Too Close for Comfort:

Resisting Relevance as a Lever for Persuasion

by

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ABSTRACT

Objective: This work investigates how broad principles of persuasion (e.g., the role of relevance) operate in the context of social identities. Although relevance is expected to facilitate persuasion, we use information targeting as a relevance intervention to test whether and why signaling relevance through identities (e.g., race) backfires. **Methods:** In Study 1, medical practitioners were surveyed about their evaluations and use of information targeting. In Studies 2-5, European Americans and African Americans were told they received information about HIV and/or flu after providing their demographics (targeting condition) or due to chance (control condition). Collectively, these studies tested the direct consequences of increasing relevance via targeting identities (Study 2), the mechanism underlying these consequences (Studies 3-4), whether consequences emerge only when identities are used as a relevance cue (Studies 3-4), and whether perceptions about the source of relevance produces divergent consequences (Study 5). **Results:** Practitioners reported favorable evaluations and use of information targeting (Study 1). In Studies 2-5, being in the targeting (versus control) condition generally decreased attention to the information and produced more negative source evaluations for African Americans, but not European Americans. Studies 3-4 showed that consequences emerged due to perceptions of being unfairly judged, and only emerged when racial identities are used as a relevance cue (e.g., are tied to information selection). Study 5 revealed that targeting backfires due to increasing recipients' perceptions that relevance is derived from the research team, rather than increasing personal perceptions of relevance. **Conclusions:** Leveraging relevance through social identities

can preclude the expected benefits of relevance by increasing perceptions of judgment and/or beliefs that relevance is being externally imposed.

Keywords: Relevance, Identity, Persuasion Strategies, Identity Threat, Persuasion

CHAPTER I: Overview

"I bet people at the company [Netflix] thought it would be a cool idea and drive engagement. But people generally don't like knowing they're being treated differently because of their race."
-- Chicagoan coder @bensayingthat (Benjamin Williams), *The Guardian,* 2018

In October 2018, Netflix, a multi-billion-dollar video streaming service, was caught in a debacle when its algorithm that customizes TV and movie recommendations to increase viewer engagement was accused of targeting media content to African Americans based on their race (Iqbal, 2018). Specifically, Netflix was accused of targeting particular movies and shows to African American audiences by using images of African American characters as cover art for the programs, despite the fact that these characters often had minor roles and little screen time. Although Netflix suggested that their program recommendations were based only on prior viewing history because they do not have access to information about viewers' race, ethnicity, or gender, African American viewers' attributions about why they were receiving these recommendations (e.g., their race) evoked beliefs about being stereotyped by the company.

Although psychological theory would suggest that increasing the perceived relevance of Netflix's program recommendations should facilitate engagement among African American audiences, it is important to understand (a) why this was not the case, and (b) whether negative responses emerge in other contexts where efforts to increase message reception leverage relevance. Therefore, although African Americans' negative reactions to feeling targeted by a video streaming service may seem like a situation with low-stakes outcomes, this example is important for several reasons. First, it is illustrative in that extant literature would suggest that

increasing perceived relevance should increase viewer engagement, rather than eliciting outrage. As such, this scenario suggests that current theory about the role of relevance in persuasion may be incomplete as it cannot account for examples such as these, where persuasive efforts to leverage relevance through social identities backfire. Additionally, it is important to consider the impact of these negative reactions in contexts where the stakes may be higher. For instance, if people believe that they are receiving persuasive communications about their health due to the relevance of their racial or ethnic identity, subsequent perceptions of being stereotyped or unfairly judged may elicit disengagement from the message and/or distrust of the physician, thereby impeding access to health information and reducing the likelihood of behavior uptake. If this disengagement falls along identity lines, targeting may exacerbate, rather than ameliorate, health disparities. As such, the current paper is engaged with understanding how broad principles of persuasion (e.g., the role of relevance in persuasive communications) operate in the context of social identities.

Although extensive research has documented the benefits of leveraging relevance within persuasive appeals, limited work investigates how interpretations of, and responses to, relevance may be moderated by recipients' social identities (Clarke, Evans, & Hovy, 2011; Martinez, Duncan, Rivers, Latimer, & Salovey, 2012; Petty & Cacioppo, 1979; Roser, 1990). Therefore, this work fills a critical gap in extant literature by highlighting how identities may modulate the ways in which bedrock principles of persuasion actually operate. Because identities are dynamic and situated in context (Oyserman, Elmore, & Smith 2012), we consider how using identities as a relevance cue to change health behavior (e.g., by making identities salient before or after receiving a persuasive appeal) impacts both receptivity and responses to messages. Specifically, this work considers the conditions under which signaling relevance based on social identities

may backfire, and why signaling relevance based on social identities might be consequential for some groups, but not others. Moreover, we consider whether beliefs that relevance is derived from an external source (versus personally intuited) may also produce heterogeneity in the consequences associated with relevance.

To understand the utility of relevance as a persuasive strategy, we test these questions in the healthcare domain, where persuasive efforts to motivate behavior change are ubiquitous. Thus, to test the boundary conditions under which leveraging relevance is beneficial, the current work investigates how people engage with, and respond to, health messages when they perceive that relevance is being signaled through their social identities (e.g., their race). Although perceiving high message relevance may be beneficial in some contexts, relevance may backfire when (a) message receipt is attributed to a marginalized identity, (b) recipients feel judged (e.g., experience social identity threat), or (c) recipients infer that relevance is being externally imposed, versus personally perceived. Under these conditions, recipients may disengage from message content, derogate the message source, or fail to enact the advocated behavior. Because African Americans (1) have a marginalized racial identity that makes them particularly susceptible to identity threat (Purdie-Vaughns, Steele, Davies, Ditlmann, & Crosby, 2008), and (2) are often the target audience for health communications due to a high-risk status (CDC, 2015; Crepaz et al., 2009; Jemmott III, Jemmott, & Fong, 1998; Lipkus, Lyna, & Rimer, 1999; Pederson, Ahluwalia, Harris, & McGrady, 2000), it is both theoretically and practically important to understand how African Americans respond to persuasive efforts that leverage relevance to promote behavior change.

The role of social identities in persuasion

Developing effective persuasive appeals often relies on optimizing features of the message, as well as understanding how person-level factors (e.g., attitudes or identities) may influence responses to the message. Because the role of attitude-relevance on persuasion has been the focal point of research to-date, identities are often understudied in the context of persuasion (Hogg & Smith, 2007; van Knippenberg, 1999). However, examining the role of social identities is crucial because identities can shape how audiences respond to messages. For example, prior research shows that messages are generally more persuasive when (a) they are presented by an information source who shares the recipients' group membership, (b) the relevant identity has been activated, or (c) the message content expresses attitudes that are consistent with, or relevant to, an aspect of one's identity (Durantini, Albarracin, Mitchell, Earl, & Gillette, 2006; Haslam, McGarty, & Turner, 1996; Mackie, Worth, & Asunction, 1990; Maitner, Mackie, Claypool, & Crisp, 2010; Turner et al., 1987; Wyer, 2010).

Because prior research suggests that social identities can impact the efficacy of persuasive appeals in several ways, continued study of the mechanisms through which social identities facilitate or undermine persuasion is imperative. In particular, social identities can influence persuasion by serving as a normative cue that signals how "people like me" should feel about particular issues, shifting the perceived level of involvement for group-relevant issues, and biasing information processing (Boninger, Krosnick, & Berent, 1995; Fleming & Petty, 2000). Furthermore, the processes through which social identities produce short and long-term attitude change can be influenced by social context. For instance, Newcomb (1943) found that over time, college students' political attitudes diverged from their (more conservative) parents' views and became more analogous to other college students' (more liberal) attitudes through normative

influence. Identity-relevant threats can also prompt attitude change; when European Americans encounter information about the changing racial demographics of the U.S., perceived threat to their social status activates more negative attitudes towards racial minority groups (Craig & Richeson, 2015).

Although some identities can serve as a cue that reflects attitudes and values (e.g., a Democrat), other identities, particularly ones that are immutable, may convey social information about group membership that may or may not be consistent with beliefs that individuals themselves espouse (Hogg & Smith, 2007). For instance, although people presume large gender differences between men's and women's attitudes towards political issues, such as immigration and abortion, there is some evidence that their attitudes are in greater alignment than expected (Grant, Button, Ross, & Hannah, 1997). Given that attitudes cannot always be inferred from social identities, group members may respond negatively to messages in which their social identities are presumed to reflect homogenous attitudes, particularly when group members' attitudes are actually diverse (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner & Reynolds, 2011). Therefore, efforts to leverage social identities in persuasive communication may backfire when features of the message are at odds with recipients' identities. As such, previous research underscores the importance of investigating how recipients' social identities may interact with other features of the message (e.g., whether the message is personally relevant) to influence the efficacy of persuasive efforts.

Understanding the role of relevance in persuasive communication

One of the most fundamental tenets of persuasion is that personally relevant messages are more persuasive than irrelevant messages (Chaiken, 1980; Liberman & Chaiken, 1996; Petty, Cacioppo, & Goldman, 1981; Roser, 1990). As a result, persuasive efforts often leverage

message relevance to facilitate behavior change, increase knowledge, and change preexisting attitudes and beliefs (Brug, Steenhuis, Assema, & de Vries, 1996; Kiene & Barta, 2006; Southwell, 2009; Strecher et al., 2008). To understand the utility of message relevance in persuasive communications, it is first important to consider what it means for something to be relevant. Merriam-Webster (n.d.) defines relevance as "relation to the matter at hand" or "the ability (as of an information retrieval system) to retrieve material that satisfies the needs of the user." Relevance has also been defined in the context of communication. For instance, Grice's maxim of relation highlights that people should say things that are pertinent to the discussion at hand. Therefore, this maxim suggests that relevance is a key part of successful communication and specifically, allows for thoughts to be understood (Grice, 1975). Within empirical research, relevance has been operationalized in several ways, such as statements or language that appeals to a particular group (Brage Hudson, Campbell-Grossman, Keating-Lefler, & Cline, 2008), messages that show some regard to recipients' personal characteristics (attitudes, belief systems, or behavior; Clary, Snyder, Ridge, Miene, & Haugen, 1994; Petty, Wheeler, & Bizer, 2000; Uskul & Oyserman, 2010), and visual images or symbols that signal group membership (Callahan & Ledgerwood, 2016). Given the broad range of definitions and operationalizations for relevance, it is important to consider how the multidimensionality of relevance may influence message receptivity.

The benefits of relevance

Across several domains, relevance has been linked with increased persuasion, greater attention to self-relevant stimuli, more systematic information processing, increased information encoding and recall, and stronger approach behavior to health goals (Abrahamse, Steg, Vlek, & Rothengatter, 2007; Bargh, 1982; Chaiken, 1980; Chaiken, Giner-Sorolla, & Chen, 1996;

Chaiken & Ledgerwood, 2011; Earl, Nisson, & Albarracin, 2015; Johnson & Eagly, 1989; Knobloch-Westerwick & Meng, 2009; Lustria et al., 2013; Moray, 1959; Petty & Cacioppo, 1979; Petty & Cacioppo, 1986; Rogers, Kuiper, & Kirker, 1977; Rotliman & Schwarz, 1998). Moreover, research using event-related potentials suggests that the benefits associated with relevance can emerge even without conscious effort; for example, people automatically allocate attention to self-relevant stimuli, even when they are explicitly instructed to ignore them (Gray, Ambady, Lowenthal, & Deldin, 2004).

The relationship between relevance and persuasion is particularly evident in health contexts, where relevance is often directly manipulated through message tailoring. Prior research shows that when messages are developed based on information provided by recipients, such as their behavior, medical history, or personal interests, the content is perceived to be more relevant and is evaluated as more novel, interesting, and of a higher-quality (Haerens et al., 2007). For example, overweight adults who received tailored (versus non-tailored) communication about weight-loss reported more positive thoughts about the materials, more positive personal connections to the materials, more positive self-assessment thoughts, and stronger behavioral intentions (Kreuter, Bull, Clark, & Oswald, 1999). Moreover, people who are exposed to highly relevant, personalized messages exhibit more accurate perceptions of risk, increased knowledge, stronger motivation to seek help, and greater uptake of behavioral recommendations (Albada, Ausems, Bensing, & Dulmen, 2009; Fjeldsoe, Marshall, & Miller, 2009; Nooijer, Lechner, Candel, & de Vries, 2004).

Although an extensive body of research focuses on leveraging message relevance at the individual level by tailoring communication based on recipients' personal characteristics, persuasive efforts have also relied on leveraging relevance through cultural values or group

characteristics to reach target audiences (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003; Kreuter & Wray, 2003). For instance, cultural tailoring is a relevance intervention designed to recognize the role of cultural differences in persuasive communication by personalizing messages in ways that acknowledge and reinforce a group's cultural values, beliefs, and behaviors (Huang & Shen, 2016). Similar to tailoring at the individual level, cultural tailoring has been associated with greater persuasion; Kreuter & colleagues (2005) found that integrating cultural values, such as religiosity, collectivism, racial pride, and time orientation into a pamphlet about breast cancer that was already tailored on behavioral constructs (e.g., perceived risk for breast cancer) was more effective than pamphlets based on behavioral constructs alone. For instance, African American women who reported high levels of racial pride (e.g., beliefs that they should keep up with issues that affect the Black community) and received culturally tailored messages about the importance of mammography for African American women to reduce race-based disparities in breast cancer mortality reported greater intentions to receive a mammogram than African American women who did not receive pamphlets integrating these cultural values (Kreuter et al., 2005).

The heterogeneous effects of relevance: The efficacy of threat as a persuasive strategy

Despite a comprehensive body of literature documenting the benefits of relevance, the effects of relevance may be more complex than previously considered. In particular, persuasive efforts that leverage relevance may backfire or produce heterogeneous effects in contexts where persuasive communications threaten an important aspect of people's self-concepts, such as their self-image, beliefs or attitudes, self-esteem, or future selves (Bensley & Wu, 1991; Clark, Wegener, & Fabrigar, 2008; Freeman, Hennessy, & Marzullo, 2001; Kessels, Ruiter, & Jansma, 2010; LaVoie, Quick, Riles, & Lambert, 2017; Lisjak, Lee, & Gardner, 2012; Major et al., 2014;

Seacat & Mickelson, 2009; Sherman, Nelson, & Steele, 2000). One common persuasive strategy, fear appeals, evoke threat to one's sense of safety by manipulating the perceived severity of the threat, as well as the perceived susceptibility to negative outcomes (Witte, 1992). In particular, fear appeals aim to induce attitude and behavior change by increasing recipients' motivation to avoid physical and/or psychological distress (Tannenbaum et al., 2015). Although fear appeals leverage threat by linking personal engagement in risk behavior with undesirable outcomes, past research shows that the efficacy of leveraging threat to motivate behavior change among high-risk audiences is mixed (Earl & Albarracin, 2007; Witte & Allen, 2000).

Although some research suggests that fear appeals can effectively motivate behavior change (e.g., for one-time behaviors or when the appeals are coupled with strategies that increase people's sense of efficacy to cope with the threat), empirical evidence also shows that linking personal behavior with threat can backfire if it elicits defensive processing (Higbee, 1969; Janis & Feshbach, 1953; Peters, Ruiter, & Kok, 2013). Specifically, recipients who encounter threatening communications may respond by counterarguing the message content, derogating the message source, disengaging attention from intervention programs, showing non-uptake of intervention-advocated behaviors, or expressing reactance (Brehm & Sensenig, 1966; Earl & Albarracin, 2007; Earl, Crause, Vaid, & Albarracin, 2016; Earl et al., 2015; Peters et al., 2013; Rogers & Mewborn, 1976; Witte & Allen, 2000). For instance, coffee drinkers who encountered a message suggesting that coffee consumption is associated with an increased risk of breast cancer were less likely to believe the message and were more critical of the message arguments than non-coffee drinkers (Liberman & Chaiken, 1992). Furthermore, message recipients may be particularly likely to exhibit defensive responding to threatening messages when the target behavior is complex, requires long-term change, or when people lack the resources needed to

cope with the threat (Rogers & Mewborn, 1976; Tannenbaum et al., 2015). For instance, alcohol-using college students who received information about the risks of alcohol use evaluated drinking as less of a problem, were more critical of the scientific merit of the article, and were more skeptical of the article's claims (Leffingwell, Neumann, Leedy, & Babitzkke, 2007). Taken together, prior research suggests that in the context of threat, relevance may increase avoidance of, rather than approach towards, messages.

Responses to threat: Understanding the role of social identities

Whether persuasive appeals are perceived to be threatening may be determined, at least in part, by recipients' attributions about why the communication was received (Kelley, 1967). When people encounter an ambiguous event, such as the receipt of feedback, they often experience difficulty interpreting its cause, a phenomenon known as attributional ambiguity (Crocker, Voelkl, Testa, & Major, 1991; Major & Crocker, 1993; Mendes, McCoy, Major, & Blascovich, 2008). As a result, the types of attributions people make are often shaped by personal characteristics, such as their motivations, prior experiences, or sensitivity to stigma cues. Because these characteristics are often shared by other ingroup members, attribution patterns made in response to ambiguous events (e.g., information receipt) may vary as a function of social identities. Specifically, social identities may impact attributions at two levels: determining (a) whether people experience ambiguity in response to an event, and (b) how people interpret that ambiguity (Mendoza-Denton, Downey, Purdie-Vaughns, Davis, & Pietrzak, 2002).

For members of marginalized groups, greater sensitivity to stigma cues may increase susceptibility to attributional ambiguity due to perceptions that their identity may underlie experienced events. The increased sense of ambiguity caused by having a marginalized identity,

in turn, can shape attribution patterns. For instance, when members of marginalized groups receive negative feedback from an outgroup member, an ambiguous event, their previous experiences and/or sensitivity to stigma may influence whether they attribute negative feedback to an external factor, such as the evaluator's personality, versus an internal factor, such as being African American (King, 2003). Because attribution patterns impact subsequent responses to events, attributing negative events internally (versus externally) can increase negative affect or elicit threat, which may, in turn, prompt defensive responding (Crocker & Major, 1989; Major, Feinstein, & Crocker, 1994; Major, Quinton, & McCoy, 2002; Ruiter, Abraham, & Kok, 2001). In the context of messaging, persuasive efforts that disseminate information based on group, rather than individual, characteristics, may increase recipients' attributions that the information was selected based on their identities, and these attributions may be particularly salient for people with marginalized identities. Moreover, making internal attributions may elicit defensive processing via increased perceptions of being judged or negatively evaluated on the basis of their group membership.

Therefore, messages that signal relevance through social identities may preclude persuasion if recipients experience, suspect, or anticipate being stereotyped or discriminated against due to their membership in a particular social group (e.g., experience social identity threat; Branscombe et al., 1999; Major et al., 2014; Steele, Spencer, & Aronson, 2002). Within prior literature, social identity threat has been associated with negative psychological and physiological outcomes, such as stereotype threat, compensatory behaviors (e.g., overeating), a decreased sense of belonging in environments, increased blood pressure, and greater cortisol secretion (Inzlicht & Kang, 2010; Logel et al., 2009; Scheepers, 2009; Scheepers, Ellemers, & Sintemaartensdijk, 2009; Steele, 1997; Townsend, Major, Gangi, & Mendes, 2011). Previous

research documents the propensity for members of marginalized groups to experience social identity threat in response to stigma cues; for instance, adults with higher (versus lower) body mass indexes who perceived that they were receiving health communication about obesity and obesity-related illness due to their weight status experienced social identity threat and consequently, reported reductions in behavioral intentions and self-efficacy to eat healthy foods and exercise (Derricks & Earl, 2019). Moreover, Fryberg and colleagues (2008) find that for American Indian students, exposure to American Indian mascots (compared to a neutral control) is associated with reductions in self-esteem, a lower sense of community worth, and fewer achievement-related possible selves because the mascots reminded students of the limited ways in which their group is perceived by others.

Efforts to leverage identities may be particularly consequential in the context of persuasive communication because making identities salient also activates identity-relevant attitudes, beliefs, and experiences that can shape subsequent behavior (Kawakami, Dovidio, & Dijksterhuis, 2003). For instance, when women hold token status in a math environment, the salience of their gender identities can activate stereotypes about their math ability and increase feelings of performance apprehension during a math task (Sekaquaptewa & Thompson, 2002; Sekaquaptewa, Waldman, & Thompson, 2007). Making identities salient can also guide people to behave in identity-consistent ways; activating African American and Latino students' racial identities activate normative beliefs about how "people like me" behave, which subsequently decreases willingness to engage in health behaviors perceived to be inconsistent with one's racial identity (Oyserman, 2015; Oyserman, Fryberg, & Yoder, 2007). In addition to considering the direct consequences of identity activation, it is also important to consider which identities are being activated because the identities that are made salient will drive subsequent behavior

(Oyserman et al., 2007). For instance, whether Asian American women's gender or racial identity is activated influences their subsequent performance on a math test (e.g., whether they experience stereotype threat or stereotype lift, respectively; Shih, Pittinsky, & Ambady, 1999). Given the consequences of activated social identities on behavior, persuasive messages that activate identity-relevant constructs (e.g., by signaling message relevance through identities) may produce divergent responses as a function of recipients' group membership.

One method of signaling relevance: Information targeting

The current research offers a theoretically novel and practically important qualification to beliefs that leveraging relevance is beneficial for message receptivity. Although signaling message relevance through recipients' self-reported behavior, medical history, personal interests, or cultural values may facilitate persuasion, we propose that signaling relevance through a marginalized identity (e.g., being African American) may elicit social identity threat and impede persuasion.

Although extant research has operationalized relevance in several ways, the present work signals relevance through information targeting, a relevance intervention where information is disseminated specifically to high-risk audiences (e.g., disseminating information to older adults about ways to combat osteoporosis; Chang et al., 2004). Information targeting is differentiated from other relevance interventions, such as cultural tailoring, because targeting is intended to reach population subgroups based on characteristics that are presumed to be shared by group members, whereas tailoring is intended to reach one specific individual based on his or her personal characteristics (Kreuter & Wray, 2003). Therefore, although tailored communications are often adapted from individuating characteristics provided by recipients, targeted communications are often based on presumptions derived from recipients' group membership.

Thus, the efficacy of targeting as an intervention strategy rests on the assumption that targeting will increase the perceived relevance of the messages, and consequently, improve message receptivity (Kreuter & Wray, 2003). However, because the efficacy of targeting relies on recipients' perceptions that the information is personally relevant, perceiving that relevance is being derived from an extrinsic source (e.g., believing that the information provider thinks that information is relevant for a target audience), particularly in response to one's identity, may impede receptivity.

Therefore, although prior work suggests that disseminating relevant information to high-risk audiences is efficient, there may be unintended consequences of signaling relevance through marginalized social identities. When persuasive efforts adapt information at the group, rather than individual, level, they may rely on general knowledge about groups without acknowledging individual differences between group members (Napolitano & Marcus, 2002). Consequently, recipients may perceive that the message unfairly judges them based on their group membership without considering them as unique individuals, eliciting social identity threat (Steele et al., 2002; Turner et al., 1987). Given this possibility, it is imperative to understand how these efforts may impact outcomes that have a particularly important role in the context of persuasion. Therefore, the current studies examine the consequences of perceiving identity-based relevance on message reception and yielding (e.g., attention, source evaluations, behavioral intentions, and behavior) due to their well-established implications for behavior change (Henson, Derlega, Pearson, Ferrer, & Holmes, 2013).

Dissertation overview

In addition to exploring how real-world information providers perceive the utilization of relevance (via targeting) as an information dissemination strategy, these studies investigate how

social identities operate in the context of persuasion. In particular, the present work identifies how African Americans, versus European Americans, respond to health information about HIV and flu, particularly when they perceive that their social identities (e.g., their race) may be the basis for information selection. To test this possibility, the current work examines (a) conditions under which leveraging relevance based on identities backfires, and (b) why signaling relevance through social identities may negatively impact engagement with health information. In particular, these studies examine how African Americans (versus European Americans) respond when (1) information receipt is attributed to a marginalized identity, (2) recipients feel judged (e.g., experience social identity threat), and (3) recipients perceive that relevance is being derived from an extrinsic (versus intrinsic) source. We expected that race, rather than other marginalized identities (e.g., being female or having low socioeconomic status), would emerge as a moderating factor because empirical evidence suggests that for people with multiple marginalized identities, racial identity is often the most salient or important cue (Pietri, Johnson, & Ozgumus, 2018; Shorter-Gooden & Washington, 1996). Because perceptions that racial identities are serving as a relevance cue may evoke identity threat, particularly for African Americans, we hypothesize that African Americans who receive targeted (versus non-targeted) information would disengage from the message content, distrust the message source, and exhibit decreased uptake of recommended behavior.

We hypothesize that negative effects on the primary study outcomes (attention, source evaluations, behavioral intentions, and behavior) will emerge for African Americans, but not European Americans, because African Americans have been historically marginalized. As a result, making identities salient (e.g., by providing one's demographic information) may heighten African Americans' perceptions that they are receiving health information due to their

racial identity. Consequently, feeling targeted based on racial identities may activate race-based cognitions and experiences (e.g., being stereotyped or unfairly judged) that negatively impact information processing and behavior (Steele et al., 2002). For European Americans, who have not been historically marginalized on the basis of race, targeting is unlikely to activate race-based cognitions and experiences related to being stereotyped or unfairly judged.

