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Lies and bullshit: The negative effects of misinformation grow stronger over time

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Abstract

In a world where exposure to untrustworthy communicators is common, trust has become more important than ever for effective marketing. Nevertheless, we know very little about the long-term consequences of exposure to untrustworthy sources, such as bullshitters. This research examines how untrustworthy sources—liars and bullshitters—influence consumer attitudes toward a product. Frankfurt's (1986) *insidious bullshit hypothesis* (i.e., bullshitting is evaluated less negatively than lying but bullshit can be more harmful than are lies) is examined within a traditional sleeper effect—a persuasive influence that increases, rather than decays over time. We obtained a sleeper effect after participants learned that the source of the message was either a liar or a bullshitter. However, compared to the liar source condition, the same message from a bullshitter resulted in more extreme immediate and delayed attitudes that were in line with an otherwise discounted persuasive message (i.e., an advertisement). Interestingly, attitudes returned to control condition levels when a bullshitter was the source of the message, suggesting that knowing an initially discounted message may be potentially accurate/inaccurate (as is true with bullshit, but not lies) does not result in the long-term discounting of that message. We discuss implications for marketing and other contexts of persuasion.

KEYWORDS

attitude, branding, bullshit, bullshitting, lies, lying, marketing, persuasion, sleeper effect

1 | INTRODUCTION

Trust is critical for effective marketing. Indeed, many definitions of brands include a seller's promises to consistently deliver certain attributes and functions (e.g., Berthon & Pitt, 2018; Keller, 2020; Kotler, 2002). Reports of significant declines in trust (e.g., Rajavi et al., 2019) are of concern for companies, especially in light of the fact that effective branding typically entails conveying trust in the claims in marketing. It is not difficult to understand why consumer trust has declined in recent years. Only a few years ago, consumers received most brand information from professional sources (e.g., Di

Domenico et al., 2021). Now, the nature of internet advertising, such as pop-up ads and social media influencers (see Alalwan, 2018; Lou & Yuan, 2019) creates an environment in which it is difficult, if not impossible, to assess the credibility of source information. Indeed, there are reports that “disinformation for hire” firms that develop covert campaigns of social influence are a booming shadow industry (see Fisher, 2021). Within this environment it is especially important to understand the effects of untrustworthy sources of message endorsements on attitudes (e.g., Di Domenico et al., 2021). The purpose of the present research is to investigate the short term and long-term attitudinal influences of exposure to brands endorsed by two

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types of untrustworthy communicators: liars and “bullshitters.” We also assessed whether participants learned about the untrustworthy nature of the communicators (i.e., the discounting cue) either immediately before or after receiving an initial product endorsements.

There is a considerable amount of research on “lying” (i.e., communicating something that one believes to be false; Ekman, 1985; Semrad et al., 2019); less research exists on “bullshitting.” *Bullshitting* (i.e., sounding like one knows what he/she is communicating, but ultimately unaware of truth by communicating with little to no concern for truth, established knowledge, or evidence; Frankfurt, 1986; Petrocelli, 2018) appears to be a ubiquitous behavior and a salient feature of our culture (Spicer, 2013). There is a difficult and constant struggle against bullshit (Petrocelli, 2021a), and there are reasons to believe that bullshitting may be more insidious than lying (Frankfurt, 1986; Kimbrough, 2006; Reisch, 2006). Although there is evidence that suggests bullshit can be misperceived as something profound (Pennycook et al., 2015; Pfattheicher & Schindler, 2016; Sterling et al., 2016), the potential consequences of bullshit communications for social influence remains largely unexamined.

How persuasive is information that is put forth as being credible, but later identified as a falsehood in the form of a lie or bullshit? In some cases, it is clear that advertisers or politicians spout bullshit as an obvious attempt to frame reality to create a self-serving message, but in other cases, consumers or other target audiences may be unaware that a source is presenting bullshit. The current investigation examines the potential consequences of bullshit relative to lies as it pertains to the *sleeping effect* (a persuasive influence that increases, rather than decays, over time; Hovland & Weiss, 1951). Typically, a communication has greater impact when attitudes are measured closer, versus later, from the time of the communication. The sleeping effect shows just the opposite pattern, demonstrating higher levels of persuasion when measured following temporal delays. Given that consumers do not typically make purchase decisions immediately following exposure to advertisements, the sleeping effect is especially relevant to consumer behavior. A better understanding of the relative influences of bullshit and lies on persuasion sheds important light on the potential consequences of exposure to advertisements presenting endorsements from untrustworthy sources.

2 | LIARS AND BULLSHITTERS

What does it mean to “lie”? The philosophical analysis of this question dates back as far as Augustine’s classic treatise “On Lying” (Augustine, 395/1887). The study of lying in psychology is a more contemporary enterprise and deals primarily with how people are able to detect lies, if they are indeed able to do so (see DePaulo et al., 2003). Clearly, there are a number of valid questions surrounding the concept of lying. We begin with definitions that serve as a basis for the present research, although it is not the purpose of the present studies to assess the essential characteristics of lies (or bullshit).

There is some debate about the components of lying but there is agreement that saying something believed to be false is a

necessary component (e.g., Mahon, 2008; Rutschmann & Wiegmann, 2017). However, it is also recognized that this cannot be all there is to lying; otherwise, irony, acting, and sarcasm (“That’s just what I needed right now.”) would be considered lying. For this reason, most (but not all) scholars in both psychology and philosophy adhere to the traditional definition of lying that includes the speaker’s motivation behind the utterance: A lie is an assertion that the communicator believes to be false but communicates with the intention to deceive (e.g., Arico & Fallis, 2013; Augustine, 1887; Frankfurt, 1986; Turri & Turri, 2015; Williams, 2002). Thus, a lie is not rooted in the truth-value of the assertion but in the state of mind and intention of the communicator. The liar *intends* to deceive and *believes* the assertion is false.

