

## Preventing Child Overweight and Obesity: Raising children to be competent eaters

### Part 1 Understand Eating Competence

Ellyn Satter, MS, RD, LCSW, BCD



Satter E. The Satter Feeding Dynamics Model of child overweight definition, prevention and intervention. O'Donoghue W, Moore RA, Scott B. *Pediatric and Adolescent Obesity Treatment: A Comprehensive Handbook*. New York: Taylor and Francis; 2007:287-314

# 19

## The Satter Feeding Dynamics Model of Child Overweight Definition, Prevention, and Intervention

ELLYN SATTER

[Understanding eating competence](#)

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## SATTER FEEDING DYNAMICS MODEL: fdSatter

Parents feed based on the division of responsibility  
Children remain/become eating competent

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## SATTER FEEDING DYNAMICS MODEL: fdSatter

Parents feed based on the division of responsibility

- Parents do the *what, when, and where* of feeding
- Children do the *how much* and *whether* of eating

Children remain/become eating competent

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## SATTER FEEDING DYNAMICS MODEL: fdSatter

Parents feed based on the division of responsibility  
Children remain/become eating competent

- Feel good about eating
- Go by feelings of hunger and fullness to know how much to eat
- Learn to like unfamiliar food
- Enjoy family meals

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## Satter Eating Competence Model (ecSatter): Inclusive definition of eating attitudes and behaviors

1. Positive attitudes about eating and about food
2. Food acceptance skills that support eating an ever-increasing variety of the available food
3. Internal regulation skills that guide consuming enough food to give energy and stamina and to support stable body weight
4. Skills and resources for managing the food context and orchestrating family meals

Satter, E. M. (2007). *J Nutr Educ Behav*, 39 (suppl), S142-S153.

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## ecSatter: A Radical Model

Eating attitudes and behavior reflect fundamental biopsychosocial processes

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- Hunger and the drive to survive
- Appetite and the need for pleasure
- Social reward of sharing food
- Biological propensity to maintain preferred and stable body weight

Satter, E. M. (2007). *J Nutr Educ Behav*, 39 (suppl), S142-S153.

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## ELLYN SATTER'S DIVISION OF FEEDING RESPONSIBILITY (sDOR) INFANT

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- Parent: *What*
- Child: *How much*

Satter, The feeding relationship, *JADA* 86:352, 1986

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## ELLYN SATTER'S DIVISION OF FEEDING RESPONSIBILITY (sDOR) Toddler through adolescent

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- Parent: *What, when, where of feeding*
- Child: *How much, whether of eating*

Satter, The feeding relationship, *JADA* 86:352, 1986

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## FOR CHILDREN TO BE COMPETENT EATERS, ADULTS MUST BE COMPETENT FEEDERS

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- Choose and prepare food
- Have regular meals and snacks
- Make eating time pleasant
- Provide mastery expectations
- Accept and support children's growth

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## BEING A COMPETENT FEEDER INCLUDES TRUSTING CHILDREN TO EAT

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- Children will eat
- They know how much to eat
- They will eat a variety
- They will grow predictably
- They will mature with eating

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## Eating attitudes

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*ecSatter Inventory*  
**MEASURES EATING  
 COMPETENCE**  
 A validated tool published in  
 Fall, 2007 JNEB

- 1-5 Eating attitudes
- 6-8 Food acceptance
- 9-11 Food regulation
- 12-16 Context management

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**ecSatter Inventory**

Below are 16 statements about your eating. Think about each one, then check the box that shows how often you think, do or feel that way.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Age: \_\_\_\_\_

A=Always O=Often S=Sometimes R=Rarely N=Never

	A	O	S	R	N
1. I am relaxed about eating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I am comfortable about eating enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I enjoy food and eating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am comfortable with my enjoyment of food and eating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. It is ok to eat to eat food that I like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I am comfortable with how food and eating is like it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the situation demands, I can "force it" by eating food I don't much care for.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I eat a wide variety of foods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I realize I will get enough to eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I eat as much as I am hungry for.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I eat until I feel satisfied.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I eat as to food and pay attention to myself when I eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I realize how to eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I have regular meals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I think about eating when I think about to eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I generally give the feeding myself. I don't give food when I get hungry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**ecSatter Inventory**

