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# Dispelling the Illusion of Invulnerability: The Motivations and Mechanisms of Resistance to Persuasion

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Three studies examined the impact of a treatment designed to instill resistance to deceptive persuasive messages. Study 1 demonstrated that after the resistance treatment, ads using illegitimate authority-based appeals became less persuasive, and ads using legitimate appeals became more persuasive. In Study 2, this resistance generalized to novel exemplars, persevered over time, and appeared outside of the laboratory context. In Study 3, a procedure that dispelled participants' illusions of invulnerability to deceptive persuasion maximized resistance to such persuasion. Overall, the present studies demonstrate that attempts to confer resistance to appeals will likely be successful to the extent that they install 2 conceptual features: perceived undue manipulative intent of the source of the appeal and perceived personal vulnerability to such manipulation.

In martial arts training, instructors spend as much time teaching defensive techniques—blocks, deflections, parries—as they do teaching tactics of attack. On the social influence battlefield, however, researchers have expended much more effort investigating forms of persuasive attack than of defense. As a result, influence professionals can draw from a varied arsenal of weapons of influence whose effectiveness has been experimentally established, including the foot-in-the-door technique (Freedman & Fraser, 1966), the door-in-the-face technique (Cialdini et al., 1975), the that's-not-all tactic (Burger, 1986), the even-a-penny-would-help technique (Brockner, Guzzi, Kane, Levine, & Shaplen, 1984), and the low-ball technique (Cialdini, Cacioppo, Bassett, & Miller, 1978), to name a few (for reviews, see Cialdini & Trost, 1998, and Rhoads & Cialdini, 2002).

But, with the exceptions of McGuire's (1964) inoculation theory and the research on forewarning (Papageorgis, 1968; Petty & Cacioppo, 1977, 1979), academic researchers have provided few techniques for instilling resistance to a persuasive attack. This is regrettable for both theoretical and practical reasons. First, it would be of considerable theoretical worth to persuasion and social influence researchers to understand which procedures effectively confer resistance and why they do (Jacks & Cameron, 2001; Zuwerink & Devine, 1996). Second, substantial practical value would accompany the identification of successful resistance tactics. For example, information that would aid the public in dealing with the persuasive communications embedded in advertising and marketing appeals would surely be welcomed by proponents of consumer protection and education (Black & Barney, 1999; Schudson, 1986).

One purpose of the present investigation was to determine the effectiveness of a brief treatment to increase resistance to persuasive messages. However, it was not our goal to build resistance to all forms of persuasive attempts. Rather, we hoped to provide a treatment that would instruct individuals in how to protect themselves against a pernicious variety of persuasive appeals—those that can be considered illegitimate or dishonest. After all, from the standpoint of the recipient and the society at large, the trouble with influence attempts does not lie with honestly offered communications of potentially useful information. Instead, it lies with messages that seek to convince through the use of deceptive tactics (Black & Barney, 1999; McGuire, 1964).

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## Legitimate Versus Illegitimate Uses of Authority

Of course, there are numerous ways a persuasive appeal may be considered deceptive. Through overt misinformation, exaggeration, omission, or lies with statistics, a communicator may mislead a message recipient. Although reprehensible, this is not the sort of dishonesty we chose to address in the present investigation, because a proper defense against objectively false persuasive messages requires that recipients perceive a discrepancy between what the message asserts and what the recipient knows to be true (MacKenzie & Lutz, 1989). But in cleverly constructed communications, that discrepancy is not readily evident. Audiences to advertisements, for instance, frequently lack the experience or expertise to know whether a particular product or service is likely to meet the advertiser's claims. Instead, audience members become aware of the dishonesty after they have made a purchase. It is only at this point, after financial damage is done, that the deceived individuals can take action by refusing to purchase more of the product in the future or by complaining to relevant regulatory agencies.

Better, in our view, would be a procedure that allowed message recipients to take preventative rather than remedial action to defend themselves against illegitimate persuasive appeals. To this end, we structured a treatment that focused participants not on the legitimacy of message content but rather on the legitimacy of message presentation. That is, the same information in a communication can be delivered in ways that vary in their honesty. Consider, for example, the use of authority appeals in various marketing and sales efforts. Persuasion practitioners have long recognized the power of authorities on the influence process (Cialdini, 2001), as have researchers (e.g., Aronson, Turner, & Carlsmith, 1963; Blass, 1991, 1999; Milgram, 1974). Accordingly, the source of information in many persuasive appeals is portrayed as an authority. Our basic contention in this regard is that such portrayals are more honest and therefore more procedurally acceptable when the depicted authority is a genuine expert with special knowledge on the topic than when this is not the case.[1]

By this account, a large number of authority-based advertisements would be considered objectionable. Actors regularly appear as physicians, attorneys, stockbrokers, or scientists and mouth their approval of commercial products and services. Indeed, sometimes spokespersons are chosen simply because they are associated with the fictional role of an expert. Performers from medical shows promote health products, those from police dramas describe the benefits of anticrime devices, and so on. Even more worrisome, perhaps, is that the use of pseudoauthorities sometimes extends to legitimate news presentations. For instance, in a January 24, 2001, CNBC interview with the actor Martin Sheen, host Brian Williams seriously pursued a line of questions regarding Mr. Sheen's views of the appropriateness of presidential decisions to accept gifts and to pardon convicted criminals just before leaving office. Mr. Sheen dutifully offered his considered opinions in these matters, even though his political credentials to that point were limited to playing the role of the U.S. president on the TV series *West Wing*. We feel that if, as these examples suggest, the public is regularly exposed to information presented by ersatz experts, then a corrective is in order. Accordingly, we set about the task of constructing a treatment that would allow individuals to recognize and resist the influence of misplaced authority. In the next section, we review the existing techniques for instilling resistance—notably, forewarning and inoculation—and discuss their applicability to the current challenge.

## Existing Techniques for Instilling Resistance

### *Forewarning*

Research on forewarning has examined the impact of warning a persuasive target of either the persuasive intent of an upcoming message or the content of an upcoming message (Jacks & Cameron, 2001). Although it might be assumed that forewarning leads to resistance, a literature review by Cialdini and Petty (1981) concluded that only a forewarning of persuasive intent reliably causes resistance. Forewarning of message content can cause either resistance or acquiescence to the message.

In a recent meta-analysis of the forewarning literature, Wood and Quinn (in press) clarified the conflicting effects of forewarning. According to Wood and Quinn, personal relevance moderates the effects of forewarning prior to the receipt of the persuasive message, with warnings on relevant topics leading to resistance and warnings on less relevant topics leading to temporary shifts toward the advocated position. After the appeal, forewarning consistently leads to resistance. It is interesting that type of forewarning did not moderate the resistance. Forewarning of message content caused resistance comparable to that caused by forewarning of persuasive intent.

### *Inoculation*

McGuire's (1964) inoculation theory was inspired by a biological analogy. McGuire predicted that, in the same way that people can be made resistant to a disease by being inoculated with a weakened form of that disease, persuasive targets could be made resistant to an attitudinal attack by being inoculated with a weakened form of that attack. McGuire focused his efforts on a particularly vulnerable set of beliefs, cultural truisms, which most people had little experience defending.

McGuire (1964) reasoned that an effective treatment to bolster the resistance of attitudes required two factors. The treatment needed to supply persuasive targets with the motivation to defend their attitudes and the ability to do so effectively. This was accomplished by a refutational defense, in which participants were exposed to weakened arguments against a cultural truism. Compared with a supportive defense, in which participants were given arguments in support of the truism, the refutational defense instilled significant and long-lasting resistance.

### *Applicability to the Current Challenge*

Although forewarning has been shown to cause substantial resistance to a specific upcoming persuasive message, it would be

[1] We recognize that relevant expertise is not the only factor that can influence the legitimacy of an authority appeal. For example, a true expert who makes a specific statement on a relevant issue only because he or she has been paid to do so is also an instance of the dishonest use of authority influence (Folkes, 1988). However, for the purposes of an initial investigation, we chose to focus on one basic distinction (the presence or absence of relevant expertise) and to leave other relevant distinctions for future research.

of limited utility in instilling resistance to illegitimate authority-based appeals in general—particularly to those appeals that arrive after the warned message has been received or the warning has expired. Similarly, inoculation, though applicable outside the limited domain of cultural truisms (Eagly & Chaiken, 1993; Jacks & Cameron, 2001), is essentially an attitudinal treatment, providing defense for a particular attitude. Our purpose is to instill resistance to the deceptive use of a persuasive technique that can be employed in the service of a variety of attitude objects.

Despite forewarning and inoculation's inapplicability to the problem at hand, McGuire's (1964) conceptual guidelines as to the critical components of a resistance-enhancing treatment—motivation and ability—are quite applicable in the present context. Following McGuire's lead, we sought a treatment that would motivate influence targets to resist and enable them to do so effectively.[2]

## The Motivation to Resist

To implement McGuire's (1964) first component, motivation, we sought to identify a psychological dimension that would spur participants to resist illegitimate authority-based appeals. The task of identifying a crucial motivational dimension was complicated by the fact that the traditional reasons that individuals reject incoming information—the information is discrepant from what recipients clearly know and/or prefer—often do not apply in advertising contexts. That is, much research has established that people resist the influence of information that conflicts with strongly held beliefs or attitudes (Petty & Krosnick, 1996; Visser & Krosnick, 1998). But many messages (e.g., the majority of those containing claims for a commercial product) do not challenge strong views or preferences.

