

# “You want me to eat what?: Improving Eating Behaviors”

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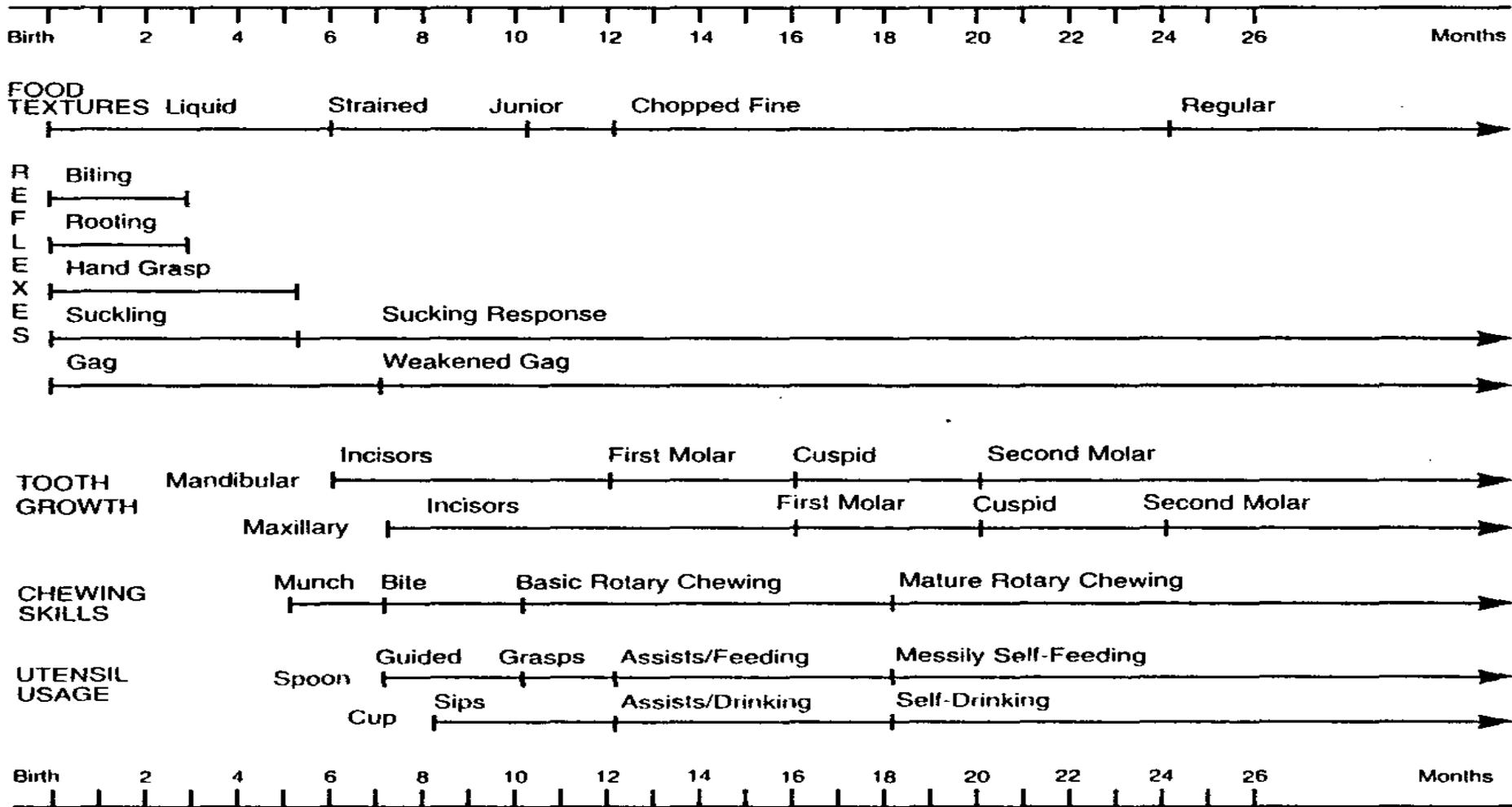
# Today's Objectives

- Feeding development in early childhood
- Mealtime challenges in children
- Research supporting intervention strategies
- Behavioral strategies for managing mealtimes

# Eating Competence

- Eating is a complex set of skills that children learn gradually over time
- Feeding involves complex interactions between parents and children

Satter, E. *“How to get your child to eat: But not too much,”* Kelcy Press: 2005.



**Figure 3.1.** The child's acquisition of mealtime skills and food textures. (From O'Brien, S., Repp, A.C., Williams, G.E., & Christophersen, E.R. [1991]. Pediatric feeding disorders. *Behavioral Modification*, 15, 394-418; reprinted by permission.)

# Normal Development & Feeding

- Infancy:
  - Stage 1: (1-4 to 6 months of age) breast milk/formula is sole source of calories/nutrition; feeding on demand (24 hour clock)
  - Stage 2: (4-6 months of age) add semi-solids to diet with introduction of cereal/pureed foods; breast milk/formula main source of nutrition; feeding on demand (24 hour clock, > calorie during daytime hours)

# Normal Development & Feeding

- Mid-infancy-Toddler:
  - Stage 3 & 4: (6-12 months of age) add finger foods to diet, introduce cup, and introduce limited adult foods (typically soft in consistency); feeding/calories consumed during daytime
  - Stage 5\*\* : (>12 months of age) child makes transition to adult foods, begins to develop/demonstrate food preferences; feeding during daytime- following predictable schedule meals/snacks

\*\*when behavioral feeding problems most likely begin to occur

# Normal Development & Feeding

- Preschool and beyond:
  - Stage 6?: (> 3 years) adult diet with no food restrictions (type/consistency); may seek/enjoy social component to meals; model feeding behavior/preferences from peers; develop predictable feeding patterns/preferences; may demonstrate disruptive behaviors at meals; feeding/mealtime expectations

# Common Feeding Challenges in Early Childhood

- Feeding problems that are common in young children
  - Neophobia
  - Limited food variety
  - Variable food intake
  - Limited attention span for mealtimes
  - Disruptive behavior at mealtimes

# Omnivore's Paradox





# Neophobia & Development

- Young children prone to neophobia
- WHY?
  - All foods are new
  - Lack of personal learning history about food
  - Lack of social learning history about food

Dovey et al. *Food neophobia and picky/fussy eating in children: A review*. *Appetite*, 50, p 181-193, 2008.

