

Change Their Choice! Changing Behavior Using the CAN Approach and Activism Research

Brian Wansink
Cornell University

ABSTRACT

Most of our research on eating behavior has no impact on health or public policy. Part is due to the nontranslational way we often conduct our studies; part is due to us not having a useful framework that organizes our conclusions. This paper's first purpose is to offer an organizing framework that shows how nearly all effective interventions on food choice either make healthy choices more convenient (physically or cognitively), more attractive (comparatively or absolutely), or more normal (perceived or actual). This paper's second purpose is to introduce the notion of activism research—an approach to designing and executing studies in a way that makes consumer psychology research more actionable, useful, effective, and scalable. Together these two tools could help expand both the relevance and reach, and impact of what we do. © 2015 Wiley Periodicals, Inc.

After a research presentation at a prestigious public health school in 2001, the researcher who hosted the visit asked why I don't publish my research results. When I said "I always try, and eventually it gets published," she replied, "Well, I've never heard of any of these findings, seen them used, or found them listed in PubMed."

As consumer psychologists, many of us have been generating, testing, and publishing an increasing number of useful insights in the area of food choice and eating consumption. Unfortunately, few of these insights make their way into effective public health interventions or treatments (Wansink & Chandon, 2014). Most of these findings are unknown by the researchers, practitioners, and policymakers in public health because of at least three reasons (in addition to our journals not being indexed in PubMed). The first two are because of our research approach, and the third is because of how we ineffectively communicate these insights.

First, because of our training in consumer psychology, we often focus on internal validity over external validity (Vermeir & Van Kenhove, 2005). That is, we conduct multiple lab studies while public health researchers conduct longitudinal randomized controlled trials (Xie, Bagozzi, & Østli, 2013). Second, we focus on theory building and mediation while public health focuses on behavioral outcomes (Nocella, Boecker, Hubbard, & Scarpa, 2012). That is, we analyze interactions and conduct mediation analyses while public health analyzes objective biomarkers or actual consumption behaviors—such as food intake or changes in body mass

index (BMI). We often focus on food choice but do not measure actual food consumption and are therefore either overlooked or dismissed by public health because we did not show any verifiable link to a health behavior (Wansink & Johnson, 2014).

The third barrier to impact is that we do not clearly and cohesively communicate our contributions. To date, consumer psychology has not been able to provide public health with a systematic way of using the wide array of insights we have discovered. To someone outside the field, many of our findings appear to be disjoint or unconnected (Hantula, 2003). This is partially because of the wide range of dependent variables we focus on. For instance, in studying the impact of how a food's name might influence a consumer, there are dozens of outcome variables a researcher could study: memory, calorie estimate, choice, affect, behavioral intention to buy, and so on (Hansen & Thomsen, 2013). Similarly, our findings can also appear disjoint or unconnected when they use a wide range of seemingly vague or unwieldy constructs (such as need for cognition or eating restraint) that cannot be clearly identified or easily manipulated by public health practitioners. Although individual difference variables such as need for cognition or eating restraint are meaningful for psychologists, they are often unusable—in that form—by public health practitioners.

This paper focuses on reducing these barriers to influencing public health. First, it provides a basic framework that can help us systematize our findings so that they are more useful for both public health researchers and practitioners. This framework shows

that the most effective interventions related to changing food choice involved making healthy choices more convenient (physically or cognitively), more attractive (comparatively or absolutely), and more normal (perceived or actual). Consider the acronym *CAN*: convenient, attractive, and normal.

The second purpose of this paper is to describe a research approach that can be used for making consumer psychology and health psychology research more actionable, useful, effective, and scalable. For researchers who are actively interested in having more of an impact on public health, it offers a research framework that can help one transition toward research activism. While there are caveats, it offers direction for confident steps toward this transition.

After discussing the *CAN* approach for changing eating behavior, this paper defines research activism and provides illustrations on how current food and eating behavior research projects can be adjusted to be more impactful in public policy and public health. Last, this paper outlines potentially high impact research topics and approaches that can help lead our field's evolution to the area of eating behavior and health.

THE CAN APPROACH FOR CHANGING FOOD CHOICE

Education and cognition is overrated when it comes to changing eating behavior. There is a very unreliable link between knowledge and behavior, and relying only on education, knowledge, cognition, or willpower to change eating behavior is discouragingly unsuccessful. It leaves many public health programs to show small (if any) effects at often large costs (Xie, Bagozzi, & Østli, 2013). With 95% of all diets failing within six months, it is very difficult to become slim by willpower (Wansink, 2014). Fortunately, there is an alternative.

Most people have a choice of what and how much they eat. Even if given only a bowl of gruel from the *Oliver Twist* cookbook, they have the choice of not eating it or eating it all and asking for more. The key to changing eating behavior is not in convincing a person that an apple is better for them than a cookie or trying to evoke their imperfect willpower. Instead, one solution is simply to make sure that the apple is the most convenient, attractive, and normal food to choose in the first place.

Even though a typical person believes he makes about 20–30 food-related decisions each day, he makes closer to 200 (Wansink & Sobal, 2007). We are not fully aware of about 90% of these decisions because they do not involve reason and deliberation. They involve quick, instinctive actions. This gives us a great opportunity to set up eating environments so that a person's quick, instinctive choice is biased toward the healthier foods—so they are biased toward choosing an apple rather than the cookie (Moorman et al., 2012).

In 2009, the New York State Department of Health asked us, “How much would the government need to subsidize whole fruit in school lunchrooms so that children would select 5% more?” A quick visit to five schools would have shown that these fruits were being sold in metal chafing dishes, in a dim corner of the serving line, under a sneeze shield. The fruit's 50¢ price was not the problem and it would not be the solution: (1) Children did not know the price of the fruit, and (2) its purchase price would simply be deducted from the debit account that had been prepaid by their parents or the USDA. Instead, the fruit is needed to be put in nice bowls and placed in a well-lit part of the line. When this was done, fruit sales increased to an average of 103% for the entire semester (Just & Wansink, 2009).

Putting the fruit in an attractive bowl in a well-lit part of the line accomplished three goals. First, it made the fruit more *convenient* to select. Second, it made the fruit appear more *attractive*. Third, it made it appear more *normal*, typical, or reasonable to take fruit—partly because it was now convenient and it looked more attractive. It was the *CAN* approach to changing behavior (Wansink, 2013, 2014).

In dozens of different eating behavior studies at homes, grocery stores, restaurants, and schools, this *CAN* approach has been found to guide parents, shoppers, restaurant goers, and students to select the healthier foods that are offered without having to necessarily change the foods themselves. The approach tries to make healthy foods appear more convenient, attractive, and normal to choose, and has been found to be much more effective than banning or eliminating favorite foods or from artificially restricting what someone can order (Hanks, Just, & Wansink, 2013, 2013). Doing this creatively and effectively can alter a person's food choice, his taste evaluations (Wansink, Just, Payne, & Klinger, 2012), and can eventually lead to habitually healthier choices. (Although these downstream ripples of one's food choices are critical to changing habits and health, this review focuses only on how we can change the initial choice of consumers.)

Using the *CAN* approach to eating behavior change is a broad, action-based way to show that most existing food choice studies can be categorized by whether they are effective at making the healthy alternative more convenient, more attractive, or more normal to choose. It can also be used as a way to troubleshoot an unhealthy eating environment determining what additional interventions or changes could be hypothesized, investigated, and implemented. Next, I consider how widely these three categories of change can be conceptualized.

More Convenient to Select

As Figure 1 illustrates, healthy foods need to be made the easiest and most convenient choice—convenient to see, order, pick up, and consume. Consider what happens in schools that have adopted a behavior change

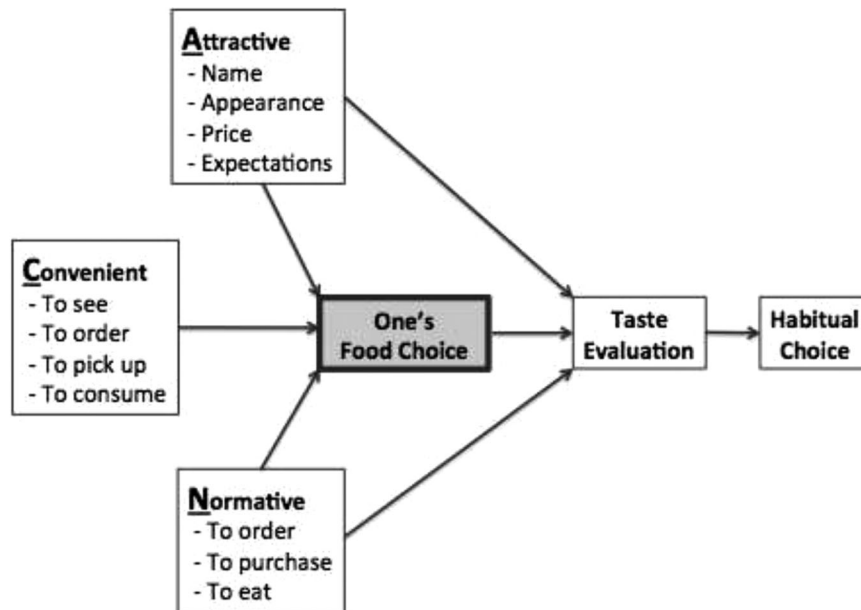


Figure 1. The CAN approach to changing one's food choice.

program called the Smarter Lunchroom Movement (Hanks, Just, & Wansink, 2013). In one study, when one of the food lines in a school cafeteria was redesigned to be a more convenient line that only offered prepackaged healthy entrées and foods (such as salads), sales of these healthy foods increased 77% within two weeks (Hanks, Just, Smith, & Wansink, 2012).

