

# Addressing Disturbing and Disturbed Consumer Behavior: Is It Necessary to Change the Way We Conduct Behavioral Science?

Many of the most important problems faced by society today involve choices people make (e.g., high-fat diets, smoking, drinking and driving). Behavioral scientists in psychology and marketing can contribute to the solution of these problems through altruistic marketing. *Altruistic marketing* involves: (1) conducting basic behavioral research to expand our understanding of disturbing and disturbed consumer behavior and the ways to correct it and/or (2) applying behavioral research to develop effective treatment interventions and new ways to implement more effectively what is already known (and what will be known) about the maladaptive consumer behavior that contributes to social problems, morbidity, and mortality.

Unfortunately, marketing scientists have been encouraged to abandon basic, theoretically guided laboratory paradigms to address important applied questions and social problems. Yet, marketing scientists can make critical contributions to understanding the basic mechanisms underlying consumer behavior, and traditional laboratory research can be an essential part of this enterprise. We reinforce the need for greater focus on maladaptive consumer behavior and its remediation, and we discuss the role of theoretical thinking and traditional laboratory studies in problem-oriented research. We conclude that Kurt Lewin's erudite two-part maxim—there is nothing so practical as a good theory and there is nothing so stimulating of good theory as an important social problem—stands as a luminous beacon for the field of altruistic marketing.

## SOCIETAL TRENDS

Not long ago the major diseases and causes of mortality and disability were the result of infectious illness. Improvements in sanitation and the development of powerful drugs and vaccines have now reduced these threats. As we approach the twenty-first century, the United States is increasingly burdened by preventable illness, injury, and

disability. In 1960, 5% of the Gross National Product went to medical services; in 1990, this share grew to 12% (U.S. Public Health Service 1991). The economic costs of injury now total more than \$100 billion annually, cardiovascular disease \$135 billion, and cancer over \$70 billion. Tragically, these economic costs are dwarfed by human and societal costs, many of which are avoidable. According to the U.S. Public Health Service (1991), of the ten leading causes of death in the United States, at least seven could be reduced substantially if people at risk would change just five behaviors: compliance (e.g., use of antihypertensive medication), diet, smoking, lack of exercise, and alcohol and drug abuse. Each of these behaviors is inextricably linked with marketing efforts and the reactions of consumers to marketing campaigns. The link between consumer choices and social problems is clear. Indeed, as Hirschman (1991, p. 4) notes,

Every year over 10 million American consumers suffer financial losses from their addiction to gambling.... There are currently 10 million alcoholics and 80 million cigarette smokers in the United States.... Every year 25,000 people die as a result of alcohol related traffic accidents.... All of these disturbing and disturbed behaviors result from consumption gone wrong.

Although these problems appear daunting, they are all problems that are solvable through altruistic marketing—an area that generates and applies basic principles from the disciplines of psychology and marketing. Substantial effort has been devoted to convincing the public to avoid driving when intoxicated and to use seat belts and infant-car seats to reduce injury from accidents. Similarly, early identification of and compliance with medical treatment of such disease processes as high blood pressure can substantially reduce the risk for heart disease and stroke. A better understanding of the impact of alcohol, cigarette smoking, and other drugs on behavior has led to increased emphasis on decreasing the use of these substances and exploring diverse treatment methodologies that work for greater numbers of people. However, health-promotion and compliance processes that focus less on specific diseases and apply more broadly to introducing healthy behavior and maintaining good health and well-being are important research priorities. The speci-

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fication of explicit contingencies, such as laws requiring the use of seat belts and forbidding speeding or driving while intoxicated, are effective to the extent that the behavior is monitored and violations are consistently, frequently, and swiftly sanctioned. The use of such sanctions is limited, however, because their influence is typically specific, and their effects are restricted to the sanctioned behavior. Furthermore, sanctions are most effective when surveillance is suspected. The effectiveness of intervention programs is enhanced when explicit contingencies are supplemented by programs designed to establish more general attitudes and social norms. To do so, the expertise of behavioral scientists is essential.

