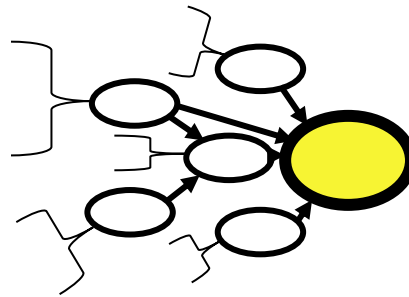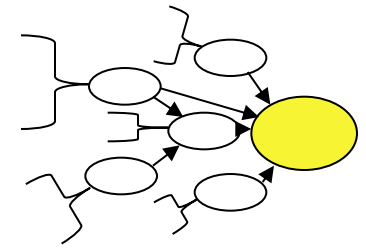# Behavioral Event Modeling:
Designing Interventions That Stick

Brian Wansink
Cornell University

Behavioral Event Modeling

- Two Ways of Predicting Behavior Change
- Objective of Behavioral Event Modeling
- Preventing 3rd Degree Murder
- Preventing Restaurant DUIs
- Using Behavioral Event Modeling to start a Movement
- Smarter Lunchroom Movement

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Traditional Way of Predicting Behavior

Attitude-based

Questions

Surveys

Focus groups

In-depth interviews

Our Mission

To Discover Transforming Solutions that Help People Eat Better

WHY WE EAT MORE THAN WE THINK

Mindless EATING

"Brian Wansink's discoveries might very well change your life." —O, The Oprah Magazine

BRIAN WANSINK, PH.D.
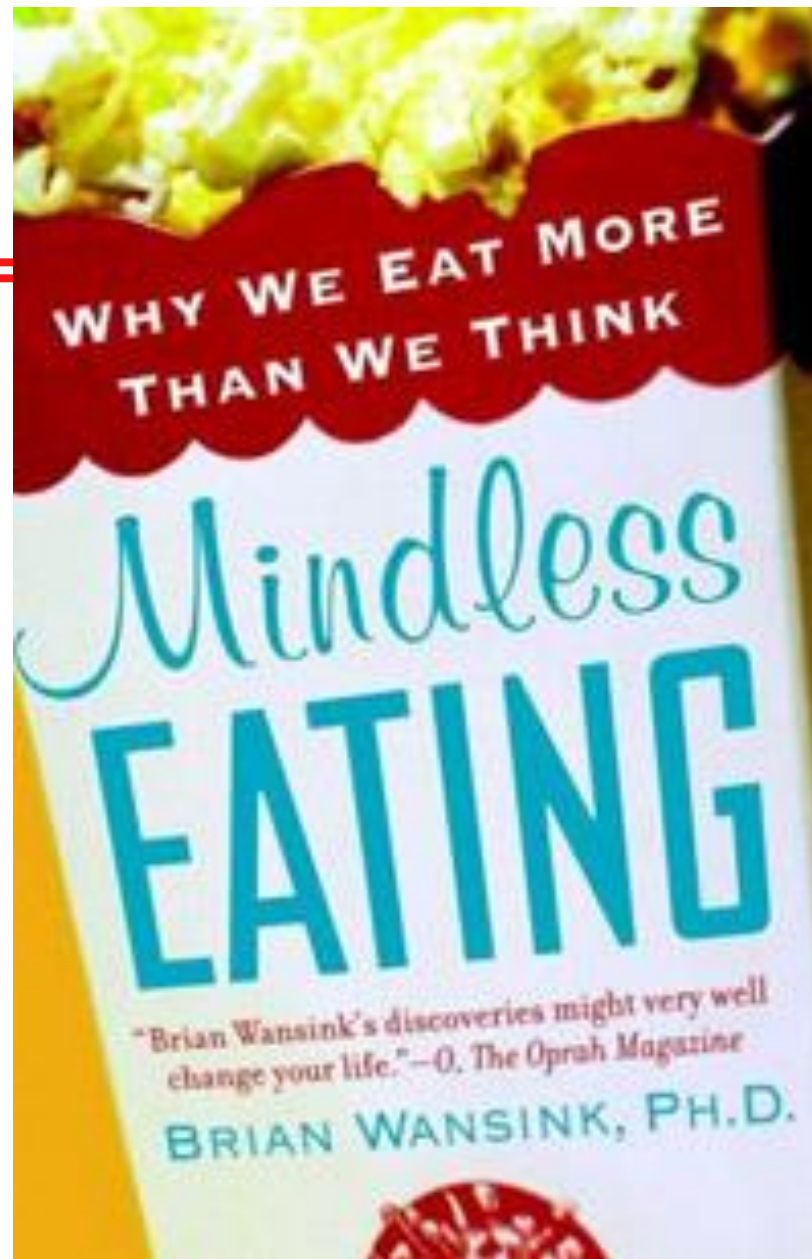
Two Ways to Predict Behavior

