



# Child Eating Self-regulation: Parenting Influences and Perceptions

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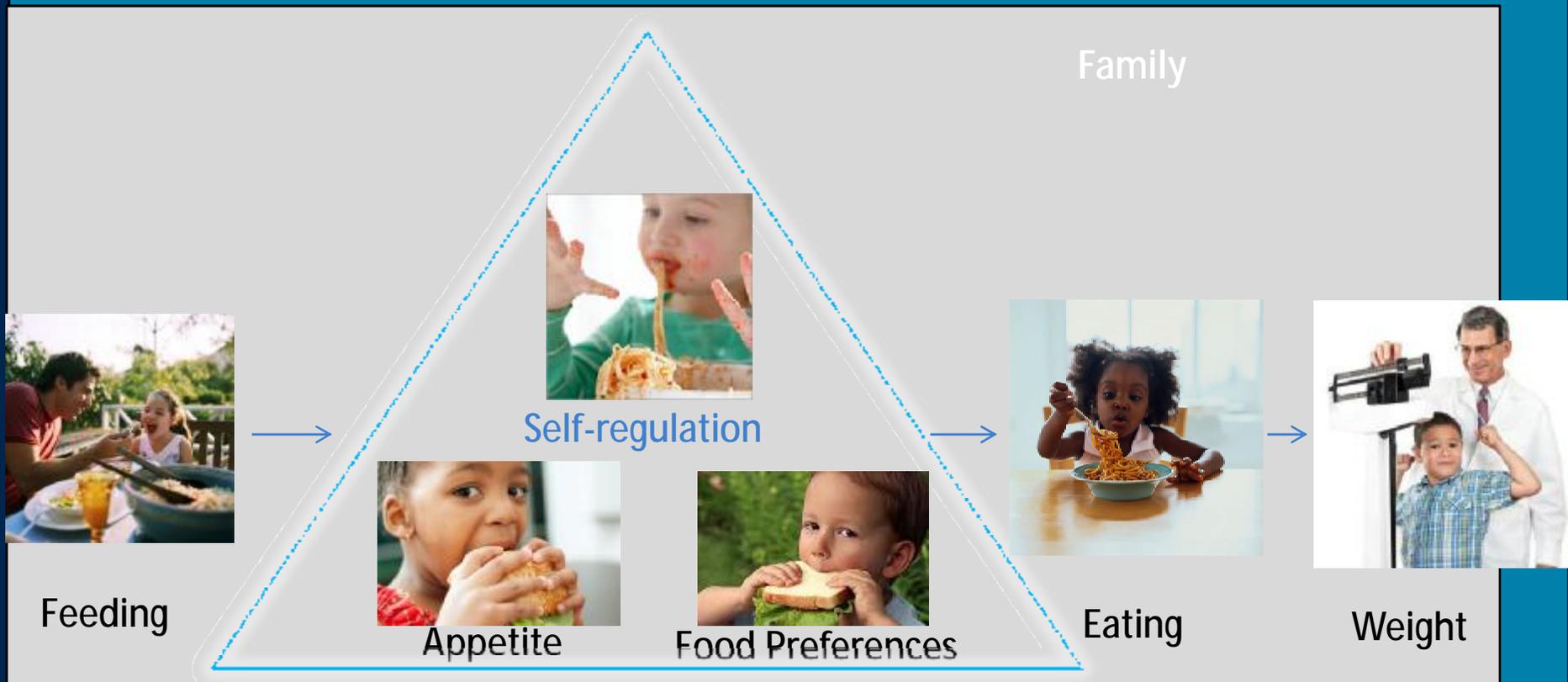
*Pediatrics*