Behavioral researchers have made considerable progress in specifying how to change attitudes and social norms (see Eagly and Chaiken 1993; Petty and Cacioppo 1981, 1986; Robertson and Kassarian 1991). A traditional approach, guided by the theory that changing attitudes is like changing a motor behavior, was to rely on educational programs. The assumption was that the more exposures or practice people received, the more likely they were to adopt the new attitude or norm. Both basic and applied investigations have shown this theory to be incomplete (e.g., Petty, Gleicher, and Jarvis 1993). Specifically, what people know and what they feel, think, and do can be disparate. Current research has focused on two prototypical processes underlying people's attitudes: (1) the peripheral route—some simple cue in the persuasive context (e.g., a celebrity endorser) induces attitude change without producing much thought about the costs or benefits of adopting the recommended position and (2) the central route—attitude change occurs as a result of a person's careful and thoughtful consideration of the merits of the information available regarding the recommended position (Petty and Cacioppo 1986). Although both means produce attitude change, changes produced through the central route are more persistent, resistant to counterpersuasion, and predictive of behavior (see Petty, Haugtvedt, and Smith 1995). Therefore, this distinction has considerable relevance to designing effective and long-lasting persuasion treatments and interventions.

In addition, current research has established that what is perceived as costly or advantageous to one person may not be perceived similarly by another person. Hence, achieving attitude change through the central route requires an understanding of how specific persons or subpopulations of people perceive and think about a particular issue (e.g., using seatbelts, smoking, taking antihypertensive medication, exercising good prenatal care). Research is needed, therefore, to determine the beliefs people hold about the consequences of health behaviors, their evaluation of these consequences, the opinions they perceive others to hold about these behaviors, and their motivation to comply with these opinions (cf. Fishbein and Ajzen 1975). Research is also needed to investigate the generality of successful health campaigns to other compliance problems, as well as the effects of health campaigns targeted at the individual, group (e.g., family, peers, work force), or societal (e.g., community, national) level.

The available research suggests that there are striking similarities in the general principles that are operative

whether the proposed behavior change is reducing smoking, promoting exercise or good nutrition, or encouraging the use of seat belts. For example, passively learning the information is not as effective as actively thinking about and responding to it. Thus, basic research to uncover and refine these principles and explore the similarities and differences in their operation across the domains of application should have considerable utility. The recent report from the National Institutes of Health on the progress and prospects for behavioral research (National Advisory Mental Health Council 1995, p. 3) notes that the commitment to basic behavioral research had "produced enormous benefits ... compared to what was known only a few decades ago, the current base of behavioral science knowledge is almost unrecognizable." The report outlines several areas in which basic behavioral research has paid off, including "more persuasive techniques of health education and promotion to reduce risky behaviors related to AIDS, addictions, and other disorders" (p. 5). Similarly, the president of the National Academy of Sciences recently noted that "the National Academy of Sciences strongly affirms that the social and behavioral sciences are important disciplines in which independent scholarship and basic research have made significant contributions to mankind's store of knowledge and to the ability to meet critical societal challenges.... The work of the National Research Council has repeatedly demonstrated the value of the insights that build on fundamental research in the social and behavioral sciences" (Alberts 1995, p. 45). This progress must continue into the twenty-first century as researchers persevere in examining the basic mechanisms underlying both normal and maladaptive behavior and apply this knowledge to important social issues.

Although much progress has been made, there is considerable work left to be done. For example, we know that even when people are motivated to determine the best position on an issue, their cost-benefit analyses can be biased or their limited time and cognitive resources can make it imperative that they use cognitive shortcuts (e.g., simple cues, heuristics) to guide their responses. Although these cognitive shortcuts are generally adaptive and make it possible for people to deal with the myriad stimuli to which they are exposed each day, they can also produce specific attitudes and behaviors that are clearly maladaptive (e.g., agreeing with someone you like, though the rationale is not cogent). Research in psychology and marketing should further illuminate the operation of these biases and identify the conditions that minimize their operation (e.g., Wegener and Petty 1995). These advances should produce interventions that can inoculate against or reverse the effects of cognitive biases on attitude and behavior changes.