Although it has been noted there are “few satisfactory definitions of bullshitting” (Mears, 2002, p. 234), there appears to be some agreement that the primary distinction between lying and bullshitting is the intentionality associated with the communication. As noted by Mears (2002), the liar is narrowly focused on denying a particular truth whereas the bullshitter’s focus is more diffusely focused on “getting away” with the potential misrepresentation of truth. So, the goal of a bullshitter may be to communicate a particular social identity or have other types of social versus epistemological functions (c.f., Mears, 2002). Thus, in contrast to a liar, a bullshitter has little or no regard for the truth of his/her assertion and may hold alternative motivations than an intention to deceive (Frankfurt, 1986). Bullshitting involves intentionally or unintentionally communicating with little to no regard or concern for truth, genuine evidence, and/or established semantic, logical, systemic, or empirical knowledge (Petrocelli, 2018). It is often characterized by, but not limited to, using rhetorical strategies designed to disregard truth, evidence and/or established knowledge, such as exaggerating one’s knowledge, competence, or skills in a particular area or talking about things of which one knows nothing about to embellish impress, fit in with, influence, or persuade others.

Frankfurt (1986) surmised that bullshitting is often unavoidable: “Bullshit is unavoidable whenever circumstances require someone to talk without knowing what he is talking about. Thus, the production of bullshit is stimulated whenever a person’s obligations or opportunities to speak about a topic are more extensive than his knowledge of the facts that are relevant to that topic.” (p. 99). In fact, it is well-established that people are perfectly willing to offer judgments and opinions about things they could not possibly know anything about (e.g., Herr et al., 1983). People cannot possibly have an informed opinion about everything and holding all communication to the standard of verifiable evidence is an incredibly demanding standard.

Thus, bullshitting is a behavior distinct from that of lying. The liar has great care for the truth, as the liar attempts to *knowingly and intentionally mislead* others (DePaulo et al., 1996; Ekman, 1985; Frankfurt, 1986; Williams, 2002). On the other hand, the bullshitter has no regard for the truth of his/her assertions and has no regard for the evidence in support or contradiction of his/her statement—the bullshitter’s underlying motivation does not target deception per

se. In fact, what the bullshitter communicates may be true, but the bullshitter does not know whether he/she is communicating the truth, does not really care what the truth actually is, and he/she is not even trying to know or communicate the truth. The two forms of communication are similar in that both the liar and bullshitter behave as though their interest is in communicating the truth.

Once people are exposed to bullshit or a lie, how do they react to the content of a persuasive message once they become privy to the fact that the message is derived from this untrustworthy source? How do any differences in reactions to liars versus bullshitters alter the influence, stability, or persuasiveness of such communications? We examine these and other questions in the current research.

Differing standards for bullshit and lies may lead social perceivers to be less offended by bullshit than lies. Indeed, empirical data show that bullshit is evaluated less negatively than the lie (Petrocelli et al., [in press](#)). Does this fact imply that people do not discount the information communicated by a bullshitter source in the same way they discount information from known liars? In his philosophical treatise regarding “bullshit,” Frankfurt (1986) outlined what is now referred to as the *insidious bullshit hypothesis*. The hypothesis holds that bullshit is more insidious than the lie, because at least the liar is partly concerned with the truth insofar as telling a successful lie. He notes that, ironically, common experience suggests that bullshitters often “get away” with something that liars do not (Frankfurt, 1986; see: Kimbrough, 2006; Reisch, 2006). Do such underestimations place the bullshitter in a more potent position than the liar to affect beliefs and attitudes both immediately and over time? In the present research, we use the classic research procedures of the sleeper effect to investigate this question as well as other issues related to the influence of advocacy by bullshitters and liars.

In our view, this line of investigation has important theoretical and applied implications. From a theoretical standpoint, information about the processes and mechanisms affecting the potency and stability of attitude change facilitates our insights into behavioral influences. Given that research has not investigated how people respond to advocacy from untrustworthy sources known to be bullshitters or liars, one purpose of the present research is to investigate whether information about these two types of non-credible sources produce conceptually similar or different effects on proximal and distal attitudes. The implications for consumer attitudes and behavior are significant; consumer attitudes within a marketing context are influenced often by the endorsements of communicators that may or may not have the necessary credentials or character to provide accurate or truthful information. Fact checking has become common in our culture because reliance on the information communicated by advertisers, news sources, and politicians is tenuous. Gaining insight into how information about the trustworthiness of the communicator, and thereby the fidelity of the message, contributes to our understanding of consumer attitudes and behavior. Of course, the accuracy of messages advocating product health benefits are especially consequential; therefore, we presented advertisements containing information about the potential health benefits of a product (c.f., Foos et al., 2016).