Convenience can relate to the way food is offered—such as whether it is convenient to see, select, and consume (Desai & Talukdar, 2003). If one were to ask children why they do not eat more apples or pears, 5- to 11-year-old children say that it is too big for their mouths or it gets stuck in their braces, and adolescent girls say that they do not eat a fruit because it is messy and looks unbecoming or unladylike (Wansink, Just, Hanks, & Smith, 2013). The solution to both problems was to provide these school children with precut fruit. When we put fruit sectionizers in school lunchrooms, children ate 70% more fruit.

Consider why 100 calorie packages have been so effective at reducing how much of a food most (particularly overweight people) people consume in one sitting (Wansink, Payne, & Shimizu, 2011). One posited reason has to do with the inconvenience of opening a second or third bag (Hoegg & Alba, 2007), and the convenience of being able to pause and ask “Am I really that hungry?” Making healthy food the more convenient choice, leads to greater consumption (Laroche et al., 2015; Wilcox et al., 2009). Making unhealthy food the less-convenient choice, leads people to consider—more mindfully—how hungry they are and whether it is worth the extra effort to continue eating (Painter et al., 2002). Yet since one goal of such research is to have it used, it is important to realize that no food manufacturer or grocer can be expected to make changes that would decrease their sales. A grocer would, however, make changes

that would increase the sales of more profitable foods, including fruits and vegetables that are perishable and costly to throw away (Wansink, 2014).

Convenience can take the form of saving physical effort, but it can also take the form of saving cognitive effort. One often-cited technique to change behavior is to change defaults. For instance, if a person is automatically given bottled water with their combo meal unless they explicitly ask for a soft drink, water consumption would dramatically increase at the expense of soft drinks. Not only does this make water be perceived as a more normal choice, it also makes it the cognitively convenient choice to make. Technology—in the form of smart menu boards, personal menu profiles, or simply more stylized information—could greatly alter or guide consumers to new choices by not only making healthier choices more cognitively convenient to make but also making them more convenient to visualize, consider, and ultimately choose (Lowe, Souza-Monteiro, & Fraser, 2013).

More Attractive to Select

The second principle of the CAN approach is that the healthy choice needs to be made more attractive relative to what else is available. It could be more attractively named, more attractive in appearance, more attractively priced, or it could evoke more attractive taste expectations (Vega Zamora, Ruiz, Armenteros, & Rosa, 2014; Irmak et al., 2011; Provencher et al., 2008; Shiv & Nowlis, 2004; Stroebele & DeCastro, 2004). The fruit that is served in a steel chafer pan or stored in the bottom drawer of a refrigerator is not as attractive as the fruit in a colorful bowl. Even simply giving food a descriptive name makes it more attractive and

increases a person's taste expectations and enjoyment of food (Wansink et al., 2012). For instance, Dinosaur Trees are more exciting for a child and taste better than when it is called Broccoli, and a Big Bad Bean Burrito tastes better and is more exciting than when it is called a Vegetarian Burrito. Even putting an Elmo sticker on apples led to 46% more daycare children taking and eating an apple instead of a cookie (Wansink, Just, & Payne, 2012).

Making a food more attractive by altering its price relative to other options is a popular but overused tool of behavioral economists, and it takes the form of taxes, subsidies, rebates, combo deals, cents-off, coupons, and so on (Nies & Natter, 2012). Still, if it is more creatively employed, it has the potential for either decreasing the consumption cost of the target product (such as reducing the price or convenience of selecting fruit) or increasing the consumption cost of less healthy products (such as the price or convenience of selecting a cookie). Making a healthy food more attractive by adjusting its consumption cost has creatively been done by rewarding diners with a discount on a healthy meal or penalizing them with a price premium on a less healthy one.

Attractive and descriptive names not only raise the salience or awareness of the food (Cardello, 1996), but also raise one's taste expectations (Tuorila, Meiselman, Cardello, & Leshner, 1998; Wansink & Park, 2002; Lee, Frederick, & Ariely 2006). The resulting confirmatory sensory bias has led people to "taste what they expect." Attractive packaging, descriptive names, color, labels, and appearance have been shown to favorably bias taste evaluations (Tuorila, Meiselman, Bell, Cardello, & Johnson, 1994; Van Ittersum & Wansink 2012).

As Figure 1 illustrates, making a healthy food more attractive can involve making it or its surroundings more visually attractive (Spence & Gallace, 2011). Putting fruit in a nicer bowl leads children to take more, and putting garnish near a sandwich makes people rate the sandwich tasting better even though the garnish is not eaten (Hanks et al., 2012).

There are a number of postconsumption food evaluation measures—such as satisfaction, quality, and value—that could be influenced by attractively plated and presented food. Perhaps the measure that is most relevant for restaurants, new product developers, and food marketers is one's "willingness to pay" (Garber, Hyatt, & Starr, 2003). It is important to understand how small changes to the peripheral cues around food can raise its value and lead consumers to be willing to pay more (Marchiori et al., 2012). One study that presented diners with brownies on paper plates, normal plates, and fine china plates, showed that the nicer plates increased taste ratings of the food and doubled the price people were willing to pay for it (Wansink, 2006, 2014).

Recently, there have also been new explorations into the less conscious ways that packaging can influence shoppers—and accompanying children—and how such techniques might be used for better marketing of healthier foods. A recent study examined whether the

depictions of cereal spokes-characters on sugared cereal boxes made overt eye contact with children (vs. adults), and whether such eye contact increased selection of the cereal. The results showed the average shelf height of adult cereals versus children cereals (48 vs. 23 in.) and the inflection angle of spokes-characters' gaze changed (0.4° vs. -9.6°) with 51 of 58 children's characters looking downward. A second study showed that eye contact with cereal spokes-characters increased feelings of trust, connection, and choice (Musicus, Tal, & Wansink, 2014). Although the eyes of a spokesperson might also be used for more effectively selling healthier food, specific care should be taken when such foods are focused toward younger children (Roberts & Pettigrew, 2013).

More Normal to Select

Last, many consumers often prefer what is popular—they prefer what they think is normal to order, purchase, prepare (Olsen & Mai 2013), serve, and eat (see Table 1). For instance, when 50% of the milk cartons in a cooler are white (vs. chocolate), middle schoolers are nearly three times as likely to take a white milk than when only 10% is white. When there is a higher percentage of white milk, it appears more normal to take. The same applies at home. When healthier food is placed on the front or middle shelf of a cupboard or refrigerator, it is more frequently taken and is rated as more normal to take (Chandon & Wansink, 2002).

Industry can effectively suggest norms. Although government's approach in suggesting norms has often been top-down and prescriptive, industry's approach of simply changing package sizes (the 100 calorie pack) or packaging (resealable bottles) led to new consumption norms and reduced intake, while profitably increasing the price per ounce of these products (Wansink & Huckabee, 2005). Influencing normative behavior is the easiest, quickest, and most productive way to change consumer behavior.

Three Segments of Consumer Predisposition to Change

When it comes to changing a healthy behavior—such as eating better—people can be viewed as belonging to one of three dynamic segments: vigilant, predisposed, or disinterested/resigned. Consider a nutritional pyramid of behavior change. As Figure 2 indicates, the top segment would be the nutritionally vigilant people. The people in this segment are highly informed, aware of calories, carefully monitor their weight or what they eat, and are influenced by nutrition information (Wansink, 2005). At the other segment, we have the nutritionally disinterested/resigned people. This segment has no interest in changing their eating choices or behavior because they do not think it is important or they believe it is not worth the effort or sacrifice. The segment in the middle is the nutritionally predisposed people. This segment wants to change its eating

Table 1. Sample Findings Using the CAN Framework of Behavior Change.