In addition, though the importance of evaluative processes has long been recognized in consumer research, additional work is needed to examine the underlying bases of these evaluations. For example, researchers have tended to rely on bipolar (e.g., good/bad; like/dislike) rating scales to measure attitudes. However, current research clearly suggests that the traditional bipolar scale, though informative about the overall valence of a person's attitude, conceals considerable information about the underlying structure of that attitude

and its consequences (see Cacioppo forthcoming; Petty and Krosnick 1995). For example, knowing whether the attitude is based on high or low amounts of issue-relevant thought can be useful in understanding if the attitude will be persistent, resistant, and predictive of behavior (Petty, Haugtvedt, and Smith 1995). Similarly, knowing if the attitude is based on cognitive versus emotional factors (Chaiken, Pomerantz, and Giner-Sorolla 1995) or is highly accessible (Fazio 1995) enables prediction and understanding beyond that provided by the bipolar rating scale.

One potentially important variable that is engaging renewed interest concerns whether reactions to an attitude object (e.g., smoking) are characterized by mostly positive, mostly negative, or some combination of positive and negative reactions (e.g., Cacioppo and Berntson 1994; Priester and Petty forthcoming). Persons in an abusive relationship, for instance, may harbor strong feelings of love, as well as hate, toward each other, smokers who want to quit smoking may have strong positive and negative feelings and beliefs about smoking, and so on. Indeed, research on the reasons people donate blood or organs or join a bone-marrow registry indicates that the positive and negative processes underlying donor attitudes and behaviors are separable and that it is the negative basis of these attitudes that is more likely to determine whether a person becomes a donor (e.g., Cacioppo and Gardner 1993; Gardner and Cacioppo forthcoming). Donor behavior does not appear to be unique in this regard. Research on racial prejudice has revealed that efforts to foster positive interracial attitudes increases positive feelings and behaviors while leaving relatively unchanged people's negative feelings and interracial behaviors (Patchen, Hofman, and Davidson 1976). These and other studies have demonstrated that the endorsement of positive beliefs about an attitude object is not equivalent to the rejection of negative beliefs about the object (Cacioppo forthcoming). Additional basic and applied research is needed to determine the conditions under which positive and negative attitude processes are activated reciprocally, concurrently, or independently; the role of these positive and negative hedonic processes on attitudes and behavior; and the most effective settings and types of interventions to achieve more healthful behaviors.

#### HOW TO ADDRESS THE PROBLEM

Despite the widely recognized progress that behavioral scientists have made in examining factors that contribute to and address social problems, some psychologists and marketers who favor application and social intervention have argued that to engage in socially relevant research, the procedures of normal behavioral science should be changed. This argument generally takes the form that to have a meaningful impact on some "real world" behavior (e.g., getting people to use seatbelts, stopping drinking and driving), behavioral scientists should abandon their laboratories and their so-called theory-driven experiments, and get out in the field and study real variables with real people. Some variation of this argument can be found in virtually every applied social science literature and appears occasionally in journals typically devoted to reporting basic theory and research.