3 | SLEEPER EFFECT

When people mentally process positive information about a novel attitude object, they tend to cognitively elaborate on the information (provided the cognitive resources and motivation) and form relatively positive attitudes (Petty & Cacioppo, 1984). If they learn something later that is a cue to discount the initial information, such as concerns with credibility, incompetence, or a dishonesty cue, they often adjust their attitudes accordingly leading to less positive attitudes. However, with the passing of time there is often differential dissociation in memory for the initial positive information and the *discounting cue*, such that mental associations between the initial persuasive arguments and the discounting cue weaken over time. A discounting cue is any stimulus that serves as a warning or disclaimer intended to elicit a discounting response whereby the social perceiver disregards information on the basis of context rather than content, such as when an argument is attributed to a distrusted source (e.g., learning that person advocating for a new drug works for “*Big Pharma*”). The dissociation (or “forgetting”) hypothesis (Hovland & Weiss, 1951) suggests a process that produces a less accessible discounting cue in relation to the persuasive argument, resulting in an increase in persuasion over time. The effect, known as the *sleeper effect*, implicates the durability of persuasive influences and is described as a temporal change in persuasion for a message associated with a non-credible source (Albarracín et al., 2017; Cook et al., 1979; Cook & Flay, 1978; Foos et al., 2016; Gruder et al., 1978; Hannah & Sterthal, 1984; Heinbach et al., 2018; Kumkale & Albarracín, 2004; Mazursky & Schul, 1988; Pratkanis et al., 1988; Priester et al., 1999).

The following two requirements for the sleeper effect are assumed in all models of persuasion: (1) the sleeper effect is most likely to occur when the message arguments are strong enough to persuade its recipients (e.g., positive attitude established), and (2) the discounting cue is strong enough to suppress the effect of those arguments (e.g., initial, positive attitude suppressed and reported as more negative following a discounting cue; Kumkale & Albarracín, 2004; for a detailed discussion, see: Cook et al., 1979; Gruder et al., 1978). Of course, following a delay in time (e.g., 14 days), a successful sleeper effect occurs when the initial attitude reappears or rebounds (e.g., positive attitude more similar to the initial attitude). Any cue that inhibits the initial persuasive impact can serve as a discounting cue to produce a sleeper effect. We designed our studies with these elements in mind.

Sleeper effect experiments typically utilize noncredible sources (e.g., biased, untrustworthy) as a key procedural component. Given our culture seems to be plagued with communications that contain bullshit or blatant lies, we were interested in exploring the influences that persuasive messages advocated by either bullshitters or liars have on immediate and delayed attitudes.

The current research builds partly on the work of Foos et al. (2016), which demonstrated a sleeper effect using liars as deceptive, untrustworthy sources. Foos et al. (2016) participants learned about a fictitious gluten-free pizza and then were or were not provided a discounting cue in the form of lies. Consistent with the sleeper effect,

the initially positive attitudes that became more negative after the discounting cue was provided were restored to their general positivity after only 2 week-time relative to participants who had not received the discounting cue. Our primary question focuses squarely on whether or not the sleeper effect is at all contingent upon the nature of that deception. That is, does the process of the sleeper effect depend on the truth being averted through outright lies or bullshit? If the sleeper effect does not depend on the nature of that deception, then the insidious bullshit hypothesis is not supported. On the other hand, the insidious bullshit hypothesis is supported if it can be demonstrated that seemingly harmless bullshit leads to a significantly more extreme sleeper effect than that of outright lies. Thus, we employed a modified version of Foos et al.'s (2016) procedures by including a bullshit condition.

4 | EXPERIMENT 1

Experiment 1 participants were exposed to a traditional sleeper effect procedure whereby they learned about a fictitious gluten-free pizza and informed of its positive qualities (Foos et al., 2016). Participants were then provided with a discounting cue explaining that parts of the advertisement contained either “lies” or “bullshit.” Attitudes toward the pizza were then measured immediately and 14 days later.

There are several possibilities regarding the relationship between the sleeper effect and lies/bullshit. Bullshit may be treated as a lie and possess the same discounting value. As such, no difference in the sleeper effect should be detected when comparing discounting cues that speak to bullshit or lies. We, however, expect to observe a difference between a bullshit and a lie discounting cue. Empirical data show that bullshit is evaluated less negatively than the lie (Petrocelli et al., *in press*). Social perceivers appear to believe bullshit is relatively less harmful than lies and people more readily dismiss lies than bullshit (c.f., Frankfurt, 1986). After all, when people know they have been lied to, they know that what they have learned from the liar is unequivocally false, but when people know they have been bullshitted, they know that the information might in fact be true. As such, people may feel relatively less threatened by a bullshitter than by a liar and therefore less motivated to defend against a communication presented by the bullshitter. Consequently, a bullshit discounting cue may pose a weaker discounting value than that of a lie discounting cue. Nevertheless, because there is always the possibility that the information presented by the bullshitter may be false, a bullshit discounting cue, although relatively weak, should still suppress the influence of prior information. If so, a communication by a bullshitter should be more influential (and produce a more extreme attitude) than the same communication presented by a liar. Therefore, we expect to observe a sleeper effect for both types of communications and we expect the bullshit communication to be more influential both immediately and over time. We refer to this effect as the *absolute insidious bullshit hypothesis*.

Finally, although we do not have a prior reason to expect that the discounting cue that speaks to bullshit will only temporarily result in a more extreme attitude than the one that speaks to the lie, this effect is still possible. We refer to this possibility as the *partial insidious bullshit hypothesis*.

4.1 | Method

4.1.1 | Participants and design

A sample of 120 college undergraduates, enrolled in an introductory psychology course, were recruited to participate in exchange for partial course credit. Every attempt was made to get at least 50 participants per between-subjects condition of the design. However, 24 participants failed to return for the second data collection (14 days from the first data collection); their data were thereby excluded from all analyses, leaving a final sample of 96 participants ($n_{\text{Lie}} = 45$; $n_{\text{BS}} = 51$); 46.7% females with a mean age of 18.67 years ($SD = .85$). Relative to Foos et al. (2016), who demonstrated near medium-sized effects, (Cohen's $d = .43$; Cohen, 1988), the size of our sample required a medium effect ($f = .31$) to detect statistical significance (actual power = .85).

