

Research Opportunities to Change Eating Behavior

Brian Wansink, Ph.D.

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Introduction and Overview

In 2017-19, about 18 of my research articles were retracted. These retractions offer some useful lessons to scholars, and they also offer some useful next steps to those who want to publish in the social sciences. Two of these steps include 1) Choose a publishable topic, and 2) have a rough mental roadmap of what the finished paper might look. That is, what's the positioning, the study, and the possible contribution.

The topics I've described here offer one set of roadmaps that could be useful. First, they were of interest to journals in medicine, behavioral economics, marketing, nutrition, psychology, health, and consumer behavior. Second, they each show what a finished paper might look like. They show the positioning, relevant background research, methodological tips, and key implications.

I find all of these topics super interesting and of practical importance. This document provides a two-page template for each one that shows 1) An overview why it was done, 2) the abstract (or a summary if there was no abstract), 3) the reason it was retracted, 4) how it could be done differently, and 5) promising new research opportunities on the topic.

Table 1 and Appendix A lay out an estimate of how much effort it might take to do studies on these topics, and Appendix B lays out other issues related to how these specific papers were investigated. I've also estimated what I think the practical impact each research project might have. These are my own subjective estimates, but you might find them a useful starting point if you're looking for a tie-breaker between two different topics.

I would strongly encourage anyone who's interested in publishing in these areas to closely follow principles of open science, from preregistration of hypotheses and analytic strategies to open materials and open data. Making specific hypotheses and testing them by following open science principles will be the best next way forward. A good introduction to these principles, along with hands-on advice, is:

Klein, O., Hardwicke, T. E., Aust, F., Breuer, J., Danielsson, H., Hofelich Mohr, A., ... Frank, M. C. (2018). A practical guide for transparency in psychological science. *Collabra: Psychology*, 4(1), 20. DOI: <http://doi.org/10.1525/collabra.158>

Academia can be a tremendously rewarding career both you and for the people who benefit from your research. Best wishes in moving topics like these forward, and best wishes on a great career.

Sincerely,

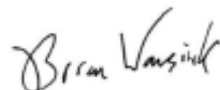


Table 1
Which Research Questions Might Be Most Useful to Answer?

Research Question	Original Publication	Year	Potential Practical Usefulness ¹ (1=Lower; 5=Higher)	Potential Effort Required ¹ (1=Easier; 5=Harder)	Page Number
Do Healthy Ingredients Make You Hate the Food?	<i>Journal of Sensory Studies</i>	2002	3	1	5
Can Taste Profiles Predict Food Preferences?	<i>Appetite</i>	2003	3	1	7
Do Large Serving Bowls Make You to Eat More?	<i>JAMA</i>	2005	4	1	9
Why Do Overweight People Under-Estimate How Much They Eat?	<i>Annals of Internal Medicine</i>	2006	5	3	11
Can You Confirm the Sweet Tooth Hypothesis?	<i>Appetite</i>	2006	2	1	13
Do “Clean Plate” Kids Turn into Overeating Adults?	<i>Archives of Ped & Adolescent Medicine</i>	2008	3	1	15
Have Classic Recipes Increased in Calories Over Time?	<i>Annals of Internal Medicine</i>	2009	2	1	17
Will You Hate the Food You Eat During Bad Experiences?	<i>Appetite</i>	2009	2	2	19
Can Brand Logos Encourage Kids to Eat Heathy Foods?	<i>Archives of Ped & Adolescent Medicine</i>	2012	3	2	21
Do Short-Term Fasts Lead to Long-term Weight Loss?	<i>Archives of Internal Medicine</i>	2012	3	2	23
Will Cool Names Lead Kids to Choose Healthy Foods?	<i>Preventive Medicine</i>	2012	4	2	25
Do Hungry Shoppers Buy More or Just Buy Worse?	<i>JAMA Internal Medicine</i>	2013	4	1	27
Does Preordering Lead to Healthier Lunches?	<i>JAMA Pediatrics</i>	2013	5	4	29
Do Different TV Shows Influence How You Eat?	<i>JAMA Internal Medicine</i>	2014	2	3	31
Do High Menu Prices Make Your Regretfully Overeat?	<i>BMC Nutrition</i>	2015	3	3	33
Does Traumatic Violence Change Judgement and Choice?	<i>Frontiers in Psychology</i>	2016	2	4	35

¹Estimates of potential usefulness and effort are subjective.

DO HEALTHY INGREDIENTS MAKE YOU HATE THE FOOD?

Have you tried the meatless “Impossible” Whopper at Burger King?

If you hear that a snack has a healthy ingredient in it, does your mouth stop watering? Lots of products have tried to promote themselves as having a healthy ingredient. Yet this might be a big turn-off for a lot of people.

Let’s see what would happen if we tell people a product has a healthy ingredient even though it doesn’t. Are they going to hate it because of the fake ingredient that’s not even there? If they do, there’s important precautions to take.

The Original Findings

A similar version of this paper with the same data had been published in an agriculture journal in 2000, and this version was published in the *Journal of Sensory Studies* in 2002.¹ Here is the abstract:

ABSTRACT

Can labels suggestively influence sensory perceptions and taste? Using a “Phantom Ingredient” taste test, we show that the presence or absence of a labeled ingredient (soy) and the presence or absence of a health claim negatively bias taste perceptions toward a food erroneously thought to contain soy. We found a label highlighting soy content made health claims believable but negatively influenced perceptions of taste for certain segments of consumers. Our results and discussion provide better direction for researchers who work with ingredient labeling as well as for those who work with soybean products.

The paper was retracted due to major overlap with a previously published article: Wansink B, Park SB, Sonka S, Morganosky M (2000) How soy labeling influences preference and taste. *The International Food and Agribusiness Management Review* 3: 85—94. doi: 10.1016/S1096-7508(00)00031-8.²

Other Ways to Answer this Question

1. Hypotheses and Extensions: Many sensory studies involving new or different ingredients have added a new ingredient (or ingredient replacement) to a product and then tested to determine if people can detect a difference between the old product and the reformulated one. An approach that seems to not be used before is to tell people there’s an ingredient in a food even though it isn’t

¹ Wansink, Brian; Park, Se-Bum (November 2002). "Sensory Suggestiveness and Labeling: Do Soy Labels Bias Taste?". *Journal of Sensory Studies*. 17 (5): 483—491. doi:10.1111/j.1745-459X.2002.tb00360.x.

² <https://onlinelibrary.wiley.com/doi/10.1111/joss.12259>

there and then run a taste test to see if they can “taste” this missing or phantom ingredient. This examines whether the suggestiveness of just thinking this ingredient is in the product is enough to make them think they taste it.

Using this phantom ingredient approach worked well when this study was run back in 1998 because back then soy had a bad taste perception among most consumers. The same phantom ingredient test could be used to examine if there are unarticulated biases against other new product ingredients — such as meatless meat and Impossible Whoppers. There are dozens of new ingredients that could be influenced by this Phantom Bias.

2. New Methodology Ideas: Many sensory studies involve a small piece of a product in a labeled baggie, or in little labeled cups. Presenting foods in this way might be seen by some consumers as artificial, especially if they taste these in tasting cubicles. An environment like this could reduce the impact of this labeling.

One way this could be eliminated is by having the person taste the product in a naturalistic environment, such as kitchen or kitchenette with other snacks that are sitting out. Additionally, another way to make the product seem more realistic is to print colored labels and to package it as close to a real product as possible.

Many taste tests use a standard set of validated descriptors. If you are analyzing different ingredients that you fear might have a unique sensory property (such as gritty or fatty) or some unique perceived side-effect, try to include these adjectives as descriptors when asking for their evaluation. This may not be important for publishing the article, but it might be of particular interest to those companies, health agencies, or people who are thinking of using the results of the article.



People ate the food in a room modified to look and feel like a kitchen.



The product they ate was a chocolate PowerBar with a modified label.

Conclusion

This research is quite fun to do. It’s easy to implement, and any extra effort to do it in a realistic and compelling context and with a realistically presented product will make it a lot more useful. For instance, we’ve done taste tests at Halloween parties, progressive dinners, and at an Academy Award party.

Many of these sensory articles are often conducted and targeted to sensory journals. Yet these issues are of huge interest to public health, parents, psychology, marketing, and food technology. Redirecting your research toward one of these new areas could be tremendously rewarding.

CAN TASTE PROFILES PREDICT FOOD PREFERENCES?

You know your new special friend loves red wine and hates sprouts. If you order the anchovy pizza, will this be your last date, or will you hear start to hear wedding bells?

Being able to predict what new foods people will love based what foods they currently love would be useful. You wouldn't make a new recipe no one else eats, and you might be able to better predict whether you'd like a restaurant menu item before you order it. Being able to make these predictions would also be useful to food companies because they would know who might be most likely to try their new meatless meat product, or their pumpkin chutney canned soup.

The Original Findings

This was based on survey research and published 2003.¹ The abstract describes the findings:

Abstract

Early adopters of unfamiliar, but nutritious foods can do so because of a combination of taste-motivations and health-motivations. Yet because taste can provide an enduring motivation for dietary change, profiling the taste-motivated segment of a particular food might prove useful in identifying and stimulating adoption among similar predisposed segments. This manuscript describes a basic qualitative and quantitative procedure—in the context of soy consumption—that can be used to begin profiling taste-motivated segments of a particular food. A survey of 606 North Americans indicates that when contrasted to health-motivated consumers of soy, taste-motivated consumers were more likely to claim they are opinion-leaders who live with (or who are) great cooks, and they were more likely to exhibit other behaviors associated with food appreciation, such as dining out and wine consumption. In light of these findings, instead of encouraging people to eat soy solely for health reasons, a more productive method may be to target those who are more likely to prefer it for taste-motivated reasons. This same method has potential for more effectively promoting the consumption of fruits and vegetables or the consumption of genetically enhanced foods among predisposed taste-motivated segments.

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Keywords: Soy taste profiles; Taste-motivated; Segmentation; Soy consumption; Yogurt; Wine; Fruits and vegetables; Soy foods

The paper was retracted at the request of the Editors on the grounds of unreliable data in Table 1 and duplication of text in the results and discussion sections from an earlier publication (B. Wansink and J. Cheong, Taste profiles that correlate with soy consumption in developing countries, *Pakistan Journal of Nutrition* 1: 276; 2002; DOI: 10.3923/pjn.2002.276.278).²

Other Ways to Answer this Question

1. Hypotheses and Extensions: This isn't a hypothesis type of project as much as it is an empirical test of concept. In this particular case, let's take people who really like a particular product (such as meatless meat, tofu, anchovies, or whatever our target food is), and see what other clusters of food these people might also tend to love. Large scale data bases can make this easier to accomplish.

