

The Brain, Habits and Food Decisions in Anorexia Nervosa

Name: _____

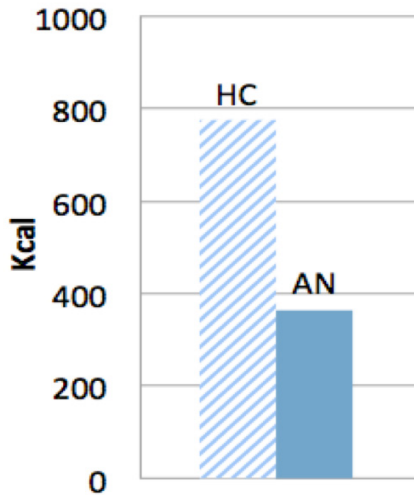
Date: _____

Figure Analysis Template 1

Figure 1: A comparison of the total number of calories in food chosen in Multi-Item Meal Task by patients with anorexia nervosa (AN) and healthy control subjects (HC).

What do you think the specific question being asked in the experiment represented here is?

How do you think scientists got the data presented in this graph?



When you compare the controls to the experimental group in the graph, what do you learn?

What questions does this graph lead you to ask?



Tabletop Twitter Protocol

Everyone needs their own Twitter username

For example: @MsG



When you are writing on the chart paper there are 4 different ways for you to participate:

Tweet an original thought—be sure to sign it with your username!

Reply — draw a line from someone else’s tweet to your new one

Favorite — draw a heart next to a tweet you really agree with

Re-Tweet — Write RT next to comments you want to share out!

Add hashtags to express your feelings on the topic in a fun way! #sciencerocks

Tabletop Twitter prompts:

What do I know about anorexia nervosa?

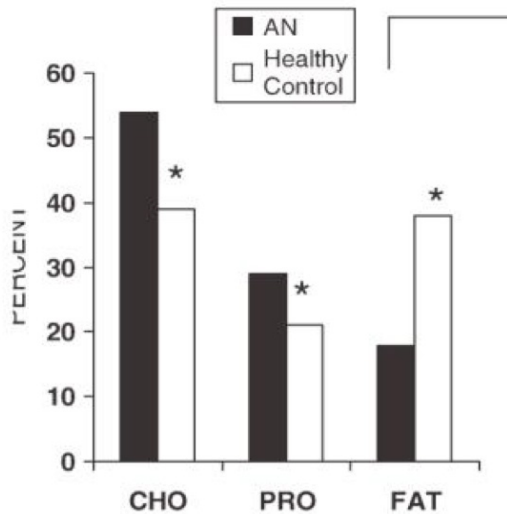
Why do I think people with anorexia nervosa eat less?

Initial thinking	Revised thinking	Summary thinking



Figure Analysis Template 2

Figure 2: A comparison of the percentage of different nutrients (carbohydrates (CHO), protein (PRO) and fat) in food chosen in the Multi-Item Meal Task by patients with anorexia nervosa (AN) and healthy control subjects.



What do you think the specific question being asked in the experiment represented here is?

How do you think scientists got the data presented in this graph?

When you compare the controls to the experimental group in the graph, what do you learn?

