

# *Mindless Eating:* Some Hidden Persuaders that Make Kids Lose and Gain Weight

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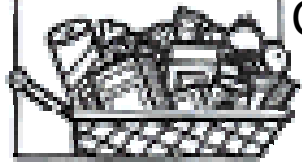
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Cornell Food and Brand Lab

Cornell University



Environmental Solutions to Obesity in America's Youth  
June 1, 2005



## We Examine What, Why, and How Much People Eat

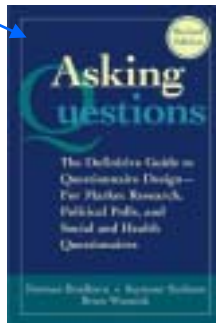
### Who?

- Cross-Disciplinary Grad Students
- Post-docs (Internationals & Spanners)
- “Hidden” camera observation lab
- 2 restaurants
- Consumer mail panel (n=3400)
- 3 cooperating grocery stores



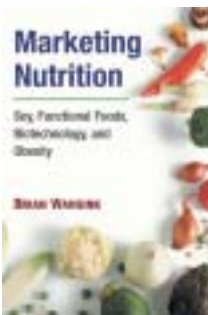
### How?

- Lab (psych) experiments
- Consumer panels
- Field studies
- In-depth interviews
- Data-base mining
- Motion-activated in-kitchen cameras



### Mission?

- Research for healthy, mindful eating
  - Decrease incidence of obesity
  - Eat healthier foods
- Disseminate in top journals & outreach



### Sponsors?

- Illinois Attorney General
- Charitable Trusts

# *A Starting Point* --> Kids Gain Weight Because They Move Less and Eat More Than We Did

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- Kids exercise less (Hill & Peters 1998)
  - No State-required gym class in 49 states
  - Cable TV, internet, Playstations
- Kids eat more calories (NPD 2005)
  - They eat caloric foods
  - They eat larger portions



# What's the Solution?

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- Some blame fast food
- Some blame big food companies
- Some blame the government
- Most people overlook an easier, first battle that needs to be fought . . .



# The Food Fight Begins at Home

*Our homes are filled with hidden eating traps*

I'll answer 3 questions that show how we unknowingly booby-trap our own homes -- catching kids and ourselves.



I'll then describe some easy first steps to "de-booby-trap" our home and make it a less "fat-prone" environment.

# Question #1 . . .

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*“Larger bowls can’t possibly influence how much an intelligent, informed person eats, can they?”*

# Larger Bowls Can't Possibly Influence Intelligent Informed People, Can They?

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## ➤ Super Bowl Study

- Grad students forewarned: Big bowls = big appetites
- 6 weeks later . . .
- 40 of them are invited to a Super Bowl Party
  - 20 given gallon bowls of Chex Mix
  - 20 given 1/2 gallon bowls
- Served themselves (and secretly weighed)
- Asked to estimate how much they took



# Even Intelligent “Informed” People Are Not Aware They Eat More from Super Bowls

## Results

- Those serving from bigger bowls served and ate **55%** more
- The danger -- None of them believe they had eaten more because of the bowl



- How widespread is this? For instance, would this even work with food we didn't like?





# Would Big Bowls Lead Us to Eat More Even If We Didn't Like the Food?

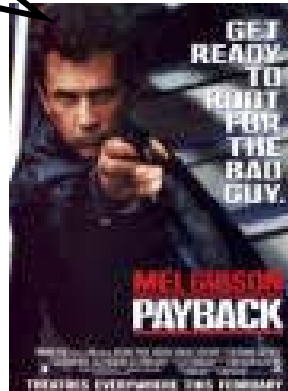
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## The Field Study (Chicago, IL)

- 168 Moviegoers to Mel Gibson's "Payback"
- Free (preweighed) popcorn ("Illinois History Month")
  - Large or X-Large Popcorn (pre-weighed)
  - Fresh or **14-day-old** Popcorn
- After the movie . . .
  - Asked how much they thought they ate
  - Weighed the remaining popcorn