Convenient	Attractive	Normal
<ul style="list-style-type: none"> • <i>Convenient to see:</i> A fruit display near cash register increased sales 35%, even when product was not discounted (Van Kleef, Otten, & van Trijp, 2012) • <i>Convenient to order:</i> Healthy “Grab and Go” lines in cafeterias led to a 82% increase in healthy food sales (Hanks et al., 2012) • <i>Convenient to pick up:</i> Conference goers fill 68% of their plate with the first three foods they encounter on the breakfast buffet (Wansink & Hanks, 2013) • <i>Convenient to consume:</i> Large sip size increases increase food intake by 12% (Bolhuis et al., 2013) 	<ul style="list-style-type: none"> • <i>Attractively named:</i> Giving a descriptive names to vegetable increased sales among elementary schoolers by dishes increased 18% (Wansink et al., 2012) • <i>Attractive appearance:</i> Placing nonedible garnish on a vegetable side dish increased sales and taste evaluation • <i>Attractively priced:</i> Proportional pricing decreased market share for only the largest packaging (Vermeer et al., 2010) • <i>Attractive expectations:</i> Altering the height of a package, increased choice and perceptions of a product’s healthfulness (Chandon & Ordabayeva, 2009) 	<ul style="list-style-type: none"> • <i>Normal to order:</i> Placing a sticker of vegetable on a tray increased the number of school children selecting vegetables by 61% (Mann & Redden, 2011) • <i>Normal to purchase:</i> Visually diving a shopping cart in half and suggesting that half should be used for fruits and vegetables, increased their sales by 27% (Wansink et al., 2012) • <i>Normal to serve:</i> Changing a container size decreased snack intake independent of portion size (Marchiori, Corneille, & Klein, 2012) • <i>Normal to eat:</i> 44% of the variation in the amount a woman serves in a buffet line is determined by what the woman ahead of her served herself

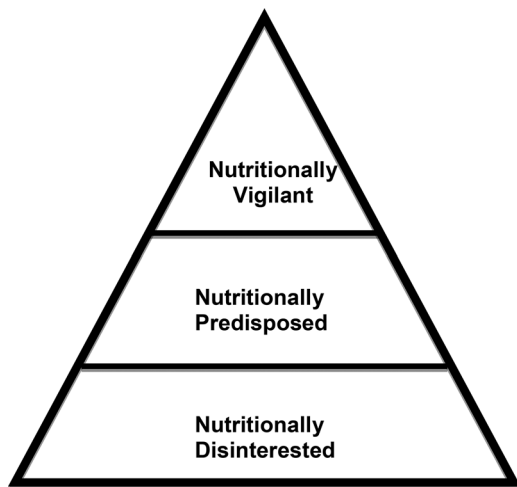


Figure 2. Three segments of consumer predisposition to change.

behavior and make healthier food choices, but only if it is easy and does not involve much sacrifice. This group could be very large on New Year’s Day, but much smaller one month later.

One reason why nutrition education programs are generally ineffective is that they resonate most strongly with people who are nutritionally vigilant (Wansink & Pope, 2014). The nutritionally disinterested people do not pay attention to the programs, and the nutritionally predisposed do not have enough reliable willpower to implement it regularly (Hauser, Nussbeck, & Jonas, 2013). One reason why changing consumption norms is so effective is that such an intervention influences all

three segments of the pyramid. For instance, the introduction of the 100 calorie package similarly decreased food intake among all segments because it suggested a new norm and made it slightly less convenient to overeat (Wansink, Payne, & Shimizu, 2013). Such passive changes influence all segments making it easier to become slim by design rather than having to rely on becoming slim by willpower.

There is a wide opportunity for research on consumption norms to discover new ways for making it easier for a consumer to eat less. Take the notion of mimicry. It is widely accepted that how much a person eats is influenced by one’s friends (Hermans et al., 2012), which strongly prevails among women (Hermans et al., 2008, 2010; Mori, Chaiken, & Pliner, 1987; Romero et al., 2009) and younger people. Not only do diners imitate the behavior of others like them (McFerran, Dahl, Fitzsimons, & Morales, 2010), but they are also influenced strongly by simply the size or weight of an eating companion. A study by Shimizu, Johnson, and Wansink (2014) showed that when a professional actress wore an artificial “fat suit” that added 75 lbs to her appearance, the people following her in buffet line served and ate 32% more pasta regardless of their weight and how much food the actress had taken.

A second consumption cue that is often used for determining what size of a product to buy or how much to serve are cues such as package size, plate size, serving bowl size, and serving bowl size (Sobal & Wansink, 2007). Consumption norms—particularly those resulting from implicit visual cues coming from physical dimensions (Table 2)—hold tremendous promise for researchers for three reasons: (1) They can influence all three segments of the nutrition pyramid (Figure 2), (2)

Table 2. Physical Dimensions of Consumption Norms.

Physical Dimensions of Consumption Norms	Illustrations of Norms and Approximate Magnitude of Increase
Package, serving, or dinnerware size	<ul style="list-style-type: none"> • Doubling package size increases consumption by 22% • Doubling serving size increased daily intake by 26% and is sustained over 11 days (Rolls, Roe, & Meengs, 2006, 2007) • Doubling dinnerware size increased food consumption with both bowls (37%) and serving spoons (14%) (Wansink, van Ittersum, & Painter, 2006)
Visual salience	<ul style="list-style-type: none"> • Candies in clear dishes are consumed 37% more frequently than those in opaque dishes (Wansink, Painter, & North, 2005)
Cognitive convenience	<ul style="list-style-type: none"> • Bundles and “buy-one-get-one-free” promotional packs reduce perceived cost, which increases consumption (Chandon & Wansink, 2002)
Attractiveness	<ul style="list-style-type: none"> • Improving taste imagery facilitates the acceptance of downsizing (Cornil & Chandon, 2013)
Labeling	<ul style="list-style-type: none"> • Adding a smaller or larger size shifts selection and consumption (Sharpe, Staelin, & Huber, 2008) • Renaming regular size items as double size decreases how much people consume by 29% (Just & Wansink, 2013)
Sequence of exposure	<ul style="list-style-type: none"> • Altering the order of food in buffet lines leads people to fill 64% of their plate with the first three items on the buffet (Wansink & Hanks, 2013)

they can be found in an endless number of forms, and (3) their perceptual nature makes consumers more vulnerable than are believed to be. From an intervention standpoint, downsizing the size of a cafeteria tray or making an item more visible on a restaurant menu can change consumption in an automatic way that does not necessitate willpower or an expensive public health education campaign.

It would be of initial value to fully define the dimensions of implicit consumption norms. This would provide a way to determine which features of these norms have the greatest impact on consumption volume. Knowing this would be useful in directing research toward the most relevant, scalable interventions.

Moving from Can't to CAN

Most consumer psychology insights related to food are relevant to one or more of the five zones in our food radius where people either purchase or consume food: their home, their weekly grocery store, the two or three restaurants where they eat most frequently, where they work, and where their children go to school. For the typical person, 80% of what they buy or eat occurs in these five zones within five miles of where they live (Wansink, 2014). Knowing this can provide a framework of not only how research insights can be organized for action, but also who the most relevant dissemination partner should be (Table 3).

Public health could be improved more by our research if we could clearly show how our interventions change behavior, and the CAN approach provides one framework that ties together many compelling findings in an easy-to-use conceptual manner. This is the first way we can begin to influence public health and public policy. The second way consumer psychology can have this influence is by changing how we plan our research

from the outset (Kozup et al., 2003). Thinking like an activist who wants to change the world is the first step in conducting research that transforms behavior.

ACTIVISM RESEARCH: DESIGNING RESEARCH STUDIES TO TRANSFORM BEHAVIOR

Consumer psychology researchers can be internally motivated for many reasons: curiosity, the thrill of discovery, ego-gratification, career flexibility, and so on. Many researchers might also think that their research is making a difference outside academia—a difference such as “changing the conversation” or having an impact on consumer welfare, company innovation and profitability, or on public policy.

Unfortunately, the training and mentoring most of us receive as doctoral students gave us little direction about how to make this happen. We may hope that our research will eventually have an indirect influence on others (Shimp, 1994), such as slowly being disseminated through consulting, teaching, and textbooks (see Figure 3). In this manner, we can comfort ourselves that our findings—if relevant—will eventually influence the lives of others without us actively having to purposefully design them for impact or to actively seek dissemination partners.

Such a model is appealing because it gives us two reassurances many of us want to believe: (1) our research findings will eventually have an impact that we cannot now precisely imagine, and (2) we do not have to do extra work for this to happen. In 1994, our consumer psychology community believed this was enough—we believed our discoveries would be published in journal articles and then be written about in books that would be used for teaching students who would eventually take our ideas and use them as managers (Shimp,

Table 3. The CAN Approach to Changing Behavior in One’s Food Radius.

