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This research examines the perseverance of identity-based judgments by exploring the effectiveness of various corrective procedures that are intended to neutralize identity effects on judgment. The authors explore these effects in a series of studies that involve different kinds of identities (e.g., parent, teenager, businessperson, environmentalist) linked to different objects and issues (e.g., Internet censorship, pollution credits, electronic books). Moreover, they test the effectiveness of various corrective procedures, including feature-based analysis, counterfactual reasoning, counteridentification, and social influence. The authors find that identity-driven thinking leads to judgment that resists change, that is, a procedural bias or "sticky prior" in favor of an initial identity-based judgment. The findings attest to both the power of identity and the efficacy of analytic and nonanalytic corrective techniques.

Sticky Priors: The Perseverance of Identity Effects on Judgment

This research investigates identity-based judgments, that is, judgments made while bringing to mind the perspective of an identity. For our purposes, *identity* is defined as a self-relevant social category (see Deaux et al. 1995). Throughout the course of life, many social categories are potential bases for self-definition of a permanent (e.g., female, Asian American, parent) or transitory (e.g., teenager, college student) nature. When such social categories are perceived as self-relevant, they serve as identities that make up a person's self-concept. When an identity is salient, it is thought to guide thinking, judgment, and behavior (Tajfel and Turner 1979). Although identity research continues to grow, its implications for judgment and decision making are only beginning to garner conceptual and empirical attention (see Flemming and Petty 1999). Moreover, most previous research has investigated the impact of identity in isolation from other kinds of judgment processes.

For example, consider how people form judgments about controversial issues, such as the recent debate over oil drilling in the Arctic National Wildlife refuge (*The New York Times* 2003). A person may form such judgments by considering the matter as a Republican versus Democratic issue (i.e., an identity-based judgment) or by reasoning

evenhandedly about the issue (i.e., analytic thinking). Similarly, a new product may be judged with analytic or identity-driven thinking, such as by conducting a feature-based analysis of hybrid cars or by adopting the perspective of an environmentalist (*BusinessWeek* 2002). Engaging in identity-driven and/or analytic thinking as part of a constructive process of judgment formation may have consequences for both managers and consumers.

In this research, we examine the perseverance of identity-driven thinking despite various corrective procedures (such as analytic thinking) that are intended to improve judgment. Given that all judgments must have a starting point, our research addresses the following questions: What are the implications of initial identity-driven thinking for judgment? More specifically, to what extent can the effects of preliminary identity-driven thinking be neutralized by corrective procedures?

IDENTITY-BASED JUDGMENT

Prior research on identity has demonstrated its influence on judgment, behavior, and performance (see Reed 2004). For example, black women for whom gender (ethnic) identity was salient had more unfavorable (favorable) perceptions of O.J. Simpson's innocence (Newman et al. 1997). Furthermore, a recent study of women's affirmative action judgments demonstrates that the heightening of the salience of an identity increases the alignment of a person's attitudes with the membership group (Cohen and Reed 2001). LeBoeuf and Sharif (2003) find that differential salience of various identities can lead to preference reversals in a range of choice tasks.

In addition to the salience of identity, the strength of identification (the centrality of the identity within the self-

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concept) also affects judgment. Prior research suggests that the self is composed of multiple, hierarchically ordered identities (Deaux et al. 1995; Stryker 1980). By implication, this ordering suggests that a person's judgments, cognitions, and behaviors are more likely to be consistent with identities that are more important to his or her self-concept than to other identities. For example, people with a strongly held gender identity are more likely to have "male" or "female" as part of their self-schemata (Bem 1981). As a result, identity effects on judgment should arise particularly when identity is both salient and strong; that is, the strength of identification moderates the effects of identity on judgment.

Research in marketing has investigated identity effects on judgment and behavior in several contexts, including advertising effectiveness (Deshpandé and Stayman 1994; Forehand and Deshpandé 2001; Grier and Deshpandé 2001; Meyers-Levy 1988; Meyers-Levy and Sternthal 1991) and consumption preferences (Stayman and Deshpandé 1989; Wooten 1995). Mostly focused on gender and ethnic identities, this research demonstrates that the salience and strength of a person's identity lead to different consumer responses to marketing stimuli.

Taking this research a step further, we argue that judgments based on a salient and strong identity may be especially resistant to change. Social cognition research suggests that the self and its multiple identities represent a complex and highly elaborate knowledge structure in memory (Kihlstrom and Klein 1994). The premise of our research is that a salient and strong identity activates an elaborate and integrated schema that is relevant to the self, frames the target of judgment, and drives thinking that incorporates aspects of the self that are linked to the social category. As a result, identity-based judgment has three important characteristics. First, it reflects relatively one-sided, top-down thinking that is driven by a perspective linked to a single identity (in contrast to analytic judgment, which applies reasoning in a relatively evenhanded manner). Second, judgment that is based on a salient and strong identity is embedded in an elaborate self-relevant schema that may be difficult to undo because of its entrenchment in the self (in contrast to analytic judgment, which does not activate aspects of the self-concept). Third, identity-based judgments that are shared by others (i.e., social referents who share the identity) are perceived as having greater subjective validity and therefore are held more confidently (in contrast to analytic judgments, which lack social referencing) (Markus, Smith, and Moreland 1985). These characteristics suggest that identity-driven thinking leads to biased judgment that resists change, that is, a procedural bias or "sticky prior" in favor of an initial identity-based judgment. To our knowledge, prior research has not investigated the perseverance of judgment based on identity. Concomitantly, such an investigation will test the effectiveness of various corrective procedures that are intended to neutralize identity effects on judgment.

CORRECTIVE PROCEDURES

Prior research has identified corrective procedures that are believed to improve judgment (for reviews, see Arkes 1991; Wilson and Brekke 1994). A traditional approach has been to encourage analytic thinking. Analytic judgments reflect efforts to apply reasoning and logic in a relatively

objective and evenhanded manner. We examine two types of analytic tools—feature-based analysis and counterfactual reasoning—as information-based corrective procedures. In addition, we propose and explore two corrective procedures that are relatively nonanalytic in nature.¹ These procedures attempt to improve judgment by prompting consideration of alternative social perspectives through counteridentification and social influence.

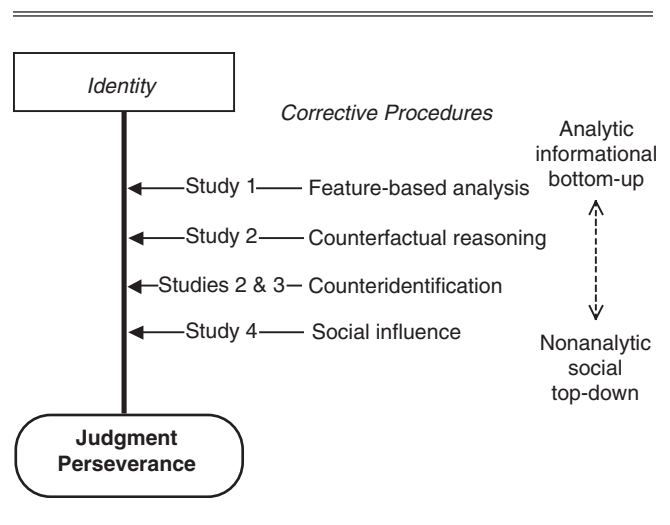
In a series of studies (illustrated in Figure 1), we examine the perseverance of identity effects on judgment despite the use of these four corrective procedures. In all studies, people initially were asked to think about a judgment object or issue by taking the perspective of a salient identity (measured in terms of strength). We examine various kinds of identities (e.g., environmentalist, businessperson, parent, teenager) that are linked to different target judgments (e.g., electronic books, pollution credits, Internet censorship). We then investigate the perseverance of such judgments against corrective procedures that are intended to counter the initial identity-based judgment. In this section, we briefly describe the conceptual underpinnings of each corrective procedure. (We reserve full discussions and development of specific hypotheses for the studies that follow.)