Attitude-based

Questions

Surveys

Focus groups

In-depth interviews

Antecedent-Based

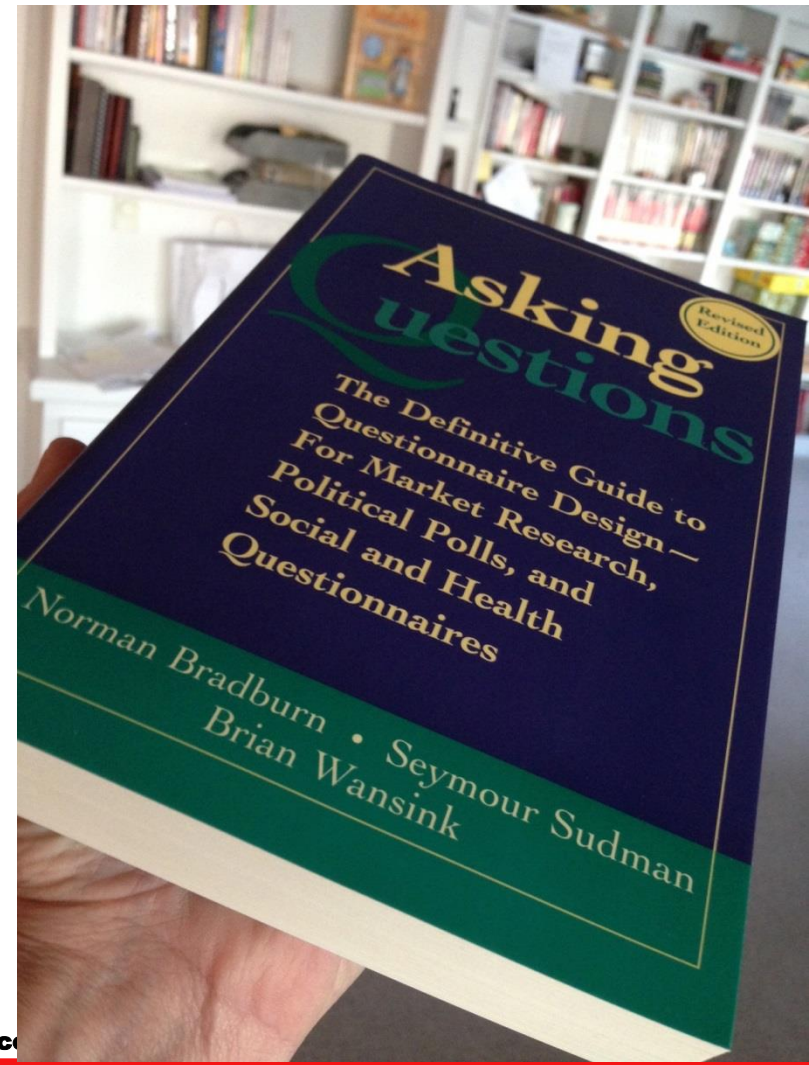Behavioral Event Modeling

Laddering

Story Telling Method

Inside Sources

A Strange Phone Call in 2004…

Behavioral Event Modeling

Step 1. Identify critical intervention points, inflection points, teachable moments