	(1) Make it More Convenient	(2) Make it More Attractive	(3) Make it More Normal
A mother who wants to eat better at home . . .	Puts precut vegetables on the middle shelf of the fridge and the bread out of sight	Buys more tempting salad dressings with cool names and less-tempting bread	Sets salad bowls on the dinner table every day, even if they aren’t being used, and gets rid of the butter dish
A restaurant owner who wants to sell more high-margin shrimp salads . . .	Makes it easy to find on the menu by putting it on the first page and in a bold font	Gives it a catchy name or one that appeals to the senses—“Savory Shrimp Salad Bonanza”	Describes it as a “Special” or a “Manager’s Favorite”
A grocery store manager who wants to sell more fish at full price . . .	Places fish in a center cooler at the end of the vegetable section	Offers easy, appealing fish recipe ideas on notecards next to the fish that people can take with them	Put floor decals near it or have a green dashed line pointing toward the fish
An office manager who wants her workers to leave their desk and eat in the new healthy cafeteria . . .	Adds a \$5 “Grab & Go” line filled with healthier foods, and maybe an honor system cash box	Has a more attractive cafeteria, break room, or brown bag series	Posts notices and news on bulletin boards in the cafeteria, break room, or fitness room, and not in the work area
A school lunch manager who wants to get more kids to take and eat fruit . . .	Puts it within easy reach in two different parts of the line—beginning and end	Puts it in a colorful bowl and/or gives it a colorful sign	Puts it in front of the cash register with a sign saying, “Take an extra one for a snack”

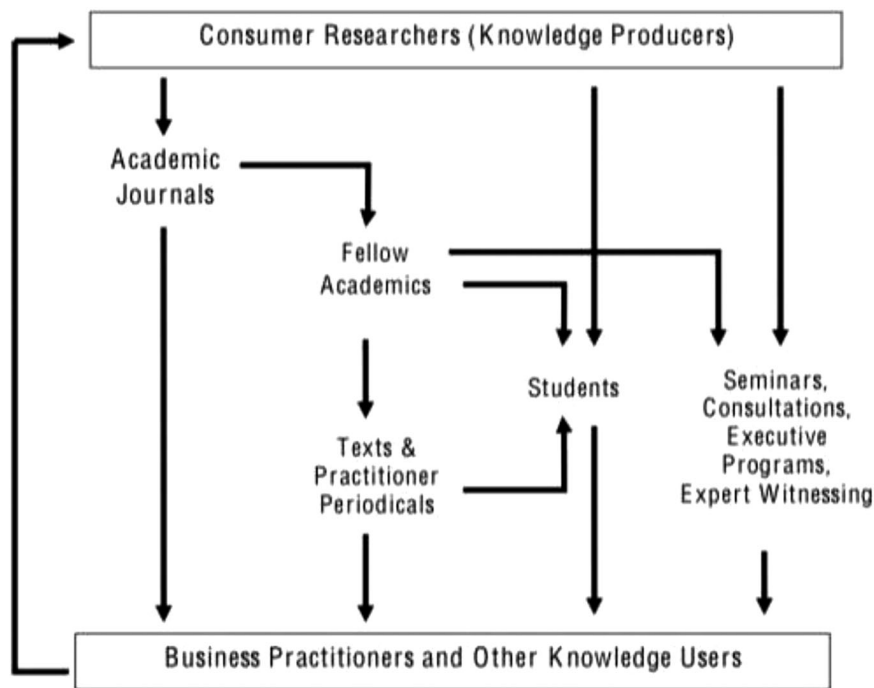


Figure 3. A 1994 view of how academic research passively trickles down to users.

1994). In 1994, that was a start, but some people in the field today believe that we can have a bigger and more immediate impact (Keller, 2008; Mick, 2006). Activism research argues for a more direct, assertive path to translation and impact.

As a caveat, activism research has risks. It takes time and energy that could otherwise be dedicated to

producing more findings, insights, and journal articles. It takes a reputational risk in that some might believe that such a strong focus on implementation could lead to oversimplifying our recommendations. For instance, if we do not know the boundary conditions or moderating influences of an intervention, it could be misapplied and lead to unintended consequences. These caveats

need to be considered *before* determining whether a particular project is at a maturity level that merits being translated into research activism.

There are two aspects to translational research. The first is in engineering our research so it has the best potential to be translated into practice. The second is in enlisting outreach partners who can ensure it gets translated and put to use.

Research Activism

Activism research involves a research project that the authors believe will ultimately be the change behavior of their target group *before* they even begin the project—even before knowing the results. It is research that is started with the intention that the final product will change the behavior of a target population. Research activism focuses on actionable, solution-oriented variables that either initiate, clarify, or balance a critical debate. It is then aggressively disseminated with the dominant purpose of influencing behavior.

To be clear, there are four components of activism research: (1) It investigates actionable solutions, (2) it initiates, clarifies, or balances a debate, (3) it focuses on changing behavior, and (4) it is aggressively disseminated. Figure 4 illustrates different examples of these components, and they are explained in more detail below.

Activism Research Investigates Actionable Solutions. Many Ph.D. programs in the social sciences train scholars to think in terms of broad generalizable constructs (such as self-efficacy, the need for cognition, or product involvement) and distinctions (individualistic vs. collectivistic, or prevention vs. promotion focus). The blessing of this training is also its curse (Chernev, 2011). Because the constructs and theories we often strive to develop are general, they are often *too* general to be well-suited to activism research. Good activism research is conceptually rigorous, but it operationalizes constructs in actionable, targetable, solution-oriented ways (Gardner et al., 2014; Garg et al., 2007).

Activism Research Initiates, Clarifies, or Balances a Debate. Most debates or disagreements about eating behavior often have assumptions or overlooked issues that can be introduced, proven, clarified, or made more vivid through research (Tarkiainen & Sundqvist, 2009). In other cases, activism research can slow down a bandwagon effect (Phillips & Hallman, 2013). For instance, Young and Nestle's (2002) empirical work documented the dramatic rise in portion sizes and helped slow down the "personal responsibility" bandwagon of obesity by showing that the industry trend of "supersizing" portions companies made it increasingly easy for consumers to overeat.

Activism Research Focuses on Changing Behavior. Activism research begins with the end in mind. It focuses on how the research will eventually be used

for changing behavior. This research can be done to try and change general industry practices that lead to the repeal of a burdensome food law, or to increase participation in the National School Lunch Program. The targeted behavior may eventually lead to a repealed tax on fatty foods (as in Denmark), or it could show how endowment theory can be translated into simple rules of thumb that parents can use to encourage their children to finish their vegetables.

Activism Research Is Aggressively Disseminated.

Different research has different gatekeepers and different channels. If we aggressively disseminate our research, we will have to move outside our comfort zone of presenting at academic conferences and publishing in academic journals. It might mean presenting at companies and industry conventions, starting a blog or Web site, initiating a direct-mail campaign to legislators, or visiting door to door with congressional staffers. These efforts can be either top-down or bottom-up. When the research suggesting a tax on sugared beverages failed to get traction on the national level, the researchers began campaigning state governments to develop a state-level proof-of-concept.

Activism research starts with the end in mind—changing behavior. When the project begins, the researcher may not know exactly *what* behavior to change or in what way it should change, but the research still starts with a purpose other than simply being academically interesting.

Designing Research to Be Translated

Activism research begins with the purpose of identifying a relevant problem for a specific group of people. It ends with disseminating a solution or implementing an intervention that changes behavior. If changing behavior is an end goal, it is important to visualize how this might happen (Murray, Ozanne, & Shapiro, 1994). There are five questions that can be useful in accomplishing this research (Wansink, 2011): (1) Who should use this? (2) What change could they make? (3) What is a one-sentence take-away they need to know? (4) What possible solution (independent variables) is realistic to manipulate and would be useful and scalable in the field? and (5) What would make this compelling?

To make this more clear, consider the following example (Parmar, 2007). Suppose researchers have a working hypothesis that people pour more liquid into short, wide glasses than tall, narrow glasses of the same volume (Wansink & van Ittersum, 2003). Before conducting that research, the researchers might answer these abbreviated questions in the following way:

- *Who should use this?* Managers for restaurant chains, like TGI Fridays, Olive Garden, and Chili's.
- *What change could they make?* Replace short, wide bar glasses with tall, narrow ones to reduce alcohol pouring and over consumption.