A particularly articulate spokesperson for this point of view from marketing has been William Wells. Wells (1993, p. 491) agrees that "academic research on consumer behavior would be more valuable if researchers would pay attention to consumer behavior more broadly defined," such as that which would be encompassed by altruistic marketing, but he argues that the current paradigm of science tends to "impede discovery." Wells is particularly critical of researchers who attempt to uncover universal principles in laboratory research with college students. Because we agree with his point that research in marketing should be expanded to include maladaptive consumer behavior, but disagree with his characterization of the utility of "normal" behavioral science, we use his 1993 treatise on these issues as a point of comparison with our own views. Wells's comments are also a good starting point, because he has most recently and comprehensively addressed what several other scholars have also critiqued in current research practice in psychology and marketing (e.g., Greenwald et al. 1986; Sears 1986).<sup>1</sup>

#### Subjects and Settings

Wells begins his critique of current research practice with an assault on laboratory research that is most often conducted with college students. He agrees with Sears (1986, p. 515), who criticizes social psychology for "its heavy dependence during the past 25 years on a very narrow data base: college student subjects tested in the academic laboratory." The use of college students in research has been the subject of decades of controversy. For example, the founder of modern persuasion research, Carl Hovland (1959, p. 10), quotes Tolman as saying that "college sophomores may not be people." The concern is that the observed responses of college students may not mirror those of society at large. Although Sears (1986, p. 516) doubts that the results from studies with college students are "flat out wrong ... they may give quite a distorted portrait of human nature." In particular, he argues that research with college students uses manipulations that "do not map well onto their range in ordinary life" (p. 520) and could incorrectly describe the strength of the relationships among variables. He notes, for example, that laboratory research on responses to media violence "usually presents much higher and more concentrated doses of filmed violence than do the everyday mass media" (p. 520), and, thus, this type of research might overestimate the link between media violence and aggressiveness in society.<sup>2</sup>

If the purpose of most psychological or marketing laboratory research on college students were to assess the absolute level of some phenomenon in society (e.g., what percentage of people smoke or drink Diet Coke?) or the absolute strength of some relationship in the real world (e.g., what percentage of consumers would shift to Pepsi if it were

<sup>1</sup>There is insufficient space in this editorial to address all of our points of disagreement and agreement with Wells's (1993) thoughtful essay.

<sup>2</sup>In some respects this is similar to the arguments made by the tobacco industry against the relevance of existing research on smoking and cancer, namely, the research often examines levels of cigarette smoking that exceed that of the typical consumer, and furthermore, the subjects of the experimental laboratory research (in which participants can be randomly assigned to experimental and control conditions) are not even human. The critics ask: How can this research possibly be relevant to real consumers who smoke?

advertised with Celebrity X versus Celebrity Y), then Wells's criticism would be cogent. However, this is not the case. Instead, most of this research examines the viability of some more general hypothesis about the relationship between two (or more) variables and ascertains what might be responsible for this relationship. Once this relationship is validated in the laboratory, its applicability to various specific situations and populations can be ascertained. Wells (1993) argues that laboratory research (if conducted at all) should invariably *follow* the observation of some real-world behavior. In fact, a full-cycle approach to research (Cialdini 1980) can start in either the lab or the field.<sup>3</sup>

In conducting basic research, it is not necessarily important whether the variables under investigation ever actually co-occur in the real world. A laboratory study is of more than academic curiosity if the variables can be made to co-occur in the real world. This is obvious with drug studies. For example, if Vaccine X is shown to prevent disease Y, it does not matter if Vaccine X is ever naturally taken by people to prevent disease Y. Instead, the laboratory can uncover effects that can be brought to the real world even if these effects are not currently present in it (Henshel 1980; Mook 1983). The goal of marketing and psychological science is not merely to describe what is but also to uncover what can be. Thus, contrary to a philosophy that asserts that the best research "starts with real world-behavior" (Wells 1993, p. 498), our view is that valuable research begins with either the observation of real world behavior *or* an abstract hypothesis that is first examined in the academic laboratory and *then* brought to the real world.