For weight loss:

Step 2. Identify a specific, clean, simple, binary, behavioral solution that is objective

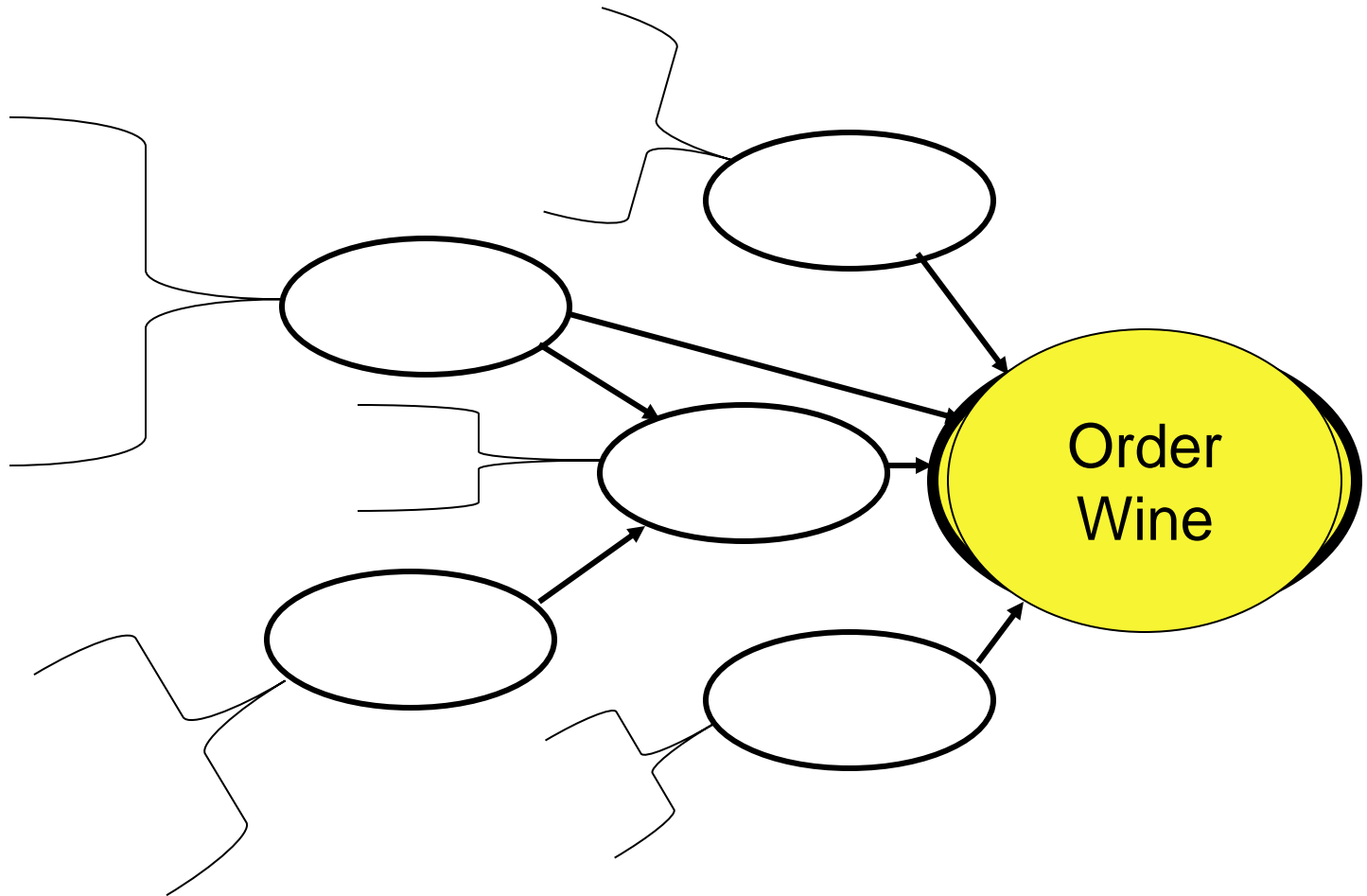For drinking:

Step 3. Test

a) Lab & focus group, b) field study & debriefing, c) scaled study for best practices, d) launch
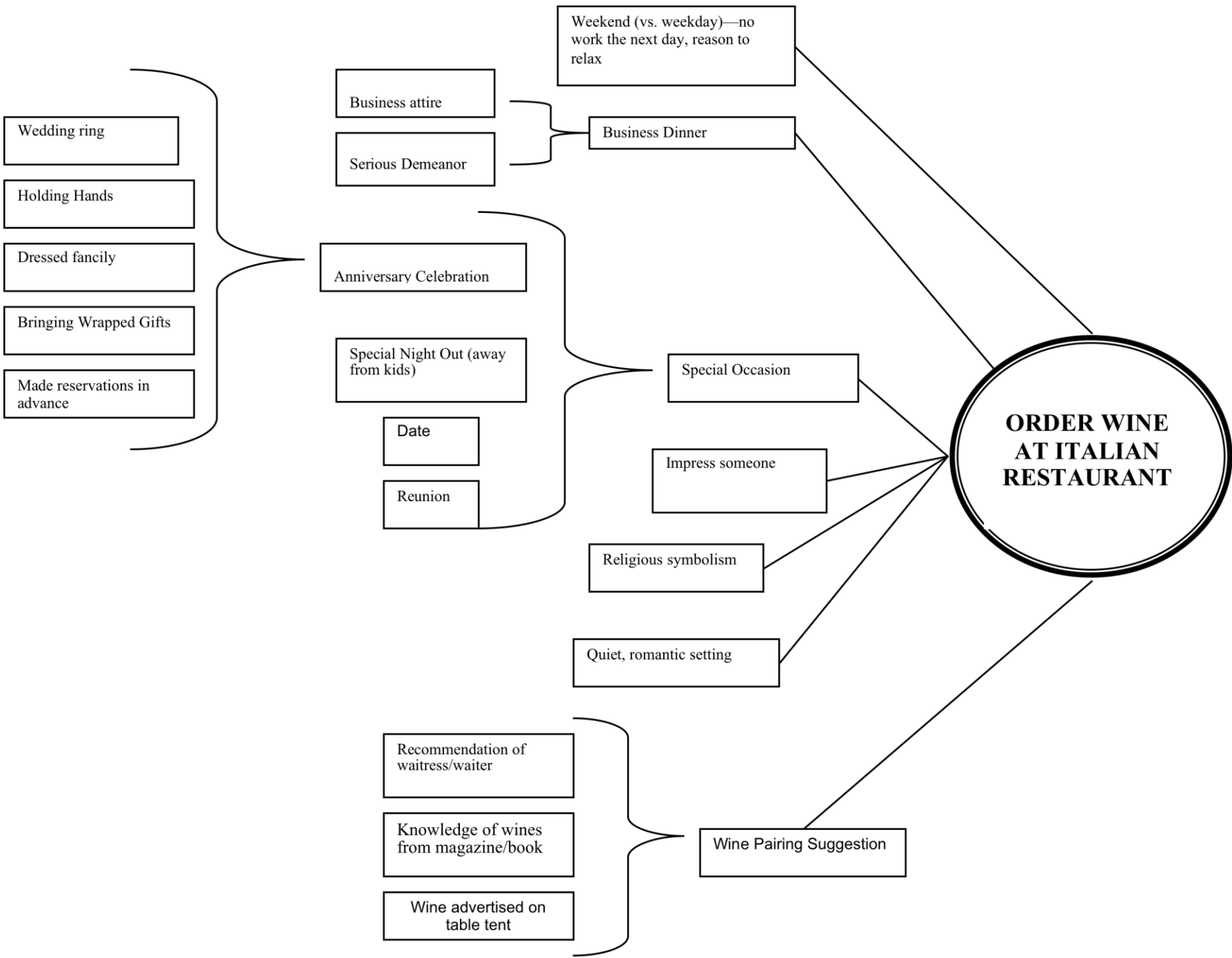
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- The Italian Garden's Problem