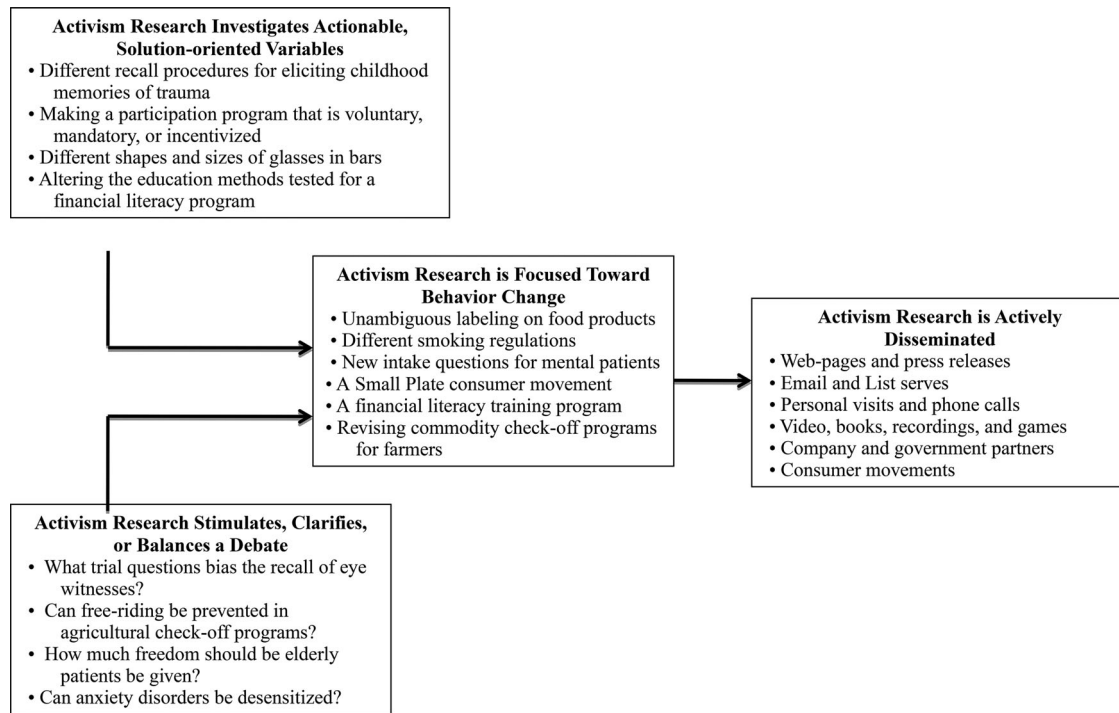


Figure 4. A framework for activism research.

Table 4. Alternative Approaches to Titling and Positioning Articles for Activism.

Academic Positioning	Descriptive Positioning	Activism Positioning
The effects of lighting and noise on choice behavior	Bright lights and loud music in restaurants lead to overeating	Fast food restaurant lighting and music can reduce calorie intake and increase satisfaction
How priming influences the choices of children	Priming healthy food choices only temporarily influences a child's choice	What would batman eat? Priming children to make healthier fast food choices
Food marketing antecedents to obesity	How food marketing contributes to obesity	Does food marketing need to make us fat? A review and solutions
Sequencing of choice options influence selection	Presentation order of food can increase intake of unhealthy foods	Slim by design: How the presentation order of buffet food biases selection

- *What is a one-sentence take-away they need to know?* We will save 30% in alcohol costs by pouring into highball glasses instead of tumblers.
- *What independent variables are realistic?* Using the same brand and sizes of wide and narrow glasses that are most commonly used by the large casual dining chains.
- *What would make this compelling?* Having real bartenders in real bars in a real city (Philadelphia) pour the four popular alcoholic drinks into two of the most popular glass sizes.

Mapping out possible answers to these questions—even though the results of the study are not yet known—will direct the research design to be most potentially impactful (Atalay & Meloy, 2011). The answers can suggest a new context where it would be effective, a different population for which it is most needed, or overlooked solution (such as rules of thumb to prevent or moderate it from happening). Furthermore, be-

ing able to answer these questions also changes the way we think about conducting the research, and it can change the way we title the paper and disseminate it.

Mapping out these possible answers can also help in how we decide to position the paper at the 11th hour (Smarandescu, Walker, & Wansink, 2014). As Table 4 illustrates, many researchers have the tendency to think of their research—and the way they title it—in very general and vague terms—sometimes focusing on the theoretical construct rather than on the solution it provides or on the unique or compelling context in which it was conducted (Aydnoglu & Krishna, 2011; Carels, Konrad, & Harper, 2007; Chandon & Wansink, 2006, 2007). But instead of making our ideas widely used, this titling strategy can result in a title that is so banal that it instead makes the research widely ignored. As Table 4 illustrates, a second alternative tendency is to think of our research—and title it—in a descriptive manner, generally one that focuses on the problem our research has uncovered. But that results

less in activism research than it does pessimism research. Such a problem focus generally gains less attention than a solution focus would.

A third approach would be to challenge ourselves to think of what problem our research *does* solve. Our papers—and our titles—then become prescriptive. They become a call for action. What follows are suggestions for thinking, conducting research, and writing with an activism mindset.

The five bullet points above offer suggestions on how to think about potential activism research *before* we begin it, and Table 4 offers suggestions on how to title and position our research *after* it is completed. It would be useful, however, to have other rules of thumb that could guide us when conducting the research. Each of these suggestions offers twists on what many researchers currently do or feel natural doing. Still, even making a couple of these small changes could increase interest in a project, in one's findings, or in helping disseminate them into practice.

Keep Asking and Refining a Useful but Nonobvious Question. Research answers useful, nonobvious questions that are both valuable and interesting—they capture both attention and imagination. There are three common sources many researchers use for developing their research questions: (1) the literature, (2) their personal experiences, and (3) their immersion and engagement within a consumer context. It is very common to base our research question on the literature (Sheth & Sisodia, 2005) because we are trained to do this in our Ph.D. programs. We are trained to read the literature looking for gaps and potential mediators and moderators that might apply to well-cited findings. Because the basic question is usually related to an existing question that has already been partially addressed, this existing template gives us a head start on the literature, theory, and methods we will need to answer a new extension to the question.

Other researchers use their own personal experiences to generate their research questions (see Levy, 1996). In the context of food, this leads them to investigate questions such as those related to binge eating, food neophobia, dieting, willpower, or social facilitation. In some cases, answering the question is of personal relevance researcher (Cheema & Soman 2008; Finkelstein & Fishbach 2010; Higgs & Woodward, 2009). Although the resulting answers could also be relevant to others, it was not necessarily the intent when initially framing the question. Too often, the resulting answers have a degree of academic interest, but they can be too stylized to change behavior or to be disseminated to any particular stakeholder other than a journal.

A third approach to developing research questions involves getting one's hands dirty by engaging or immersing oneself within a consumer context (Whyte, 1991). Being immersed in this context enables us to learn from people *themselves*—to learn what problems

are most troubling in reality, not in theory. We learn this in soup kitchens, grocery stores, restaurants, bars, and school cafeterias, and not by rereading the literature. It is in these contexts and with this knowledge of actual problems that useful research questions can be appropriately framed, and eventually answered. In one case, observing daycare children during birthday parties suggested that extraverted children (but not introverted children) were much more likely to overeat candies, cake, and cereal when given larger serving plates and bowls (Van Ittersum & Wansink, 2013). In another case, investigating food waste in cafeterias indicated that when college cafeterias went trayless, they did not reduce food waste—they reduced beverage waste. Moreover, diners were also 68% less likely to take salad because they preferred to take an entrée and dessert (Wansink & Just, 2015), and could not carry all three. The resulting recommendation was not to eliminate trays, but only to reduce their size.

When a useful, nonobvious research question originates from being immersed in a vivid, everyday context, its solution will be more relevant and actionable than when it solely comes from a gap in the literature. Spending time with consumers also points toward solutions and interventions (independent variables) that are more practical and actionable to study and can also be more scalable and easily implemented.

There are additional benefits to getting one's hands dirty by immersing and engaging oneself in the field: First, your ultimate research question is more likely to address a real problem suggested by real experiences than an academic problem suggested by the literature. Second, the solutions (interventions or independent variables) being examined are most likely to be actionable and relevant. Third, the way in which the research is conducted—its procedure and where it is conducted—is more likely to be realistic. Fourth, the language used in communicating the research will be relevant and actionable.

Give an Accurate but Simple and Practical Answer. For some research to be actionable and relevant, it simply has to fit a formula. It should answer a question that solves an actual problem for the target audience with a clear, actionable solution (Ozanne & Saatcioglu, 2008).

While the real world cares about main effects and solutions, academics often focus overwhelmingly on interactions and mediation. Our focus on these subtleties—instead of first trying to straightforwardly solve the research question—might come at the expense of discovering and emphasizing the main effect solution that could make the translational difference. A third-order interaction is seldom as interesting in reality as we lead ourselves to believe when we are detail deep in our research. Yet that is what we often focus on in our theorizing and discussion, and it can overwhelm the actual contribution. It is not uncommon for researchers to

find the context in which a phenomenon does *not* work, and then to focus on that rather than on the contexts where it does work. Not starting with the right context can lead us down the road to irrelevance.