Below are 16 statements about your eating. Think about each one, then check the box that shows how often you think, do or feel that way.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Age: \_\_\_\_\_

A=Always O=Often S=Sometimes R=Rarely N=Never

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1. I am relaxed about eating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I am comfortable about eating enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I enjoy food and eating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am comfortable with my enjoyment of food and eating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel it is okay to eat food that I like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**A child who is competent with eating...**

- Feels good about eating



*Elynn Satter's Feeding with Love and Good Sense II Segment 1: The Infant—Emerson and nanny*

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**To let a child feel good about eating, maintain sDOR throughout the growing-up years**

Satter E. The Satter Feeding Dynamics Model of Child Overweight Definition, Prevention, and Intervention. ©Elynn Satter, MD, MSW, BA, ScD, PhD, Pediatric and Adolescent Obesity Treatment. A Comprehensive Handbook. New York: Taylor and Francis, 2007. 247-314.

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**The Satter Feeding Dynamics Model of Child Overweight Definition, Prevention, and Intervention**

ELLYN SATTER

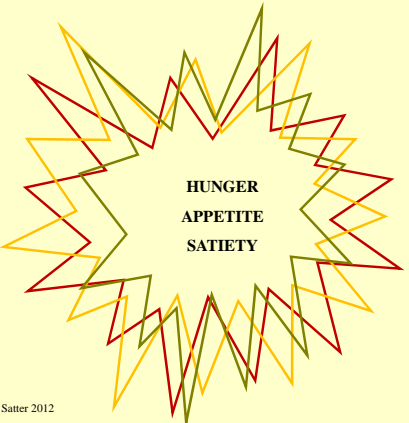


[ESA Website](http://www.esa.com)  
 © Elynn Satter 2012

**WHAT DOES THIS HAVE TO DO WITH CHILD OBESITY?**

- Hunger
- Appetite
- Satiety

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## Food acceptance

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### ecSatter Inventory

Below are 16 statements about your eating. Think about each one, then check the box that shows how often you think, do or feel that way.

A=Always O=Often S=Sometimes R=Rarely N=Never

	A	O	S	R	N
6. I experiment with new food and learn to like it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the situation demands, I can "make do" by eating food I don't much care for.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I eat a wide variety of foods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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### A child who is competent with eating...

- Feels good about eating
- Will learn to like unfamiliar food

*Ellyn Satter's Feeding with Love and Good Sense II DVD*

*Segment 2: The Toddler—Gage and parents*



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### sDOR

#### Adults do the *feeding*

- Choose and prepare food
- Have regular meals and snacks
- Make eating time pleasant
- Show the child what to learn
- Not let the child graze for food or beverages between times

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### sDOR

#### Adults trust the child to do the *eating*

- Children will eat
- They know how much to eat
- They will grow predictably
- They will eat a variety
- They will mature with eating

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### FEEDING PRESSURE BACKFIRES

Forcing, bribing, coercing, nudging, applauding, rewarding, explaining, teaching, restricting

- Getting children eat certain foods
- Getting children to eat more or less
- Getting children to avoid certain foods

*Secrets of Feeding a Healthy Family*  
Appendix J: Children and food acceptance—the research

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## FEEDING PRESSURE BACKFIRES

Forcing, bribing, coercing, nudging, applauding, rewarding, explaining, teaching, restricting

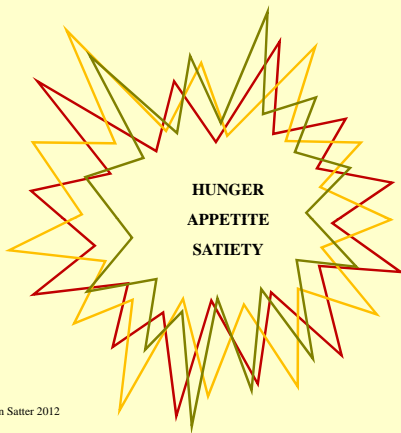
- Getting
- Getting
- Getting

90% of parents pressure children to eat  
50% of children have feeding problems

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## Internal regulation

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### ecSatter Inventory

Below are 16 statements about your eating. Think about each one, then check the box that shows how often you think, do or feel that way.