Feature-Based Analysis

Some models of judgment are based on attribute-driven processing that is characterized as a data-driven, bottom-up process (see Park and Smith 1989). The prompting of people to engage in feature-based analysis is likely to encourage bottom-up processing driven by attributes of the object rather than top-down, schema-driven processing (e.g., by an identity schema). In Study 1, we test the effectiveness of feature-based analysis at neutralizing identity effects on judgment (compared with an inoculation approach) to provide preliminary evidence for an identity-based sticky prior.

¹Nonanalytic/analytic thinking is useful, nonpejorative nomenclature for this distinction (Alba and Hutchinson 1987; Sloman 1996).

Figure 1
OVERVIEW OF EMPIRICAL STUDIES



Counterfactual Reasoning

A traditional form of analytic thinking is evenhanded reasoning, such as the generation of pros and cons. If the source of bias is the increased availability of one-sided evidence (e.g., due to a salient and strong identity), any technique that increases the availability of evidence supporting the other side should improve judgment. Such “consider-the-opposite” techniques might collectively be termed counterfactual reasoning (Lord, Lepper, and Preston 1984). In Study 2, we examine the effectiveness of counterfactual reasoning at neutralizing initial identity-driven thinking. We also examine whether identity-driven thinking creates a stickier prior than analytic reasoning.

Counteridentification

If identity-driven judgment is sticky because it triggers an elaborate self-schema and induces social referencing, a potential corrective technique is to encourage participants to consider an object or issue from an opposing identity perspective (i.e., counteridentification). There has been some speculation about the interaction among identities in conflict (Shih, Pittinsky, and Ambady 1999), but to our knowledge, research has not investigated the impact of multiple salient conflicting identities on judgment. In Studies 2 and 3, we propose and examine the effectiveness of counteridentification as a corrective procedure. We also examine the diagnosticity of the identities for the target judgment.

Social Influence

The importance of social influence has long been of interest in psychological literature. Considerable research in psychology suggests that influence from other people affects personal opinion; however, results of prior research on identity and social influence are mixed and not well understood (Flemming and Petty 1999). Therefore, Study 4 tests the effectiveness of social influence from external others at neutralizing identity effects on judgment.

OVERVIEW AND RESEARCH CONTRIBUTION

The objective of our research is to examine the perseverance of identity-based judgments by exploring the effectiveness of various corrective procedures that are intended to neutralize identity effects on judgment. Identity research has previously argued for pervasive effects of the self, through identity, on thoughts and behaviors, whereas analytic thinking is often held up as the normative ideal for judgment and decision making. Our work can be characterized as a first attempt to link these two streams of research. To our knowledge, a systematic investigation pitting identity-driven judgment against analytic thinking has not been conducted. Doing so will shed light on the perseverance of identity effects on judgment, including whether identity-driven judgment is stickier than analytic judgment, and the efficacy of various analytic corrective procedures. In addition, we go beyond traditional corrective procedures and propose and test several nonanalytic corrective procedures.

STUDY 1: IDENTITY-BASED JUDGMENT AND FEATURE-BASED ANALYSIS

Study 1 investigates the effectiveness of feature-based analysis at neutralizing the effects of initial identity-driven

thinking. A traditional approach to encourage analytic thinking in new product judgment is to draw people’s attention to product features. Feature-based analysis prompts people to engage in attribute-driven processing, a data-driven, bottom-up process (Park and Smith 1989). Attribute-based (or expectancy-value) models typically depict a person’s attitude toward an object as his or her subjective probability that the object has a certain attribute multiplied by his or her evaluation of the attribute; overall judgment is based on aggregation across salient attributes (e.g., Fishbein and Ajzen 1975). Such an approach also reflects the spirit of decomposition, a “divide-and-conquer” approach that can improve problem solving (e.g., MacGregor, Lichtenstein, and Slovic 1988). Therefore, the prompting of people to engage in feature-based analysis is likely to encourage them to engage in bottom-up processing that is driven by attributes of the product.

In contrast, identity-based judgment reflects top-down processing driven by identity. When judgment is made with the perspective of an identity in mind, an elaborate and self-relevant schema may drive thinking in a relatively one-sided manner. Consistent with its moderator role, the strength of identification will enhance the one-sidedness and self-relevance of identity-driven thinking and thereby enhance identity effects on judgment. Moreover, such initial one-sidedness may be difficult to undo with a relatively evenhanded feature-based analysis task. Prior research in other domains suggests that top-down thinking dominates bottom-up thinking (e.g., Alba et al. 1994; Bolton 2003; Hoch and Deighton 1989); people who have initially engaged in top-down thinking may find it difficult to engage in bottom-up, feature-based analysis. Similarly, it may be difficult for people to engage in relatively evenhanded analysis after engaging in one-sided thinking. As a result, feature-based analysis may be susceptible to identity effects and therefore be less effective when it follows, rather than precedes, identity-driven thinking. Thus, initial identity-driven thinking may create a sticky prior that is relatively resistant to change regardless of subsequent feature-based analysis. Accordingly, we hypothesize the following:

H₁: Feature-based analysis is less effective when it follows rather than precedes identity-based judgment.

As support for this hypothesis, we expect that identity strength has a greater effect on judgment when identity-driven thinking precedes rather than follows feature-based analysis. Such evidence would argue against the effectiveness of feature-based analysis as a corrective tool to neutralize prior identity effects on judgment.

Method

Participants and design. Participants were undergraduate students who received extra credit in an introductory marketing class. Each participant was randomly assigned to one of two cells in a 2 (order of reasoning) between-subjects design. A total of 39 participants completed the task.

Materials and procedure. The experimental materials were contained in a booklet distributed to participants. Participants were asked to read over some background information about a new product concept: the electronic book (e-book). Participants then were instructed as follows:

The E-Book can be assessed in a variety of ways and from a variety of perspectives. On the next few pages, you will be asked to consider one or more of these perspectives in detail. (Due to time constraints, we cannot ask you to consider them all.) Then you will be asked to give us your opinion of the E-Book and its future.

In the identity–analysis order, participants were asked to engage in identity-driven reasoning as follows:

The Environmental Viewpoint: Imagine that you are an active environmentalist. In this role, please write down what you believe is important in considering the E-Book's future. For example, what appeals to you as an environmentalist about the E-Book? Why? Provide a short essay describing your position as an environmentalist regarding the appeal of the E-Book in the space below.

The participants then engaged in analytic reasoning as follows:

Feature Analysis: Please write down each feature of the E-Book that you believe is important in considering its future. Then evaluate each feature. For example, will the feature be attractive or unattractive to the average U.S. consumer? Why? Provide an analysis of the appeal of the E-Book, feature-by-feature, in the space below.

Participants in the analysis–identity order completed both tasks in the opposite order (for control group purposes). Thus, the order manipulation reflects the type of thinking that leads to initial judgment formation: In the identity–analysis (analysis–identity) order, identity-driven thinking precedes (follows) analytic thought; that is, there is an identity-based (analytic-based) judgment prior.