To test our research questions, Study 1 examined medical practitioners' evaluations and use of information targeting as a strategy for information dissemination. Specifically, Study 1 assessed (a) medical practitioners' beliefs about leveraging relevance via information targeting, and (b) the dimensions on which practitioners target information (e.g., medical history versus visible identity cues). Study 2 examined how signaling relevance via social identities (through information targeting) impacted African Americans and European Americans' attention to the health messages and evaluations of the information source (e.g., the research team). Study 3 identified the mechanism underlying the effects observed in Study 2, and Study 4 tested whether the iatrogenic effects of perceiving identity-based relevance emerge in response to simply activating identities, or whether messages must signal that identities are being used as a relevance cue for consequences to emerge. Study 5 extended the model proposed in Studies 3-4 by examining (1) the extent to which self-report measures of attention and source evaluations predict behavior, and (2) the role of participants' perceptions that relevance was derived from an extrinsic (versus intrinsic) source (e.g., if perceptions that "the research team thinks the information is relevant for me" produces divergent responses from "I think the information is relevant for me").

Hypothesis 1: We hypothesized that, in line with theory highlighting the benefits of message relevance, medical practitioners will report favorable evaluations of information

targeting. In particular, we expected that practitioners would endorse information targeting as a strategy that would facilitate patients' attention to health information and improve doctor-patient relationships. Additionally, we predicted that practitioners would report a willingness to target information based on medical history and visible identity cues (Study 1).

Hypothesis 2: Signaling relevance based on social identities will backfire for African Americans, but not European Americans, producing (a) decrements in attention to the messages, (b) more negative evaluations (e.g., reduced trust) of the information source, and (c) reductions in behavioral intentions and uptake of the behavioral recommendations (Studies 2-5).

Hypothesis 3: Responses to targeted (versus non-targeted) information will be moderated by participants' racial identity because perceiving relevance based on racial identities may activate race-based experiences, cognitions, and attitudes related to being stereotyped or having one's identities used as the basis for judgment. As such, we expected that perceptions of being unfairly judged would be the mechanism underlying negative outcomes for African Americans (Studies 3-5).

Hypothesis 4: Negative consequences for African Americans would emerge only when their social identities are used as a relevance cue (e.g., instructions referencing an association between their provided demographics and information selection), rather than in response to identity activation alone (e.g., providing demographics in absence of these instructions; Studies 3-4).

Hypothesis 5: Information targeting would produce negative effects on the primary study outcomes through perceptions of being unfairly judged because targeting increases perceptions of extrinsic relevance (e.g., the research team thinks the information is relevant for me) but not perceptions of intrinsic relevance (e.g., I think the information is relevant; Study 5).

All manipulations and data exclusions across studies are reported in the manuscript, and a complete list of measures is included in the appendix. All studies were reviewed and approved by the Health Sciences and Behavioral Sciences Institutional Review Board. Due to the absence of data to identify effect sizes using a priori power calculations, our predetermined target sample size was approximately 40-50 participants per cell in Studies 2-5, consistent with the cell sizes recommended by Simmons, Nelson, & Simonsohn (2011). This allowed us to detect small-to-medium sized effects ($f_{Study2} = 0.15$, $f_{Study3} = 0.14$, $f_{Study4} = 0.13$, $f_{Study5} = 0.14$; Faul, Erdfelder, Lang, & Buchner, 2007).

CHAPTER II: Information Providers' Evaluations of Targeting (Study 1)

Extensive research shows that racially discordant physician-patient interactions are characterized by lower levels of positive affect, patient trust, joint decision-making, and relationship-building than racially concordant interactions (Cooper et al., 2003; Johnson, Roter, Powe, & Cooper, 2004; Koerber et al., 2004; Siminoff, Graham, & Gordon, 2006). Although there are several factors that can contribute to lower-quality encounters, physicians' implicit and explicit biases have been identified as a particularly important factor that can perpetuate racial health disparities (Blair et al., 2012; Penner et al., 2016). For example, prior research shows that physicians implicitly associate health conditions, such as HIV, with African Americans, and relying on these stereotypes can shape their approach to clinical interactions (e.g., diagnoses and treatment decisions; Moskowitz, Stone, & Childs, 2012). Given physicians' tendencies to link health conditions with specific social groups (e.g., HIV with African Americans), we first sought to test whether medical practitioners endorse attitudes and behavior that may have deleterious effects on clinical encounters. Therefore, we examined (a) medical practitioners' evaluations of information targeting, and (b) practitioners' willingness to target information based on visible identity cues, such as race.

Sample

79 medical practitioners from Midwestern and Mid-Atlantic medical universities completed a survey online (n = 46; 69.6% European American; age: $M = 50.20$, $SD = 11.92$) or face-to-face (n = 33; 78.8% European American; age: $M = 46.23$, $SD = 12.17$). Because t-tests

revealed non-significant differences based on recruitment method, the presented results are collapsed across samples.

Procedure

Participants were informed that the researchers were interested in their expertise about a healthcare strategy. Before answering the survey items, participants read a description of information targeting, defining the healthcare strategy as: "targeting health information to subgroups of the population at higher risk for a disease (by giving them medical brochures about the disease)."

Participants answered survey items regarding their (a) personal endorsement of information targeting (2 items), (b) profession's use and endorsement of information targeting (2 items), (c) expectations that targeting will increase patients' attention to the information (1 item), and (d) expectations about the benefits of information targeting for doctor-patient relationships (3 items). Participants reported their responses on Likert-type scales ranging from 1 = *Strongly Disagree,* to 7 = *Strongly Agree,* with a neutral scale midpoint of 4 = *Neither Agree nor Disagree.*

Furthermore, participants responded to two survey items regarding their personal engagement in information targeting. As such, they reported their previous use of targeting (using a Likert-type scale ranging from 1 = *Never*, to 7 = *Very Often*) and their likelihood of targeting information to patients in the future (using a Likert-type scale ranging from 1 = *Not at All Likely*, to 7 = *Very Likely*). In addition to the aforementioned items, participants reported the attributes (visible identity cues and/or medical history) on which they would target information to patients. Participants saw 7 categories (weight, race, gender, age, sexual orientation, medical history, and other), and could select as many categories as they wanted. The complete wording of

all survey items is reported in the appendix.

Analytic Strategy

We conducted one-sample t-tests comparing medical practitioners' survey responses to the neutral scale midpoint (4 = *Neither Agree nor Disagree*). Practitioners' previous targeting behavior and willingness to target information in the future was compared to its own baseline (1 = *Never/Not at All Likely*). Statistical means and standard deviations are reported in Table 1.

Results

Personal endorsement of information targeting. Practitioners believed that information targeting is an efficient method of information dissemination, $t(76) = 2.95$, $p = .004$, $d = 0.68$, and a strategy that is indicative of their care for patients' health, $t(74) = 6.68$, $p < .001$, $d = 1.55$.

Profession's use and endorsement of information targeting. Practitioners endorsed beliefs that targeting is a behavior that health professionals should consider doing more often, $t(77) = 5.08$, $p < .001$, $d = 1.16$, and disagreed with beliefs that targeting should be done less often, $t(75) = -6.60$, $p < .001$, $d = 1.62$.

Expectations that targeting increases attention for patients. Practitioners reported expectations that targeting would increase patients' attention to the information, $t(71) = 3.94$, $p < .001$, $d = .94$.

Expectations that targeting improves doctor-patient relationships. Practitioners disagreed that information targeting would result in worse relationships between health professionals and patients, $t(78) = -8.57$, $p < .001$, $d = -1.94$, or make patients feel distrustful, $t(72) = -9.12$, $p < .001$, $d = -2.15$). Instead, practitioners believed that targeting would build trust between health professionals and patients, $t(75) = 5.30$, $p < .001$, $d = 1.22$.

Personal engagement in information targeting. Practitioners reported previous use of information targeting, $t(74) = 14.61$, $p < .001$, $d = 3.40$, as well as intentions to target health information in the future, $t(73) = 13.92$, $p < .001$, $d = 3.26$, suggesting that practitioners' attitudes about targeting correspond with their behavior. Furthermore, 65.8% of practitioners reported a willingness to use visible identity cues (e.g. race, gender, weight status, age) as a basis for targeting information to patients, compared to 75.9% who would target based on medical history.[1]

Table 1

Medical Practitioners' Evaluations of Information Targeting

	M (SD)	*t*	*p*	Effect Size (*d*)
Personal Use and Endorsement of Information Targeting				
An efficient method of information dissemination	4.48 (1.43)	2.95	.004	.68
A strategy indicative of their care for patients' health	4.91 (1.18)	6.68	<.001	1.55
Have targeted information to patients*	4.47 (2.06)	14.61	<.001	3.40
Intentions to target information in the future*	4.47 (2.15)	13.92	<.001	3.26

[1] We also examined the specific visible identities on which practitioners would target information. 20.3% reported a willingness to target on race, 41.8% would target on gender, 58.2% would target on age, and 50.6% would target on weight.

Profession's Use and Endorsement of Information Targeting				
Health professionals should target more often	4.72 (1.25)	5.08	<.001	1.16
Health professionals should target less often	2.97 (1.36)	-6.60	<.001	-1.52
Expectations that Targeting Increases Attention Among Patients				
Information targeting increases attention to health information.	4.43 (1.23)	3.00	.004	.70
Practitioner Beliefs About the Interpersonal Consequences of Information Targeting				
Information targeting generates worse relationships between doctors and patients	2.65 (1.41)	-8.57	<.001	-1.94
Information targeting makes patients feel distrustful.	2.60 (1.31)	-9.12	<.001	-2.15
Information targeting builds trust between health professionals and patients	4.75 (1.23)	5.30	<.001	1.22

Note: Items are shortened for brevity, and the complete wording of the survey items is available in the appendix. Items denoted with a * are compared against a different baseline (1= Never)

Summary

Study 1 supported our predictions; consistent with empirical literature touting the benefits of relevance, medical practitioners believed that information targeting would produce beneficial outcomes for recipients. Specifically, practitioners expected that targeting would increase patients' attention to health information and improve doctor-patient relationships. Moreover,

practitioners opposed beliefs that information targeting would be detrimental for patients (e.g., produce distrust). Practitioners' favorable evaluations of targeting were consistent with their self-reported behavior; practitioners reported having utilized targeting in the past and exhibited intentions to target information in the future. Notably, practitioners endorsed the use of information targeting based on both medical history and visible identity cues (e.g., race). Taken together, Study 1 demonstrates that practitioners' beliefs about leveraging relevance (via information targeting) are exclusively beneficial and translate into behavior.

CHAPTER III: Information Recipients' Responses to Being Targeted (Study 2)

Because Study 1 showed that practitioners do, in fact, target health information to patients based on visible identity cues, Study 2 examined how African Americans and European Americans evaluate and respond to health messages when relevance is signaled through their social identities (e.g., their race). In particular, Study 2 examined the direct effects of targeting on two outcomes that have a central role in the persuasion literature: attention and source evaluations. Attention has been identified as a necessary initial step for persuasion and behavior change, and as such, it is important to determine whether participants are attending to the message content or if threat is inhibiting early stages of reception (McGuire, 1968). In addition, the impact of source characteristics on message evaluation has been studied extensively in the context of persuasion; more negative source evaluations (e.g., perceiving low credibility, expertise, or trustworthiness) generally impede persuasion and attitude change (Chaiken, 1980; Hovland & Weiss, 1951; Petty & Cacioppo, 1984; Littleford & Jones, 2017; Roskos-Ewoldsen & Fazio, 1992).

To assess the consequences associated with targeting, Study 2 examined whether recipients' responses would be moderated by (a) their race (African American versus European American), and (b) information content (HIV versus flu). We hypothesized that for African Americans, but not European Americans, receipt of targeted (versus non-targeted) health information would (1) decrease attention to the health information, and (2) produce more negative evaluations of the information source. Furthermore, we expected to observe differential

effects as a function of information content given prior research showing that African Americans are less likely to attend to messages about HIV (versus flu; Earl & Nisson, 2015; Earl et al., 2016). Specifically, we expected that the targeting manipulation would decrease attention and source evaluations for African Americans who received HIV (versus flu) information due to increased social identity threat resulting from the disproportionate association between HIV, a stigmatized health condition, and the African American community (Brooks, Etzel, Hinojos, Henry, & Perez, 2005; Capitanio & Herek, 1999; Galvan, Davis, Banks, & Bing, 2008; Lewis & Oyserman, 2016; Rao, Kekwaletswe, Hosek, Martinez, & Rodriguez, 2007).

Sample

186 European American (49.8% female, 86.6% had at least some college, age: M = 36.02, SD = 12.19) and 157 African American adults (68.3% female, 87.7% had at least some college, age: M = 34.10, SD = 10.61) with U.S. IP addresses from Amazon's Mechanical Turk (Mturk) completed our online study[2]. 45 participants who identified with a different racial identity or as multiracial were excluded before data analysis. We excluded participants who identified as multiracial due to (a) the inability to categorize their race for our study aims (e.g., Black-White biracials), and (b) the complexity of which racial identities may be activated by the targeting manipulation, which could directly impact participants' responses (Shih et al., 1999). Although we estimated the number of participants needed to reach the target sample size, a greater proportion of European American participants completed the survey than anticipated, producing unequal sample sizes.

[2] We recruited African Americans using a qualification process in which Mturk workers completed a survey ostensibly about their cell phone use and reported their demographics (including race). At least one week after completing the qualification survey, African Americans were assigned a qualification score that allowed them to complete the targeting study. The qualification label gave no indication as to why participants were assigned the qualification, and the pattern of findings held in subsequent studies without the direct recruitment of African American participants.

Procedure

Participants were randomly assigned to one of eight conditions in a 2 (*Condition*: Targeting, Control) X 2 (*Participant race*: African American, European American) X 2 (*Information*: HIV, Flu) between-subjects design.

Participants were told the researchers were interested in testing different ways to present health information to the general public. To assess generalizability of the findings, half of the participants received information about HIV, and half read information about flu. HIV information was included due to its strong association with the African American community, and flu information was included as a control (Earl & Nisson, 2015; Earl et al., 2016; Kaiser Family Foundation, 2012).

Condition was manipulated with instructions explaining why participants were receiving the health information. Participants in the "Targeting" condition reported their demographic information (race, gender, socioeconomic status, and age) at the beginning of the survey and saw instructions that made explicit reference to their provided demographics: "Please evaluate the following information, which was selected for you based on the demographic information provided."[3] Participants in the control condition were told, "Please evaluate the following information, which was selected for you based on a randomly generated computer algorithm" and reported their demographic information at the end of the survey. Following the experimental manipulation, participants read a set of paragraphs, adapted from information found on the CDC website, about the transmission, symptoms, and treatment options associated with either HIV or flu (Earl et al., 2016).

Next, participants were asked survey questions regarding their (a) attributions for

[3] We conducted a pilot study investigating whether this experimental manipulation activated racial identity and/or stereotypes for African Americans. Details about this pilot are reported in the appendix.

receiving the health information (one item measured using a Likert scale ranging from 1, *Strongly Disagree,* to 5, *Strongly Agree*; "I received these paragraphs due to something specific about me"), (b) attention to the health information (two items using a Likert-type scale ranging from 1, *Not at all,* to 9, *Very much*; "How much attention did you pay to the paragraphs", "I was able to concentrate on the paragraphs"; r = .81), and (c) evaluations of the information source (four items using Likert-type scales ranging from 1, *Not at all,* to 9, *Very much*; "I would be willing to help this research team again", "This research team is honest", "This research team has my best interest at heart", "I trust this research team"; α = .90).

Analytic Strategy

Analyses of Variance (ANOVA) were used to test the primary hypothesis that targeted, versus non-targeted, information would produce decrements in attention and more negative source evaluations for African Americans. Although we hypothesized that these effects would be strongest for HIV information, analyses revealed non-significant 3-way interactions, suggesting that the observed effects were not moderated by information content (HIV or flu).

Statistical means and standard errors for the following results are listed in Table 2. For the sake of parsimony, the current and subsequent studies only report analyses that are relevant to the main study hypotheses. All other analyses (e.g., effect sizes for analyses using *Information*) are reported in the appendix.[4]

Results

Attributions for receiving the health information. A significant main effect of *Condition* revealed that our experimental manipulation was effective; participants in the targeting condition

[4] The reported findings across Studies 2-5 remained significant when controlling for other reported social identities (gender, socioeconomic status, and age). Moreover, none of these identities consistently moderated the relationship between *Condition* and the primary study outcomes. These analyses are reported in the appendix.

were more likely to make self-attributions, attributing receipt of the information to something about themselves, than participants in the control condition, $F(1, 335) = 71.76$, $p < .001$, $d = .93$. However, neither the main effect of *Race*, $F(1, 335) = 0.13$, $p = .716$, $d = .04$, nor the two-way *Condition* and *Race* interaction was significant, $F(1, 335) = .00$, $p = .949$, $\eta_p^2 = .000$).

To better understand participants' attributions for receiving the information, participants responded to an open-ended survey item asking why they received the information at two points in the survey: (a) when participants stated "Agree" or "Strongly Agree" in response to the self-attribution item, and (b) at the end of the survey. After coding participants' qualitative responses for explicit references to racial identity (e.g., "race", "Black/African American", "White/European American") analyses showed that 35.7% of African Americans who were targeted to receive HIV information explicitly identified their racial identity, compared to 2.8% in the control condition who saw HIV information, 4.9% who were targeted to receive flu information, and 0% in the control condition who saw flu information. 4.9% of European Americans who were targeted to receive HIV information explicitly identified their race, compared to 0% in the control condition who saw HIV information, 2.0% who were targeted to receive flu information, and 0% in the control condition who saw flu information.[5]

Attention to the health information. A marginally significant *Condition* and *Race* interaction emerged, $F(1, 335) = 2.80$, $p = .096$, $\eta_p^2 = .008$. Simple effects revealed that African Americans in the targeting condition reported paying less attention to the health messages than African Americans in the control condition, $F(1, 335) = 4.10$, $p = .044$, $d = -.22$. Exposure to targeted (versus non-targeted) messages had no effect on attention for European Americans, $F(1, 335) = .07$, $p = .791$, $d = .03$. All other simple effects were non-significant (ps $> .165$).

[5] The percentage of African American and European Americans who reported other demographic identities (e.g., their gender, socioeconomic status, and/or age) are presented in the appendix.

Additionally, neither the main effects of *Condition*, $F(1, 335) = 1.72$, $p = .190$, $d = -.14$, or *Race*, $F(1, 335) = 0.11$, $p = .739$, $d = .04$, were significant.

Source evaluations. A significant *Condition* and *Race* interaction emerged, $F(1, 335) = 4.56$, $p = .033$, $\eta_p^2 = .013$. For African Americans, receipt of targeted, versus non-targeted, messages produced more negative evaluations of the information source, $F(1, 335) = 6.20$, $p = .013$, $d = -.27$. European Americans, in contrast, exhibited favorable evaluations of the source, regardless of whether they were targeted, $F(1, 335) = 0.20$, $p = .656$, $d = .05$. All other simple effects were not significant ($ps > .108$). Additionally, neither the main effects of *Condition*, $F(1, 335) = 2.35$, $p = .126$, $d = -.17$, or *Race*, $F(1, 335) = 0.01$, $p = .919$, $d = -.01$, were significant.

Table 2

Means for the primary study outcomes

	Targeting (HIV)	Targeting (flu)	Control (HIV)	Control (flu)
Self-Attribution				
African American	2.88 (.174)	3.20 (.176)	1.94 (.187)	2.08 (.182)
European American	3.02 (.170)	2.98 (.159)	1.83 (.164)	2.09 (.168)
Attention				
African American	7.74 (.188)	8.16 (.190)	8.50 (.203)	8.18 (.197)
European American	8.00 (.183)	8.25 (.172)	8.01 (.177)	8.14 (.181)
Source Evaluations				
African American	6.97 (.234)	7.02 (.236)	7.94 (.252)	7.26 (.246)
European American	7.20 (.228)	7.53 (.214)	7.30 (.221)	7.23 (.226)

Note: Reported values are listed as: mean (standard error)

Summary

Study 2 findings supported several of our hypotheses. Analyses showed that the targeting manipulation effectively increased perceptions of relevance relative to the control condition; thus, participants in the targeting condition reported stronger self-attributions than participants in the control condition, regardless of their race. However, signaling relevance of health information through social identities (e.g., race) only produced negative outcomes for African Americans. Specifically, African Americans who received targeted (versus non-targeted) information exhibited marginal reductions in attention and reported more negative source evaluations. European Americans, in contrast, showed non-significant effects in response to the targeting manipulation. Notably, these findings are in direct contrast to practitioners' expectations reported in Study 1.

Contrary to our predictions that targeting would produce the strongest consequences for African Americans in response to HIV information, we did not observe moderation by information content, suggesting that the consequences associated with leveraging relevance based on social identities generalized across HIV and flu.

CHAPTER IV: Testing the Mechanism (Study 3)

Why might signaling relevance through social identities reduce attention and produce more negative source evaluations for African Americans, but not European Americans? Because Study 2 revealed that the consequences associated with targeting were moderated by participants' race, Study 3 focused primarily on understanding why negative outcomes emerged solely for African Americans.

Prior research shows that members of marginalized groups, such as African Americans, exhibit greater sensitivity to stigma cues than majority groups (e.g., European Americans) because they have been historically marginalized on the basis of their group membership (Chan & Mendoza-Denton, 2008; London, Downey, Romero-Canyas, Rattan, & Tyson, 2012; Mendoza-Denton et al., 2002). In the context of persuasion, detection of stigma cues is particularly important because people generally experience social identity threat when they anticipate or perceive that they are being negatively evaluated or judged on the basis of their group membership. Therefore, if African Americans perceive that they are receiving health information due to their social identity (e.g., their race), the targeting manipulation may elicit perceptions of being stereotyped or unfairly judged on the basis of their group membership (Stangor & Lange, 1994). Additionally, the targeting manipulation may fail to evoke social identity threat among European Americans because it is less likely to activate experiences, attitudes, and cognitions related to being stereotyped on the basis of race. As such, Study 3 tested perceptions of being unfairly judged as a possible mechanism to explain why perceiving

relevance based on social identities produces adverse effects on the primary study outcomes (attention and source evaluations), particularly for African Americans.

In addition to measuring the proposed mechanism, we included racial identity cues (e.g., racially diverse faces on a brochure cover) that could amplify or ameliorate the effect of the targeting manipulation. Although prior research suggests that images of culturally similar others may facilitate message receptivity because these identity cues signal personal relevance, this benefit may only emerge in non-threatening contexts. If identity cues are utilized in threatening contexts (e.g., when one feels stereotyped), exposure to identity cues may exacerbate feelings of threat (Purdie-Vaughns et al., 2008). As such, we developed two competing hypotheses. On the one hand, we expected that seeing racially diverse faces may signal that the information is relevant for everyone (not just African Americans) and subsequently, mitigate identity threat. Alternatively, the presence of the racially diverse faces could heighten African Americans' perceptions of being stereotyped or unfairly judged by strengthening beliefs that their racial identity is being used as the basis for information dissemination.

To test our research questions, Study 3 used a more subtle targeting manipulation that eliminated the explicit reference to demographics that was included in Study 2. The increased subtlety allowed us to investigate whether participants showed differential sensitivity to a more ambiguous targeting manipulation as a function of their racial identity, consistent with previous research (Mendoza-Denton et al., 2002). As such, we expected that Study 3 would replicate Study 2 with one key difference; in contrast to Study 2, exposure to the subtle targeting manipulation would only increase self-attributions for African Americans.

Sample

200 European American (50.5% male, 82.1% had at least some college, age: $M = 35.24$,

SD = 10.85) and 202 African American (35.0% male, 90.6% had at least some college, age: *M* = 34.67, *SD* = 11.41) adults recruited from Turkprime completed our online study.[6] 77 participants who identified with another racial identity or as multiracial were excluded before data analysis.

Procedure

Participants were randomly assigned to one of eight conditions in a 2 (*Condition*: Targeting, Control) X 2 (*Participant race*: African American, European American) X 2 (*Brochure type*: Racially Diverse, Control) between-subjects design. In contrast to Study 2, all participants read information about HIV due to the clearly demonstrable racial health disparities in HIV prevention that have informed several persuasive efforts (CDC, 2013; CDC, 2019).

The cover story and procedure generally followed the paradigm used in Study 2. At the beginning of the experiment (*Control* condition) or after reporting their demographics (e.g., race, gender, socioeconomic status, and age; *Targeting* condition), participants saw an HIV brochure cover depicting racially diverse adults (*Diverse* brochure) or a multicolored swirl (*Control* brochure) with the following instructions: "Please read information from the following brochure, which has been selected for you." To increase the subtlety of the targeting manipulation, the instructions in Study 3 omitted the direct reference to demographics (e.g., "based on the demographic information provided") that was used in Study 2.

The brochure covers, entitled "HIV Facts", were obtained through an online image search (see appendix for details). The racially diverse brochure cover depicted African American, Latinx, and European American individuals and couples, and the multicolored swirl brochure was designed to serve as a control that excluded racial identity cues. The brochure covers were piloted on Mturk and matched on a number of attributes (e.g., interesting, useful, attractive).

[6] African Americans were recruited using a Turkprime panel. As such, they were unaware that their race was being used as the basis for recruitment.

Additional information about the survey items included in the pilot survey are reported in the appendix.

After reading the HIV messages, participants responded to the survey items used in Study 2 regarding their self-attributions, attention (r = .84), and source evaluations (α = .86). To assess the proposed mechanism, participants answered three items on Likert-type scales regarding their perceptions of being unfairly judged ("To what extent did you feel that you received the information because you were being unfairly judged"; 1, *Not at All,* to 9, *A Great Deal*; "To what extent did you feel that you received the health information because of (mis)perceptions about people from your demographic group", "I felt that I was being racially stereotyped when I was given the health information"; 1, *Not at All,* to 9, *Extremely;* α = .76*).* Means and standard errors for the following results are reported in Table 3.

Results

Attributions for receiving the health information. Replicating Study 2, a main effect of *Condition* revealed that participants who saw targeted information were more likely to make self-attributions than participants in the control condition, $F(1, 394) = 3.88$, $p = .050$, $d = .20$. These findings offer evidence that the subtle targeting manipulation was effective.