# Neophobia & Development

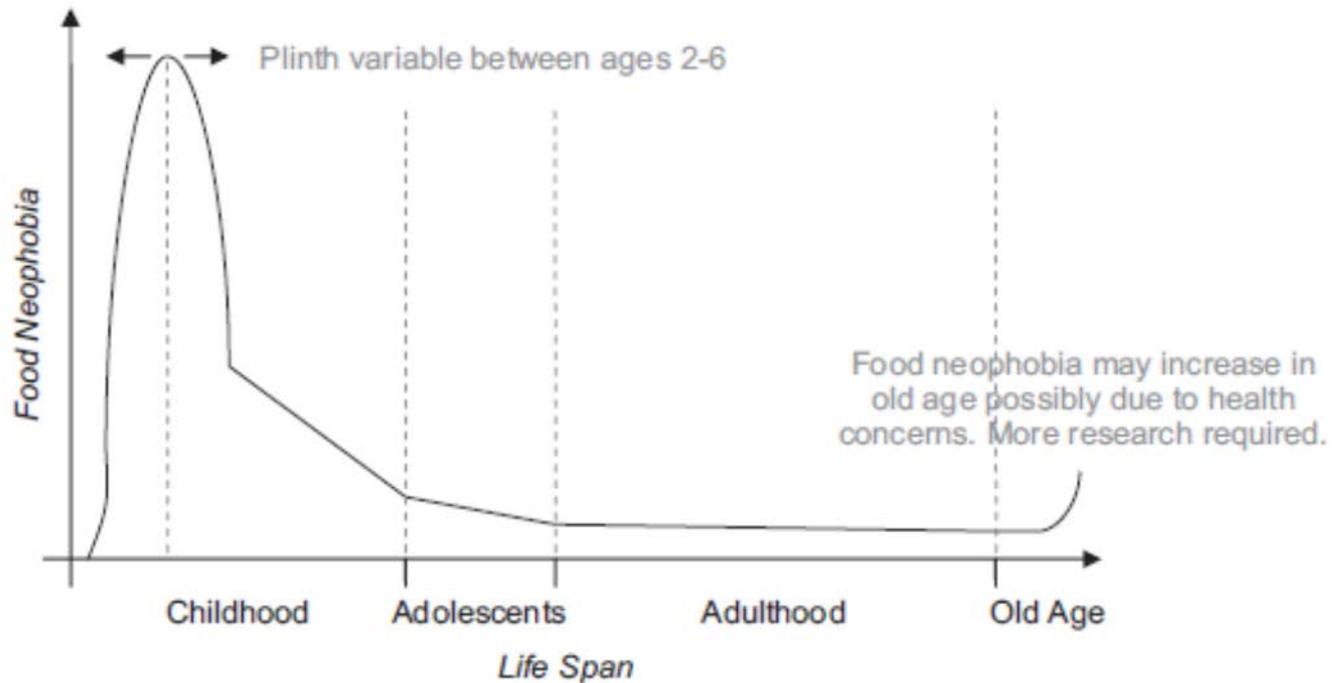


Fig. 1. A potential lifespan model for levels of food neophobia in humans.

Dovey et al. *Food neophobia and picky/fussy eating in children: A review*. *Appetite*, 50, p 181-193, 2008.

# Neophobia & Exposure

- Up to 15 positive experiences may be required to develop a preference for a new food
- Tastes of the food are necessary
- No increase preference for a new food just for looking at it



Wardle et al. *Increasing children's acceptance of vegetables: A randomized trial of parent-led exposure.* *Appetite*, 40, p 155-162, 2003.



# Limited Food Variety

- Child's food intake is typically more restricted than in neophobia

Dovey et al. *Food neophobia and picky/fussy eating in children: A review*. *Appetite*, 50, p 181-193, 2008.

# Limited Food Variety

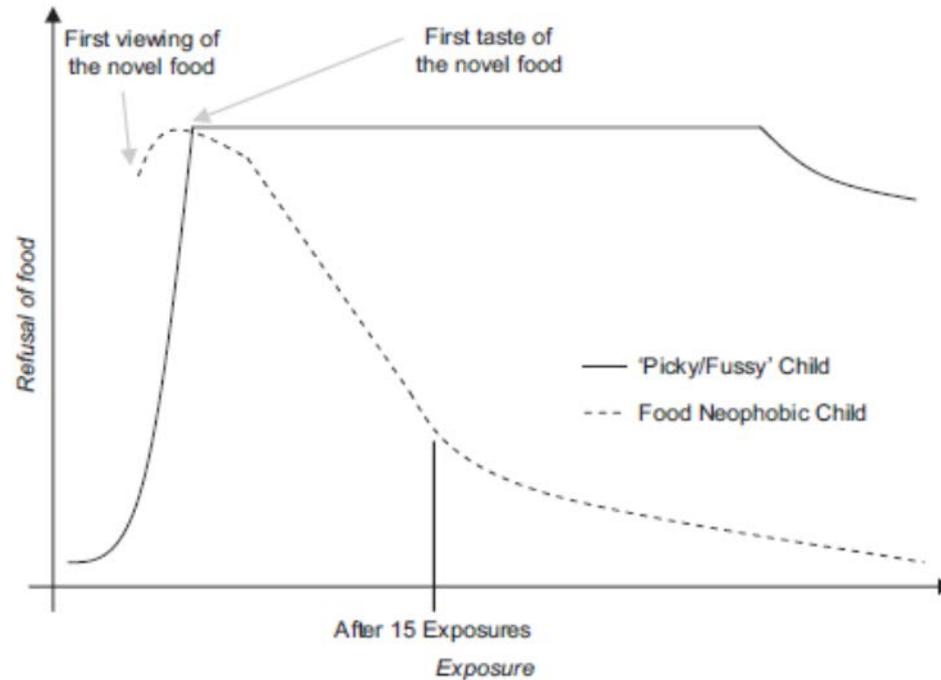


Fig. 2. Likelihood for acceptance of fruits and vegetables in food neophobic and 'picky/fussy' eating children.

Dovey et al. *Food neophobia and picky/fussy eating in children: A review*. *Appetite*, 50, p 181-193, 2008.