Sears (1986) and others have criticized research with college undergraduates, because college students are presumed to differ in fundamental ways from the general population. Among the differences mentioned by Sears is that undergraduates have a weaker self-definition. As a consequence of this "wobbly sense of self" (p. 522), Sears contends that undergraduates have weaker attitudes that are more easily influenced and less predictive of behavior than those of the general population. If true, this suggests that attitude-change protocols developed in the laboratory with college students have little utility for changing the maladaptive behavior of consumers in the real world. Sears may or may not be correct about the low self-definition of college students versus the general population and whether self-definition contributes to weak attitudes. However, a large body of studies has examined the consequences of holding attitudes that differ in strength *within* the undergraduate population (for a review, see Petty and Krosnick 1995). Virtually every factor Sears lists as differing between undergraduates and the general population has been researched within the undergraduate population itself. For example, Sears notes that *self-*

*interest* is an important variable but that the material self-interest of the issues typically studied in laboratory research is "generally very low in a college student population" (see also Hovland 1959). Noting that self-interest is "almost never researched," Sears cautions, "[A] process that usually cannot be studied with college students probably will not prove very central to social psychologists' theories of human nature" (p. 524). Yet, at least within the attitudes domain that is the focus of Sears's review, numerous researchers, including Sears himself (see Apsler and Sears 1968), have examined the consequences of self-interest in the laboratory with college students (see reviews by Crano 1995; Petty, Cacioppo, and Haugtvedt 1992; Thomsen, Borgida, and Lavine 1995). Which specific issues are perceived as relevant certainly differs in different populations, but the consequences of self-relevance that have been uncovered in the laboratory (e.g., enhanced thinking as self-relevance increases; Petty and Cacioppo 1979) would likely be similar across diverse populations. We believe that many of the variables that can be studied in the general population can also be studied *within* the population of college students.

Sears also believes that that reliance on college students brings a bias to the theories about human nature that social and behavioral scientists develop. If our theories of human nature are incorrect, it would be very difficult (if not impossible) to address important societal problems. In the mid-1980s, when Sears wrote his thought-provoking commentary, many social psychological theories were emphasizing cognitive and rational models of judgment and decision making. Sears argues that this emphasis away from emotion and irrationality "has been abetted by the increased dependence upon college students tested in the laboratory" (p. 526).

From the perspective of the middle to late 1990s, however, it is clear that research in psychology (and to some extent in consumer behavior) has once again shifted to an increased emphasis on emotions, the unconscious, and the irrational (e.g., see Forgas 1991; Greenwald and Banaji 1995; Uleman and Bargh 1989). Yet, for these studies, the subject population remains college students, and the location remains the laboratory.

Our view is that the shifting research emphases from the cognitive to the emotional, from the conscious to the unconscious, or from the rational to the irrational is part of the yin and yang of research interests within the discipline and is *not* tied to the peculiarities of the subject population that is studied, because all of these processes can be and have been examined within the same population—college students. We do not suggest that *all* research should be conducted with college students. Certain hypotheses (e.g., about the brain functioning of two-year-old children) cannot be tested with college undergraduates. We simply suggest that research with college students can be valuable in studying a wide variety of conceptual variables—much wider, in fact, than some appear to believe.

Critics of laboratory research or research with college students must go beyond saying or even demonstrating that some effect might work for young people but not old, or in the laboratory but not outside, or for cigarettes but not candy bars. When such findings occur (e.g., lack of generalizabili-

<sup>3</sup>Actually, the *location* of the research (laboratory versus field) is not the critical issue. A more meaningful distinction is whether a person is engaged in the examination of abstract and general hypotheses about human (consumer) behavior (e.g., basic research on whether credibility enhances persuasion) or whether a person's interests lie more in addressing specific and practical questions (e.g., applied research on whether Celebrity X is more effective than Celebrity Y in selling Product Z). Nevertheless, there are several unique benefits of engaging in research in the laboratory, including more precise control over the independent variables than is typically the case in field research.