A marginal *Condition* and *Race* interaction also emerged, $F(1, 394) = 3.29$, $p = .070$, $\eta_p^2 = .008$. Simple effects revealed that African Americans in the targeting condition made stronger self-attributions than African Americans in the control condition, $F(1, 394) = 7.19$, $p = .008$, $d = .27$, and European Americans in the targeting condition, $F(1, 394) = 5.65$, $p = .018$, $d = .24$. None of the remaining simple effects were significant (all *p*s>.869). Although the attribution pattern observed for African Americans replicates Study 2, the subtle targeting manipulation no longer increased self-attributions among European Americans.

The marginal two-way interaction was qualified by a significant *Condition, Race,* and *Brochure Type* interaction, $F(1, 394) = 7.62$, $p = .006$, $\eta_p^2 = .019$. Simple effects revealed significant differences among participants who saw the control brochure; African Americans in the targeting condition were more likely to make self-attributions than (a) African Americans in the control condition, $F(1, 394) = 11.34$, $p = .001$, $d = .34$, and (b) European Americans in the targeting condition, $F(1, 394) = 9.48$, $p = .002$, $d = .31$. However, African Americans who saw the diverse brochure were equally likely to make self-attributions in the targeting and control condition, $F(1, 394) = 0.26$, $p = .612$, $d = .05$. Furthermore, *Brochure type* had no effect on African Americans' self-attributions within the targeting, $F(1, 394) = 1.38$, $p = .241$, $d = -.12$, or control condition, $F(1, 394) = 2.50$, $p = .115$, $d = .16$. None of the other simple effects were significant (*p*s >.132). Taken together, findings offer some evidence that for African Americans, the presence of racial identity cues on the diverse brochure may function in a similar manner to the targeting manipulation. None of the other main effects or two-way interactions were significant (all *p*s>.114).

As in Study 2, we examined participants' qualitative responses for why they believed they received the information. After coding responses for explicit references to racial identity, analyses showed that among African Americans in the targeting condition, 29.2% who saw the diverse brochure and 18.0% who saw the control brochure identified their racial identity as a reason for receiving the information. Additionally, among African Americans in the control condition, 8.5% who saw the diverse brochure and 5.3% who saw the control brochure identified their racial identity. Among European Americans in the targeting condition, 2.0% who saw the diverse brochure and 8.5% who saw the control brochure identified their race as a reason they

received the information. However, 0% of European Americans in the control condition identified their race.

Attention to the health information. As in Study 2, a marginal *Condition* and *Race* interaction emerged, $F(1, 394) = 3.40$, $p = .066$, $\eta_p^2 = .009$. Subsequent analyses revealed cross-over, but non-significant, simple effects. The pattern of means showed that African Americans reported lower levels of attention in the targeting (versus control) condition, $F(1, 394) = 0.98$, $p = .323$, $d = -.10$, whereas European Americans reported greater attention in the targeting (versus control) condition, $F(1, 394) = 2.62$, $p = .107$, $d = .16$. All other simple effects were non-significant (all *p*s>.142). Additionally, none of the main effects, remaining two-way interactions, or the three-way interaction were significant (all *p*s>.131).

Source evaluations. A marginal *Condition* and *Race* interaction also emerged on participants' source evaluations, $F(1, 394) = 3.15$, $p = .077$, $\eta_p^2 = .008$. Replicating Study 2, African Americans who saw targeted information exhibited more negative evaluations of the information source than African Americans in the control condition, $F(1, 394) = 6.88$, $p = .009$, $d = -.26$, and European Americans in the targeting condition, $F(1, 394) = 8.07$, $p = .005$, $d = -.29$. None of the remaining simple effects were significant (all *p*s>.716). Marginal and significant effects of *Condition*, $F(1, 394) = 3.71$, $p = .055$, $d = -.19$, and *Race*, $F(1, 394) = 5.22$, $p = .023$, $d = -.23$, respectively, showed that participants in the control condition and European Americans reported more favorable evaluations of the information source than participants in the targeting condition and African Americans. None of the remaining main effects, two-way interactions, or the three-way interaction were significant (all *p*s >.578).

Perceptions of being unfairly judged. Analyses revealed a significant main effect of

Race, $F(1, 387) = 43.93$, $p < .001$, $d = .67$, showing that African Americans reported stronger perceptions of being unfairly judged than European Americans. None of the remaining main effects, two-way interactions, or the three-way interaction were significant (all *p*s >.239).

Table 3

Means for the primary study outcomes

	Targeting (Diverse)	Targeting (Control)	Control (Diverse)	Control (Control)
Self-Attribution				
African American	2.23 (.141)	2.46 (.138)	2.13 (.142)	1.83 (.129)
European American	2.18 (.136)	1.85 (.142)	1.89 (.131)	2.11 (.142)
Attention				
African American	8.10 (.149)	8.35 (.146)	8.38 (.151)	8.36 (.137)
European American	8.43 (.145)	8.46 (.151)	8.37 (.139)	8.04 (.151)
Source Evaluations				
African American	7.08 (.186)	7.12 (.182)	7.49 (.188)	7.66 (.171)
European American	7.62 (.180)	7.62 (.188)	7.68 (.174)	7.60 (.188)
Unfairly Judged				
African American	3.28 (.260)	3.34 (.255)	3.07 (.263)	3.04 (.236)
European American	2.02 (.250)	2.12 (.266)	1.88 (.240)	1.93 (.266)

Note: Reported values are listed as: mean (standard error)

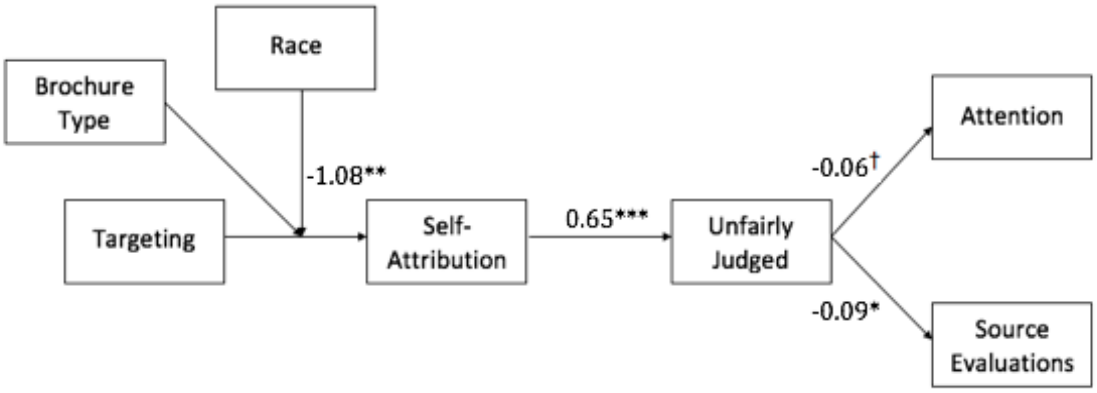
Modeling the indirect effect: Consequences of perceiving relevance

We utilized AMOS v. 25.0 to identify the mechanism underlying negative outcomes for African Americans. To test this relationship, we examined the consequences that emerge in direct response to perceived relevance. Consistent with the ANOVA analysis, we expected that exposure to the targeting manipulation and/or the racially diverse brochure would increase

perceived relevance (e.g., self-attributions), particularly for African Americans. Stronger self-attributions would, in turn, predict the hypothesized mechanism: feeling unfairly judged. As a next step, we tested the extent to which perceptions of being unfairly judged predicted the primary study outcomes (see Figure 1). For the current and subsequent models, we account for (a) the effects of the experimental factors (e.g., *Condition*, *Race*, and *Brochure type)* on each path, and (b) the effect of self-attributions on the primary study outcomes. Although the paths of greatest theoretical interest are presented below, all model parameters and test statistics are reported in the appendix.

Using criteria outlined in prior research (e.g., chi-squared test should not be significant, CFI should be greater than 0.90, TLI should be greater than 0.95, and RMSEA should be less than 0.08; Hooper, Coughlan, & Mullen, 2008; Kline, 2005), analyses revealed sufficient fit statistics (attention: $X^2(14) = 10.32$, $p = .739$, CFI = 1.00, TLI = 1.18, RMSEA = .000; source evaluations: $X^2(14) = 7.25$, $p = .925$, CFI = 1.00, TLI = 1.31, RMSEA = .000). As reported in ANOVA, a significant three-way interaction on self-attributions showed that being targeted or receiving the racially diverse brochure increased self-attributions, particularly for African Americans, $b = -1.08$, $SE = 0.39$, $p = .005$. Stronger self-attributions predicted stronger perceptions of being unfairly judged, $b = 0.65$, $SE = 0.09$, $p < .001$, which, in turn, predicted marginal reductions in attention to the health information, $b = -.06$, $SE = 0.03$, $p = .062$, and more negative source evaluations, $b = -.09$, $SE = 0.04$, $p = .016$.

Figure 1. Modeling the indirect effect of *Targeting* on the study outcomes



Note: Coefficients are unstandardized. † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Summary

Study 3 generally replicated Study 2 findings using a more subtle targeting manipulation. As in Study 2, participants were more likely to perceive relevance (e.g., make self-attributions) in the targeting, versus control, condition; however, this effect was qualified by a three-way interaction. Although African Americans who saw the control brochure were more likely to report self-attributions in the targeting (versus control) condition, African Americans who saw the diverse brochure were equally likely to make self-attributions in the targeting and control conditions. Thus, although the racial identity cues did not appear to amplify or ameliorate the targeting manipulation, in contrast to our initial predictions, findings suggested that the inclusion of racial identity cues was functionally similar to the targeting manipulation. European Americans, however, showed non-significant differences in response to the targeting manipulation and racially diverse brochure. Replicating Study 2, a marginal interaction showed that African Americans in the targeting condition reported more negative source evaluations than African Americans in the control condition. Although non-significant, the pattern of means

observed for African Americans' attention levels were also consistent with Study 2. European Americans, however, showed non-significant differences on attention and source evaluations in response to the targeting manipulation.

In line with our hypotheses, Study 3 identified the mechanism producing negative outcomes for African Americans: perceptions of being unfairly judged. Modeling the indirect effect of targeting on the primary study outcomes revealed that exposure to the targeting manipulation or racially diverse brochure increased perceived relevance (e.g., self-attributions), particularly for African Americans. Increased self-attributions predicted stronger perceptions of being unfairly judged, and feeling judged predicted marginal and significant reductions in attention and source evaluations, respectively. As such, findings suggest that signaling relevance through social identities may produce negative outcomes for African Americans via social identity threat.

CHAPTER V: Testing the Role of Identity Activation (Study 4)

Although Study 3 identified a psychological process through which perceiving relevance produced negative consequences, particularly for African Americans, Study 4 sought to determine whether social identity threat emerges (a) merely in response to identity activation or (b) due to the signaled relevance of activated identities (e.g., when identities are tied to information selection). To test this research question, we eliminated study instructions stating that the information had been selected for participants. We hypothesized that if identity activation alone produces social identity threat, African Americans in the targeting condition should report stronger self-attributions and exhibit negative effects on attention and source evaluations, consistent with the previous studies. However, if identity threat is being induced by the signaled relevance of racial identities to the information (e.g., African Americans infer that information selection is based on assumptions about their group membership), then mitigating perceptions that social identities are being used as the basis for information selection should attenuate the negative consequences observed in the previous studies.

Sample

223 European American (54.3% male, 87.5% had at least some college, age: $M = 36.04$, $SD = 11.47$) and 251 African American (33.9% male, 91.6% had at least some college, age: $M = 33.65$, $SD = 10.52$) adults recruited from Turkprime completed our online study. 64 participants who identified with another racial identity or as multiracial were excluded before data analysis.

Procedure

As in Study 3, participants were randomly assigned to one of eight conditions in a 2 (*Condition:* Targeting, Control) X 2 (*Participant race*: African American, European American) X 2 (*Brochure cover*: Racially Diverse, Control) between-subjects design.

The procedure followed the paradigm used in Study 3 with one exception. At the beginning of the study (*Control* condition) or after providing their demographics (*Targeting* condition), participants saw the racially diverse or control HIV brochure cover. Next, they received instructions stating, "Today you'll be reading health information from this brochure." As such, although participants in the targeting condition still reported their demographics at the beginning of the study, the instructions did not explicitly mention that the information had been selected for participants.

After reading the HIV information, participants responded to the survey items about their (a) self-attributions, (b) attention (r = .84), (c) source evaluations (α = .88), and (d) perceptions of being unfairly judged (α = .72). Means and standard errors are reported in Table 4.

Results

Attributions for receiving the health information. Analyses revealed a main effect of *Brochure Type*, $F(1, 466) = 4.17$, $p = .042$, $d = -.19$, such that participants who saw the control (versus racially diverse) brochure reported stronger self-attributions for receiving the information. In contrast to the previous studies, analyses revealed a non-significant main effect of *Condition*, $F(1, 466) = .22$, $p = .640$, $d = .04$, suggesting that activating identities through the targeting manipulation (but not linking identities to information) produced no significant impact on participants' self-attributions. Furthermore, neither the *Condition* and *Race* interaction, $F(1, 466) = 0.16$, $p = .693$, $\eta_p^2 = .000$, nor the *Condition, Race,* and *Brochure Type* interaction, $F(1,$

466) = 0.03, p = .871, η_p^2 = .000, were significant. Analyses also revealed that neither the main effect of *Race* nor the remaining two-way interactions were significant (all *p*s>.078).

As in the previous studies, we examined participants' qualitative responses for why they believed they received the information. After coding responses for the explicit identification of racial identity, analyses showed that among African Americans in the targeting condition, 7.9% who saw the diverse brochure and 4.9% who saw the control brochure identified their racial identity as a reason for receiving the information. Among African Americans in the control condition, 4.7% who saw the diverse brochure and 6.3% who saw the control brochure identified their racial identity. Among European Americans in the targeting condition, 0% who saw the diverse brochure and 3.3% who saw the control brochure identified their race as a reason for receiving the information. As in Study 3, 0% of European Americans in the control condition identified their race.

Attention to the health information. In contrast to the previous studies, a significant main effect of *Condition* showed that participants reported paying greater attention to the information in the targeting, versus control, condition, $F(1, 466) = 5.97$, p = .015, d = .23. However, none of the other main effects, two-way interactions, or three-way interactions were significant (all *p*s>.285).

Source evaluations. None of the main effects, two-way interactions, or three-way interactions were significant (all *p*s>.299).

Perceptions of being unfairly judged. Replicating Study 3, analyses revealed a significant main effect of *Race*, $F(1, 387) = 25.80$, p <.001, d = .47, showing that African Americans reported stronger perceptions of being unfairly judged than European Americans.

None of the remaining main effects, two-way interactions, or the three-way interaction were significant (all *p*s >.129).

Table 4

Means for the primary study outcomes

	Targeting (Diverse)	Targeting (Control)	Control (Diverse)	Control (Control)
Self-Attribution				
African American	1.92 (.108)	1.92 (.110)	1.89 (.107)	1.94 (.108)
European American	1.68 (.125)	1.98 (.110)	1.61 (.114)	1.91 (.113)
Attention				
African American	8.38 (.128)	8.51 (.130)	8.23 (.127)	8.19 (.128)
European American	8.54 (.148)	8.36 (.130)	8.20 (.135)	8.25 (.133)
Source Evaluations				
African American	7.63 (.177)	7.40 (.180)	7.52 (.175)	7.50 (.177)
European American	7.53 (.205)	7.71 (.181)	7.55 (.186)	7.40 (.184)
Unfairly Judged				
African American	2.66 (.210)	2.96 (.215)	2.90 (.208)	2.75 (.213)
European American	1.94 (.243)	2.00 (.213)	1.83 (.220)	2.37 (.218)

Note: Reported values are listed as: mean (standard error)

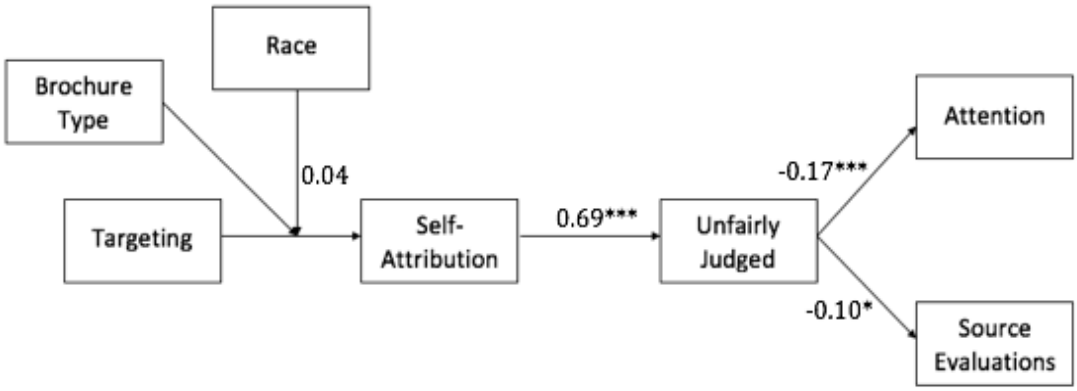
Modeling the indirect effect

Although ANOVA analyses only revealed a significant effect of *Brochure Type* on self-attributions, we utilized AMOS v. 25.0 to determine whether the remaining pathways of the indirect effect modeled in Study 3 replicated. As such, we tested the extent to which self-attributions predicted perceptions of being unfairly judged, and whether feeling unfairly judged predicted reductions in attention and more negative source evaluations (see Figure 2). Analyses revealed sufficient fit statistics (attention: $X^2(14) = 8.75$, $p = .846$, CFI = 1.00, TLI = 1.16,

RMSEA = .000; source evaluations: $X^2(14) = 8.05$, $p = .887$, CFI = 1.00, TLI = 1.28, RMSEA = .000).

As reported in ANOVA and in contrast to Study 3, the three-way interaction on self-attributions was not significant, $b = 0.05$, $SE = 0.31$, $p = .870$. However, the remaining pathways in the model replicated Study 3. Analyses showed that stronger self-attributions predicted greater perceptions of being unfairly judged, $b = 0.69$, $SE = 0.08$, $p < .001$, which, in turn, predicted decrements in attention to the health information, $b = -0.17$, $SE = 0.03$, $p < .001$, and more negative source evaluations, $b = -0.10$, $SE = 0.04$, $p = .012$.

Figure 2. Modeling the indirect effect of *Targeting* on the study outcomes



Note: Coefficients are unstandardized. † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Summary

Study 4 findings generally diverged from Study 3. Specifically, analyses showed that when the targeting manipulation no longer signaled that social identities were being used as a relevance cue (e.g., when the instructions did not reference information selection after

participants provided their demographics), participants in the targeting (versus control) condition no longer reported stronger self-attributions. In further contrast to the previous studies, the direct effect of targeting on attention showed positive effects; specifically, participants in the targeting (versus control) condition reported greater attention to the information. Notably, the marginal and significant direct effects on attention and source evaluations that were observed in Studies 2-3 no longer emerged. Although European Americans continued to show non-significant effects on attention and source evaluations in response to the targeting manipulation, African Americans in the targeting (versus control) condition no longer exhibited decrements in attention and more negative source evaluations.

Modeling the indirect effect tested in Study 3 showed that although the two and three-way interactions using *Condition, Race,* and *Brochure Type* no longer predicted self-attributions, the remaining model pathways held. Thus, self-attributions predicted increased perceptions of being unfairly judged, and feeling judged predicted reductions in attention and more negative source evaluations.

Taken together, Studies 3 and 4 demonstrate that identity activation alone does not elicit threat for African Americans. However, when African Americans perceive that relevance is being signaled through their racial identity (e.g., when the targeting manipulation signals that message selection accounts for their reported demographics, as in Study 3), they are more likely to experience adverse effects. In particular, they are more likely to perceive relevance (make self-attributions) and perceiving relevance, in turn, elicits downstream consequences on attention and source evaluations through increased perceptions of being unfairly judged.

CHAPTER VI: Assessing the Perceived Sources of Relevance (Study 5)

Studies 2-4 identified (a) conditions under which leveraging relevance may impede persuasion, and (b) consequences associated with perceiving identity-based relevance. However, given extensive research touting the benefits of message relevance, it is also important to understand whether different construals of relevance are associated with disparate effects. Thus, to replicate and extend the previous studies, Study 5 had two primary aims.

One primary aim of Study 5 was to investigate the behavioral consequences of targeting. In particular, this study sought to replicate and extend the indirect effect modeled in Study 3 by identifying the extent to which self-report measures for attention and source evaluations predict behavior. As such, Study 5 assessed several behaviors: participants' recognition of the message content on a multiple-choice quiz, the proportion of unrelated thoughts reported in a cognitive elaboration task, preference to receive additional health information selected by the current information source (versus randomly), behavioral intentions, and uptake of the behavioral recommendations. Given that a fundamental goal of many persuasive efforts is to motivate behavioral change, whether leveraging relevance based on social identities facilitates or inhibits uptake of message-advocated behavior has particularly important theoretical and practical implications.

One reason why targeting may facilitate negative outcomes is due to participants' construals of relevance. To test this possibility, the second aim of Study 5 was to examine how participants' beliefs about whether relevance is derived from an extrinsic (versus intrinsic)

source are reflected through their self-attributions. Although participants perceived greater relevance (e.g., made stronger self-attributions) in response to the blatant and subtle targeting manipulations (Studies 2-3), it is possible that they are detecting relevance from multiple sources: (a) an attribute about themselves that they personally identified (e.g., intrinsic relevance), and/or (b) an attribute about themselves that they believe has been identified by an external observer, such as the research team (e.g., extrinsic relevance). Therefore, we hypothesize that, consistent with previous literature, relevance may facilitate persuasion when recipients personally identify the information as relevant. However, relevance may inhibit persuasion when recipients perceive that an extrinsic source (e.g., the research team) believes the information is relevant for them because these perceptions may heighten feelings of being unfairly judged. Therefore, targeting may elicit negative outcomes for recipients due to increased perceptions that relevance is derived from an extrinsic (versus intrinsic) source.

To test our research questions, Study 5 utilized the experimental design and procedure employed in Study 2.

Sample

201 European American (48.3% female, 84.1% had at least some college, age: M = 36.30, SD = 10.90) and 200 African American (62.5% female, 90.5% had at least some college, age: M = 35.40, SD = 11.00) adults recruited from Turkprime completed our online study. 59 participants who identified with another racial identity or as multiracial were excluded before data analysis.

Procedure

Participants were randomly assigned to one of eight conditions in a 2 (*Condition*: Targeted, Control) X 2 (*Participant race*: African American, European American) X 2

(*Information*: HIV, Flu) between-subjects design. Study 5 included both HIV and flu information to replicate the generalizability findings for information that were observed in Study 2.

The methodological design followed Study 2's procedure. As such, Study 5 utilized the blatant targeting manipulation, which explicitly told participants that they were receiving information due to their provided demographics. Following exposure to the HIV or flu paragraphs (Earl et al., 2016), participants answered five multiple-choice questions measuring their recognition of the health information and completed a thought-listing task. Using survey items from the previous studies, participants were asked about their (a) self-attributions, (b) attention to the health information, (c) source evaluations ($\alpha = .85$), and (d) perceptions of being unfairly judged ($\alpha = .75$). Additional survey items were included to (1) improve the accuracy of the attention index, and (2) measure behavioral intentions and behavioral correlates of attention, source evaluations, and behavioral intentions. Details about the piloting of the new survey measures are presented in the appendix.

Attention to the health information

Self-report measure. To rule out methodological issues that arise from using a two-item index, we developed three new survey items to measure attention. Two items ("While I was reading the paragraphs, I felt distracted (R)", "While I was reading, I was having thoughts that were unrelated to the paragraphs (R)") were measured on a Likert-type scale ranging from 1, *Not at All,* to 9, *Very Much So*. A third item ("While I was reading the paragraphs, my mind was…") was measured on a Likert-type scale ranging from 1, *Completely on Unrelated Concerns*, to 7, *Completely on the Paragraphs.* Because the items were measured on different scales, we

computed z-scores for all five attention-related items before averaging them into an index ($\alpha = .84$).[7]

Information recognition. Participants answered five multiple-choice questions regarding the message content, and each question could be answered using one of four answer choices (e.g., "On average, there are more than _____ new HIV infections each year in the United States", A. 56,000, B. 65,000, C. 75,000, D. 92,000; "In order to be effective, antiviral medication should be taken within _____ hours of the onset of flu symptoms", A. 48-72 hours, B. 36-48 hours, C. 24-48 hours, D. 12-48 hours). Participants' accuracy was determined by the number of questions, out of five, answered correctly.

Cognitive elaboration: Proportion of unrelated thoughts. Following the recognition items, participants completed a thought-listing task in which they were given 2 minutes to record the thoughts, feelings, or ideas that came to mind while they were reading the information. Participants were provided with ten text boxes and were instructed to list only one thought per box. Based on previous recommendations, participants automatically advanced to the next survey page after 2 minutes and could not advance to the next page before the 2 minutes had passed (Cacioppo & Petty, 1981). Participants self-coded the relatedness of their listed thoughts after answering the primary study outcomes to prevent their codes from influencing their subsequent survey responses (Schwarz, 2010). To code their thoughts, participants saw each of their statements and evaluated each statement on its relatedness to the HIV or flu information (1 = Related thought, 2 = Unrelated thought). Cognitive elaboration was measured using the proportion of thoughts that participants self-identified as unrelated[8] to the information.

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[7] The patterns observed for the five-item attention index replicated using the two-item index in the reported analyses.