Participants were asked to predict success for this new product in the marketplace by indicating their confidence on a percentage scale. Participants then rated their opinion of the e-book on four seven-point scales: “really dislike/really like,” “would not buy or recommend/would definitely buy or recommend,” “a very bad idea/a very good idea,” and “unlikely to succeed/likely to succeed.” Participants also predicted the opinions of various groups (e.g., college students, children, adults) toward e-books on seven-point scales.

Participants also responded to various background and diagnostic questions. Environmental identity was measured by three seven-point scales: “I don't really think of myself as an environmentalist” (reverse-coded), “Being an environmentally conscious person is an important part of who I am,” and “I see myself first and foremost as an environmentalist.”

Results and Discussion

In subsequent analyses, we standardized the average of the environmental identity scale ($M = 0$, standard deviation

[s.d.] = 1) and included it as a covariate that represented strength of identification. We conducted analyses of covariance (ANCOVAs) on dependent variables using a full model that included the identity strength covariate, order of reasoning, and their interaction. H_1 predicts that identity strength has a greater effect on judgment in the identity–analysis than in the analysis–identity order.² Therefore, the appropriate test of H_1 is a relative test of the magnitude of the coefficients of the identity strength covariate within each order condition (i.e., the significance of the two-way interaction term in the full model).³

We present the results for the various judgment measures (confidence in e-book success, personal opinions, and predictions of others' opinions) in Table 1. As we expected, ANCOVAs of confidence in e-book success reveal a significant interaction of order of reasoning and strength of identification ($F(1, 35) = 5.67, p < .05$). Similarly, multivariate analyses of covariance (MANCOVAs) of personal opinion ratings and predictions of others' opinions are significant functions of the interaction of order of reasoning and identity strength ($F(1, 35) = 4.59, p < .05$; $F(1, 34) = 7.29, p < .01$, respectively). As we expected, identity strength drives more favorable judgments when identity-driven thinking precedes rather than follows analytic thinking, as is evidenced by more positive coefficients for identity strength in the identity–analysis versus the analysis–identity order in Table 1.⁴

Overall, these findings are consistent with H_1 and provide preliminary evidence against the effectiveness of feature-based analysis as a corrective tool to neutralize prior identity effects on judgment. In Figure 2, we illustrate this pattern of results using a median split of the identity strength covariate. When identification is strong (versus weak), initial identity-driven thinking leads to more favorable judgments, which indicates that initial identity-driven thinking leads to a sticky prior that resists change through

²In a pretest using similar stimuli, subjects who were prompted to consider the e-book only from an environmentalist perspective provided more favorable judgments than did subjects who engaged only in feature-based analysis ($F(1, 36) = 7.91, p < .01$). Therefore, we expect judgment favorability toward e-books in Study 1 to increase with strength of identification; that is, greater environmental identity effects are evidenced by more positive covariate coefficients.

³Note that the critical test of H_1 is a relative, not absolute, test of the magnitudes of the covariate coefficients across conditions. The use of a baseline or control group (here, the analysis–identity condition) for comparison enables us to control for various other factors (e.g., amount of elaboration, fatigue) that may contribute to the strength of primacy and recency effects and thus affect the absolute magnitudes of the covariate coefficient. Therefore, we do not report on such simple effects tests of the covariate coefficients (i.e., nonzero t-tests). We use a similar approach for all analyses in this article.

⁴The amount of analytic thought, as coded by a judge, was unaffected by order or identity strength, which rules out simple fatigue or output interference as alternative explanations. We omit the results for brevity's sake.

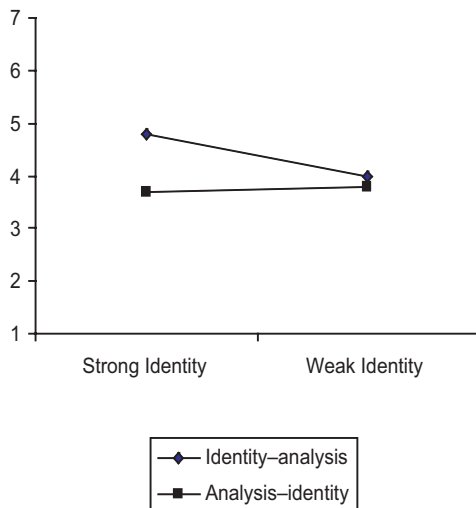
Table 1
E-BOOK JUDGMENTS AS A FUNCTION OF IDENTITY STRENGTH (STUDY 1)

Order of Reasoning	N	Confidence in Success	Personal Opinion (Average)	Prediction of Others' Opinions (Average)
Identity–analysis	19	10.0 (6.8) ^a	.49 (.32)	.51 (.22) ^b
Analysis–identity	20	–10.3 (5.1)	–.37 (.24)	–.22 (.16)

^aTabular data report the coefficient (and standard error) of the identity strength covariate nested in order of reasoning.

^bData missing from one respondent.

Figure 2
AVERAGE PERSONAL OPINION AS A FUNCTION OF IDENTITY
STRENGTH AND ORDER OF REASONING (STUDY 1)



Notes: For illustrative purposes only, strong and weak identity are based on a median split of the identity strength covariate.

subsequent feature-based analysis. Why? In our view, a strong environmentalist identity leads to one-sided, top-down thinking and the generation of an elaborate self-relevant schema in favor of e-books that is difficult to undo with subsequent bottom-up, feature-based analysis, particularly if the feature-based analysis is rendered less effective because of its susceptibility to identity effects. Regardless of whether identification is strong or weak, judgments based on initial feature-based analysis did not differ, which indicates that feature-based analysis confers some resistance to subsequent identity-driven thought. Why? The relative evenhandedness of initial analytic thinking may facilitate the refutation (Crowley and Hoyer 1994) of subsequent one-sided, identity-driven thinking, consistent with inoculation theory (McGuire 1961). As a result, identity-driven thinking may be less one-sided when preceded by analytic thinking, which reduces the identity's ability to polarize judgment (see Millar and Tesser 1986).⁵ Thus, analytic thinking appears to be less effective at neutralizing identity effects on judgment when it attempts to correct judgment afterward rather than inoculating beforehand.

STUDY 2: IDENTITY-BASED JUDGMENT AND COUNTERFACTUAL REASONING

The first study demonstrates that identity effects persevere despite a relatively evenhanded feature-based analysis task. Study 2 has two main objectives: to investigate whether identity effects persevere despite counterfactual reasoning and to explore the relative perseverance of initial judgment based on identity versus reasoning.

⁵In a similar vein, prompting people to analyze an identity bias may reduce its effects (Cheryan and Bodenhausen 2000). However, research on mental contamination suggests that people cannot always correct for bias successfully when forewarned (Wilson and Brekke 1994).

Counterfactual reasoning is based on a traditional approach to encourage analytic thinking by prompting people to consider the opposite (Lord, Lepper, and Preston 1984). By prompting people to generate one-sided arguments that counter their initial judgment, counterfactual reasoning provides a potentially more powerful corrective procedure than relatively evenhanded feature-based analysis. Prior research has investigated counterfactual reasoning in an analytic judgment task. For example, Hoch (1984) investigates order effects in analytic reasoning. Participants generated pro and con arguments for various target events (e.g., OPEC embargo, buying a VCR). Net reasons and judgments were biased toward the initial reasons generated (a primacy effect); with a delay between explanation tasks, people generated reasons evenhandedly, and judgments showed a recency effect. Counterfactual reasoning can be effective as a debiasing strategy (Arkes 1991), at least in the domain of analytic reasoning, such that belief perseverance is not a foregone conclusion. Primacy and recency effects have been attributed to several factors, including strength of priors and evidence of updating (Anderson and Sechler 1986), judgment delays and memory (Hoch 1984), amount of elaboration (Haugtvedt and Wegener 1994), and type of elaboration (Bolton 2003).