ty across subjects, contexts), the challenge is to find out *why* the effect works for one group but not another, in one setting but not another, for one product but not another, and so forth. Once the key conceptual variables responsible for the moderation of the effect are understood, it is likely that the same phenomena can be studied within a population or context category. For example, perhaps one treatment (e.g., a message about the dangers of a high-fat diet) works for older consumers, but not for younger consumers, because it is perceived as more personally relevant to the older consumers, and this relevance causes them to pay attention to the message and process it carefully. This suggests that the effect would work for that (small) segment of younger consumers for whom the message is perceived to be personally relevant and would not work for that (small) segment of older consumers for whom the message is seen as irrelevant. Furthermore, uncovering the reason for the differential effectiveness in the two populations is likely to suggest ways to make the message work in the population for which it is ineffective. For example, if the message fails to work in the younger population because it is seen as low in personal relevance, perhaps the relevance can be increased; or if not, perhaps another means can be selected for making young people think about it.

Wells (1993) argues that another consequence of relying on college students is that many unimportant variables get too much weight in research and more important variables such as "age and education ... get inadequate attention" (p. 492). Age and education are presumably good examples of variables that cannot be studied with college students, because undergraduates are all of approximately the same age and educational level. A researcher could examine general hypotheses about these demographic variables—for example, people become more difficult to influence as they get older—or more context specific hypotheses—for example, people prefer less sweetness in their soft-drinks as they get older. Regardless of whether the question is general or specific, however, once the researcher is confident that the hypothesis is generally supported by the data, the difficult work of science is to find out *why* the hypothesis is true. Only then will we understand when it is and is not true. For example, people's attitudes might become more difficult to change as they get older, because they acquire more information about issues, people, and objects in the world to support their personal views. If so, then "amount of knowledge" is a possible determinant of age effects. In other words, age effects are caused by differences in knowledge. If so, then for new or unfamiliar issues, the ability of young and old people to be influenced should be comparable. The impact of knowledge (and other variables) on the ability to be influenced can be studied within the subpopulations of young and old people. Our point is that the effects of demographic variables such as age are sometimes attributable to some underlying psychological factor (e.g., experience, confidence) that can be studied in almost any population. Even when the demographic variable represents a biological difference (e.g., changes in metabolism as a person ages), it will often be possible (because of individual differences) to model this difference within an available subpopulation.

The key is to understand what difference between aggregate populations is the critical one at the conceptual level.

### *The Utility of Theory Tests*

Critics of laboratory research with college students have sometimes conceded that such research may be fine if a person is merely interested in abstract theory testing. Yet, such critics wonder if these theories are relevant to understanding and predicting real-world events. For example, Wells (1993, p. 500) asserts that the "search for abstract universal theories has not increased our understanding of consumer behavior," and he seriously questions the utility of engaging in empirical tests of general theories. Relying in part on Greenwald and colleagues (1986), he notes that theory tests are rarely objective and theories can "obstruct research progress." Greenwald and colleagues argue that though "the most generally admired research strategy in any scientific discipline is that of testing theories" (p. 219), "theory is likely to obstruct research progress when the researcher's primary goal is to test the theory" (p. 217). The reason for this, they explain, is that researchers testing theories are prone to confirmation biases. Greenwald and colleagues argue that "although the theory-testing approach runs smoothly enough when theoretically predicted results are obtained" (p. 219), if a test of the favored theory does not support the theory, the "researcher perseveres by modifying procedures until prediction-supporting results are obtained" (p. 220). The result is "nearly useless research conclusions" (p. 219).

We acknowledge that researchers often become fond of their theories but disagree that perseverance in pursuit of a theory is necessarily an obstacle to scientific progress. It is important to note that not all theory tests are conducted by the originators of the theory. Sometimes tests are even conducted by advocates of a rival theory who pit their explanation against a prevailing theory or theories (e.g., Fazio, Zanna, and Cooper 1977; Petty, Wells, and Brock 1976). The best such theory tests occur when two or more theories make competing predictions for the data (Platt 1964). After all, in advance of conducting a study, if only one theory can possibly predict the expected outcome or if all theories predict the same outcome, then relatively little of conceptual interest will be learned unless the actual outcome is one that none of the prevailing theories would have anticipated.