# Why child eating self-regulation?

Community

School & childcare

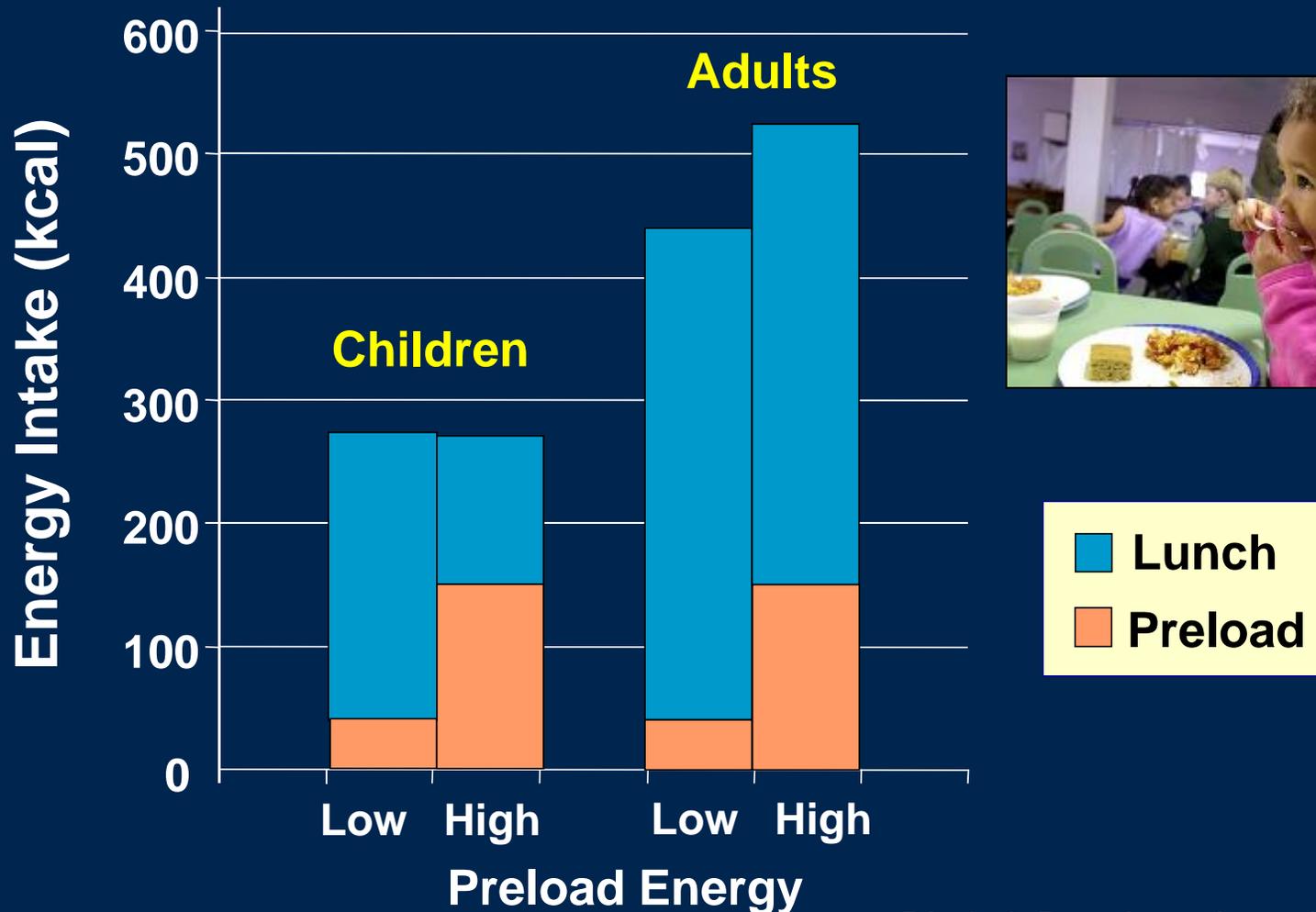
Family



Eating self-regulation refers to the ability (inborn and socialized) to eat and not eat in response to internal cues of hunger and fullness

# Evidence of child eating self-regulation

- 21 children aged 2-5 y and 26 adults seen in conditions of varying preloads



# Eating beyond fullness



- Observed among 3-19 y children in laboratory settings (eating in the absence of hunger)
- Heritable (inborn)
  - Stable behavior
  - Linked to the obesity related FTO gene
- Linked to higher child weight status
- Linked to higher control in feeding across multiple studies (socialized)