# Picky Eating

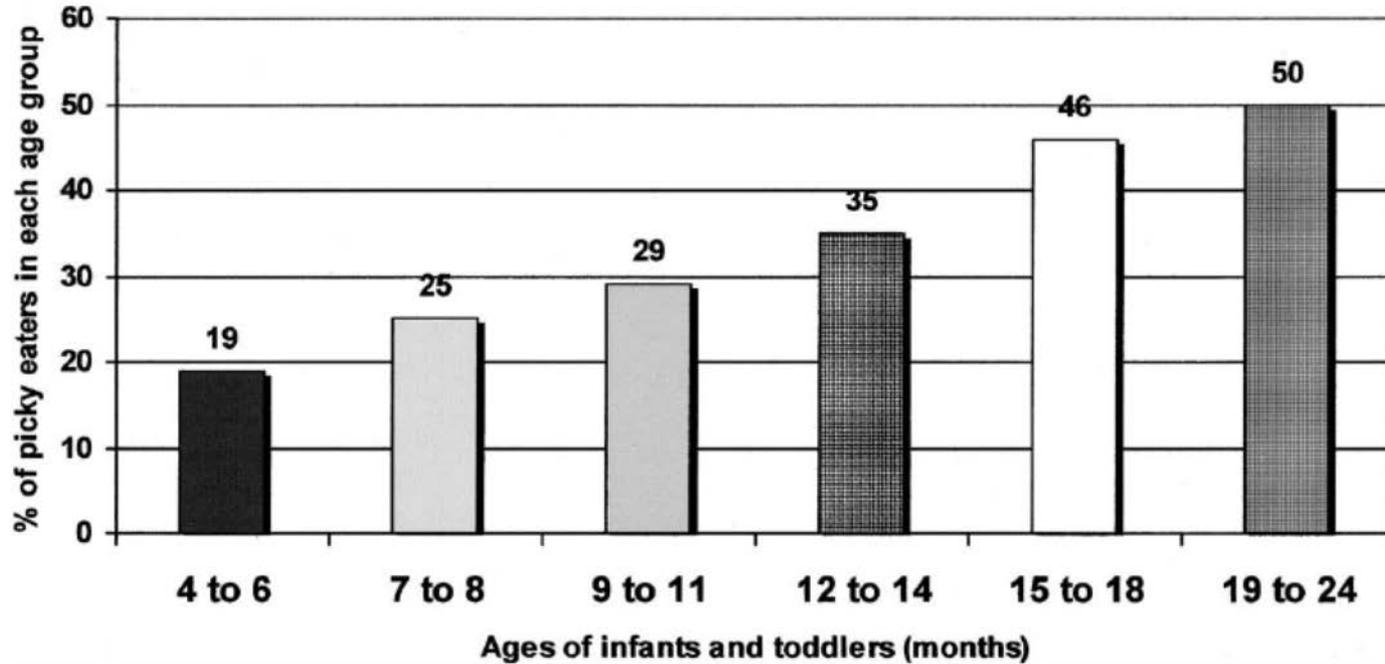


Figure 1. Percentage of caregivers who perceived their infant or toddler as a picky eater.

Carruth et al. *Prevalence of picky eaters among infants and toddlers and their caregivers' decisions about offering new food.* J Am Diet Assoc, 104, p s57-s64, 2004.