Enjoy your popcorn



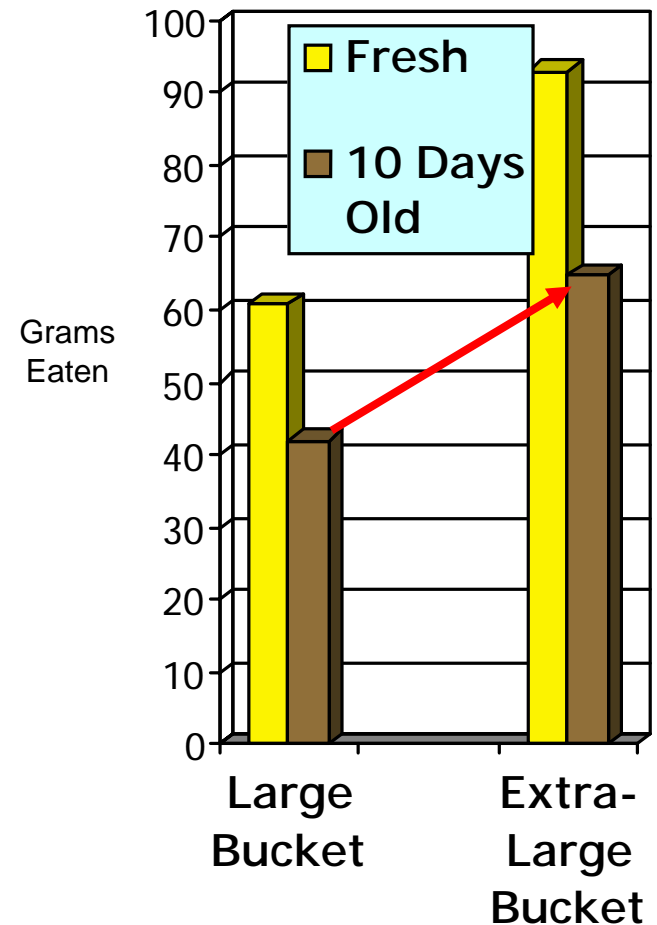


# Taste is Important, But Size Matters -- a Lot

- People ate 45% more fresh popcorn from the extra-large containers than large ones

But . . .

- They even ate **34%** more when it was **stale popcorn**
- The danger? They don't realize they do it -- *"Not me"*



## *Question #2 . . .*

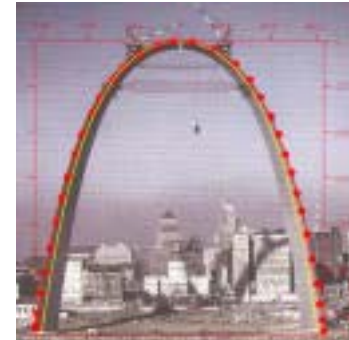
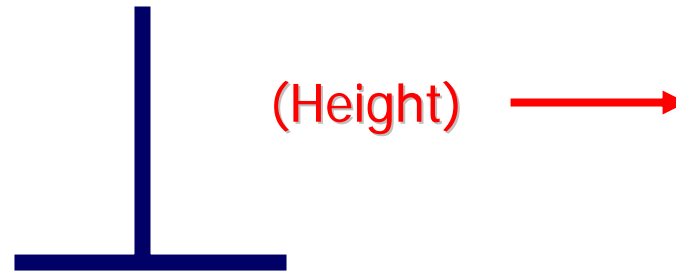
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*“Does the shape of glasses make kids drink more than otherwise would?”*



# Does the Shape of Glasses Make Kids Over-drink?

- Piaget's Conservation of Volume said . . .
  - Kids think tall vessels hold more than equal-sized wide ones
  - They fixate on 1 dominate dimension



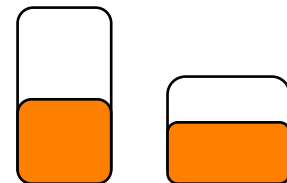
- This should influence consumption
  - If tall glasses are thought to hold more . . .
    - Kids should over-pour in to short wide glasses
    - But they should *believe* they under-poured

