Selective Eating:
The role of sensory sensitivity, gut feelings, and disgust
Outline

Part i
Epidemiology of Selective Eating: Who and When

Part ii
Phenomenology of Selective Eating: What and Why

Part iii
Treatment Strategies

Part iv
Future Directions
Problem 1: Defining our Terms

Picky eater
Sensitive Food Avoider

Sensory Eater

Picky eater
Behaviors

- Restricting intake of **food type** (particularly of vegetables)
- Having **strong food preferences**
- Being **unwilling to try** new foods
- Eating a **limited amount** of food
“He’ll grow out of it”

Myth #1
Is sensitive eating just a phase?

Fig. 1. Point prevalence and incidence of picky eating from 3 to 11 years of age expressed as percentages, i.e. rates per 100 children.

Mascola, Bryson, & Agras, 2010
Adult Selective Eaters: WSJ Study

- More likely to be male
- No different in race or ethnicity
- Less education
- Less likely to be underweight
- Less likely to be obese
- Less OCD symptoms
- More symptoms of social anxiety
The child will consume only a restricted range of foods. Do not include simple dislike of cabbage etc., which is typical of many children.

**NOTE:** TO BE RATED, FOOD FADS MUST BE EXTENSIVE AND RESTRICTIVE TO THE POINT OF GENERALLY INTERFERING WITH PREPARATION OF ONE MEAL FOR THE FAMILY, THAT IS, THE PARENT MUST FIX THE CHILD A MEAL IN ADDITION TO THE REGULAR FAMILY MEAL.
Cut-Points

- 0 = Absent
- 2 = The child eats only within the range of his/her fads.
- 3 = Eating with others difficult because of extreme fads.
Results

Children at both moderate levels of sensitive eating had greater levels of:

- Depressive symptoms
- Anxious symptoms
- ADHD symptoms

But not:

- ODD symptoms
- Conduct disorder symptoms
For a significant subset, sensitive eating persists and continues to impair functioning.
Sensitive eating may a marker for children that would benefit from early intervention.
“Just let him get hungry enough”

Myth #2
Fasting Study

52 students. 52% male.
Trying to have a food stand-off and starve them out won’t work
The Casualties
Do you think the medical profession has been supportive of your concerns?

- Yes: 29%
- No: 71%
Diagnosis
Does selective eating fall within AFRID (Avoidant Restrictive Food Intake Disorder)?

- Eating or feeding disturbance resulting in:
  - Nutrition deficiency
  - Growth deficiency
  - Dependence on enteral feeding or nutritional supplements
  - Interference in psychosocial functioning
Answer: It could
Part i
- Epidemiology of Selective Eating: Who and When

Part ii
- Phenomenology of Selective Eating: What and Why
Harshaw

‘...counterintuitive conclusion that, despite their critical role to survival, the phenomena of hunger, thirst and satiety are not “innate,” “hard-wired” or genetically “programmed,” but are instead the product of individual development.’
Learning Not to Eat
Hunger

Developmental Influences

- Pain
  - GERD

- Muscle Tone
  - Suck rate

- Respiration
  - Postural Tone
disgust
Figure 4. How likely is it that your child will make a disgusted face when presented with new foods? N=234
Figure 5. Do you feel digusted when presented with a new food?  
1 = Never to 5 = Always

Mean Rating of Disgust with New Foods

Total N = 999, F (994, 4) = 76.5, p < .001, R = .47

Severity of Adult Selective Eating

- Rarely or Never
- Less than Half the Time
- About Half the Time
- More than Half the Time
- All the Time
Do you gag when you try a new food?

- All of the time: 55.1%
- More than half the time: 24.8%
- About half the time: 8.5%
- Less than half the time: 5.4%
- Rarely or never: 5.1%
Take Home:

Selective eaters have a disgusted reaction to non-noxious tastes: strong "gut feelings" and sensory aversions that make eating challenging.
Outline

Part i
Epidemiology of Selective Eating: Who and When

Part ii
Phenomenology of Selective Eating: What and Why

Part iii
Treatment Strategies
Differences between disgust and evaluative conditioning
Evaluative Conditioning

- Acquired likes or dislikes for a given stimulus
- Although learned fear is reduced as a result of extinction procedures, learned dislike is resistant to extinction (evaluative conditioning).
  - That is, a residual dislike of the CS remains, even though it is no longer feared (e.g., Vansteenwegen, Francken, Vervliet, De Clercq, & Eelen, 2006).
Challenges

- Viscerally sensitive
  - Intense self-awareness
- Strong emotional reactions, particularly disgust
- Strong “gut feelings”
Novel intervention strategies
The How:

Process issues: Emotional Context
Process issues

- Work in developing parenting program for anorexia nervosa
  - Emotional wave
  - Process vs. Outcome
  - Self-parenting
Philosophy: Off the C.U.F.F.