# Picky Eating

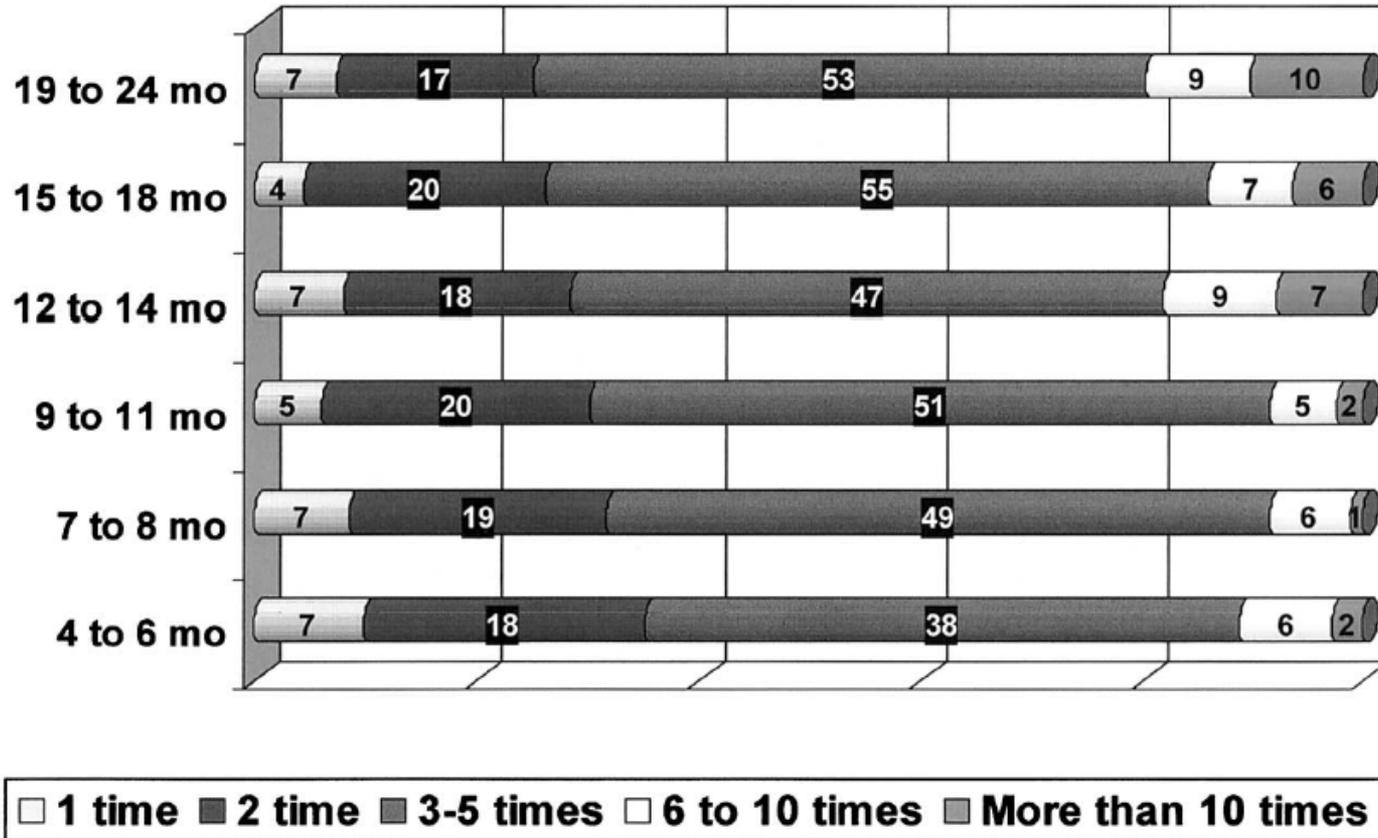


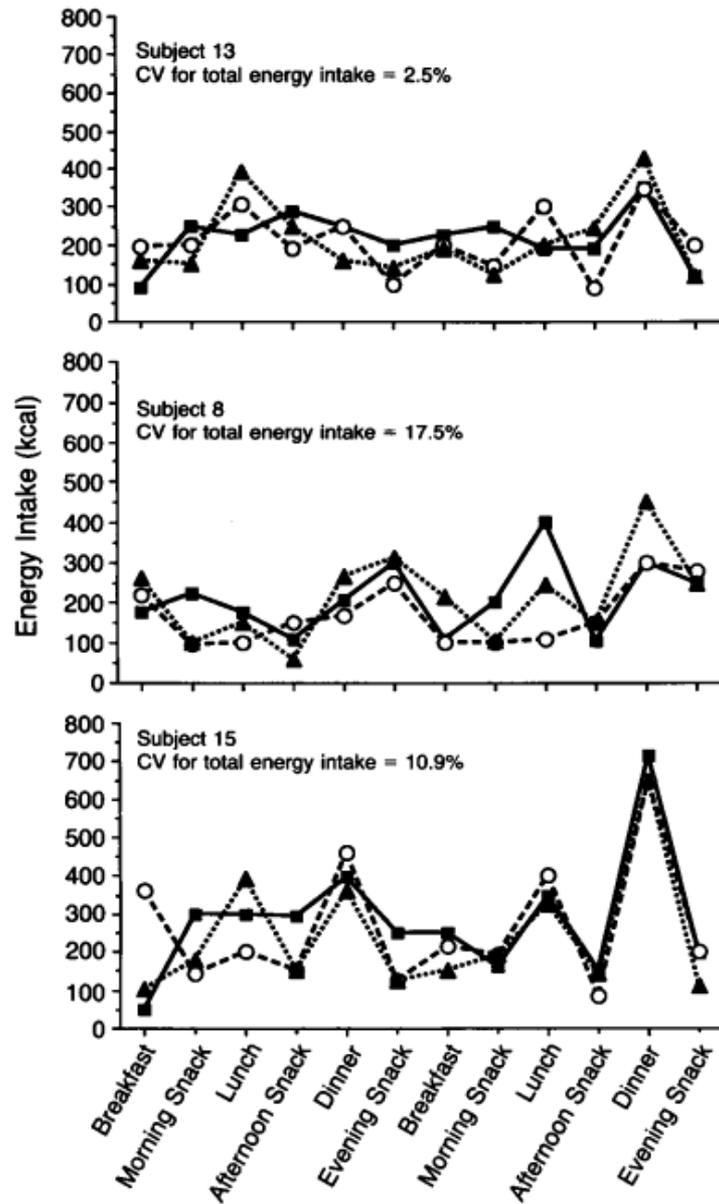
Figure 2. Percentage of mothers offering a new food a specified number of times before deciding their infant or toddler disliked it.

Carruth et al. *Prevalence of picky eaters among infants and toddlers and their caregivers' decisions about offering new food.* J Am Diet Assoc, 104, p s57-s64, 2004.



# Variable Food Intake

- Clara Davis was first to document the diets of young children – noted in the absence of adult input children seemed able to regulate their food intake over the course of a day. BUT children’s meal patterns revealed tastes **changes unpredictably...** “refusing as we say ‘to stay put’” and “**meals were a dietitian’s nightmare.**”



Birch et al. *The variability of young children's energy intake.*  
 N Engl J Med, 324, p 232-235, 1991.

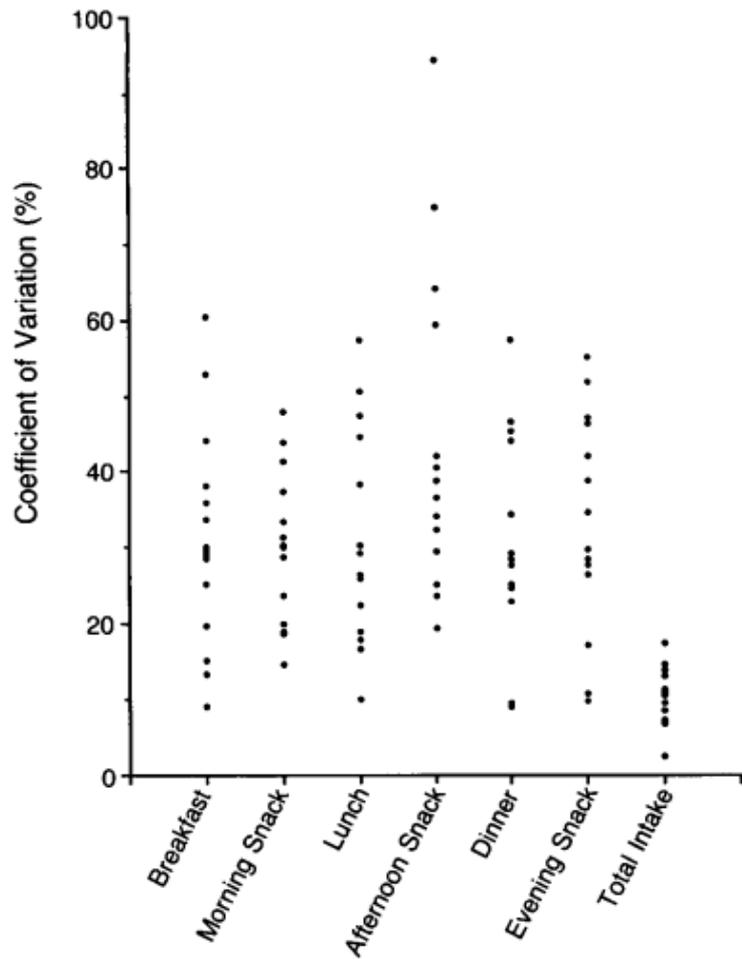


Figure 2. Coefficients of Variation for Total Energy Intake and for Intake at the Six Meals and Snacks for Individual Children (within-Subject Variation).

Each point represents the mean value for a single child for six days, except where the values for two children coincide and one data point is shown.

Birch et al. *The variability of young children's energy intake.* N Engl J Med, 324, p 232-235, 1991.

