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Abstract

How does controversy affect conversation? Five studies using both field and laboratory data address this question. Contrary to popular belief, controversial things are not necessarily more likely to be discussed. Controversy increases likelihood of discussion at low levels, but beyond a moderate level of controversy, additional controversy actually decreases likelihood of discussion. The controversy-conversation relationship is driven by two countervailing processes. Controversy increases interest (which increases likelihood of discussion) but simultaneously increases discomfort (which decreases likelihood of discussion). Contextual factors such as anonymity and whether people are talking to friends or strangers moderate the controversy-conversation relationship by impacting these component processes. Our framework sheds light on how, when, and why controversy affects whether or not things are discussed.

Disciplines

Advertising and Promotion Management | Behavioral Economics | Business | Business Intelligence |
Management Information Systems | Marketing | Mass Communication | Public Relations and Advertising

When, Why, and How Controversy Causes Conversation

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Contribution Statement. While managers and consumers believe that controversy increases buzz (i.e., WOM), little research has tested this intuition. This article provides the first empirical look into the question, do people talk about controversies? We propose that the effects of controversy on likelihood of conversation are driven by the countervailing underlying processes of interest and discomfort, with the former increasing and the latter decreasing likelihood of conversation. In addition, we examine how situational variables such as identity disclosure affect people's willingness to talk about controversial topics by affecting underlying processes. In addition to questioning intuition, this paper contributes broadly to a better understanding of why people talk about certain topics and not others.

ABSTRACT

How does controversy affect conversation? We use both lab and field data to address this question. Contrary to popular belief, controversial things are not necessarily more likely to be discussed. Data from an online news forum show that controversy increases likelihood of discussion at low levels, but beyond a moderate level of controversy, additional controversy actually decreases likelihood of discussion. Experiments show that the controversy-conversation relationship is driven by two countervailing processes. More controversial things are more interesting to talk about and thus more likely to be discussed. At the same time, more controversial things are less likely to be discussed because they are uncomfortable to talk about. Consequently, contextual factors such as identity disclosure and whether people are talking to friends or strangers moderate the controversy-conversation relationship by impacting these underlying processes. Our framework sheds light on how, when, and why controversy affects whether or not things are discussed.

Talking is an essential part of people's daily routine. Consumers talk about where they are going to lunch, what they saw on the news, or which candidate they think is most likely to win the presidential elections. In addition to diffusing information, these conversations have an important impact on what people buy and how they behave. Across a variety of contexts, research has shown that word-of-mouth boosts sales, speeds product adoption, and impacts decision making (Chevalier and Mayzlin 2006; Godes and Mayzlin 2004; Iyengar, Van den Bulte, and Valente 2011; Liu 2006; Nickerson 2008; Trusov, Bucklin, and Pauwels 2009).

But why are some things (e.g., stories, topics, or brands) more likely to be discussed? Conversation topics vary on how controversial they are, or whether they are marked by opposing views (Merriam-Webster 2003). Some advertisements, issues and brands are relatively non-controversial while others are more divisive. United Colors of Benetton, for example, often makes controversial prints ads (Passariello and Clark 2011), while Old Navy ads tend to be less contentious. Issues like the weather and where to go for lunch are less controversial than topics of abortion and gay marriage (Masci 2009; Tribe 1992). Brands like Quaker Oats and Hallmark are less controversial than Marlboro and Wal-Mart (Gogoi 2007). Does controversy affect whether or not ads, brands, and other things are discussed? And if so, how?

The lay belief among marketers and consumers is that more controversial things are more likely to be talked about. Media agency executives believe that television shows with controversial storylines (e.g., life at the Playboy mansion) are more likely to generate buzz (Steel 2011). Similar beliefs were found in a pilot study. We asked forty-eight respondents to rate how likely low, moderate, and high controversial topics would be to be discussed (1 = a little, 9 = a lot). Participants believed that high controversial topics would be more likely to be discussed than moderately controversial topics which would be more likely to be discussed than low

controversial topics ($M_{\text{high}} = 8.21$, $M_{\text{moderate}} = 5.85$, and $M_{\text{low}} = 4.00$; $F(2, 96) = 133.50$, $p < .001$, all pairwise comparisons significant at $p < .01$).