A=Always O=Often S=Sometimes R=Rarely N=Never

	A	O	S	R	N
9. I assume I will get enough to eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I eat as much as I am hungry for.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I eat until I feel satisfied.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## A child who is competent with eating...

- Feels good about eating
- Can learn to like unfamiliar food
- Goes by feelings of hunger and fullness to know how much to eat

*Ellyn Satter's Feeding with Love and Good Sense II DVD*

*Segment 2: The Preschooler--Gracie*

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## FOOD RESTRICTION BACKFIRES

Children become afraid of going hungry and overeat when they get the chance

- Getting children eat certain foods
- Getting children to eat more or less
- Depriving children of certain foods
- Not letting children eat as much as they are hungry for

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## WHAT DOES THIS HAVE TO DO WITH CHILD OBESITY?

- Hunger
- Appetite
- Satiety

Children who get the message they are too fat feel flawed in every way—not smart, not physically capable, and not worthy. They tend to diet, gain weight, and weigh more than they would otherwise

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## sDOR

Adults do the *feeding*

- Choose and prepare food
- Have regular meals and snacks
- Make eating time pleasant
- Show the child what to learn
- Not let the child graze for food or beverages between times

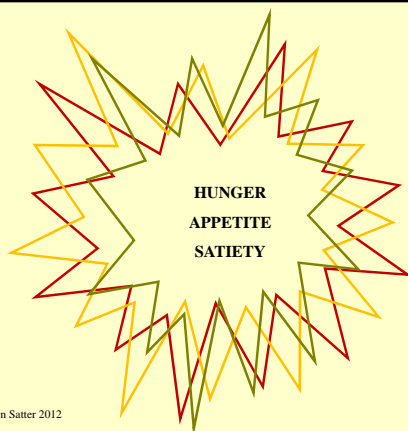
© Ellyn Satter 2012

## sDOR

Adults trust children to do the *eating*

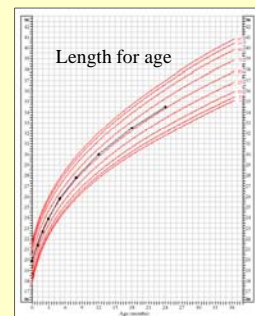
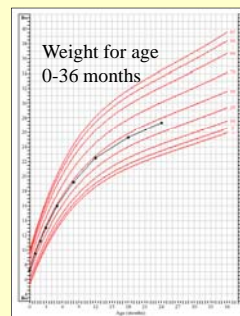
- Children will eat
- They know how much to eat
- They will grow predictably
- They will eat a variety
- They will mature with eating

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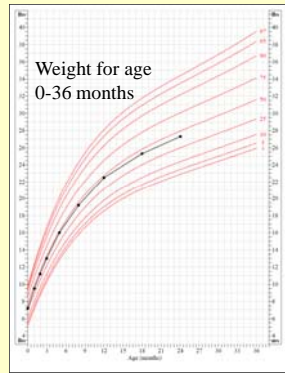
## IT IS NORMAL FOR CHILDREN TO GROW NORMALLY



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Normal growth can be consistently at the mean

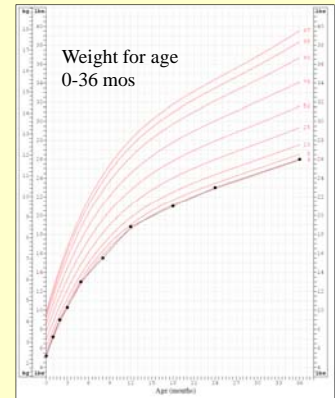
50<sup>th</sup> %tile w/a



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Normal growth can be low and slow