# Will Teen “Fitness” Campers Over-pour into Short, Wide Glasses?

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- 133 teens at breakfast at a “Nutrition & Fitness Camp” in NH
  - Half given Tall, Narrow 22 oz glasses; half given Short, Wide ones
  - After exiting the line . . .
    - Asked how much they thought they poured
    - Usage volume was weighed

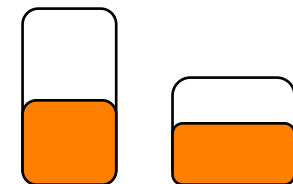
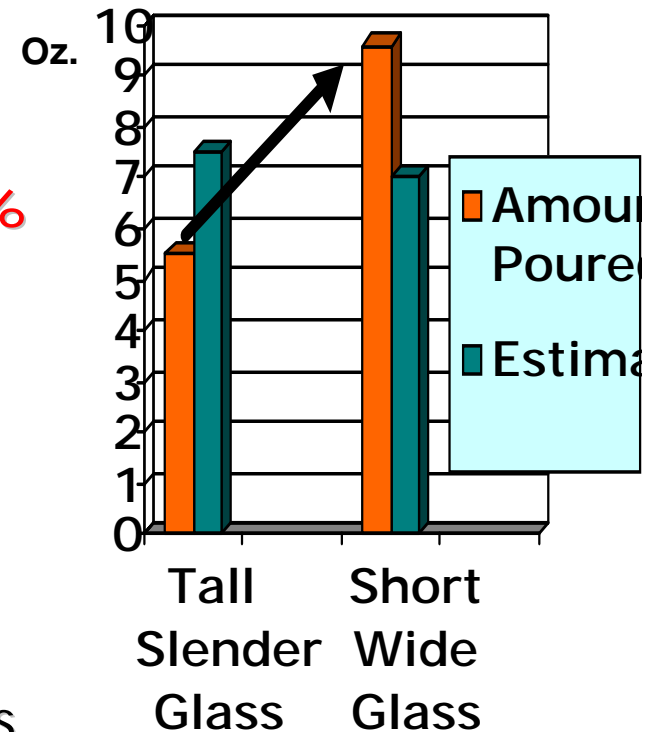


# Teen Campers Overpoured 88% when Given Short Wide Glasses



## ➤ Results

- These vigilant “weight watchers” poured **88%** more into short wide glasses, but *believed* they poured less.
- Hmm . . . does this still happen with experts and a specific target volume (say 1.5 oz)?

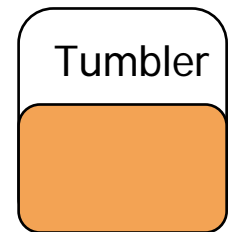




# Surely This Little Visual Illusion Doesn't Influence Adults . . .

## 48 Philadelphia Bartenders -- Pro Pourers

- Given tall, slender (highball) glasses or short, wide (tumbler) glasses
- Given full bottles and asked to pour "1 shot" drinks of gin, rum, vodka, & whiskey





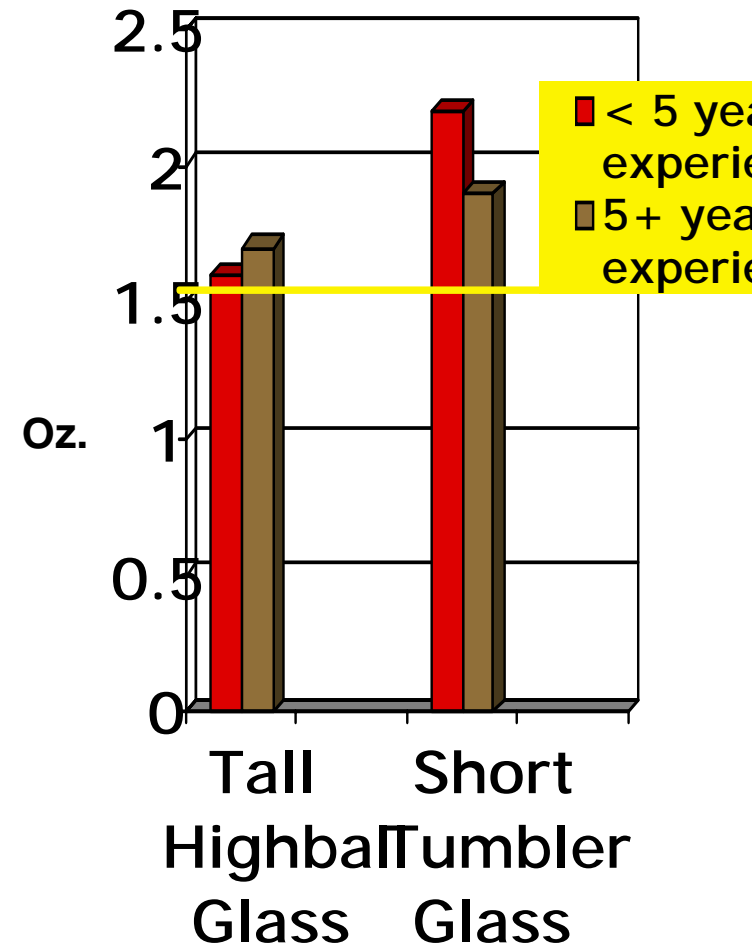
# Even Experienced Pros Overpour into Short, Wide Glasses