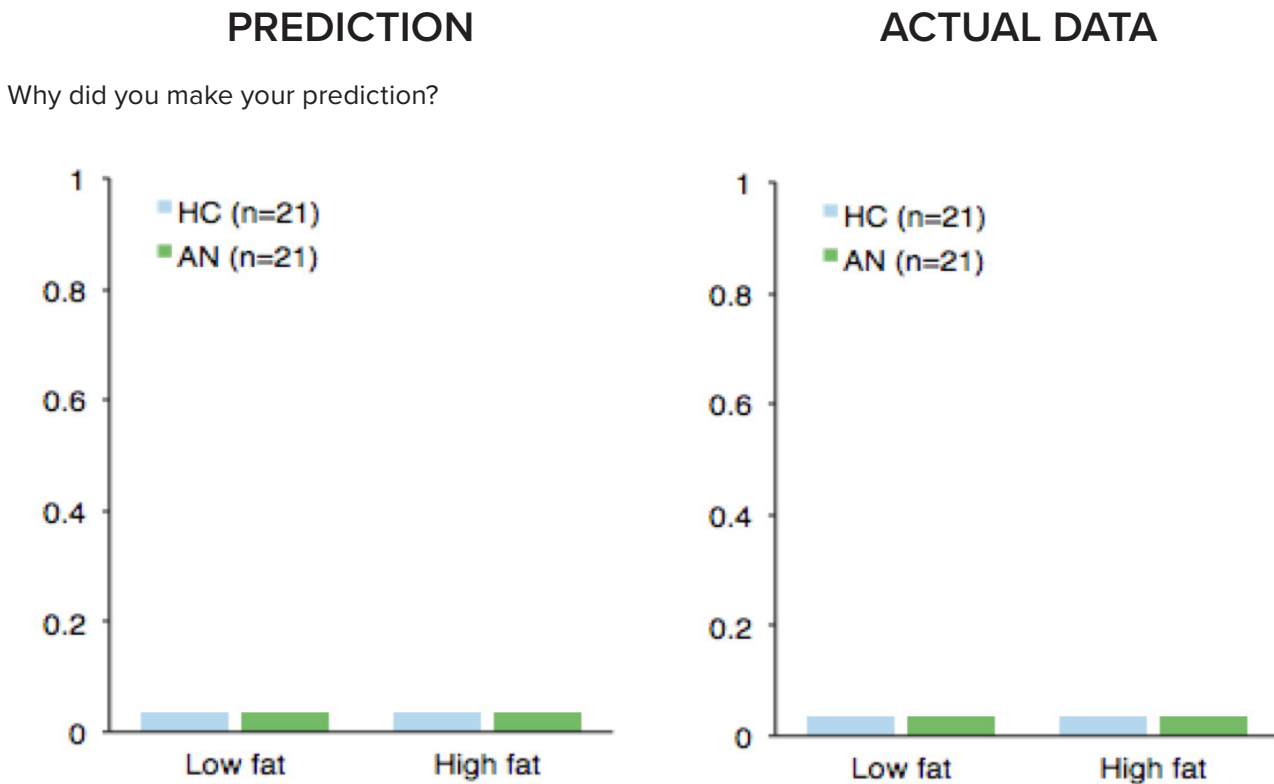
What questions does this graph lead you to ask?



Making predictions 1: Food Choice Task results

Fill in the bars to show what trend you would predict for the results of the food choice task. Base your predictions on what you have learned so far today about Anorexia Nervosa.

Figure 3: Proportion of choices of high calorie and low calorie food options by anorexia nervosa patients (AN) and healthy controls (HC).



Was your prediction supported or rejected by the actual data?

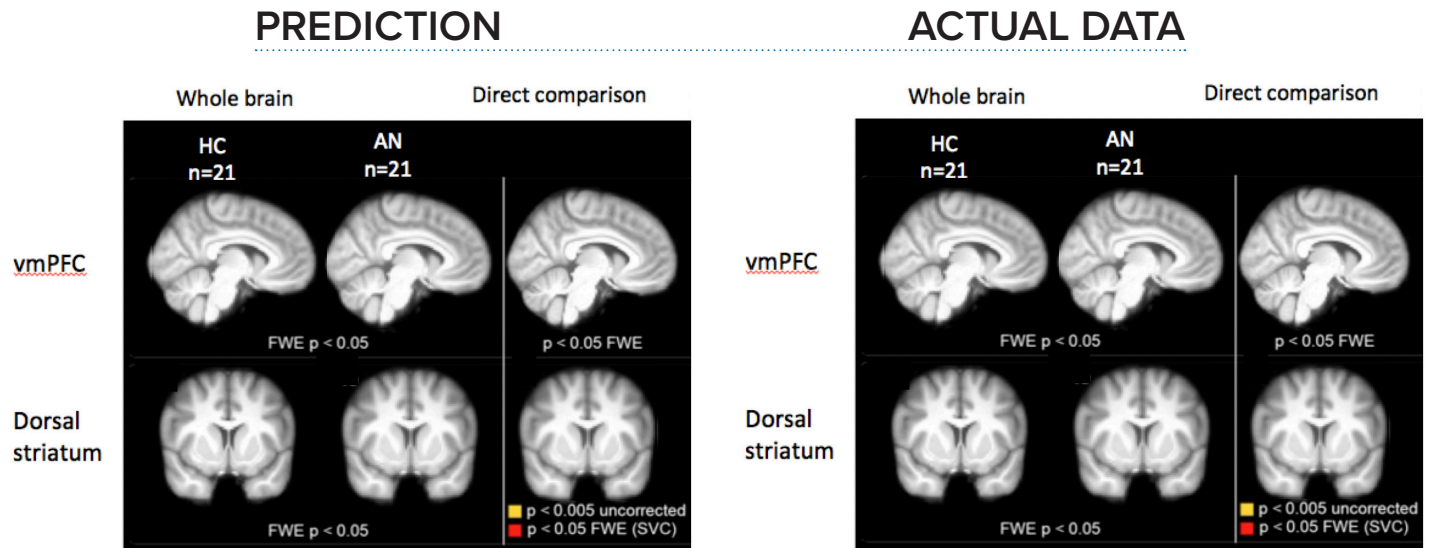
Making predictions 2: Brain activity during Food Choice Task