Order
Wine

Weekend (vs. weekday)—no work the next day, reason to relax

Business attire

Serious Demeanor

Business Dinner

Wedding ring

Holding Hands

Dressed fancily

Bringing Wrapped Gifts

Made reservations in advance

Anniversary Celebration

Special Night Out (away from kids)

Special Occasion

Date

Reunion

Impress someone

Religious symbolism

Quiet, romantic setting

ORDER WINE AT ITALIAN RESTAURANT

Recommendation of waitress/waiter

Knowledge of wines from magazine/book

Wine advertised on table tent

Wine Pairing Suggestion

What would this look like in . . . a school lunchroom?

- What are the critical behavioral intervention points in a school lunch decisions?

- What are clean, scalable, binary, 0/1 interventions that can attach these intervention points?

BRIAN WANSINK,
DAVID R. JUST
and JOE McKENDRY

Lunch Line Redesign

School cafeterias are much criticized for offering the kind of snack foods and desserts that contribute to childhood obesity. But banning junk food from cafeterias, as some schools have tried, or serving only escarole or tofu, can backfire. Students then skip lunch, bring in their own snacks or head out for fast food. We've even seen some pizzas delivered to a side door.

Children and teenagers resist heavy-handed nutritional policies — and the food that is associated with the heavy hand. No food is nutritious, after all, until it is actually eaten.

A smarter lunchroom wouldn't be draconian. Rather, it would nudge students toward making better choices on their own by changing the way their options are presented. One school we have observed in upstate New York, for instance, tripled the number of salads students bought simply by moving the salad bar away from the wall and placing it in front of the cash registers.

Experiments that we and other researchers have done in cafeterias at high schools, middle schools and summer camp programs, as well as in laboratories, have revealed many ways to use behavioral psychology to coax children to eat better. Here are a dozen such strategies that work without requiring drastic or expensive changes in school menus.

Placing nutritious foods like broccoli at the beginning of the lunch line, rather than in the middle, increased the amount students purchased by 10 percent to 15 percent.

Giving healthy food choices more descriptive names — for example, "creamy corn" rather than "corn" — increased their sales by 27 percent.

Students given a choice between carrots and celery were much more likely to eat their vegetables than students forced to take only carrots.

Keeping ice cream in a freezer with a closed opaque top significantly reduced ice cream sales.

Decreasing the size of bowls from 18 ounces to 14 ounces reduced the size of the average cereal serving at breakfast by 24 percent.

Requiring or encouraging the use of cafeteria trays increased vegetable consumption: students without trays eat 21 percent less salad but no less ice cream.

When cafeteria workers asked each child, "Do you want a salad?" salad sales increased by a third.

Creating a speedy "healthy express" checkout line for students who were not buying desserts and chips doubled the sales of healthy sandwiches.

Putting apples and oranges in a fruit bowl, rather than a stainless steel pan, more than doubled fruit sales.

Moving the chocolate milk behind the plain milk led students to buy more plain milk.

Pulling the salad bar away from the wall and putting it in front of the checkout register nearly tripled sales of salads.

A "cash for cookies" policy — that is, forbidding the use of lunch tickets for desserts — led students to buy 71 percent more fruit and 55 percent fewer desserts.

Brian Wansink is a professor and David R. Just is an associate professor at the Dyson School of Applied Economics and Management at Cornell. Joe McKendry is a painter and illustrator.