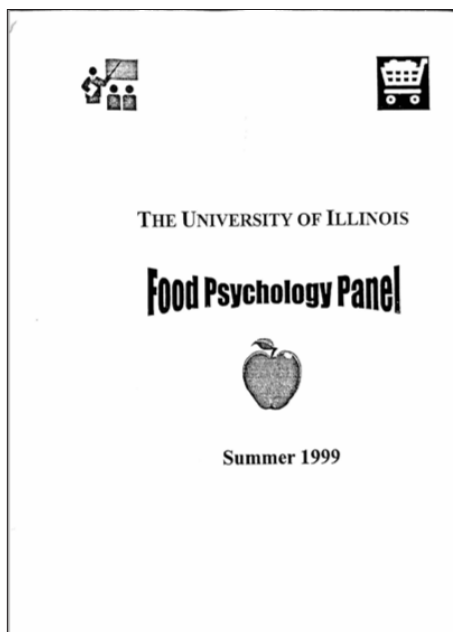
¹ Wansink, Brian; Westgren, Randall (December 2003). "Profiling taste-motivated segments". *Appetite*. 41 (3): 323–327. doi:10.1016/S0195-6663(03)00120-X.

² <https://www.sciencedirect.com/science/article/pii/S019566630300120X>

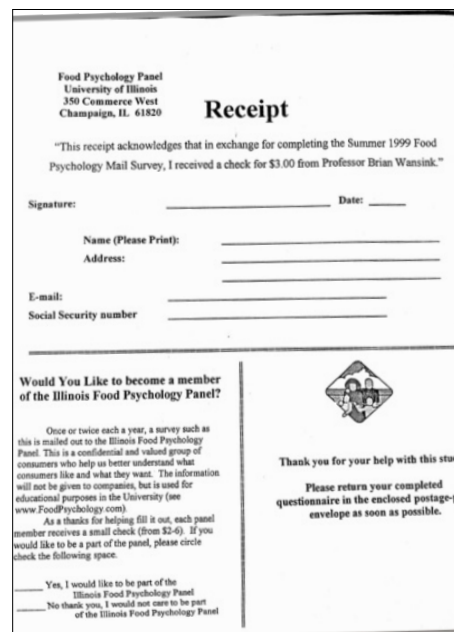
This process would also be beneficial for public health and nutrition. Say that people can be categorized into four quadrants: 1) People who love vegetables the most, 2) people who love fruit the most, 3) people who love them both, and 4) people who dislike both of them. Suppose you know what non-vegetable foods vegetable lovers (group 1) love more than fruit lovers. This can help one know what types of foods to direct toward vegetable lovers vs. fruit lovers so that everyone eats more produce, and everyone is healthier. If you knew your child was more of a vegetable lover than a fruit lover, you'd know what new foods you could direct them toward.

Being able to have a basic understanding of food profiling would also be useful to a parent who is cooking for a picky child or spouse. That is, knowing what taste profile they might belong to would also give you an idea of what other foods tend to be eaten by similar people in their profile. In this way their taste preferences can slowly be expanded past their current limited set of foods.

2. New Methodology Ideas: This is basically a statistical exercise, but it needs the right data to be able to categorize a person as a being a taste champion of the particular target food. The more fanatical of a fan a person is about the target food, the more they valuable their taste profile will be in helping generate insights. Because of this, a basic Likert scale for food liking may not be as discriminating as using multiple scales and combining it with food frequency questions, and selecting people based on the frequency they eat the target food you are focused on.



This study was a part of a larger mail survey.



If people completed the 12-page survey, they could cash the \$3 honor check that was included.

Conclusion

There's a lot of practical promise in being able to develop a common set of 6-8 different taste profiles for fanatics of a specific target food. It will give lots of insights about cross-promotions, recipe ideas, potential partners, and gateway paths to adoption.

And by-the-way, if you order the anchovy pizza for your special friend who loves red wine but hates sprouts, start listening for wedding bells.

DO LARGE SERVING BOWLS MAKE YOU TO EAT MORE?

Suppose you're at a Super Bowl party and you are surrounded by an endless supply of snacks. Will you serve and eat more if the snacks are in large bowls or would you eat more if the same volume of snacks were in twice as many bowls half that size? This has implications for dieters as well as for health conscious and thrifty hosts who don't want to encourage too much festive overeating.

The Original Findings

The original study was based on a field study involving MBA students at a Super Bowl party in a sports bar in Champaign, IL in 2000. It was published as a two-page research letter in JAMA.¹ Here's what was found:

Forty MBA students at a Super Bowl party in a bar were randomly led to serving tables of a snack mix that was either presented in 2 large serving bowls (4-liters total capacity) or 4 medium servings (also with 4-liters total capacity). Those serving from larger bowls unknowingly served and consumed about 53% more snack mix, and this was primarily driven by males.

The paper was retracted because JAMA asked Cornell to provide an independent evaluation of this and five other articles to determine whether the results are valid. In their retraction notice, JAMA wrote, “[Cornell’s] response states: ‘We regret that, because we do not have access to the original data [original coding sheets or surveys], we cannot assure you that the results of the studies are valid.’ Therefore, the 6 articles reporting the results of these studies that were published in JAMA Pediatrics, JAMA, and JAMA Internal Medicine, are hereby retracted”² (Appendix B).

Other Ways to Answer this Question

1. Hypotheses and Extensions: Let's say that people do eat more from bigger bowls. Do they know they are doing so? One extension of this would be to intercept people after they party was over and ask whether they believe the size of the serving bowl had any impact on how much they served and ate. Causal conversations with people after studies like this surprisingly seem to suggest they don't think the size of a bowl could influence how much they ate, and even when it's pointed out, they have alternative rationalizations why they might have eaten more than average (“I was hungry,” “I didn't eat lunch,” and so forth).

¹ Wansink, B; Cheney, MM (13 April 2005). “Super Bowls: serving bowl size and food consumption”. JAMA. 293 (14): 1727–8. doi:10.1001/jama.293.14.1727. PMID 15827310.

² <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2703492>

A second interesting extension of follow-up to this would be whether bowl size influences them more if they are in a bad mood or in a good mood. Major sporting events offer an opportunity to do this. Knowing which team a person is cheering for can be used to see if happy winners celebrate more when given big bowls, or whether unhappy losers drown their sorrows in big buckets.

2. New Methodology Ideas: This particular study was conducted in a noisy sports bar under realistic conditions. Other than being randomly assigned to a serving table and inconspicuously led to that table, everything else was natural. Another approach would have been to more tightly test this as a lab study than as a field study in a bar.

As a rough guideline, most of these field studies indicate that people serve and eat around 20% more from larger containers and plates. Seldom more than 30% and seldom less than 10%.

But scholars have also hypothesized that bowl and plate size effects are less strong (or even nonsignificant) when conducted in lab settings, and systematic meta studies have also shown that this effect is much stronger in the field than the lab. Yet what has been missing to date is a very explicit test of a field study versus lab study comparison. An excellent study of this would be useful in resolving some of the effect size differences in these studies.



We followed up this “Super Bowls” study with other ones at this same sports bar.



We did about eight of these studies in Jillian’s Sports Bar in Champaign, IL.

Conclusion

Bowl sizes and plate sizes have been a fertile ground for lots of useful studies that have led to new dinnerware lines, changes in hotel and restaurant chain buffet plates, and eating behavior changes among dieters. Things are now at a stage when it would be useful to learn what are the limitations and boundary conditions around using dinnerware to perceptually change how much is served. Knowing the point at which smaller and smaller dinnerware backfires or the circumstances when it does and doesn’t work will provide a new level of impact.

Additionally, there might be very practical situations where dishware sizes clashes with a perception of quality or value. It would be important to identify these because they are a different type of boundary condition. For instance, serving a 10-oz steak on a 10-inch plate might make it seem huge compared to when it is served on a 12-inch plate. But is this something a restaurant should do? That is, does it make the steak look like a better value, or does it make it look cheap? Answering these questions would have immediate implications.

WHY DO OVERWEIGHT PEOPLE UNDERESTIMATE HOW MUCH THEY EAT?

This is one topic that can help improve the bedside manner of some of the doctors and dietitians who work with overweight and obese patients. It can also help with one of the difficulties obese people face when being counseled about their weight.

To help people lose weight to eat better, doctors and dietitians often rely on food diaries to diagnose problem areas and make recommendations. Whereas most people are inaccurate about estimating the calories and portion sizes they eat, the heavier a person is, the more they underestimate what they eat. Some health professionals have alleged that these inaccuracies are due to heavy people being uninformed, in denial, lying, or other hurtful reasons.

There may be a better and more empowering explanation. As things get larger, we tend to underestimate them. Heavy people may simply underestimate how much they eat because the quantities are large. Skinny people might be equally inaccurate if they ate huge amounts (like on Thanksgiving). If this is true, it's meal size, and not body size that explains these inaccuracies.

The Original Findings

This 2006 paper involved both a lab study and a field study involving fast food restaurants.¹ Similar findings had been robust in a number of pilot studies, and here is the abstract which shows the results of the two studies that were finally published:

Background: Although most people underestimate the calories they consume during a meal or during the day, calorie underestimation is especially extreme among overweight persons. The reason for this systematic bias is unknown.

Objective: To investigate whether the association between calorie underestimation and body mass reflects a tendency for all persons to underestimate calories as the size of a meal increases.

Design: Overweight and normal-weight adults estimated the number of calories of a fast-food meal they had ordered and eaten (study 1) or of 15 fast-food meals that were chosen by the experimenter (study 2) in a randomized, controlled trial. Their estimations were compared with the actual number of calories of the meals.

Setting: Study 1 was a field study conducted in fast-food restaurants in 3 medium-sized midwestern U.S. cities. Study 2 was conducted in a laboratory at a major U.S. research university.

Participants: Study 1 involved 105 lunchtime diners (average body mass index [BMI], 24.2 kg/m² [range, 17.2 to 33.5 kg/m²]). Study 2 involved 40 undergraduate students (average BMI, 23.2 kg/m² [range, 16.1 to 32.3 kg/m²]).

Measurements: Participants were asked to estimate the number of calories in a fast-food meal they had ordered and eaten (study 1)

or in 15 sizes of the same fast-food meal (study 2). The actual number of calories in the meals in the field study was obtained by unobtrusively recording the food that was ordered (identified from the wrappings and containers). Weight and height were self-reported.

Results: Although participants strongly underestimated the number of calories in larger meals (by -38.0% in study 1 and by -22.6% in study 2), they almost perfectly estimated the number of calories in smaller meals (by -2.9% in study 1 and by 3.0% in study 2). After the authors controlled for body weight-related differences in meal size, the calorie estimations of normal-weight and overweight participants were identical in both studies.

Limitations: These studies examined fast-food meals. Weight and height were self-reported. There were too few observations to distinguish between obese (BMI ≥ 30 kg/m²) and overweight (BMI >25 kg/m² but <30 kg/m²) participants.

Conclusions: Greater underestimation of calories by overweight persons is a consequence of their tendency to consume larger meals. Calorie underestimation is related to meal size, not body size.