A more suitable motivational construct—undue manipulative intent—emerges from an examination of a diverse set of literatures suggesting that individuals tend to reject information they perceive as designed to manipulate them unfairly (e.g., through deception). For example, studies of the behavior of human research participants indicate that participants are more likely to respond contrary to the experimenter's wishes when they believe that the experimenter is trying to trick them (Christensen, 1977; Goldberg, 1965; Masling, 1966). Similar results have been observed in research on ingratiation. Although people tend to believe flattery and like those who provide it (Byrne, Rasche, & Kelley, 1974; Drachman, deCarufel, & Insko, 1978), ingratiation can backfire when it is clear that the flattery is a manipulative attempt to achieve ulterior goals (Jones & Wortman, 1973). In a trial setting, Fein, McCloskey, and Tomlinson (1997) demonstrated that pointing out a persuader's undue manipulative intent rendered the persuader's (otherwise convincing) message ineffective. Finally, in marketing contexts, researchers have found that persuasive impact is undermined if the influence agent is perceived as using manipulative tactics (Campbell, 1995; Ellen, Mohr, & Webb, 2000; Lutz, 1985; MacKenzie & Lutz, 1989).

For our purposes, the perception of undue manipulative intent seemed an ideal motivator of resistance to persuasion. First, it does not require that the message recipient be knowledgeable about the (often unknown) legitimacy of the specific claims made in the message. Instead, it only requires an assessment of whether the persuasive approach is legitimate. Second, to be effective, this perception is not restricted to the domain of strongly held attitudes. The idea of being duped or cheated is inherently resistance inducing—by itself—because of evolved tendencies to avoid trickery (Cosmides & Tooby, 1992). Third, there is good evidence that this perception acts to blunt persuasion in the advertising and marketing arenas we wished to examine.

## The Ability to Resist

In addition to providing motivation, an effective treatment against illegitimate persuasive appeals must provide participants with the ability to distinguish between acceptable and objectionable persuasive messages. It would be of limited value to foster the blanket rejection of all influence attempts, as unrelenting cynicism or stubbornness can be as costly as gullibility (Cialdini, 2001). In our case, then, an optimal treatment would afford participants a rule for discriminating between properly and improperly constituted authority-based communications. In addition, this rule should be relatively simple to learn and apply. Although multifaceted and complicated rule systems may cover a greater range of circumstances, they are frequently unsuitable for use because most people find such rule systems too difficult or cumbersome to implement, even in important, personally relevant domains (Kahn & Baron, 1995). Therefore, especially in the case of advertising and other mass media messages, which often occur in rapid-fire succession, a streamlined decision rule would be most useful. Finally, the treatment should take a form that can be easily incorporated into a variety of educational contexts. To deal with a societywide offense, the corrective must be appropriate for wide-ranging implementation.

To these ends, we developed a brief (8–10 min) treatment that offered participants a simple decision rule for classifying and responding to authority-based persuasive communications: Such appeals are objectionable and should be rejected if the depicted authority does not at least possess special expertise on the topic. Although we consider this rule useful for influence targets to use when faced with authority-based advertisements, it is important to acknowledge at this point that it is not our goal to assert the superiority of this particular rule according to any system of

[2] The use of the terms *motivation* and *ability* may bring to mind the dual-process models of persuasion, Chaiken's (1987) heuristic–systematic model (HSM), and Petty and Cacioppo's (1986) elaboration likelihood model (ELM), which delineate persuasion into two distinct processes (HSM) or routes (ELM). According to these models, when an influence target has both the motivation and the ability to think carefully about a persuasive message, the target will scrutinize the arguments and will be persuaded if the arguments are sufficiently strong. On the other hand, when an influence target lacks either the motivation or the ability to think carefully about a persuasive message (e.g., because of time pressure, distraction, or message content that the target considers personally irrelevant), the target will seek cues in the message or situation (e.g., the presence of consensus information) to determine whether to accept the premise of the message. According to Petty and Cacioppo (1984), source variables can affect persuasion through either the central or the peripheral route. As a result, we have chosen to focus on instilling resistance to illegitimate authorities regardless of the processing mode used by the influence target—and, as the results of Experiment 3 suggest, even people who are processing systematically can be fooled by a counterfeit authority. Thus, we derive our use of the terms *motivation* and *ability* from McGuire (1964) rather than Chaiken (1987) or Petty and Cacioppo (1986).

morals or ethics. Issues of what constitutes ethically proper versus improper conduct are difficult, highly subjective, and beyond the scope of our inquiry (see Boatright, 1992, for an appropriately textured treatment of many of these issues). Indeed, one could fashion an argument that an illegitimate authority advocating a prosocial behavior is, in the end, ethical (i.e., the ends justify the means). We chose our recommended rule because it fit the criteria we had identified for a successful treatment. That is, it provided a simple, clear-cut distinction between acceptable and objectionable appeals that was easy to learn and apply and that could be delivered in a readily implemented format. Our initial purpose was to determine whether it was possible to induce resistance to persuasive appeals through a treatment that embodied such a rule. We chose a likely one. Other researchers or interveners might wish to substitute a different rule. From our perspective, they are welcome to do so, as there is nothing about the particular rule we selected that is central to our investigatory intent.

## Experiment 1

Experiment 1 sought to instill resistance to improperly constituted authority-based appeals by teaching participants a rule for discriminating between legitimate and illegitimate appeals and by suggesting to participants that ads containing illegitimate authorities are attempts to deceive consumers. The rule was a simple one: Authority-based appeals are objectionable and should be rejected if the depicted authority does not at least possess special expertise on the topic. Participants learned the rule through exposure to a brief treatment that provided examples of real magazine ads that were considered acceptable or objectionable according to the rule.

Overall, we structured our treatment to leave participants (a) aware of the potential influence of authoritative sources, (b) able to discriminate between legitimate and illegitimate authority appeals, and (c) motivated to discriminate against only the latter. However, another outcome seemed possible. It was conceivable that our treatment would only cause participants to perceive that advertisers invoking authority were attempting to control the participants' choices. Should that be the predominant perception, participants might well demonstrate reactance (Brehm, 1966) against all subsequent authority-based ads. Reactance research has shown, for example, that messages containing highly controlling statements (e.g., "You as college students, must inevitably draw the same conclusion"; Brehm, 1966, p. 110) are less persuasive than equivalent messages without such statements. Such reactance would produce a less desirable societal outcome: reduced persuasion for all authority-based advertising, both legitimate and illegitimate.

In a test of these competing possibilities, participants either did or did not receive a treatment that taught them a rule for distinguishing between acceptable and objectionable forms of authority-based appeals and that characterized the objectionable forms as unduly manipulative in intent. All participants then rated a novel set of authority-based ads in terms of their undue manipulative intent and their persuasiveness. We predicted an interaction effect such that, compared with control condition participants, the treatment condition participants would find only the objectionable appeals within the new set of ads more manipulative and less persuasive.

### *Method*

#### *Participants*

Two hundred forty-one Arizona State University (ASU) undergraduates (152 women and 89 men) participated in partial fulfillment of a class requirement.

#### *Stimulus Materials*

Twelve full-page, color advertisements were selected from current periodicals, six to be used as examples and six to be rated by participants. Four example ads contained illegitimate authorities (i.e., www.wsj.com, the Web site for the *Wall Street Journal*: a model dressed as a stockbroker; Rolex: Chuck Yeager; the National Fluid Milk Processor Promotion Board: Ivana Trump; Hitachi: Craig T. Nelson), and two contained legitimate authorities (i.e., Chubb: Marcel Cockaerts, President, Kredietbank; Northwest Airlines: J.D. Power and Associates). Three rated ads contained illegitimate authorities (i.e., Pepto-Bismol: mom; Te-Amo cigars: Walter Morgan, Larry Gilbert, Tom Wargo, and Larry Laoretti; Chinese Herbal Treasures: "ancient Chinese herbalists"), and three contained legitimate authorities (i.e., Max Factor: Gary Liddiard; BeneFin: Drs. Serafina Corsello and I. William Lane; Twinlab OcuGuard: *Journal of the American Optometric Association*). The advertisements were selected to include a variety of authorities (models, celebrities, executives, roles, vague categories, organizations, etc.) and to fit clearly the legitimate–illegitimate distinction.

#### *Procedure*

On arrival, participants were given a randomly assigned packet that contained either treatment or control condition information followed by the scales on which participants rated the stimulus ads. Participants also received the set of 12 illustrative ads. Participants' responses to the latter 6 ads constituted the major outcomes of the study. Although participants were run in groups, their answers were not viewed by other participants. When done, participants were thanked, given a credit slip and a debriefing letter, and dismissed.

#### *Independent Variables*

Experiment 1 consisted of a 2 × 2 factorial design with one between-subjects factor, treatment or control condition, and one within-subject factor, legitimacy of the authority (i.e., all participants rated ads containing legitimate authorities and ads containing illegitimate authorities). Participants were randomly assigned to one of these two conditions.[3]

The treatment consisted of a six-page discussion of the distinction between the legitimate and illegitimate uses of authorities in advertisements. The six-page control condition consisted of a discussion of the use of color and tone in advertisements, which was created to ensure that control and treatment participants would spend an equivalent amount of time examining the example ads. The crux of the treatment appeared in the first two paragraphs:

> Now we're going to look at some more magazine advertisements, but this time we're going to look at them from a different point of view.

[3] Experiment 1 also contained an additional independent variable. This variable manipulated the strength of language used to describe advertisers' motivations in using authorities in ads. Because this variable did not produce any notable results and did not interact with the other independent variables, all analyses collapse across it. An alternative analysis that includes this variable does not change the results appreciably: Presence of the treatment interacted significantly with legitimacy of the authority with respect to ad persuasiveness, $F(1, 224) = 24.99$, $p < .001$.