## ➤ Results

- Bartenders poured 28% more alcohol into tumblers
- Even these Pros are unaware that they overpoured into wide glasses. Is there any hope for us?



- Yes . . . use tall glasses and toss the wide ones





## Question #3 . . .

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*“OK, so kids serve more from big bowls and plates and wide glasses.*

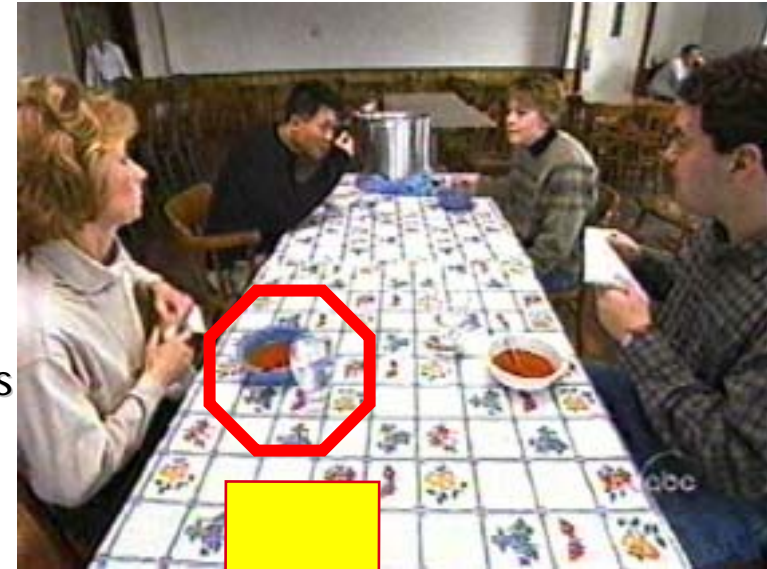
*“At least they know when they are full and they can stop before they overeat, right?”*

