

Improving Public Perception of Behavior Analysis

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Abstract The potential impact of behavior analysis is limited by the public’s dim awareness of the field. The mass media rarely cover behavior analysis, other than to echo inaccurate negative stereotypes about control and punishment. The media instead play up appealing but less-evidence-based approaches to problems, a key example being the touting of dubious diets over behavioral approaches to losing excess weight. These sorts of claims distort or skirt scientific evidence, undercutting the fidelity of behavior analysis to scientific rigor. Strategies for better connecting behavior analysis with the public might include reframing the field’s techniques and principles in friendlier, more resonant form; pushing direct outcome comparisons between behavior analysis and its rivals in simple terms; and playing up the “warm and fuzzy” side of behavior analysis.

Keywords Behavior analysis · Mass media · Public perception · Public health · Obesity · Organizational behavior management

We cannot say that the field of behavior analysis, both as an applied and theoretical science, has been embraced by the public. Outside of autism, behavior analysis is unfamiliar to most people, in spite of the field’s many active application domains. Those who know anything at all about the science are more likely to harbor vague, inaccurate, and negative associations with reflexive conditioning and oppressive forms of operant conditioning. Coverage in the mainstream media is rare, uneven, and typically poorly informed.

Most of the problems we face in society are related in one way or another to our behavior. In many cases, critical challenges in finance, education, health, crime, the environment, and a wide range of other domains can and ought to be seen almost purely as problems of behavior that are being pushed in the wrong direction by dysfunctional prompts and contingencies—that is, the stuff of behaviorism. But does

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this simple truth result in behaviorism being accorded respect and attention by the public, the mass media, and key influencers in society?

One way to get a sense of the answer is to consider obesity, which makes for a good case study for two reasons. First, obesity is a particularly acute and impactful problem. According to studies of obesity rates and the health impact of obesity, it is on track to rob Americans alive today of a collective 1 billion years of life (Greenberg 2013). Second, obesity is critically a challenge of behavior change. Weight loss is a well-studied field, and one in which there is general, widespread agreement among researchers, physicians, nutritionists, and other credentialed experts: To lose weight, people must moderate calorie intake and/or increase physical activity (Johns et al. 2014).

But, making these changes—and adhering to them on a sustained basis for years and decades—is a real challenge to most of the population. Decades of research clearly show that by far the best route to at least moderate success in maintaining these healthier habits long-term involves applying techniques of behavior analysis or techniques roughly similar to them. When the environment prompts people to behave in ways that moderate net calories, and helps them to feel rewarded for doing so, people tend to do better in controlling weight (The Look AHEAD Research Group 2014). Many behavior analysts have been actively involved in recent years in researching and applying effective interventions to that end, notably Matt Normand at the University of the Pacific (Hustyi et al. 2011) and Richard Fleming of the University of Massachusetts Boston (2012).

But to informally survey mass media coverage on obesity, you would not know that behaviorism has much of a role to play in weight loss—or even know that the field of behavior analysis exists. To illustrate this striking gap in what scientists have concluded and what the media communicate, let us consider the way weight loss has been covered by *The New York Times*, one of the most widely read and respected publications in the world. In recent years, the *Times* has run articles that focused on cold weather (Kolata 2012), lack of sleep (O'Connor 2013), excess carbohydrates (Taubes 2002), excess sugar (Taubes 2011), excess bacteria (Grady 2013), and a shortage of bacteria (Kennedy 2014) as key causes—and in some cases, the sole causes—of the obesity epidemic.

Several *Times* articles have attributed the obesity epidemic entirely to the increased availability of processed food over more “natural” food (Pollan 2007; Bittman 2014a). One major *Times* article insisted that sustained weight loss is virtually impossible (Parker-Pope 2012). The *Times* has run exactly *no* obesity-related articles in the past decade that focus entirely on what most experts in the field say we need to do: get people to change their behavior, so as to take in fewer calories and expend more of them.

The picture is much the same throughout all mass media, and it is not just behaviorism’s role in obesity that is slighted. Good luck in finding any non-autism-focused content anywhere in the established mass media that acknowledges behaviorism at all, let alone any that explicitly addresses behavior analysis. When behaviorism does come up, it is more often in a negative and grossly distorted light. For example, *The Philadelphia Inquirer*, a highly regarded daily newspaper that has won 19 Pulitzer Prizes, has had only this to say about “that famed rat researcher B.F. Skinner” and those who followed him in the field of behaviorism: “The behaviorists thought homosexuality was a mental illness that could be cured, usually by giving electric shocks and other painful stimuli to try to create an aversion to homosexual thoughts” (Flam 2011). It is left as an exercise to the reader to count the errors about Skinner and behaviorism

in those few absurd sentences (well, at least the writer acknowledged behaviorism's existence, and spelled Skinner's name correctly).

What is going on? Why do respected publications at best ignore, and at worst hideously distort and vilify, the field that in many cases has provably offered the most effective—in some cases the only effective—solutions to difficult problems? And why do they instead pump up dubious, poorly supported hypotheses in each of these problem domains that conflict with one another and with what most experts in each domain know to be true?