> We're going to think about the ethics of the ads. Specifically we're going to examine whether the ads use authority in an ethical or an unethical way.[4]
>
> Many ads use authority figures to help sell the product. But how can we tell when an authority figure is being used ethically or unethically? For an authority to be used ethically it must pass two tests. First, the authority must be a real authority, and not just someone dressed up to look like an authority. Second, the authority must be an expert on the product he or she is trying to sell.

The five and a half pages that followed offered examples of ads that use authorities legitimately or illegitimately, according to our criteria. For example, after considering the Rolex and milk ads, whose authorities violate the second test (the authorities are not experts on the products they are trying to sell), participants were asked to consider the wsj.com ad:

> Let's consider one more that you have already seen. What about that guy selling the *Wall Street Journal* Interactive Edition? He sure looks like he could be a stockbroker. But there are no name or credentials mentioned in the ad. For all we know this guy is just a model. This ad fails the first test. The guy in the ad is just dressed up to look like an authority. So this ad is unethical, but for a different reason.

Participants then considered an ad whose authority passes both tests:

> Let's look a little more closely at the next ad. Turn to ad # 4. Here we see a man dressed in a nice suit standing in front of what looks like a very old building. He looks like a powerful leader. Apparently he is the authority being used in the ad. But is this ad ethical?
>
> To answer that question, let's see if it passes the two tests. First, is this person a real authority or is he just dressed like one? If we look at the caption next to him, we see that this is Marcel Cockaerts, President of Kredietbank, Brussels. He's got the credentials that let us know that he's a real authority. So this ad passes the first test; this guy's for real.
>
> Does it pass the second test? Well, the ad is trying to sell insurance for banks. It makes sense that the president of an international bank would know a lot about bank insurance. This ad also passes the second test, Marcel Cockaerts is an expert on the product.
>
> Is this an ethical use of authority? The answer is yes.

## *Dependent Variables*

After reading the material in the packet, which referred to the first six illustrative ads, participants rated the subsequent six ads (three containing legitimate authorities, and three containing illegitimate authorities) on two scales: an eight-item scale measuring perceived persuasiveness of the ad, and a six-item scale measuring perception of undue manipulative intent. Both scales were obtained from Campbell (1995).

The eight-item ad persuasiveness scale consisted of four items measuring perceptions of the brand along the dimensions *bad–good*, *pleasant–unpleasant*, *low quality–high quality*, and *likable–dislikable*; one item measuring likelihood of future use of the product along the dimension *extremely unlikely–extremely likely*; and three items measuring perceptions of the ad along the dimensions *pleasant–unpleasant*, *bad–good*, and *awful–nice*. We altered the future use question from "How likely are to you choose the brand in the future?" to "If you were to use this type of product in the future, how likely are you to choose this brand?" because some of our ads referred to products our participants were unlikely to use. Although Campbell (1995) distinguished between three persuasiveness subscales (attitudes about the brand, future use, and attitudes about the ad), exploratory factor analyses run on the eight items (using principal-components analysis and the scree plot criterion for determining the number of factors to extract) suggested a one-factor solution for five of the six ads. A three-factor solution was suggested for the other ad, but even here, the first factor contained the highest loadings for seven of the eight items and explained 51.8% of the variance. Given these results, we opted to use the eight items as a single composite.

The six-item perceptions of undue manipulative intent scale consisted of five items answered on a scale from *completely agree* to *completely disagree* ("The way this ad tries to persuade people seems acceptable to me," "The advertiser tried to manipulate the audience in ways that I don't like," "I was annoyed by this ad because the advertiser seemed to be trying to inappropriately manage or control the consumer audience," "I didn't mind this ad; the advertiser tried to be persuasive without being excessively manipulative," and "This ad was fair in what was said and shown") and one item answered on a scale from *unfair* to *fair* ("I think that this advertisement is unfair/fair").

All scales ranged from 0 to 6. Across the six ads, the Cronbach's alpha for the ad persuasiveness scale ranged from .86 to .95, and the Cronbach's alpha for the perceptions of undue manipulative intent scale ranged from .87 to .95.

## *Results and Discussion*

Scores on each scale for the three ads containing legitimate authorities were combined, as were the scores for the three ads containing illegitimate authorities, producing four composites: (a) perception of undue manipulative intent for the ads containing legitimate authorities (Cronbach's $\alpha = .58$), (b) perception of undue manipulative intent for the ads containing illegitimate authorities (Cronbach's $\alpha = .48$), (c) persuasiveness of the ads containing legitimate authorities (Cronbach's $\alpha = .53$), and (d) persuasiveness of the ads containing illegitimate authorities (Cronbach's $\alpha = .22$). These composites were then used in two 2-way mixed model analyses of variance, each containing two factors: treatment or control (two levels, between subjects), and legitimacy of the authority in the ads (two levels, within subject). Although these composites have lower than optimal reliabilities, we felt that using them in the analyses was the most appropriate option for three reasons: (a) Our a priori predictions were made with respect to the composites, (b) an examination of each advertisement separately revealed prediction-consistent means, and (c) lower reliabilities would work against our predictions by adding extra error variance, thus providing, if anything, more stringent tests of our hypotheses.

As predicted, presence of the treatment interacted significantly with legitimacy of the authority for both perception of undue manipulative intent, $F(1, 238) = 29.39$, $p < .001$, and ad persuasiveness, $F(1, 232) = 26.57$, $p < .001$ (see Table 1). An analysis run to test for gender effects revealed a significant Gender × Treatment × Legitimacy of the Authority interaction, $F(1, 230) = 8.00$, $p = .005$. This interaction was caused by female control participants' more positive reactions to the ads containing the legitimate authorities ($M = 3.4$), compared with male control participants ($M = 2.9$). Simple interactions within each gender revealed, however, that the treatment interacted significantly with legitimacy of the authority for both women and men, $F(1, 230) = 6.21$, $p = .013$, and $F(1, 230) = 29.13$, $p < .001$,

[4] In this treatment discussion, we opted to use the terms *ethical* and *unethical* rather than *legitimate* and *illegitimate*. We chose to phrase the distinction in terms of ethics because we anticipated that, for our participants, these terms would carry appropriate nuances. We recognize, however, that the question of ethics in advertising is complex and not fully addressed by the simple distinction presented here.

Table 1
*Cell Means and Standard Deviations Within Each Condition*

| | Undue manipulative intent | | | | Ad persuasiveness | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Legitimate authority | | Illegitimate authority | | Legitimate authority | | Illegitimate authority | | |
| Condition | *M* | *S* | *DM* | *S* | *DM* | *S* | *DM* | *S* | *D* |
| Experiment 1 | | | | | | | | | |
| Control ($n$ = 121) | 2.38 | 1.07 | 2.23 | 0.99 | 3.24 | 0.88 | 3.56 | 0.74 | |
| Treatment ($n$ = 120) | 1.90 | 0.97 | 2.56 | 0.93 | 3.69 | 0.89 | 3.36 | 0.77 | |
| Experiment 2 | | | | | | | | | |
| Control ($n$ = 65) | 2.28 | 1.05 | 2.61 | 1.02 | 3.25 | 0.79 | 3.36 | 0.80 | |
| Treatment ($n$ = 65) | 1.98 | 0.96 | 2.71 | 0.98 | 3.67 | 0.79 | 3.23 | 0.75 | |
| Delayed control ($n$ = 29) | | | | | 2.68 | 0.61 | 2.91 | 0.67 | |
| Delayed treatment ($n$ = 26) | | | | | 2.99 | 0.77 | 2.78 | 0.54 | |
| Experiment 3 ($n$ = 80/condition) | | | | | | | | | |
| Tone/color | 2.42 | 1.56 | 2.61 | 1.35 | 3.31 | 1.27 | 3.31 | 1.19 | |
| No commentary | 2.20 | 1.19 | 2.84 | 1.42 | 3.25 | 0.92 | 3.18 | 0.91 | |
| Asserted vulnerability | 2.11 | 1.43 | 3.47 | 1.33 | 3.58 | 1.06 | 3.00 | 1.02 | |
| Demonstrated vulnerability | 2.14 | 1.24 | 3.73 | 1.42 | 3.66 | 1.12 | 2.54 | 1.36 | |

*Note.* Undue manipulative intent and ad persuasiveness were scored on 7-point scales ranging from 0 to 6, with larger scores indicating more of the quality. The delayed measures of ad persuasiveness were scored on a 5-point scale ranging from 1 to 5.

respectively. Given the significant, predicted effect of treatment for each gender, all further analyses collapse across gender.

An examination of the simple effects within the Treatment × Legitimacy of the Authority interaction revealed that, as predicted, participants in the treatment condition perceived the ads containing illegitimate authorities as more unduly manipulative, $F(1, 238) = 7.61$, $p = .006$, and less persuasive, $F(1, 232) = 4.22$, $p = .041$, as compared with participants in the control condition. We also found that participants in the treatment condition perceived the ads containing legitimate authorities as less unduly manipulative, $F(1, 238) = 12.94$, $p < .001$, and more persuasive, $F(1, 232) = 16.21$, $p < .001$, as compared with participants in the control condition.[5]

These results suggest that the treatment did not make participants more generally resistant to authority-based advertising. Instead, it made participants more discriminating about it on the critical legitimacy dimension. This finding stands in contrast to a reactance effect and to a reactance explanation of our findings. That is, according to reactance theory, resistance occurs when something is perceived as intending to direct or control one's perceived choices, thereby limiting one's freedom to decide. Clearly, this is as much the intent of advertisements containing legitimate authorities as advertisements containing illegitimate authorities. Our results indicate that the treatment did not stimulate resistance to all attempts to direct and limit choices but only to attempts to do so by using an improperly constituted authority.