We have previously argued that a strong identity activates an elaborate and integrated schema that is relevant to the self, frames the target of judgment, and drives thinking in a one-sided manner. Consistent with its moderator role, stronger identification will enhance the one-sidedness and self-relevance of identity-driven thinking and thereby enhance identity effects on judgment. Moreover, when an elaborate and integrated schema has driven an initial identity-based judgment, it may be difficult for the subject to undo the schema completely and consider an alternative. Thus, initial identity-driven thinking may create a sticky prior that is relatively resistant to change (as in Study 1). Initial reasoning is not integrated in an identity schema that is linked to the self-concept and therefore should be less resistant to change. As a result, identity-based judgments may be more difficult to neutralize with counterfactual reasoning than analytic judgments are. Accordingly, we hypothesize the following:

H₂: Counterfactual reasoning is less effective when it follows identity-driven thinking rather than analytic reasoning.

As support for this hypothesis, we expect that identity strength has a greater effect on judgment when identity-driven thinking, rather than analytic reasoning, precedes counterfactual reasoning. Such evidence would argue against the effectiveness of counterfactual reasoning as a corrective tool to neutralize prior identity effects on judgment. Concomitantly, such a finding also would indicate that initial identity-driven thinking perseveres more than analytic thinking (i.e., priors based on identity are stickier).

Another objective of this study is to explore the effectiveness of counteridentification in neutralizing an initial identity-based judgment. By counteridentification, we mean the use of an alternative identity to counter an initial identity's effect on judgment. An alternative identity may break the frame established by the initial identity (Koehler 1994) and reframe and highlight different aspects of the target, thereby inducing more evenhanded judgment. Hirt and Markman (1995) provide evidence that mere consideration

of alternatives may be sufficient to debias judgment. In addition, an alternative identity that brings to mind social referents with conflicting judgments may reduce confidence in and thereby facilitate change from the initial identity-based judgment. In contrast, evenhanded consideration of multiple identities may be more difficult if prior identity-driven thinking serves to reinforce the initial identity or makes it difficult to consider alternative identities evenhandedly. Research on multiple scenario generation and analogical reasoning supports this view (Bolton 2003). However, identity may be less susceptible to interference effects if identities are an important part of the self-concept and come to mind readily and easily (Niedenthal, Cantor, and Kihlstrom 1985). Accordingly, we offer no prediction but provide an exploratory test of the effectiveness of counteridentification at neutralizing an initial identity-based judgment.

Method

Participants and design. Participants were undergraduate students who participated for extra credit in an introductory marketing class. Each participant was randomly assigned to one of six cells in a 3 (type of reasoning) \times 2 (order of reasoning) between-subjects design. A total of 210 participants completed the experiment; cell sizes ranging from 34 to 37.

Materials and procedure. The task directed participants to a Web site and asked them to complete a self-perception questionnaire. Within the online questionnaire was a scale that measured their degree of identification with two identities: businessperson and environmentalist. Each scale consisted of 12 seven-point Likert agree/disagree items (e.g., "Being a businessperson is an important part of who I am").

After completing the computer questionnaire, participants received an ostensibly unrelated exercise in booklet form. Participants were asked to read some background information about emissions trading or pollution credits as a new concept for reducing air pollution levels. Participants were then asked "to consider various sides of this issue as you develop your own opinion about pollution credits."

In the identity-counter identity conditions, participants were asked to adopt the perspective of a business identity and generate reasons in favor of pollution credits. The purpose of the instructions was to make identity salient in a manner that would drive subsequent thinking. In the pro-con order, participants first read the following:

Imagine that you are a *business executive* in favor of pollution credits. Please take a few moments to think about reasons in favor of pollution credits. In your role as a business executive, why are pollution credits a good idea? Write down as many reasons as you can in the space below.

The participants then adopted the perspective of an environmentalist identity and generated reasons against pollution credits, prompted as follows:

Imagine that you are an *environmentalist* against pollution credits. Please take a few moments to think about reasons against pollution credits. In your role as an environmentalist, why are pollution credits a bad idea? Write down as many reasons as you can in the space below.

We manipulated order; in the con-pro order, participants adopted the perspective of the environmentalist identity first, followed by the business identity.

In the identity-counter reasons conditions, participants first were asked to adopt the perspective of either a businessperson (pro-con order) or an environmentalist (con-pro order) identity. The participants then considered opposing reasons, either con or pro (shown in brackets), as follows:

Please take a few moments to think about reasons against (in favor of) pollution credits. Why are pollution credits a bad (good) idea? Write down as many reasons as you can in the space below.

We again manipulated the order. Thus, participants generated either pro reasons with a businessperson identity followed by con reasons or con reasons with an environmentalist identity followed by pro reasons.

In the reasons-counter reasons conditions, participants generated pro and con reasons. We again manipulated order. Reason generation serves as a control group that represents initial analytic judgment, against which we contrast initial identity-based judgment.⁶

In all conditions, the reasoning tasks were timed and lasted three minutes each.⁷ Following the reasoning tasks, participants reported their personal opinion of pollution credits on three seven-point Likert scales: "really dislike/really like," "a very bad idea/a very good idea," and "definitely do support/definitely do not support." Participants also judged the opinion held by their classmates on a seven-point scale and estimated the percentage who voted in favor of pollution credits. Participants also were asked to judge the opinions held by businesspeople and environmentalists on seven-point scales. Finally, participants responded to various background and diagnostic questions.

Results and Discussion

Counterfactual reasoning. In the first analysis, we examined the identity-counter reasons and reasons-counter reasons conditions to test the effectiveness of counterfactual reasoning at neutralizing an initial identity-based judgment. H_2 predicts that counterfactual reasoning is less effective when it follows identity-driven thinking rather than analytic reasoning. Specifically, we expect that identity strength has a greater effect on judgment when identity-driven thinking, rather than analytic reasoning, precedes counterfactual reasoning. To test this prediction, we standardized the average of the first 11 items of the businessperson (environmentalist) identity scales ($M = 0$, $s.d. = 1$) and used it as a covariate that represented initial identification strength in the pro-con (con-pro) order.⁸ We conducted MANCOVAs on dependent variables using a full model that includes the identity strength covariate, type and order of reasoning, and

⁶See Note 3.

⁷Doing so permits us to control for the amount and valence of thought and, in turn, simple order effects arising from fatigue, delay, and output interference. In addition, identity-driven thinking may be lengthier and more elaborate than analytic thinking for motivational reasons (because of the identity's self-relevance). If so, controlling for the amount and valence of thought can provide a more conservative test of the cognitive differences (e.g., one-sidedness, schematicity) between identity-driven and analytic thinking.

⁸We dropped the twelfth item for the businessperson and environmentalist identity scales (respectively, coefficient $\alpha = .93$ and $.96$) because it loaded on a separate factor in a factor analysis. Businessperson and environmentalist identity strengths are positively correlated ($r = +.30$) in the sample. In accordance with the perspective-taking instructions, businessperson (environmentalist) identification is positively (negatively) associated with judgments of pollution credits.

all higher-order interactions. The appropriate test of H_2 is a relative test of the magnitude of the coefficients of the identity strength covariate within the type and order of reasoning (i.e., the significance of the three-way interaction term in the full model).