A 2 (Discounting Cue: lies vs. bullshit) \times 2 (Attitude Assessment: immediate vs. delayed) mixed factorial design was employed, such that participants were randomly assigned to one of two Discounting Cue conditions and measured with respect to their attitudes immediately after exposure to the attitude object and discounting information as well as 14 days later (consistent with prior sleeper effect studies; e.g., Foos et al., 2016). All data and procedures are available online (https://osf.io/hq3s9/?view_only=3729b53085ed487e96a6eca912384db2).

4.1.2 | Materials and procedure

All experimental materials were presented through a self-administered computer questionnaire using MediaLab v2016 Research Software (Jarvis, 2016); participants advanced by clicking appropriate response keys. All stimuli and basic procedures were nearly identical to those employed by Foos et al. (2016).

Advertisement

All participants reviewed an advertisement about Ciao's Pizza (Foos et al., 2016). Specifically, participants read about health benefits and taste of gluten-free food, that Ciao's Pizza is gluten-free, and that it comes in many varieties. The information was associated with a picture of a pizza with Ciao's Pizza logo and the words “Gluten-Free Pizza: A healthy taste of Italy.” Participants were permitted to continue after a “Continue” button appeared 60 s from the initial display of the advertisement; Priester et al. (1999) showed that sleeper effects tend to occur only when people have time to cognitively elaborate on persuasive information.

Discounting cue manipulation

After reviewing the advertisement, participants were randomly assigned to a lie or bullshit Discounting Cue condition in which they were informed about two lies made by Ciao's Pizza advertisers or the same two forms of deception in the form of bullshit made by the advertisers. Participants assigned to the bullshit condition also received an explanation of what bullshit is. Specifically, *lie condition* [bullshit condition] participants read the following:

Now we would like you to carefully review a disclaimer from a consumer protection agency regarding Ciao's Pizza.

The health claims of Ciao's gluten-free pizza are unsubstantiated, and have never been tested by nutritionists. In fact, the Ciao's Pizza advertisement includes *lies* ["flim-flam"; that is, the Ciao's Pizza advertisers did not really know, nor did they appear to care to know, about the actual health benefits of a gluten-free lifestyle nor customer opinions of the flavor of Ciao's pizza.]. Not only did Ciao's Pizza advertisers *lie* [flim-flam] about the health benefits of a gluten-free lifestyle (i.e., suggesting that adopting a gluten-free lifestyle can result in nutrition benefits such as weight loss), but they also *lied* [flim-flammed] about customer opinions of the flavor of Ciao's Pizza.

Immediate attitude

Attitudes toward the pizza were measured using a six-item, 9-point semantic differential scale with *Bad/Good*, *Unpleasant/Pleasant*, *Negative/Positive*, *Unfavorable/Favorable*, *Undesirable/Desirable*, *Dislike/Like* as the anchor labels; Cronbach's $\alpha = .94$.

Beliefs and demographics

Finally, participants indicated their beliefs about gluten-free foods: "To what extent do you believe that a gluten-free lifestyle contributes to health?" using a 1 (*very unhealthy*) to 9 (*very healthy*) response scale, and "To what extent do you believe that eliminating gluten impacts taste?" using a 1 (*very bad tasting*) to 9 (*very good tasting*) response scale.

At the very end of the first session, participants were thanked for their time and reminded to return to the laboratory in precisely 14 days.

Delayed attitude

Once participants returned for the second part of the experiment, they were reminded of the Ciao's Pizza with the same picture of a pizza with Ciao's Pizza logo and the words "Gluten-Free Pizza: A healthy taste of Italy." that they had viewed 2 weeks prior, but with no information regarding Ciao's Pizza or gluten-free foods. Participants responded to the same attitude scale employed in the immediate assessment; Cronbach's $\alpha = .96$.

Memory probe

Memory of the persuasive source was assessed by asking participants the following: "Did you read about a disclaimer regarding the

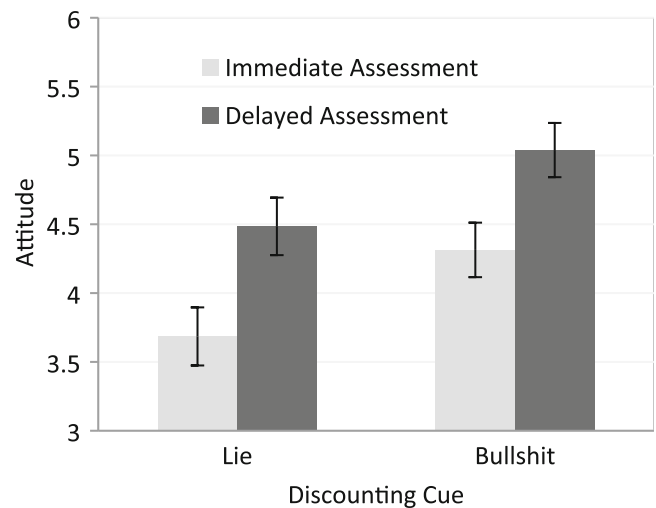


FIGURE 1 Attitude means for attitude assessment by discounting cue condition with SE bars (Experiment 1)

characteristics of the pizza you read about in session 1 of this study?" If participants answered "yes" or "do not know" they were asked: "If you read a disclaimer, was the source of the disclaimer identified in the message?" If participants answered "no" to the first question they were not asked the second question. Finally, participants were thanked and debriefed.