But is that actually the case? Are controversial things more likely to be discussed? Further, do situational factors moderate this relationship, and if so, how? People engage in all types of conversations. They post anonymously on online discussion boards or have conversations on Facebook; they chat face-to-face with friends or converse with strangers. How might these different contextual factors impact the controversy-conversation relationship?

This paper explores how controversy impacts conversation. Using nearly 5,000 posts from an online discussion forum, as well as laboratory experiments, we examine (1) how controversy affects whether things are discussed, (2) how this relationship varies in different conversation contexts, and (3) the psychological processes underlying these effects.

The paper makes several contributions. First, on the theoretical side, we shed light on controversy as a driver of word-of-mouth. Our findings cast doubt on the assumption that controversial things are more likely to be discussed and show how contextual factors (e.g., identity disclosure and whether people are talking to friends or strangers) moderate the controversy-conversation relationship. Our findings also illustrate the underlying processes behind these effects, showing that controversy drives conversation through its dual impact on interest and discomfort. By examining these effects in both the field and the lab, we deepen our understanding of what leads people to talk and show the importance of these factors for real-world conversations.

Second, our research has important managerial implications. While marketers often use controversy in an attempt to drive conversation, we show when this may be an effective versus ineffective strategy. In particular, we show how different levels of controversy may be more or

less optimal depending on the conversation context. By understanding when, why, and how controversy affects conversation, the current work provides important insights to managers who hope to harness controversy to increase word-of-mouth.

WORD-OF-MOUTH

Word-of-mouth, and consumer conversations more broadly, have a huge impact on a host of downstream outcomes. What people talk about affects the diffusion of information (Gruhl et al. 2004) and propagation of tradition (Vansina 1985). It impacts the products consumers buy, the books they read, and the websites they join (Chevalier and Mayzlin 2006; Godes and Mayzlin 2009; Goldenberg et al. 2009; Leskovec, Adamic, and Huberman 2007; Trusov et al. 2009). It also affects which drugs doctors prescribe to patients (Iyengar et al. 2011) and even firms' stock prices (Tirunillai and Tellis 2012).

But while a significant amount of research has examined the consequences of word-of-mouth, there has been much less attention to its *causes*, or why people talk about one thing versus another. Research has only begun to look at how content characteristics (Berger and Milkman 2012; Berger and Schwartz 2011) or individual motives (Angelis et al. Forthcoming; Cheema and Kaikati 2010; Wojnicki and Godes 2012) drive conversation.

Take controversy. Controversial topics are usually characterized by opposing views that people care at least somewhat about. People may disagree about which hand soap smells the best, for example, but they probably would not see this issue as controversial because most people do not care very much about hand soap. Religion and sexuality, however, are often more controversial because differing opinions on these topics are much more strongly held.

Based on the notion that controversy makes things more likely to be discussed, many organizations have tried to stir up controversy in hopes of increasing buzz. People for the Ethical Treatment of Animals, for example, has a famous campaign around “I’d rather go naked than wear fur.” Dove recently designed a number of controversial ads around the theme of real beauty. However, no research has actually examined whether more controversy increases the likelihood things are discussed or considered when controversy might have negative effects on likelihood of being mentioned.

CONTROVERSY AND CONVERSATION

We suggest that the impact of controversy on whether something is discussed will depend on two countervailing forces. On the one hand, controversial things are more interesting and people like to talk about interesting topics. On the other hand, controversial things are often uncomfortable to talk about, which decreases people’s willingness to talk about them.

Controversial Topics are More Interesting

Esteemed late evolutionary biologist George C. Williams once noted that: “controversies is what really makes it interesting in biology” (Roes 1998). While controversy may not pique everyone’s interest so much as to warrant a lifetime of academic dedication, controversies nevertheless arouse some degree of interest in everyone. Conversations are relatively dull if everyone has the exact same opinion. But differences in opinions can liven things up and make

discussion more stimulating. There is even a whole Facebook group entitled “Controversy: It’s what makes life interesting.”

