the first bite and the last bite?
  - The taste satisfaction will decrease by the time and the amount you eat.



## 2. How much exercise to burn off a treat?

Treat	Calories	Time to Walk Off	Time to Run Off
Can of Coke (330ml)	139	25 mins	13 mins
Snickers bar (58g)	296	54 mins	28 mins
Slice of pizza	449	1 hr 23 mins	43 mins
Glazed donut	225	42 mins	21 mins
Two finger Kit-Kat	107	20 mins	11 mins
Big Mac	490	1 hr 30 mins	47 mins
Macaroni & cheese	400	1 hr 14 mins	38 mins
Spaghetti	476	1 hr 28 mins	46 mins



## **Worksheet**

1. **Do you think there is a difference between feeling satisfied and feeling full?**

Yes. Although the feelings of satisfaction and fullness are highly individual, feeling satisfied probably means you are neither hungry nor full, and just had enough food to feed your stomach; while feeling full probably means you can feel there is plenty of food in your stomach.

2. **How could you eat more mindfully and wisely?**

Eat without distractions, respect your decision to stop eating, and listen to your body.

3. **Can you describe the sensory properties of food? What do you think is the most important sensory property of food?**

The sensory properties of food include taste, texture, aroma, appearance, temperature, and volume.



## Resources

Intuitive Eating, 2012, E. Tribole and E. Resch

K.N.A.C.K Online: <http://knackonline.org>

Development and testing of a labeled magnitude scale of perceived satiety, 2005, A.M. Cardello, HG Schutz, L.L. Leshner, and E Merrill

“Portion Distortion”: <https://www.nhlbi.nih.gov/health/educational/wecan/portion/documents/PD1.pdf>

Dietary Guidelines for Americans, 2015-2020, 8th Edition, 2016

The Power of Choice, United States Department of Agriculture, Department of Health and Human Services, 2003

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