Applied Economics and Management

Smarter Lunchroom Self-Assessment Scorecard

Since its founding in 2009 the Smarter Lunchrooms Movement has championed the use of evidence-based, simple low and no-cost changes to lunchrooms which can simultaneously improve participation and profits while decreasing waste. This tool can help you to evaluate your lunchroom, congratulate yourself for things you are doing well and and identify areas of opportunity for improvement.

Instructions

Read each of the statements below. Visualize your cafeteria, your service areas and your school building. Indicate whether the statement is true for your school by checking the box to the left. If you believe that your school does not reflect the statement 100% do not check the box on the left. After you have completed the checklist, tally all boxes with check marks and write this number in the designated area on the back of the form. This number represents your school's baseline score. The boxes which are not checked are areas of opportunity for you to consider implementing in the future. We recommend completing this checklist annually to measure your improvements!

It's not nutrition ...until it's eaten!

Important Words

Service areas: Any location where students can purchase or are provided with food

Dining areas: Any location where students can consume the food purchased or provided

Grab and Go Meals: Any meal with components pre-packaged together for ease and convenience – such as a brown bag lunch or "Fun Lunch" etc.

Designated Line: Any foodservice line which has been specified for particular food items or concepts – such as a pizza line, deli line, salad line etc.

Alternative entrée options: Any meal component which could also be considered an entrée for students - such as the salad bar, yogurt parfait, vegetarian/vegan or meatless options etc.

Reimbursable "Combo Meal" pairings: Any reimbursable components available independently on your foodservice lines which you have identified as a part of a promotional complete meal – For example you decided your beef taco, seasoned beans, frozen strawberries and 1% milk are part of a promotional meal called the, "Mi Amigo Meal!" etc.

Non-functional lunchroom equipment: Any items which are either broken, awaiting repair or are simply not used during meal service – such as empty or broken steam tables, coolers, registers etc.

Good Rapport: Communication is completed in a friendly and polite manner

Focusing on Fruit

- [ ] Fruit is available in all food service areas
- [ ] Daily fruit options are available in two or more locations on the service lines
- [ ] At least one daily fruit option is available near all registers (If there are concerns regarding edible peel, fruit can be bagged or wrapped)
- [ ] At least two types of fruit are available daily
- [ ] Whole fruit options are displayed in attractive bowls or baskets (instead of chaffing/hotel pans)
- [ ] A mixed variety of whole fruits are displayed together in bowls in all service areas
- [ ] Sliced or cut fruit is available daily
- [ ] Daily fruit options are displayed in a location in the line of sight and reach of students (Consider the average height of your students when determining line of sight)
- [ ] Daily fruit options are bundled into all grab and go meals available to students
- [ ] All available fruit options have been given creative or descriptive names
- [ ] All fruit names are highlighted on all serving lines with name-cards or product IDs daily
- [ ] All fruit names are highlighted and legible on menu boards in all service and dining areas
- [ ] Fruit options are not browning, bruised or otherwise damaged
- [ ] All fruit options are replenished so displays appear "full" continually throughout meal service and after each lunch period
- [ ] All staff members, especially those serving, have been trained to politely prompt students to select and consume the daily fruit options with their meal

Promoting Vegetables & Salad

- [ ] Vegetables are available in all food service areas
- [ ] Daily vegetable options are available in two or more locations in all service areas
- [ ] At least two types of vegetable are available daily
- [ ] Daily vegetable options are displayed in a location in the line of sight and reach of students (Consider the average height of your students when determining line of sight)
- [ ] Daily vegetable options are bundled into all grab and go meals available to students
- [ ] A salad bar is available to all students
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- [ ] All vegetable names are highlighted and legible on menu boards in the service and dining areas
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Moving More White Milk

- [ ] White milk is available in all service areas
- [ ] White milk is in two or more locations in all service areas
- [ ] All beverage coolers have white milk available
- [ ] White milk represents 1/3 of all visible milk in the lunchroom
- [ ] White milk is placed in front of other beverages in all coolers
- [ ] White milk is eye-level and within reach of the students (Consider the average height of your students when determining eye-level)
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Entrée of the Day

- [ ] A daily entrée option has been identified to promote - a targeted entrée in each service area and for each designated line (deli-line, pizza-line etc.)