4.2 | Results and discussion

Attitude data were subjected to a 2 (Discounting Cue: lies vs. bullshit) \times 2 (Attitude Assessment: immediate vs. delayed) repeated measures analysis of variance test (ANOVA). The analysis revealed a statistically significant sleeper main effect of Attitude Assessment, $F(1, 94) = 30.62, p < .001, \eta^2_{\text{partial}} = .25, 95\% \text{ CI } [.11, .38]$; attitudes became more positive about the pizza from the immediate ($M = 4.02, SD = 1.44$) to the delayed assessment ($M = 4.78, SD = 1.43$). Additionally, a main effect of Discounting Cue was observed, $F(1, 94) = 5.45, p = .022, \eta^2_{\text{partial}} = .06, 95\% \text{ CI } [.01, .16]$ such that attitudes were significantly more positive in the bullshit condition ($M = 4.35, SD = 1.27$) than in the lie condition ($M = 4.13, SD = 1.09$).

These results were not qualified by a significant discounting cue \times attitude assessment interaction, $F(1, 94) = .07, p = .788$ (see Figure 1). Note, however, consistent with the absolute insidious bullshit hypothesis, bullshit condition participants reported significantly more positive attitudes than their lie condition counterparts both immediately, $t(94) = -3.22, p = .001, d = -.66, 95\% \text{ CI } [-1.06, -.26]$, as well as after a 14-day delay, $t(94) = -2.84, p = .005, d = -.58, 95\% \text{ CI } [-.98, -.19]$.

Memory of the source of the persuasive message was assessed by asking participants if they had read a disclaimer regarding characteristics of the pizza 2 weeks prior. Among participants assigned to the lies condition, 60.0% reported "yes," 13.3% reported "no," and 26.7% reported "do not know" compared to 56.9%, 9.8%, and 33.3%

among participants assigned to the bullshit condition respectively, χ^2 ($df = 2, N = 96$) = .65, $p = .722$.

Participants who either responded that they did in fact read a disclaimer, or did not know if they read a disclaimer regarding the characteristics of the pizza 2 weeks prior were also asked if the source of the disclaimer was identified in the message. Among participants assigned to the lie condition, 7.7% reported “yes,” 20.5% reported “no,” and 71.8% reported “do not know” compared to 13.0%, 8.7%, and 78.3% among participants assigned to the bullshit condition respectively, χ^2 ($df = 2, N = 85$) = 2.77, $p = .250$. Thus, participants in the bullshit and lie Discounting Cue conditions did not differ with respect to aspects of their memory of the sources of the message.

Consistent with Frankfurt's (1986) assertion, the results of Experiment 1 revealed a sleeper effect for both the bullshit and lie discounting cue. In addition, they supported the absolute insidious bullshit hypothesis; bullshit resulted in more extreme attitudes that align with the direction of a persuasive message relative to lies in both the immediate and delayed assessments. Our results strongly suggest that the difference between bullshit and lies is not due to differences in recall with regard to the source of the persuasive message.

Recall that (Cook et al., 1979; Gruder et al., 1978) established that a discounting cue must have a significant influence, inhibiting the effect of the message on attitudes during attitude formation, as one of the four conditions necessary to demonstrate the sleeper effect. Relative to the bullshit cue, the lie cue significantly reduced attitudes during attitude formation. However, it is unclear whether our bullshit cue reduced attitudes during attitude formation relative to having received no discounting cue at all. We sought to answer this question in Experiment 2.

5 | EXPERIMENT 2

Experiment 2 served as a replication of our Experiment 1 findings with two additional purposes. First, Experiment 2 included a control condition that received no discounting cue. Inclusion of a control condition enabled us to determine if similar with a lie discounting cue, a bullshit discounting cue also significantly and negatively affects attitudes immediately after the discounting cue is presented. Second, prior sleeper effect research has found the effect to occur only when the discounting cue (typically in the form of discovering dishonesty) comes after the persuasive message (e.g., Foos et al., 2016; Kumkale & Albarracín, 2004). To compare the pattern of our findings with the body of research on the sleeper effect, we varied whether the discounting cue (liar or bullshitter) came before or after the message.

5.1 | Method

5.1.1 | Participants and design

The sample size was determined based on the findings of Foos et al. (2016), who demonstrated a near medium-sized discounting cue ×

attitude assessment interaction (Cohen's $d = .43$; Cohen, 1988). An a priori power analysis using G*Power (Faul et al., 2009) revealed a required sample size of $N = 178$ to detect a near medium-sized effect ($f = .20$) in an ANOVA with two measurements (pre- and post-discounting cue) and a power of $1 - \beta = .80$.

A total of 218 college undergraduates, enrolled in an introductory psychology course, were recruited to participate in exchange for partial course credit. A total of 20 participants failed to return for the second data collection (14 days from the first data collection); their data were thereby excluded from all analyses, leaving a final sample of 198 participants ($n_{\text{Control}} = 41$, $n_{\text{Lie/Before}} = 38$; $n_{\text{Lie/After}} = 42$; $n_{\text{BS/Before}} = 39$; $n_{\text{BS/After}} = 38$); 55.1% females with a mean age of 18.77 years ($SD = .80$). With this sample, only a medium effect ($f = .21$) is required to detect statistical significance (actual power = .84).

A 2 (Discounting Cue: lies vs. bullshit) × 2 (Placement of Discounting Cue: before vs. after the persuasive advertisement) × 2 (Attitude Assessment: immediate vs. delayed) mixed factorial design was employed, such that participants were randomly assigned to one of two Discounting Cue conditions (lies vs. bullshit) and one of two Placement of Discounting Cue conditions. A control condition that received no discounting cue was also included in the design. We measured participants' attitudes immediately after exposure to the advertisement and discounting information, as well as 14 days later.