Not surprisingly, more interesting things are often more likely to be discussed (Berger and Milkman 2012; Heath, Bell, and Sternberg 2001). One reason people talk about things is to entertain themselves and others (Heath et al. 2001), and interesting things are simply more entertaining to talk about. Talking about interesting things also makes people look good to others. Just like the cars we drive or the clothes we wear, the things we say influence how others perceive us. As a result, self-enhancement goals influence what people talk about (Angelis et al. Forthcoming; Berger and Milkman 2012; Wojnicki and Godes 2012). Talking about interesting things rather than boring ones allows people to show that they themselves are interesting (Berger and Milkman 2012; Berger and Schwartz 2011).

Taken together, this suggests that interest drives controversy’s impact on likelihood of conversation. Controversial topics are more interesting to talk about, which, in turn, increases the chance that they will be discussed.

Controversial Topics Are Uncomfortable to Discuss

At the same time, however, controversial topics (and disagreements more generally) can be uncomfortable to talk about. Humans are social creatures who depend on others for survival (Aronson 2003; Latane 1981). Accordingly, people want to be socially accepted (Reiss 2004). People want to fit in, be liked, and be thought of favorably by others (Baumeister 1998; Goffman 1959; Swann Jr., Pelham, and Krull 1989). As a result, concerns about others often affect people’s behavior (Argo, White, and Dahl 2006; Ratner and Kahn 2002). Controversial topics

tend to draw polarizing, unyielding opinions. While someone may be pro-life, their neighbor may be pro-choice. While someone may be for tax cuts for the wealthy, their brother-in-law may be against them. Discussion of controversial topics fosters interpersonal conflicts that jeopardizes social acceptance (Buss 1990). Thus, controversial topics may be uncomfortable to talk about since people are averse to social rejection (Baumeister and Leary 1995).

Feelings of discomfort, in turn, should reduce people's willingness to talk. People often use affect as information, or as an input, to decision-making (Loewenstein et al. 2001; Schwarz 1990). Feelings elicited by a target informs decision making (Bechara et al. 1997; Schwarz 2011), where positive feelings of comfort induce approach tendencies while negative feelings of discomfort induce avoidance. In this case, the target is the conversation topic. Thus people are likely to avoid talking about things that make them feel uncomfortable.

Overall then, the effect of topic controversy on likelihood of discussion should also be driven by discomfort. Talking about controversial things is uncomfortable, which reduces the likelihood that they will be discussed.

THE MODERATING ROLE OF CONTEXT

If controversy increases interest, which increases the likelihood of discussion, and discomfort, which decreases the likelihood of discussion, then controversy's overall impact on likelihood of discussion should depend on the relative strength of these two underlying processes. We further test our underlying conceptualization by examining the moderating role of situational factors.

Conversations occur in different settings with different people. Sometimes people post anonymously online, while other times, they post while disclosing identity. Sometimes people talk to friends, while other times, they talk to strangers. If our theorizing is correct, then the moderating effects of these contextual factors on the controversy-conversation relationship should be driven by their impact on the relative strength of the two hypothesized processes.

More interesting topics are likely to remain interesting regardless of whether people's identity is disclosed and regardless of whether they are talking to friends or strangers. The role of discomfort, however, should depend more on the situation. If discomfort reflects concerns about social acceptance, as we suggest, then it should be a weaker driver of discussion when social acceptance concerns are less salient or less threatened by discussion of controversial issues.

One factor that should moderate social acceptance concerns is identity disclosure. In face-to-face settings, identity disclosure is inevitable since speakers can see one another. In online environments, however, people often talk without ever revealing any personal information (Perez-Pena 2010; Swidey 2010). Conversation participants can post to newsgroups or comment on many websites under assumed names, where there is no way for others to trace the comment back to the posters' true identity. Social acceptance concerns should be less salient in these anonymous online settings since there is no public "self" for the individual to manage (Goffman 1959; Ratner and Kahn 2002). As a result, discomfort related concerns should be a weaker driver of conversation when people are anonymous. Indeed, social critics have lamented that online forums where people's identity is not disclosed allow people to say nasty, repulsive things that they would not say if their identity was public (Perez-Pena 2010). Thus, discomfort should play a bigger role in driving what is discussed when people have to disclose identity than when they are anonymous.