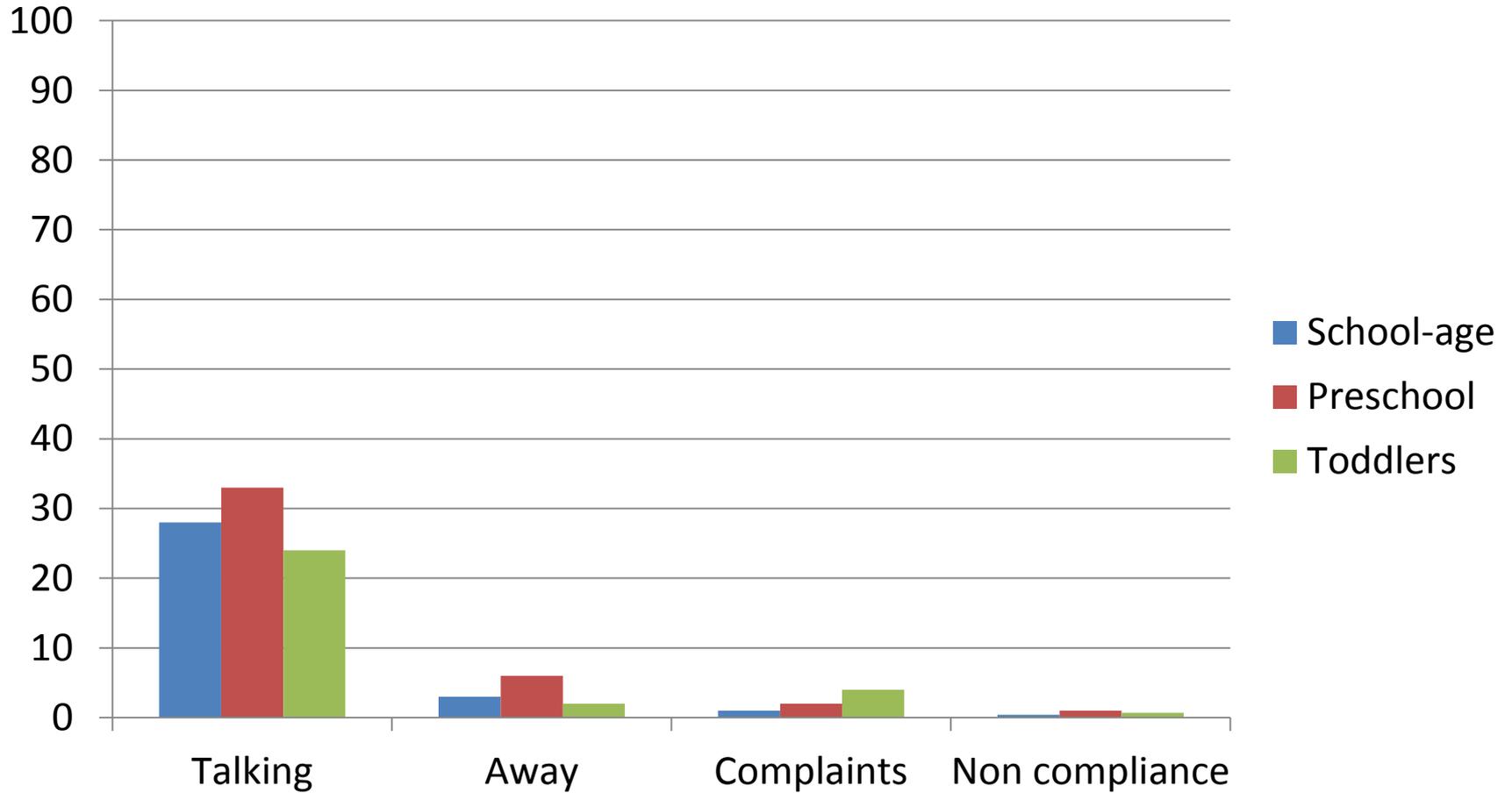
# Common Mealtime Behaviors

What do you see? List examples:

BPFAS questions (item no.)	Diabetes (% "yes")*	Control (% "yes")
Child		
1. Eats fruits	13	3
2. Has problems chewing food	5	3
3. Enjoys eating	25	3
4. Chokes or gags at mealtime	5	3
5. Will try new foods	26	23
6. Eats meat and/or fish	8	10
7. Takes longer than 20 minutes to finish a meal	33	3
8. Drinks milk	10	5
9. Comes readily to mealtime	20	3
10. Eats junky snack foods but will not eat at mealtime	18	13
11. Vomits just before, at, or just after mealtime	0	3
12. Eats only ground, strained, or soft food	0	3
13. Gets up from table during meal	31	25
14. Lets food sit in his/her mouth and does not swallow it	10	3
15. Whines or cries at feeding time	23	10
16. Eats vegetables	25	18
17. Tantrums at mealtimes	13	5
18. Eats starches	10	0
19. Has a poor appetite	18	3
20. Spits out food	5	5
21. Delays eating by talking	20	15
22. Would rather drink than eat	20	5
23. Refuses to eat meals but requests food immediately after meal	18	10
24. Tries to negotiate what he/she will and will not eat	23	15
25. Has required nasogastric (ng) feeds to maintain proper nutritional status	0	3

Powers et al. *Parent report of mealtime behavior and parenting stress in young children with type 1 diabetes and healthy controls.* Diabetes Care, 25, p 313-318, 2002

# Common Mealtime Behaviors



# Intervention Research- CF

- Cystic fibrosis (CF): most common inheritable disease of childhood
  - Lungs/digestive tract (pancreas) impacted
  - Poor oral intake/weight gain is common
  - Recommended  $>120\%$  daily energy intake

# Intervention Research- CF

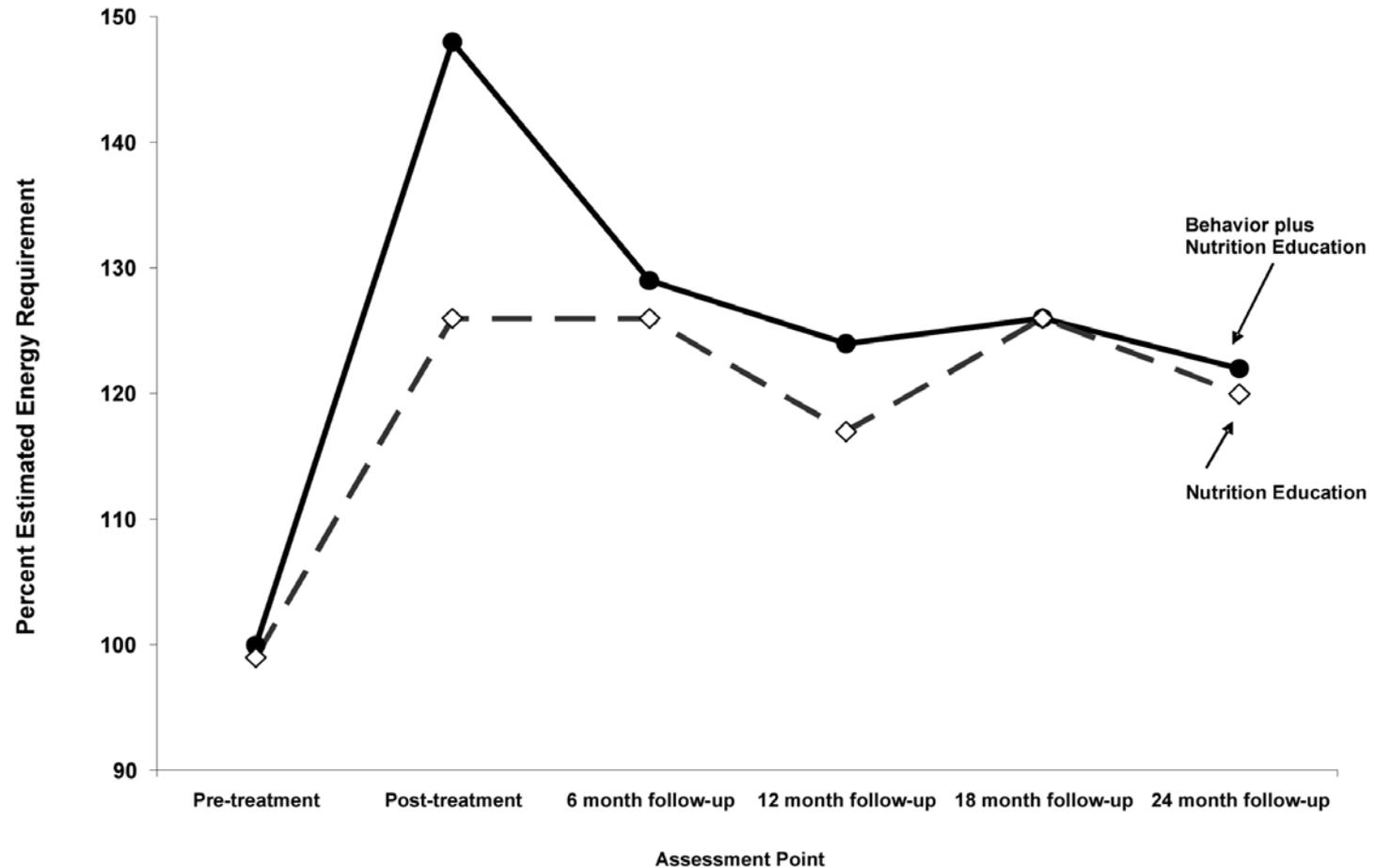
- Sample of infants and toddlers- only 11% achieved 120% RDA for age<sup>1</sup>
- Sample of preschoolers- only 20% achieved 120% RDA for age<sup>2</sup>
- Sample of school-agers- only 34% achieved 120% RDA for age<sup>3</sup>