5.1.2 | Materials and procedure

All stimuli and basic procedures were identical to those employed in Experiment 1 with only three exceptions. First, a no discounting cue control condition was included. Second, “flim-flam” was replaced with “babble” in the bullshit condition. Third, participants who received the discounting cue before the persuasive advertisement received instructions forewarning them that what they were about to see was either full of lies or bullshit.

Advertisement

All participants were asked to review the same Ciao's Pizza advertisement identical to that employed in Experiment 1.

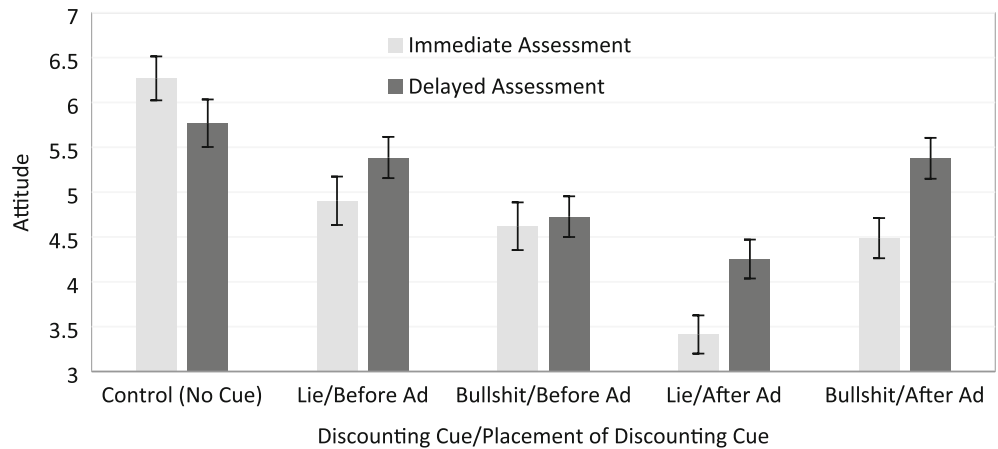
Discounting cue manipulation

Participants were randomly assigned to either a lie, bullshit, or no Discounting Cue Condition. Lie and bullshit cues were identical to those used in Experiment 1.

Placement of discounting cue

Participants randomly assigned to receive the discounting cue after the persuasive advertisement received the same information employed in Experiment 1. Those participants receiving the discounting cue prior to the persuasive advertisement received the following lead-in with the discounting cue: “In the very next screen frame we would like you to carefully review an advertisement for a gluten-free pizza by Ciao's Pizza. However, before you review the advertisement,

FIGURE 2 Attitude means for attitude assessment by discounting cue condition and placement of discounting cue condition with SE bars (Experiment 2)



we would like you to carefully review a disclaimer from a consumer protection agency regarding Ciao's Pizza.”

Immediate attitude and delayed attitudes

Attitudes toward the pizza were measured using the same procedures used in Experiment 1 both immediately, and 14 days after; Cronbach's $\alpha = .96$ and $.96$ respectively.

5.2 | Results and discussion

Immediate Attitude data were first subjected to a one-way ANOVA to determine if the discounting cues significantly reduced the attitudes at the time of formation. This analysis returned a statistically significant effect of Discounting Cue, $F(2, 195) = 25.23, p < .001, \eta^2_{\text{partial}} = .21, 95\% \text{ CI } [.11, .30]$. Participants assigned to the control condition, with no discounting cue, reported significantly greater attitudes ($M = 6.27, SD = 1.57$) than both the lies condition ($M = 4.12, SD = 1.85$), $t(195) = 6.99, p < .001, d = 1.34, 95\% \text{ CI } [.94, 1.74]$, and the bullshit condition ($M = 4.55, SD = 1.31$), $t(195) = 5.54, p < .001, d = 1.07, 95\% \text{ CI } [.67, 1.46]$; the lies and bullshit conditions did not differ significantly, $t(195) = -1.69, p = .091$.

All Attitude data were also subjected to a 2 (Discounting Cue: lies vs. bullshit) \times 2 (Placement of Discounting Cue: before vs. after the persuasive advertisement) \times 2 (Attitude Assessment: immediate vs. delayed) mixed ANOVA. The analysis revealed a statistically significant sleeper effect in the form of a main effect for Attitude Assessment, $F(1, 153) = 24.22, p < .001, \eta^2_{\text{partial}} = .14, 95\% \text{ CI } [.05, .24]$; attitudes generally became more positive about the pizza from the immediate assessment ($M = 4.33, SD = 1.62$) to the delayed assessment ($M = 4.91, SD = 1.47$). Overall, the Discounting Cue failed to have a significant effect on Attitudes, $F(1, 153) = 2.38, p = .125$. Consistent with prior sleeper effect research, Placement of Discounting Cue did have a significant effect on Attitudes, $F(1, 153) = 6.70, p = .011, \eta^2_{\text{partial}} = .04, 95\% \text{ CI } [.01, .12]$, such that Attitudes were significantly reduced only when the discounting cue followed the initial formation of attitudes (i.e., display of advertisement; $M = 4.38, SD = 1.54$) relative to when it preceded attitude formation ($M = 4.91, SD = 1.55$).