Besides conferring resistance to the illegitimate ads, the treatment had an additional effect: Ads with legitimate authorities came to be seen as more persuasive. Thus, participants learned not only to devalue inappropriate persuasive information but also to enhance the value of appropriate messages. In fact, participants demonstrated substantially greater enhancement of legitimate authorities than derogation of illegitimate authorities.

Although we were encouraged by the initial success of our brief treatment in instilling resistance to persuasion, we were concerned that the observed effects might have stemmed not from true resistance but rather from the demand characteristics of our experimental setting. We had, after all, just told treatment participants how to identify good versus bad ads and then asked them to rate a series of examples that fit our criteria for good and bad advertisements. Thus, it seemed possible that these participants responded as they did in an attempt to confirm what they presumed were the experimenter's expectations. We designed Experiment 2 to (a) address this concern and (b) test the enduring impact of our treatment outside of the laboratory context.

## Experiment 2

Experiment 2 was intended to replicate and extend the results of Experiment 1. Participants in Experiment 2 rated legitimate and illegitimate authority-based ads both immediately after receiving the treatment and after a 1–4 day delay, in a separate setting unrelated to the laboratory context. The separation of the treatment and measurement contexts allowed us to assess the viability of demand characteristics as an alternative explanation.

[5] An examination of the simple effect of legitimacy of the authority within the control group reveals that the ads containing the illegitimate authorities were more persuasive than the ads containing the legitimate authorities—an effect that also was seen in Experiment 2. Although this finding is intriguing, it would be premature to draw any conclusions, as no attempt was made to randomly select the stimuli from the population of authority-based advertisements (such a selection might be an interesting direction for future research, though). In addition, the effect disappeared in Experiment 3. Even so, these control condition differences do not affect the analysis and interpretation of the results, as the critical hypothesized effects are (a) the interactions between legitimacy of the authority and treatment–control conditions and (b) the simple effects of treatment within each level of legitimacy of the authority rather than the simple effects of legitimacy of the authority within each level of treatment.

The delay between the treatment and the test of its effectiveness offered a second benefit of more applied interest: an assessment of the perseverance of treatment impact. If we are to achieve the goal of instilling resistance to illegitimate authority-based appeals, the crucial treatment-taught distinctions must be retained and accessible to participants at later points in time when they are likely to encounter authority-based persuasive messages in other settings. Without evidence of durability and cross-situational robustness, the treatment would represent little more than an academic exercise of dubious practical value.

## Method

### Participants

One hundred thirty ASU undergraduates (86 women, 43 men, and 1 unspecified) participated in partial fulfillment of a class requirement. Fifty-five of these participants (38 women, 16 men, and 1 unspecified) also completed the delayed measure in their psychology classes 1–4 days later.[6]

### Procedure

The procedure for the laboratory portion of the experiment was identical to that used in Experiment 1, except that participants were not given a debriefing letter and the last six digits of their university identification number were requested. Then, 1–4 days later, a previously unencountered research assistant, posing as a representative from the campus daily newspaper, administered the delayed questionnaire in participants' introductory psychology classes, purportedly to evaluate a new insert that was being considered for inclusion in the campus paper. When students handed in this questionnaire, they received a debriefing letter, which described both the laboratory and the delayed portions of the experiment. The delayed questionnaire requested students' university identification number (a relatively common request with student surveys of this sort), which was then used to match the laboratory and delayed measures.

### Independent Variables

Experiment 2 consisted of a 2 × 2 factorial design analogous to that used in Experiment 1.[7]

### Dependent Variables

Participants completed the perceptions of undue manipulative intent and ad persuasiveness scales used in the previous study. In addition, a questionnaire was created that asked respondents to evaluate a new insert for the college daily newspaper. The insert contained a pair of text articles concerning campus events and three advertisements: a distractor (a nonauthority-based ad for Sir Speedy Copy Center) and two authority-based ads, one featuring a legitimate authority (Dan Shroktel, M.D., of the Minnesota Pain Institute, discussing Excedrin) and the other featuring an illegitimate authority (actor Jeff Goldblum discussing IBM Internet Television Direct). The articles and advertisements were all developed for the study.

A questionnaire inquired about participants' evaluations of the articles and ads. The crucial items asked respondents to rate the ads using a four-question scale. This scale differed from the scales used during the laboratory experiment, so that participants would not become suspicious. Questions consisted of the following: "How did you like the ad?" (with answers ranging from *I hated it* to *It was great!*), "Do you think that seeing this ad will make you more likely to use this product or service?" (with answers ranging from *definitely not* to *definitely*), "Do you think this is the type of ad that *ASU Live* should carry?" (with answers ranging from ASU Live *should not carry this ad* to *this is exactly the type of ad* ASU Live *should carry*), and "What was your overall reaction to this ad?" (with answers ranging from *very unfavorable* to *very favorable*). All response scales ranged from 1 to 5. Finally, the questionnaire asked for any general comments. This last question was included to determine whether participants connected the newspaper insert with the experiment. An examination of the comments revealed no evidence of suspicion.

## Results and Discussion

The composites for the three ads containing legitimate authorities and the three ads containing illegitimate authorities were comparable to Experiment 1: (a) perception of undue manipulative intent for the ads containing legitimate authorities (Cronbach's $\alpha = .59$), (b) perception of undue manipulative intent for the ads containing illegitimate authorities (Cronbach's $\alpha = .45$), (c) persuasiveness of the ads containing legitimate authorities (Cronbach's $\alpha = .56$), and (d) persuasiveness of the ads containing illegitimate authorities (Cronbach's $\alpha = .25$).

As in Experiment 1, female controls responded more positively to the ads containing legitimate authorities ($M = 3.5$), compared with male controls ($M = 2.9$). This led to a significant Gender × Legitimacy of the Authority interaction, $F(1, 119) = 14.51$, $p < .001$, but, unlike Experiment 1, the three-way Gender × Treatment × Legitimacy of the Authority interaction was not significant, $F(1, 119) = 1.17$, $p = .282$. Therefore, all further analyses collapse across gender.

The impact of the treatment on immediate persuasion responses that we found in Experiment 1 was replicated in the present study. Presence of the treatment interacted with legitimacy of the authority with respect to the perception of manipulative intent, $F(1, 127) = 3.61$, $p = .060$, and with respect to the perceived persuasiveness of the ads, $F(1, 122) = 10.06$, $p = .002$ (see Table 1). Simple effects also displayed patterns similar to Experiment 1. Participants in the treatment condition perceived the ads containing legitimate authorities as less unduly manipulative, $F(1, 127) = 2.82$, $p = .096$, and more persuasive, $F(1, 122) = 8.59$, $p = .004$, as compared with participants in the control condition. However, although the effects were in the predicted direction, participants in the treatment and control conditions did not differ in their ratings of ads containing illegitimate authorities ($F$s $< 1.00$). Once again, the treatment produced stronger effects for the enhancement of the ads containing legitimate authorities than the resistance to the ads containing illegitimate authorities.

The effects of the treatment also persevered 1–4 days after the experiment. As predicted, presence of the treatment interacted significantly with legitimacy of the authority in the delayed mea-

[6] Though the missing data on the delayed measure do reduce power, we believe they do not affect internal validity because the determinant of the missing data (participants' presence in a class where the delayed measure was administered) is unlikely to be related to experimental condition (Rubin, 1976).

[7] An additional independent variable, strength of language of the treatment, was also manipulated. As with Experiment 1, this variable produced no notable results, and all analyses collapse across it. Alternative analyses that include this variable do not change the results appreciably. Specifically, presence of the treatment interacted significantly with legitimacy of the authority with respect to ad persuasiveness in both the immediate and the delayed measures, $F(1, 118) = 11.22$, $p = .001$, and $F(1, 47) = 4.51$, $p = .039$, respectively.

sure, $F(1, 51) = 4.04$, $p = .050$ (see Table 1).[8] Length of delay (1–4 days) did not interact with the treatment effect, $F(3, 45) = 1.14$, $p = .344$, and an examination of the results for each day separately revealed that, if anything, the treatment produced more prediction-consistent results on Days 2, 3, and 4 than on Day 1.

Thus, participants' resistance remained intact well after the end of the laboratory experiment and did not appear to decline, at least within the time period measured. The continued efficacy of the treatment outside of the laboratory context increases confidence that demand characteristics cannot account for the results and suggests the practical value of treatments of this type. If the present treatment, using only a brief, written format, demonstrated significant effects days after its administration, an interactive, longer term program (such as might be administered in schools) could have profound and long-lasting results.

Experiment 2 did produce one unexpected finding. Although participants receiving the treatment rated the ads containing legitimate authorities as significantly more persuasive, as compared with controls, they did not resist the ads containing illegitimate authorities more effectively than did controls. These results suggest that participants may have agreed with the characterization of illegitimacy presented in the treatment but may not have acted on it because they believed that they were not susceptible to it (e.g., "I wouldn't have fallen for the unethical ads anyway"). Taylor and Brown (1988) argued that such overly positive illusions are common and can be adaptive. However, in the present context, this self-enhancement bias (Fiske & Taylor, 1991) may leave influence targets less likely to fend off inappropriate persuasive attacks. Indeed, as Fiske and Taylor put it, "unrealistic optimism may lead people to ignore legitimate risks in their environment and fail to take measures to offset those risks" (p. 216). It seems possible, then, that our participants' sense of unique invulnerability to deceptive ads left them unmotivated to use defenses against such ads.