- **C = Calm.**
  - Confidence. Expertise.
    - Wave.
- **U = Unwavering.**
  - Consistency
    - (across team members, across family members)
- **F = Firm.**
  - Knowledge and comfort with implementing every step.
- **F = Funny.**
  - Knowledge and comfort that the plan won’t work perfectly but we use our process approach and things will be fine.
Try, Learn, and Tweak

1. Unhealthy behaviors in my child we are working on decreasing.
   √ Eats too small an amount of food
   √ Eats a minimal variety of food

2. Healthy behaviors we are working on increasing.
   √ Doesn’t express negative emotions effectively.
   √ Has trouble asking for help.

3. Healthy behaviors I will work on role modeling.
   √ Saying no.
   √ Expressing negative emotions effectively.

4. Nice thing I will do for myself.
**Surf Your Wave**

**Step One:** You begin to get aroused.

**Step Two:** Intervention point.

**Step Three:** No logic here. Get down. Don't act!

**Step Four:** Intervention point.

**Step Five:** Return to one and figure out what upset you in the first place.
Help Your Child Surf

**Step One:** Something happens that is upsetting.

**Step Two:** Your child’s upset state makes your child want more predictability and certainty.

**Step Three:** The Emotional Wave

**Step Four:** Intervention Point

**Step Five:** Return to one and figure out what upset you in the first place.
The How:

Process issues:
Meal Context
Family mealtimes

- The SE (selective eater) is not expected to try new foods at mealtimes.
- The SE is expected to join the family at dinner and to remain at the table until everyone is finished.
- If the SE does initiate trying a new food at a meal time, he earns bonus points.
- The SE is served a very small portion of the same foods as the other family members on a separate small plate.
The What:

Disgust Conditioning and Reappraisal
A word on validation and positive reinforcement...
Systemizers
Examples of Systems

B. An example of a natural system: a plant

<table>
<thead>
<tr>
<th>INPUT</th>
<th>OPERATION</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhododendron</td>
<td>Mildly alkaline soil</td>
<td>Light blue petals</td>
</tr>
<tr>
<td>Rhododendron</td>
<td>Strongly alkaline soil</td>
<td>Dark blue petals</td>
</tr>
<tr>
<td>Rhododendron</td>
<td>Acidic soil</td>
<td>Pink petals</td>
</tr>
</tbody>
</table>

C. An example of an abstract system: mathematics

<table>
<thead>
<tr>
<th>INPUT</th>
<th>OPERATION</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Squared</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Cubed</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>Inverse</td>
<td>0.3</td>
</tr>
</tbody>
</table>

D. An example of a social system: a constituency boundary

<table>
<thead>
<tr>
<th>INPUT</th>
<th>OPERATION</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>Inner city</td>
<td>Small number of voters</td>
</tr>
<tr>
<td>New York</td>
<td>Whole city</td>
<td>Medium number of voters</td>
</tr>
<tr>
<td>New York</td>
<td>Whole state</td>
<td>Large number of voters</td>
</tr>
</tbody>
</table>
Food Scientists

- Reappraisal via science and curious investigation
- Objective observer (mindfulness)
- Deliberate manipulation
- Irrelevant if the food is liked or not
Sensory Map

- List of food criteria
  - Protein
  - Soft carbohydrate
  - Fruit
  - Crunch carbohydrate

- Link to every food
  - Color, shape, smell, etc.
Reappraisal
Online Selective Eaters - Associative Conditioning?

[Chat conversation image]

Legomany 3448 has changed the conversation topic to "Food #1"

Family 😞 my life

My 3448 😊 = My Life

Sollw 🙏 = my life

My 3448 😊 + 🍔 = My Life

Family 😞 the other day this was one of my friends 😞 but he is better now 😃

Sollw I want a new 📷 because I dropped mine.

Today is a ☀️ day. I hope it won't ☁️.

Andy and Ian like to

Family 🐻 + koalas = me

My 3448 /topic Food #2

Legomany 3448 has changed the conversation topic to "Food #2"
Outline

Part i
Epidemiology of Selective Eating: Who and When

Part ii
Phenomenology of Selective Eating: What and Why

Part iii
Treatment Strategies

Part iv
Future Directions
Gaps

- Need tested strategies for disgust conditioning
- Need laboratory studies of food introduction
- Need education for healthcare providers
- Need tested interventions for sensitive eaters
Summary

- Selective eaters are sensitive people.
- If we can catch them early and teach them to capitalize on (and not be afraid or disgusted) their sensory super-powers, we will help to develop some wonderful individuals.
Thanks

- Meryl Kanfer
- Pat Gammon
- Virginia Covington
- Lisa Honeycutt
- Jodi Petry
- Laura Weisberg
The End