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Entrée of the Day

- ☐ A daily entrée option has

"70-70 by 2020"
70% of all schools score a 70+ by 2020

- E-ToolBox
  - Cont. Ed Credits
  - Instructional videos
  - Case studies
  - Simulations
  - Electronic Scorecard

- Partnerships
  - USDA + FNS
  - State SNAs
  - Major media outreach
  - Trade assns & companies

- Train-the-Trainer
  - Make Ext Pros the Go-to Experts
  - Arm with Toolbox
    - 1. Direct makeovers
    - 2. Seminars to FS Directors

-

- Slim by Design Norming Campaign
  - "Grade your lunchroom"
  - Health & Wellness Metric
  - LunchScore App (8-14)
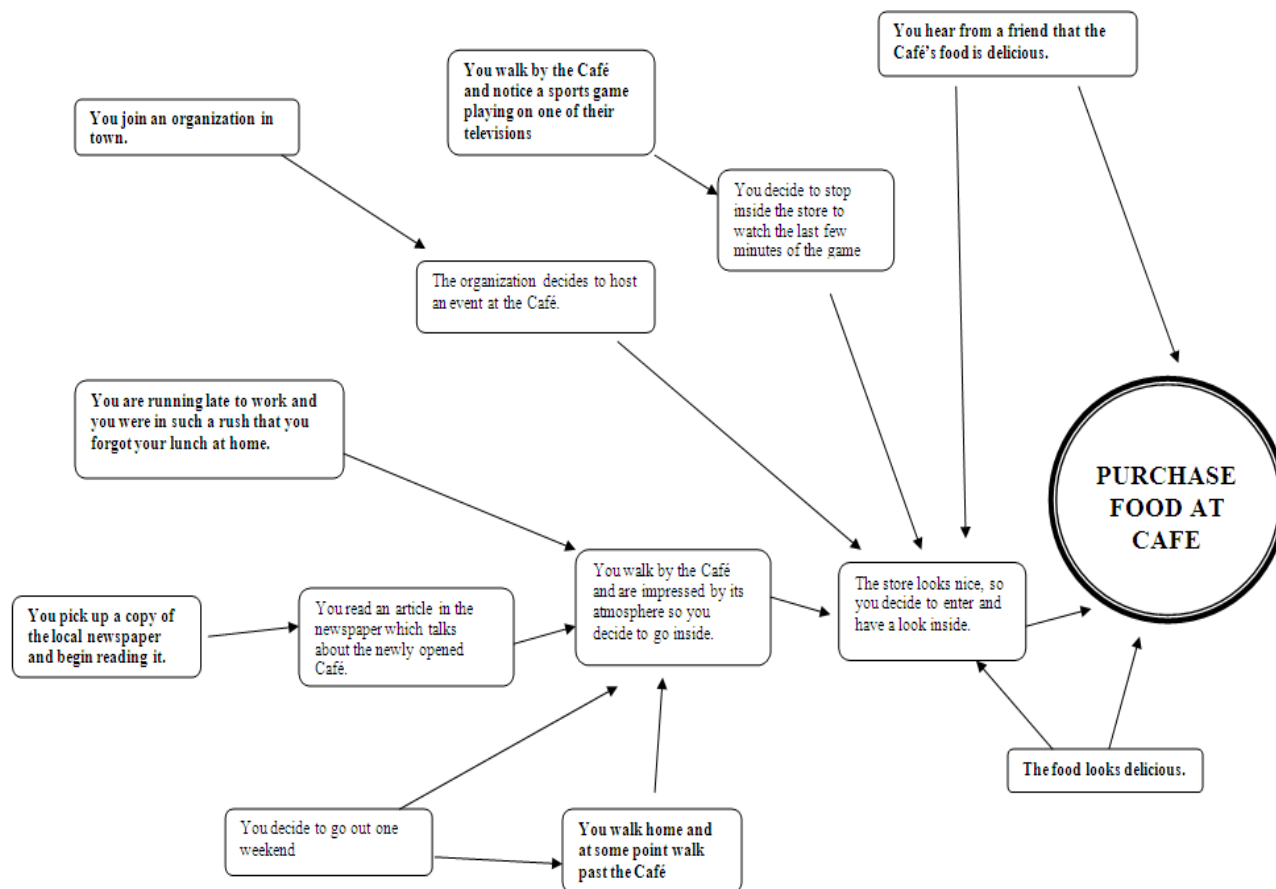 - Benchmarking & Panel