We present the results for the various judgment measures (personal opinions, others' opinions) in Table 2. As we expected, MANCOVAs of the items measuring personal opinions reveal a significant interaction of type and order of reasoning with identity strength ($F(1, 132) = 3.99, p < .05$). For example, identity strength drives more favorable judgments in the pro-con order than in the con-pro order in the identity-counter reasons conditions ($F(1, 67) = 3.78, p = .06$). In contrast, identity strength and order have no effect in the reasons-counter reasons conditions ($F_s < 1$). Similarly, MANCOVAs of the items measuring others' opinions (classmates' opinions and the environmentalist-businessperson opinion gap) reveal a significant interaction of the type and order of reasoning ($F(1, 133) = 4.05, p < .05$), qualified by a marginal interaction with identity strength ($F(1, 133) = 3.03, p = .08$). As evidenced by the pattern of coefficients in Table 2, counterfactual reasoning fails to neutralize the effects of initial identity-driven thinking and, consistent with H_2 , is less effective following initial identity-driven thinking than after initial analytic reasoning. As a result, initial identity-driven thinking perseveres more than initial reasoning (i.e., priors based on identity are stickier).

Counteridentification. In the second analysis, we examined the identity-counter identity conditions to test the effectiveness of counteridentification at neutralizing an initial identity-based judgment. (Recall that competing predictions are possible.) As before, we conducted MANCOVAs on dependent variables using a full model that includes the identity strength covariate, order of reasoning, and their interaction. Again, the appropriate test of the hypothesis is a relative test of the magnitude of the coefficients of the identity strength covariate within order of reasoning (i.e., the significance of the two-way interaction term in the full model).

We present the results for the various judgment measures (personal opinions, others' opinions) in Table 2. For per-

sonal opinions, MANCOVAs reveal a significant interaction of order of reasoning and identity strength ($F(1, 64) = 13.04, p < .01$); that is, identity strength is related more positively to personal opinions in the pro-con order than in the con-pro order, indicating that counteridentification does not neutralize the effect of initial identification. For predictions of others' opinions, MANCOVAs reveal no significant effects of order or identity strength ($F_s < 1$); that is, counteridentification neutralizes the effect of initial identification, regardless of identity strength.⁹ These results suggest that the effects of a salient and strong initial identity on personal judgment are particularly difficult to overcome but that counteridentification may neutralize identity effects effectively when judging others.¹⁰

Overall, the pattern of results in Study 2 provides support for H_2 regarding identity-based judgment and counterfactual reasoning. Initial identity-driven thinking creates stickier priors than initial reasoning, and counterfactual reasoning does not neutralize identity effects. Moreover, counteridentification fails to eliminate identity effects on personal opinions. Counteridentification shows some promise, however, at neutralizing identity effects when judging others. In terms of identity's unique characteristics (one-sidedness, self-relevance, and social referencing), we speculate that social referencing matters more than self-relevance when judging others, which improves the effectiveness of counteridentification as a corrective procedure.

STUDY 3: DUELING IDENTITIES

Study 2 provides evidence that counterfactual reasoning may be insufficient to neutralize the effects of initial identity-driven thinking on judgment. It also provides some evidence that counteridentification may be ineffective as a corrective procedure, particularly for personal judgments. Although Shih, Pittinsky, and Ambady (1999) speculate

⁹A similar pattern of results occurs when both identity strength covariates are included in the analyses.

¹⁰This pattern of results for personal versus other judgments is consistent with that of prior literature, which suggests that indirect judgments of others are more sensitive measures than are personal opinions (Duck, Hogg, and Terry 1999; Fisher 1993) and therefore that they can be changed more easily through corrective procedures such as counteridentification.

Table 2
POLLUTION CREDIT JUDGMENTS AS A FUNCTION OF IDENTITY STRENGTH (STUDY 2)

Type of Reasoning	Order of Reasoning	N	Personal Opinion Items			Prediction of Others' Opinions		
			Like	Good Idea	Support	Classmates' Opinion Items	Environmentalist-Businessperson Opinion Gap	
Identity-counter reasons	Pro-con	37	.76 ^a (.26)	.39 (.27)	.48 (.23)	-.03 (.23)	4.43 (3.72)	.16 (.52)
Identity-counter reasons	Con-pro	34	-.03 (.22)	-.15 (.23)	-.06 (.23)	-.03 (.19)	.19 (3.15)	-.25 (.44)
Reasons-counter reasons	Pro-con	35	-.22 (.22)	-.27 (.23)	-.16 (.23)	-.25 (.20)	-5.37 (3.17)	.01 (.44)
Reasons-counter reasons	Con-pro	35	.15 ^b (.22)	-.06 ^b (.23)	.07 ^b (.22)	.24 (.19)	2.29 (3.09)	.31 (.43)
Identity-counter identity	Pro-con	35	.94 ^b (.24)	.62 ^b (.27)	.77 ^b (.27)	-.09 (.25)	.36 (3.79)	-.44 (.44)
Identity-counter identity	Con-pro	34	-.44 (.24)	-.32 (.23)	-.60 (.23)	-.11 (.22)	-.75 (3.32)	-.54 (.38)

^aTabular data report the coefficient (and standard error) of the identity strength covariate nested in type and order of reasoning.

^bData missing from one respondent.

about the interaction among identities in conflict, to our knowledge, prior research has not empirically investigated the impact of multiple salient conflicting identities on judgment. Identities duel only when they lead to conflicting judgments (Wilson, Lindsey, and Schooler 2000). In Study 3, we use multiple target judgments to examine the role of diagnosticity; that is, we expect that identification and counteridentification affect personal judgment when identities are associated with differentially valenced judgments about the target. In previous studies, we selected identity-diagnostic targets only; here, diagnosticity varies across target judgments on a within-subjects basis.

We pursue this investigation in a field study of parents and teenagers. Conflict in intergenerational attitudes is a staple of the popular media, and our research attempts to shed light on how identification and counteridentification exacerbate or reduce this conflict. Study 3 also enables us to test support for the findings of Study 2 in a field study that varies the population sample, identities, and target judgments used. In addition, Study 3 loosens experimental control over the amount and valence of thought and thereby provides a less conservative but potentially more ecologically valid test of counteridentification as a corrective procedure.

Method

Participants and design. We used two participant samples for Study 3. The first sample consisted of high school students who participated in the exercise as part of a class requirement. The second sample was a group of adult community residents who participated in the exercise in return for a donation to a local community organization. Participants from each sample were randomly assigned to one of two cells in a 2 (order of reasoning) between-subjects design. A total of 211 participants provided usable data on all variables (74 parents, 110 teenagers, and 27 unclassified).

Materials and procedure. The experimental materials were contained in a booklet distributed to participants. The cover story instructed participants as follows:

We are interested in learning more about your attitudes and opinions toward a number of issues of the day, including Internet censorship, wildlife conservation, legalization of marijuana, campaign finance reform, mandatory school uniforms, legislation to reduce global warming, raising the drinking age, safe sex education in the classroom, universal health care, and gun control. On the next few pages, you will be asked to share your views on these and other issues. First you will be asked to consider some different viewpoints or perspectives in society. (Doing so helps us compare your opinions to the views that others hold, and also allows us to understand how people consider other perspectives on issues.) Afterwards, we will ask you for your opinions on several issues.

Participants then were asked to adopt parent and teen perspectives. We manipulated order. The parent perspective was manipulated as follows:

Please take a moment to consider yourself as a parent. Imagine that you are a parent today sitting around the dining room table with your teenage children. You are having a conversation about various issues of the day—things that matter to you as a parent and that you want

your teenage children to understand. In other words, we would like you to adopt the perspective of a parent and tell us about your values and views as a parent today. What comes to mind when you are asked to consider your thoughts and feelings and play the role of a parent?