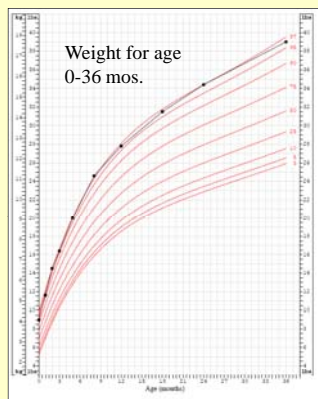
low consistent w/a



© Ellyn Satter 2012

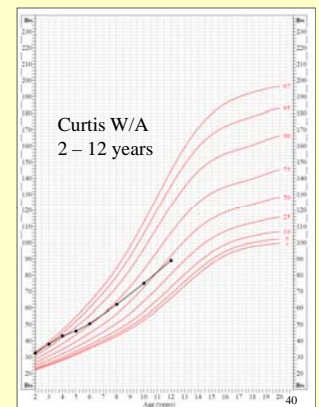
Normal growth can be high and fast

High consistent w/a



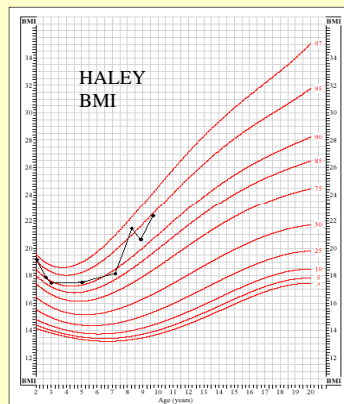
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Normal growth can show smooth, gradual shift over extended time



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Abrupt, rapid divergence likely to be abnormal



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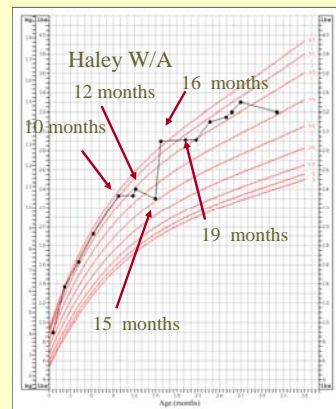
10 months: MD says "weighs too much"

12 months: MD says "tendency toward obesity"

15 months: Error?

16 months: Mom says "voracious appetite."

19 months: Moved. New MD doesn't question weight



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## WHAT IS DISTORTED GROWTH?

- Abrupt shift from usual growth pattern
- Rapid crossing of one or more growth percentiles
- Shifts or crossing at *any* growth percentile, even close to the mean

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## Ask feeding questions

- How is feeding going?
- Would you like anything to be different?
- How do you feel about your child's growth?

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## Context management

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A=Always O=Often S=Sometimes R=Rarely N=Never

A O S R N

12. I tune in to food and pay attention to myself when I eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I make time to eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I have regular meals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I think about nutrition when I choose what to eat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I generally plan for feeding myself. I don't just grab food when I get hungry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## A child who is competent with eating...

- Feels good about eating
- Can learn to like unfamiliar food
- Goes by feelings of hunger and fullness to know how much to eat
- Enjoys family meals

*Ellyn Satter's Feeding with Love and Good Sense II DVD*

*Segment 2: The Transitional Child—Daniel & Madison*

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## Children with regular family meals do better

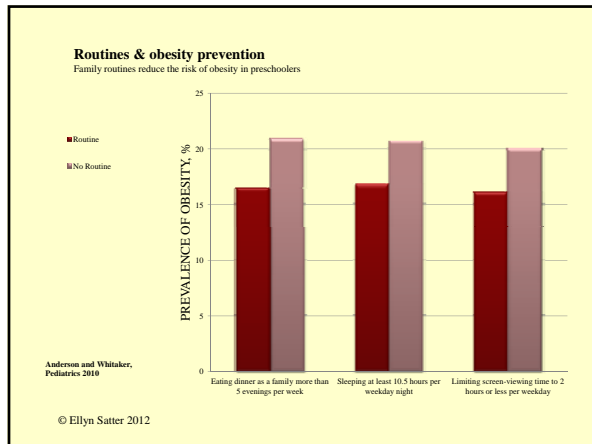
- Nutritionally, socially, emotionally, academically & with respect to resistance to overweight, drug & alcohol abuse and early sexual behavior
- Family meals are more instrumental in positive outcome than SES, family structure, after-school activities, tutors, or church