To test our hypothesis that participants may have felt themselves uniquely resistant to the persuasive tactics that work on everyone else, we asked 888 undergraduates how much they believed television advertisements affect them, and we asked a separate 900 undergraduates how much they believed television advertisements affect the average ASU undergraduate. Participants responded on scales for which 0 indicated *very strongly* and 6 indicated *hardly at all*. As we suspected, participants rated themselves significantly less affected ($M = 3.6$) by television ads, as compared with their peers ($M = 2.9$), $F(1, 1786) = 124.69$, $p < .0001$.

The results of this pilot study confirmed our concerns that participants maintained perceptions of personal invulnerability to advertising. Such "illusion[s] of unique invulnerability" (Perloff, 1987, p. 217) are widespread, leading at times to harmful or even fatal results. In the area of health psychology, the optimistic bias (Weinstein, 1980) appears as a discrepancy between perceptions of others' susceptibility to a disease and perceptions of one's own personal susceptibility to the illness. This bias can lead to negative health outcomes, as low levels of perceived personal susceptibility are associated with poor compliance with preventative health behaviors (Aiken, Gerend, & Jackson, 2001). In a study of HIV-infected women, Siegel, Raveis, and Gorey (1998) discovered that "perceived invulnerability to infection [was one of] the principle barriers to women recognizing their at-risk status" (p. 114).

J. Norris, Nurius, and Dimeff (1996) reported that college sorority women "held a high sense of invulnerability to victimization and an optimistic belief in their ability to resist sexual aggression" (p. 123). In a vivid demonstration of the tenacity of illusions of unique invulnerability, Snyder (1997) informed students that an upcoming classroom demonstration was designed specifically to expose their illusions regarding mortality risks. Despite the warning, the students discounted actuarial information and overestimated their age of death by 9 years—an amount equivalent to the overestimates made by uninformed students.

## Experiment 3

In Experiment 3, we sought to dispel these illusions of invulnerability by demonstrating in an undeniable fashion that participants can be fooled by ads containing counterfeit authorities. According to our pilot data, it appears that to motivate strong resistance, it is insufficient to argue that people in general can be unfairly manipulated. Therefore, we hypothesized that something else would be required to motivate the necessary resistance. One likely possibility emerged from an examination of the earlier described research on health risks: Participants must learn that they are personally susceptible to the risk under consideration.

The results of our pilot study suggested that our participants were unmotivated to develop resistance to illegitimate ads because they regarded themselves as relatively invulnerable to the risk of being fooled. How might we convince them otherwise? Merely pointing out their vulnerability to a risk has not been a generally effective device for motivating individuals against it (Perloff, 1987; Snyder, 1997). For example, according to Aiken et al. (2001), "the public is inundated with information about cancer and with recommendations for cancer screening and prevention" (p. 727). Nevertheless, the National Health Interview Survey of 1994 reported that 44% of women over 50 years old had failed to have a mammogram within the previous 2 years (American Cancer Society, 1997; National Center for Health Statistics, 1996).

Aiken et al. (2001) specified three stages of perceived susceptibility to risk—a critical determinant of health behavior. "First, individuals are assumed to become aware of a health hazard (awareness), then to believe in the likelihood of the hazard for others (general susceptibility), and finally to acknowledge their own personal vulnerability (personal susceptibility)" (p. 730). Researchers attempting to increase compliance with health behaviors have sought to move people from Stage 2 to Stage 3. For example, Curry, Taplin, Anderman, Barlow, and McBride (1993) increased cancer screening in higher risk women through the use of tailored personal objective risk information.

Our pilot study demonstrated that many of our participants fell squarely into Stage 2. They perceived that others were vulnerable to advertising but that they themselves were relatively immune. We anticipated that merely asserting participants' vulnerability to deceptive ads would leave many with their illusions intact. We predicted, however, that participants could be moved to Stage 3 if

[8] It should be noted that 1 participant was removed from this latter analysis because of his or her statistical outlier status. The studentized deleted residual for this data point was $-3.29$, which falls far in the tail (99.8%) of the corresponding $t$ distribution with 52 degrees of freedom (Neter, Wasserman, & Kutner, 1989).

we arranged for them "to acknowledge their own personal vulnerability" (Aiken et al., 2001, p. 730).

We were left, however, with the practical challenge of how to induce participants to acknowledge their own personal vulnerability. The labor-intensive task of providing participants with individualized, tailored personal risk information, as was done by Curry et al. (1993) to motivate cancer screenings, was impractical in the present setting. Instead, we sought a simple procedure that would unambiguously demonstrate vulnerability without increasing the time or effort necessary to administer the treatment.

Several studies within the literature on perceived risk indicate that one's level of prior personal experience with the risk factor can moderate optimistic bias (e.g., Helweg-Larsen, 1999; F. H. Norris, Smith, & Kaniasty, 1999; Van der Velde, Hooykaas, & Van der Pligt, 1992; Weinstein, 1980, 1987). These studies demonstrated that personal experience with a negative event—including earthquakes, hurricanes, illnesses, and sexually transmitted diseases—has the capacity to undercut one's illusion of unique invulnerability regarding future such events (see Weinstein, 1989, for a review). This finding is consistent with evidence indicating that learning based on first-hand experience is more powerful than that based on simple information (Epstein, 1998; Fazio & Zanna, 1981; Helweg-Larsen & Collins, 1997). Consequently, we included in Experiment 3 a procedure that gave some participants undeniable evidence that they had been susceptible to the persuasive impact of an illegitimate authority-based ad. We hypothesized that this procedure (the demonstrated vulnerability treatment condition) would give rise to a significantly stronger tendency to resist subsequent such ads than would a procedure similar to that of Experiments 1 and 2 in which participants' vulnerability was merely asserted.

Experiment 3 also provided an examination of the psychological mechanisms through which the instilled resistance operated. Consistent with prior research (Campbell, 1995; Lutz, 1985; MacKenzie & Lutz, 1989), we predicted that the resistance instilled by the treatment would be fully mediated by perceptions of undue manipulative intent. In other words, participants taught the distinction between legitimate and illegitimate authorities would come to see ads using illegitimate authorities as unduly manipulative, and these perceptions would then lead to resistance.[9]

We also sought to examine the mechanism whereby perceptions of undue manipulative intent lead to resistance. Drawing on the cognitive response model of persuasion (Greenwald, 1968) and, in particular, the finding that inferences of manipulative intent can lead to decreased persuasion through counterarguing (Petty, Ostrom, & Brock, 1981; Zuwerink & Devine, 1996), we anticipated that the effect of perceptions of undue manipulative intent on persuasion would be mediated, at least in part, by altered cognitive reactions.

To assess cognitive response, we asked participants to list the thoughts they had in reaction to the ads. Subsequently, participants categorized these thoughts (as positive, negative, neutral, or irrelevant) in terms of their relation to the ad. Cognitive response-based resistance, which would manifest as increased counterargumentation, would appear as a greater quantity of negative thoughts and a lesser quantity of positive thoughts. Although no a priori model was specified, Experiment 3 enabled an exploration of the possible mediators of the enhancement of the legitimate authority-based appeals.

In Experiment 3, participants rated two custom advertisements developed for the study. The ads each contained the testimony of an authority (one legitimate, one illegitimate) in the top half and a list of product features in the bottom half. For each ad, four versions of the list were developed that varied the strength (strong vs. weak) and number (two vs. six) of product features. The features were visually separated from the picture and testimony of the authority, had no relation to the testimony, and were manipulated independently of the legitimacy of the authority. We included these variables to examine whether participants in the different conditions processed ads using a different modality (central vs. peripheral; Petty & Cacioppo, 1986; Petty & Wegener, 1998; or heuristic vs. systematic; Chaiken, 1987; Chaiken, Giner-Sorolla, & Chen, 1996). More critically, these variables could determine whether participants exposed to the treatment (a) simply accepted or rejected an ad on the basis of the legitimacy of the authority or (b) factored the legitimacy of the authority into a more sophisticated appraisal of the ad that incorporated other ad features. This distinction is particularly important in light of the enhancement of advertisements containing legitimate authorities observed in Experiments 1 and 2. It would certainly be of no benefit to instill a mindless acceptance of the testimony of legitimate authorities (Scenario a above). Far preferable would be a treatment that increased the salience of the legitimate authority's true expertise without discouraging scrutiny of the rest of the ad (Scenario b above). Support for the former scenario would be found if feature strength had no effect on persuasion in the treatment conditions. A significant effect of feature strength in the treatment conditions, on the other hand, would offer support for the latter scenario.

Finally, we noted the possibility that our prior results could have stemmed not from the efficacy of the treatment but rather from the inhibiting nature of our tone and color control condition. Specifically, though designed to be innocuous, the tone and color essay may have inadvertently focused participants away from the distinction between the legitimate and illegitimate authorities, on which they might have otherwise focused. To test this possibility, we added a second control condition that asked participants to look through the example ads but provided no commentary.

## *Method*

### *Participants*

Three hundred twenty ASU undergraduates (224 women and 96 men) participated in partial fulfillment of a class requirement.

### *Stimulus Materials*

Experiment 3 used the same six example ads that were used in Experiments 1 and 2. However, two new ads, created specifically for the experiment, were rated rather than those used previously.