[8] An external coder re-coded participants' statements and showed sufficient reliability for identifying the proportion of unrelated thoughts (kappa=.863). Given the high reliability between the external coder and

Source evaluations

Preference to receive additional health information from the current information source. Behavioral correlates of source evaluations were recorded using participants' preference to receive additional health information that was selected by the research team (versus randomly). At the end of the study, participants were told that they would be reading additional health information and were asked, "Would you prefer to receive health information chosen by the research team or health information chosen randomly?". Participants were forced to choose one of these two options and then rated the strength of their preference using a Likert-type scale ranging from 1, *Strongly Prefer at Random*, to 6, *Strongly Prefer Research Team*. After participants reported the strength of their preference, they were told that they would not be reading more information due to amount of time they had already spent on the study.

Behavioral intentions and uptake of behavioral recommendations

Behavioral intentions. Participants' intentions to engage in behavior recommended by the health information were measured using two items that were adapted to match the relevant health condition ("The FLU information made me think about washing my hands frequently"/ "The HIV information made me think about using condoms", "I intend to discuss the importance of hand washing with my loved ones" / "I intend to discuss the importance of condom usage with my loved ones"). These items were measured on a Likert-type scale ranging from 1, *Strongly Disagree,* to 7, *Strongly Agree,* and were aggregated into an index (r = .64)[9].

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participants' codes, as well as the additional insight participants may have into the meaning of their statements that an external coder would not, we used participants' self-codes for data analysis.

[9] Because data was collected during flu season, we recognized that some participants would have already received their annual flu shot. Given the difficulty of interpreting responses to survey items about intentions to get a flu shot if participants already received a shot, we measured participants' intentions to get a flu shot (be screened for HIV) with two questions. First, participants saw a dichotomous item: "Have you gotten a flu shot (been screened for HIV) in the last six months?" When participants answered no, they saw a follow-up item ("I intend to get a flu shot (get screened for HIV) the next time I visit my

Uptake of behavioral recommendations. To assess whether the targeting manipulation impacted participants' uptake of the behavioral recommendations, participants responded to two items. First, participants were asked to check a box if they wanted to receive a coupon for a behavior-relevant item: hand sanitizer (flu condition) or condoms (HIV condition). Participants who checked the box received a link to an external website where they could print a manufacturer's coupon for the item. Second, participants were asked to check a box if they wanted information about a nearby location to receive a flu shot (flu condition) or be screened for HIV (HIV condition). Participants who checked the box were directed to an external website that provided the location information. To measure participants' uptake of behavioral recommendations, we counted the number of times, ranging from 0 to 2, that participants selected message-relevant behavior.

Perceptions about the source of relevance. Participants' perceptions about the source of relevance (e.g., whether relevance was derived from an intrinsic or extrinsic source) were measured using two items ranging from 1, *Not at All*, to 9, *Very Much So*. Perceptions about intrinsic relevance were measured using one item ("To what extent did you feel you received the information because it was relevant to you?"), and perceptions about extrinsic relevance were measured using one item ("To what extent did you feel you received the information because the research team thought the information was relevant to you?").

Analytic Strategy

As a first step, we sought to replicate the direct effects of targeting on the primary study outcomes. As such, we conducted ANOVAs examining the effects of *Condition*, *Race*, and

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healthcare clinic") using a Likert-type scale ranging from 1, *Strongly Disagree*, to 7, *Strongly Agree*. Due to a substantial loss in statistical power after dropping participants who had already had a flu shot (20.1%) or been screened for HIV (17.0%), we removed this item from analyses. The reported pattern of findings replicated when these participants were dropped.

Information on self-attributions, self-reported attention, and source evaluations. These analyses tested our prediction that targeting would elicit negative outcomes for African Americans, but not European Americans. Because we used the blatant targeting manipulation, which told participants they were receiving the messages due to their provided demographics, we expected that both African Americans and European Americans would report stronger self-attributions in the targeting (versus control) condition.

Next, we tested whether self-report measures for attention and source evaluations extend to actual behavior by replicating and extending the indirect effect modeled in Study 3 (see Figure 3). In particular, the model assessed whether self-report measures were significant predictors of their behavioral correlates. Finally, to examine the consequences associated with perceiving different relevance sources (e.g., intrinsic versus extrinsic) we used (a) multiple linear regression to examine how different sources of relevance map onto self-attributions, (b) ANOVA to examine whether the experimental factors (*Condition*, *Race*, and *Information)* predicted the different sources of relevance, and (c) path analyses to examine how different sources of relevance impact the previously modeled indirect effect (see Figure 4).

Replicating Study 2, ANOVA analyses showed non-significant effects of *Information* (HIV or flu). As such, analyses relevant to the primary study hypotheses are presented in the following results, and all statistical means and standard errors are listed in Table 5.

Results

Attributions for receiving the health information Replicating Studies 2 and 3, analyses showed that the targeting manipulation was effective. A significant main effect of *Condition* revealed that participants in the targeting condition were more likely to make self-attributions than participants in the control condition, $F(1, 392) = 74.69$, $p < .001$, $d = .87$. However, the main

effect of *Race* was not significant, $F(1, 392) = 0.24$, $p = .626$, $d = .05$. Further replicating Study 2 and consistent with our predictions, the *Condition* and *Race* interaction was not significant, $F(1, 392) = 0.13$, $p = .721$, $\eta_p^2 = .000$.

As in the prior studies, we examined participants' attributions about why they believed they received the information. After coding participants' qualitative responses for explicit references to racial identity, analyses showed that 16.0% of African Americans who were targeted to receive HIV information explicitly identified their racial identity, compared to 1.9% who saw HIV information in the control condition, 5.9% who were targeted to receive flu information, and 0% who saw flu information in the control condition. 0% of European Americans explicitly identified their race across the targeting and information manipulations.

Attention to the health information. Analyses revealed a significant main effect of *Condition* such that participants in the targeting (versus control) condition reported paying less attention to the information, $F(1, 392) = 4.61$, $p = .032$, $d = -.22$). However, this effect was qualified by a significant *Condition* and *Race* interaction, $F(1, 392) = 4.12$, $p = .043$, $\eta_p^2 = .010$. Simple effects replicated the patterns observed in Studies 2 and 3: African Americans in the targeting condition reported significantly less attention to the information than African Americans in the control condition, $F(1, 392) = 8.73$, $p = .003$, $d = -.30$ and European Americans in the targeting condition, $F(1, 392) = 5.48$, $p = .020$, $d = -.24$. The remaining simple effects were not significant (all *p*s >.519).

Source evaluations. In contrast to the marginal *Condition* and *Race* interactions observed in Studies 2 and 3, neither the main effect of *Condition*, $F(1, 393) = 0.03$, $p = .862$, $d = .02$, the main effect of *Race*, $F(1, 393) = 3.02$, $p = .083$, $d = -.18$, nor the *Condition* and *Race* interaction were significant, $F(1, 393) = 1.84$, $p = .176$, $\eta_p^2 = .005$.

Perceptions of being unfairly judged. As in Studies 3-4, analyses revealed a significant main effect of *Race*, $F(1, 393) = 12.82$, $p < .001$, $d = .36$, showing that African Americans reported stronger perceptions of being unfairly judged than European Americans. Additionally, main effects of *Condition*, $F(1, 393) = 23.67$, $p < .001$, $d = .49$, and *Information*, $F(1, 393) = 5.91$, $p = .015$, $d = .25$, showed that participants in the targeting condition and who saw HIV information reported stronger perceptions of being judged than participants in the control condition or who saw flu information. However, these main effects were qualified by a significant *Condition* and *Race* interaction, $F(1, 393) = 12.66$, $p < .001$, $\eta_p^2 = .031$, showing that African Americans in the targeting condition felt more judged than (a) African Americans in the control condition, $F(1, 393) = 35.41$, $p < .001$, $d = .60$, and (b) European Americans in the targeting condition $F(1, 393) = 25.66$, $p < .001$, $d = .51$. None of the remaining simple effects were significant (all ps $> .356$).

Table 5

Means for the primary study outcomes

	Targeting (HIV)	Targeting (flu)	Control (HIV)	Control (flu)
Self-Attribution				
African American	2.90 (.155)	2.86 (.152)	1.92 (.150)	2.04 (.158)
European American	2.80 (.147)	2.94 (.158)	1.82 (.152)	1.96 (.155)
Attention 5 item				
African American	-.218 (.111)	-.211 (.110)	-.016 (.109)	.246 (.115)
European American	-.014 (.107)	.123 (.115)	-.052 (.110)	.173 (.114)
Attention 2 item				
African American	7.90 (.164)	7.74 (.162)	8.07 (.161)	8.44 (.169)
European American	8.32 (.158)	8.18 (.169)	8.05 (.162)	8.43 (.167)
Source Evaluations				
African American	7.53 (.181)	7.43 (.179)	7.38 (.177)	7.88 (.186)
European American	7.67 (.174)	8.08 (.186)	7.54 (.179)	7.82 (.182)
Unfairly Judged				
African American	4.04 (.245)	3.07 (.242)	2.39 (.240)	1.81 (.252)
European American	2.35 (.235)	2.30 (.252)	2.14 (.242)	2.05 (.247)

Note: Reported values are listed as: mean (standard error). The values for the 5-item attention composite reflect z-scores

Modeling the indirect effect: Examining the consequences of perceived relevance

Next, we sought to replicate and extend the indirect effect modeled in Study 3 to determine whether self-reports of attention and source evaluations predicted behavior (see Figure 3). To test this possibility, we generated a model using AMOS v. 25.0 (Figure 3). First, the model tested (a) the effects of the targeting manipulation on self-attributions, (b), the effects of

self-attributions on perceptions of being unfairly judged, and (c) the extent to which the relationship between self-attributions and feeling unfairly judged was moderated by participants' race. Although participant race moderated the link between *Condition* and self-attributions in Study 3, which used a more subtle targeting manipulation, we expected that the blatant targeting manipulation would produce stronger self-attributions for participants regardless of race. However, we also theorized that that self-attribution would carry different meanings for African Americans and European Americans, such that self-attributions would be particularly likely to increase perceptions of being unfairly judged for African Americans.

As a next step, the model tested the downstream consequences of feeling unfairly judged on self-report measures (e.g., attention and source evaluations) and behavior. In particular, we examined the relationship between (a) self-reported attention and its behavioral correlates (information recognition and the proportion of unrelated thoughts reported in the cognitive elaboration task), and (b) source evaluations and its behavioral correlate (participants' preference to receive additional health information selected by the research team, versus randomly). Finally, we examined the extent to which self-reports for both attention and source evaluations predicted behavioral intentions, and subsequently, participants' uptake of message-relevant behavior.

Examining the process through which targeting reduces self-reported attention

As reported in ANOVA, analyses revealed that participants in the targeting condition reported stronger self-attributions, $b = 0.94$, $SE = 0.11$, $p < .001$. Self-attributions predicted greater perceptions of feeling unfairly judged, $b = 0.40$, $SE = 0.08$, $p < .001$, but this relationship was qualified by a significant *Self-Attribution* and *Race* interaction showing that self-attributions predicted stronger perceptions of being unfairly judged particularly for African Americans, $b = 0.39$, $SE = 0.14$, $p = .006$. Feeling unfairly judged, in turn, predicted reductions in self-reported

attention to the health messages, b = -0.16, SE = 0.02, p<.001, and more negative source evaluations, b = -0.09, SE = 0.04, p = .020.

Behavioral measures of attention

Information recognition. Reductions in attention predicted worse recognition of the information content, b = 0.47, SE = 0.07, p <.001. Fit statistics for this model were sufficient, $X^2(23) = 25.94$, p = .304, CFI = .997, TLI = .990, RMSEA = .018.

Cognitive elaboration: Proportion of unrelated thoughts. Reductions in attention were also associated with reporting a greater proportion of unrelated thoughts in the cognitive elaboration task, b = -0.03, SE = 0.01, p = .004. Fit statistics for this model were sufficient, $X^2(23) = 23.23$, p = .448, CFI = 1.00, TLI = .999, RMSEA = .005.

Behavioral measure of source evaluations

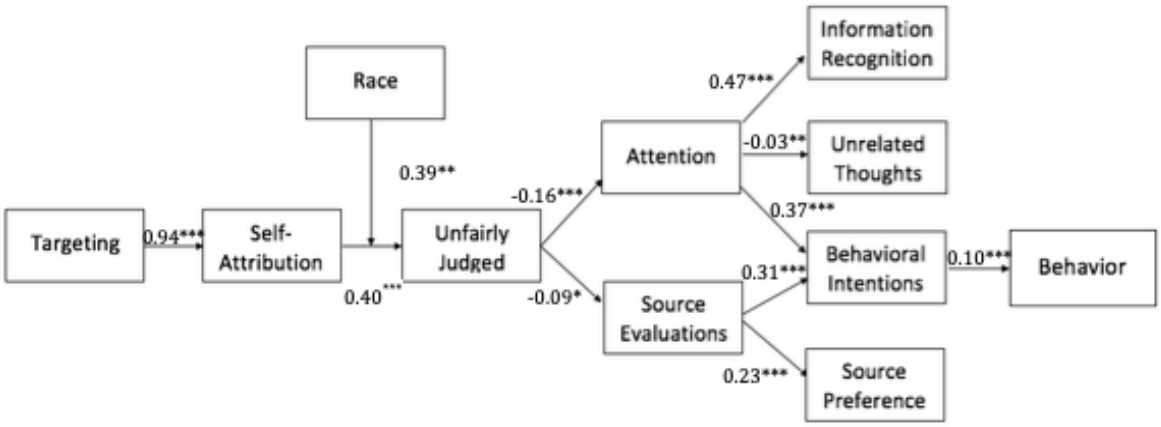
Source preference for receiving additional health information. Findings showed that more negative source evaluations were associated with a stronger preference to receive additional health information that was selected randomly, versus by the research team, b = 0.23, SE = 0.05, p <.001. Fit statistics for this model were sufficient, $X^2(23) = 23.72$, p = .419, CFI = .999, TLI = .997, RMSEA = .009.

B*ehavior intentions and uptake of behavioral recommendations*.

Reductions in attention and more negative source evaluations were also associated with weaker behavioral intentions ($b_{attention}$ = 0.37, $SE_{attention}$ = 0.10, $p_{attention}$ <.001; $b_{sourceevaluations}$ = 0.31, $SE_{sourceevaluations}$ = 0.06, $p_{sourceevaluations}$ <.001), which subsequently predicted decreased uptake of message-relevant behavior ($b_{attention}$ = 0.10, $SE_{attention}$ = 0.02, $p_{attention}$ <.001; $b_{sourceevaluations}$ = 0.09, $SE_{sourceevaluations}$ = 0.02, $p_{sourceevaluations}$ <.001). Fit statistics across these

models were sufficient (attention: $X^2(28) = 23.59$, $p = .703$, CFI = 1.00, TLI = 1.01, RMSEA = .000; source evaluations: $X^2(28) = 23.26$, $p = .720$, CFI = 1.00, TLI = 1.02, RMSEA = .000).

Figure 3. Modeling the indirect effect of *Targeting* on the study outcomes



Note: Coefficients are unstandardized. The coefficient reported for the pathway between behavioral intentions and behavior was obtained from the model using attention. For the model using source evaluations, b=0.09, p<.001. † p<.10, * $p < .05$, ** $p < .01$, *** $p < .001$

How might different sources of relevance be reflected in participants' self-attributions?

Because the indirect effect modeled in Studies 3-5 demonstrated that perceiving relevance (e.g., making self-attributions) predicted stronger perceptions of being unfairly judged, we examined how perceptions that relevance is derived from an extrinsic, versus intrinsic, source impacts the pathways observed in the previously tested model (see Figure 3).

As a first step, we used multiple linear regression to assess how these two sources of relevance were reflected in participants' self-attributions. Specifically, we included perceptions about intrinsic (entered at Step 1) and extrinsic (entered at Step 2) relevance as predictors of self-attributions. Findings revealed that perceiving intrinsic relevance was a significant predictor of

self-attributions, $b = 0.06$, $t = 2.87$, $p = .004$, $r = .14$. However, when extrinsic relevance was included as a simultaneous predictor, findings revealed that perceiving extrinsic relevance was a significant predictor of self-attributions, $b = 0.15$, $t = 5.81$, $p < .001$, $r = .28$, but perceiving intrinsic relevance was no longer a significant predictor, $b = -0.01$, $t = -0.44$, $p = .664$, $r = .02$. As such, these findings suggest that self-attribution may be more reflective of beliefs about extrinsic (versus intrinsic) relevance.

How do the experimental manipulations impact perceptions about the source of relevance?

Because targeting relies on presumptions about group characteristics, rather than individuating attributes provided by the recipient, targeting may increase perceptions that an extrinsic source (e.g., the research team) believes the information is relevant for recipients, rather than increasing personal perceptions of relevance. Perceptions that an extrinsic source perceived the information to be relevant may, in turn, increase perceptions of being unfairly judged. Using ANOVA, we examined how the experimental factors (*Condition, Race,* and *Information*) impacted participants' perceptions that relevance was derived from an extrinsic or intrinsic source.

ANOVA analyses revealed main effects of *Condition,* $F(1, 393) = 11.01$, $p < .001$, $d = .33$, *Race,* $F(1, 393) = 7.32$, $p = .007$, $d = -.27$, and *Information,* $F(1, 393) = 25.05$, $p < .001$, $d = .50$, on participants' perceptions of extrinsic relevance. Means showed that participants in the targeting condition, African Americans, and participants who read flu information were more likely to perceive that the research team thought the information was relevant for them than participants in the control condition, European Americans, and participants who read HIV information. None of the two or three-way interactions were significant (all *p*s >.162). Examining the effects of the experimental factors on participants' perceptions of intrinsic

relevance revealed a main effect of *Information*, $F(1, 393) = 81.05$, $p < .001$, $d = .91$, showing that participants were more likely to perceive the flu (versus HIV) information as personally relevant. None of the other effects were significant (all ps >.081).[10]

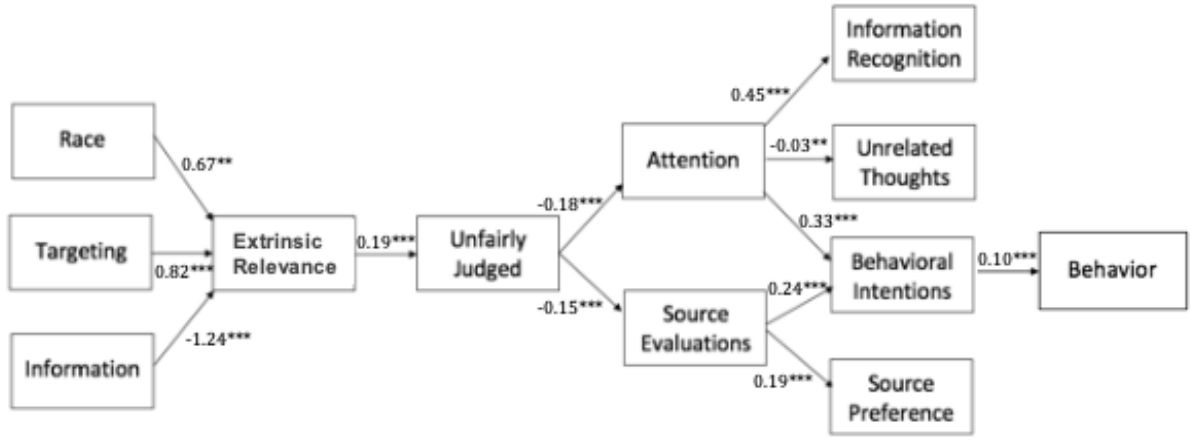
How might perceiving extrinsic relevance impact perceptions of being unfairly judged?

Given that perceptions of extrinsic relevance (a) were a significant predictor of self-attributions and (b) were directly influenced by the targeting manipulation, we tested whether perceptions of extrinsic relevance predicted perceptions of being unfairly judged (Figure 4). Modeling the indirect effect revealed sufficient fit statistics across study outcomes. As observed in ANOVA, participants in the targeting condition, $b = 0.82$, $SE = 0.25$, $p < .001$, who were African American, $b = 0.67$, $SE = 0.25$, $p = .006$, and who saw flu information, $b = -1.24$, $SE = 0.25$, $p < .001$, reported stronger perceptions that relevance was derived from an extrinsic source. These perceptions predicted greater perceptions of feeling unfairly judged, $b = 0.19$, $SE = 0.03$, $p < .001$, which subsequently predicted reductions in attention, $b = -0.18$, $SE = 0.02$, $p < .001$, and more negative source evaluations, $b = -0.15$, $SE = 0.04$, $p < .001$. Further replicating the previously tested model, reductions in attention predicted worse information recognition, $b = 0.45$, $SE = 0.07$, $p < .001$; $X^2(18) = 26.06$, $p = .098$, CFI = .967, TLI = .880, RMSEA = .03, and reporting a greater proportion of unrelated thoughts in the cognitive elaboration task, $b = -0.03$, $SE = 0.01$, $p = .004$; $X^2(18) = 22.79$, $p = .199$, CFI = .972, TLI = .898, RMSEA = .026. More

[10] Consistent with extant literature, perceiving intrinsic relevance was correlated with beneficial outcomes, such as more positive source evaluations (r=.28, p<.001), a stronger preference to receive additional health information selected by the research team, versus randomly (r=.19, p<.001), stronger behavioral intentions (r=.36, p<.001), and greater uptake of message-relevant behavior (r=.25, p<.001). However, perceiving intrinsic relevance was not correlated with perceptions of being unfairly judged (r=.04, p=.414), self-reported attention (r=.05, p=.351), information recognition (r=.01, p=.839), or the proportion of unrelated thoughts reported in the cognitive elaboration task (r=-.07, p=.142). See the appendix for the full model.

negative source evaluations predicted a stronger preference to receive additional health information that was selected randomly, versus by the research team, $b = 0.19$, $SE = 0.05$, $p < .001$; $X^2(18) = 23.89$, $p = .159$, CFI = .965, TLI = .893, RMSEA = .029. Reductions in attention and more negative source evaluations predicted weaker behavior intentions, $b_{attention} = 0.33$, $SE_{attention} = 0.09$, $p_{attention} < .001$; $b_{sourceevaluations} = 0.24$, $SE_{sourceevaluations} = 0.06$, $p_{sourceevaluatsions} < .001$, that decreased subsequent uptake of message-relevant behavior, $b_{attention} = 0.10$, $SE_{attention} = 0.02$, $p_{attention} < .001$; $X^2_{attention}(22) = 23.58$, $p = .369$, CFI = .994, TLI = .979, RMSEA = .013; $b_{sourceevaluations} = 0.09$, $SE_{sourceevaluations} = 0.02$, $p_{sourceevaluations} < .001$; $X^2_{sourceevaluations}(22) = 22.69$, $p = .419$, CFI = .997, TLI = .992, RMSEA = .009.

Figure 4. Modeling the indirect effect of *Targeting* on the study outcomes



Note: Coefficients are unstandardized. The coefficient reported for the pathway between behavioral intentions and behavior was obtained from the model using attention. For the model using source evaluations, b=0.09, p<.001. † p<.10, * $p < .05$, ** $p < .01$, *** $p < .001$

Summary

Study findings demonstrated that perceiving relevance based on social identities had important behavioral implications, particularly for African Americans. Consistent with Study 2, these effects emerged regardless of the information content (e.g., HIV or flu) seen by participants. First, replicating Study 2, (which also used the blatant targeting manipulation), both

African Americans and European Americans reported stronger self-attributions in the targeting (versus control) condition. Further replicating the patterns observed in Studies 2 and 3, African Americans, but not European Americans, exhibited negative responses to being targeted. In particular, African Americans in the targeting (versus control) condition reported reduced attention to the health information. However, in contrast to Studies 2 and 3, the targeting manipulation did not produce more negative source evaluations among African Americans.

Modeling the indirect effect of targeting on the primary study outcomes showed that both African Americans and European Americans in the targeting condition reported stronger self-attributions than participants in the control condition, replicating Study 2. However, consistent with our predictions, self-attributions were only associated with increased perceptions of being unfairly judged for African Americans. Stronger perceptions of being unfairly judged predicted decrements in self-reported attention and more negative source evaluations, and these self-report measures predicted subsequent behavior. Specifically, reductions in self-reported attention predicted worse recognition of the information content and reporting a greater proportion of unrelated thoughts in the cognitive elaboration task. More negative source evaluations predicted stronger preferences to receive additional health information that was selected randomly (versus by the research team). Furthermore, reductions in self-reported attention and more negative source evaluations were associated with weaker behavioral intentions, which subsequently predicted decreased uptake of message-relevant behavior (e.g., opting to receive behavior-relevant coupons or information about nearby locations to receive a flu shot or HIV screening).

Taken together, these findings show that attempts to leverage relevance based on social identities, via information targeting, can produce consequences that extend beyond simply disliking people who may be stereotyping them. In fact, African Americans who are targeted

exhibit worse processing of the information content and are less likely to comply with behavioral recommendations, suggesting that these findings have important theoretical and real-world implications.

Study 5 also provided evidence that leveraging relevance through information targeting produces detrimental outcomes for recipients because it increases participants' perceptions that relevance is derived from an extrinsic source, rather than increasing personal perceptions of relevance. Specifically, findings showed that being targeted, being African American, or receiving flu information increased participants' perceptions that the research team perceived the information to be relevant for them, and these perceptions, in turn, predicted greater perceptions of being unfairly judged. As observed in the earlier models, feeling judged produced downstream consequences on self-reported attention, source evaluations, and behavioral outcomes.