Another factor that should moderate social acceptance concerns is whether people are talking to friends or strangers. People know their friends fairly well. Even if a friend says something offensive when discussing a controversial issue, it should not impact social acceptance much because our judgment of them is based on more than one conversation. In the case of strangers, however, or people we do not know as well, we do not have past history to buffer against current and future transgressions. In these cases, more is at stake in the current conversation since judgments should be based more heavily on the conversation at hand. Further, the fact that people know more about their friends allows them to better adjust what they talk about and how they talk about specific issues. Knowing that a friend is pro-life, for example, is likely to influence how one talks about one's own pro-choice views. Interpersonal knowledge thus affords people the ability to tailor what they say to ensure smooth conversation. Overall then, talking about controversial topics should be less threatening to social acceptance when talking to friends than strangers, and so discomfort should be a weaker driver of conversation when talking to friends.

THE CURRENT PROJECT

We test our theoretical framework using multiple methods. First, we examine the relationship between controversy and likelihood of discussion using almost 5,000 posts from a real online discussion forum (study 1). Next, we use lab experiments to more directly examine the causal impact of controversy on conversation (study 2) and to test the hypothesized mechanisms behind this effect (i.e., interest and discomfort, studies 3 and 4). By manipulating contextual factors such as identity disclosure (study 3) and conversation partner (friend vs.

stranger, study 4), we investigate how they moderate the controversy-conversation relationship through their impact on interest and discomfort.

STUDY 1: CONTROVERSY AND CONVERSATION IN THE FIELD

Our first study examines how controversy impacts likelihood of discussion in the field. We use a real online news website to look at how the amount of controversy an article evokes impacts the number of comments it receives.

Our analysis focuses on Topix.com, an online news website. This site covers a variety of news topics and people often post comments (though they do not have to disclose their identity when doing so). We chose this site for a number of reasons. First, unlike some content specific websites (e.g., sports blogs) Topix covers a wide range of topics from world news and politics to sports and entertainment. Second, drawing more than five million unique visitors (Topix Blog 2008) and over one hundred-thousand comments a day (<http://www.topix.com/topix/about>), Topix is one of the most popular online news destinations.

Third, and most importantly, the design of the Topix website allows us to avoid potential confounds due to article featuring. Most online news sites feature articles differentially based on their content. The New York Times, for example, puts certain articles at the top of its homepage and hides others behind a trail of links. Preferential featuring influences how much attention articles receive (Berger and Milkman 2012), which could also impact the number of comments they collect. Topix.com, however, does not have this issue. News stories are placed at the top of the page as they come in, which eliminates the possibility that controversial articles receive more comments merely because they are placed in more prominent places on the website.

Data and Coding

First, we collected data on all articles ($N = 208$) that appeared in the world news, US news, US politics, business, sports, and entertainment sections of topix.com over a two day period (January 24th-25th, 2011). The articles cover a wide range of topics (e.g., immigration policy, Google, and politics in Afghanistan).

Second, we coded how controversial each article was. We saved the article's text, gave two independent raters a definition of controversy (i.e., "the extent to which a topic allows for dispute, debate, and differing opinions"), and asked them to code how much controversy each article evoked (1 = not at all controversial, 7 = very controversial). Different coders' ratings were reasonably correlated ($r = .68$) and averaged to form a controversy score.

Third, we collected the number of comments each article received (our measure of conversation). Articles receive comments the day they are published, but some continue to accumulate comments in the days that follow. Observation indicated that new comments are unlikely to trickle in after the first couple weeks and so we recorded all comments each article received in the 15 days post release (4741 comments in total). The mean number of comments received per article was 22.79. The distribution of comments was highly skewed (Skewness = 3.90, Kurtosis = 18.67), and so we took the log for our analyses. A small number of articles had no comments, so because the log of 0 is undefined, we took the log of (number of comments + 1) to retain these articles in our analyses.