Color the areas of the brain that you think are most active during the food choice task in anorexia nervosa patients and healthy controls.

Base your predictions on what you have learned about the difference between reward-based behavior and habit-based behavior.



Figure 4: Brain activity measured by fMRI during the food choice task decision making in patients with anorexia nervosa (AN) and healthy control subjects (HC). The direct comparison column is to show the difference between HC and AN.



Why did you make your prediction?

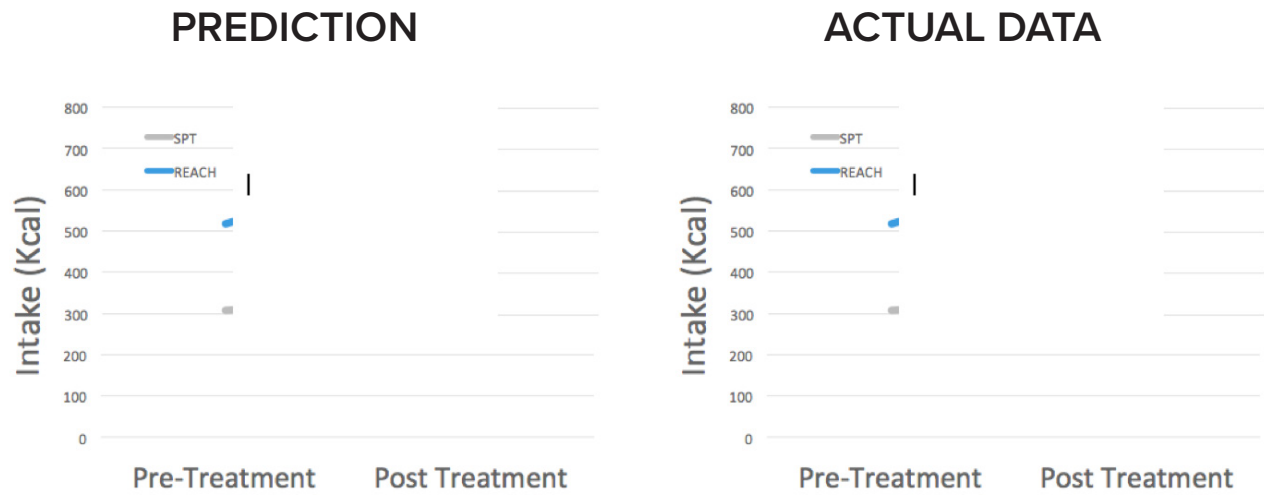
Was your prediction supported or rejected by the actual data?

Making predictions 3: Treating anorexia nervosa

Draw lines on the graphs on the next page to show your predictions for how effective REACH therapy and Self Psychological Therapy (SPT) are in improving food choices in Anorexia Nervosa patients.



Figure 5: Calorie intake of Anorexia Nervosa patients before and after treatment by REACH therapy or SPT therapy.



Why did you make your prediction?

Was your prediction supported or rejected by the actual data?

Wrap up



Develop a model that illustrates the relationship between the brain and eating behavior in a healthy control



1. Describe your models. Be sure to explain how the anorexia nervosa patient differs from the healthy control.

2. What evidence did you use to develop your models?

3. What implications does your model have for possible treatments for anorexia nervosa?