# Would a Teenager Keep Eating if Their Bowl Never Emptied?

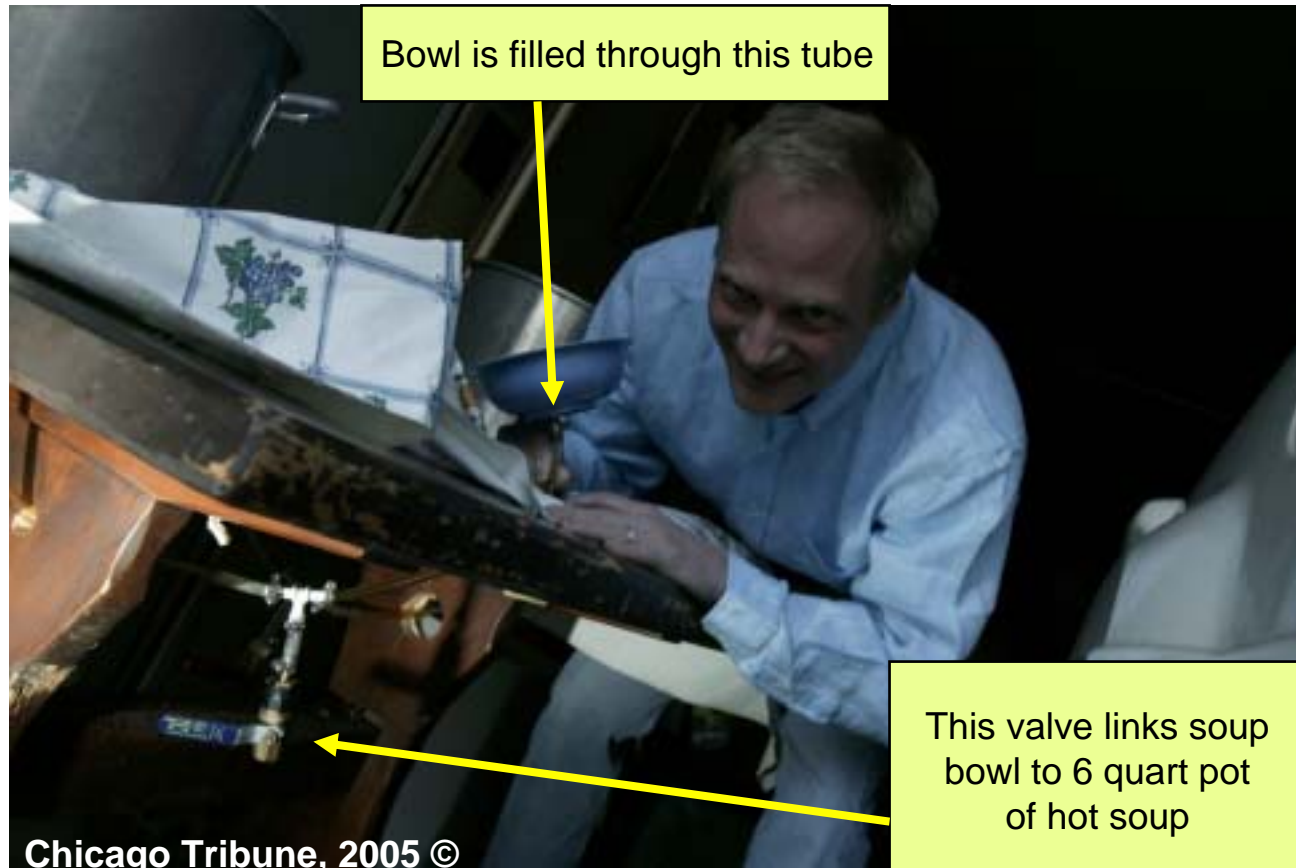
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- “Clean Plate Club” -- Some people use empty bowls & plates as a cue that they’re done eating
  - If bowl isn’t empty, they keep eating
  - What if it never empties?
- We Designed a Bottomless Bowl
  - Brought in sixty 18-19 year olds for a free lunch
  - Half got normal bowls; half got bottomless bowls
  - 22 ounce, pressure fed under the table, slowly refills
  - What does this look like?



# What's Lurking Under the Lunch Table?



# 3) Would Teenagers Keep Eating if Their Bowls Never Emptied?



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  - 22 ounce, pressure fed under the table, slowly refills
  - What does this look like?
- We wanted to know . . .
  - How much would they eat?
  - How much would they THINK they ate?

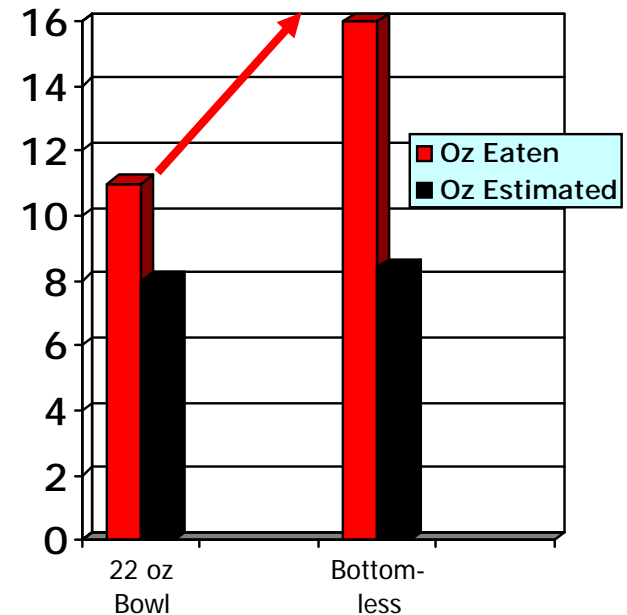


# Bottomless Soup Bowls Lead to Bottomless Appetites

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.