It is often said that academics miss seeing the forest because we focus on the trees. But worse than that, we often miss seeing the trees because we are staring at its bark. Becoming immersed in the context—the school lunchroom, food pantry, grocery store, home kitchen—not only helps move our focus to a more immediately relevant question, but it also provides a context for collecting compelling data.

Collect Cool Data

The “right data” are contextually rich data (Khare & Inman, 2009). These are compelling and difficult to dismiss as irrelevant. This is exactly the type of data that many researchers *do not* like to collect. Most highly productive social scientists are efficient at conducting undergraduate lab studies, Qualtrix studies, computer-lab studies, complex modeling exercises, or short-term trials involving begrudging sophomores who need the extra credit (Sears, 1986). When deciding to become academics, none of us did so because we wanted to spend our mornings negotiating with owners and managers of restaurants, soup kitchens, grocery stores, and cafeterias, nor did we do so because we wanted to spend our afternoons weighing plate waste or giving surveys to irritated customers. Yet this is how contextually rich or “cool data” can be collected. These are data from real people in real situations that are being observed, coded, measured, and dispassionately analyzed and reported. Lab studies can initially be used as pilot study tests of concept (see <https://www.youtube.com/watch?v=NKCS8c8OJpY>, retrieved 10/25/2014), and the field study can follow.

Contextually rich data are difficult to collect. It can be difficult to get Institutional Review Board approval to collect the data. It can be logistically complicated to initiate and staff the studies, debrief participants, and analyze data that are incomplete, stained with ketchup, or miscoded because of the chaos that surrounded their day-to-day collection. Yet contextually rich—or cool data—can capture imaginations. Cool results from cool data can suddenly make science relevant to unsuspecting groups of people, and they can almost always be published eventually.

Partner with External Partners

Although “Too many cooks spoil the broth,” it is also said, “Many hands make light work.” In academia, as in other industrialized western professions, individualism is often admired more than partnerships. Despite this bias, the right partner can be the engine that funds, facilitates, implements, or disseminates our ideas and findings.

No Programs without Partners. Much of academic life is solitary. We learn to collect our own data, do our own debriefings, run our own analyses, write our own papers, and suffer alone from its initial rejection. Seeking an external partner is a strange, seemingly unnecessary notion for most scholars. The value of such a partnership is simply not obvious.

Yet trying to disseminate research insights so they are widely translated is much easier with a partner. These partners can be a granting agency, the government, companies, or opinion-leading consumers (Geier, Wansink, & Rozin, 2012).

Let us consider four types of partners: (1) Funding partners who provide or help in underwriting a project or supporting a researcher who is testing a new idea, (2) facilitating partners who aid the research process by collecting data or providing data, (3) implementation partners who help in making the intervention work in its target population, and (4) dissemination partners who are information multipliers that make sure the research is used in a way that changes behavior (Dyer and Shimp, 1977).

Having to convince a potential partner to join you on a project has its benefits. It sharpens your focus and vision of the project, your anticipated end result, and how you see the benefits of the research itself. If we cannot find a partner who is equally passionate about our project, it may simply be because the project lacks the correct focus and precision. Yet it could also be because no one really cares about the problem we are trying to solve. In either case, it would be good to know where a project stands. The results could lead to a sharpened focus and value, or it could lead a us to move on to a more fruitful project.

User-Centered Research. User-centered design focuses on how an end user will actually use or interface with a product. User-centered research is the same. It is important to work with users at the problem formulation and research design states (Grunert et al., 2011; Hetherington et al., 2006; Higgs, 2008). This personal contact is even more important in the public policy area. Many successful activism researchers tailor their research study to the needs of the consumer or other decision makers. The perfect research study has little or no value unless the end user finds its fitness or relevance with his needs or to a problem he recognizes (cf. Wilkie & Gardner, 1974).

Partnerships can take many forms with many different stakeholders. As mentioned, some partnerships can be useful in defining the right question and collecting the right data. Another set of partnerships can be useful in helping disseminate these data. As an example, the USDA sponsored a study to examine how payment systems, such as using debit cards, influenced the types of foods high school students purchased. While the relevant researchers and policymakers at the USDA were partners in initiating and eventually disseminating the

research findings, five different sets of high school principals, food service directors, meal staff, and students were partners in determining the right question and collecting the right data.

CONCLUSION

In past years, there has been increasing attention given to translational research in the health sciences. Although there is enough that the social sciences could provide to changing health-related behavior, most studies are designed in ways that do not make their conclusions readily translatable. Activism research is an approach to help interested, externally focused social scientists design lab and field studies that provide actionable solutions that are easily translatable to changing health-related behavior. There are small differences that distinguish social science research useful (has translatable value) for health-related behavior from research that does not. There are often small up-front changes in the approach that make the difference.

One general and useful way to show others how our research influences behavior is how it fits in an understandable and more general framework of behavior change. One such framework is the CAN approach that was explained in the first part of this paper. That is, we can show how our seemingly disparate set of interventions make the healthy choice the one that is more convenient, attractive, or normal to make. It then gives public policy a full menu of options that can be used for pushing toward the same objective of encouraging healthy choices.

The nineteenth century has been called the Century of Hygiene. That is, in the nineteenth century more lives were saved or extended due to an improved understanding of hygiene and public health than any other single cause. The twentieth century was the Century of Medicine. Vaccines, antibiotics, transfusions, and chemotherapy helped in contributing to longer, healthier lives. In 1900, the life expectancy of an American was 49 years. In 2000, it was 77 years.

The twenty-first century will be the Century of Behavior Change. Medicine is still making fundamental discoveries that can extend lives, but changing every day, long-term behavior is the key to adding years and quality to our lives. This involves reducing risky behavior and making changes in exercise and nutrition. The more we exercise and the better we eat, the longer and more productively we will live. There is no prescription that can be written for such behavior. Eating better and exercising more are the decisions we should be motivated to make.

When it comes to contributing most to the life span and quality of life in the next couple of generations, behavioral scientists could be well suited to effectively help us transforming our behavior and the supporting behavior of restaurants, grocery stores, schools, and workplaces. Focusing on how much we eat would be a good place to start.

REFERENCES

- Atalay, A. S., & Meloy, M. G. (2011). Retail therapy: A strategic effort to improve mood. *Psychology & Marketing*, 28, 638–659.
- Aydinoğlu, N. Z., & Krishna, A. (2011). Guiltless gluttony: The asymmetric effect of size labels on size perceptions and consumption. *Journal of Consumer Research*, 37, 1095–1112.
- Bolhuis, D. P., Lakemond, C. M., de Wijk, R. A., Luning, P. A., & de Graaf, C. (2013). Consumption with large sip sizes increases food intake and leads to underestimation of the amount consumed. *PLoS One*, 8(1), e53288.
- Cardello, A. V. (1996). The role of the human senses in food acceptance. *Food Choice, Acceptance and Consumption* (pp. 1–82) Springer.
- Carels, R. A., Konrad, K., & Harper, J. (2007). Individual differences in food perceptions and calorie estimation: An examination of dieting status, weight, and gender. *Appetite*, 49, 450–458.
- Chandon, P., & Ordabayeva, N. (2009). Supersize in one dimension, downsize in three dimensions: Effects of spatial dimensionality on size perceptions and preferences. *Journal of Marketing Research*, 46(6), 739–753.
- Chandon, P., & Wansink, B. (2002). When are stockpiled products consumed faster? A convenience–salience framework of postpurchase consumption incidence and quantity. *Journal of Marketing Research*, 39, 321–335.
- Chandon, P., & Wansink, B. (2006). How biased household inventory estimates distort shopping and storage decisions. *Journal of Marketing*, 70, 118–135.
- Chandon, P., & Wansink, B. (2007). The biasing health halos of fast-food restaurant health claims: Lower calorie estimates and higher side-dish consumption intentions. *Journal of Consumer Research*, 34, 301–314.
- Cheema, A., & Soman, D. (2008). The effect of partitions on controlling consumption. *Journal of Marketing Research*, 45, 665–675.
- Chernev, A. (2011). The dieter's paradox. *Journal of Consumer Psychology*, 21, 178–183.
- Cornil, Y., & Chandon, P. (2013). From fan to fat? Vicarious losing increases unhealthy eating, but self-affirmation is an effective remedy. *Psychological Science*, doi:10.1177/0956797613481232.
- Desai, K. K., & Talukdar, D. (2003). Relationship between product groups' price perceptions, shopper's basket size, and grocery store's overall store price image. *Psychology & Marketing*, 20, 903–933.
- Dyer, R. F., & Shimp, T. A. (1977). Enhancing the role of marketing-research in public-policy decision-making. *Journal of Marketing*, 41, 63–67.
- Finkelstein, S. R., & Fishbach, A. (2010). When healthy food makes you hungry. *Journal of Consumer Research*, 37, 357–367.
- Garber Jr., L. L., Hyatt, E. M., & Starr Jr., R. G. (2003). Measuring consumer response to food products. *Food Quality and Preference*, 14(1), 3–15. doi:http://dx.doi.org/10.1016/S0950-3293(02)00030-7.
- Gardner, M. P., Wansink, B., Kim, J., & Park, S. (2014). Better moods for better eating? How mood influences food choice. *J. Consumer Psychol.*, 24, 320–335.
- Garg, N., Wansink, B., & Inman, J. J. (2007). The influence of incidental affect on consumers' food intake. *Journal of Marketing*, 71, 194–206.