Ann Intern Med. 2006;145:326-332.

For author affiliations, see end of text.

www.annals.org

The paper was retracted because . . . “Annals contacted the authors to inquire whether they had concerns about its validity. In his response, the coauthor, Pierre Chandon, reported that age was not a variable collected during the study. Yet, the article reports mean age for male and female participants. In addition, the editors identified no age variable in the data files nor on the sample paper

data forms that Dr. Chandon provided in response to our query. In light of the reporting of a variable (age) that seems not to have been collected, the editors cannot be confident in the integrity of the work reported in this article.”²

Other Ways to Answer this Question

1. Hypotheses and Extensions: This estimation bias has been shown to be very robust in our prestudies and pilot studies. A powerful extension to this would be to show how this bias exists across a large range of populations and expertise.

We might think that “education” would be one way to reduce this bias, but a couple pilot studies showed that it wasn’t that effective and that even dietitians significantly underestimated calories once the foods or portions got outside of a narrow range. One way to more convincingly show health professionals that “more education” is not the answer to this is to compellingly conduct a study that shows how even they – as educated experts – are biased in their estimates of large portions of food and calories.

We also don’t know how this news, or a new counseling approach will influence heavy patients. Suppose a health professional tells an overweight person that everyone has these estimation biases, and they are not to be blamed. It might give them more resolve to eat better (and not give up), or it might deflect their sense of responsibility. Following-up will provide useful course correction.

2. Outreach Suggestions: What would make these findings even more useful would be if there were a reliable way to come up with some easy guidelines that could help a health professional or consumer self-correct their estimate. This would be an alternative to the seemingly ineffective reliance on “more education.” If these guidelines could be calibrated and tested, they could be very useful in a wide range of weight loss contexts – both with health practitioners and dieters.



If you run a study in a food court, you can get exact calories of what people ordered because it is usually posted.

Conclusion

As mentioned earlier, the findings of this research could help improve the clinic or “bedside manner” of some of the doctors and dietitians who work with overweight and obese patients. It can also help with one of the difficulties obese people face when being counseled about their weight.

The insights of how to improve weight counseling could be put into use immediately.

¹ Wansink, Brian; Chandon, Pierre (2006-09-05). “Meal Size, Not Body Size, Explains Errors in Estimating the Calorie Content of Meals”. *Annals of Internal Medicine*. 145 (5): 326–32. doi:10.7326/0003-4819-145-5-200609050-00005. ISSN 0003-4819. PMID 16954358.

² <https://annals.org/aim/fullarticle/2717783/notice-retraction-meal-size-body-size-explains-errors-estimating-calorie>

CAN YOU CONFIRM THE SWEET TOOTH HYPOTHESIS?

Being able to predict what a person likes to eat would be practical. A parent could guide kids to unfamiliar healthy foods they might like, and companies could advertise products to the most interested shoppers. One way to explore this is to see if we can predict whether people are more likely to prefer new fruit dishes more than vegetable dishes based on whether they prefer sweet snacks or salty snacks. Although some people love all foods, knowing whether a child or spouse has a natural leaning to one versus the other can prevent you from fighting an uphill battle to get them to eat broccoli if that's not how their taste preferences are wired.

The Original Findings

This paper included two studies. One study involved a large USDA database (similar to NHANES data), and the other study involved a mail survey we conducted at the University of Illinois at Urbana-Champaign. The resulting paper was published as a four-page research note.¹ Here is the abstract of what was found:

Abstract

Building on prior work related to taste preferences of fruit lovers, we investigate the “sweet tooth” hypothesis. First, using CSFII survey data, we show that fruit consumption is more highly related to sweet snack consumption than it is to salty snack consumption. Second, a follow-up study with a different population supports the relationship by showing that sweet snack consumption is more related to fruit consumption than it is to vegetable consumption. Knowing that people who frequently eat sweet snacks may be predisposed to increasing their fruit consumption will enable better targeting and tailoring of educational efforts, such as those used in the 5-a-Day for Better Health campaign.

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Keywords: Fruit and vegetables; Five-a-day; Sweet snacks; Salty snacks; Taste profiles

The paper was retracted “at the request of the editors and the authors due to substantive errors in the reported methods.”²

Other Ways to Answer this Question

1. Hypotheses and Extensions: Given the practical value of this question, the most useful study that is needed is one that uses large-scale data bases to determine if there are reliable clusters of taste preferences. The first step in doing so would be to come up with some general food categorizations that make sense and are easy to operationalize or code.

¹Wansink, Brian; Bascoul, Ganaël; Chen, Gary T. (2006-07-01). “ The sweet tooth hypothesis: How fruit consumption relates to snack consumption”. *Appetite*. 47 (1): 107–110. doi:10.1016/j.appet.2005.07.011. ISSN 0195-6663. PMID 16574275.

²<https://www.sciencedirect.com/science/article/pii/S0195666306000250>

Sweet versus salty preferences would be one categorization, but it's not the only categorization method in the original study. Although some people like both, a good percentage had leanings more toward one or the other. Other efforts to categorize food and look for cluster commonalities is by their bitterness, their calorie content, or their hardness.

Another approach to this would be to make it purely empirically exploratory. Conduct statistical cluster analyses on consumption frequencies of certain categories of foods and see how they correspond with consumption frequencies of seemingly unrelated categories that actually do have an underlying explanatory relationship (fresh fruit consumption clusters and sweet snack clusters, for example). This could be followed up with a shorter questionnaire that explicitly asked people about the linkages between these different foods clusters by using attitude or preference scales.

Something that would also be worth exploring is how these cluster preferences differ between cultures. That is, what are the unexplained clusters of food preferences of Europeans vs. Asians vs. Middle Easterners, and so forth.



This is a long questionnaire. We also did this follow-up, where we used their real snack selection during the survey to validate their profile.

2. New Methodology Ideas: Using large-scale data bases from the USDA is a great way to start this. Following up any promising findings by using a more confirmatory survey could take this research to the next level of contribution.

In our pilot studies, a lot of general tastes appear more fixed than fluid by the time a person is a young adult. Because of this, if you decide to do a confirmatory study that explicitly asks people about the linkages between the food clusters they like, it would perfectly legitimate to do this with college students.

One methodological caution is to try to make sure the analyses are done within homogeneous groups. If you are not explicitly making the comparisons between demographic subgroups (mentioned above), they'll need to be controlled for in how they are sampled (or statistically analyzed).

Conclusion

A compelling discovery in this area would have a very useful ripple effect across academia, practice, and everyday life. It would help academics control for noisy variance when analyzing taste (by asking control questions in the survey). It would help practitioners better determine what segments of people might most like a new product. And it would help us be savvier in how we feed our kids and how we explore new taste adventures.

DO “CLEAN PLATE” KIDS TURN INTO OVEREATING ADULTS?

Kids can be really smart. That’s why some of our best ideas as parents back-fire. Take the Clean Plate Club, for example.

Some parents insist their kids clean their plate. Other parents are more relaxed about it. If a parent regularly insists their child clean their plate, will it alter the amount of food a child decides to serve themselves? Maybe they serve less of new foods because they don’t want to have to eat them if they don’t like them. Or maybe they serve themselves a lot more of the unhealthy and indulgent foods they love because they know that once they get on their plate, they’ll be able to eat them all.

The Original Findings

This was published in 2008 as a two-page letter in the Pediatric Forum of what is now JAMA Pediatrics.¹ It was based on a lab study with preschoolers. There’s no abstract to the paper, but here is what we found.

Sixty-three preschool children were asked to indicate how much of a sugared cereal they wanted scooped into their bowl (either 16- or 32-oz) for their morning snack. Children with larger bowls requested nearly twice as much cereal and the volume they took was correlated with their parent’s answer to the scaled question (1-9) such as “I tell my child to clean their plate.”

The paper was retracted because JAMA asked Cornell to provide an independent evaluation of this and five other articles to determine whether the results are valid. In their retraction notice, JAMA wrote, “[Cornell’s] response states: ‘We regret that, because we do not have access to the original data [original coding sheets or surveys], we cannot assure you that the results of the studies are valid.’ Therefore, the 6 articles reporting the results of these studies that were published in JAMA Pediatrics, JAMA, and JAMA Internal Medicine, are hereby retracted”² (Appendix B).

Other Ways to Answer this Question

- 1. Hypotheses and Extensions:** Although a lot of people think they are members of the Clean Plate Club, when this article was first published there wasn’t a lot of research on it. One set of questions that would be promising to explore

¹Wansink, B; Payne, C; Werle, C (October 2008). “Consequences of belonging to the “clean plate club””. Archives of Pediatrics & Adolescent Medicine. 162 (10): 994–5. doi:10.1001/archpedi.162.10.994. PMID 18838655.

² <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2703492>

are those which would examine the long-term consequences forcing kids to clean their plate. That is, maybe they learn to take smaller portions of healthier foods and larger portions of desserts. Maybe they grown up to be a heavier adult. Maybe they grown up to be less adventurous eaters because they are afraid to try new foods for fear that they would have to finish all of them (just like they did as a child).

- 2. New Methodology Ideas:** Many of the basic questions asked above could be at least preliminarily examined by simply using surveys. It's not always that compelling, but in an area as under-researched as this, it will give some toeholds for subsequent researchers who want to examine it more causally.

To this end, there can be causal experiments done with children, and the one here represents a gateway into doing so. The idea would be to look for the behaviors that we think kids from Clean Your Plate households would demonstrate compared to those in normal households. After being able to determine what household a child was from, the study would examine how much new foods or how much of a favored food they served themselves and ate when their parents weren't around. A good place to do this research would be in a daycare setting.



An effective way to do food studies with preschoolers is to separate them from their friends but keep their friends within view.

Conclusion

The Clean Plate Club is something everyone knows about. Doing more research in this area would have a lot of appeal a lot of immediate applications. Looking at some of the long-term consequences would be great, but in the meantime, there's a lot of useful insights that could be examined immediately.

HAVE CLASSIC RECIPES INCREASED IN CALORIES OVER TIME?

Fast food and restaurants have widely been blamed for the obesity problem: Increasing portion sizes and more calories. We wanted to know if the same thing was going on in homes. Are portion sizes of classic recipes getting larger and more caloric over time?

One way to investigate this would be to examine how the same recipes have changed over time. Have the recommended serving sizes of chili gotten bigger and do they have more meat or butter? If this is so, the obesity problem might not just be a problem with restaurants, but it might also be what we do in our homes.

The Original Findings

This was published in 2009 as a one-page letter to the editor in the *Annals of Internal Medicine*.¹ It was based on secondary analysis. There is no published abstract, and here is a summary of what was found:

To make a historical comparison of the same recipes over time, the sample frame was all of the recipes in the *Joy of Cooking* that were in all seven editions and which did not change their name. The total calorie content was determined for each recipe, along with the calorie content per recommended serving size. The results showed the calorie density in these recipes increased by 35%, and that this was driven by the inclusion of more caloric ingredients (butter, nuts, sugar) and by larger serving sizes.