[9] This prediction was also supported by mediational analyses run on the data from Experiments 1 and 2. Specifically, when we tested a model that specified full mediation by perceptions of undue manipulative intent (i.e., treatment → perceptions of undue manipulative intent → ad persuasiveness, with no direct path from treatment to ad persuasiveness), the model fit well: Experiment 1: $\chi^2(1, N = 241) = 0.203$, $p = .652$, CFI = 1.000; Experiment 2: $\chi^2(1, N = 130) = 0.538$, $p = .463$, CFI = 1.000.

An advertisement for Excedrin contained the legitimate authority, Dr. Daniel Schroeder, Director, Minnesota Pain Institute, who was quoted as stating, "Extra Strength Excedrin is powerful enough to do the job right!" The features listed at the bottom varied on the basis of the strength and number conditions. The six strong features were "Five years of clinical testing revealed no adverse effects," "Twice the strength of normal aspirin," "*Money back guarantee*," "*Half the cost of most other pain relievers*," "Does not cause drowsiness or slow your reflexes," and "The fastest acting pain relief without a prescription." The six weak features were "Sleek new bottle design," "Multi-colored tablets make medicine more fun," "*Cures aches in dogs just as well as in humans*," "*Comes with 'C&H Sugar' coupon. 'It helps the medicine go down,'*" "Now available in NEW 60 tablet bottles, as well as our 50 and 75 tablet bottles," and "New hexagonal shape is easier to swallow than round tablets." Features in italics were included in the ads containing two strong or weak features.

An advertisement for Internet Television Direct contained the illegitimate authority, Arnold Schwarzenegger, who was quoted as stating, "This is the most sophisticated Internet technology currently available!" To ensure that Schwarzenegger was being used as an authority, we wrote the quote to contain not merely an endorsement of the product but also an expert opinion on the comparative merits of the product within the industry. As with the Excedrin ad, the features listed at the bottom varied on the basis of the strength and number conditions. The six strong features were "Durable wireless keyboard included," "Free e-mail account," "*Toll-free 1-800 phone number for technical support*," "*Comes with a 3-year warranty*," "Gives you access to over 1 million web sites worldwide (cable TV only gives you 185 channels)," and "Least expensive way to get on the Internet." The six weak features were "Built in rabbit-ear antennas," "Instructions printed in both English and Japanese," "*Comes with a $5 coupon for your next visit to Knott's Berry Farm Amusement Park*," "*Red and green indicator lights on front of black box*," "Sleek looking black box which sits atop your TV," and "All components are shipped in protective Styrofoam peanuts."

Pilot testing confirmed the greater attractiveness of the strong features compared with the weak features and the comparable attractiveness of the strong and weak features across both ads.

## Procedure

The procedure was identical to that used in Experiment 1.

## Independent Variables

Experiment 3 consisted of a 4 × 2 × 2 × 2 × 2 factorial design with four between-subjects levels of treatment (the tone and color control condition, the no commentary control condition, the asserted vulnerability treatment condition, and the demonstrated vulnerability treatment condition), two within-subject levels of legitimacy of authority (legitimate vs. illegitimate), two between-subjects levels of the strength of product features (strong vs. weak), two between-subjects levels of the number of product features (two vs. six), and two between-subjects levels of counterbalancing (representing the order in which the ads containing legitimate and illegitimate authorities were viewed and rated). Participants were randomly assigned to 1 of these 32 conditions.

*Tone and color control.* As in Experiments 1 and 2, participants in the tone and color control condition received a packet discussing the cosmetic aspects of the accompanying ads.

*No commentary control.* Participants in the no commentary control condition received a brief packet that simply asked them to examine the accompanying ads.

*Asserted vulnerability treatment.* Participants in the asserted vulnerability treatment condition received a slightly modified version of the treatment packet of Experiments 1 and 2. Besides providing a set of sample ads and a working definition of ethical (vs. unethical) authority-based advertisements, as had been done in the earlier experiments, it asked participants to consider whether they had been fooled by the unethical ads of manipulative advertisers:

> Take a look at ad #1. Did you find the ad to be even somewhat convincing? If so, then you got fooled. Unethical ads like this fool most people. But if we want to protect ourselves from being manipulated, we need to know what makes an ad ethical or unethical.
>
> Many ads, such as ad #1, use authority figures to help sell the product. But not all ads use authority figures ethically. For an authority to be used ethically it must pass two tests. First, the authority must be a real authority, and not just someone dressed up to look like one. Second, the authority must be an expert on the product he or she is trying to sell.
>
> Let's use these tests to examine ad #1. What about that guy selling the *Wall Street Journal* Interactive Edition? He sure looks like a stockbroker. But where are his name and credentials? The ad doesn't give us any. For all we know this guy is just a model. This ad is unethical because it fails the first test. This guy is just dressed up to look like an authority.
>
> When you looked at this ad, did you notice that this "stockbroker" was a fake? Did you ask yourself whether you should listen to this so-called "expert"? If you didn't, then you left yourself vulnerable to the advertisers that are trying to manipulate you.

*Demonstrated vulnerability treatment.* Participants in the demonstrated vulnerability treatment condition received a treatment packet that did more than simply assert their vulnerability to deceptive ads. It demonstrated that vulnerability by first instructing participants to examine a sample ad containing an illegitimate authority and to respond to a pair of questions concerning it. The initial question asked them to indicate how convincing they found the ad on a 7-point scale ranging from *not at all convincing* (0) to *extremely convincing* (6). Results indicated that the great majority of participants rated the ad at least somewhat convincing. The second question asked participants which two aspects of the ad they found most important in making this decision and to write these reasons down in spaces provided. At this point, the treatment packet was identical to that of the asserted vulnerability treatment condition, except in two places. Rather than merely instructing participants, "Take a look at ad #1. Did you find the ad to be even somewhat convincing? If so, then you got fooled," the packet referred participants to their earlier committed response to the ad: "Take a look at your answer to the first question. Did you find the ad to be even 'Somewhat convincing'? If so, then you got fooled." Similarly, rather than merely asking, "When you looked at this ad, did you notice that this 'stockbroker' was a fake?" we referred participants to their earlier responses to the question regarding the most important aspects of the ad that contributed to its convincingness: "Take a look at your answer to the second question. Did you notice that this 'stockbroker' was a fake?"

## Dependent Variables

Two new ads—one legitimate and one illegitimate, according to the treatment information—were rated on the same two scales used in Experiments 1 and 2. After rating each ad, participants were instructed to list the thoughts they had while examining the ad. Then, after rating and listing thoughts for both ads, participants were asked to categorize each thought as (a) positive toward the ad, (b) negative to the ad, (c) neutral to the ad, or (d) irrelevant to the ad. Participants listed a total of 2,367 thoughts, an average of 3.7 thoughts per ad. Cognitive response to each ad was calculated as the number of positive thoughts minus the number of negative thoughts.

Positive thoughts included those that were authority related ("Arnold Schwarzenegger—cool," "Real authority Dr. Schroeder") and those that were related to other aspects of the ads ("It is good that it doesn't make you sleepy or slow you down"). Negative thoughts also included both types ("What does Arnold know about the Internet?" "Boring! No color").

Neutral thoughts were generally ad related ("What's C&H sugar?" "Is it easy to use?" "Gave a lot of facts"), whereas irrelevant thoughts were sometimes related to a feature of the ad ("Terminator 2") and sometimes completely unrelated to the ad ("Surf— [my mind wandered, beach waves]").

### *Results and Discussion*

The two control conditions did not differ significantly on any measured variable; consequently, we were assured that the control condition used in the previous studies had not served as an active treatment.

Two gender effects appeared in Experiment 3. Gender interacted significantly with legitimacy of the authority, $F(1, 293) = 12.19$, $p = .001$, and gender, treatment, and legitimacy of the authority interacted marginally, $F(3, 293) = 2.04$, $p = .109$. These effects appear to be due to the greater negative reactions to the ad containing the illegitimate authority of male participants whose vulnerability had been demonstrated ($M = 2.0$), compared with female participants in the same condition ($M = 2.8$). It is important to note that simple effects within each gender reveal significant Treatment × Legitimacy of the Authority interactions for both women and men, $F(3, 293) = 3.59$, $p = .014$, and $F(3, 293) = 8.13$, $p < .001$, respectively. All further analyses collapse across gender.

The treatment once again interacted significantly with legitimacy of the authority with respect to perception of manipulative intent, $F(3, 311) = 11.01$, $p < .001$, and persuasiveness of the ads, $F(3, 297) = 9.75$, $p < .001$ (see Table 1 and Figure 1). Of particular note is the fact that the asserted vulnerability treatment and demonstrated vulnerability treatment differed significantly in their interaction with legitimacy of the authority with respect to ad persuasiveness, $F(1, 297) = 6.02$, $p = .015$. An examination of the simple effects revealed that these two treatment conditions did not differ in their effects on the persuasiveness of the ad containing the legitimate authority, $F(1, 297) = 0.36$, $p = .548$; both were successful in enhancing the effectiveness of legitimate authority-based messages. However, these conditions did differ significantly in their effects on the persuasiveness of the ad containing the illegitimate authority, $F(1, 297) = 6.41$, $p = .012$.