The teen perspective was manipulated as follows:

Please take a moment to consider yourself as a teenager. Imagine that you are a teenager today sitting around the dining room table with your parents. You are having a conversation about various issues of the day—things that matter to you as a teenager and that you want your parents to understand. In other words, we would like you to adopt the perspective of a teenager and tell us about your values and views as a teenager today. What comes to mind when you are asked to consider your thoughts and feelings and play the role of a teenager?

For both sets of instructions, participants were asked to write down their thoughts or feelings in a series of text boxes as they considered each perspective for approximately three minutes.

After the thought-listing task, participants expressed their personal opinion toward the ten issues on seven-point scales anchored by “strongly against/strongly in favor.” Participants also responded to six items that measured their strength of identification with parent and teen identities: “I identify strongly with being a parent/teen,” “Being a parent/teen is an important part of who I am,” and “I found it difficult to play the role of a parent/teen” (reverse-coded). For the ten opinion items, participants were asked to indicate the opinions of a typical parent and teenager toward the issues. Finally, participants responded to some background information queries.

Results and Discussion

For the analyses, we standardized the averages of the three-item parent (coefficient $\alpha = .71$) and teen (coefficient $\alpha = .73$) identity scales ($M = 0$, $s.d. = 1$) and used them as continuous covariates. In addition, we analyzed sample estimates of parent and teen opinions toward the various opinion items to identify items for which parent–teen differences were large (i.e., the identities are diagnostic and lead to differential judgments) and small (i.e., the identities are not diagnostic and/or do not lead to differential judgments). Table 3 contains a description of the items and the parent–

Table 3
DIFFERENCE SCORES (PARENT MINUS TEEN RATINGS)
(STUDY 3)

<i>Opinion Item</i>	<i>Mean (Standard Deviation)</i>
Internet censorship	2.94 (2.61) ^a
Wildlife conservation	.36 (1.85) ^b
Legalization of marijuana (reverse-coded)	2.67 (2.71) ^a
Campaign finance reform	1.27 (2.03)
Mandatory school uniforms	2.98 (2.42) ^a
Legislation to reduce global warming	.43 (1.79) ^b
Raising the drinking age	2.44 (3.37) ^a
Safe sex education in the classroom	.24 (2.15) ^b
Universal health care	.92 (1.78)
Gun control	.83 (1.93)

^aIdentity-diagnostic items; difference scores are large.

^bBaseline items; difference scores are small.

teen differences.¹¹ For each participant, we constructed an average personal opinion score for identity-diagnostic opinion items (Internet censorship, mandatory school uniforms, raising the drinking age, legalization of marijuana), which we coded such that higher opinion scores reflect parental views. Similarly, we created an average personal opinion score for baseline items (wildlife conservation, legislation to reduce global warming, safe sex education). We expect identity-driven judgment effects for the former but not the latter, which serve as controls to rule out demand and simple order effects on judgment.

We conducted ANCOVAs of the average personal opinion difference scores (i.e., identity-diagnostic minus control items) as a function of parent and teen identity strengths and order of reasoning, as well as all higher-order interactions, for each sample. In the parent sample, ANCOVAs reveal a marginal effect of order ($F(1, 66) = 3.66, p = .06$), qualified by an interaction with parent identity strength ($F(1, 66) = 3.89, p < .05$); teen identity strength has no effect ($F < 1$). Parent identity strength leads to more positive opinions in the parent–teen versus teen–parent order (respective coefficients: 1.56 [.48] and $-.25$ [.46]), which suggests that counteridentification is more effective when it precedes rather than follows primary identity-driven thinking. In the teen sample, the interaction of order with teen identity strength is directional ($F(1, 102) = 2.59, p = .11$); parent identity strength has no effect ($F < 1$). Teen identity strength leads to directionally more negative opinions in the teen–parent versus parent–teen order (respective coefficients: $-.48$ [.35] and $.51$ [.32]), which again suggests that counteridentification is more effective when it precedes rather than follows primary identity-driven thinking.

Overall, this pattern of results suggests that initial identity-driven thinking is difficult to neutralize with subsequent counteridentification. In terms of dueling identities, the preponderance of evidence from Studies 2 and 3 suggests that “fighting fire with fire” does not work. However, initially adopting an alternative identity provides some protection against subsequent identity-driven thinking. Thus, counteridentification may be a useful inoculation technique, consistent with the results of Study 1. In summary, the results of the present field study, which varies the population sample, identities, and target judgments, provide support for the perseverance of identity-based judgments against subsequent counteridentification as a corrective tool.

STUDY 4: IDENTITY AND SOCIAL INFLUENCE

In Studies 1 and 2, we primarily examine the effectiveness of analytic thinking, including feature-based analysis and counterfactual reasoning, at neutralizing identity effects on judgment. The findings suggest that identity-based judgments persevere; that is, identity-driven priors are sticky. In Studies 2 and 3, we also examine dueling identities that conflict with respect to a judgment. In this case, we find

that adopting an alternative identity appears to be relatively ineffective in both a relatively controlled laboratory experiment and a more ecologically valid field study of personal judgments. Counteridentification is not always available as a nonanalytic corrective technique, such as when alternative identities that counter an identity-based judgment do not exist, are not important to the self-concept, are nondiagnostic, or are suppressed and do not come to mind in the judgment task.

In Study 4, we examine the effectiveness of an alternative nonanalytic corrective procedure that is traditionally used to facilitate persuasion, namely, social influence. If identity represents an internalized source of social influence, how does it interact with external sources of influence? Prior psychological research suggests that social influence affects personal opinion both when the majority serves as the source of influence pressure and when the person is exposed to minority influences (Moscovici 1980). However, results of prior research on identity and social influence are mixed and not well understood (Flemming and Petty 1999). People may be particularly susceptible to social influence from others who share group membership (Wilder 1990); however, out-group members also might be more influential (White and Harkins 1994).

In Study 4, we focus on the case of shared group membership and investigate whether strength of identity moderates susceptibility to social influence. For example, would a student’s university identification affect his or her acceptance of social influence from other college students who express positive/negative opinions toward a university-endorsed product? We propose that, *ceteris paribus*, participants who identify strongly with a particular social category are less susceptible to subsequent social influence from others who share group membership. This prediction is consistent with the results from our previous studies that demonstrate the perseverance of identity-driven judgment. We have argued that identity-based judgments are held with greater confidence because social referents who share the identity agree with the judgment. However, what if participants are confronted with social referents who hold conflicting judgments? We propose that such social influence is less effective when identity is strong because participants reject or discount inputs that are inconsistent with their identity schema as a threat to the coherence of their self-concept (Conover 1988; Markus 1977). Prior research also suggests that attitudes that serve an ego-defensive function resist change (Eagly and Chaiken 1993). Identity may be reinforced by evidence of attitudinal consensus from in-group members, whereas a lack of consensus may threaten identity (Markus and Kunda 1986). For participants who do not have a strong identity, social influence is neither consistent nor inconsistent with the identity schema and is accepted more or less at face value. Accordingly, we hypothesize the following:

H₃: Identity strength moderates the effect of social influence on judgment.

As support for this hypothesis, we expect that strong identification reduces a person’s susceptibility to social influence that is inconsistent with his or her identity. Such evidence would argue against the effectiveness of social influence as a corrective tool to neutralize prior identity effects on judgment.