This paper was retracted because...“Annals contacted the authors to inquire whether they had concerns about its validity. The contact information we had for Dr. Payne was no longer current, and we were unable to locate current contact information. In response, Dr. Wansink reported that he was also unable to contact Dr. Payne, but Dr. Wansink provided a reanalysis of the data and reported that, “The files we reran gave the same conclusions, but different numbers in the table.” In fact, almost every number was different from those in the published article, many substantially so. In light of the inability to reproduce the published results, the editors cannot be confident in the integrity of the work reported in this article.”²

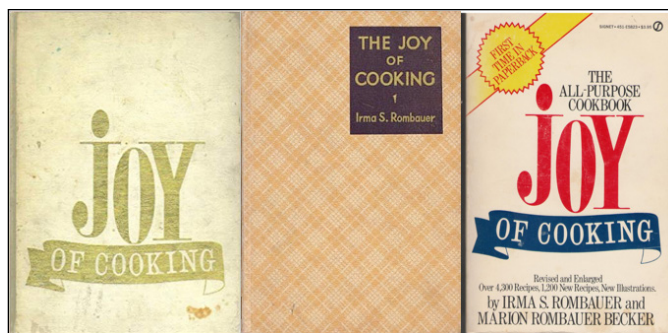
Other Ways to Answer this Question

1. New Methodology Ideas: This is an interesting question with immediate implications for people who cook at home. There’s a number of other ways it can be tackled.

¹Wansink, Brian; Payne, Collin R. (2009-02-17). “The Joy of Cooking Too Much: 70 Years of Calorie Increases in Classic Recipes”. *Annals of Internal Medicine*. 150 (4): 291–2. doi:10.7326/0003-4819-150-4-200902170-00028. ISSN 0003-4819. PMID 19221391.

²<https://annals.org/aim/fullarticle/2717784/notice-retraction-joy-cooking-too-much-70-years-calorie-increases>

- a. **Analyze a wider range of cookbooks.** In this particular study, we focused on one cookbook, the Joy of Cooking, because it had been around for a long time, had a large number of editions, and all of the editions were available through interlibrary loan. A longitudinal comparison with other cookbooks (such as Better Homes and Gardens Cookbook) could broaden the generalization of this (although there are fewer editions over a shorter time period).
- b. **Analyze all of a cookbook's recipes in a given year compared to other years.** The published study only focused on the recipes that were in every single edition of the Joy of Cooking and which did not undergo a name change. Another way to conduct this research would be to analyze all of the recipes in a cookbook and compare it with all of the recipes in later editions. This wouldn't need to be done for every edition, because the original analysis showed there were big inflection points (such as after WWII and in the mid-60s) that created much of the change. Looking at three or four editions would probably be sufficient.
- c. **Focus on food-type trends.** The increasing trend in portion sizes and calorie levels over the years has only been examined across all foods. It may be that these trends are more dramatic in some food groups than others. For instance, they may not have changed much in vegetable side dishes or in salads. However, they may have changed more in entrees or desserts where either recommended serving sizes have increased or where the addition of more or different ingredients has happened, such as more butter, sugar, nuts, and so forth.
- d. **Ask people.** The first three new method suggestions still used secondary analysis – serving sizes and calorie levels of articles published in cookbooks. Another way would be to interview or survey a population of people who cook at home. Their cooking behavior could then be assessed longitudinally by asking a series of questions as to how their cooking has changed. Their cooking behavior could also be compared cross-sectionally by comparing the cooking habits of older people (which may have been habitually unchanged for some time) with those of younger people. Topics to compare would be ingredient use, quantities, subjective serving sizes, and so on.



Choosing the sample frame and calculating calories per serving are the two biggest parts of this research.

2. **Carefully Coding and Estimating Calories:** Three of the four method variations are focused on each recipe's calories per serving. While serving sizes are usually stated in the recipes (such as "serves 6"), calorie counts per serving are not stated (except in some recent cookbook editions). For this reason, it will be important to hire two well-trained and credible people to do this and cross-reference their work. We used a dietetics intern and a nutrition major but using two Registered Dietitians would have been even better.

Conclusion

This is a fun article and it has useful implications to a home cook: Using an older cookbook or serving half of the dish and freezing the other half would be two easy changes a food loving cook might want to try out for size.

WILL YOU HATE THE FOOD YOU EAT DURING BAD EXPERIENCES?

You and the love-of-your-life used to eat Thai food every weekend . . . and then she dumped you. Do you still like Thai food? Perhaps a great experience or a horrible experience that is going on when you are first exposed to a food, can engineer whether you will like the food in the long-term. If so, giving your kids carrot sticks at Disney Land and not cotton candy could be doing them a much longer-term favor if they associated vegetables with the “Happiest Place on Earth.”

This started out as “hobby research.” When I was growing up, there were a number of WWII veterans (US) in our neighborhood, and I always found it interesting to talk with them. In one set of conversations, I found it curious that some Pacific vets hated rice and others loved it. In contrast, European vets seemed to be basically indifferent about it. Hmmm . . .

The Original Findings

This study was originally published as a three-page research note. It was based on a large-scale mail survey we did of WWII veterans (US) in August of 2000.¹ Here’s the abstract of what we found:

ABSTRACT

How does a person's first experience with a foreign or unfamiliar food shape their long-term preference and behavior toward that food? To investigate this, 493 American veterans of World War II were surveyed about their preference for Japanese and Chinese food. Pacific veterans who experienced high levels of combat had a stronger dislike for these Asian foods than those Pacific veterans experiencing lower levels of combat. Consistent with expectations, combat experience for European veterans had no impact on their preference for Asian food. The situation in which one is initially exposed to an unfamiliar food may long continue to shape preferences.

The paper was retracted “at the request of the Editors on the grounds of serious errors in the description of the method and duplication and errors in the raw data as identified by the authors.”²

Other Ways to Answer this Question

- 1. New Methodology Ideas:** A useful context to look at this would be in the context of examining foods that people really seem to hate. Doing a qualitative set of in-depth laddering interviews would help see if there are some of these reasons that might be connected to childhood experiences. The key in doing this research is you have to have them focus on something that they hate that most other people like.

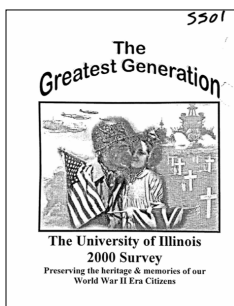
¹ Wansink, Brian; Van Ittersum, Koert; Werle, Carolina (2009-06-01). "How negative experiences shape long-term food preferences. Fifty years from the World War II combat front". *Appetite*. 52 (3): 750–752. doi:10.1016/j.appet.2009.01.001. ISSN 0195-6663.

² <https://www.sciencedirect.com/journal/appetite/vol/131/suppl/C>

If you were to take this qualitative and narrative approach, the research could be really interesting and filled with great examples. It would probably necessitate you partnering with a qualitative researcher (like a cultural anthropologist) if you wanted it to make sure the details were nailed down.

A second way to tackle this question would be to find a common event that people could very clearly code as either a good experience or a bad experience and where they are experiencing a new food for the first time. WWII and rice were one example, and something similar could be done with other veterans in other theatres (such as the Mideast). Still another context would be with vacationers who either had a great time or a terrible time on their vacation when they were being exposed to a different food. For instance, two different people on a cruise ship to the Caribbean or South American might have very different feelings about plantains depending on whether were seasick or weren't.

- 2. Publishing and Outreach Suggestions:** Being able to quantitatively show there are better situational memories associated with some favored foods and that there are worse situational memories associated with some unfavored foods could be easy if you only use a questionnaire. However, this will be a whole lot more interesting if you can find a specific event that is interpreted either positively or negatively by the same people at the same time (e.g., military service, a seasick cruise, etc.). Also, getting lots of examples of where and how this is played out will give the article a lot more interest, or will at least give you useful examples when sharing your implications with others.



Most of the research team on this WWII survey project were second year MBA students.

Conclusion

There's interesting news-you-can-use here that may initially seem nonobvious. Suppose there is a tendency to get your feelings for food tangled up with how much you're enjoying the moment when you eat them. If this is true, you might be able to orchestrate healthier food preferences for both you and your kids -- like making their annual birthday celebration be all-you-can-eat watermelon party instead of an ice cream sundae buffet.

CAN BRAND LOGOS ENCOURAGE KIDS TO EAT HEALTHY FOODS?

Brand names and logos are used to sell cookies and candy. Can they also be used to sell more fruit by making fruit seem more hip, interesting, or tasty? If so, instead of banning branded products or logos in school cafeterias, it might be better to redirect the branding and logos to the healthier products.

The Original Findings

This 2008 study was published as a two-page research note in what is now JAMA Pediatrics in 2012.¹ It involved a week-long study with Head Start preschoolers. There's no published abstract, but here is what was found:

The study involved 208 preschool children in Head Start afterschool programs (most of which met in elementary schools). Over the course of a week, children were presented the choice between apples or cookies that were either unbranded or branded (with an Elmo sticker) in different combinations on different days of the week. Having a branded Elmo sticker on an apple greatly increased the likelihood children would select it, but the same sticker had no impact on cookie selection.

This paper was retracted because “Following the notice of Retraction and Replacement, the funder of this study informed us of another important error. We had erroneously reported the age group as children ranging from 8 to 11 years old; however, the children were 3 to 5 years old...

“Given this additional substantial error in reporting the correct ages of the children and the inadequate oversight of the data collection and pervasive errors in the analyses and reporting, the editors have asked that we retract this article. We regret any confusion or inconvenience this has caused the readers and editors of the journal.”²

Other Ways to Answer this Question

- 1. Hypotheses and Extensions:** One of the reasons that branding helps increase fruit selection so much more than cookie selection is that most kids naturally love cookies – even without a brand. Therefore, there's not much higher their likelihood of selection can go. It's reached a ceiling.

From a nutrition or public health standpoint, one immediate set of studies that could be conducted would be to examine this with different ages of students (toddler, preschool, and elementary students) to see if this is

¹ Wansink, Brian; Just, David R.; Payne, Collin R. (1 October 2012). “Can Branding Improve School Lunches?”. *Archives of Pediatrics & Adolescent Medicine*. 166 (10): 1–2. doi:10.1001/archpediatrics.2012.999. PMID 22911396.

² <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2659568>

differentially effective at some ages than others. Also, it could be examined whether different types of stickers or logos (familiar vs. unfamiliar; colorful vs. less colorful) are more effective with some ages or genders than with others.