Fisher, Birch, *Appetite*, 1999; Fisher, Birch, *AJCN*, 2002; Carnell, Wardle, *Appetite*, 2007; Faith et al., *Obesity*, 2006; Fisher et al., *AJCN*, 2007; Moens, Braet, *Behav Res Ther*, 2007; Butte et al., *AJCN*, 2007; Ashcroft et al., *EJCN*, 2007; Francis et al., *Obesity*, 2007

# Problems with parental control in child feeding



- Too much control
  - In response to external pressure to eat, children ignore internal cues of fullness and respond to external cues to please parents or to stay out of trouble
- Too little control
  - Some parents may not offer enough structure—providing little guidance for what their children eat
  - Too little control may lead to unchecked eating of high calorie foods and mindless eating (children not paying attention to how full they are getting)

# Indulgence and child weight

- Too little control during feeding (parents who are highly responsive but low on control) may not foster the development of appropriate child eating self-regulation
- Indulgent feeding has been associated with higher child weight across 5 separate samples of low-income families - Latina, Black, & White families in the US (AL, CA, KY, MS, SC, TX); Haitian, Latin American, and Brazilian immigrant families residing in MA<sup>1,2,3,6,7</sup>
- Indulgent feeding has also been associated with self-selected portion sizes and less optimal eating behaviors among ethnically diverse children<sup>4,5,6</sup>

<sup>1</sup>Hughes et al., *Appetite*, 2005; <sup>2</sup>Hughes et al., *JDBP*, 2008; <sup>3</sup>Hughes et al., 2011, *IJBNPA*; <sup>4</sup>Hoerr et al., *IJBNPA*, 2009;

<sup>5</sup>Fisher et al., *Int J Obesity*, in press; <sup>6</sup>Hennessy et al., *Appetite*, 2010; <sup>7</sup>Tovar et al., 2012 *IJBNPA*

## In conclusion....

- Child eating self-regulation
  - Clear evidence for child eating self-regulation
  - Children have different predispositions to self-regulate their eating
  - Linked to child weight status
- Parenting influences on child self-regulation
  - Literature focuses heavily on highly **controlling** feeding practices, although some evidence for **low control** also being problematic (parent-report questionnaires)
  - Clearest evidence of effects from **laboratory studies**
  - Feeding research that calls into question how these practices are used in **real-life settings**

# Observations

beyond parent-report in real life settings

Meal observations of 80 low-income  
Latina and Black families



# Meal observations: Mother influence attempts

- Low control / non-directive mothers
  - 25% of the sample
  - 0 to 10 influence attempts
  - one attempt of doing something to influence the child every few minutes
- Highly controlling mothers
  - 25% of the sample
  - 50 to 132 influence attempts
  - once every 10 to 20 seconds per observation



# Meal observations: What did Mom want the child to do?

Desired Behavior	Median	Range*	% Non-Zero
<i>Eat (Eat your beans!)</i>	7	3,15	98%
<i>Manners (Use your napkin!)</i>	2	0,5	70%
<i>Determine if finished eating/more food wanted; Encouraging eating - (Are you really finished? You barely ate your beans!)</i>	2	0,5	63%
<i>Teach eating skills (Use your fork to cut the meat into pieces!)</i>	2	0,5	58%
<i>Reference to internal cues</i>	0	0,1	25%

\*Interquartile range – in frequencies;  
25%tile & 75%tile reported

# Meal observations: What verbal strategies did Mom use?



Verbal strategies	Median	Range*	% Non-Zero
<i>Tells only (Eat your food!)</i>	.52	.40, .65	99%
<i>Questions (What didn't you eat your the food?)</i>	.22	.11, .36	94%
<i>Reasons (Milk will make you strong!)</i>	.05	.00, .12	65%
<i>Hints (You haven't touched your beans.)</i>	.04	.00, .08	62%
<i>Reward/Punish (If you finish, you can play outside.)</i>	.00	.00, .03	35%
<i>Praise (You're a good boy for eating your fruit!)</i>	.00	.00, .01	27%

\*Interquartile range - percent of total influence attempts; 25%tile & 75%tile reported