Nevertheless, what should a researcher do if the data collected are not compatible with the preferred theory? Greenwald and colleagues (1986) suggest that researchers have two choices. The presumably correct response is to "report the disconfirming results" and assume that "the theory being tested is incorrect" (p. 219). The presumably incorrect response is to modify procedures in an attempt to show that the researcher's theory is correct. In our view, when faced with unexpected results, the researcher's task is to figure out why the unexpected happened. If the theory is more than a "hunch" (e.g., it has some previous research supporting it), then it is especially sensible to suspect that some aspect of the procedure might be responsible for the failure.

We distinguish two types of procedural problems that can arise. The first involves operationalization problems with the independent or dependent variables. For example, consider Researcher A, who is testing the notion that distraction

during a commercial interferes with counterarguing and, thus, produces more favorable attitudes than does no distraction (Festinger and Maccoby 1964). Assume that in an initial test of this hypothesis, no evidence for the theory is obtained; that is, the distraction and no distraction groups report the same attitudes toward the product. One potential problem with accepting the null hypothesis is that the distraction manipulation may not have been sufficiently distracting. If the researcher increases the level of distraction and then finds support for the theory, perseverance in following up on initial failures is valuable, because the hypothesis would have been falsely rejected had the researcher not been sufficiently interested in the theory to conduct additional research. Similarly, it could be that the problem lies in the dependent variable—the measure of attitudes. If the researcher conducts the study a second time but includes some additional items to render the attitude scale more reliable and then has success, the persistence once again pays off in an advance to the field.

Another cause of failure involves background variable problems (Calder, Phillips, and Tybout 1982; Lynch 1982). This type of problem is of greater conceptual interest, because if changing a background variable causes an absent effect to become manifest, then this suggests moderating conditions under which the effect does and does not occur. In such cases, it is desirable for the researcher to provide some conceptual meaning to the background variable that was modified. For example, consider the same Researcher A who fails to find an effect. Instead of modifying the independent and/or dependent variables, Researcher A thinks, "It isn't working for this commercial, so I'll try a new commercial." A new commercial is tried and now the predicted effect emerges. Here, the researcher has some suggestion that the effect is moderated by some other variable. Part of the excitement and challenge of science is figuring out what the differences are between the commercials that account for why the effect works with one commercial and not the other. Often this leads to a refinement of the theory. For example, perhaps the first commercial had no personal relevance to the subjects and the second one did. If people do less thinking about commercials of low relevance (Petty, Cacioppo, and Schumann 1983), then perhaps distraction failed to have an effect in the first case because there was little thinking to disrupt. Or, perhaps both of the commercials were high in personal relevance, but because the first commercial had more cogent points than the second one did, the first commercial stimulated little counterarguing. If there is no counterarguing, then these unfavorable thoughts cannot be disrupted by the distraction (Petty, Wells, and Brock 1976). Regardless, uncovering the reason behind the failure in one case and the success in another can lead to important theoretical advances (see also McGuire 1983).<sup>4</sup>

<sup>4</sup>Without a guiding theory, it is difficult to conceptualize what the moderators of the effect might be. If the theory states that distraction reduces the number of negative thoughts to a message and thereby increases influence, then moderators that would influence the overall amount and valence of thinking receive primary attention in a person's research. The theory thus suggests which of the various source, message, recipient, and contextual background variables the researcher should examine as possible moderators of the effect. For example, the effect should be present for high-thinking subjects, but not for those who are less likely to think (Cacioppo and Petty 1982). Greenwald and colleagues (1986) advocate the result-centered methods of