However, results were qualified by a statistically significant Attitude Assessment \times Placement of Discounting Cue interaction, $F(1, 153) = 5.92, p = .016, \eta^2_{\text{partial}} = .04, 95\% \text{ CI } [.01, .11]$ (see Figure 2). Consistent with prior theory and research (e.g., Foos et al., 2016; Pratkanis et al., 1988), the sleeper effect was observed when the discounting cue followed the advertisement, $t(153) = -6.05, p < .001, d = -.96, 95\% \text{ CI } [-1.28, -.63]$, but not when the cue preceded the advertisement, $t(153) = -.16, p = .868$. This finding is consistent with the modified forgetting hypothesis of Pratkanis et al. (1988) suggesting that communications (advertisements) and discounting cues (both by bullshit and lie sources) decay at different rates over time when discounting cues are presented after the persuasive communication (advertisement). Thus, learning that the author of a persuasive message provided misleading information either intentionally or because he/she does not value the veracity of the message (bullshit) appears to impact attitudes only when people acquire this information before, not after, exposure to the advertisement. Perhaps, this is one instrumental process in undermining the effectiveness of “fact-checking,” which can only follow exposure to a communication. These effects were not qualified by a Discounting Cue \times Placement of Discounting Cue \times Attitude Assessment interaction, $F(1, 153) = .82, p = .367$.

Given we found a main effect of Placement of Discounting Cue, such that the sleeper effect emerged only when the discounting cues of either bullshitting or lying sources were presented after the advertisement, we compared attitude data among those participants who received the discounting cue after the advertisement with the control condition. Entirely consistent with our Experiment 1 findings, a 3 (Discounting Cue: none vs. lies vs. bullshit) \times 2 (Attitude Assessment: immediate vs. delayed) repeated measures ANOVA revealed a statistically significant sleeper effect in the form of a main effect for Attitude Assessment, $F(1, 118) = 9.32, p < .003, \eta^2_{\text{partial}} = .07, 95\% \text{ CI } [.01, .18]$; attitudes generally became more positive about the pizza from the immediate assessment ($M = 4.71, SD = 1.87$) to the delayed assessment ($M = 5.12, SD = 1.63$). Additionally, a main effect of Discounting Cue was observed, $F(2, 118) = 30.29, p < .001, \eta^2_{\text{partial}} = .34, 95\% \text{ CI } [.20, .45]$, such that attitudes were significantly more positive among participants assigned to the control condition ($M = 6.01,$

$SD = 1.63$) than participants assigned to the bullshit condition ($M = 4.93$, $SD = 1.35$), $t(118) = 2.66$, $p = .008$, $d = .60$, 95% CI [.15, 1.04], and the lie condition ($M = 3.83$, $SD = 1.53$), $t(118) = 5.50$, $p < .001$, $d = 1.21$, 95% CI [.75, 1.66]. Also as expected, bullshit condition attitudes were more positive than those of the lie condition, $t(118) = 2.71$, $p = .007$, $d = .61$, 95% CI [.16, 1.05].

However, these results were qualified by a significant Discounting Cue \times Attitude Assessment interaction, $F(2, 118) = 11.57$, $p < .001$, $\eta^2_{\text{partial}} = .16$, 95% CI [.05, .28] (see Figure 2). A significant sleeper effect was found among the lie condition, $t(118) = -3.68$, $p < .001$, $d = -.80$, 95% CI [-1.23, -.38], and bullshit condition, $t(118) = -3.71$, $p < .001$, $d = -.85$, 95% CI [-1.30, -.41], but not among the control condition, $t(118) = 1.35$, $p = .178$. Consistent with the absolute insidious bullshit hypothesis, bullshit condition participants reported significantly more positive attitudes than their lie condition counterparts both immediately, $t(118) = -4.59$, $p < .001$, $d = -1.02$, 95% CI [-1.48, -.57], as well as after a 14-day delay, $t(118) = -4.80$, $p < .001$, $d = -1.07$, 95% CI [-1.53, -.62]. Interestingly, both the lie and bullshit condition participants reported less positive attitudes than their control condition counterparts immediately, $t(118) = 12.44$, $p < .001$, $d = 2.73$, 95% CI [2.1, 3.28], and after the 14-day delay, $t(118) = 7.57$, $p < .001$, $d = 1.70$, 95% CI [1.21, 2.19], respectively. However, although the lie condition attitudes differed from the control after the 14-day delay, $t(118) = 6.60$, $p < .001$, $d = 1.44$, 95% CI [.97, 1.91], the bullshit condition did not, $t(118) = 1.66$, $p = .099$, returning to the level of the control. These results suggest that knowledge that an initially discounted message is potentially accurate/inaccurate (as is true with bullshit, but not lies) does not result in the long-term discounting of that message for bullshitters as it does for liars.

The results of Experiment 2 replicate our Experiment 1 results. A sleeper effect was obtained for both bullshit and lies; bullshit was more persuasive than lies both immediately and after the passage of time, supporting the insidious bullshit hypothesis. Although the bullshit cue significantly suppressed the expression of positive attitudes relative to a condition that received no cue, it does not appear to impede attitudes as severely as do lies both immediately and over time. Given that positive attitudes based on either bullshit or lies are unwarranted, relative to lies, bullshit carried a more insidious, covert effect, resulting in more positive attitudes. In fact, over time the bullshit cue did not result in a long-term discounting of the message.

6 | GENERAL DISCUSSION

There is a considerable body of knowledge about the antecedents and consequences of lying in marketing and other contexts (e.g., Ekman, 1985), but much less is known about the other untrustworthy source: *The Bullshitter*. The current investigation suggests that the distinction between bullshitting and lying is important to marketing and to persuasion more generally. People are exposed to scores of lies and bullshit every day and this exposure has increased dramatically as the use of the internet has shifted from a platform for

socializing to a source of information (e.g., Di Domenico et al., 2021). Because things such as truth status and source status fade faster than familiarity, illusory truth effects for consumer products can emerge after only 3 days post-initial exposure (Skurnik et al., 2005), and within the hour for basic knowledge questions (Fazio et al., 2015). As mirrored in our conditions that received discounting cues after the initial attitude information, at times people are lied to, or bullshitted, and only learn afterwards they were deceived. It is then that these untrustworthy sources appear to have a sleeper effect creating unwarranted and undiscounted attitudes.