- Geier, A., Wansink, B., & Rozin, P. (2012). Red potato chips: Segmentation cues can substantially decrease food intake. *Health Psychology, 31*(3), 398–401.
- Grunert, K. G., Bolton, L. E., & Raats, M. M. (2011). Processing and acting upon nutrition labeling on food: The state of knowledge and new directions for transformative consumer research. In D. G. Mick, S. Pettigrew, J. L. Ozanne, & C. Pechmann (Eds.), *Transformative consumer research for personal and collective well-being* (pp. 333–351). New York: Routledge.
- Hanks, A. S., Just, D. R., Smith, L. E., & Wansink, B. (2012). Healthy convenience: Nudging students toward healthier choices in the lunchroom. *Journal of Public Health, 34*, 370–376.
- Hanks, A. S., Just, D. R., & Wansink, B. (2013). Smarter lunchrooms can address new school lunchroom guidelines and childhood obesity. *Journal of Pediatrics, 162*(4), 867–869.
- Hanks, A. S., Just, D. R., & Wansink, B. (2013). Chocolate milk consequences: A pilot study evaluating the consequences of banning chocolate milk in school cafeterias. *PLoS One, 9*(4), e91022. doi:10.1371/journal.pone.0091022.
- Hansen, T., & Thomsen, T. U. (2013). I know what I know, but I will probably fail anyway: How learned helplessness moderates the knowledge calibration—Dietary choice quality relationship. *Psychology & Marketing, 30*, 1008–1028.
- Hantula, D. A. (2003). Guest editorial: Evolutionary psychology and consumption. *Psychology & Marketing, 20*, 757–763.
- Hauser, M., Nussbeck, F. W., & Jonas, K. (2013). The impact of food-related values on food purchase behavior and the mediating role of attitudes: A Swiss study. *Psychology & Marketing, 30*, 765–778.
- Hermans, R. C., Herman, C. P., Larsen, J. K., & Engels, R. C. (2010). Social modeling effects on snack intake among young men. The role of hunger. *Appetite, 54*(2), 378–383.
- Hermans, R. C., Larsen, J. K., Herman, C. P., & Engels, R. C. (2008). Modeling of palatable food intake in female young adults. Effects of perceived body size. *Appetite, 51*(3), 512–518.
- Hermans, R. C., Lichtwarck-Aschoff, A., Bevelander, K. E., Herman, C. P., Larsen, J. K., & Engels, R. C. (2012). Mimicry of food intake: The dynamic interplay between eating companions. *PloS One, 7*(2), e31027.
- Hetherington, M. M., Anderson, A. S., Norton, G. N. M., & Newson, L. (2006). Situational effects on meal intake: A comparison of eating alone and eating with others. *Physiology and Behavior, 88*, 498–505.
- Higgs, S. (2008). Cognitive influences on food intake: The effects of manipulating memory for recent eating. *Physiology and Behavior, 94*, 734–739.
- Higgs, S., & Woodward, M. (2009). Television watching during lunch increases afternoon snack intake of young women. *Appetite, 52*, 39–43.
- Hoegg, J., & Alba, J. W. (2007). Taste perception: More than meets the tongue. *Journal of Consumer Research, 33*, 490–498.
- Irmak, C., Vallen, B., & Robinson, S. R. (2011). The impact of product name on dieters' and nondieters' food evaluations and consumption. *Journal of Consumer Research, 38*, 390–405.
- Just, D. R., & Wansink, B. (2009). Better school meals on a budget: Using behavioral economics and food psychology to improve meal selection. *Choices, 24*, 1–6.
- Just, D. R., & Wansink, B. (2013). One man's tall is another man's small: How framing of portion size influences food choice. *Health Economics, 23*, 776–791. doi:10.1002/hec.2949.
- Keller, P. (2008). Presidential address. *Advances in Consumer Research, 32*, 1–7.
- Khare, A., & Inman, J. J. (2009). Daily, week-part, and holiday patterns in consumers' caloric intake. *Journal of Public Policy & Marketing, 28*, 234–252.
- Kozup, J. C., Creyer, E. H., & Burton, S. (2003). Making healthful food choices: The influence of health claims and nutrition information on consumers' evaluations of packaged food products and restaurant menu items. *Journal of Marketing, 67*, 19–34.
- Laroche, H. H., Ford, C., Hansen, K., Cai, X., Just, D. R., Hanks, A. S., & Wansink, B. (2015). Concession stand makeovers: A pilot study of offering healthy foods at high school concession stands. *Journal of Public Health (Oxford, England), 37*(1), 116–124. doi:10.1093/oxfordjournals.jph.a015111.
- Lee, L., Frederick, S., & Ariely, D. (2006). Try it, you'll like it: The influence of expectation, consumption, and revelation on preferences for beer. *Psychological Science, 17*, 1054–1058.
- Levy, S. J. (1996). Stalking the amphisbaena. *Journal of Consumer Research, 163*–176.
- Lowe, B., de Souza-Monteiro, D. M., & Fraser, I. (2013). Nutritional labelling information: Utilisation of new technologies. *Journal of Marketing Management, 29*(11–12), 1337–1366. doi:10.1080/0267257X.2013.798673.
- Marchiori, D., Corneille, O., & Klein, O. (2012). Container size influences snack food intake independently of portion size. *Appetite, 58*, 814–817.
- McFerran, B., Dahl, D. W., Fitzsimons, G. J., & Morales, A. C. (2010). I'll have what she's having: Effects of social influence and body type on the food choices of others. *Journal of Consumer Research, 36*, 915–929.
- Mick, D. G. (2006). Meaning and mattering through transformative consumer research. *Advances in Consumer Research, 33*(1), 1–4.
- Moorman, C., Ferraro, R., & Huber, J. (2012). Unintended nutrition consequences: Firm responses to the nutrition labeling and education act. *Marketing Science, 31*(5), 717–737.
- Mori, D., Chaiken, S., & Pliner, P. (1987). "Eating lightly" and the self-presentation of femininity. *Journal of Personality and Social Psychology, 53*(4), 693.
- Murray, J. B., Ozanne, J. L., & Shapiro, J. M. (1994). Revitalizing the critical imagination: Unleashing the crouched tiger. *Journal of Consumer Research, 21*, 559–565.
- Musicus, A., Tal, A., & Wansink, B. (2014). Eyes in the aisles: Why is Cap'n Crunch looking down at my child? *Environment and Behavior, 46*(1), 117–133. doi:10.1177/0013916514528793.
- Nies, S., & Natter, M. (2012). Does private label quality influence consumers' decision on where to shop? *Psychology & Marketing, 29*, 279–292.
- Nocella, G., Boecker, A., Hubbard, L., & Scarpa, R. (2012). Eliciting consumer preferences for certified animal-friendly foods: Can elements of the theory of planned behavior improve choice experiment analysis? *Psychology & Marketing, 29*, 850–868.
- Olsen, S. O., & Mai, H. T. X. (2013). Consumer participation: The case of home meal preparation. *Psychology & Marketing, 30*, 1–11.
- Ozanne, J. L., & Saatcioglu, B. (2008). Participatory action research. *Journal of Consumer Research, 35*, 423–439.