Collectively, findings suggest that one reason why information targeting may backfire is that targeting increases participants' perceptions that relevance is derived from an extrinsic (versus intrinsic) source, and these perceptions can heighten feelings of being unfairly judged. Perceiving that relevance is derived from an extrinsic source may prompt feelings of being judged because recipients may infer that the research team is relying on generalizations about their group membership (e.g., their provided demographics) to make information selections. Additionally, for African Americans, experiences of being stereotyped or mistreated on the basis of their racial identity may be chronically accessible (Stangor et al., 2011). Therefore, African Americans may be more sensitive to cues that the research team perceived the information to be relevant for them, rather than something they personally perceived. Taken together, findings demonstrate that different construals of relevance (e.g., whether the source of relevance is perceived to be extrinsic or intrinsic) can result in divergent effects.

CHAPTER VII: Conclusion

The efficacy of persuasive appeals depends on features of the message, as well as the attributes of the message recipient. Although persuasive efforts often leverage relevance to motivate behavior change with the underlying assumption that relevance will bring information closer to target audiences and facilitate persuasion, little research examines how recipients' social identities may impact responses to relevance, particularly when they perceive that their identities are being used as a basis for relevance. Thus, the current work bridges literatures on persuasion and social identity to investigate whether and why attempts to leverage message relevance based on social identities may backfire. Specifically, study findings show that these efforts may backfire when message recipients feel unfairly judged, and recipients are particularly likely to feel judged when (a) relevance is signaled using a marginalized identity, (b) recipients perceive identity-based relevance, and (c) recipients perceive that relevance is derived from an extrinsic source.

First, Study 1 demonstrated that medical practitioners, consistent with empirical literature, endorsed beliefs that leveraging relevance (by targeting health information to high-risk audiences) would improve patients' attention to information and facilitate better doctor-patient relationships. Furthermore, practitioners reported having targeted in the past, as well as intentions to target information in the future based on both medical history and visible identity cues (e.g., race; Hypothesis 1). In direct contrast to practitioners' expectations, however, Studies 2, 3 and 5 revealed that for African Americans, being in the targeting (versus control) condition

reduced attention to the information (Studies 2 and 5) and led to more negative source evaluations (Studies 2-3; Hypothesis 2). Moreover, Study 5 demonstrated that the consequences that resulted from targeting extended to behavior. For instance, reductions in attention predicted worse information recognition and reporting a greater proportion of unrelated thoughts during a cognitive elaboration task. Additionally, more negative source evaluations predicted a stronger preference to receive additional health information that was selected randomly (versus by the research team). Finally, reductions in attention and source evaluations predicted weaker behavioral intentions, which subsequently decreased uptake of message-relevant behavior (e.g., opting to receive a behavior-relevant coupon or find a location to receive a flu shot/get screened for HIV). Collectively, findings revealed that signaling relevance via social identities produced deleterious outcomes for African Americans, but had non-significant effects for European Americans.

Studies 3-5 also identified the mechanism underlying the relationship between perceived relevance and negative outcomes: perceptions of being unfairly judged (Hypothesis 3). Replication of the indirect effect modeled in Studies 3-5 showed that this effect was particularly robust. However, the role of participants' racial identities varied as a function of which targeting manipulation they saw. When participants were explicitly told that the information had been selected for them due to their provided demographics (Studies 2 and 5), both African Americans and European Americans reported increased self-attributions in the targeting (versus control) condition. The consequences associated with making self-attributions, however, were moderated by participants' race. Specifically, stronger self-attributions only predicted increased perceptions of feeling judged for African Americans. Alternatively, when participants saw the subtle targeting manipulation (e.g., when they were simply told the information was selected for them)

or saw a racially diverse brochure (Study 3), African Americans, but not European Americans, reported stronger self-attributions. Stronger self-attributions, in turn, predicted greater perceptions of being unfairly judged. Across studies, perceptions of being unfairly judged produced negative effects on attention, source evaluations, and uptake of behavioral recommendations.

Studies 3-4 also tested whether these negative consequences were driven by identity activation alone, or whether one's social identity needed to be directly tied to information selection for these consequences to emerge. Taken together, findings from Studies 3-4 suggested that identity activation may be necessary, but not sufficient, to produce iatrogenic effects for African Americans. Instead, targeting only elicited negative outcomes in contexts where African Americans' racial identities were being signaled as a relevance cue for the messages (Hypothesis 4).

Study 5 sought to extend the previous studies by investigating why self-attributions, our operationalization of relevance, consistently predicted increased perceptions of being unfairly judged. Specifically, Study 5 examined whether participants' beliefs regarding different sources of relevance (e.g., whether the source of relevance was intrinsic or extrinsic) produced divergent outcomes. Although perceptions of extrinsic and intrinsic relevance were independent predictors of self-attributions, only extrinsic relevance (e.g., beliefs that the research team thought the information was relevant for recipients) predicted self-attributions when accounting for both predictors simultaneously. Furthermore, being targeted, being African American, and receiving flu information increased perceptions of extrinsic relevance, which, in turn, increased feelings of being unfairly judged. Although perceptions of extrinsic relevance produced deleterious outcomes through perceptions of being judged, perceptions of intrinsic relevance, consistent with

prior literature, did not predict perceptions of being judged and was correlated with several positive outcomes (e.g., more positive source evaluations and stronger uptake of message-relevant behavior). Therefore, findings suggest that one reason why leveraging relevance through information targeting backfires is that it increases perceptions that an extrinsic source identifies the information to be relevant for recipients, but does not increase personal perceptions of relevance (Hypothesis 5). The distinction between extrinsic (versus intrinsic) relevance sources enriches theory development by identifying conditions under which leveraging relevance may facilitate or undermine persuasion.

Not all of our hypotheses were supported; although we predicted that the consequences of targeting would be localized on HIV information due to its strong association with the African American community, the consequences that emerged in response to the targeting manipulation generalized across HIV and flu information. Although this finding was unexpected, there are a few possible explanations. First, although flu information has been used as a control condition in previous research (Earl et al., 2016), the message recommended a flu shot as a method for flu prevention. Because African Americans have historic distrust of the medical system, particularly due to experienced racism in medical treatment (e.g., Tuskegee syphilis experiment; Freimuth et al., 2001) it is possible that reading about the flu shot activated these race-based schemas and increased the level of threat associated with targeted flu information. Another possibility is that making information selections based on recipients' social identities (e.g., their race) may increase perceptions of being stereotyped or judged regardless of the information content. Although qualitative data for participants' self-attributions showed that African Americans were more likely to explicitly report their race as a contributing factor for receiving the HIV information, they may have felt less confident reporting their race for the receipt of flu

information due to attributional ambiguity. Previous literature supports this possibility; when potential instances of discrimination are ambiguous, members of marginalized groups are often reluctant to identify the event as discriminatory due to fear of being punished or negatively evaluated (Garcia, Reser, Amo, Redersdorff, & Branscombe, 2005; Kaiser & Miller, 2001; Kaiser & Miller, 2003). Future research should test whether the negative outcomes associated with leveraging identity-based relevance extend to other types of information (e.g., health conditions that are linked with specific identities but are perceived to be outside of one's behavioral control, such as sickle-cell anemia; Goffman, 2009).

Implications and future directions

Implications for theory

Given extensive research demonstrating that high personal relevance facilitates persuasion, deeply-seated assumptions posit that leveraging relevance will enhance the efficacy of persuasive efforts (Bargh, 1982; Earl et al., 2009; Johnson & Eagly, 1989; Moray, 1959; Rotliman & Schwarz, 1998). However, the current studies suggest that relevance may operate in a more nuanced way than previously considered. Therefore, this work offers a novel contribution to extant literature by investigating the consequences of identity activation as a lever for relevance. Specifically, these studies suggest that there may be differential sensitivity to relevance interventions as a function of group identity. Therefore, although theory suggests that signaling the relevance of social identities for health information will promote deeper information processing, these studies demonstrate that leveraging relevance through marginalized social identities (e.g., being African American) may preclude the expected benefits of persuasion when recipients feel unfairly judged (e.g., experience social identity threat) and/or perceive that relevance is derived from an extrinsic (versus intrinsic) source. Because people

often make inferences about group members' attitudes and behaviors based on their category membership, people with marginalized identities may experience identity threat when persuasive efforts appear to evaluate them based on their group membership without acknowledging their individuating characteristics (Turner et al., 1987).

This work is consistent with prior literature on fear appeals suggesting that in certain contexts, linking threat with personal behavior can produce iatrogenic effects (Earl & Albarracin, 2007; Rogers & Mewborn, 1976; Witte & Allen, 2000). Additionally, this work suggests that one possible reason why fear appeals and other persuasive efforts that seek to motivate behavior change through relevance may backfire is that behavior can be reflective of identities. In particular, because people with marginalized group identities may show heightened sensitivity to being judged, persuasive appeals that link negative behavior or stigmatized health conditions with social identities (e.g., smokers) may elicit defensive processing due to social identity threat (Falomir & Invernizzi, 1999). This possibility is consistent with health behavior theories, such as identity-based motivation, which posits that identity activation can increase motivation to behave in identity-congruent ways (Oyserman, 2015; Oyserman et al., 2007; Oyserman, Smith, & Elmore, 2014). As such, messages that activate social identities may evoke identity threat when they challenge people's motivation to engage in identity-congruent behaviors. Future work should explore the role of social identities within fear appeals and other persuasive efforts.

Furthermore, this work contributes to extant literature on motivated reasoning; specifically, these studies replicate previous work on identity-protective cognition by demonstrating how cultural identities influence the types of goals that people make, the ways in which they process information, and how they evaluate the information source (Kahan, 2017; Kahan, Braman, Gastil, Slovic, & Mertz, 2007). To extend previous literature, these study

findings suggest that future work should also consider the context in which information is received due to its potential impact on biased information processing. Although the HIV and flu messages did not portray any particular social identity in a negative light, the manner in which the information is delivered can prompt message recipients to reject the message and defend beliefs that run counter to the message recommendations in order to protect the self. Therefore, future research should consider how the contexts in which information is delivered, as well as the information content itself, influence message receptivity (Earl & Lewis, 2019).

The current work also demonstrates how the multidimensionality of relevance, which can be self-generated or derived from an extrinsic source, may undermine assumptions about its robustness as a persuasive strategy. Although previous research has focused primarily on understanding the effects associated with personal perceptions of relevance, this work suggests that perceptions about different sources of relevance (e.g., relevance derived from an extrinsic, versus intrinsic, source) can produce heterogeneity in message receptivity. Specifically, although perceiving information as personally relevant may be beneficial, consistent with prior literature, perceptions that an extrinsic source has identified the information as relevant may produce adverse effects. Given this possibility, future research should examine additional factors or contexts that may (a) increase message recipients' perceptions that relevance is being derived from an extrinsic source, and (b) impact whether these perceptions facilitate or impede persuasion.

This work also suggests potential intervention points that may mitigate identity threat in the context of message processing. Although many persuasive efforts leverage relevance to bring information closer to target audiences, attempts to reduce psychological distance may backfire if recipients are motivated to distance themselves from the message. Prior research shows that

recipients often create psychological distance from messages that are counterattitudinal or evoke negative affect by disengaging from the message content, derogating the message source, or counterarguing the message (Blumberg, 2000; Brown & Locker, 2009; Liberman & Chaiken, 1992). Therefore, one ironic, but potentially useful strategy for improving receptivity to threatening messages may be to increase the psychological distance between the self and the message (Kross & Ayduk, 2011; Kross & Grossman, 2012). Future work should investigate this possibility.

These studies also contribute to the current literature on social identity threat. Although prior research suggests that social identity threat can emerge in response to identity activation (e.g., stereotype threat), Studies 3 and 4 suggest that in some contexts, identity activation may be necessary, but not sufficient to evoke identity threat. In contexts where stereotypes are less salient or do not come to mind as easily, more blatant cues may be required to elicit social identity threat (e.g., signaling that racial identities are being used as the basis for information selection).

This work also contributes to literature in communication. For instance, audience segmentation is a communication strategy where a large, heterogenous population is divided into more homogenous subgroups on the basis of characteristics that are known or presumed to be associated with a target outcome or behavior (Slater, 1996). Although audience segmentation has been widely used in the context of health communication, this work supports theory positing that these efforts may have limited efficacy when they rely on characteristics that are perceived to be unfounded (Slater, 1995). In particular, these studies suggest that characteristics may be seen as unfounded when they are tied to group membership, and these perceptions may be driven by recipients' inferences about being stereotyped.

Moreover, Hall's encoding/decoding model of communication (1973) suggests that although authors disseminate communications with an intended message, audiences often rely on their social contexts and personal experiences to make meaning of these communications. In particular, when recipients do not share the intended meaning, they may adopt an oppositional reading and reject the communication. The current studies offer insight into the processes that may underlie an oppositional reading; for example, message providers' presumptions about the benefits of relevance do not yield the intended results when members of marginalized groups perceive relevance on the basis of their social identities. Specifically, recipients' beliefs about how the source is perceiving them (e.g., whether they are being stereotyped based on their racial identity) can prompt message disengagement. As such, these studies demonstrate that recipients' beliefs about why communications are being received can directly influence how they decode the communication. Future work should consider whether beliefs about the role of identity are particularly salient when recipients believe that their cultural background diverges from the source's (Hartley, 2012). Furthermore, although characteristics of the message source were not manipulated in the current studies, future research should examine how changing features of the message source (e.g., demographics and/or intent behind the communication) impacts message engagement.

To determine the consequences of signaling message relevance through social identities, we tested our research questions with a population that is frequently the target of persuasive attempts, particularly in healthcare contexts: African Americans. However, the observed findings may not be limited to this population. Because research shows that activating social identities can be detrimental for other marginalized groups, such as Asian Americans, Latinos, American Indians, people with higher body weights, and sexual minorities (Cheryan & Bodenhausen,

2000; Derricks & Earl, 2019; Fryberg et al., 2010; Gonzales, Blanton, & Williams, 2002; Lee et al., 2017; Major et al., 2014), future work should determine whether signaling relevance via marginalized social identities impedes message receptivity for other types of information, other populations, and in other domains (e.g., education).

Practical implications

In addition to its theoretical contributions, this work has several important real-world implications. For instance, information providers, such as medical practitioners and clinicians, should consider the importance of context when delivering health information, particularly to members of marginalized groups. Studies 2, 3 and 5 demonstrate that targeting health information to African Americans produced deleterious effects through increased perceptions of being unfairly judged, and these findings are particularly problematic given their divergence from medical practitioners' favorable evaluations of information targeting (Study 1).

Additionally, public health campaigns often utilize prevention approaches to reduce disease prevalence by targeting interventions to high-risk populations (Center for Disease Control, 2015; USDHHS, 2015). Although some intervention components, such as increasing the accessibility of condoms, may be effective, these studies identify the potential for rebound effects, particularly for African American audiences, when they feel judged. Feeling unfairly judged is particularly detrimental because our findings suggest that African Americans who felt judged disengaged from the information, reported less trust in the information source, and were less likely to engage in recommended behavior responses that can inadvertently serve to perpetuate the racial health disparities these initiatives were designed to eliminate. Therefore, persuasive efforts that leverage relevance should consider the potential negative outcomes that

may emerge if the target audience feels judged or fails to perceive the message as personally relevant, and instead perceives that relevance is being derived from an extrinsic source.

Conclusion

Persuasive appeals often aim to reach high-risk audiences effectively and efficiently. Although persuasive efforts that leverage relevance may be beneficial in non-threatening contexts, leveraging relevance may backfire in contexts where recipients feel unfairly judged. Therefore, it is imperative that persuasive efforts consider not only the message content, but also attributes about message recipients (e.g., their group membership) that may impact subsequent receptivity to persuasive messages. Recipients' perceptions that their marginalized social identities, rather than their individual attributes, are being used as the basis for information selection can produce interpersonal, attention-related, and behavioral consequences that impede persuasion and behavior uptake. Developing a greater understanding of the ways in which group identity operates in the context of persuasion can inform persuasive efforts that seek to change attitudes and/or behavior, particularly for high-risk audiences.

APPENDICES

APPENDIX A

Table A1. Effect sizes for the primary study outcomes (Study 2)

	Targeting (d)	Race (d)	Information (d)	Targeting x Race (η_p^2)	Race x Information (η_p^2)	Targeting x Information (η_p^2)	Targeting x Race x Information (η_p^2)
Self-Attribution	.93***	.04	-.15	.000	.001	.000	.003
Attention	-.14	.04	-.10	.008†	.001	.008	.004
Source Evaluations	-.17	-.01	.06	.013*	.005	.009†	.001

Note: † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table A2. Effect sizes for the primary study outcomes (Study 3)

	Targeting (d)	Race (d)	Brochure (d)	Targeting x Race (η_p^2)	Race x Brochure (η_p^2)	Targeting x Brochure (η_p^2)	Targeting x Race x Brochure (η_p^2)
Self-Attribution	.20*	.16	.05	.008	.000	.000	.019***
Attention	.05	-.03	.02	.009†	.004	.006	.000
Source Evaluations	-.19†	-.23*	-.02	.008†	.001	.000	.000

Note: † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table A3. Effect sizes for the primary study outcomes (Study 4)

	Targeting (d)	Race (d)	Brochure (d)	Targeting x Race (η_p^2)	Race x Brochure (η_p^2)	Targeting x Brochure (η_p^2)	Targeting x Race x Brochure (η_p^2)
Self-Attribution	.04	.14	-.19*	.000	.007†	.000	.000
Attention	.23*	-.01	.01	.000	.001	.000	.002
Source Evaluations	.05	-.02	.04	.001	.001	.000	.002

Note: † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table A4. Effect sizes for the primary study outcomes (Study 5)

	Targeting (d)	Race (d)	Information (d)	Targeting x Race (η_p^2)	Race x Information (η_p^2)	Targeting x Information (η_p^2)	Targeting x Race x Information (η_p^2)
Self-Attribution	.87***	.05	.06	.000	.000	.000	.000
Attention (5 item)	-.22*	-.13	-.19†	.010*	.000	.002	.001
Attention (2 item)	-.18†	-.18†	-.10	.009†	.000	.013*	.000
Source Evaluations	.02	-.18†	-.22	.005	.001	.002	.005

Note: † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table A5. Effect sizes and study means for outcomes not reported in the main text (Studies 3-5)

a. Study 3: Effect sizes for perceptions of being unfairly judged

	Targeting (d)	Race (d)	Brochure (d)	Targeting x Race (η_p^2)	Race x Brochure (η_p^2)	Targeting x Brochure (η_p^2)	Targeting x Race x Brochure (η_p^2)
Unfairly Judged	.12	.67***	-.02	.000	.000	.000	.000

Note: $^{\dagger}p<.10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

b. Study 3: Means for perceptions of being unfairly judged

	Targeting (Diverse)	Targeting (Control)	Control (Diverse)	Control (Control)
Unfairly Judged				
African American	3.28 (.260)	3.34 (.255)	3.07 (.263)	3.04 (.236)
European American	2.02 (.250)	2.12 (.266)	1.88 (.240)	1.93 (.266)

Note: Reported values are listed as: mean (standard error).

c. Study 4: Effect sizes for perceptions of being unfairly judged

	Targeting (d)	Race (d)	Brochure (d)	Targeting x Race (η_p^2)	Race x Brochure (η_p^2)	Targeting x Brochure (η_p^2)	Targeting x Race x Brochure (η_p^2)
Unfairly Judged	.05	.47***	.11	.000	.001	.000	.005

Note: $^{\dagger}p<.10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

d. Study 4: Means for perceptions of being unfairly judged

	Targeting (Diverse)	Targeting (Control)	Control (Diverse)	Control (Control)
Unfairly Judged				
African American	2.66 (.210)	2.96 (.215)	2.90 (.208)	2.75 (.213)
European American	1.94 (.243)	2.00 (.213)	1.83 (.220)	2.37 (.218)

Note: Reported values are listed as: mean (standard error).

e. Study 5: Effect sizes for supplementary study outcomes not reported in the main text

	Targeting (d)	Race (d)	Information (d)	Targeting x Race (η_p^2)	Race x Information (η_p^2)	Targeting x Information (η_p^2)	Targeting x Race x Information (η_p^2)
Unfairly judged	.49***	.36***	.25*	.031***	.011*	.001	.000
Recognition	-.14	-.16	-.14	.005	.004	.001	.001
Unrelated thoughts	.13	.12	.19†	.002	.000	.000	.001
Source preference	.17†	-.04	-.24*	.007	.003	.001	.000
Behavioral intentions	-.14	.24*	-.49***	.002	.001	.001	.002
Behavior	-.16	.38***	-.51***	.000	.000	.000	.001

Note: † $p<.10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

f. Study 5: Means for supplementary study outcomes not reported in the main text

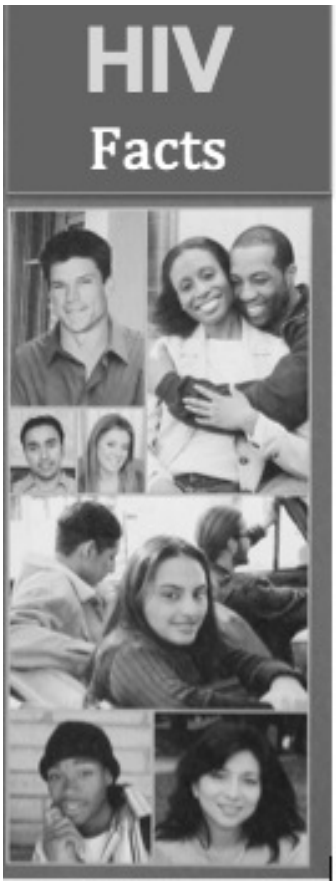
	Targeting (HIV)	Targeting (flu)	Control (HIV)	Control (flu)
Unfairly Judged				
African American	4.04 (.245)	3.07 (.242)	2.39 (.240)	1.81 (.252)
European American	2.35 (.235)	2.30 (.252)	2.14 (.242)	2.05 (.247)
Recognition				
African American	3.68 (.159)	3.69 (.157)	3.98 (.156)	4.00 (.164)
European American	3.80 (.153)	4.23 (.164)	3.94 (.157)	4.10 (.160)
Unrelated Thoughts				
African American	1.13 (.025)	1.09 (.025)	1.09 (.025)	1.06 (.026)
European American	1.08 (.024)	1.07 (.026)	1.09 (.025)	1.04 (.025)
Source Preference				
African American	3.98 (.178)	4.02 (.176)	3.85 (.174)	4.15 (.183)
European American	4.07 (.171)	4.45 (.183)	3.61 (.176)	4.08 (.180)
Behavioral Intentions				
African American	5.21 (.204)	5.58 (.202)	5.30 (.200)	6.16 (.211)
European American	4.78 (.196)	5.60 (.211)	4.86 (.202)	5.62 (.206)
Behavior				
African American	.380 (.086)	.686 (.085)	.500 (.084)	.787 (.089)
European American	.185 (.083)	.447 (.089)	.216 (.085)	.592 (.087)

Note: Reported values are listed as: mean (standard error).