<sup>1</sup> Powers et al., *Caloric intake and eating behavior in infants and toddlers with cystic fibrosis*. Pediatrics, 109, p 1-10, 2002.

<sup>2</sup> Stark et al., *Eating in preschool children with cystic fibrosis and healthy peers: a behavioral analysis*. Pediatrics, 95, p 210-215, 1995

<sup>3</sup> Stark et al., *Child behavior and parent management strategies at mealtimes in families with a school-age child with cystic fibrosis*. Health Psychol, 24, p 274-280, 2005.

# Intervention Research- CF



Stark et al. A randomized clinical trial of behavioral intervention and nutrition education to improve caloric intake and weight in children with cystic fibrosis. Arch Pediatr Adolesc Med, 163, p 915-921, 2009.

# Factors Related to Outcomes

Final Hierarchical Multiple Regression Model for Baseline Predictors of Change in Calories from Baseline to Post-Treatment

	Standardized Coefficients			
	B	T	R <sup>2</sup>	R <sup>2</sup> change
Baseline Calories	-.18	-1.67	.01	.01
Fat Absorption	.08	.76	.02	.01
Group	.48	4.45 <sup>c</sup>	.19	.17
BPFAS Frequency Score	-.37	-3.42 <sup>b</sup>	.30	.11
CESD	.24	2.30 <sup>a</sup>	.36	.06

Opiari-Arrigan et al. *Mealtime problems predict outcome in clinical trial to improve nutrition in children with CF.* *Pediatr Pulmonol*, 45, p 78-82, 2010.

# Factors Related to Outcomes

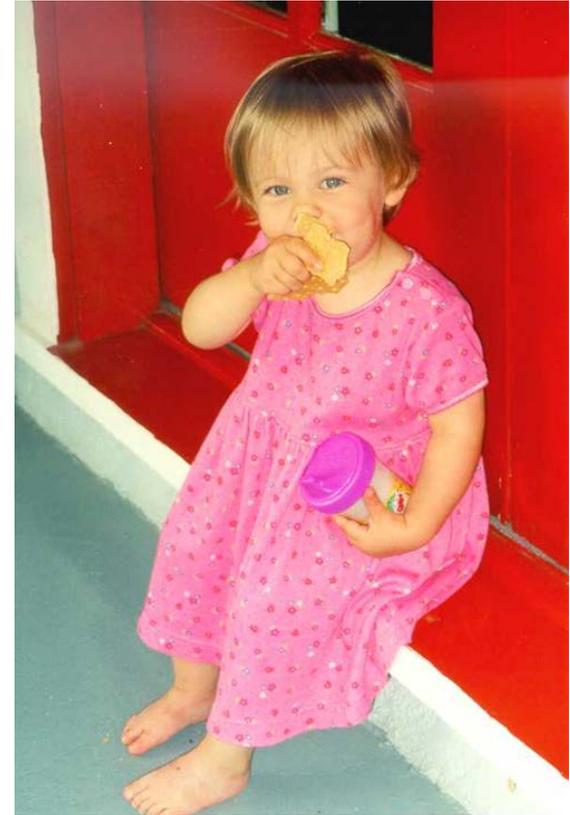
Final Hierarchical Multiple Regression Model for Baseline Predictors of Change in Weight from Baseline to Post-Treatment

	Standardized Coefficients			
	B	T	R <sup>2</sup>	R <sup>2</sup> change
Baseline Weight	.23	2.01 <sup>a</sup>	.10	.11
Fat Absorption	.24	2.10 <sup>a</sup>	.12	.02
Group	.34	3.02 <sup>b</sup>	.21	.09
BPFAS Frequency Score	-.25	-2.14 <sup>a</sup>	.27	.06

Opiari-Arrigan et al. *Mealtime problems predict outcome in clinical trial to improve nutrition in children with CF.* *Pediatr Pulmonol*, 45, p 78-82, 2010.

# Behavioral Strategies

- Contingent attention
- Setting goals
- Giving commands
- Token Economy
- Mealtime hygiene



# Contingent Attention

- What it is:
  - A systematic way of giving immediate feedback to your child on his/her behavior
  - Feedback is given by providing or withdrawing attention to redirect behavior
  - Involves 2 components: Praise and Ignoring

# Praise/Attention

- Young and school-age kids love attention & praise they receive from their parents
- Praise behaviors you want to see repeated
- Examples:
  - Coming to the table right away
  - Taking bites of food
  - Tasting/trying foods
  - Listening to snack suggestions
  - Following parent directives

# Ignoring

- The flip side is to withdraw attention (ignore) undesirable behaviors
- Adults can fall into a trap of attending to undesirable behaviors (i.e., “Sarah, this is good food. You need to eat it before you can leave the table. C’mon, take a bite. Try it...”)
- Examples:
  - Complaining about food/eating
  - Dawdling/stalling
  - Not eating
  - Efforts to draw your attention away from eating/meal

# Contingent Attention Is Not...

A BRIBE:

A COAX:



Parent acts in RESPONSE to child



Parent acts in RESPONSE to child

Parent Attention



Child Behavior  
Desirable/Un-  
desirable



Child Behavior  
Desirable/Un-  
desirable

Parent's behavior precedes child's; child now acts  
in RESPONSE to parent

# WAYS to PRAISE

- Verbal:
  - Tell your child what you liked and give a quick praise (“I like it when you finish your sandwich,” “Great job coming to the table when I called you for dinner!”)
  - One-word Quickies (“Great!,” “Super!,” “Nice bite!”)
  - Play by Play (find your inner Howard Cosell... “Leah’s take a big bite of sandwich, she’s chewing, she swallows and she goes back for another bite, way to go LEAH!”)