From a psychology standpoint, what would most interesting would be to better understand why we might expect results such as these. Seeing a brand – such as an Elmo logo – on an apple might make a child take it simply because it looks different or curious. But it might make someone take the apple because they think it might taste better than an unbranded apple. If taste expectations can bias real taste experiences, it might even end up being that seeing a brand sticker on a piece of fruit, not only leads more people to take the fruit, but it also makes them think it tastes better.

- 2. New Methodology Ideas:** This study used a within-subject design and although within-subject designs can control for a lot of factors, they also come with another host of problems such as reactivity. This can be especially concerning if the experiment seems too artificial or fake. An opposite approach to this would be to use a between-subject design and to rotate the four different conditions (apple x cookie; branded x unbranded) across these schools. Yet this seems like it would be way too much overkill to answer a fairly simple question. In addition, it potentially suffers from the noise of a bandwagon effect. A child may be more likely to take the same item his friend ahead of him took, regardless of what the food or branded condition was.

An alternative to either might be to rotate conditions within one school and to have children make their selection between the apple and the cookie alone as they came out of the lunch line (or during a break). On one day each week, the combination of choices could be rotated, and the spacing out would probably nullify reactance, but the context would still be very real. Setting up the study in this way would also allow to ask the child a couple quick questions after they selected the item.



This prestudy showed that even putting stickers in front of foods, such as in a buffet line or on a platter led kids to choose healthier foods.

Conclusion

Over the last few years there have been some promising steps in this direction of trying to brand fruits. McDonald's use of Cuties Mandarin Oranges is a one example of the promise that smart branding can have for fruit.

In order for this to become more widespread, we can try and imagine what type of research would be most useful in helping inform this trend:

- What ages and gender of kids are most influenced by branding?
- Do colorful but unfamiliar brands or images work just as well as familiar ones?
- Does branding make kids believe the branded food tastes better?

Some of these questions are the ones already noted above. We need to be mindful that the more realistically our studies are, the more they are likely to be compelling to the people making these decisions to brand healthy foods.

DO SHORT-TERM FASTS LEAD TO LONG-TERM WEIGHT LOSS?

Short-term food fasts are the popular weight loss rage. But what happens when they're over – do you reset your diet down to a more mindful one, or do you binge like a 12-year-old on Halloween?

One of the interesting twists on this might not be the obvious issue about calorie replacement. Instead, a cool question is what types of foods is someone going to be most drawn to when they are coming off of a fast – sweets, meats, carbs, or treats?

The Original Findings

This was published as a three-page research note in 2012, and there is no abstract.¹ It was based on a lab study that observed what people ate at a buffet after they had been fasting for 18 hours. Here is what was found:

128 staff and students were recruited for a free lunch. Half were asked to not eat for 18 hours prior to that lunch. Upon arriving, they were offered two different starches, two vegetables, and two proteins. Those who had been fasting were more likely to start their meal with the starches. Moreover, whatever food a person ate first, the more they were likely to consume over 40% more of it relative to other foods.

The paper was retracted because JAMA asked Cornell to provide an independent evaluation of this and five other articles to determine whether the results are valid. In their retraction notice, JAMA wrote, “[Cornell’s]response states: ‘We regret that, because we do not have access to the original data [original coding sheets or surveys], we cannot assure you that the results of the studies are valid.’ Therefore, the 6 articles reporting the results of these studies that were published in JAMA Pediatrics, JAMA, and JAMA Internal Medicine, are hereby retracted”² (Appendix B).

Other Ways to Answer this Question

- 1. New Methodology Ideas:** Using a limited buffet context worked really well for controlling what people could eat. Because we used only two types of vegetables, starches, and proteins (six total items), hidden scales could be put beneath each of the serving bowls (under the tablecloth), and how much each person takes can be unobtrusively recorded. Another pair of foods that could be included would be desserts and maybe even salads. How much people eat of a particular item can be determined by subtracting how much food is left on their plate from the initial amount they took.

¹Wansink, B; Tal, A; Shimizu, M (25 June 2012). “First foods most: after 18-hour fast, people drawn to starches first and vegetables last”. Archives of Internal Medicine. 172 (12): 961–3. doi:10.1001/archinternmed.2012.1278. PMID 22732752.

²<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2703492>

Using a between-subjects buffet study has disadvantages because it doesn't control for lots of factors. There are lots of potentially interfering stimuli (such as how much the person ahead of you took), but it was a realistic intervention to see if anything notable would be worthy of further future investigation. Similar findings could be followed up using within-subject lab studies. Additionally, although measures of each diner's preferences of the different foods was taken, these were not used as covariates in any analysis. That too would be useful to do in future studies.

- 2. Measurement and Compliance Suggestions.** Asking someone to fast for 18-hours has compliance challenges. That is, people don't like to do it. We had done some prestudies with this, and one key learning was that you need to be really thoughtful in the instructions you give to those people in the two conditions. You also have to be careful, so they don't behave too unnaturally when they start eating. The concern would be that they are overly conscious of what they take and how much because they believe they are being closely observed. One way to decrease this potential reactivity is to give both groups an unrelated task to complete. In one case, we tried giving them a concentration test before lunch so they would focus more on the concentration test and not feel they were being as closely scrutinized during lunch.

It's important to get more accurate assessments of how both groups behaved in the prior 18 hours, including what they ate or drank and whether they exercised. There are a number of different ways to assess whether someone has eaten in the past 18-hours (or whether they followed the directions they were given). It's good to include at least two converging measures to better ensure that the fasters actually fasted.

In one of our prestudies we had people fast for 24 hours, but that was too long. We had too low of a compliance rate, and we aren't convinced that someone who's 6 hours hungrier is going to act dramatically different than someone who's fasted for a more doable 18 hours.

Last, some people believe a fast should involve no liquids, but we decided it was unnecessary for this research question. You can keep a fast limited to only water, but in another study, we've done, we found that allowing people to drink non-caloric drinks (such as coffee or diet soft drinks) seemed to increase compliance and happiness.



To help prevent the fasters from being too self-conscious about what and how much they ate, we have scales under the table cloth. They are read off the three monitors on the floor.

Conclusion

This issue of fasting is hot. While much fasting research focuses on the calorie compensation, there are so many more rich and interesting questions that can be asked.

Because of the prevalence of fasting, using a realistic research context and a useful research question would be of most value. From an immediate impact standpoint, this type of research would be widely welcomed by many people.

WILL COOL NAMES LEAD KIDS TO CHOOSE HEALTHY FOODS?

Are kids more likely to choose and eat healthy foods when they're named X-Ray Vision Carrots or Silly Dilly Green Beans? Even if they do, will the name make them like the food more and will it make them continue to select it and eat it after the name changes back?

Adding new words to restaurant menu items makes adults more likely to change their food order. If something like this could work with kids in cafeteria lines, it would be an easy and healthy change for schools to make.

The Original Findings

These two studies were published as a three-page Short Communication in *Preventive Medicine* in 2012.¹ It is based on a lab study and a 1-month field study in elementary schools. Here is what was found:

ABSTRACT

Objective: This study will determine if the selective use of attractive names can be a sustainable, scalable means to increase the selection of vegetables in school lunchrooms.

Methods: Study 1 paired an attractive name with carrots in five elementary schools (n = 147) and measured selection and consumption over a week compared to controls. Study 2 tracked food sales of vegetables in two elementary schools (n = 1017) that were systematically attractively named or not named over a two-month period. Both studies were conducted in New York in 2011.

Results: Study 1 found that elementary students ate twice the percentage of their carrots if attractively named as "X-ray Vision Carrots," than if un-named or generically named as the "Food of the Day." Study 2 found that elementary school students were 16% more likely to persistently choose more hot vegetable dishes (p < 0.001) when they were given fun or attractive names.

Discussion: Attractive names effectively and persistently increased healthy food consumption in elementary schools. The scalability of this is underscored by the success of Study 2, which was implemented and executed for negligible cost by a high school student volunteer.

The paper was retracted "at the request of the Editor and with the authors' agreement because additional corrections regarding funding attribution were brought to the journal's attention after it published a Corrigendum. The need for further amendments to an article whose contents are no longer a valid description of the methodology and findings of the original research record would have been detrimental to the opportunity for knowledge translation that the original 2012 article was intended to provide. The authors have been offered the opportunity to incorporate all necessary amendments and disclosures into the manuscript and resubmit it for consideration for eventual publication in *Preventive Medicine*, subject to peer review."²

Other Ways to Answer this Question

- 1. Hypotheses and Extensions:** Two of the bigger questions related to how this works with young children are these: 1) What ages and gender are most influenced by attractively named foods, and 2) Does the effectiveness of attractive names begin to wear off?

¹Wansink, Brian; Just, David R.; Payne, Collin R.; Klinger, Matthew Z. (October 2012). Attractive names sustain increased vegetable intake in schools". *Preventive Medicine*. 55 (4): 330–332. doi:10.1016/j.ypmed.2012.07.012. PMID 22846502.

²<https://www.sciencedirect.com/science/article/pii/S0091743512003222>

There seems to be early evidence that this works even with preliterate kids (when the labels are read to them), but it's not clear who these attractive names influence the most. Since many elementary schools have their children go through the lunch lines by grade, this would be an easy question to ask in field studies.

The issue as to whether the effectiveness wears off is an interesting one that's been raised a number of times in the past. Our general observations are that the effectiveness of an intervention like this drops off as much as 30-40% in 2-3 months. The good news, however, is that it seems to reset itself after summer break (and even after winter break to a lesser extent).

- 2. Methodology and Outreach Suggestions:** Although this seems like it would be an easy intervention, there is still resistance by school cafeterias who believe it would be too difficult. An effective research project in this area could be one that not only show the promise of naming, but which also show that it can be easily implemented.

One way to do so would be to conduct this study by having a high schooler do it (as an Eagle Scout project, or as a school project). By having them in charge of implementing and tracking the study, it would show that "it's so simply a high schooler could do it." If that person does a good job, they might also become an author on the paper (like the fourth author on this paper).



Almost any type of catchy name increases a kid's interest in healthy foods, according to pilot studies and follow-ups.

Conclusion

Using attractive or cool names is also worth experimenting with at home with your own kids. Instead of plopping the vegetables in front of them and expecting them to clean the bowl, take 5 seconds to come up with an interesting or silly name for what you're serving, or a description of where it came from, or how it was made. You can creatively do anything that builds anticipation, sensory suggestiveness, or engagement.

At best, they'll eat it and like it a little better. At worst, your teenager will roll their eyes and think to themselves, "At least my goofy dad tries."

DO HUNGRY SHOPPERS BUY MORE OR JUST BUY WORSE?

The hungrier you are the more food you buy, right? Maybe not. Being hungry might lead you to buy ready-to-eat foods that you can quickly and conveniently eat – like in the car on your way home. However, it might not lead you to buy more total food (such as foods that can't be eating quickly, like vegetables and meat). If true, the advice to dieters and fasters is not to avoid shopping when hungry so you'll buy less. Instead, it's to avoid shopping when hungry if you can't discipline yourself to buy better foods (the non-ready-to-eat foods).