The answer should not be surprising; It is a straightforward matter of the contingencies that obtain for mass media. Writers and editors in the mass media generally are neither prompted to, nor rewarded for, reporting credible claims backed by a majority of experts. They are prompted to, and rewarded for, touting claims that their readers will find surprising, entertaining, compelling, satisfying, or provocative, that will provide simple and actionable solutions to their complex problems, or that fit well into their values and world view. Short of compelling, prominently highlighted evidence that a reporter has engaged in or communicated gross, intentional fabrication, there are no robust mechanisms in the mass media that link the reliability, or even the plausibility, of reported claims to how reporters and editors are compensated or to the status they are accorded.

A core competency of reporters and editors, then, is to determine which claims are likely to resonate with readers, and then to play up those claims, with little requirement for first determining how likely they are to be important, useful, or even true. If behaviorism is slighted in mass media coverage, it is likely due to a lack of that resonance among most readers. In what ways does behaviorism lack resonance? A solid answer to that question is beyond the scope of this paper, but it would be reasonable to speculate that most people are not particularly eager to believe that their behavior is “controlled” by the world around them. They prefer to believe, apparently, that behavior is not the essence of their problems, or that if it is, it can be controlled through direct adjustment to internal cognitive and emotional mechanisms, or that a problem behavior is mostly determined in a simple way by genes, or by some clearly identifiable, discrete, external agent.

The notion that there is a single, powerful external agent that renders our behavior dysfunctional, or that bypasses behavior altogether and directly causes some significant problem in our lives, appears to be an especially resonant one. We might speculate, based on the popularity of certain types of articles, that people are attracted to the notion that there is a clearly identifiable human “villain” to be blamed for their problem—a villain that can in principle be thwarted. These simplistic agents, and the villains who inflict them upon us, are readily apparent in most of *The New York Times* obesity stories. Thus, according to the *Times*, we have been made obese by food-company executives who purposely engineer their foods to be addictive and unhealthy, or by an agricultural industry that overuses antibiotics in livestock to boost profits, or by a conspiracy among inept and dishonest public health officials and scientists to focus our attention on excess dietary fat, when it really has been excess carbs causing all the trouble. No less than four writers on obesity for the *Times*, making these or similar claims, have scored *Times Magazine* feature articles, most of them cover stories—Michael Pollan (2007), Michael Moss (2013b), Mark Bittman (2014), and Gary Taubes (2007)—and best-selling books (Pollan 2006; Moss 2013a; Bittman 2014b; Taubes 2007).

It is not hard to imagine why these types of claims are appealing. If it is true that obesity is entirely caused by eating carbs, then we merely need to cut carbs out of our diet to recover, while enjoying all the high-fat food we want—no calorie-trimming or exercise required. If obesity is entirely caused by processed food, we simply need to switch to all the wholesome “real food” we can eat right off of local small farms, be it pork belly or fresh-baked bread slathered with butter and honey—again, no calorie-trimming or exercise required. *The Times* has little incentive to highlight a careful follow-up of the long-term outcomes of these strategies in the population.

By pulling the population away from an understanding of the need to moderate net calories through behavior change, these claims have almost certainly already done considerable damage, and may be at least in part responsible for the lack of progress the USA has made in overcoming the obesity epidemic. If nothing else, these conflicting claims create confusion that makes people less likely to adopt the healthy behaviors we know they need to (Nagler 2013). It is interesting to note, for example, that a lower-calorie, lower-fat french fry that was introduced and heavily promoted by Burger King in 2013 sold so poorly that the chain removed it in 2014, despite the fact that it was generally regarded as sensorially indistinguishable from the chain’s standard fries (Nusca 2014). The public’s apparent disdain for the product, and other lower-calorie substitutes for “junk food,” makes perfect sense within the view of obesity in which calories do not matter, dietary fat need not be restricted, and all processed food is obesogenic even when it is lower-calorie, lower-fat, and lower-sugar.

These claims severely limit the opportunity for the public to connect with behavior analytical approaches to weight loss—which, after all, tend to require a large number of tedious-sounding routines such as tracking calories, tracking weight, limiting portion sizes, avoiding exposure to high-calorie foods, attending support groups, entering exercise programs, and on and on (Obesity Action Coalition n.d., and Pagato and Appelhans 2013).

Further, it does not help that our field continues to suffer under the absurd, decades-old public tarring it got from Noam Chomsky and others who falsely painted the field as opening the door to the manipulation of the public’s mind by unsavory authorities, and the contradictory yet companion claim that the techniques of behavior analysis are effective only on animals other than humans. The lack of appreciation for and even awareness of the realized and potential benefits of behavior analysis has been noted by many in the field over the past decades (Geller 1989). Yet today much of the public still sees behaviorism as both evil and discredited. Other fields of science and practice, from evolutionary biologists to climatologists and virtually every flavor of psychologist, can fairly complain of being slighted by segments of the public (Gaudiano 2013). But, the confluence of behavior analysis’ lack of resonance and historical animosity, set against its enormous potential to help, has left the field facing a particularly large gap between reality and perception.