# The ABC's of Praise:

<b>A</b> AWESOME!; AMAZING!; ATTA-BOY/ATTA-GIRL!; ALL RIGHT!; A+!	<b>N</b> NICE WORK!; NEAT!; NICE!; NATURAL!; NOTHING CAN STOP YOU NOW!
<b>B</b> BEAUTIFUL!; BRILLIANT!; BREATHTAKING!; BRAVO!; BOO-YAH!; BINGO!	<b>O</b> OUTSTANDING!; OUT OF SIGHT!; OPTIMAL!
<b>C</b> COOL!; CONGRATULATIONS!; CLEVER!; CHAMPION!; CLASS ACT!	<b>P</b> PERFECT!; PHENOMENAL!; I'M PROUD OF YOU!
<b>D</b> DYNAMITE!;	<b>Q</b> YOU'RE QUICK!; QUINTESSENTIAL!
<b>E</b> EXCELLENT!; EXCEPTIONAL!	<b>R</b> REMARKABLE!; RIGHT ON!
<b>F</b> FANTASTIC!; FIRST RATE!; FAR OUT!	<b>S</b> SUPER!; SUPERB!; STUPENDIOUS!; SPECTACULAR!; SWEET!; SENSATIONAL!; SPOT ON!; STUNNING!
<b>G</b> GREAT!; GREAT JOB!; GROOVY!; GOOD WORK!; GENIUS!;	<b>T</b> TERRIFIC!; TREMENDOUS!; TOP NOTCH!; TAKE A BOW!; TWO THUMBS UP!
<b>H</b> HIGH 5!; HOORAY!; HATS OFF!; HOT DOG!	<b>U</b> UNIQUE!; UNBELIEVABLE WORK!
<b>I</b> INCREDIBLE!; INCOMPARABLE!; I LOVE IT!; IMPRESSIVE!	<b>V</b> VICTORY!
<b>J</b> YOU'RE A JOY!	<b>W</b> WOW!; WONDERFUL!; WAY TO GO!; YOU'RE A WINNER!; WELL DONE!
<b>K</b> KOWABUNGA!; KEEP IT UP!	<b>X</b> X-ORDINARY!
<b>L</b> LOVELY!; LOVE IT!; LOOKING GOOD!	<b>Y</b> YAH!; YOU CAN DO IT!
<b>M</b> MAGNIFICENT!; MARVELOUS!	<b>Z</b> ZOWEY!

# Behaviors to Praise

## **Mealtimes**

- List Examples:

## **General**

- List Examples:

# Goal Setting

- SMART goals:
  - Specific
  - Measurable
  - Attainable
  - Realistic
  - Time-specific



# SMART Goals Examples

## **Vague (unrealistic) Goals:**

- Encourage my child to new foods
- Encourage my child to eat more vegetables
- I want my child to eat better
- I want my child to gain weight

## **SMART (er) Goals:**

- We're going to target 1 new food at dinner time and keep this goal up for 2 weeks.
- I'm going to add a vegetable to my child's lunches this month
- I'm going to add 250 calories more to my child's day and measure his/her weight in 1 month.

# SMARTer Goals

- Focus on Behavior versus Outcome



- Strive for shared goals



- Reinforce/acknowledge goal achievement

# Command Statements

How do you give directions to your child?

- “I need you to finish eating all of your peanut butter toast, ok?”
- “It’s time to pick up your toys, ok?”
- “Run upstairs, grab your hairbrush, a pony tail holder, bring down the conditioner bottle, oh and you’ll need a hoodie too.”
- “See if you can eat some more.”
- “C’mon, c’mon Jimmy.”

# Command Statements

- More effective statements:
  - Are short, direct and convey 1 thought:
    - “Take a bite” versus “Eat your sandwich and drink your milk”
  - Are positively phrased versus negatively phrased:
    - “Chew your food” versus “Don’t swallow that bite whole” or “Play ball outside” versus “Don’t play ball in the house”
  - Are statements not questions:
    - “Time to pick up the toys” versus “Time to pick up the toys, ok?”

# Command Statements- Practice

**Ok-**

**How can you make these Better?**

“No touching”

“You need to eat all of your dinner, ok?”

“This snack is good for you, ok”

“How about you try your broccoli now?”

“Run upstairs and get your comb, a pony tail holder, and the conditioner.”

# Command Statements- Best Practice

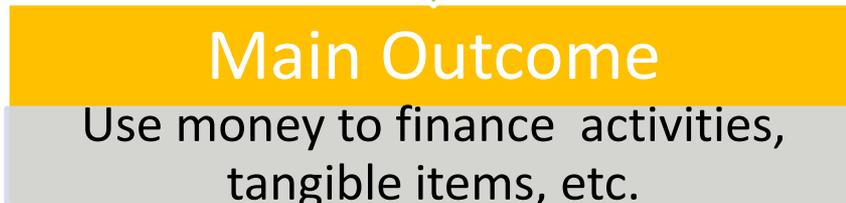
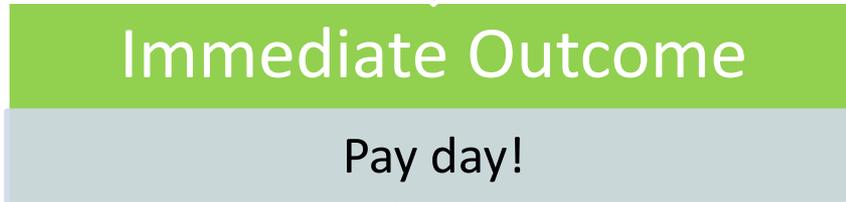
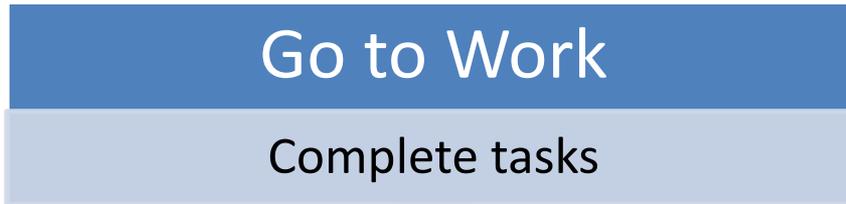
- Seek eye contact from the child before giving command
- Be specific and tell kids exactly what you want
- Pair commands with contingent attention