The Original Findings¹

This was published in 2013 as a three-page research letter, and there is no abstract. It was based on a lab study and a field survey conducted with shoppers after they completed their grocery store check-out. Here's a summary of the findings:

There was both a lab study and a shopping study. In the lab study, people who had been instructed to not eat 5 hours before the study chose more higher calorie snacks, but no more of the healthier snacks (than those in the control condition). Consistent with this, a shopping survey showed people shopping late in the afternoon (4-5 hours after last eating a meal) tended to buy a total basket that was less healthy than those shopping right after lunch.

The paper was retracted because JAMA asked Cornell to provide an independent evaluation of this and five other articles to determine whether the results are valid. In their retraction notice, JAMA wrote, “[Cornell’s]response states: ‘We regret that, because we do not have access to the original data [original coding sheets or surveys], we cannot assure you that the results of the studies are valid.’ Therefore, the 6 articles reporting the results of these studies that were published in JAMA Pediatrics, JAMA, and JAMA Internal Medicine, are hereby retracted”² (Appendix B).

Other Ways to Answer this Question

- 1. Hypotheses and Extensions:** This notion that hungry shoppers want to buy the tastiest calories they can quickly buy and eat is compelling. It doesn't seem like such a person would leisurely shop the aisles and price-compare frozen meat.

At this point, I think there are two big extensions that can be made. One is to combine the hunger and time element. If people shop differently when hungry, then people shopping just before lunch (11:00) should shop differently than those shopping just after lunch (1:00), and those shopping mid-

¹ Tal, A; Wansink, B (24 June 2013). “Fattening fasting: hungry grocery shoppers buy more calories, not more food”. JAMA Internal Medicine. 173 (12): 1146–8. doi:10.1001/jamainternmed.2013.650. PMID 23649173.

² <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2703492>

afternoons should shop better than those in the late afternoon. Now there are all sorts of other covariates to measure but using time as a surrogate for hunger will give a better process link and it has much broader implications for retailers and for informing health-minded consumers when to shop.

The second extension would be to predict the specific types of foods that are most prone to be purchased by a hungry shopper. Is it cookies, chips, and breakfast cereal, or is prepared foods, or is it candy at the checkout? These results may not be important for theorizing, but they are important as implications for dieters.

- 2. New Methodology Ideas:** We thought it was cool to have a lab study that showed that people didn't eat more of everything when they were hungry, they just ate more of what was easiest to eat – carbohydrate-packed snacks.

The best way to tackle this compellingly might be to forego any lab study and do a really great scanner data study in grocery stores. Taking multiple stores and analyzing shopping baskets content by time (11:00ish vs. 1:00ish or 2:00ish vs. 4:00ish) would be best. Then a field survey of shoppers could be done in one or two grocery stores as a manipulation check to confirm that their hunger corresponded to those time periods. In addition, some self-report process questions can help confirm whether they shopped differently than usual.

- 3. Publishing and Outreach Suggestions:** The results of this are of great interest to shoppers who want to eat healthier, but they are also of interest to retailers. A scanner data study (combined with a small survey of exiting shoppers) would make this a useful public health article or marketing article. Adding the real-world advice of what categories are most important to avoid when hungry would make this a useful article to lots of different people.



We also ran a food sampling study with hungry shoppers, but it made this paper too long and didn't add anything new.

Conclusion

Having some scanner data analysis prowess would make this a relatively easy hypothesis to examine by using shopping time as a surrogate for hunger. A short in-store survey for a second group of shoppers would take this from a useful effects article to a very useful and memorable recommendation.

DOES PREORDERING LEAD TO HEALTHIER LUNCHES?

You might heroically plan on eating a healthy salad for lunch, but when noontime rolls around, the French fries will smell too good to pass up. If you had to pre-order your lunch when you first got to work, would you eat better? If so, work cafeterias and school cafeterias could offer a preordering option. This way they could help their employees or students eat healthier and less indulgent lunches.

The Original Findings¹

The original field research was conducted in a public-school district in the Finger Lakes area of New York. It was published as a two-page research letter, and here's a summary of the results:

In the first two weeks of this four-week study, students ordered lunch entrees as they usually did. In the third week, they pre-ordered their lunch entree using a paper order form. Longitudinal sales data and intake measures (inferred through plate waste) showed healthier foods were selected about twice as often (29% vs. 15%) when students had to preorder their entrée.

The paper was retracted because JAMA asked Cornell to provide an independent evaluation of this and five other articles to determine whether the results are valid. In their retraction notice, JAMA wrote, “[Cornell’s] response states: ‘We regret that, because we do not have access to the original data [original coding sheets or surveys], we cannot assure you that the results of the studies are valid.’ Therefore, the 6 articles reporting the results of these studies that were published in JAMA Pediatrics, JAMA, and JAMA Internal Medicine, are hereby retracted”² (Appendix B).

Other Ways to Answer this Question

- 1. Hypotheses and Extensions:** This was a small pilot study that has sizable promise. Two useful extensions would be to a) generalize it to other populations (such as employees in cafeterias), and b) determine if this only works in the short run (like for the first couple weeks) or if it can be sustained past the first three months. Some of our research with other interventions has shown a decay rate of up to 40% over a three-month period unless small variations are made to keep it fresh.

¹ Hanks, AS; Just, DR; Wansink, B (July 2013). “Preordering school lunch encourages better food choices by children”. JAMA Pediatrics. 167 (7): 673–4. doi:10.1001/jamapediatrics.2013.82. PMID 23645188.

² <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2703492>



2. New Methodology Ideas: Using a before-after within-subject study would be one approach that eliminates some individual variation. However, it would also need a large control group to not run the risk that something else could influence the results (weather, midterm exams, other menu changes, and so on). One way to solve this problem this would be to split the group in two and reverse the order of the conditions in each group. That is, one group be a control-treatment group (no preordering during month1 but preordering during month2), and the other group be the treatment-control group (pre-ordering in month1 but no preordering in month2).

It would be great to show how preordering influences how many calories kids eat, and how it influences whether these calories are starch calories. This can be done on an individual level by using the Quarter-plate Method of measuring. Alternatively, if connecting a student's plate waste with his student ID number is too difficult, this can be recorded in the aggregate. At this stage, knowing if preordering leads to healthier meals is the primary message that would need to communicate to health-minded cafeterias. Answering the follow-up issue of who it influences most can be done with more precision in a follow-up study.



3. Publishing and Outreach Suggestions: A wide range of journals would find different aspects of this interesting in different ways. Here's two approaches: A) Publish a shorter "Effects" or "Outcome" article in a public health, nutrition, or medical journal, or B) Publish a longer "Process" paper – perhaps with a preceding lab study, and a follow-up study – in a consumer behavior, economics, psychology, or marketing journal. If this is as effective as these earlier studies suggest, I think publishing a shorter piece would get the word out and start getting these changes made in schools and cafeterias sooner rather than later.

Lunch Pre-Order Form



Choose your entrée

	<input checked="" type="checkbox"/>		<input type="checkbox"/>
---	-------------------------------------	---	--------------------------

Choose your side

	<input checked="" type="checkbox"/>		<input type="checkbox"/>
---	-------------------------------------	---	--------------------------

Choose your drink

	<input checked="" type="checkbox"/>		<input type="checkbox"/>
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The photos in this photo-based order form kept deviating too much from what was actually served, so we used a text-based order form instead.

Conclusion

This is a great research question and if the study's done well, it will have directly relevant implications for whatever is found. There are two keys to making this an influential paper. The first key is to do it in a real cafeteria that is really trying to help people eat healthier. Schools and company cafeterias are two examples, and a hospital cafeteria would also be great. The second key is to set up a pre-ordering intervention that is simple and scalable and not overly complicated or artificial. If simple pre-ordering system is shown to be effective – even if it's not 100% perfect – it is likely to make a much more compelling point.

DO DIFFERENT TV SHOWS INFLUENCE HOW YOU EAT?

Eating while watching TV isn't highly recommended because it's believed to cause you to eat poorly. If this is indeed true, it could either be because something like TV is distracting or because the pacing and stimulation of it speeds up our eating. For instance, exciting shows with lots of cut scenes or noise might cause us to eat more because it's really stimulating, or it might cause us to eat less than a boring news show because we are more engrossed and distracted.

If a dieter or food-loving person absolutely believes they must, must, must eat while they watch TV, they might like to know which types of TV shows don't lead to regretful overeating.

The Original Findings¹

This research was originally published in 2014 as a two-page research letter in JAMA Internal Medicine. It was based on a lab study conducted with undergraduates in Ithaca, NY. Here's a summary of the findings:

Ninety-four undergraduates were shown one of three types of programming: 1) An action movie (The Island), 2) a talk show (Charlie Rose), or 3) the same action movie with the sound turned off. People watching the action movie ate more calories than watching the talk show or the action movie with no volume. This difference was particularly dramatic with males.

The paper was retracted because JAMA asked Cornell to provide an independent evaluation of this and five other articles to determine whether the results are valid. In their retraction notice, JAMA wrote, “[Cornell’s] response states: ‘We regret that, because we do not have access to the original data [original coding sheets or surveys], we cannot assure you that the results of the studies are valid.’ Therefore, the 6 articles reporting the results of these studies that were published in JAMA Pediatrics, JAMA, and JAMA Internal Medicine, are hereby retracted”² (Appendix B).

Other Ways to Answer this Question

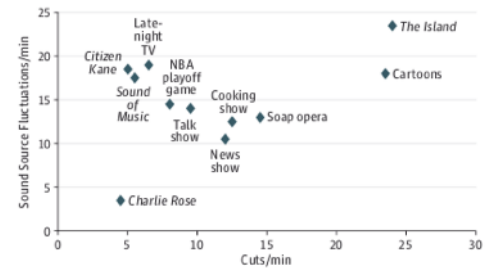
- 1. Hypotheses and Extensions:** There are lots of directions to explore how far this could be generalized and what types of foods are most susceptible to being overeaten. As an initial exploration of this, we did this study with small groups of people rather individually, and this raises a number of key extensions. These people had a number of snacks sitting in front of them, and there's a wide range of ways this could be varied. First, the size and gender composition of the groups could be varied, but it's not clear what would happen:

¹ Tal, A; Zuckerman, S; Wansink, B (November 2014). “Watch what you eat: action-related television content increases food intake”. JAMA Internal Medicine. 174 (11): 1842-3. doi:10.1001/jamainternmed.2014.4098. PMID 25179157.