¹¹As we expected, parents are perceived as being much more favorable than teens toward Internet censorship, mandatory school uniforms, and the raising of the drinking age and much less favorable than teens toward legalization of marijuana. In contrast, parents and teens are viewed as holding relatively similar opinions about wildlife conservation, legislation to reduce global warming, and safe sex education in the classroom. Parents and teens differ moderately on the remaining items, which we omitted from further analyses.

Method

Participants and design. Participants were undergraduate students who participated for extra credit in an introductory marketing class. Each participant was randomly assigned to one of two cells in a 2 (social influence: positive versus negative) between-subjects design. A total of 119 participants completed the tasks.

Materials and procedure. The first experimental task directed participants to a Web site and asked them to complete a self-perception questionnaire. This questionnaire contained a scale that measured degree of identification with X university, followed by two other filler scales.¹² The identity scale consisted of 12 seven-point agree/disagree items (e.g., "Being an X student is an important part of who I am").

In the second ostensibly unrelated experimental task, participants engaged in an online focus group discussion about a target product. Participants first completed a prescreening questionnaire that requested basic demographic information (e.g., age, gender) and then were assigned to a group for online discussion purposes. Unbeknownst to the participants, the group discussion involved an automated moderator and three automated confederates. Discussion appeared in windows on-screen in real time (i.e., as it was ostensibly typed by each participant in turn), with the participant assigned to the last speaker order. A picture and description of the target product, an electronic photo frame with an X university seal, also appeared in a window on-screen throughout the discussion.

After a round of introductions, the moderator asked for participants' initial ratings of the product on a scale of 1 ("really dislike") to 10 ("really like"). When social influence was positive, confederates rated the product as 9, 8, and 10; when social influence was negative, confederates rated the product as 2, 3, and 1. Participants then responded with their own online public rating of the target product (i.e., participants' ratings were visible to the other focus group members).

The moderator then asked group members why they gave the rating they did. Confederates provided identity-driven reasoning to support their positive versus negative initial rating. Participants' responses followed. The moderator then asked group members why they would buy the product or not. Again, each confederate responded positively or negatively and provided an identity-based explanation to support his or her position. The explanation was similar for positive versus negative social influence; only the valence differed. For example, the first confederate's comments for positive (negative) social influence ran as follows:

Here's why I (don't) like it. When I first saw the product, I thought about my friends. Most of my friends are into the university, sports, and other stuff. I'm like them, and I think they would love to have a picture frame with the X seal on it. (But this isn't it.)

For brevity, we omit further details of the group discussion program and confederates' comments (they may be obtained from the authors).

The moderator then announced that the discussion time was up and thanked participants. Participants then completed an online private questionnaire about their experience in the discussion group (i.e., participants' ratings were not visible to the other focus group members). After responding to questions about the group interaction, participants reported their personal opinions of the product on seven-point disagree/agree scales ("I really like the photo frame" and "I would definitely buy the photo frame"). Participants also were asked to predict others' opinions of the product ("I think the photo frame could be a very successful product").

In a subsequent analytic reasoning task in the experimental session, participants again were shown the description of the photo frame and asked to complete a pencil-and-paper feature analysis as follows:

You've already shared your views regarding this product, but some people find it helpful to consider the product feature by feature. Please write down each of the features of the photo frame that you believe are important. Then evaluate each feature. For example, will the feature be attractive or unattractive? Why? Provide an analysis of the photo frame, feature-by-feature, in the space below.

Participants then predicted the success of the product and provided their overall opinion on four seven-point scales anchored as follows: "really dislike/really like," "would not buy or recommend/would definitely buy or recommend," "a very bad idea/a very good idea," and "unlikely to succeed/likely to succeed." Finally, participants responded to several background and diagnostic questions.

Results and Discussion

Manipulation check. As we expected and consistent with compliance induced by normative pressure, online public judgment is higher under positive versus negative social influence (5.12 [2.37] and 2.98 [1.84], respectively, $F(1, 113) = 27.34, p < .01$).¹³ Thus, the manipulation of the valence of social influence is effective.

H₃ predicts that identity strength will moderate the effect of social influence on judgment. Specifically, we expect that strong identification reduces susceptibility to social influence that is inconsistent with the identity. To test this prediction, we standardized the average of the 12-item identity scale (coefficient $\alpha = .91$) ($M = 0, s.d. = 1$) and used it as a continuous covariate that represented the strength of identification with X university. We conducted MANCOVAs on dependent variables using a full model that included the identity strength covariate, social influence valence, and their interaction. The appropriate test of the hypothesis is a relative test of the magnitude of the coefficients of the identity strength covariate within social influence valence (i.e., the significance of the two-way interaction term in the model).

Initial private judgment after social influence. For the private online measures, MANCOVAs reveal a significant effect of social influence valence ($F(1, 113) = 11.66, p < .01$), qualified by an interaction with strength of identity

¹²We omit the name of the university ("X") to preserve anonymity in the review process.

¹³Participants were susceptible to social influence and reported public judgments that did not reflect their private opinions, which casts doubt on the usefulness of virtual focus group research.

($F(1, 113) = 3.47, p = .07$). As the pattern of results in Table 4 and Figure 3 indicates, identity strength drives more favorable judgments when social influence is negative (rather than positive), such that strong identifiers are somewhat less susceptible to social influence effects from the group interaction, in support of H_3 .

Private judgment after feature-based analysis. In the experimental procedure, we subsequently introduced feature-based analysis as an additional corrective procedure to neutralize initial identity and social influence effects on judgment. A MANCOVA of private judgments taken after feature-based analysis reveals a main effect of social influence ($F(1, 110) = 17.21, p < .01$); the interaction with identity strength is directional but no longer significant ($F(1, 110) = 1.72, p = .19$). Thus, social influence continues to exert an influence on judgment, regardless of identity strength.

In summary, people respond similarly in a public setting to valenced social influence, consistent with normative

pressures to comply. Privately, however, strong identifiers attempt to resist social influence that arises from group interaction. We argue that this result arises because judgment based on a strong identity is embedded within an elaborate schema and leads to a sticky prior that resists change.¹⁴ However, evidence for identity-driven resistance is not apparent after a subsequent feature-based analysis task, which indicates that identity effects will not persevere in the face of multiple corrective procedures. Ultimately, the effects of social influence are evident regardless of identity strength, which points to the potential power of social influence as a nonanalytic corrective procedure.

GENERAL DISCUSSION

Identity-Based Judgment

The purpose of this research was to examine the perseverance of identity-based judgments by exploring the effectiveness of corrective procedures intended to neutralize identity effects on judgment. Study 1 demonstrates that identity effects on judgment persevere despite subsequent feature-based analysis. Study 2 provides preliminary evidence that initial identity-based judgment may persevere despite subsequent counterfactual reasoning and lead to a stronger primacy effect than initial analytic reasoning (i.e., a stickier prior). Studies 2 and 3 also provide evidence that initial identity-driven thinking perseveres despite counter-identification; in other words, fighting fire with fire failed. Finally, Study 4 demonstrates some resistance of identity-driven judgment to social influence from others. Thus, we find overall support for the proposition that judgment driven by a salient and strong identity will tend to persevere, namely, a procedural bias or sticky prior in favor of an initial identity-based judgment.