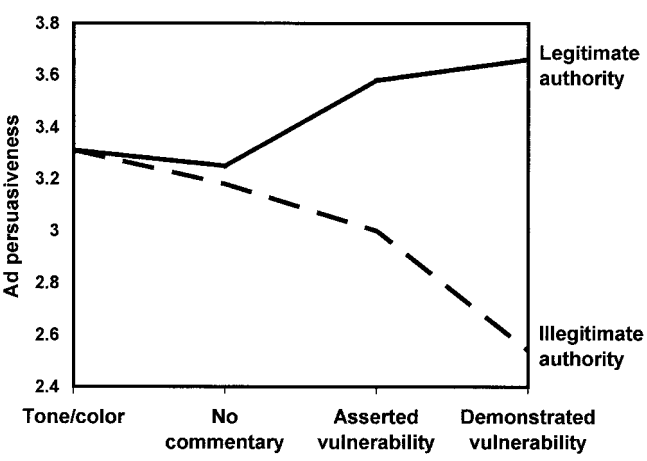


*Figure 1.* The effects of the resistance treatment and the perception of vulnerability on the perceived persuasiveness of advertisements containing legitimate and illegitimate authorities in Experiment 3.

Consistent with our previous findings, the asserted vulnerability treatment increased the persuasiveness of ads containing legitimate authorities, $F(1, 297) = 3.26$, $p = .072$, but did not confer significant resistance to ads containing illegitimate authorities, $F(1, 297) = 2.01$, $p = .157$, compared with control conditions. Once again, the treatment effectively enhanced the persuasive value of legitimate authorities but was less able to instill resistance to illegitimate authorities.

This particular weakness of the treatment was remedied, however, by the demonstration of personal vulnerability. An examination of simple contrasts revealed that the demonstrated vulnerability treatment produced significant resistance to ads containing illegitimate authorities, $F(1, 297) = 18.99$, $p < .001$, as well as significant enhancement of ads containing legitimate authorities, $F(1, 297) = 6.27$, $p = .013$, as compared with the control conditions. In fact, for the first time in our program of studies, the resistance effect was of greater magnitude than the enhancement effect. Thus, instilling resistance required more than merely asserting participants' vulnerability. Effective resistance required a clear demonstration of this vulnerability.

It is noteworthy that the asserted vulnerability treatment and demonstrated vulnerability treatment conditions did not differ significantly in their interaction with legitimacy of the authority with respect to perception of manipulative intent, $F(1, 311) = 0.66$, $p = .416$. This result fits well with our thinking, in that both conditions contained similar information about the manipulativeness of the authority appeals in the example ads. They differed only in information suggesting that participants would be susceptible to that manipulation.

## *The Effects of Strength and Number of Product Features*

To determine whether participants exposed to the treatment (a) mindlessly accepted or rejected the advertisements on the basis of the legitimacy of the authority or (b) incorporated the legitimacy of the authority into an overall appraisal of the ads, we ran a four-way (Feature Strength × Feature Number × Treatment × Legitimacy of the Authority) ANOVA using ad persuasiveness as the dependent variable (see Table 2). Five significant effects emerged. The first two represented the effects of treatment discussed above. Overall, the ad containing the legitimate authority ($M = 3.5$) was more persuasive than the ad containing the illegitimate authority ($M = 3.0$), $F(1, 285) = 30.69$, $p < .001$, but this was qualified by a significant Treatment × Legitimacy of the Authority interaction such that the ads were equivalently persuasive in the control conditions but differed in the treatment conditions, $F(1, 285) = 10.35$, $p < .001$.

The three additional significant effects included feature strength or number as factors. First, there was a significant main effect of feature strength indicating that ads containing strong features ($M = 3.4$) were more persuasive than ads containing weak features ($M = 3.0$), $F(1, 285) = 17.83$, $p < .001$. Second, feature strength interacted significantly with feature number such that six strong features ($M = 3.6$) were more persuasive than two strong features ($M = 3.3$) but six weak features ($M = 3.0$) were less persuasive than two weak features ($M = 3.1$), $F(1, 285) = 5.90$, $p = .016$. Third, feature number interacted significantly with legitimacy of

Table 2
*Cell Means and Standard Deviations for the Effects of Feature Strength and Number*

| | Weak features | | | | Strong features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Two features | | Six features | | Two features | | Six features | | |
| Condition | *M* | *S* | *DM* | *S* | *DM* | *S* | *DM* | *S* | *D* |
| Legitimate authority | | | | | | | | | |
| Tone/color | 3.17 | 1.14 | 2.96 | 1.59 | 3.20 | 1.02 | 3.97 | 1.07 | |
| No commentary | 3.08 | 0.95 | 3.24 | 0.88 | 2.97 | 0.87 | 3.67 | 0.90 | |
| Asserted vulnerability | 3.30 | 1.32 | 3.28 | 0.97 | 3.58 | 0.92 | 4.17 | 0.80 | |
| Demonstrated vulnerability | 3.34 | 1.01 | 3.25 | 1.35 | 3.89 | 0.85 | 4.14 | 1.06 | |
| Illegitimate authority | | | | | | | | | |
| Tone/color | 3.28 | 1.31 | 2.76 | 0.96 | 3.57 | 1.12 | 3.66 | 1.20 | |
| No commentary | 2.87 | 0.79 | 3.39 | 0.74 | 3.21 | 1.03 | 3.22 | 1.02 | |
| Asserted vulnerability | 2.69 | 1.08 | 2.72 | 1.06 | 3.36 | 0.72 | 3.26 | 1.06 | |
| Demonstrated vulnerability | 3.06 | 1.16 | 2.03 | 1.48 | 2.22 | 1.09 | 2.75 | 1.52 | |

*Note.* Ad persuasiveness was scored on 7-point scales ranging from 0 to 6, with larger scores indicating greater persuasiveness.



the authority such that, for the ad containing the legitimate authority, six features ($M = 3.6$) were more persuasive than two features ($M = 3.3$), but for the ad containing the illegitimate authority, six features ($M = 3.0$) did not differ from two features ($M = 3.0$), $F(1, 285) = 4.33$, $p = .038$.

The above results were somewhat qualified by a marginal four-way interaction, $F(1, 285) = 2.42$, $p = .066$. An examination of the means suggests that this interaction stemmed from the relatively high mean rating of the two-weak-feature version of the illegitimate authority ad by participants in the demonstrated vulnerability treatment condition.

Overall, these results demonstrate that, even in the treatment conditions, participants considered the full advertisements in making their judgments. Thus, participants who learned to distinguish legitimate and illegitimate authorities did not mindlessly accept advertisements simply because they contained a legitimate authority. Nor did they automatically reject advertisements that used illegitimate authorities. Instead, participants rendered judgments that incorporated information on product features as well as an appraisal of the worth of the expert testimony.

## *Mediational Analyses*

Figure 2 represents the mediational model for the effect of treatment on resistance to the ad containing the illegitimate authority. After the two control conditions (discussed above) are collapsed, treatment is represented in the model by two orthogonal contrast vectors: (a) demonstrated vulnerability treatment (coded as 1) versus asserted vulnerability treatment (coded as −1) and (b) treatment conditions (coded as 1) versus control conditions (coded as −1). In the model, perceptions of undue manipulative intent and persuasion correspond to the perceptions of undue manipulative intent and ad persuasiveness scales, respectively, and cognitive response represents the number of positive thoughts minus the number of negative thoughts.

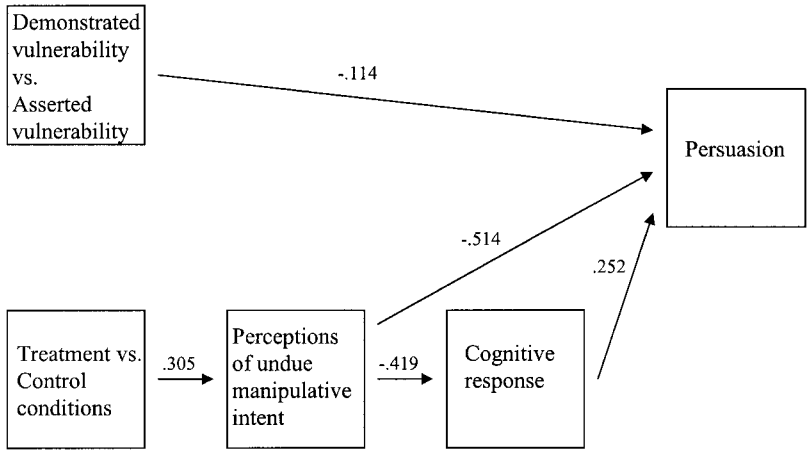


*Figure 2.* The mediation of resistance to the ad containing the illegitimate authority by perceptions of undue manipulative intent and cognitive response in Experiment 3. All paths, *p*s < .01.

We predicted that participants who learned the distinction between legitimate and illegitimate authorities would subsequently perceive advertisements containing illegitimate authorities as unduly manipulative. Furthermore, we predicted that these perceptions of undue manipulative intent would elicit a negative cognitive response toward the ads and that this negative cognitive response would lead to resistance to the ads.

As can be seen in Figure 2, the treatment caused a significant increase in perceptions of undue manipulative intent, and the increased perceptions of undue manipulative intent led to decreased persuasion, mediated in part by negative cognitive responses. The demonstration of vulnerability, on the other hand, had a direct effect on resistance. This model fit the data well according to a chi-square goodness-of-fit test (using EQS; Bentler, 1995; with maximum likelihood estimation on the covariance matrix), $\chi^2(5, N = 320) = 2.760$, $p = .737$, comparative fit index (CFI) = 1.000. The addition of missing paths does not significantly enhance model fit.

Although cognitive response partially mediated the effects of perceptions of undue manipulative intent on persuasion, a significant direct path remained. This suggests that the observed resistance is not a purely cognitive process. In a study of the effect of attitude importance on resistance to persuasion, Zuwerink and Devine (1996) reached a similar conclusion: "The results of this process analysis underscore that resistance to persuasion is both an affective and a cognitive affair, particularly for those who care deeply about their attitudes" (p. 936). It is unlikely that participants in the present experiment cared deeply about the advertised product—but they may well have cared deeply about the experience of being fooled (Cosmides & Tooby, 1992).