Therefore, we disagree with the notion that the theory-testing approach runs smoothly when the data support the theory but has serious problems when the data do not. In fact, the same potential problems—hidden moderators and confirmation bias—can arise whether the data prove supportive or unsupportive of a theory. In other words, even if the predicted effect is obtained on the first try, this does not mean that the effect is universal. In fact, the search for generality is why researchers are routinely advised to replicate their results with different subject populations, settings, and experimental materials (Campbell and Stanley 1963; Cook and Campbell 1979). Persisting at failure can thus ultimately be more informative than an initial success, because moderator variables are more likely to be suggested from the beginning. Also, confirmation bias is not confined to cases in which a theory is not supported. In fact, confirmation bias can easily be present when the data favor the tested theory. Specifically, when the data favor the theory, researchers may not be as careful in rechecking the experimental materials, the raw data, its coding, or the analyses, as they are when the data do not support the theory. When something unexpected happens, however, researchers are more prone to reexamining every phase of the experiment.

That biases can creep into theory-testing research practice does not mean that theory-driven research should be abolished any more than that biases can creep into student grading means that grades should no longer be given. Rather, awareness of these biases requires that we redouble our efforts to train investigators (and educators) to be "on the lookout" for such biases. Our advice is not to give up theory testing but to pursue theory testing thoughtfully with an eye toward understanding the many things that can be learned by the failure of a theory and to be as critical of successes as of failures.

#### SUMMARY AND CONCLUSIONS

In summary, we concur with many psychological and marketing scientists who believe that there are many societal problems for which our fields have great relevance. Our belief is that in the twenty-first century, solutions to important problems are as likely to come from behavioral science as from anywhere else. However, to continue the considerable progress made over the past several decades in understanding human behavior in general and consumer behavior in particular, we should not abandon theory-driven research conducted in the academic laboratory with college students as subjects, though we should not rely exclusively on it.

Basic theory-driven research should remain an essential part of our overall research enterprise and we should foster its integration and use in applied research. As Nisbett (1990, p. 1081) notes "Euclid had more to do with curing disease than any physician who lived between Galen and Pasteur.

condition seeking and the design approach as replacements for theory-testing research. In the method of condition seeking, a researcher searches for moderators and asks, "Under what conditions does this effect hold?" This condition-seeking method is complimentary to a theory-testing approach but is not a replacement for it. In other words, researchers who favor a theory can (and should) ask, "According to my theory, under what conditions should this effect hold and under what conditions should it be absent?" In the design approach, an investigator seeks to obtain a previously unobtained finding. Again, it is not clear how this is to be done unless there is a theory that suggests when an effect should occur and when it should be absent or reversed.

This is because geometry made possible the science of optics, which made possible the invention of the microscope, which made possible the germ theory of disease." Conducting basic theory-driven research in the laboratory is not the only way to contribute to altruistic marketing efforts. Basic laboratory research has an important place in our overall goal of developing a knowledge base that is adequate for addressing social problems, such as the disturbing and disturbed behavior that consumers sometimes exhibit.

For various reasons, behavioral scientists have tended to focus either on basic or applied research, and it is likely that those interested in altruistic marketing will categorize themselves similarly. Because of this, antagonism can arise as to which approach is more valuable. This is nonsense, because applied research is fostered by basic research and vice versa. Thus, all researchers do not need to make the same choice of research pursuits. We encourage researchers who are engaged primarily in basic research to consider the ways in which their basic findings can be made more accessible and relevant to those primarily interested in addressing the disturbing and disturbed aspects of consumer behavior. In addition, we encourage researchers who are engaged primarily in applied research (whether on normal or maladaptive consumer behavior) to become more cognizant of the potential utility of theory-driven research conducted in the academic laboratory or elsewhere.

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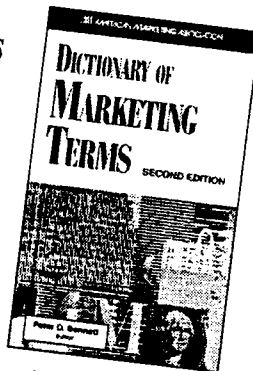
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