When considering this problem, behavior analysts and other experts who are well-versed in proven techniques for behavior change typically respond by suggesting that the public needs to hear more loudly and clearly that these behavioral approaches are solidly backed by scientific evidence, and that the other claims are not. But this suggestion implies two assumptions: That the public is eager to base its life decisions on scientific evidence, and that the public is capable of determining which claims are best-supported by scientific evidence.

Even assuming that the first assumption holds—and most of us would probably agree it is shaky—the second assumption is probably even weaker. Consider that all the dubious obesity theories advanced by *The New York Times* explicitly address the question of scientific evidence, enlisting one of three main approaches:

1. *“Cherry-picking” and focusing on a relatively few scientific studies that appear to support the claim, while ignoring a vast majority of studies that do not.* Thus the *Times* was able to claim that sustained weight loss has been scientifically proven as impossible because there exist weight-loss studies in which entire small numbers of participants failed to keep off the lost weight long-term—never mind what ill-advised approach these studies may have taken to losing the weight (Parker-Pope 2012).
2. *Acknowledging a body of contradicting evidence, but dismissing it as the product of inept or corrupt scientists.* Thus the claim that “carbs are the sole cause of obesity” is scientifically supported, as long as you are careful to eliminate that vast majority of scientists who apparently engage in “bad science” when studying the question. Likewise, the foes of genetically modified food are comfortable in dismissing virtually the entire field of food-safety science—which has produced overwhelming evidence of the safety of GM foods—because almost all scientists in the field have supposedly been bribed by funding from the food industry.
3. *Maintaining that the scientific method is incapable of effectively examining a claim.* Thus, despite overwhelming scientific evidence to the contrary, the claim that all processed foods are unhealthy, including low-calorie processed foods, ought not to be dismissed, because science cannot measure the ways in which food becomes unhealthy when it is mixed in industrial vats instead of on kitchen counters, and stored in warehouses for shipping instead of carted directly to farm stands (Pollan 2007).

In these and other ways, readers of mass-media claims for dubious theories are misled into believing that science backs these theories, or at least does not credibly contradict them. Citing studies and quoting scientists do little to change the picture. Any behavior analyst who has tried to reason with a parent set on chelation to treat a child with autism is likely familiar with this misplaced-trust phenomenon. Believers in the notion that carbs are the root of all obesity evil are no more easily disabused of their faith than chelation proponents, typically insisting that they are on the side of “real” science.

The essence of the problem for behavior analysis, then, is that in any domain, it must compete for mass-media attention, and ultimately public attention, with a sea of dubious claims that tend to be far more resonant. Behavior analysis cannot benefit in this competition by pointing to its greatest strength: a solid grounding in scientific evidence and data.

What can be done about this problem? It is not clear that there are any good answers. But there are three possible strategies that, as a matter of speculation, might help the field of behavior analysis make some headway in the ferocious competition for mindshare:

1. *Reframe behaviorism in a more resonant format.* There are perhaps lessons to be learned from *New York Times* reporter Charles Duhigg, and from Stanford researcher B. J. Fogg. The contents of Duhigg’s best-selling book, *The Power of Habit* (Duhigg 2012) will be immediately recognizable by anyone in the field as a warning over of straight Skinnerian behaviorism, dressed up with all manner of charming

anecdote and simple, catchy principles (note that neither Skinner nor behaviorism are mentioned in the book). B. J. Fogg and his Stanford Persuasive Technology Lab likewise have gained recognition and popularity by enlisting principles strikingly similar to those of behaviorism and reformulating them so as to seem novel and resonant. Though it might seem disingenuous and unscientific to do so, it would in principle be possible for the field of behavior analysis to “reinvent” itself for public consumption in a different, catchier form, while adhering to the same principles and techniques.

2. *Push sharp, direct outcome comparisons between behavior analysis and its rivals, in the simplest, clearest form possible.* Much of the public will remain immune to this sort of analysis, but over time, more and more people might see the light. The public loves a good fight, and behavior analysis has plenty of ammunition when it comes to evidence of outcomes.
3. *Find ways to play up the warm and fuzzy side of behavior analysis.* The techniques of the field, and indeed its entire culture, can (perhaps unfairly) seem somewhat unfeeling, dry, and unpleasantly technical. Yet behavior analysts perform near-miracles in improving people’s lives. There are surely ways to get that message home in friendly form, making the approaches of the field seem more inviting and “human.” Efforts along these lines have already been proposed within the field, including reframing the field as “humanistic behaviorism” (Geller *in press*).

Aside from questions about how these techniques would be implemented, and whether they would be effective, there is also the question of whether the field wants to play these sorts of games. Doing so could provide substantial benefit both to the field and ultimately to society, and yet some might reasonably doubt whether such an approach would be in keeping with the culture, history, and ideals of behavior analysis. Perhaps some trials are in order.

A related article elsewhere in this issue is authored by a veteran practitioner of applied behavior analysis (ABA) in the context of organizational behavior management (OBM) consulting. Dr. Julie M. Smith reviews an effort on the part of one ABA practitioner group to apply the concepts with clients in of OBM (2015).

Conflict of Interest The author declares that he has no conflict of interest.

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