*Secrets of Feeding a Healthy Family*

Appendix B: What the research says about meals

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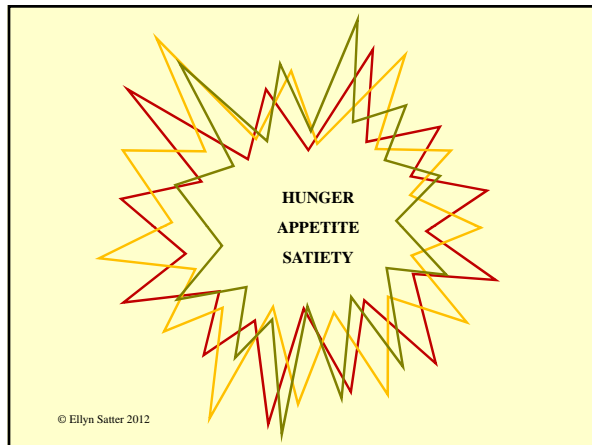




**FOOD REGULATION HINGES ON THE FAMILY MEAL (AND STRUCTURED SNACKS)**

- Meals give a context for parental support without coercion
- Allows going to table hungry but not famished, eating until satisfied
- Keeps food from being a constant issue between times
- Toddlers are too busy to eat on demand

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**Structure is the bottom line in child overweight prevention and treatment.**

[Join with family to support meals](#)

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**More about ecSatter**

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**ecSI Scoring**

ecSI scoring

- Always = 3
- Often = 2
- Sometimes = 1
- Rarely = 0
- Never = 0

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## HIGH vs LOW ecSI SCORERS

### *Above 32 is Eating Competent*

- Do better with food
  - Have better diets
  - Eat more fruits and vegetables
  - Have better food-management skills
- Have lower BMIs
- Are less likely to binge-eat

Lohse, B., et. al. *J Nutr.* (2010) 140(7), 1322-1327  
Lohse, B., & Satter, E. et. al. (2007). *J Nutr Educ Behav*, 39 (suppl), S154-S166

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## HIGH vs LOW ecSI SCORERS

### *Above 32 is Eating Competent*

- Show better health indicators
  - Lower blood pressure (even stress-tested)
  - Lower total cholesterol
  - Higher HDL
  - Lower LDL
  - Lower triglycerides
  - ↓ Fasting blood glucose

Lohse, B., et. al. *J Nutr.* (2010) 140(7), 1322-1327  
Psota, T., et.al. (2007). *J Nutr Educ Behav*, 39 (suppl), S171-S178.

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## HIGH vs LOW ecSI SCORERS

- Do better socially and emotionally
  - Feel more effective
  - Are more self-aware
  - Are more trusting and comfortable

Lohse, B. and Satter, et. al. (2007). *J Nutr Educ Behav*, 39 (suppl), S154-S166

*As parents raise children to be competent eaters,  
they are also raising them to be competent people.*

Satter In: O'Donahue W. *Pediatric and Adolescent Obesity Treatment: A  
Comprehensive Handbook*, 2007

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## FOOD REGULATION

### ecSatter & fdSatter

- Provide regular, reliable and rewarding opportunities to eat
- Depend on child's capabilities (internal regulators) with food regulation

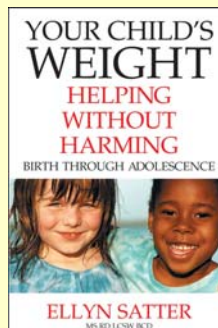
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## NUTRITION

### ecSatter & fdSatter

- Provide regular, reliable and rewarding opportunities to eat
- Depend on child's capabilities with food acceptance

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For more information



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