Table A6: Brochure cover pilot testing (using Mturk, *N=37*; Studies 3-4)

Survey Item	Racially Diverse Brochure M (SD)	Control Brochure M (SD)	*p*
The brochure looks interesting	2.83 (1.10)	2.79 (1.13)	.906
The brochure looks useful	3.78 (.94)	3.28 (1.07)	.147
The brochure looks important	3.33 (1.08)	3.11 (1.37)	.580
The brochure looks attractive	2.89 (1.23)	3.00 (1.33)	.794
The brochure looks relevant	3.67 (.69)	3.16 (1.01)	.082
The brochure looks novel	2.72 (1.07)	2.58 (1.12)	.694
The brochure looks informative	3.67 (.84)	2.95 (1.08)	.030
The brochure looks pleasant	3.44 (1.15)	3.11 (1.20)	.385
The brochure looks like it contains high-quality information	3.39 (.98)	2.68 (1.29)	.070
The brochure makes me feel nervous	1.94 (1.11)	2.37 (1.26)	.284
The brochure makes me feel embarrassed	2.22 (1.22)	2.05 (1.18)	.669
The brochure makes me feel ashamed	2.06 (1.21)	1.95 (1.08)	.776
I would probably read this brochure.	4.17 (1.47)	4.68 (1.70)	.329

Figure A1. Brochure covers used in Studies 3-4



Racially Diverse Brochure

Control Brochure

A7. Qualitative analyses for self-attributions: Percentage of participants who explicitly identified race, versus another demographic identity, as the reason for receiving the information

a. Study 2

Flu Information

	Control Condition	Targeting Condition
European Americans	Identified racial identity: 0% Identified another identity: 0%	Identified racial identity: 4.0% Identified another identity: 12.0%
African Americans	Identified racial identity: 0% Identified another identity: 0%	Identified racial identity: 4.9% Identified another identity: 0%

HIV Information

	Control Condition	Targeting Condition
European Americans	Identified racial identity: 2.1% Identified another identity: 0%	Identified racial identity: 4.6% Identified another identity: 13.6%
African Americans	Identified racial identity: 2.8% Identified another identity: 5.6%	Identified racial identity: 35.7% Identified another identity: 21.4%

Note. Participants who mentioned race and another identity (e.g., age), are included in both percentages

b. Study 3

Identified Racial Identity				
	Targeting Condition, Diverse Brochure	Control Condition, Diverse Brochure	Targeting Condition, Control Brochure	Control Condition, Control Brochure
European Americans	2.0%	0%	8.5%	0%
African Americans	29.2%	8.5%	18%	5.3%
Identified Another Identity				
	Targeting Condition, Diverse Brochure	Control Condition, Diverse Brochure	Targeting Condition, Control Brochure	Control Condition, Control Brochure
European Americans	11.8%	3.6%	12.8%	2.1%
African Americans	14.6%	4.3%	6%	5.3%

Note. Participants who mentioned race and another identity (e.g., age), are included in both percentages

c. Study 4

Identified Racial Identity				
	Targeting Condition, Diverse Brochure	Control Condition, Diverse Brochure	Targeting Condition, Control Brochure	Control Condition, Control Brochure
European Americans	0%	0%	3.3%	0%
African Americans	7.9%	4.7%	4.9%	6.3%
Identified Another Identity				
	Targeting Condition, Diverse Brochure	Control Condition, Diverse Brochure	Targeting Condition, Control Brochure	Control Condition, Control Brochure
European Americans	0%	1.8%	9.8%	1.7%
African Americans	7.9%	4.7%	4.9%	4.8%

Note. Participants who mentioned race and another identity (e.g., age), are included in both percentages

d. Study 5

Flu Information

	Control Condition	Targeting Condition
European Americans	Identified racial identity: 0% Identified another identity: 0%	Identified racial identity: 0% Identified another identity: 12.8%
African Americans	Identified racial identity: 0% Identified another identity: 0%	Identified racial identity: 5.9% Identified another identity: 7.9%

HIV Information

	Control Condition	Targeting Condition
European Americans	Identified racial identity: 0% Identified another identity: 3.9%	Identified racial identity: 0% Identified another identity: 13.0%
African Americans	Identified racial identity: 1.9% Identified another identity: 0%	Identified racial identity: 16.0% Identified another identity: 10.0%

Note. Participants who mentioned race and another identity (e.g., age), are included in both percentages

A8. AMOS: Statistical parameters (Studies 3-5)

*For the following analyses, the experimental factors are coded as: *Targeting* (-.5= control condition, .5= targeting), *Race* (-.5= European American, .5= African American), *Information* (-.5= flu, .5= HIV), *Brochure* (-.5= control brochure, .5= racially diverse brochure)

a. Study 3: Modeling the indirect effect of targeting on the primary study outcomes

	b	SE	*p*	Fit statistics
Self-Attribution				
Targeting	.19	.10	.047	
Race	.15	.10	.109	
Brochure	.05	.10	.636	
Target x Race	.35	.19	.067	
Target x Brochure	.00	.19	.986	
Race x Brochure	-.02	.19	.922	
Target x Race x Brochure	-1.08	.39	.005	
Unfairly Judged				
Self-Attribution	.65	.09	<.001	
Targeting	.08	.17	.653	
Race	1.10	.17	<.001	
Brochure	-.08	.17	.649	
Attention				$X^2(14)=10.32$, p=.739; CFI=1.00, TLI=1.18, RMSEA= .000
Unfairly Judged	-.06	.03	.062	
Self-Attribution	-.05	.10	.538	
Targeting	.06	.10	.538	
Race	.05	.11	.640	
Brochure	.02	.10	.860	
Source Evaluations				$X^2(14)=7.25$, p=.925; CFI=1.00, TLI=1.31, RMSEA= .000
Unfairly Judged	-.09	.04	.016	
Self-Attribution	.02	.07	.834	
Targeting	-.24	.13	.063	
Race	-.18	.13	.184	
Brochure	-.04	.13	.736	

b. Study 4: Modeling the indirect effect of targeting on the primary study outcomes

	b	SE	*p*	Fit statistics
Self-Attribution				
Targeting	.04	.08	.637	
Race	.12	.08	.131	
Brochure	-.16	.08	.039	
Target x Race	-.06	.16	.690	
Target x Brochure	.02	.16	.885	
Race x Brochure	.28	.16	.075	
Target x Race x Brochure	.05	.31	.870	
Unfairly Judged				
Self-Attribution	.69	.08	<.001	
Targeting	-.10	.14	.494	
Race	.71	.14	<.001	
Brochure	-.08	.14	.569	
Attention				$X^2(14)=8.75$, p=.846; CFI=1.00, TLI=1.16, RMSEA= .000
Unfairly Judged	-.17	.03	<.001	
Self-Attribution	-.17	.06	.002	
Targeting	.22	.09	.012	
Race	.14	.09	.109	
Brochure	-.05	.09	.572	
Source Evaluations				$X^2(14)=8.05$, p=.887; CFI=1.00, TLI=1.28, RMSEA= .000
Unfairly Judged	-.10	.04	.012	
Self-Attribution	-.22	.08	.004	
Targeting	.08	.13	.538	
Race	.07	.13	.586	
Brochure	.01	.13	.965	

c. Study 5: Modeling the indirect effect of targeting on the primary study outcomes

1. Self-reported attention predicts behavior (information recognition and the proportion of unrelated thoughts reported in the cognitive elaboration task)

	b	SE	*p*	Fit statistics
Self-Attribution				
Targeting	.94	.11	<.001	
Information	-.09	.11	.384	
Race	.05	.11	.621	
Target x Race	-.08	.22	.721	
Target x Information	.07	.21	.735	
Race x Information	.10	.22	.653	
Target x Race x Information	.16	.43	.709	
Unfairly Judged				
Self-Attribution	.40	.08	<.001	
Race	-.33	.38	.387	
Race x Self-Attribution	.39	.14	.006	
Targeting	.47	.18	.011	
Information	.43	.17	.010	
Attention				
Unfairly Judged	-.16	.02	<.001	
Targeting	.02	.08	.800	
Self-Attribution	-.06	.04	.110	
Information	-.09	.07	.204	
Race	-.01	.07	.940	
Information Recognition				$X^2(23)=25.94$, p=.304; CFI=.997, TLI=.990, RMSEA=.018
Attention	.47	.07	<.001	
Unfairly judged	-.15	.03	<.001	
Targeting	-.09	.11	.418	
Self-Attribution	.13	.05	.006	
Information	-.01	.10	.918	
Race	-.04	.10	.698	
Unrelated thoughts				$X^2(23)=23.23$, p=.448; CFI=1.00, TLI=.999, RMSEA=.005
Attention	-.03	.01	.004	

Unfairly Judged	.01	.01	.114	
Targeting	.01	.02	.697	
Self-Attribution	.00	.01	.871	
Information	.02	.02	.164	
Race	.01	.02	.467	

2. Self-reported source evaluations predicts behavior (preference to receive additional information selected by the research team, versus a computer)

Source Evaluations				
Unfairly Judged	-.09	.04	.020	
Targeting	.12	.14	.378	
Self-Attribution	-.03	.06	.623	
Information	-.24	.13	.065	
Race	-.17	.13	.190	
Source Preference for More Information				$X^2(23)=23.72$, p=.419; CFI=.999, TLI=.997, RMSEA= .009
Source Evaluations	.23	.05	<.001	
Unfairly Judged	.00	.04	.955	
Targeting	.11	.13	.398	
Self-Attribution	.09	.06	.107	
Information	-.22	.12	.071	
Race	-.01	.12	.939	

Note. Source preference for additional information is measured such that higher values means participants have a stronger preference to receive information selected by the research team (versus a computer)

3. Self-reported attention predicts behavioral intentions, which subsequently predicts behavior

Behavioral intentions				
Attention	.37	.10	<.001	
Unfairly Judged	-.01	.04	.897	
Targeting	-.22	.16	.161	
Self-Attribution	.09	.07	.169	
Information	-.63	.14	<.001	
Race	.39	.14	.007	

Behavior				$X^2(28)=23.59$, p=.703; CFI=1.00, TLI=1.01, RMSEA= .000
Behavioral Intentions	.10	.02	<.001	
Attention	.03	.04	.546	
Unfairly Judged	.02	.02	.425	
Targeting	-.06	.07	.334	
Self-Attribution	-.03	.03	.360	
Information	-.24	.06	<.001	
Race	.19	.06	.002	

4. **Self-reported source evaluations predicts behavioral intentions, which subsequently predicts behavior**

Behavioral intentions				
Source Evaluations	.31	.06	<.001	
Unfairly Judged	-.04	.04	.342	
Targeting	-.25	.15	.105	
Self-Attribution	.08	.07	.222	
Information	-.59	.14	<.001	
Race	.43	.14	.002	
Behavior				$X^2(28)=23.26$ p=.720; CFI=1.00, TLI=1.02, RMSEA= .000
Behavioral Intentions	.09	.02	<.001	
Source Evaluations	.05	.02	.037	
Unfairly Judged	.01	.02	.406	
Targeting	-.07	.06	.276	
Self-Attribution	-.03	.03	.380	
Information	-.24	.06	<.001	
Race	.20	.06	<.001	

d. Study 5: Modeling the indirect effect of targeting on the primary study outcomes through perceptions that relevance was derived from an external source (e.g., the research team)

1. Self-reported attention predicts behavior (information recognition and the proportion of unrelated thoughts reported in the cognitive elaboration task)

	b	SE	*p*	Fit statistics
Extrinsic Relevance				
Targeting	.82	.25	<.001	
Information	-1.24	.25	<.001	
Race	.67	.25	.006	
Target x Race	.12	.49	.804	
Target x Information	.70	.49	.157	
Race x Information	.39	.49	.425	
Target x Race x Information	1.29	.98	.190	
Unfairly Judged				
Extrinsic Relevance	.19	.03	<.001	
Targeting	.68	.17	<.001	
Information	.64	.17	<.001	
Race	.51	.17	.003	
Attention				
Unfairly Judged	-.18	.02	<.001	
Extrinsic Relevance	.02	.02	.230	
Targeting	-.03	.08	.652	
Information	-.06	.08	.442	
Race	-.01	.07	.888	
Information Recognition				$X^2(18)=26.06$, p=.098; CFI=.967, TLI=.880, RMSEA= .033
Attention	.45	.07	<.001	
Unfairly judged	-.12	.03	<.001	
Extrinsic Relevance	-.02	.02	.477	
Targeting	.03	.10	.795	
Information	-.06	.11	.604	
Race	-.04	.10	.708	
Unrelated thoughts				$X^2(18)=22.79$, p=.199; CFI=.972,

				TLI=.898, RMSEA= .026
Attention	-.03	.01	.004	
Unfairly Judged	.01	.01	.079	
Extrinsic Relevance	-.00	.00	.546	
Targeting	.01	.02	.589	
Information	.02	.02	.242	
Race	.01	.02	.439	

2. **Self-reported source evaluations predicts behavior (preference to receive additional information selected by the research team, versus a computer)**

Source Evaluations				
Unfairly Judged	-.15	.04	<.001	
Extrinsic Relevance	.15	.03	<.001	
Targeting	.02	.13	.875	
Information	-.02	.13	.897	
Race	-.23	.13	.059	
Source Preference for More Information				$X^2(18)=23.89$, p=.159; CFI=.965, TLI=.893, RMSEA= .029
Source Evaluations	.19	.05	<.001	
Unfairly Judged	-.01	.04	.802	
Extrinsic Relevance	.06	.03	.025	
Targeting	.16	.13	.195	
Information	-.16	.13	.204	
Race	-.05	.12	.718	

3. **Self-reported attention predicts behavioral intentions, which subsequently predicts behavior**

Behavioral intentions				
Attention	.33	.09	<.001	
Unfairly Judged	-.06	.04	.205	
Extrinsic Relevance	.15	.03	<.001	
Targeting	-.22	.14	.119	
Information	-.44	.14	.002	
Race	.31	.14	.023	

Behavior				$X^2(22)=23.59$, p=.369; CFI=.994, TLI=.979, RMSEA= .013
Behavioral Intentions	.10	.02	<.001	
Attention	.03	.04	.497	
Unfairly Judged	.01	.02	.671	
Extrinsic Relevance	.01	.01	.535	
Targeting	-.09	.06	.147	
Information	-.23	.06	<.001	
Race	.19	.06	.002	

4. Self-reported source evaluations predicts behavioral intentions, which subsequently predicts behavior

Behavioral intentions				
Source Evaluations	.24	.06	<.001	
Unfairly Judged	-.08	.04	.056	
Extrinsic Relevance	.12	.03	<.001	
Targeting	-.24	.14	.092	
Information	-.45	.14	.001	
Race	.37	.14	.008	
Behavior				$X^2(22)=22.69$, p=.419; CFI=.997, TLI=.992, RMSEA= .009
Behavioral Intentions	.09	.02	<.001	
Source Evaluations	.05	.03	.043	
Unfairly Judged	.01	.02	.581	
Extrinsic Relevance	.00	.01	.894	
Targeting	-.09	.06	.130	
Information	-.23	.06	<.001	
Race	.20	.06	<.001	

e. Study 5: Modeling the indirect effect of targeting on the primary study outcomes through perceptions that relevance was derived from an internal source (e.g., self-generated relevance)

1. Self-reported attention predicts behavior (information recognition and the proportion of unrelated thoughts reported in the cognitive elaboration task)

	b	SE	*p*	Fit statistics
Intrinsic Relevance				
Targeting	.34	.25	.177	
Information	-2.29	.25	<.001	
Race	.45	.25	.078	
Target x Race	-.53	.51	.291	
Target x Information	-.01	.51	.991	
Race x Information	.55	.51	.280	
Target x Race x Information	-.08	1.01	.936	
Unfairly Judged				
Intrinsic Relevance	.05	.04	.183	
Targeting	.82	.18	<.001	
Information	.51	.19	.008	
Race	.61	.18	<.001	
Attention				
Unfairly Judged	-.17	.02	<.001	
Intrinsic Relevance	.02	.01	.200	
Targeting	-.03	.08	.692	
Information	-.04	.08	.605	
Race	-.01	.07	.890	
Information Recognition				$X^2(18)=27.21$, p=.075; CFI=.964, TLI=.867, RMSEA= .036
Attention	.45	.07	<.001	
Unfairly judged	-.13	.03	<.001	
Intrinsic Relevance	-.00	.02	.914	
Targeting	.02	.10	.854	
Information	-.04	.11	.741	
Race	-.05	.10	.664	
Unrelated thoughts				$X^2(18)=23.88$, p=.159; CFI=.986,

				TLI=.881, RMSEA= .029
Attention	-.03	.01	.005	
Unfairly Judged	.01	.01	.082	
Intrinsic Relevance	-.00	.00	.301	
Targeting	.01	.02	.593	
Information	.02	.02	.403	
Race	.01	.02	.427	

2. **Self-reported source evaluations predicts behavior (preference to receive additional information selected by the research team, versus a computer)**

Source Evaluations				
Unfairly Judged	-.11	.04	.003	
Intrinsic Relevance	.14	.02	<.001	
Targeting	.06	.13	.616	
Information	.10	.13	.476	
Race	-.22	.12	.072	
Source Preference for More Information				$X^2(18)=26.06$, p=.098; CFI=.954, TLI=.859, RMSEA= .033
Source Evaluations	.20	.05	<.001	
Unfairly Judged	.01	.04	.804	
Intrinsic Relevance	.05	.03	.037	
Targeting	.18	.13	.151	
Information	-.12	.13	.363	
Race	-.04	.12	.752	

3. **Self-reported attention predicts behavioral intentions, which subsequently predicts behavior**

Behavioral intentions				
Attention	.32	.09	<.001	
Unfairly Judged	-.02	.04	.721	
Intrinsic Relevance	.16	.03	<.001	
Targeting	-.19	.14	.185	
Information	-.27	.15	.071	
Race	.31	.14	.021	

Behavior				$X^2(22)=25.25$, p=.285; CFI=.989, TLI=.961, RMSEA= .019
Behavioral Intentions	.10	.02	<.001	
Attention	.03	.04	.503	
Unfairly Judged	.01	.02	.653	
Intrinsic Relevance	.02	.01	.049	
Targeting	-.09	.06	.128	
Information	-.19	.07	.003	
Race	.19	.06	.002	

4. Self-reported source evaluations predicts behavioral intentions, which subsequently predicts behavior

Behavioral intentions				
Source Evaluations	.23	.06	<.001	
Unfairly Judged	-.05	.04	.229	
Intrinsic Relevance	.14	.03	<.001	
Targeting	-.21	.14	.132	
Information	-.31	.15	.040	
Race	.36	.14	.008	
Behavior				$X^2(22)=25.35$, p=.281; CFI=.988, TLI=.965, RMSEA= .020
Behavioral Intentions	.08	.02	<.001	
Source Evaluations	.04	.02	.084	
Unfairly Judged	.01	.02	.656	
Intrinsic Relevance	.02	.01	.119	
Targeting	-.10	.06	.110	
Information	-.20	.07	.002	
Race	.20	.06	.001	

APPENDIX B

ANOVA analyses for the primary study outcomes controlling for demographics (gender, age, socioeconomic status) and testing these identities as moderators

Figure B1. Analyses controlling for demographics (age, gender, objective SES, and subjective SES; Study 2)

a. Self-attributions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	97.384[a]	11	8.853	6.923	.000
Intercept	57.925	1	57.925	45.294	.000
gender_dichot	.258	1	.258	.202	.653
age	.010	1	.010	.008	.930
obj_SES	.123	1	.123	.096	.756
sub_SES	.858	1	.858	.671	.413
target	91.124	1	91.124	71.253	.000
info_di	2.118	1	2.118	1.656	.199
race_di	.127	1	.127	.099	.753
target * info_di	.042	1	.042	.033	.857
target * race_di	.013	1	.013	.010	.919
info_di * race_di	.279	1	.279	.218	.641
target * info_di * race_di	1.313	1	1.313	1.027	.312

b. Attention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	116.083[a]	11	10.553	1.814	.051
Intercept	2631.061	1	2631.061	452.144	.000
gender_dichot	9.813	1	9.813	1.686	.195
age	43.587	1	43.587	7.490	.007
obj_SES	3.824	1	3.824	.657	.418
sub_SES	4.046	1	4.046	.695	.405
target	10.966	1	10.966	1.885	.171
info_di	6.241	1	6.241	1.073	.301
race_di	.504	1	.504	.087	.769
target * info_di	11.973	1	11.973	2.058	.152
target * race_di	13.366	1	13.366	2.297	.131
info_di * race_di	1.271	1	1.271	.218	.641
target * info_di * race_di	8.019	1	8.019	1.378	.241

c. Source Evaluations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	66.595[a]	11	6.054	2.762	.002
Intercept	443.117	1	443.117	202.194	.000
gender_dichot	32.704	1	32.704	14.923	.000
age	2.739	1	2.739	1.250	.264
obj_SES	3.983	1	3.983	1.817	.179
sub_SES	2.842	1	2.842	1.297	.256
target	6.089	1	6.089	2.778	.097
info_di	.087	1	.087	.040	.842
race_di	1.466	1	1.466	.669	.414
target * info_di	4.330	1	4.330	1.976	.161
target * race_di	10.098	1	10.098	4.608	.033
info_di * race_di	6.782	1	6.782	3.095	.079
target * info_di * race_di	.345	1	.345	.157	.692

d. Target x Information x Gender on the primary study outcomes

info_di	Att_self	2.140	1	2.140	1.680	.196
	attentioncomp	6.813	1	6.813	1.148	.285
	trusthonestbesthelp	.022	1	.022	.010	.921
target	Att_self	85.379	1	85.379	67.025	.000
	attentioncomp	4.883	1	4.883	.823	.365
	trusthonestbesthelp	3.094	1	3.094	1.386	.240
gender_dichot	Att_self	.325	1	.325	.255	.614
	attentioncomp	13.365	1	13.365	2.253	.134
	trusthonestbesthelp	29.081	1	29.081	13.026	.000
info_di * target	Att_self	.110	1	.110	.086	.769
	attentioncomp	10.464	1	10.464	1.764	.185
	trusthonestbesthelp	4.989	1	4.989	2.235	.136
info_di * gender_dichot	Att_self	.111	1	.111	.087	.768
	attentioncomp	1.711	1	1.711	.289	.592
	trusthonestbesthelp	.339	1	.339	.152	.697
target * gender_dichot	Att_self	.029	1	.029	.022	.881
	attentioncomp	11.721	1	11.721	1.976	.161
	trusthonestbesthelp	3.183	1	3.183	1.426	.233
info_di * target * gender_dichot	Att_self	.046	1	.046	.036	.850
	attentioncomp	.011	1	.011	.002	.966
	trusthonestbesthelp	1.865	1	1.865	.835	.361

e. Target x Information x Age on the primary study outcomes

info_di	Att_self	.014	1	.014	.011	.915
	attentioncomp	1.053	1	1.053	.180	.672
	trusthonestbesthelp	.009	1	.009	.004	.949
target	Att_self	9.971	1	9.971	8.133	.005
	attentioncomp	1.233	1	1.233	.211	.646
	trusthonestbesthelp	2.804	1	2.804	1.213	.272
age_combine	Att_self	.007	1	.007	.005	.941
	attentioncomp	48.937	1	48.937	8.371	.004
	trusthonestbesthelp	5.274	1	5.274	2.282	.132
info_di * age_combine	Att_self	.417	1	.417	.340	.560
	attentioncomp	.074	1	.074	.013	.911
	trusthonestbesthelp	.003	1	.003	.001	.973
target * age_combine	Att_self	.048	1	.048	.039	.843
	attentioncomp	.045	1	.045	.008	.930
	trusthonestbesthelp	1.078	1	1.078	.466	.495
info_di * target	Att_self	14.360	1	14.360	11.713	.001
	attentioncomp	10.864	1	10.864	1.858	.174
	trusthonestbesthelp	.193	1	.193	.083	.773
info_di * target * age_combine	Att_self	14.908	1	14.908	12.161	.001
	attentioncomp	5.534	1	5.534	.947	.331
	trusthonestbesthelp	.079	1	.079	.034	.854

f. Target x Information x Objective SES on the primary study outcomes

info_di	Att_self	1.717	1	1.717	1.359	.245
	attentioncomp	3.397	1	3.397	.566	.452
	trusthonestbesthelp	1.460	1	1.460	.629	.428
target	Att_self	10.399	1	10.399	8.230	.004
	attentioncomp	2.101	1	2.101	.350	.554
	trusthonestbesthelp	.102	1	.102	.044	.834
obj_SES	Att_self	.908	1	.908	.719	.397
	attentioncomp	1.125	1	1.125	.187	.665
	trusthonestbesthelp	.925	1	.925	.398	.528
info_di * obj_SES	Att_self	.533	1	.533	.422	.516
	attentioncomp	.763	1	.763	.127	.722
	trusthonestbesthelp	1.167	1	1.167	.503	.479
info_di * target	Att_self	1.683	1	1.683	1.332	.249
	attentioncomp	.464	1	.464	.077	.781
	trusthonestbesthelp	5.285	1	5.285	2.277	.132
target * obj_SES	Att_self	1.022	1	1.022	.809	.369
	attentioncomp	.003	1	.003	.001	.982
	trusthonestbesthelp	.446	1	.446	.192	.661
info_di * target * obj_SES	Att_self	1.534	1	1.534	1.214	.271
	attentioncomp	1.178	1	1.178	.196	.658
	trusthonestbesthelp	1.834	1	1.834	.790	.375

g. Target x Information x Subjective SES on the primary study outcomes

info_di	Att_self	.179	1	.179	.140	.709
	attentioncomp	.658	1	.658	.107	.744
	trustcomp	3.972	1	3.972	1.729	.189
target	Att_self	20.048	1	20.048	15.633	.000
	attentioncomp	4.312	1	4.312	.700	.403
	trustcomp	1.067	1	1.067	.465	.496
sub_SES	Att_self	1.927	1	1.927	1.502	.221
	attentioncomp	.634	1	.634	.103	.749
	trustcomp	1.092	1	1.092	.475	.491
info_di * sub_SES	Att_self	.007	1	.007	.006	.940
	attentioncomp	.086	1	.086	.014	.906
	trustcomp	3.367	1	3.367	1.466	.227
info_di * target	Att_self	1.723	1	1.723	1.344	.247
	attentioncomp	12.017	1	12.017	1.951	.163
	trustcomp	5.904	1	5.904	2.570	.110
target * sub_SES	Att_self	1.137	1	1.137	.887	.347
	attentioncomp	1.960	1	1.960	.318	.573
	trustcomp	3.273	1	3.273	1.425	.233
info_di * target * sub_SES	Att_self	1.609	1	1.609	1.255	.263
	attentioncomp	4.581	1	4.581	.744	.389
	trustcomp	2.499	1	2.499	1.088	.298