² <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2703492>

- Larger groups may lead people to eat less because they are self-conscious, or they might lead people to eat more if they feel anonymous.
- A mixed gender group might lead women to eat less because they don't want to be seen as piggish, but it might lead guys to overeat to show they are insatiably macho.
- The study can also be conducted within subjects where people watch their own programming, and the programming can then be coded and categorizing based on scene cuts and volume fluctuations. The figure shows how this varies across a wide range of programming:

Figure 1. Sample Camera Cuts and Sound Fluctuations in Different Television (TV) Programs



Second, a researcher could examine how the distance of the food influences how much is eaten. Although the general belief would be that food within arm's length will be eaten more frequently, we noticed in pilot studies that the farther a person had to reach for food, the more of it they took each time they served themselves. Also, food placed in front of where they are sitting might also be eaten more or less often than that on the side since it is more obvious to others that you are taking it.

Furthermore, a useful twist has to do the types of snacks offered. If watching certain types of TV programming leads people to not pay much attention to what or how much they eat, this might be a great way to encourage people to mindlessly eat the boring healthy foods they don't typically eat – like raw vegetables and fruit. This could be easily tested.

2. **New Methodology Ideas:** Many of the extensions noted above have different implications for who you recruit, and how you set the viewing environment up. To seem most natural, we arranged the furniture in a manner that was typical for fraternity and sorority TV rooms. This adds realism, but noise. Another way to set them up is to give everyone their own chair.



A segment from the movie, the Island, was compared to an interview on the Charlie Rose show

Conclusion

Distracting dining is becoming the norm for many people. Preaching snacking abstinence probably won't work. Instead figuring out how to minimize the damage would be useful. An even better idea is to see if this can be used to turn around snacking in a way that encourages more people to eat healthier snacks instead. If people don't pay any attention to what they eat as they watch TV, see if anybody notices when you switch a bowl of baby carrots for their bowl of Cheetos.

DO HIGH MENU PRICES MAKE YOU REGRETFULLY OVEREAT?

Do you eat to get your money's worth? A gazillion-dollar restaurant industry would love to know how its menu pricing might change what you think of its food and how much you eat. This would also be very useful knowledge for savvy dieters who want to make sure they enjoy their food the most without overeating to the point of regret.

Yet take buffets, for instance. A high-priced buffet might cause you to overeat in order to “get your money's worth.” But it might also make you believe the food is higher quality “because it's more expensive.” In such a case, you could overeat, but not regret doing so. Especially when compared to eating the same amount of the same food at a lower-priced buffet.

The Original Findings¹

This article was based on a multi-week lunchtime field study during the Fall of 2007 at Aiello's Italian Restaurant (in Whitney Point, New York). Here's the abstract of what was found:

Abstract

Background: In this study we shed light on an unknown area of research: whether the price paid for a meal influenced consumers' perceptions of fullness, and feelings of guilt and regret about how much they ate. This has implications for consumers, restaurants and public health.

Methods: A field experiment was conducted in which diners at an AYCE restaurant were either charged \$4 or \$8 for an Italian lunch buffet. Following lunch, participants rated dimensions such as physical discomfort, the degree they felt they overate, and guilt.

Results: 139 total individuals who came to the restaurant alone ($n = 8$), in groups of two ($n = 52$) and in groups of three or four ($n = 43$) and five and over ($n = 30$) are participated to the study. Out of participants who ate at least one piece of pizza and were included to our analysis ($n = 95$), 49 of them were male and 46 of them were female, the mean age was 44.11, the mean height was 67.58 in., and the mean weight was 181.61 lb. The results were analyzed using a 2x3 between groups ANOVA. Diners who paid \$4 for their buffet rated themselves as physically more uncomfortable and had eaten more than they should have compared to the diners who paid \$8 for the buffet ($p < 0.05$). However, diners who paid \$4 for their buffet gave higher ratings to overeating, feelings of guilt and physical discomfort than the diners who paid \$8 for the buffet, even if they ate the exact same number of pieces.

Conclusion: Paying less for an AYCE experience has a number of surprising consequences; lower paying diners feel themselves as more physically uncomfortable and guiltier compared to the higher paying diners, even when they ate the same amount.

Keywords: All-you-can-eat buffets, Pricing, Overeating, Physical discomfort, Regret, Field experiment

The paper was retracted by this journal because “concerns have been raised after publication with respect to the analysis of the data reported. The authors have been offered the opportunity to submit a new manuscript for peer review. The authors do not agree with this retraction.”²

Other Ways to Answer this Question

1. **Hypotheses and Extensions:** The rationale is this: A high-priced buffet might cause you to overeat but also enjoy it more if you suggestively believed the food to taste better. In such a case, you could overeat, but still regret it less than if you believed the food to be less expensive and less subjectively tasty.

¹ Sigirci, Özge; Wansink, Brian (19 November 2015). “Low prices and high regret: how pricing influences regret at all-you-can-eat buffets”. *BMC Nutrition*. 1 (1). doi:10.1186/s40795-015-0030-x.

² van der Zee T, Anaya J, Brown NJL. Statistical heartburn: an attempt to digest four pizza publications from the Cornell food and brand lab. *BMC Nutrition*. 2017;3:54.

One of many unanswered questions would be whether this will work with all people in the same way. You might think dieters would be less influenced, or that this has no influence on show-off men eating with women. Similarly, it should have more of an impact on younger people than on older people.

What's important to nail down is the process of why this happens. Although the outcome measures (intake and regret) are measured, those linkages are within the black box (measures of “getting my money’s worth” and “taste”).

- 2. New Methodology Ideas:** Conducting this study at an all-you-can-eat buffet far away from a college campus gives it some real-world appeal. The fewer other foods the restaurant serves, the easier it will be to track how much is eaten. Although a plate waste method could be used (like the Quarter Plate Method), we found that with pizza people either eat it all or they leave only the crust. If any other method of plate waste measurement is too intrusive or impractical, simply noting how many crusts they leave would be worth piloting for practicality and accuracy.

When deciding how to give the discount, there are two different ways to do so. It can be given as a promotion 50% off (\$4.00 instead of \$8.00), which might be less like to evoke the taste inferences than if they think the real everyday price is always \$4.00. It will also be important to tinker and test the pricing. This study was run in 2007, so \$8 is unlikely to evoke the “high quality” inference it did back then.

- 3. Publishing and Outreach Suggestions:** As noted in the intro, the answer to this question has immediate implications for both buffet restaurants and for dieters. We published this in a health journal, but a more detailed or multi-study version could go to a great economics journal. The notion of these non-optimal consumption consequences has tremendous implications in behavioral economics.



Aiello's Restuarnt



The Restaurateurs:
Charlie and Vinnie Aiello

Conclusion

One little indicator of a worthwhile research question is whether its answer will resonate with multiple groups of different people. Really nailing down this research question of whether pricing influences eating, and regret are interesting to behavioral economists and buffet owners, as much as it is with us buffet lovers.

DOES TRAUMATIC VIOLENCE CHANGE JUDGEMENT AND CHOICE?

How do traumatic experiences — such as combat, living in a war-torn nation, or experiencing a violent crime or natural disaster — change how a person makes decisions? If counselors or therapists better understood the answer to this, they might be more effective in dealing with people suffering from post-traumatic stress. To begin exploring how trauma might influence routine decisions, risk-aversion, and the need for variety or stimulation, a nonthreatening way to do so is to ask about shopping behavior.

The Original Findings

This research was conducted using an omnibus survey of WWII veterans that was collected in 2000. It compared the shopping habits of combat veterans with non-combat veterans. Here's what it found:

Traumatic experiences — such as combat, living in a conflict country or war-torn nation, or experiencing a violent crime or natural disaster — change social relationships and may also influence a life-time of consumer relationships with brands and shopping. Our focus on this previously overlooked area is centered on an analysis of the long-term shopping habits of 355 combat veterans. We show that those who experienced heavy trauma (e.g., heavy combat) exhibited similar disconnection from brands as others have experienced in social relationships. They became more transactional in that they were more open to switching brands, to trying new products, and buying the least expensive alternative ($P < 0.01$). In contrast, those who had experienced a light trauma were more influenced by ads and more open to buying brands even when they cost more ($P < 0.00$). Trauma, such as combat, may change one's decision horizon. Functionality and price become more important, which is consistent with the idea that they are more focused on the present moment than on building on the past or saving for the future.

The paper was retracted because “Following publication, concerns were brought to the attention of the publisher regarding the validity of the article's findings. Adhering to our complaint's procedure, Frontiers engaged an expert to assess the raw data for the study. The conclusion from this assessment, supported by the Specialty and Field Chief Editor, is that there is no empirical support for the conclusions of the article.”²

Other Ways to Answer this Question

- 1. Hypotheses and Extensions:** There are different types of trauma, and it's not clear that all influence people similarly. A useful first step would be to develop a more thorough taxonomy of trauma, that would not just focus on the type (war vs. personal violence vs. etc.) but on the length, the centrality to one's identity, the locus of control, and so on.

¹ Siğirci, Ozge; Rockmore, Marc; Wansink, Brian (6 September 2016). "How Traumatic Violence Permanently Changes Shopping Behavior". *Frontiers in Psychology*. 7: 1298. doi:10.3389/fpsyg.2016.01298. PMC 5012201. PMID 27656152.

² <https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-017-0195-6>

There's a lot of important interpersonal questions related to traumatic events (i.e., trust, forgiveness, projection, and others), and this area of decision making, and judgment is so fertile that it will have implications for all sorts of general issues, as well as for some of interpersonal issues. For instance, a traumatic incident might have notable influences on whether one wants an exciting, stimulating life of variety ("Eat drink and be merry for tomorrow we may die") or a protected and insulated life. It might influence whether we have strong loyalties ("My band of brothers") or no loyalties ("Every man for himself and God for us all").

Although it is difficult to hypothesize the direction of these questions, what is important at this stage is to articulate different ways trauma might bias a person's big — and little — decisions and judgments. The little judgments are important because they can belie bigger biases that have gone undetected because of the way the questions are asked or how an apprehensive respondent might answer them.

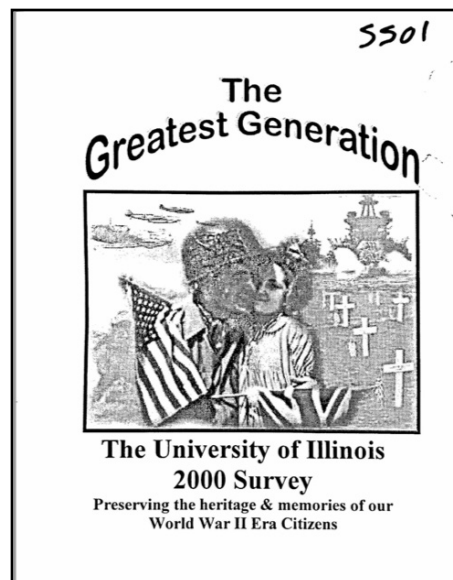
- 2. New Methodology Ideas:** There are tons of potential biases with asking people about retrospective memories. Asking about these biases directly could either retrigger bad memories or the apprehensive answers mentioned above.