- Results:
  - People kept eating; Ate 73% more until stopping
  - Yet, they didn't think they ate more.

- Bottom Line . . .  
*("In summary")*



# If Kids Cluelessly Dish It; They Will Cluelessly Eat It.

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- Kids generally eat whatever they serve themselves
- If they overserve, they'll unknowingly overeat

## ➤ How can we stop this?

- Use smaller bowls, but allow refills
- Serve lunch on salad plates
- Replace wider glasses with taller ones
- Repack large packages into smaller bowls or baggies
- Use smaller serving spoons when eating family style
- Keep serving bowls in the kitchen and off the table
- Preplate food so you know how much you've eaten



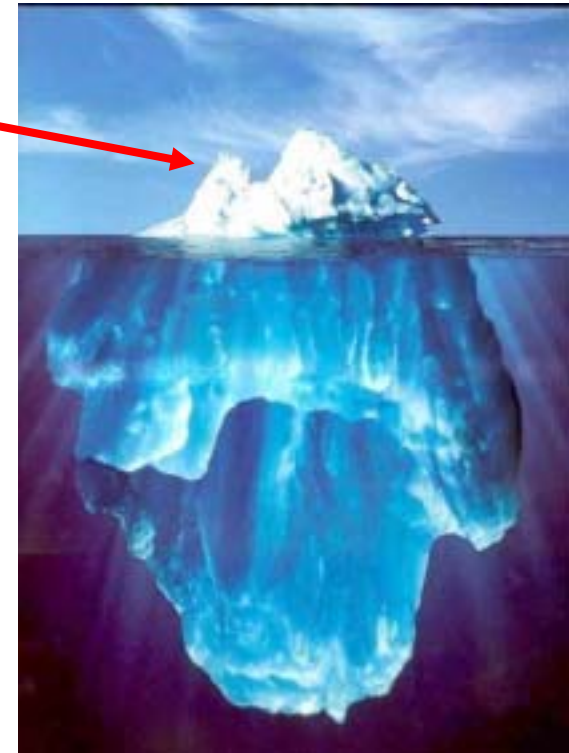
Rachel Leb ©

# When Changing the World, We Should Start at Home

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- To change habits, take small, easy steps
- Bowls, plates, glasses, and utensils are an easy place to start, but . . .
  - They are still the tip of the iceberg.
  - There are many, many more hidden persuaders at home



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*One Key:*  
Start small, easy, and doable.  
Success breeds success.



# *For More Info . . .*

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**[www.FoodPsychology.com](http://www.FoodPsychology.com)**

Education Resources: Lesson plans, in-class exercises, posters, cartoons

Science Fair Grants on Food & Consumer Topics: Book royalty proceeds

# *Thank You*

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[www.FoodPsychology.com](http://www.FoodPsychology.com).

# How Can We Re-Engineer Our Environment to Work *For Us*?

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## 1. Beware of the Size and Shape of Containers

- Study 1. Hungry for Stale Movie Popcorn? --> Use smaller bowls, even if “not hungry”
- Study 2. Do Shapes Bias Consumption? --> Skinny people use skinny glasses
- Study 3. The Philadelphia Bartender Study -->  $1+1 = 2.6$
- Study 3. The Refillable Soup Containers --> Preplate food --> can't keep track after gone

## 2. Why Labels Change the Taste of Foods?

- Study 1. Descriptive Labels in the Cafeteria --> Use labels & other cues to enjoy food more
- Study 2. As Fine as North Dakota Wine --> Enjoy it more, but eat less