Because we hypothesized that controversy affects likelihood of discussion via two countervailing processes, we regress the number of comments both on controversy (linear) and

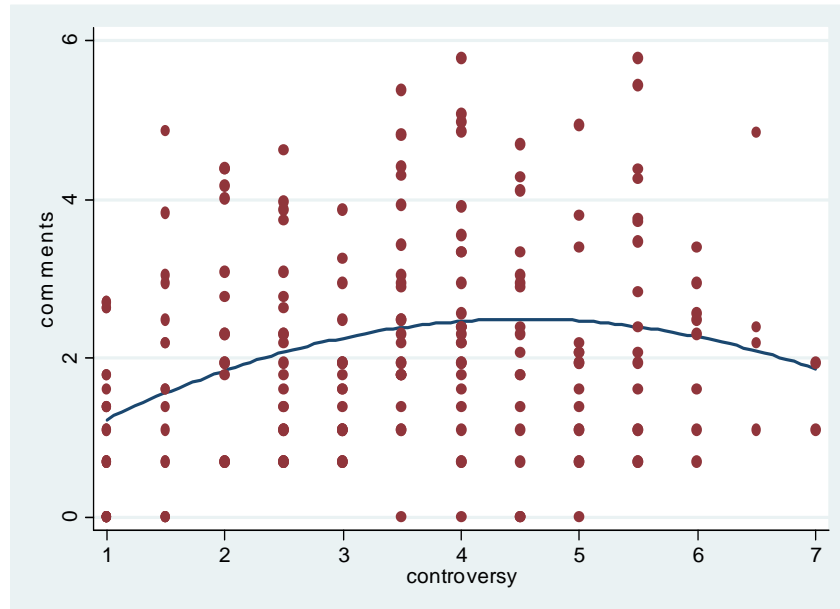
controversy-squared. This allows for potential non-linearities in the relationship between controversy and likelihood of discussion, which often occur in dual processes systems (e.g., inverted-U relationship between arousal and performance is driven by attention and worry, Matthews 2000).

Results

Results indicate an inverted-U relationship between controversy and conversation. While controversy has a positive linear effect on the number of comments an article receives ($\beta_{\text{controversy}} = .92$, $SE = .26$, $t(205) = 3.59$, $p < .01$), it also has a negative quadratic effect ($\beta_{\text{controversy}^2} = -.10$, $SE = .04$, $t(205) = -2.84$, $p < .01$). As shown in figure 1, low levels of controversy increase conversation. But past a certain point, additional controversy fails to increase (and even decreases) conversation.

The reversal is particularly noteworthy given the moderate level at which the effects of controversy start to reverse. While one might imagine that people avoid talking about extremely controversial things (e.g., partial-birth abortions), results indicate that additional controversy decreases conversation starting at a moderate levels of controversy. Taking the first derivative of our model and setting it to 0, we find that the inflection point at which addition controversy starts to decrease conversation is at 4.6, which is not far past the midpoint of our scale (4).

FIGURE 1
RELATIONSHIP BETWEEN CONTROVERSY AND CONVERSATION (STUDY 1)



Discussion

Analysis of a real news website reveals that, contrary to popular belief, controversy doesn't always increase discussion. While a move from low to moderate level of controversy increases the number of comments an article receives, additional increase in controversy decreases conversation. Further, the results show that this isn't simply driven by people not commenting on extremely controversial articles. Comments decrease even at a moderate level of controversy.

It is worth noting that our results persist even when we control for each article's general topic (e.g., US politics, business, sports) and length ($\beta_{\text{controversy}} = .67$, $SE = .27$, $t(197) = 2.45$, $p < .05$; $\beta_{\text{controversy}^2} = -.07$, $SE = .04$, $t(197) = -2.01$, $p < .05$) This casts doubt on the possibility that our results are driven by more people reading articles about certain topics (e.g., politics), which also happen to be more controversial. It also casts doubt on the notion that controversial articles

are somehow longer or shorter, and this, in turn, is what is driving the differential number of comments, rather than controversy itself.

Our results are also robust to data transformation and model selection. When we regress the untransformed comments data on controversy and controversy-squared using a negative binomial regression (Greene 2008) we find almost identical results. A positive linear effect of controversy ($\beta_{\text{controversy}} = 1.23$, $SE = .31$, $z = 3.99$, $p < .01$) and negative effect of controversy squared ($\beta_{\text{controversy}^2} = -.13$, $SE = .04$, $z = -3.15$, $p < .01$). This suggests that our findings are not due to the specific model form used.