One way to look for these biases is to do so in an innocuous way or in an unrelated context. Looking for them in the context of how they shop is an innocuous way in a seemingly unrelated context. The key would be to ask them questions the showed how their behavior might have changed. One way is to ask agreement questions ("Are you more brand loyal than you were xx years ago?" (1 = strongly disagree; 9 = strongly agree). These answers can be compared with a demographically similar sample who did not suffer the same type of traumatic experiences.

Also, the questions need to be asked at different levels of abstraction — some specific and some more abstract. This is because we are not well calibrated to know which questions are too blunt and which are too overly sensitive or prone to error.

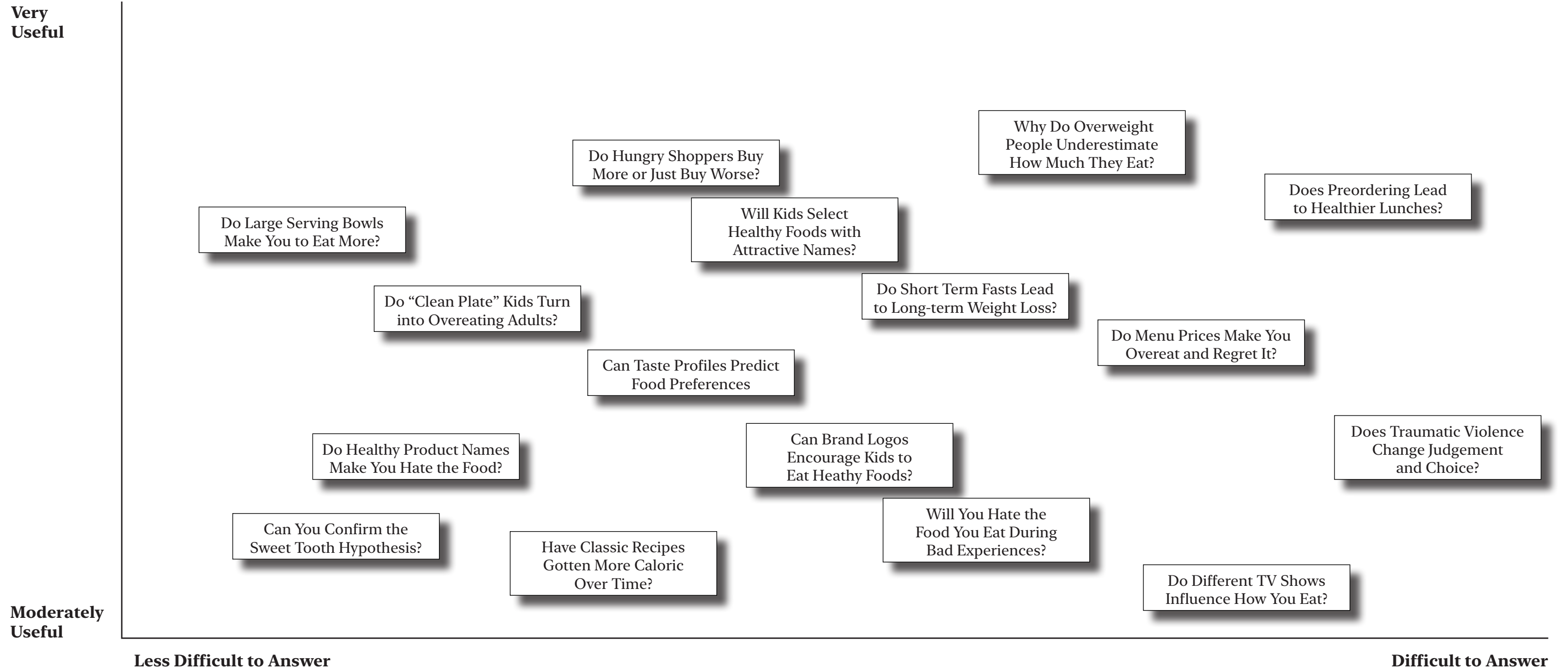
Conclusion

While this might appear that it has implications for economics or consumer behavior, it is really a topic for psychology or sociology journal. It could have the most opportunity for impact in a health psychology journal or a counseling-related journal.



This study used archived data from WWII combat veterans, and it used combat intensity as a surrogate for traumatic violence.

Appendix A.
What are Some Useful Eating Behavior Questions that can be Easily Answered?



Appendix B.

Cornell's Investigation into Possible Errors in Six JAMA Papers



Cornell University
Office of the Vice Provost
for Research

222 Day Hall
Ithaca, New York 14853-2801
t. 607.255.7200
f. 607.255.9030
www.research.cornell.edu/VPR

July 30, 2018

Howard Bauchner, MD
Editor in Chief
JAMA and JAMA Network
330 N. Wabash Ave., Suite 39300
Chicago, IL 60611-5885

Dear Dr. Bauchner,

Since receiving your April 13 letter to Dean Wooten, we have examined the six articles for which you have issued a Notice of Expression of Concern. The articles, all coauthored by Brian Wansink, PhD, John S. Dyson Professor of Marketing, and Director of the Cornell University Food and Brand Lab, are

1. Wansink B, Cheney MM. Super Bowls: Serving Bowl Size and Food Consumption. *JAMA*. 2005 ;293(14): 1723-1728. doi: 10.1001/jama. 293.14.1727
2. Wansink B, Tal A, Shimizu M. First Foods Most: After 18-Hour Fast, People Drawn to Starches First and Vegetables Last. *Arch Intern Med*. 2012;172(12):961-963. doi:10.1001/archinternmed.2012.1278
3. Tal A, Wansink B. Fattening Fasting: Hungry Grocery Shoppers Buy More Calories, Not More Food. *JAMA Intern Med*. 2013;173(12):1146-1148. doi:10.1001/jamainternmed.2013.650
4. Tal A, Zuckerman S, Wansink B. Watch What You Eat: Action-Related Television Content Increases Food Intake. *JAMA Intern Med*. 2014;174(11):1842-1843. doi: 10.1001/jamainternmed.2014.4098
5. Wansink B, Payne C, Werle C. Consequences of Belonging to the "Clean Plate Club". *Arch Pediatr Adolesc Med*. 2008;162(10):994-995. doi: 10.1001/archpedi.162.10.994
6. Hanks AS, Just DR, Wansink B. Preordering School Lunch Encourages Better Food Choices by Children. *JAMA Pediatr*. 2013;167(7):673-674. doi: 10.1001/jamapediatrics.2013.82

As part of our examination, the Office of the Vice Provost for Research directed Professor Wansink to provide a significant amount of records and other information that would help us

evaluate the integrity and processes followed to produce the articles in question. We were especially interested in research records and work papers that would illuminate the experimental design and the specific hypotheses intended to be tested and the original raw data collected for the studies reported in the articles. Professor Wansink provided some of the data and information requested. However, Professor Wansink has confirmed that in all cases, the original data no longer exist, and the study methodology was as described in the papers, with no further documentation available.

Attached, please find the summary table of information that Professor Wansink has provided related to each of the papers. Also note that not even electronic data is available for paper number 5, the "Clean Plate Club".

In your April 13 letter, you stated "These articles will be retracted on August 1, 2018, unless we receive assurances from Cornell University that the results of these studies are valid." We regret that, because we do not have access to the original data, we cannot assure you that the results of the studies are valid. We will be happy to share the electronic files which we have received in lieu of raw data, but as noted, these files lack any means of assuring fidelity to the raw data.

Our review of the papers in question raises any number of issues that we would generally have anticipated to be addressed in the journal's original peer review processes. In case you would like to conduct additional peer review prior to making the journal's final decision on retraction, we offer the following general observations from our review of these papers.

1. The authors describe clearly the specific statistical tests they apply and which data points, if any, are ignored in the text of the papers in question. This information was available to the original peer reviewers in the same way it is available to us.
2. Strongly stated conclusions are drawn from finding significant p values without addressing the large variances also found in the data or the very important technical point that small p values support rejection of a specific null hypothesis only when the experiment is designed narrowly to test that hypothesis. In other words, a question of "p hacking" could arise in the mind of any reader with reasonable knowledge of statistical methods.
3. Alternative hypotheses, or design features that might rule out alternatives, are generally missing while broad conclusions are drawn. For example, in one paper (paper number 4 "Watch what you eat"), the authors caution readers that alternatives "should be examined as contributing causes in future research." However, they none-the-less state "When counseling patients physicians should stress the dangers of overeating while watching TV." Whether such clinical advice was warranted based on the data presented is certainly open to question, but this was evident on the face of the paper at the time it was accepted for publication.
4. The work described in the papers seems appropriate to categorize as preliminary exploratory investigations. Taking them as such reduces the importance of comment 3. However, our review suggests that the authors draw more strongly worded conclusions

than seems warranted by the data and analysis presented. This can, perhaps inadvertently, cause readers to base actions on the results that might be better reserved until more detailed confirmation has been achieved. Again, such an observation or concern would have been possible at the time the papers were originally evaluated for publication.

We hope these comments are useful to you and we would be happy to provide all the materials submitted by Professor Wansink should you decide that additional peer review is warranted at this time rather than relying on our findings that raw data is not available.

Yours sincerely,

A large black rectangular redaction box covering the signature of the sender.

Special Projects Associate,
Office of the Vice Provost for Research

Cc: Professor Emmanuel Giannelis, Vice Provost for Research, Professor Charles Van Loan, Dean of Faculty, Professor Brian Wansink, John S. Dyson Professor of Marketing

Table of Information Received Concerning the Questioned Papers				
Paper	Requested Information			
	Raw data sets, electronic data and documentation of analysis	Statistical software or other program output files	Study Methodology	Additional work papers
Paper 1) Wansink & Cheney, JAMA. 2005;	Electronic copies of data and script files showing the R statistical analysis.	Output files showing the results of statistical calculation performed in R	Authors' statement: Procedure and methodology as described in article.	Work paper in the form of a response to a statistical reviewer
Paper 2) Wansink, Tal & Shimizu, Arch Intern Med. 2012;	Excel file containing data. SAS script file showing calculations done.	SAS output as a word document.	Authors' statement: Procedure and methodology as described in article.	None.
paper 3) Tal & Wansink, JAMA Intern Med. 2013;	Excel files containing data. SAS files containing data and calculations.	HTML files showing SAS calculation output.	Authors' statement: Procedure and methodology as described in article.	None.
Paper 4) Tal Zuckerman & Wansink< JAMA Intern Med. 2014	Excel file containing data and brief annotations explaining the variable names. SAS script file showing calculations done.	SAS output as an htm file.	Authors' statement: Procedure and methodology as described in article.	None.
Paper 5) Wansink, Payne &, Werle, Arch Pediatr Adolesc Med. 2008;	Electronic data not available.	None	Authors' statement: Procedure and methodology as described in article.	None
Paper 6) Hanks, Just & Wansink, JAMA Pediatr. 2013;	Electronic copies of data and STATA analysis script	None	Authors' statement: Procedure and methodology as described in article.	None