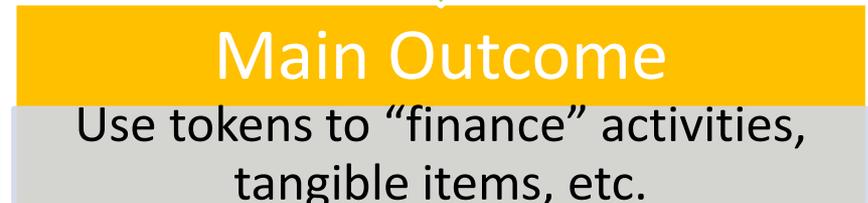
# Token Economy



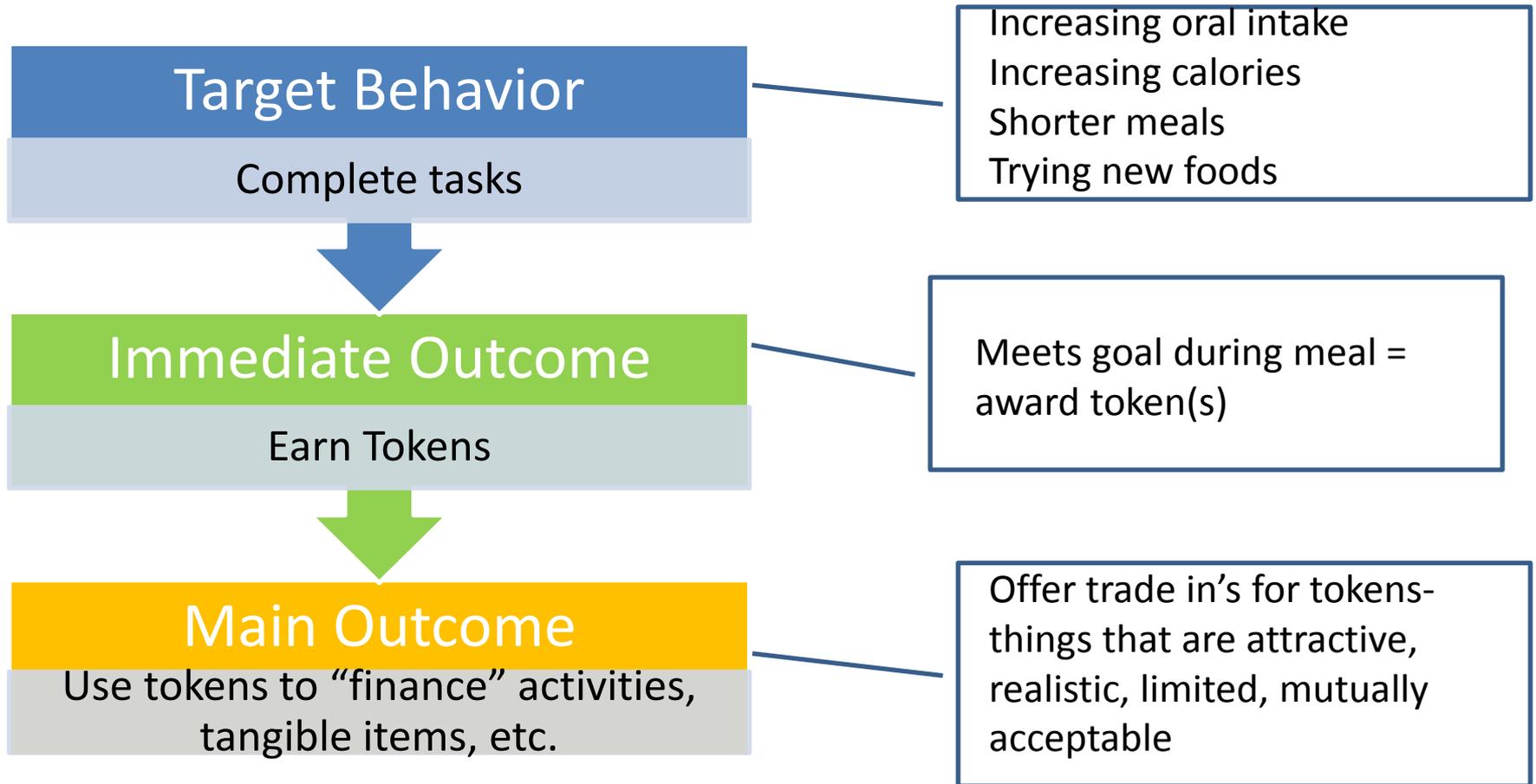
## Home Economy



## Token Economy



# Token Economy



# Mealtime Hygiene

- Limit distractions (tv, toys, books, tablets, phones)
- Limit child trips away from the table (bathroom, refills from the kitchen)
- Have everything ready before calling your child to the table to eat
- Model eating
- Prompt eating/recognize stalling
- Release kids from meal as soon as possible

# Picky Eating

- Pick an easy meal to introduce
- Offer small amount first (more later, if desired)
- Present new food early in the meal
- Use **contingent attention** to encourage child to pick up/smell/try the new food
- Set **token economy system** to reinforce new skill (trying new foods)
- Focus on the positive
- Present each food multiple times

# Limited Food Variety

- Pick an easy meal
- Use **shaping/contingent attention** to encourage child eating
- Premack with preferred foods (reinforcing behavior change, not food intake)
- Use **token economy/goals** to promote greater acceptance
- Be persistent

# Limited Food Intake

- Use **contingent attention** to encourage child eating- especially bigger bites
- Make sure each bite counts
- **Shape** greater intake by spreading out energy goals over the day versus targeting one meal
- Set **goals** and use **token economy** to reinforce achievement of mealtime/daily goals

# Disruptive Behaviors

- Use **contingent attention (CA)**, when appropriate (viz., complaints, drinking/talking and not eating)
- Behaviors you can't ignore:
  - Stalling, getting up from the table, spitting out food, throwing food, etc.
- Use commands + CA
  - “Sit down.” + “I like how you're sitting at the table now.”

- Stalling: “Take a bite” (+CA)
- Talking: “Take a bite and then tell me about the movie”
- Drinking instead of eating: try a straw; “Take a bite, then you can take a sip”
- Spitting out: “No! Food stays in your mouth.” (+CA)
- Getting up: “At meals, we stay in our chairs.” (+CA)

# Questions?