Figure B2. Analyses controlling for demographics (age, gender, objective SES, and subjective SES; Study 3)

a. Self-Attribution

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	19.400[a]	11	1.764	1.848	.045
Intercept	49.442	1	49.442	51.798	.000
age	4.906E-6	1	4.906E-6	.000	.998
gender	8.346E-5	1	8.346E-5	.000	.993
objSES	.034	1	.034	.036	.849
subjSES	1.976	1	1.976	2.070	.151
target	4.045	1	4.045	4.238	.040
race_di	1.968	1	1.968	2.062	.152
image	.136	1	.136	.143	.706
target * race_di	3.073	1	3.073	3.219	.074
target * image	1.342E-5	1	1.342E-5	.000	.997
race_di * image	.061	1	.061	.064	.800
target * race_di * image	6.794	1	6.794	7.118	.008

b. Attention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	69.673[a]	11	6.334	1.573	.104
Intercept	3260.259	1	3260.259	809.802	.000
age	33.646	1	33.646	8.357	.004
gender	6.550	1	6.550	1.627	.203
objSES	.253	1	.253	.063	.802
subjSES	.007	1	.007	.002	.967
target	.010	1	.010	.003	.960
race_di	1.022	1	1.022	.254	.615
image	.002	1	.002	.001	.981
target * race_di	15.497	1	15.497	3.849	.050
target * image	8.787	1	8.787	2.182	.140
race_di * image	6.139	1	6.139	1.525	.218
target * race_di * image	.020	1	.020	.005	.944

c. Source Evaluations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	470.050[a]	11	42.732	1.611	.093
Intercept	11791.273	1	11791.273	444.576	.000
age	7.429	1	7.429	.280	.597
gender	96.918	1	96.918	3.654	.057
objSES	30.158	1	30.158	1.137	.287
subjSES	29.570	1	29.570	1.115	.292
target	92.773	1	92.773	3.498	.062
race_di	138.726	1	138.726	5.230	.023
image	.246	1	.246	.009	.923
target * race_di	102.115	1	102.115	3.850	.050
target * image	1.209	1	1.209	.046	.831
race_di * image	9.205	1	9.205	.347	.556
target * race_di * image	5.866	1	5.866	.221	.638

d. Target x Brochure x Gender on the primary study outcomes

target	att_self	4.606	1	4.606	4.695	.031
	attentioncomp2	.072	1	.072	.017	.896
	trustcomp	120.715	1	120.715	4.509	.034
image	att_self	.268	1	.268	.274	.601
	attentioncomp2	.532	1	.532	.127	.722
	trustcomp	1.007	1	1.007	.038	.846
gender	att_self	.058	1	.058	.059	.808
	attentioncomp2	6.477	1	6.477	1.546	.214
	trustcomp	43.883	1	43.883	1.639	.201
target * image	att_self	.004	1	.004	.004	.951
	attentioncomp2	4.912	1	4.912	1.172	.280
	trustcomp	1.560	1	1.560	.058	.809
target * gender	att_self	1.265	1	1.265	1.289	.257
	attentioncomp2	7.290	1	7.290	1.740	.188
	trustcomp	.081	1	.081	.003	.956
image * gender	att_self	.225	1	.225	.229	.632
	attentioncomp2	.790	1	.790	.189	.664
	trustcomp	66.210	1	66.210	2.473	.117
target * image * gender	att_self	.588	1	.588	.600	.439
	attentioncomp2	11.443	1	11.443	2.731	.099
	trustcomp	1.063	1	1.063	.040	.842

e. Target x Brochure x Age on the primary study outcomes

	trustcomp	33948.426	1	33948.426	1260.085	.000
target	att_self	.714	1	.714	.726	.395
	attentioncomp2	.152	1	.152	.037	.848
	trustcomp	.140	1	.140	.005	.943
image	att_self	.401	1	.401	.407	.524
	attentioncomp2	5.911	1	5.911	1.427	.233
	trustcomp	2.537	1	2.537	.094	.759
age	att_self	.023	1	.023	.023	.880
	attentioncomp2	38.311	1	38.311	9.248	.003
	trustcomp	1.815	1	1.815	.067	.795
image * age	att_self	.218	1	.218	.222	.638
	attentioncomp2	5.512	1	5.512	1.331	.249
	trustcomp	3.078	1	3.078	.114	.736
target * age	att_self	.024	1	.024	.024	.877
	attentioncomp2	.076	1	.076	.018	.892
	trustcomp	8.745	1	8.745	.325	.569
target * image	att_self	.717	1	.717	.729	.394
	attentioncomp2	1.089	1	1.089	.263	.608
	trustcomp	22.438	1	22.438	.833	.362
target * image * age	att_self	.799	1	.799	.812	.368
	attentioncomp2	2.983	1	2.983	.720	.397
	trustcomp	21.760	1	21.760	.808	.369

f. Target x Brochure x Objective SES on the primary study outcomes

target	att_self	.264	1	.264	.271	.603
	attentioncomp2	.070	1	.070	.017	.897
	trustcomp	.363	1	.363	.013	.908
image	att_self	1.374	1	1.374	1.410	.236
	attentioncomp2	14.334	1	14.334	3.416	.065
	trustcomp	.397	1	.397	.015	.903
objSES	att_self	1.329	1	1.329	1.364	.244
	attentioncomp2	.088	1	.088	.021	.885
	trustcomp	8.028	1	8.028	.298	.586
image * objSES	att_self	1.216	1	1.216	1.248	.265
	attentioncomp2	19.689	1	19.689	4.692	.031
	trustcomp	1.689	1	1.689	.063	.802
target * image	att_self	2.463	1	2.463	2.527	.113
	attentioncomp2	.218	1	.218	.052	.820
	trustcomp	.380	1	.380	.014	.906
target * objSES	att_self	.364	1	.364	.373	.542
	attentioncomp2	.108	1	.108	.026	.873
	trustcomp	19.503	1	19.503	.724	.395
target * image * objSES	att_self	3.119	1	3.119	3.200	.074
	attentioncomp2	1.495	1	1.495	.356	.551
	trustcomp	.001	1	.001	.000	.996

g. Target x Brochure x Subjective SES on the primary study outcomes

target	att_self	2.042	1	2.042	2.112	.147
	attentioncomp	3.076	1	3.076	.714	.398
	trustcomp	.071	1	.071	.003	.959
image	att_self	1.392	1	1.392	1.440	.231
	attentioncomp	4.140	1	4.140	.962	.327
	trustcomp	1.796	1	1.796	.066	.797
subjSES	att_self	2.213	1	2.213	2.289	.131
	attentioncomp	.162	1	.162	.038	.846
	trustcomp	26.940	1	26.940	.996	.319
image * subjSES	att_self	1.364	1	1.364	1.411	.236
	attentioncomp	4.300	1	4.300	.999	.318
	trustcomp	1.685	1	1.685	.062	.803
target * image	att_self	.884	1	.884	.914	.340
	attentioncomp	.972	1	.972	.226	.635
	trustcomp	4.823	1	4.823	.178	.673
target * subjSES	att_self	.542	1	.542	.560	.455
	attentioncomp	2.525	1	2.525	.586	.444
	trustcomp	12.041	1	12.041	.445	.505
target * image * subjSES	att_self	.976	1	.976	1.010	.316
	attentioncomp	.002	1	.002	.000	.983
	trustcomp	7.338	1	7.338	.271	.603

Figure B3. Analyses controlling for demographics (age, gender, objective SES, and subjective SES; Study 4)

a. Self-Attribution

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.381[a]	11	1.126	1.561	.107
Intercept	70.183	1	70.183	97.333	.000
age	1.305	1	1.305	1.810	.179
gender	.000	1	.000	.000	.985
objSES	3.962	1	3.962	5.494	.020
subjSES	1.809	1	1.809	2.508	.114
targeting	.188	1	.188	.261	.610
race_dichot	.827	1	.827	1.147	.285
image	2.263	1	2.263	3.138	.077
targeting * race_dichot	.273	1	.273	.379	.538
targeting * image	.131	1	.131	.182	.670
race_dichot * image	2.806	1	2.806	3.891	.049
targeting * race_dichot * image	.026	1	.026	.036	.849

b. Attention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	84.515[a]	11	7.683	1.975	.029
Intercept	3982.624	1	3982.624	1023.779	.000
age	18.750	1	18.750	4.820	.029
gender	17.722	1	17.722	4.556	.033
objSES	7.878	1	7.878	2.025	.155
subjSES	2.361	1	2.361	.607	.436
targeting	27.115	1	27.115	6.970	.009
race_dichot	.003	1	.003	.001	.977
image	.046	1	.046	.012	.913
targeting * race_dichot	.216	1	.216	.056	.814
targeting * image	.116	1	.116	.030	.863
race_dichot * image	2.517	1	2.517	.647	.422
targeting * race_dichot * image	6.664	1	6.664	1.713	.191

c. Source Evaluations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	357.567[a]	11	32.506	1.055	.397
Intercept	11638.084	1	11638.084	377.680	.000
age	33.600	1	33.600	1.090	.297
gender	84.052	1	84.052	2.728	.099
objSES	7.151	1	7.151	.232	.630
subjSES	86.906	1	86.906	2.820	.094
targeting	16.879	1	16.879	.548	.460
race_dichot	3.887	1	3.887	.126	.723
image	8.859	1	8.859	.287	.592
targeting * race_dichot	7.864	1	7.864	.255	.614
targeting * image	4.549	1	4.549	.148	.701
race_dichot * image	17.047	1	17.047	.553	.457
targeting * race_dichot * image	28.333	1	28.333	.919	.338

d. Target x Brochure x Gender on the primary study outcomes

targeting	att_self	.187	1	.187	.255	.614
	attentioncomp2	32.166	1	32.166	8.387	.004
	trustcomp	11.357	1	11.357	.366	.545
image	att_self	1.772	1	1.772	2.418	.121
	attentioncomp2	.114	1	.114	.030	.863
	trustcomp	1.419	1	1.419	.046	.831
gender	att_self	.058	1	.058	.079	.779
	attentioncomp2	15.026	1	15.026	3.918	.048
	trustcomp	100.598	1	100.598	3.242	.072
targeting * image	att_self	.117	1	.117	.159	.690
	attentioncomp2	.280	1	.280	.073	.787
	trustcomp	7.720	1	7.720	.249	.618
targeting * gender	att_self	.011	1	.011	.014	.904
	attentioncomp2	1.135	1	1.135	.296	.587
	trustcomp	1.138	1	1.138	.037	.848
image * gender	att_self	1.736	1	1.736	2.369	.124
	attentioncomp2	.847	1	.847	.221	.639
	trustcomp	11.649	1	11.649	.375	.540
targeting * image * gender	att_self	.347	1	.347	.473	.492
	attentioncomp2	4.055	1	4.055	1.057	.304
	trustcomp	4.236	1	4.236	.137	.712

e. Target x Brochure x Age on the primary study outcomes

targeting	att_self	.198	1	.198	.271	.603
	attentioncomp2	5.941	1	5.941	1.555	.213
	trustcomp	1.966	1	1.966	.063	.801
image	att_self	.195	1	.195	.267	.606
	attentioncomp2	.508	1	.508	.133	.716
	trustcomp	1.077	1	1.077	.035	.852
age	att_self	2.334	1	2.334	3.188	.075
	attentioncomp2	22.181	1	22.181	5.804	.016
	trustcomp	23.839	1	23.839	.769	.381
image * age	att_self	.001	1	.001	.001	.976
	attentioncomp2	.802	1	.802	.210	.647
	trustcomp	2.855	1	2.855	.092	.762
targeting * age	att_self	.135	1	.135	.184	.668
	attentioncomp2	.722	1	.722	.189	.664
	trustcomp	7.020	1	7.020	.226	.634
targeting * image	att_self	.327	1	.327	.447	.504
	attentioncomp2	.321	1	.321	.084	.772
	trustcomp	54.342	1	54.342	1.753	.186
targeting * image * age	att_self	.306	1	.306	.418	.518
	attentioncomp2	.413	1	.413	.108	.742
	trustcomp	64.682	1	64.682	2.086	.149

f. Target x Brochure x Objective SES on the primary study outcomes

targeting	att_self	.114	1	.114	.155	.694
	attentioncomp2	6.901	1	6.901	1.788	.182
	trustcomp	2.456	1	2.456	.079	.779
image	att_self	1.010	1	1.010	1.382	.240
	attentioncomp2	.260	1	.260	.067	.795
	trustcomp	1.152	1	1.152	.037	.847
objSES	att_self	2.847	1	2.847	3.895	.049
	attentioncomp2	7.710	1	7.710	1.997	.158
	trustcomp	66.666	1	66.666	2.146	.144
image * objSES	att_self	.132	1	.132	.181	.671
	attentioncomp2	.088	1	.088	.023	.880
	trustcomp	3.703	1	3.703	.119	.730
targeting * image	att_self	.014	1	.014	.018	.892
	attentioncomp2	2.613	1	2.613	.677	.411
	trustcomp	20.045	1	20.045	.645	.422
targeting * objSES	att_self	.037	1	.037	.050	.823
	attentioncomp2	.044	1	.044	.011	.915
	trustcomp	12.393	1	12.393	.399	.528
targeting * image * objSES	att_self	.111	1	.111	.152	.697
	attentioncomp2	1.995	1	1.995	.517	.473
	trustcomp	14.070	1	14.070	.453	.501

g. Target x Brochure x Subjective SES on the primary study outcomes

targeting	att_self	1.211	1	1.211	1.638	.201
	attentioncomp2	.090	1	.090	.022	.881
	trustcomp	7.660	1	7.660	.248	.619
image	att_self	.037	1	.037	.050	.823
	attentioncomp2	1.233	1	1.233	.305	.581
	trustcomp	111.761	1	111.761	3.618	.058
subjSES	att_self	.053	1	.053	.072	.789
	attentioncomp2	.007	1	.007	.002	.968
	trustcomp	158.156	1	158.156	5.120	.024
image * subjSES	att_self	.596	1	.596	.806	.370
	attentioncomp2	1.474	1	1.474	.365	.546
	trustcomp	161.683	1	161.683	5.234	.023
targeting * image	att_self	.238	1	.238	.321	.571
	attentioncomp2	.024	1	.024	.006	.939
	trustcomp	47.093	1	47.093	1.524	.218
targeting * subjSES	att_self	1.715	1	1.715	2.319	.129
	attentioncomp2	2.322	1	2.322	.575	.449
	trustcomp	1.352	1	1.352	.044	.834
targeting * image * subjSES	att_self	.167	1	.167	.226	.635
	attentioncomp2	.028	1	.028	.007	.933
	trustcomp	50.845	1	50.845	1.646	.200
Error	att_self	343.885	465	.740		

Figure B4. Analyses controlling for demographics (age, gender, objective SES, and subjective SES; Study 5)

a. Self-Attribution

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	90.487[a]	11	8.226	6.955	.000
Intercept	79.118	1	79.118	66.891	.000
gender	.322	1	.322	.272	.602
age	.263	1	.263	.222	.638
objSES	.647	1	.647	.547	.460
subjSES	.197	1	.197	.167	.683
target	86.675	1	86.675	73.281	.000
race_di	.565	1	.565	.477	.490
info	.870	1	.870	.736	.392
target * race_di	.078	1	.078	.066	.798
target * info	.144	1	.144	.122	.727
race_di * info	.221	1	.221	.186	.666
target * race_di * info	.098	1	.098	.083	.774

b. Attention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	866.685[a]	11	78.790	1.997	.028
Intercept	17020.446	1	17020.446	431.356	.000
gender	107.905	1	107.905	2.735	.099
age	52.418	1	52.418	1.328	.250
objSES	39.161	1	39.161	.992	.320
subjSES	86.178	1	86.178	2.184	.140
target	192.184	1	192.184	4.871	.028
race_di	51.112	1	51.112	1.295	.256
info	158.179	1	158.179	4.009	.046
target * race_di	159.611	1	159.611	4.045	.045
target * info	11.655	1	11.655	.295	.587
race_di * info	6.718	1	6.718	.170	.680
target * race_di * info	11.081	1	11.081	.281	.596

c. Source Evaluations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	329.366[a]	11	29.942	1.152	.319
Intercept	14191.120	1	14191.120	546.187	.000
gender	21.757	1	21.757	.837	.361
age	1.509	1	1.509	.058	.810
objSES	.284	1	.284	.011	.917
subjSES	2.433	1	2.433	.094	.760
target	.206	1	.206	.008	.929
race_di	52.283	1	52.283	2.012	.157
info	113.416	1	113.416	4.365	.037
target * race_di	58.911	1	58.911	2.267	.133
target * info	21.317	1	21.317	.820	.366
race_di * info	9.681	1	9.681	.373	.542
target * race_di * info	45.968	1	45.968	1.769	.184

d. Target x Information x Gender on the primary study outcomes

target	att_self	94.499	1	94.499	79.682	.000
	attention5item	253.644	1	253.644	6.319	.012
	trustcomp	4.571	1	4.571	.169	.681
info	att_self	4.820	1	4.820	4.064	.044
	attention5item	222.741	1	222.741	5.549	.019
	trustcomp	142.917	1	142.917	5.291	.022
gender	att_self	1.188	1	1.188	1.002	.317
	attention5item	21.742	1	21.742	.542	.462
	trustcomp	22.877	1	22.877	.847	.358
target * info	att_self	.155	1	.155	.131	.718
	attention5item	31.061	1	31.061	.774	.379
	trustcomp	27.734	1	27.734	1.027	.311
target * gender	att_self	1.311	1	1.311	1.105	.294
	attention5item	2.193	1	2.193	.055	.815
	trustcomp	3.389	1	3.389	.125	.723
info * gender	att_self	.772	1	.772	.651	.420
	attention5item	5.171	1	5.171	.129	.720
	trustcomp	113.463	1	113.463	4.201	.041
target * info * gender	att_self	1.107	1	1.107	.933	.334
	attention5item	4.096	1	4.096	.102	.750
	trustcomp	34.076	1	34.076	1.262	.262

e. Target x Information x Age on the primary study outcomes

target	att_self	11.203	1	11.203	9.409	.002
	attention5item	14.498	1	14.498	.364	.546
	trustcomp	1.356	1	1.356	.050	.824
info	att_self	.217	1	.217	.182	.670
	attention5item	36.981	1	36.981	.929	.336
	trustcomp	.018	1	.018	.001	.980
age	att_self	.340	1	.340	.286	.593
	attention5item	166.293	1	166.293	4.179	.042
	trustcomp	.735	1	.735	.027	.870
info * age	att_self	1.198	1	1.198	1.006	.316
	attention5item	2.659	1	2.659	.067	.796
	trustcomp	9.742	1	9.742	.356	.551
target * age	att_self	.209	1	.209	.176	.675
	attention5item	.990	1	.990	.025	.875
	trustcomp	.038	1	.038	.001	.970
target * info	att_self	.314	1	.314	.264	.608
	attention5item	50.022	1	50.022	1.257	.263
	trustcomp	.229	1	.229	.008	.927
target * info * age	att_self	.281	1	.281	.236	.628
	attention5item	31.025	1	31.025	.780	.378
	trustcomp	3.499	1	3.499	.128	.721

f. Target x Information x Objective SES on the primary study outcomes

target	att_self	5.968	1	5.968	5.056	.025
	attention5item	135.954	1	135.954	3.395	.066
	trustcomp	1.104	1	1.104	.040	.841
info	att_self	.074	1	.074	.063	.802
	attention5item	87.997	1	87.997	2.197	.139
	trustcomp	5.076	1	5.076	.186	.667
objSES	att_self	.159	1	.159	.135	.714
	attention5item	11.860	1	11.860	.296	.587
	trustcomp	8.637	1	8.637	.316	.574
info * objSES	att_self	.500	1	.500	.423	.516
	attention5item	8.316	1	8.316	.208	.649
	trustcomp	7.307	1	7.307	.268	.605
target * info	att_self	.843	1	.843	.714	.399
	attention5item	57.689	1	57.689	1.440	.231
	trustcomp	42.575	1	42.575	1.560	.212
target * objSES	att_self	4.658	1	4.658	3.946	.048
	attention5item	24.210	1	24.210	.604	.437
	trustcomp	7.649	1	7.649	.280	.597
target * info * objSES	att_self	1.264	1	1.264	1.071	.301
	attention5item	29.265	1	29.265	.731	.393
	trustcomp	25.671	1	25.671	.941	.333

g. Target x Information x Subjective SES on the primary study outcomes

target	att_self	7.165	1	7.165	6.092	.014
	attentioncomp5	7.800	1	7.800	.195	.659
	trustcomp	81.541	1	81.541	3.139	.077
info	att_self	.098	1	.098	.084	.773
	attentioncomp5	55.172	1	55.172	1.381	.241
	trustcomp	12.579	1	12.579	.484	.487
subjSES	att_self	.003	1	.003	.002	.963
	attentioncomp5	35.590	1	35.590	.891	.346
	trustcomp	1.766	1	1.766	.068	.794
info * subjSES	att_self	.000	1	.000	.000	.988
	attentioncomp5	14.481	1	14.481	.362	.548
	trustcomp	51.455	1	51.455	1.981	.160
target * info	att_self	.024	1	.024	.020	.887
	attentioncomp5	23.709	1	23.709	.593	.442
	trustcomp	.084	1	.084	.003	.955
target * subjSES	att_self	.067	1	.067	.057	.812
	attentioncomp5	53.585	1	53.585	1.341	.248
	trustcomp	89.644	1	89.644	3.451	.064
target * info * subjSES	att_self	.095	1	.095	.081	.776
	attentioncomp5	11.551	1	11.551	.289	.591
	trustcomp	2.044	1	2.044	.079	.779

APPENDIX C

Pilot Study: Race and Stereotype Activation

In this manuscript, the targeting manipulation asked participants to select their demographics (including their racial/ethnic identity) before receiving health information. Although past research demonstrates that asking participants to select their demographic identities is enough to activate identities and elicit stereotype threat (Steele & Aronson, 1995; Stricker, Rock, Bridgeman, 2015), this pilot study sought to test whether the targeting manipulation would produce identity and/or stereotype activation for African Americans. To test this possibility, we recruited 97 European Americans and 97 African Americans using Amazon Mechanical Turk. The setup and manipulation for the pilot was identical to Study 2. As such, participants were told the researchers were interested in testing different ways to present health information to the general public. In the targeting condition, participants provided their demographic information and were told that they were receiving health information due to the demographics provided. In the control condition, participants were told they were receiving information due to a randomized computer algorithm. After these instructions, however, participants were told that they needed to complete a word task before reading the information. The word fragment task included ten target words that reflected race activation (race, black, color, soul) and stereotype activation (lazy, poor, class, riot, bias, welfare; Walton & Cohen, 2007). After completing the word fragment task, participants were told that they would not be reading health information due to the amount of time they already spent on the survey. Finally, they completed additional demographic information and were thanked for their participation.

Results

Race and stereotype activation. Findings showed non-significant main effects for *Condition* ($F(1,190)=.23$, $p=.631$) and *Race* ($F(1,190)=.09$, $p=.770$). Moreover, the *Condition and Race* interaction was not significant ($F(1,190)=.06$, $p=.801$).

Race activation. Findings showed non-significant main effects for *Condition* ($F(1,190)=1.71$, $p=.193$) and *Race* ($F(1,190)=1.85$, $p=.176$). Moreover, the *Condition and Race* interaction was not significant ($F(1,190)=.18$, $p=.670$).

Stereotype activation. Findings showed non-significant main effects for *Condition* ($F(1,190)=.37$, $p=.543$) and *Race* ($F(1,190)=.88$, $p=.349$). Moreover, the *Condition and Race* interaction was not significant ($F(1,190)=.00$, $p=.954$).

Table C1. *Means for the activation outcomes*

	Targeting condition, African American	Targeting condition, European American	Control condition, African American	Control condition, European American
Race and stereotype activation (10 words)	1.47 (.150)	1.39 (.147)	1.36 (.145)	1.35 (.148)
Race activation (4 words)	.92 (.102)	.74 (.100)	.74 (.099)	.65 (.101)
Stereotype activation (6 words)	.55 (.102)	.65 (.100)	.62 (.099)	.71 (.101)

Note: Reported values are listed as: mean (standard error)

Table C2. *Rate of reporting target words*

Target Word	Overall	Targeting condition, African American	Targeting condition, European American	Control condition, African American	Control condition, European American
Race	14.1	10.6	16.3	12	4.2
Black	41.8	57.4	38.8	46	27.1
Color	11.8	10.6	10.2	10	20.8
Soul	10.5	12.8	8.2	6	12.5
Bias	3.2	2.1	4.1	0	6.3
Class	38.2	40.4	32.7	40	41.7
Lazy	.5	0	2	0	0
Poor	14.1	10.6	16.3	18	12.5
Riot	3.2	0	4.1	4	6.3
Welfare	2.7	2.1	6.1	0	4.2

Note: Reported values represent percentages

Conclusion

Although findings from the pilot study suggested that the targeting manipulation did not activate stereotypes or racial identity for African Americans, the pattern of means observed for race activation were in the expected direction. Although we did not observe the expected results, these findings are consistent with other research showing null results on a word fragment task after participants' identities were ostensibly activated (Cheryan, Plaut, Davies, & Steele, 2009). There are several factors that may underlie the null findings, such as being underpowered to detect the effect, issues with the measure (e.g., several of the words are homonyms, low identification rates for stereotype-related words), and methodological challenges (e.g., having little control over participants' environment before and during the task)

APPENDIX D

Pilot Study for Study 5

The purpose of the pilot study was twofold. To test whether the effects of receiving targeted information extended beyond self-report measures, we examined the relationship between the self-report measures employed in Studies 2-3 (e.g., attention and source evaluations) and behavioral measures designed to reflect these constructs. Second, we sought to develop and test message recognition items about the message content. Additionally, we examined whether the information recognition measures were matched in difficulty across information content (HIV versus flu).

Sample

83 European American (41.7% female, 86.9% had at least some college, age: M=34.11, SD=11.18) and 68 African American adults (44.3% female, 87.1% had at least some college, age: M=31.03, SD=8.67) recruited from Mturk completed our online study. 29 participants who identified with another racial identity or as multiracial were excluded before data analysis.

Procedure

Employing the general paradigm used in Studies 2-4, participants were told the researchers were interested in testing different ways to present health information to the general public. African Americans and European Americans were randomized to receive the HIV or flu messages used in the previous studies. We included both sets of information (HIV and flu) to replicate the generalizability findings observed in Study 2. Following the messages, participants

were asked six multiple-choice questions based on the information referenced in the messages. Following the recognition items, participants were given 2 minutes to report their thoughts in response to the information.

Using survey items from Studies 2-4, participants were asked about their (a) attention to the health information (r=.82) and (b) source evaluations (α = 83).

Behavioral Measures: Attention

To assess behavioral correlates of attention, we measured participants' (a) performance on the information recognition items, and (b) cognitive elaboration using the proportion of unrelated thoughts reported in the thought-listing task.

Analytic Strategy

We conducted bivariate correlations to determine whether self-reported measures of attention and source evaluations corresponded with behavioral measures. Because initial analyses showed a significant effect of *Information*, such that participants who saw HIV information performed worse than participants in the flu condition, we dropped the lowest-scoring item from the set of HIV items, and the highest-scoring item from the flu items. The following analyses are reported using the remaining items (five items for HIV and five items for flu).

At the end of the study, participants were asked to self-code the relatedness (1=Related thought, 2= Unrelated thought) of their statements reported during the thought-listing task. An external coder re-coded participants' responses and showed sufficient reliability for the proportion of unrelated thoughts (kappa=.86).