- Painter, J. E., Wansink, B., & Hieggelke, J. B. (2002). How visibility and convenience influence candy consumption. *Appetite*, 38(3), 237–238.
- Parmar, N. (2007). 10 things your bartender won't tell you. *Smart Money*, 31. www.smartmoney.com, retrieved 2/1/2008.
- Phillips, D. M., & Hallman, W. K. (2013). Consumer risk perceptions and marketing strategy: The case of genetically modified food. *Psychology & Marketing*, 30, 739–748.
- Provencher, V., Polivy, J., & Herman, C. P. (2008). Perceived healthiness of food. If it's healthy, you can eat more! *Appetite*, 52, 340–344.
- Roberts, M., & Pettigrew, S. (2013). Psychosocial influences on children's food consumption. *Psychology & Marketing*, 30, 103–120.
- Romero, N. D., Epstein, L. H., & Salvy, S. (2009). Peer modeling influences girls' snack intake. *Journal of the American Dietetic Association*, 109(1), 133–136.
- Sears, D. O. (1986). College sophomores in the laboratory: Influences of a narrow data base on psychology's view of human nature. *Journal of Personality and Social Psychology*, 51, 515–530.
- Sharpe, K. M., Staelin, R., & Huber, J. (2008). Using extremeness aversion to fight obesity: Policy implications of context dependent demand. *Journal of Consumer Research*, 35, 406–422.
- Sheth, J. N., & Sisodia, R. S. (2005). A dangerous divergence: Marketing and society. *Journal of Public Policy and Marketing*, 24, 160–162.
- Shimizu, M., Johnson, M., & Wansink, B. (2014). In good company: The effect of an eating companion's appearance on food intake. *Appetite*, 83, 263–268.
- Shimp, T. A. (1994). Academic Appalachia and the discipline of consumer research. *Advances in Consumer Research*, 21, 1–7.
- Shiv, B., & Nowlis, S. M. (2004). The effect of distractions while tasting a food sample: The interplay of informational and affective components in subsequent choice. *Journal of Consumer Research*, 31, 599–608.
- Smarandescu, L., Walker, D., & Wansink, B. (2014). Big drinkers: How BMI, gender and rules of thumb influence the free pouring of wine. *International Journal of Drug Policy*, 25(6), 1060–1065.
- Sobal, J., & Wansink, B. (2007). Kitchenscapes, tables, platescapes, and foodscapes: Influences of microscale built environments on food intake. *Environment and Behavior*, 39, 124–142.
- Spence, C., & Gallace, A. (2011). Multisensory design: Reaching out to touch the consumer. *Psychology & Marketing*, 28, 267–308.
- Stroebele, N., & De Castro, J. M. (2004). Effect of ambience on food intake and food choice. *Nutrition*, 20, 821–838.
- Tarkiainen, A., & Sundqvist, S. (2009). Product involvement in organic food consumption: Does ideology meet practice? *Psychology & Marketing*, 26, 844–863. doi:10.1002/mar.20302.
- Tuorila, H., Meiselman, H. L., Bell, R., Cardello, A. V., & Johnson, W. (1994). Role of sensory and cognitive information in the enhancement of certainty and liking for novel and familiar foods. *Appetite*, 23, 231–246.
- Tuorila, H. M., Meiselman, H. L., Cardello, A. V., & Leshner, L. L. (1998). Effect of expectations and the definition of product category on acceptance of unfamiliar foods. *Food Quality and Preference*, 13, 561–569.
- van Kleef, E., Otten, K., & van Trijp, H. C. (2012). Healthy snacks at the checkout counter: A lab and field study on the impact of shelf arrangement and assortment structure on consumer choices. *BMC Public Health*, 12, 1072–2458–12–1072. doi:10.1186/1471-2458-12-1072.
- Van Ittersum, K., & Wansink, B. (2012). Plate size and color suggestibility: The Delboeuf illusion's bias on serving and eating behavior. *Journal of Consumer Research*, 39, 215–228.
- Van Ittersum, K., & Wansink, B. (2013). Extraverted children are more biased by bowl sizes than introverts. *PLoS One*, 8, e78224.
- Vega Zamora, M., Ruiz, F. J. T., Armenteros, E. M. M., & Rosa, M. P. (2014). Organic as a heuristic cue: What Spanish consumers mean by organic foods. *Psychology & Marketing*, 31, 349–359.
- Vermeir, I., & Van Kenhove, P. (2005). The influence of need for closure and perceived time pressure on search effort for price and promotional information in a grocery shopping context. *Psychology & Marketing*, 22, 71–95.
- Vermeer, W. M., Steenhuis, I. H., & Seidell, J. C. (2010). Portion size: A qualitative study of consumers' attitudes toward point-of-purchase interventions aimed at portion size. *Health Education Research*, 25(1), 109–120. doi:10.1093/her/cyp051.
- Wansink, B. (2005). *Marketing nutrition*. Champaign: University of Illinois Press.
- Wansink, B. (2006). *Mindless eating—Why we eat more than we think*. New York: Bantam Dell.
- Wansink, B. (2011). Activism research: Designing research that intends to transform. In Mick, Pettigrew, Pechmann, and Ozanne (Eds.), *Transformative consumer research for personal and collective well-being* (pp. 67–88). New York: Taylor & Francis/Routledge.
- Wansink, B. (2013). Convenient, attractive, and normal: The CAN approach to making children slim by design. *Childhood Obesity*, 9, 277–278.
- Wansink, B. (2014). *Slim by design—Mindless eating solutions for everyday life*. New York: William-Morrow.
- Wansink, B., & Chandon, P. (2014). Slim by design: Redirecting the accidental drivers of mindless overeating. *Journal of Consumer Psychology*, 24, 446–451.
- Wansink, B., & Huckabee, M. (2005). De-marketing obesity. *California Management Review*, 47(4), 6–18.
- Wansink, B., & Park, S.-B. (2002). Sensory suggestiveness and labeling: Do soy labels bias taste? *Journal of Sensory Studies*, 17(5), 483–491.
- Wansink, B., Payne, C. R., & Shimizu, M. (2011). The 100-calorie semi-solution: Sub-packaging most reduces intake among the heaviest. *Obesity*, 19(5), 1098–1100.
- Wansink, B., & Hanks, A. S. (2013). Slim by design: Serving healthy foods first in buffet lines improves overall meal selection. *PLoS One*, 8:10, e77055.
- Wansink, B., & Johnson, K. A. (2014). The clean plate club: About 92% of self-served food is eaten. *International Journal of Obesity*, 39, 371–374.
- Wansink, B., & Just, D. R. (2015). Trayless cafeterias lead diners to take less salad and relatively more dessert. *Public Health Nutrition, FirstView*, 1–2. doi:10.1017/S1368980013003066.
- Wansink, B., & Pope, L. (2014). When do gain framed health messages work better than fear appeals? *Nutrition Reviews*, 73, 4–11.
- Wansink, B., & Sobal, J. (2007). Mindless eating: The 200 daily food decisions we overlook. *Environment & Behavior*, 39, 106–123.
- Wansink, B., & Van Ittersum, K. (2003). Bottoms up! The influence of elongation on pouring and consumption

- volume. *Journal of Consumer Research*, 30, 455–463.
- Wansink, B., Van Ittersum, K., & Painter, J. E. (2006). Ice cream illusions: Bowls, spoons, and self-served portion sizes. *American Journal of Preventive Medicine*, 31(3), 240–243.
- Wansink, B., Just, D. R., & Payne, C. R. (2012). Can branding improve school lunches? *Archives of Pediatric and Adolescent Medicine*, 166, 967–968.
- Wansink, B., Just, D. R., Payne, C. R., & Klinger, M. Z. (2012). Attractive names sustain increased vegetable intake in schools. *Preventive Medicine*, 55, 330–332.
- Wansink, B., Just, D. R., Hanks, A. S., & Smith, L. S. (2013). Pre-sliced fruit in schools increases selection and intake. *American Journal of Preventive Medicine*, 44, 477–480.
- Wansink, B., Painter, J. E., & North, J. (2005). Bottomless bowls: Why visual cues of portion size may influence intake. *Obesity Research*, 13(1), 93–100.
- Whyte, W. F. (1991). *Participatory action research* (Sage focus edition). Newbury Park, CA: Sage Publications.
- Wilcox, K., Vallen, B., Block, L., & Fitzsimons, G. J. (2009). Vicarious goal fulfillment: When the mere presence of a healthy option leads to an ironically indulgent decision. *Journal of Consumer Research*, 36, 380–393.
- Wilkie, W. L., & Gardner, D. M. (1974). The role of marketing research in public policy decision making. *The Journal of Marketing*, 38, 38–47.
- Xie, C., Bagozzi, R. P., & Østli, J. (2013). Cognitive, emotional, and sociocultural processes in consumption. *Psychology & Marketing*, 30, 12–25.
- Young, L., & Nestle, M. (2002). The contribution of expanding portion sizes to the US obesity epidemic. *American Journal of Public Health*, 92, 246–249.

Correspondence regarding this article should be sent to: Brian Wansink, John S. Dyson Professor of Marketing, Charles H. Dyson School of Applied Economics and Management, Cornell University, Ithaca, NY 14853-7801 (foodandbrandlab@cornell.edu).