So far, we examined how controversy relates to the number of comments an article receives. One might argue, however, that our results are not driven by increased likelihood of commenting but by more back and forth among a smaller number of posters. Ancillary results question this possibility. For a subset of articles, we counted the number of unique posters and regressed it on controversy and controversy-squared using a negative binomial regression. Results show that, like comments, the number of unique posters is related to controversy via an inverted U-relationship ($\beta_{\text{controversy}} = .66$, $SE = .31$, $z = 2.14$, $p < .05$; $\beta_{\text{controversy}^2} = -.08$, $SE = .04$, $z = -1.99$, $p < .05$). Thus while controversy may also impact the number of comments each person posts, something we discuss further in the general discussion, that does not appear to be driving the results observed here.

To more directly rule out this possibility though, and to more directly show the causal impact of controversy on likelihood of discussion, we turn to experiments. They allow us to cleanly manipulate the amount of controversy content evokes and measure the resulting impact on word-of-mouth. They also allow us to test the underlying processes behind these effects and how they are moderated by contextual factors.

STUDY 2: CONTROVERSY IN THE LAB

Study 2 uses a tightly controlled laboratory setting to test the causal impact of controversy on likelihood of discussion. By manipulating controversy and measuring its subsequent impact on word-of-mouth, we are able to directly examine the effects of controversy on conversation.

First, we used a pre-test to find a set of conversation topics that were related to the same overall domain, but varied in controversy. Then we exposed participants to one of these topics and examined how likely they would be to discuss it. We use a similar conversation context to the one examined in the field study to test whether the results are consistent with Study 1.

Methods

To generate a set of conversation topics that varied in controversy, we first chose one broad conversation topic (i.e., women's rights) and then listed relevant subtopics (e.g., right to abortion, right to own property, etc.). Pre-test participants ($N = 21$) rated these subtopics on controversy (1 = not at all controversial, 7 = very controversial). This allowed us to generate topics that vary in controversy but are similar in content. A repeated measures ANOVA yielded three suitable subtopics: women's right to own property (low controversy topic, $M_{\text{controversy}} = 1.29$), women's right to equal pay (moderate controversy topic, $M_{\text{controversy}} = 3.52$), and women's right to abortion (high controversy topic, $M_{\text{controversy}} = 6.38$; all pairwise comparisons significant at $p < .01$).

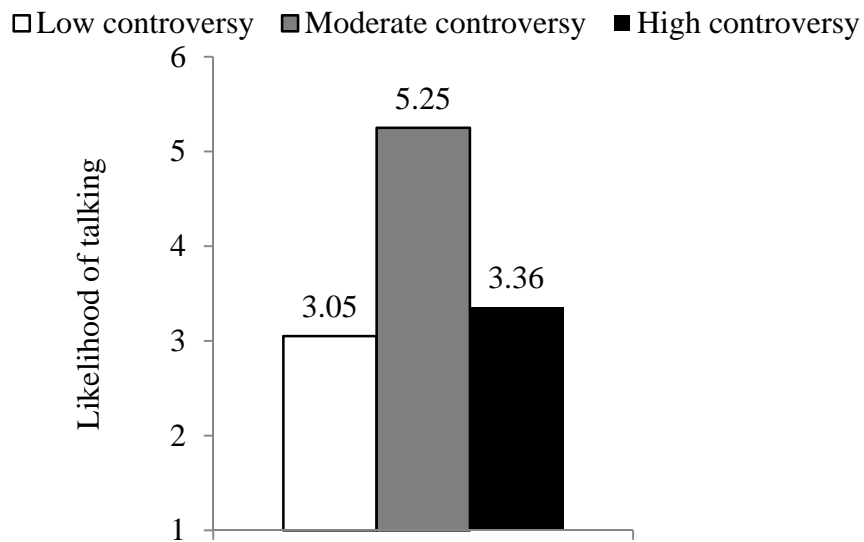
Sixty-three participants from an online pool participated in the main study for pay. To keep the conversation context similar to that of our field study, participants were asked to imagine having an anonymous online conversation with a group of strangers where everyone was using untraceable nicknames and that no one had any personal information about other people.

Participants were randomly assigned one of the three pretested subtopics (low, moderate, or high in controversy), and were asked how likely they would be to talk about the topic (1 = not at all likely, 7 = very likely) in the situation described.