Thank You

Objective of
Behavioral Event Modeling

1. Incident

2. Insight

3. Indicators

4. Interventions

You join an organization in town.

The organization decides to host an event at the Café.

You walk by the Café and notice a sports game playing on one of their televisions

You decide to stop inside the store to watch the last few minutes of the game

You hear from a friend that the Café's food is delicious.

You are running late to work and you were in such a rush that you forgot your lunch at home.

You pick up a copy of the local newspaper and begin reading it.

You read an article in the newspaper which talks about the newly opened Café.

You walk by the Café and are impressed by its atmosphere so you decide to go inside.

The store looks nice, so you decide to enter and have a look inside.

PURCHASE FOOD AT CAFE

The food looks delicious.

You decide to go out one weekend

You walk home and at some point walk past the Café

Interventions <-- Indicators <-- Insights <-- Incident

Critical Incident	Possible events	Indicators	Insights	Interventions/Applications for Marketing Mix (4 P's)
Purchase Food at Café				
	Happens to have cash in pocket	Store looks nice, decide to enter and look around	A great deal of Café's success relies on impulse decisions	
	Hear from friend that food is delicious		Novelty is one of the café's greatest assets (for now)	Café needs to maintain its novelty and differentiate itself from other local eateries
			Business model of Café is geared primarily towards customers coming in to purchase food and then promptly leaving--as a stop-and-go more so than a target destination	Product: Being open 24 hours would add to its convenience
	Reads article in daily local newspaper about newly opened café			Promotion: generating publicity about the café through local publications is an excellent way for the café to reach its target market
				Promotion: sponsorship of charity events in conjunction with local organizations would encourage more people to enter and increase café exposure
	Walks by café and notice a sports game playing on their big screen television	Decides to enter to watch the last few minutes of a football game	Café needs to be able to attract people who are walking by to step inside	Place: Since the café is located in a prime location in the town, it should take advantage of its visibility
				Make sure the Café appears as inviting as possible--have TVs visible from the street (to lure sports fans)
				Promotion: Drink specials on game nights would also encourage sports lovers to enter the café
				Product: Food should be readily visible; displayed in buffet style to entice visitors
				Product: The café's location is known for its nightlife; adding a bar area, karaoke, or live DJ may contribute to the café's allure
	Decide to go out one weekend	Food looks delicious/appetizing, decides to enter	Once inside, atmosphere should be conducive to customers spending money	Price: Charging for food from the buffet by the pound makes customers less cognizant of price; fosters greater impulse buying decisions
			Café's appeal is also a result of its convenience--restaurant needs to make itself as convenient as possible for its target market	
	Running late to work and in a rush, forgets lunch at home			Product: providing pre-packaged and pre-prepared foods with easy access for those in a rush
	Joins a local organization	Organization hosts a charity event at café		

Summary

- 1. Defining the Intervention
  - What behavioral events will link with intervention?
  - What binary intervention might work?
- 2. Characterizing the Intervention's Effects
  - What discrete, countable behaviors will be DVs?
- 3. Assessing Feasibility & Refining Intervention
  - Lab study & focus groups
  - Field study proof of concept & debriefing
  - Expanded study for Best Practices → Launch