Results

Attention

Information recognition

Analyses of variance revealed a non-significant effect of *Information* for participants' performance on the information recognition items ($F(1, 147)=1.92$, $p=.168$, $d=.23$); thus, there is preliminary evidence that the recognition questions were matched in difficulty across the HIV and flu paragraphs. Although the main effect of *Race* was marginal ($F(1,147)=3.67$, $p=.057$, $d=.32$), suggesting that African Americans performed worse overall than European Americans, the *Race* x *Information* interaction was not significant ($F(1,147)=.37$, $p=.542$, $\eta\rho^2=.003$). Additionally, correlation analyses revealed that self-reported attention was positively correlated with accuracy on the information recognition questions ($r(153)=.297$, $p<.001$).

Cognitive Elaboration: *Proportion of Unrelated Thoughts in a Thought-Listing Task*

Although self-reported attention was not significantly correlated with the relatedness of participants' thoughts in the cognitive elaboration task ($r(148)=-.130$, $p=.114$), the statistical parameters were approaching marginal significance.

Source Evaluations

Analyses revealed that choosing to receive additional health information selected by the research team was the default response: 72.7% of participants chose to have the research team select more information, compared to 27.3% who preferred that the information be randomly selected by a computer. Furthermore, correlation analyses revealed that more positive source evaluations predicted a stronger preference to receive more health information from the research team, versus a computer ($r(153)=.295$, $p<.001$).

Summary

The pilot study revealed that self-report measures of attention and source evaluations are significant correlates with behavioral indicators of attention and source evaluations. Self-reported attention was significantly correlated with information recognition, and although attention did not significantly predict the relatedness of participants' thoughts, its correlation was trending in the expected direction. Furthermore, source evaluations predicted a stronger preference to receive additional health information selected by the research team, versus a computer. Finally, accuracy percentages from the information recognition items offered statistical evidence that the items were matched in difficulty across HIV and flu information.

APPENDIX E

Study Materials: Survey Items (Study 1)

Q1 **Thank you for taking our survey! We are interested in gaining medical professionals' perspectives on healthcare strategies.**

Q2 **Targeting health information to subgroups of a population at higher risk for a disease (by giving them medical brochures about the disease) ...**

	Strongly Disagree (1)	(2)	(3)	Neither agree nor Disagree (4)	(5)	(6)	Strongly Agree (7)
Is an efficient way to get useful health information to those who need it most. (1)							
Is something that more health professionals should consider doing. (2)							
Is a behavior I do not receive enough recognition for doing. (3)							
Results in worse relationships between the health professional and patient. (4)							
Is a way to let patients know that I care about their health. (5)							
Helps build trust between the health professional and patient. (6)							
Should be done less often. (7)							

Shows that I'm a knowledgeable health professional. (8)

Goes beyond "good doctoring." It shows that I'm a person who cares about others. (9)

Will inhibit the health professional and patient from engaging in thoughtful discussions about health. (10)

Will help patients recognize that I am honest. (11)

Will make the health information more interesting to the patient. (12)

Will result in patients devoting more attention to the health information. (13)

Will help patients recognize that I have their best interest at heart. (14)	
Will make patients feel distrustful. (15)	
Will help patients find the information to be more useful. (16)	

Q3 **How often have you targeted health information to patients in the last 30 days (e.g. provided patients from various populations with health information about diseases they are at risk for)?**

	Never (1)	(2)	(3)	(4)	(5)	(6)	Very often (7)
(1)							

Q9 **How likely is it that you will target health information to patients in the next 30 days (e.g. provide patients from various populations with health information about diseases they are at risk for)?**

	Not at all Likely (1)	(2)	(3)	(4)	(5)	(6)	Very Likely (7)
(1)							

Q10 **I would target health information to patients based on their... (Check all that would apply)**

- ☐ Gender (1)
- ☐ Age (2)
- ☐ Race (3)
- ☐ Weight (4)
- ☐ Sexual Orientation (5)
- ☐ Medical History (6)
- ☐ Other (7)

Q6 **What is your age?**

_____

Q10 **Race/Ethnicity (Select one or more)**

- ☐ Caucasian (1)
- ☐ African American/African/Black/Caribbean (2)
- ☐ Asian/Pacific Islander (3)
- ☐ Hispanic/Latino (4)
- ☐ Native American (5)
- ☐ Other (6)

Q28 **What is your gender?**

Male (1)

Female (2)

Other (3)

Q11 **What is your current job or position?**

_____

Study Materials: Survey Items (Study 5)

Q186 Thank you for taking our survey! Our research team is testing different ways of presenting health information to the general public. Please answer as honestly and openly as you can. Your honest feedback is much appreciated, as it will be used to help design health campaigns in the future.

Control Condition

Q207 Please evaluate the following information, which was selected for you based on a randomly generated computer algorithm.

Targeting Condition

Q187 What is your age?

_____

Q188 Gender

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Q189 Race/Ethnicity (Select one or more)

- ☐ Caucasian (1)
- ☐ African American/African/Black/Caribbean (2)
- ☐ Asian/Pacific Islander (3)
- ☐ Hispanic/Latino (4)
- ☐ Native American (5)
- ☐ Other (6)

Q190 Which of the following categories includes your family's total household income (before taxes)?

- ○ Under $25,000 (1)
- ○ $25,000-$49,000 (2)
- ○ $50,000-$74,000 (3)
- ○ $75,000-$99,000 (4)
- ○ $100,000-$149,000 (5)
- ○ Over $150,000 (6)

Q191

A. Imagine that this ladder shows how your society is set up.

- At the top of the ladder are the people who are the best off – they have the most money, the highest amount of schooling, and the jobs that bring the most respect.
- At the bottom are people who are the worst off – they have the least money, little or no education, no jobs or jobs that no one wants or respects.

Now think about your family. Please tell us where you think your family would be on this ladder. **Place an 'X' on the rung that best represents where your family would be on this ladder.**

Q192 Now think about your family. Please tell us where you think your family would be on this ladder.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
(1)	○	○	○	○	○	○	○	○	○	○

Q114 **Please evaluate the following information, which was selected for you based on the demographic information provided.**

Q242 **We are now interested in everything that went through your mind while you were reading the paragraphs. Please list these thoughts, whether they were about yourself, the situation, and/or others; whether they were positive, neutral, and/or negative. Ignore spelling, grammar, and punctuation. You will have two minutes to write. We have deliberately provided more space than we think people will need, to ensure that everyone would have plenty of room. Please be completely honest. Your responses will be anonymous. The next page contains the form we have prepared for your use to record your thoughts and ideas. Simply write down the first thought you**

had in the first box, the second in the second box, etc. Please put only one idea or thought in a box.
Q21

- 1 (1) _____
- 2 (2) _____
- 3 (3) _____
- 4 (4) _____
- 5 (5) _____
- 6 (6) _____
- 7 (7) _____
- 8 (8) _____
- 9 (9) _____
- 10 (10) _____

Q432 **How much attention did you pay to the FLU paragraphs?**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Extremely (9)
(1)									

Q433 **How much were you able to concentrate on reading the FLU paragraphs?**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Extremely (9)
(1)									

FLU Information Recognition

Q976 **How does the influenza virus usually enter the body?**

- ○ When a person feels cold (1)
- ○ Dirty hands (2)
- ○ Mucus membranes (3)
- ○ Extreme tiredness (4)

Q980 **In order to be effective, antiviral medication should be taken within _____ of the onset of flu symptoms.**

- ○ 48-72 hours (2)
- ○ 36-48 hours (3)
- ○ 24-48 hours (4)
- ○ 12-48 hours (5)

Q982 **Which of the following statements about the FLU is TRUE?**

- ○ Scientists have shown that Type C can cause epidemics (2)
- ○ Type A typically produces infections similar to the common cold (3)
- ○ Type C usually causes serious respiratory infections (4)
- ○ Type B is contagious, but does not produce the most serious disease (5)

Q984 **Which of the following is least likely to transfer the influenza virus?**

- ○ A person picks up a snot-covered tissue from someone who has the flu, throws it away, and then rubs his/her eyes (2)
- ○ A person with the flu sneezes towards a man in a closed elevator, and the man breathes the particles in (3)
- ○ A person with the flu gives his/her partner an open-mouthed kiss on the lips (4)
- ○ A child with the flu licks his/her finger and sticks it in a friend's ear (5)

Q988 **Why is the flu vaccine not always 100% effective?**

- ○ People oftentimes have other medications in their system when they receive the vaccine (1)
- ○ The vaccine is only effective for people with certain blood types (2)
- ○ The strains going around in one's area may not be the strains protected by the vaccine (3)
- ○ None of the above. The flu vaccine is 100% effective (4)

HIV Information Recognition

Q962 **What may be recommended to slow the process of HIV replication and therefore, the progression of HIV?**

- ○ antiviral drug therapy (1)
- ○ antibiotic drug therapy (2)
- ○ white blood cell therapy (3)
- ○ group therapy (4)

Q964 **On average, there are more than _____ new HIV infections each year in the United States.**

- ○ 56,000 (1)
- ○ 65,000 (2)
- ○ 75,000 (3)
- ○ 92,000 (4)

Q968 **When someone has been infected with HIV, HIV will start destroying which type of cells?**

- ○ Red blood cells (1)
- ○ White blood cells (2)
- ○ B lymphocytes (3)
- ○ B cells (4)

Q972 **Which of the following statements about HIV is TRUE?**

- ○ Despite testing donors' blood before blood transfusions, transmission of HIV through blood transfusions is more common than people think. (1)
- ○ HIV cannot be transmitted through breast milk. (2)
- ○ HIV can be transmitted through kissing if the person has advanced mouth or gum disease. (3)
- ○ There was one documented case where HIV was transmitted through saliva. (4)

Q974 **Which of the following statements about the treatment of HIV is TRUE?**

○ Medications to treat HIV are oftentimes difficult to tolerate and produce many side effects (1)

○ Medication allows people with HIV to live a life comparable to people who are HIV negative (2)

○ Medications to treat HIV are effective because they suppress the immune system (3)

○ With new advances in medication, early diagnosis of HIV is no longer important for managing HIV (4)

Q984 **While I was reading the FLU paragraphs, I was also attending to my emotions.**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very much (9)
(1)	○	○	○	○	○	○	○	○	○

Q988 **While I was reading the FLU paragraphs, I felt distracted.**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very much (9)
(1)	○	○	○	○	○	○	○	○	○

Q985 **While I was reading, I was having thoughts that were unrelated to the FLU paragraphs.**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very much (9)
(1)	○	○	○	○	○	○	○	○	○

Q989 **While I was reading the FLU paragraphs, my mind was...**

	Completely on unrelated concerns (1)	(2)	(3)	(4)	(5)	(6)	Completely on the paragraphs (7)
(1)	○	○	○	○	○	○	○

Q434 **Would you like to learn more information about FLU?**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very much so (9)
(1)	○	○	○	○	○	○	○	○	○

Q1019 **How much information about FLU did you have before participating in the study?**

	None (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	A lot (9)
(1)	○	○	○	○	○	○	○	○	○

Q475 **I intend to seek out health information about FLU in the future.**

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
(1)	○	○	○	○	○	○	○

Q476 **The FLU information made me think about washing my hands frequently. / The HIV information made me think about using condoms.**

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
(1)	○	○	○	○	○	○	○

Q477 **I intend to discuss the importance of hand washing with my loved ones./ I intend to discuss the importance of condom usage with my next sexual partner.**

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
(1)	○	○	○	○	○	○	○

Q1047 **Have you gotten a flu shot in the last 6 months? / Have you been screened for HIV in the last 6 months?**

○ Yes (1)

○ No (3)

Skip To: Q640 If Have you gotten a flu shot in the last 6 months? = Yes

Q478 **I intend to get a flu shot the next time I visit my healthcare clinic. / I intend to get screened for HIV the next time I visit my healthcare clinic.**

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
(1)	○	○	○	○	○	○	○

Q640 **I received these paragraphs due to random chance.**

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
(1)	○	○	○	○	○

Q641 **I received these paragraphs due to something specific about me.**

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
(1)	○	○	○	○	○

Q1012 **If you clicked Agree or Strongly Agree for the previous question, why do you think you received the paragraphs?**

Q1014 **I received these paragraphs because the FLU is important to study.**

	Strongly Disagree (6)	Disagree (7)	Neither Agree nor Disagree (8)	Agree (9)	Strongly Agree (10)
(1)	○	○	○	○	○

Q1016 **Anyone could have gotten the paragraphs I just read.**

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
(1)	○	○	○	○	○

Q642 **Please rate the following items on the scale ranging from Not at all to Extremely**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Extremely (9)
I would be willing to help this research team again. (1)	○	○	○	○	○	○	○	○	○
This research team has my best interest at heart. (2)	○	○	○	○	○	○	○	○	○
I trust this research team. (3)	○	○	○	○	○	○	○	○	○
This research team is honest. (4)	○	○	○	○	○	○	○	○	○

Q643 **To what extent did you feel you received the FLU paragraphs because...**

	Not at all (8)	(9)	(10)	(11)	Somewhat (12)	(13)	(14)	(15)	A great deal (16)
the information was important (1)	○	○	○	○	○	○	○	○	○
the information was relevant to you (4)	○	○	○	○	○	○	○	○	○
you were being judged unfairly (8)	○	○	○	○	○	○	○	○	○
you have a high risk of contracting FLU (9)	○	○	○	○	○	○	○	○	○
you fit a certain demographic profile (6)	○	○	○	○	○	○	○	○	○
the information was novel (5)	○	○	○	○	○	○	○	○	○
of your behavior and lifestyle choices (3)	○	○	○	○	○	○	○	○	○
everyone received them (13)	○	○	○	○	○	○	○	○	○
the research team thought the information was relevant for you (14)	○	○	○	○	○	○	○	○	○

Q644 **Which of the following best describes your attitude towards the health system?**

	Very Negative (8)	(9)	(10)	Neither Negative nor Positive (11)	(12)	(13)	Very Positive (14)
(1)	○	○	○	○	○	○	○

Q1021 **Overall my feelings towards this study are**

	Very Negative (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very Positive (9)
(1)	○	○	○	○	○	○	○	○	○

Q1023 **The individuals in the research team who provided this information...**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very much so (9)
Are probably similar to me (1)	○	○	○	○	○	○	○	○	○
Have high levels of expertise (2)	○	○	○	○	○	○	○	○	○

Q496 **For the next part of the study, you will read several statements and draw conclusions based on what you have read.**

Q497 **Usually, doctors are trustworthy.**
Ted is a doctor.

What logical conclusion, if any, could be drawn from this information?

- ○ Ted is trustworthy. (1)
- ○ Ted may be trustworthy. (2)
- ○ Ted may not be trustworthy. (3)
- ○ Ted is not trustworthy. (4)
- ○ No conclusion. (5)

Q498 **Most doctors are honest.**
Janet returned a wallet dropped by a stranger.

What logical conclusion, if any, could be drawn from this information?

- ○ Janet is a doctor. (1)
- ○ Janet may be a doctor. (2)
- ○ Janet may not be a doctor. (3)
- ○ Janet is not a doctor. (4)
- ○ No conclusion. (5)

Q499 **Most doctors help others.**
Nancy helped her neighbor pick up groceries.

What logical conclusion, if any, could be drawn from this information?

- ○ Nancy is a doctor. (1)
- ○ Nancy may be a doctor. (2)
- ○ Nancy may not be a doctor. (3)
- ○ Nancy is not a doctor. (4)
- ○ No conclusion. (5)

Q500 **Most doctors do the right thing.**
Paul lied about running over the squirrel.

What logical conclusion, if any, could be drawn from this information?

- ○ Paul is a doctor. (1)
- ○ Paul may be a doctor. (2)
- ○ Paul may not be a doctor. (3)
- ○ Paul is not a doctor. (4)
- ○ No conclusion. (5)

Q501 **Usually doctors are dishonest.**
Valerie is a doctor.

What logical conclusion, if any, could be drawn from this information?

- ○ Valerie is dishonest. (1)
- ○ Valerie may be dishonest. (2)
- ○ Valerie may not be dishonest. (3)
- ○ Valerie is not dishonest. (4)
- ○ No conclusion. (5)

Q502 **Most doctors are well-intentioned.**
Henry accidentally tripped an old woman when trying to help her across the street.

What logical conclusion, if any, could be drawn from this information?

- ○ Henry is a doctor. (1)
- ○ Henry may be a doctor. (2)
- ○ Henry may not be a doctor. (3)
- ○ Henry is not a doctor. (4)
- ○ No conclusion. (5)

Q503 **Usually doctors do not help others.**
Phil is a doctor.

What logical conclusion, if any, could be drawn from this information?

- ○ Phil is helpful. (1)
- ○ Phil may be helpful. (2)
- ○ Phil may not be helpful. (3)
- ○ Phil is not helpful. (4)
- ○ No conclusion. (5)

Q504 **Usually doctors are ill-intentioned.**
Sarah is a doctor.

What logical conclusion, if any, could be drawn from this information?

- ○ Sarah is ill-intentioned. (1)
- ○ Sarah may be ill-intentioned. (2)
- ○ Sarah may not be ill-intentioned. (3)
- ○ Sarah is not ill-intentioned. (4)
- ○ No conclusion. (5)

Q982 **Would you like to receive a coupon for hand sanitizer? / Would you like to receive a coupon for condoms?**

- ○ Yes (1)
- ○ No (4)

Skip To: Q983 If Would you like to receive a coupon for hand sanitizer? = No

Q996 **The following link will direct you to an external website to receive your coupon. Please note that we are not affiliated with this company in any way, nor do we receive any type of compensation from this link.**

https://www.purell.com/get-coupons/ http://www.trojanbrands.com/en/Coupons

Q983 **Would you like to receive information about a clinic near you where you can receive a flu shot?/ Would you like to receive information about a clinic near you where you can get screened for HIV?**

- ○ Yes (1)
- ○ No (2)

Skip To: Q953 If Would you like to receive information about a clinic near you where you can receive a flu shot? = No

Q997
The following link will direct you to an external website where you can locate a nearby clinic.

https://www.cdc.gov/flu/freeresources/flu-finder-widget.html
https://gettested.cdc.gov/

Q953 **For the next part of the study, would you prefer to receive health information chosen by the research team or health information chosen randomly?**

- ○ Research team (1)
- ○ Chosen randomly (2)

Q954 **How strong is your preference to receive health information chosen by the research team versus at random?**

	Strongly prefer at random (1)	Prefer at random (2)	Slightly prefer at random (3)	Slightly prefer research team (5)	Prefer research team (10)	Strongly prefer research team (11)
(1)	○	○	○	○	○	○

Q955 **If you were given more information from the research team, how much attention would you pay to it?**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Very much (9)
(1)	○	○	○	○	○	○	○	○	○

Q956 **Due to the amount of time you have already spent on this HIT, you will not be reading more information today. Please check the box below if you would be interested in receiving more health information from the research team.**

- ○ (1)

Q1044 **Please check the box below if you would like to participate in more studies by this research team**

- ○ (1)

Q391

Please read these instructions carefully for the next part of the survey:

You will now see the statements that you wrote earlier in the study. For the next task, you will categorize each of your statements as either positive, negative, or neutral. Additionally, you will mark whether the statement is related or unrelated to the paragraphs you read.

A statement should be categorized as positive if it expresses a positive emotion or

belief, negative if it expresses a negative emotion or belief, or neutral if it does not express either positivity or negativity. A statement would be marked as unrelated if it is completely unrelated to the content from the paragraphs.

Please note that you are making these decisions based on your own perceptions. Someone who wrote "I'm surprised there's no cure for disease X" may mark this statement as neutral because it expresses neither negativity nor positivity. However, another person may mark this statement as negative because they were also expressing their disappointment within the statement.

Examples

Positive statement: I'm glad that disease X is no longer an issue.
Negative statement: I'm worried that my cousin might contract disease X.
Neutral statement: Receiving injections every week would be difficult.
Unrelated statement: I'm hungry.
Related statement: I hope I don't get disease X.

Q389 ${Q21/ChoiceTextEntryValue/1}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q416

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q392 ${Q21/ChoiceTextEntryValue/2}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q417

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q393 ${Q21/ChoiceTextEntryValue/3}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q418

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q394 ${Q21/ChoiceTextEntryValue/4}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q419

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q395 ${Q21/ChoiceTextEntryValue/5}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q420

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q396 ${Q21/ChoiceTextEntryValue/6}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q421

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q397 ${Q21/ChoiceTextEntryValue/7}

- ○ Positive thought (1)
- ○ Negative thought (2)
- ○ Neutral thought (3)

Q422

- ○ Related thought (1)
- ○ Unrelated thought (2)

Q398 ${Q21/ChoiceTextEntryValue/8}

- Positive thought (1)
- Negative thought (2)
- Neutral thought (3)

Q423

- Related thought (1)
- Unrelated thought (2)

Q399 ${Q21/ChoiceTextEntryValue/9}

- Positive thought (1)
- Negative thought (2)
- Neutral thought (3)

Q424

- Related thought (1)
- Unrelated thought (2)

Q400 ${Q21/ChoiceTextEntryValue/10}

- Positive thought (1)
- Negative thought (2)
- Neutral thought (3)

Q425

- Related thought (1)
- Unrelated thought (2)

Block: end of study targeting

Q1207 **Was there anything that was confusing during the study?**

Q1208 **Why do you believe you received the paragraphs today?**

Q1209 **Do you have any additional comments or feedback for the research team?**

Q1201 **What is your sexual orientation?**

- ○ Lesbian or gay (1)
- ○ Straight, that is, not lesbian or gay (2)
- ○ Bisexual (3)
- ○ Something else (4)
- ○ I don't know the answer (5)

Q1202 **What is the highest level of education you have completed?**

- ○ Less than High School (1)
- ○ High School/GED (2)
- ○ Some College (3)
- ○ 4-year College Degree (4)
- ○ Masters Degree (5)
- ○ Doctoral Degree (PhD, MD, JD) (6)

Q1210 **We have 2 more questions to ask before you receive your survey code.**

Q1211
To what extent did you feel that you received the health information because of (mis)perceptions about people from your demographic group?

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Extremely (9)
(1)	○	○	○	○	○	○	○	○	○

Q1212 **I felt that I was being racially stereotyped when I was given the health information.**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Extremely (9)
(1)	○	○	○	○	○	○	○	○	○

APPENDIX F
Study Materials: Health Information

FLU

The flu, more scientifically known as influenza, is a highly contagious respiratory infection caused by influenza viruses. Scientists have classified influenza viruses into 3 types, Type A, B, and C. Influenza Type A is the most common and also the scariest of the three influenzas, causing the most serious epidemics in history. Influenza Type B flu outbreaks also can cause epidemics, but the disease it produces generally is milder than that caused by type A.

Influenza Type C flu viruses, on the other hand, have never been connected with a large epidemic, usually just causing mild respiratory infections similar to the common cold. Common symptoms of the flu include high fever, headache, muscle aches, chills, extreme tiredness, dry cough, runny nose, and stomach symptoms such as nausea, vomiting, and diarrhea.

Transmission

The influenza virus usually enters the body through mucus membranes in the mouth, nose or eyes. When a person with the flu coughs or sneezes, the virus then becomes airborne and can be inhaled by anyone nearby.

If you've touched a contaminated surface like a telephone or a door knob the viruses can pass from your hands to your nose or mouth. The risk of infection becomes greater in highly populated areas like schools, buses and crowded living conditions.

Diagnosis and Symptoms

Should you or a family member come down with the flu, antivirals may be your best bet. Antivirals can shorten the duration of the flu, but only if they're taken within 12-48 hours of the onset of symptoms.

In order to be effective, antiviral medications must be used within the first 12-48 hours of onset of flu symptoms.

Preventing the Flu

One of the simplest ways to prevent the flu is by washing your hands frequently. The best way to prevent or lessen the severity of the flu is to get a flu shot each fall. However, because the particular flu strains that the vaccine protects against may not be the same ones that are going around your area, the vaccine is not always 100% effective.

Antivirals also help prevent the flu by actively attacking the flu virus and stopping it from spreading to the rest of your body.

HIV

Human Immunodeficiency Virus (HIV) is the virus that causes AIDS in people who are infected with the virus. HIV infects and destroys white blood cells, known as T lymphocytes. T lymphocytes are cells of the immune system that are vital for fighting and preventing infections. There are more than 56,000 new HIV infections each year in the United States.

Transmission

HIV is contained in four main fluids: blood, vaginal secretions, semen and breast milk. HIV is transmitted from an infected person to another by these fluids during sexual behavior (anal, vaginal, oral sex), through needle sharing, occupational injuries or from mother to child during pregnancy, at childbirth, or through breast feeding. Blood transfusion was once an important cause of HIV transmission, but testing of donors has made this extremely rare. HIV is not transmitted through casual contact or ordinary interpersonal activities. Kissing is generally a safe activity, except in cases when a person has advanced mouth or gum disease, bleeding or sores in the mouth. There is one documented case where HIV transmission is suspected through open mouth kissing, however, it is blood that transmits HIV, not saliva.

Diagnosis and Symptoms

Huge advances have been made in the medical treatment of HIV. Early diagnosis and access to medical care are important in managing HIV. Antiviral drug therapy may be recommended to slow the process of HIV replication and therefore, the progression of HIV disease, including the onset of AIDS. The immune system of an infected person is carefully monitored and in most cases medications to suppress the virus are started when there is significant decrease in critical immune fighting T-cells. While situations vary, medication regimens to treat HIV are generally well-tolerated and convenient. Many people with HIV disease can expect to lead a life comparable to someone who is HIV-negative.

Preventing HIV

HIV is a highly preventable disease. Correctly using latex or polyurethane condoms with every sexual partner almost eliminates the risk of contracting HIV through sexual activity. Limiting your number of sexual partners, knowing your partners' status, not engaging in sex while drunk or high and not sharing injection drug needles also significantly reduces HIV risk.

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