It should be noted that our data do not suggest that the impact of lie and bullshit discounting cues fade differentially. However, the discounting cue in the bullshit condition had less of an immediate and long-term suppression effect than in the lie condition. In fact, after 14 days, the bullshit communication not only had more of an influence on attitudes, but the influence was not significantly different from that of the control communication. This finding suggests that bullshit can be more insidious than lies. As it relates to marketing, the insidious nature of exposure to bullshit can create false beliefs that subsequently affect behavior, even when people have been told that the information came from a person known to spread bullshit. The insidious nature of bullshit is magnified by the fact that even when it is clear that one is expressing his/her opinion via bullshit, people do not appear to hold the bullshitter to the same standard as the liar (Frankfurt, 1986). People may think that at least the bullshitter often believes his/her own bullshit, whereas the liar knows his/her statement is not true (Bernal, 2006; Preti, 2006; Reisch, 2006). Because of this difference, what may appear to be harmless communications from a bullshitter may have serious repercussions for consumers and organizations. Additionally, along with the research of Foos et al. (2016), the present research suggests that the harmful influence of untrustworthy sources may not be recognized initially but appears over time. The present research suggests that efforts to fight the consequences of fake news (see Atkinson, 2019) are more difficult because of the sleeper effect. The negative effects of unsubstantiated or false information may not only persist but may grow stronger over time.

Our research also has implications beyond the marketing context explored in these experiments. To date, empirical examinations of bullshitting have emphasized its antecedents (Petrocelli, 2020; Petrocelli et al., 2020). Initial empirical examinations of bullshitting behavior, conducted by Petrocelli (2018), showed that bullshitting emerges in at least five different contexts, several of which have characteristics shared with online communication. First, people appear to engage in considerable bullshitting when social cues make them feel obligated to provide an opinion about something of which they know relatively little about. As Frankfurt (1986) noted, people often feel obligated to speak as though they possess "informed" opinions about everything, and people appear to be especially likely to engage in bullshitting when it is clear that the social expectations to have an opinion are relatively great. Second, people generally perceive themselves to engage in relatively less bullshitting behavior as their knowledge of the discussion topic increases. Third, people appear to bullshit when they expect it to be relatively easy to pass bullshit. That is, people will

engage in bullshitting when they anticipate ease in receiving a “social pass” of acceptance or tolerance for their communicative contributions. Fourth (consistent with Petrocelli’s ease of passing bullshit hypothesis), bullshitting appears to be attenuated under conditions of social accountability (see: Tetlock, 1992). For instance, when people are expected to explain their reasoning for a position to another person, bullshitting can be attenuated. The effect of accountability on bullshitting is conditional upon the expected attitude of the audience. When the expected attitude of the audience is consistent with the speaker’s attitude, speakers appear free to bullshit, but when the expected attitude of the audience is inconsistent with the speaker’s attitude, speakers appear to attenuate their bullshitting. The influence of exposure to bullshit in any, and all, of these contexts is an interesting direction for future research.

Consistent with other reports that suggest bullshit may be used as a persuasive influence (Petrocelli, 2021b; Petrocelli et al., in press), the current research supports yet another context whereby bullshit can be influential relative to lies. Not only do the consequences for bullshitting appear to be as extreme as those associated with lying, social influencers may prefer to bullshit than outright lie—the delayed influence of bullshit may be even greater than that of lies over time even when people are aware they have been bullshitted.

6.1 | Limitations and future directions

Our experimental participants learned directly that the social targets had in fact communicated either bullshit or lies; this was necessary to provide a discounting cue and directly test the reactions and differential influence of bullshit and lies. At times, as in our experiments, people do learn that the communicator was a liar or a bullshitter. However, in other situations, people do not learn about either the veracity of the message or the motives of the communicator. In these cases, discerning that the source of the communication is a bullshitter, or a liar, can be very difficult as both the bullshitter and liar can mask their untrustworthiness and appear to be genuinely concerned with communicating the truth. In these situations, perceivers may not differentiate the bullshitter from the liar, and both may be quite persuasive.

In addition to procedures involving the sleeper effect, other viable methods for studying the relative insidiousness of bullshitting exist. One possibility is that exposure to bullshit is potentially more likely to lead to false memories or illusions of truth (see: Fazio et al., 2015) than is exposure to lies. Although bullshit is not necessarily false, as are lies, the possibility that bullshit exposure leads to greater illusions of truth than exposure to lies remains an intriguing possibility that warrants further investigation.

Finally, it is worth noting that our experimental participants were not surveyed with respect to their background knowledge or attitudes about pizza or gluten-free food. Future investigation would do well to examine the bullshit sleeper effect while controlling for pre-existing knowledge and attitudes connected to the attitude objects under study. In addition to the attitude measures used in our

experiments, future research might also include accountability measures (e.g., likelihood of endorsing pizza shop to friends) to increase generalizability. Research might also examine how the strength of the sleeper effect might be reduced or increased by, for example, using discounting cues, other than the one employed in our experiments.

CONFLICT OF INTEREST

The authors of this research declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

All data and procedures are available online at: https://osf.io/hq3s9/?view_only=3729b53085ed487e96a6eca912384db2

ETHICS STATEMENT

This research involved Human Participants and was approved by the Human Subjects Committee of the Institutional Review Board of Wake Forest University.

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