It is noteworthy that the unique resistance conferred by the demonstration of vulnerability was not mediated by perceptions of undue manipulative intent. As mentioned earlier, the demonstration of vulnerability was not designed to make illegitimate authority-based ads appear more manipulative. It was designed to make participants aware of their personal susceptibility to that manipulation. That demonstrated susceptibility had a direct effect on participants' willingness to reject the persuasiveness of illegitimate authorities.

For the enhancement effect, the most parsimonious exploratory model suggested that the enhancement of the ad containing the legitimate authority was mediated entirely by more positive cognitive responses to the ad (see Figure 3). This model fit the data well, $\chi^2(1, N = 320) = 2.055$, $p = .152$, CFI = .992.

## General Discussion

Aaker and Myers (1987) estimated that marketers target us with over 300 persuasive messages every day. Our ability to critically distinguish between those messages that use influence techniques appropriately and those that counterfeit them has become increasingly important, given the expanding prevalence and pervasiveness of advertising.

Even schools, traditionally a haven from this barrage, have become a medium for advertising. Through the adept marketing of Channel One, eight million students are now required to watch commercials in school each day along with a news broadcast ("Reading, writing, and . . . buying?," 1998). In addition, many schools, desperate for funds, now allow advertising in hallways and on the sides of school buses.

Until recently, social psychologists have had little to offer to those hoping to instill resistance to deceptive persuasion. The present research offers a first step. In three experiments, participants learned to distinguish between legitimate and illegitimate uses of authority in advertising. Compared with control groups, participants who learned this distinction demonstrated resistance against subsequent advertisements that used authority illegitimately. Furthermore, compared with controls, these participants perceived legitimate uses of authority as less manipulative and more persuasive.

These results suggest that the observed resistance stemmed not from stubbornness, cynicism, or reactance but rather from a newly acquired ability to determine when an authority's recommendations should and should not be followed. As a result, participants did not simply accept the testimony of any authority but discriminated between relevant expertise and the mere trappings or airs of authority. It is important that after learning this distinction, participants did not mindlessly accept advertisements containing legitimate authorities or reject advertisements containing illegitimate authorities. Rather, they incorporated information regarding the legitimacy of the authority and the corresponding value of the authority's testimony into a complete appraisal of the advertisement—an appraisal that made full use of other features and information in the ad.

### *Motivations of Resistance*

How can one motivate people to resist illegitimate attempts to persuade? The results of the present studies suggest that people develop resistance if they perceive that failing to do so will leave them open to being unfairly manipulated. In Experiments 1 and 2, participants who perceived ads as unduly manipulative also resisted those ads. In Experiment 3, a mediational analysis supported a model in which the perception of undue manipulative intent was one important mediator of resistance.

However, our pilot study suggests that although people consider others vulnerable to being unfairly manipulated, they perceive themselves as relatively immune. Ironically, this illusion of invul-


*Figure 3.* The mediation of the enhancement of the ad containing the legitimate authority by cognitive response in Experiment 3. All paths, $ps < .01$.

nerability manifested itself in the relatively meager resistance displayed by participants whose vulnerabilities had merely been asserted. Far from being an effective shield, the illusion of invulnerability undermined the very response that would have supplied genuine protection.

In Experiment 3, a relatively simple mechanism was used to dispel participants' illusions of invulnerability. Participants were asked to examine an ad containing an illegitimate authority and to indicate how convincing they found it. They then learned how the ad had attempted to fool them. Participants who made a written commitment as to their assessment of the ad were faced with the undeniable realization that the ad had not merely tried to fool them—it had succeeded. With their illusions of invulnerability dispelled, participants acquired a strong motivation to avoid being fooled again. This manifested itself in substantial resistance in Experiment 3.

Implicit in our theorizing is the idea that people have an aversion to being unduly manipulated (Cosmides & Tooby, 1992). This aversion likely stems from multiple sources. It is possible that people resist undue manipulation simply to avoid the punishing material and social consequences of misguided decisions. However, we consider it likely that, in addition, people spurn undue manipulation (and those who attempt it) because failing to do so threatens them with such undesirable self-labels as *dupe* and *fool*—a perspective that is consistent with the thinking of a variety of researchers who link resistance to persuasion with threats to the self (Cohen, Aronson, & Steele, 2000; Jacks & Cameron, 2001; Katz, 1960; McGuire, 1964; Sherif & Cantril, 1947).

## *Mechanisms of Resistance*

Experiment 3 offers insights into the mechanisms of the resistance exhibited by our participants. As we have noted, one important motivator of the resistance was a perception that ads containing illegitimate authorities were unduly manipulative. Consistent with the perspective of Zuwerink and Devine (1996), we expected that resistance to persuasion would operate by both cognitive and noncognitive mechanisms. The mediational analysis in Experiment 3 offers support for this model. Perceptions of undue manipulative intent did affect resistance, but only part of this impact was mediated though an increase in negative cognitive responses to the ads.

## *Alternative Explanations*

In this section, we examine whether our treatment can be explained as a forewarning effect and whether our results can be fully accounted for by simple rule learning.

### *Forewarning*

The research on forewarning has generally consisted of studies in which participants are warned either (a) of the position taken by an upcoming persuasive message or (b) that an upcoming message is intended to persuade them (Jacks & Cameron, 2001). In our studies, participants were not told the content or products featured in upcoming advertisements, so our results could not be due to forewarning of message content (Scenario a above).

Participants did, however, receive instructions that they would be viewing additional advertisements, and it is possible that these instructions could have warned the participants that the upcoming advertisements were intended to persuade them (Scenario b above). But this forewarning of persuasive intent would apply equally to ads containing legitimate and illegitimate authorities, as both types of advertisements are clear attempts to persuade consumers. Thus, if the resistance effect in our studies was caused by this forewarning of persuasive intent, we would expect to see resistance to all ads, not just those containing illegitimate authorities. Moreover, we believe there is a critical distinction between perceptions of persuasive intent, which are typically heightened after a forewarning treatment, and perceptions of undue manipulative intent, which were heightened after our treatment. Both our legitimate and our illegitimate ads included clear persuasive intent, but only the illegitimate ads involved undue manipulative intent—and only the illegitimate ads suffered in persuasive impact.

Furthermore, Experiment 2 demonstrates the efficacy of the effect after a delay and outside of the laboratory context. It is difficult for a forewarning explanation to account for these delayed results, because (a) forewarning effects are generally short term and (b) participants were given no warning about the possibility of receiving a persuasive message at some time 1–4 days hence.

### *Simple Rule Learning*

Although our treatment was designed to offer participants a simple rule for distinguishing legitimate from illegitimate authorities, we believe our data offer evidence that the results are not due to simple rule learning. First, in the asserted vulnerability conditions (the treatments in Experiments 1 and 2, and the asserted vulnerability treatment in Experiment 3), participants manifested half of the rule strongly (the enhancement of legitimate authorities) and half weakly (the resistance to illegitimate authorities). If their reactions stemmed from simple rule learning, one would expect both halves of the rule to be learned and implemented equally. Second, the demonstration of vulnerability offered nothing to help teach the rule. In fact, the manipulation occurred before the participants had even learned the rule. But it significantly increased resistance—once again having a substantially different effect on each half of the rule.

## *Dispelling the Illusion of Invulnerability in Other Contexts*

The present treatment was tested in the context of authority-based advertisements, but the technique could be applied readily to other persuasive techniques. For example, many advertisements use scarcity (i.e., information regarding the limited availability of the advertised product) in an effort to increase the desirability of the product (Cialdini, 2001). Such scarcity-based appeals could be distinguished between those that use scarcity legitimately (e.g., an advertisement for a traveling museum exhibition that will only be in the country for 2 weeks) and those that use it illegitimately (e.g., an advertisement for real estate in which some of the properties are listed as having already been sold). Our results suggest that a simple modification to the present treatment could instill resistance to illegitimate scarcity-based appeals by (a) demonstrating vulnerability to such appeals and then (b) providing information that

enables the persuasive target to distinguish legitimate from illegitimate appeals.

The ability to dispel the illusion of invulnerability also has applications that extend far beyond resistance to persuasion. Perceived personal vulnerability has been shown to be a critical predictor of compliance with health behaviors (Aiken et al., 2001). In a dramatic illustration of the danger of the illusion of invulnerability, Apanovitch, Salovey, and Merson (1998) discovered that only 2–16% (depending on ethnicity) of college students considered themselves vulnerable to AIDS, despite the fact that 85% understood HIV transmission and 25% personally knew someone with AIDS. Educational interventions that ignore this crucial element seem doomed to miss the vast majority of those at risk.

The present research suggests, however, that an intervention need not be particularly elaborate to pierce this illusion and motivate the recipient to accept the preventative message offered. In Experiment 3, we dispelled participants' illusions of invulnerability simply by (a) showing them an advertisement containing an illegitimate authority, (b) having them indicate how convincing they found the ad, and (c) revealing to them how they had been fooled.

When feasible, an explicit demonstration of vulnerability such as this has some clear advantages. It is unambiguous, proximal, and highly personally relevant. However, in many contexts, it may be neither feasible nor ethical to demonstrate vulnerability explicitly. Clearly, additional work is needed to delineate other methods of dispelling illusions of invulnerability. Inquiry into such methods would be of strong theoretical interest and great practical importance.

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