# Conclusions from meal observations

- American Academy of Pediatrics recommends (for young children):  
“Adults should decide when food is offered or available and the child should be left to decide how much and whether to eat at a given eating occasion.”
- Most mothers did not use these responsive type feeding strategies recommended by pediatricians
  - Many mothers spent considerable time encouraging their children to eat often in spite of the children insisting they were finished
  - Virtually no references to feelings of hunger or fullness
  - A focus more on table manners than encouraging eating skills
- Findings help identify areas for child obesity prevention
  - Focusing on maternal sensitivity to child autonomy and responsiveness to child satiety cues is important

# Qualitative research: Mother's perceptions of 'how much is enough'

- 98 low-income mothers of children 3-5 y
  - 8 focus groups (4 with Latina moms; 4 with Black moms)
  - conducted in Houston, TX; Tacoma and Yakima, WA
- 3 major themes targeted pertaining to:
  - Determining Fullness – deciding if you or your child is full
  - How much should be served? portion sizes
  - Concerns about the child eating not enough or to much food

Goodell et al (in progress)



# Qualitative research: Determining fullness (mother)

- Finished Plate – ‘plate is clean’
- Can’t move – ‘ate too much’
- Tight belly – ‘ate too much’
- Stuffed - just ‘worse’ signs (more intense, irritable)
- Unable to describe not overeating – it happens so infrequently they could not describe the feeling



# Qualitative research: Determining fullness (child)

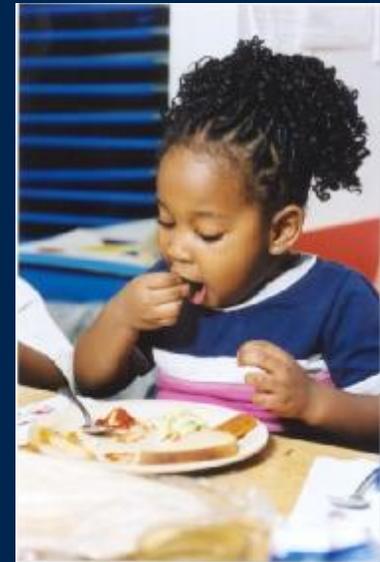
- Child states “I’m Full”- first trigger
- Parent must check or verify
  - Ask a question “Are you sure?”
  - They offer favorite foods or dessert to test the child
  - Push on the child’s belly to see if it is tight
- Ultimate test: What’s left on the plate?
  - Not “happy plate” if there is food left on the plate
  - Ate “enough” (what is enough is determined by the parent and not the child)



Goodell et al (in progress)

# Qualitative research: 'How much should be served?'

- Just know - I'm the mom (parents just know because they are the parent)
  - Figured it out over time
- Different spoons (use different size measuring spoons)
- Other things parents considered
  - Type of food (larger portions for favorite foods)
  - Ate previously? (regulate the portion size at dinner depending on what the child ate earlier)
- Goal: Minimize waste AND minimize effort (only serve the child once in the evening)



Goodell et al (in progress)

# Qualitative research: Concerns about child eating not enough or too much

- Much more concern about the child not eating enough food as opposed to eating too much
- Did not want to fix food later (waste of time) so it is important to eat plenty of food at dinner
- Unclear what the right amount of food should be
  - Too little = hungry later
  - Too much = vomiting
- Strategies used to make sure the child gets enough
  - Spoon feeding (to get more bites; can see the child eating)
  - Give them what they want so they will eat “something”
  - Fry vegetables or add sauces to make them taste better

# Conclusions from the qualitative data

- Mothers rely more on how much food is left on the plate to determine fullness as opposed to what the child says
- Mothers don't want to waste food – they don't want the child to leave too much food on the plate
- Mothers want to be sure that the child eats enough during dinner so they don't have to serve food later
- Mothers are less concerned about their child eating too much and more concerned that their child is eating too little



# Overall Conclusions

- Mothers are not employing feeding strategies consistent with current recommendations for feeding young children
  - Use high levels of pressuring child to eat despite the child saying he/she is full
- Mothers find it difficult to describe what it means to be full as opposed to being stuffed
- Mothers do not trust their children when they say they are full
- Mothers believe it is their job to get their children to eat by any means (spoon-feeding; sauces) to make sure they eat enough



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