Our set of studies examines various identities (environmentalist, businessperson, parent, teen, university) and corrective procedures (feature-based analysis, counterfactual reasoning, counteridentification, social influence), which we test across multiple target judgments (new products, social issues) and dependent variables (personal judgments, predictions for others), with some variation in the participant population (college students, teenagers, parents). Although the findings attest to the robust effects of identity on judgment, the usual caveats to laboratory-based experimental work apply when the results are generalized to the real world. In addition, our quest for robustness necessitated a sacrifice in understanding the process, which represents an area ripe for further research. Identity effects are likely due to multiple processes, and we suggest three important characteristics of identity—schema-driven one-sidedness,

Table 4

PHOTO FRAME JUDGMENTS AS A FUNCTION OF IDENTITY STRENGTH (STUDY 4)

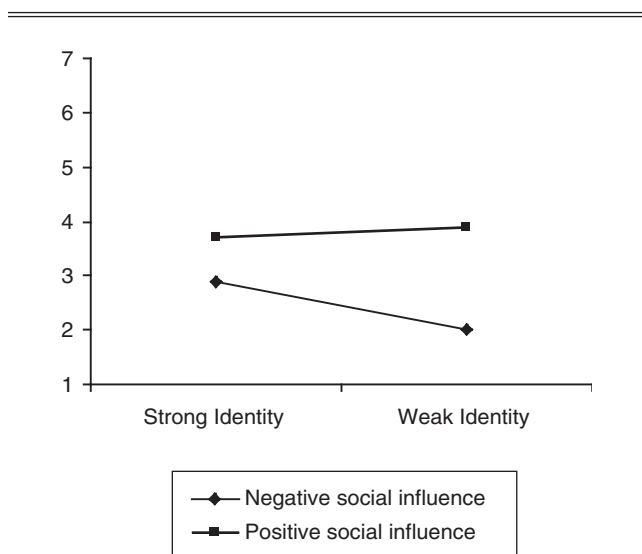
Social Influence	N	Initial Private Judgment (After Social Influence)			Private Judgment (After Analysis) (Average)
		Like	Buy	Succeed	
Negative	54	.54 ^a (.22)	.40 (.22)	.41 (.19)	.14 ^b (.16)
Positive	63	-.06 (.23)	.11 (.22)	-.25 (.20)	-.16 (.16)

^aTabular data report the coefficient (and standard error) of the identity strength covariate nested in social influence valence.

^bData missing from three respondents.

Figure 3

AVERAGE INITIAL PRIVATE JUDGMENT AS A FUNCTION OF IDENTITY STRENGTH AND SOCIAL INFLUENCE VALENCE (STUDY 4)



Notes: For illustrative purposes only, strong and weak identity are based on a median split of the identity strength covariate.

¹⁴Consistent with the notion of identity-driven resistance, an exploratory analysis reveals that “pressure to agree with other people’s opinions” is driven by identity strength under negative rather than positive social influence (respective coefficients: .57 [.19] and .06 [.20]; $F(1, 113) = 3.51, p = .06$). However, strong identifiers appear able to resist this pressure, as is evidenced by their private judgments following social influence. We suspect that felt pressure leads strong identifiers to counterargue social influence from others. Identity strength undermines ratings for self-generated reasons following negative rather than positive social influence (respective coefficients: -.27 [.18] and .17 [.18]; $F(1, 106) = 3.12, p = .08$). This evidence from the feature-based analysis task suggests that analytic thought is susceptible to identity-driven effects, though not enough in this case to render the corrective procedure completely ineffective.

self-relevance, and social referencing—that likely contribute to the perseverance of identity effects.

Corrective Procedures

We speculate that successful procedures to neutralize identity effects must counter one-sidedness, self-relevance, and social referencing. Across the corrective procedures we examined in these studies, we find considerable evidence that argues against the effectiveness of analytic techniques. In Studies 1 and 2, we find that feature-based analysis and counterfactual reasoning are relatively ineffective at neutralizing prior identity effects on judgment. However, Studies 1 and 3 imply that such techniques may be useful to inoculate beforehand against identity-driven thinking. In our view, the evidence for nonanalytic corrective procedures indicates that counteridentification and social influence may be more promising avenues for further investigation. Although counteridentification failed to neutralize identity effects on personal judgments in Studies 2 and 3, some evidence in Study 2 implies that it may be effective on judgments of others' opinions. Similarly, although strong identifiers attempted to resist social influence inconsistent with their identity in Study 4, social influence (coupled with feature-based analysis) ultimately proved more powerful. Whereas analytic corrective procedures tend to focus only on countering the one-sidedness of identity-driven thinking, nonanalytic corrective procedures that address one-sidedness, self-relevance, and social referencing may prove more effective at neutralizing identity effects on judgment. Building on prior reviews of the debiasing literature (e.g., Arkes 1991; Wilson and Brekke 1994), we suggest that for the corrective procedure to be effective, it must match the source of the bias—in our case, the unique characteristics of identity-driven thinking. Thus, more research is needed to better understand identity-driven judgment processes, their tendency to persevere, and the efficacy of various corrective procedures.

MARKETING IMPLICATIONS AND FURTHER RESEARCH

Branding and Identity-Based Marketing

Although much product development and research is attribute based, consumers often are attracted to products and brands that are linked to their identity (Forehand and Deshpandé 2001; Stayman and Deshpandé 1989). This linkage may come about because the brand or product symbolizes the consumer's own personality traits (Aaker 1997) or embodies the type of person that the consumer aspires to become (Belk, Bahn, and Mayer 1982; Levy 1959). For example, Harley-Davidson motorcycles are linked to an outlaw or rebel identity, which is an aspirational identity for many of its customers. Our research suggests that brand preferences based on an important identity are especially sticky. Successfully appealing to consumer identity as part of product positioning becomes an important source of brand loyalty. If a brand can be connected to central aspects of the self-concept (Oliver 1999), the consumer will view the brand as part of him- or herself (see Kleine, Kleine, and Allen 1995), that is, an extension of the self (Belk 1988). Moreover, an identity basis for brand loyalty may be resistant to change. As our research attests, counterpersuasion techniques based on feature-based analysis, counterfactual

reasoning, and counteridentification may be insufficient to overcome identity effects on judgment. However, inoculation and social influence may offer some protection against competing brands that make identity appeals.

Consumer Welfare and Social Marketing

Just as identity-driven thinking may be a powerful source of branding and loyalty, social marketing may be enhanced through identification, which may benefit consumer welfare. For example, healthful eating may be driven by an athlete identity, civic behavior such as voting can be linked to a national identity, and so forth. Moreover, counteridentification and social influence may be useful in combating the dark side of consumer behavior, such as addictive behaviors linked to identity. For example, inoculation of younger adolescents against smoking may be a useful technique if antitobacco advertising can be constructed and delivered to recipients before their considering smoking from the perspective of a smoker identity (e.g., "As a smoker, I will be popular and cool"). Provision of a counteridentity beforehand for thinking about smoking (e.g., a savvy teen consumer who distrusts tobacco companies, as in recent advertising by the Legacy Foundation) may be more effective at neutralizing smoking behaviors than traditional campaigns that employ analytic reasoning (e.g., health risk messages used in antitobacco advertising).

Managerial Decision Making

The role of identity in managerial judgment also merits attention. Managers who consider a business or public policy issue from the perspective of a salient and strong identity (e.g., businessperson, Republican) may find it difficult to consider, anticipate, and respond to alternative perspectives. Similarly, advocates of new technologies or social initiatives, who may identify, for example, as engineers or environmentalists, also may find it difficult to broaden their perspectives. Such identity-driven thinking may lead to biased perceptions and expectations of customers and competitors, leading to overconfident predictions of marketplace success. Thus, the perseverance of identity-based judgment and the (in)efficacy of corrective procedures may have consequences for managers as well as consumers.

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