Results

Results reveals that controversy significantly affects likelihood of discussion ($F(2, 60) = 7.37, p < .01$, see figure 2). Consistent with the findings of our field study, planned comparisons show that a moderate level of controversy increases likelihood of discussion ($M_{\text{moderate}} = 5.25$ vs. $M_{\text{low}} = 3.05, F(1, 60) = 12.63, p < .01$). Additional controversy, however, hurts likelihood of discussion ($M_{\text{high}} = 3.36$ vs. $M_{\text{moderate}} = 5.25, F(1, 60) = 9.45, p < .01$). There was no difference in likelihood of discussion between the low and high controversy topics ($M_{\text{low}} = 3.05$ vs. $M_{\text{high}} = 3.36, F < 1$).

FIGURE 2
EFFECTS OF CONTROVERSY ON LIKELIHOOD OF CONVERSATION (STUDY 2).



Discussion

Replicating the findings of our field study in an experimental context, the results of study 2 further illustrate that controversy does not always boost likelihood of conversation. While a moderate amount of controversy increases the likelihood of conversation, additional controversy actually decreases the likelihood of conversation. Showing these effects in an experimental context reaffirms the causal impact of controversy on likelihood of conversation.

Study 3 moves to test our hypothesized process and also examines the moderating role of identity disclosure.

STUDY 3: THE MODERATING ROLE OF DISCLOSURE

Study 3 has three main goals. First, to test the generalizability of our effects, we use a broader set of conversation topics. Rather than giving everyone one a set of pretested topics, participants generated the conversation topics themselves.

Second, we test the underlying processes behind these effects. We suggested that controversy drives conversation via two distinct, countervailing routes. Controversial topics are more interesting, which should increase the chance that they are discussed. At the same time though, controversial topics can be uncomfortable to talk about, which should decrease the likelihood that they are discussed. Thus, we measure each of these variables to test whether the overall effect of controversy on likelihood of discussion depends on the confluence of these two opposing mechanisms.

Third, we examine the moderating role of identity disclosure. While Topix and online platforms like Reuters and Gawker.com do not require identity disclosure, many websites are moving away from the anonymous model and are increasingly requiring identity disclosure (Perez-Pena 2010). The Wall Street Journal, for example, requires that posters provide real names. USA Today asks people to login to their Facebook account before commenting on content. How might such identity disclosure impact the relationship between controversy and conversation?

We suggest that the impact of disclosure will depend on how it affects our hypothesized underlying processes. As discussed previously, while disclosure should have little effect on how interesting the topic seems, it should increase the role of discomfort as a driver of conversation.

By manipulating whether people expect identity disclosure during a conversation, we test how disclosure impacts the controversy-conversation link, and the underlying role of discomfort.

Methods

One hundred and forty-six participants from an online pool participated in the study for pay. They were randomly assigned to a condition in a 2 (disclosure: identity not disclosed vs. identity disclosed) x 3 (controversy: low vs. moderate vs. high) between-subjects design.

First, participants generated topics of varying controversy levels. To ensure the topics were as similar as possible on other dimensions aside from controversy, participants first listed a broad topic that comes up in current events (e.g., “marriage”). They were then asked to list three subtopics under this broader topic, one that was low, moderate, and high in controversy (e.g., “heterosexual marriage”, “civil union”, and “homosexual marriage”). A pretest shows that this manipulation has its intended effects. Participants in the low controversy condition rated their subtopic as lower in controversy than participants in the moderate controversy condition who rated their subtopic as lower in controversy than participants in the high controversy condition ($M_{low} = 2.87$, $M_{moderate} = 5.13$, and $M_{high} = 6.21$, all pairwise comparisons significant at $p < .01$).

Participants then imagined having an online conversation with a group of strangers. In the identity not disclosed condition, participants were told that they were chatting anonymously using untraceable nicknames and that no one had any personal information about other people (as in study 2). In the identity disclosed condition, participants were told that they were chatting using real names that each person could find out more personal information about other people by looking at other people’s profiles. In both conditions, participants were randomly assigned to

one of the three subtopics they listed previously (either low, moderate, or high controversy), and were asked how likely they would be to talk about it (1 = not at all likely, 7 = very likely).

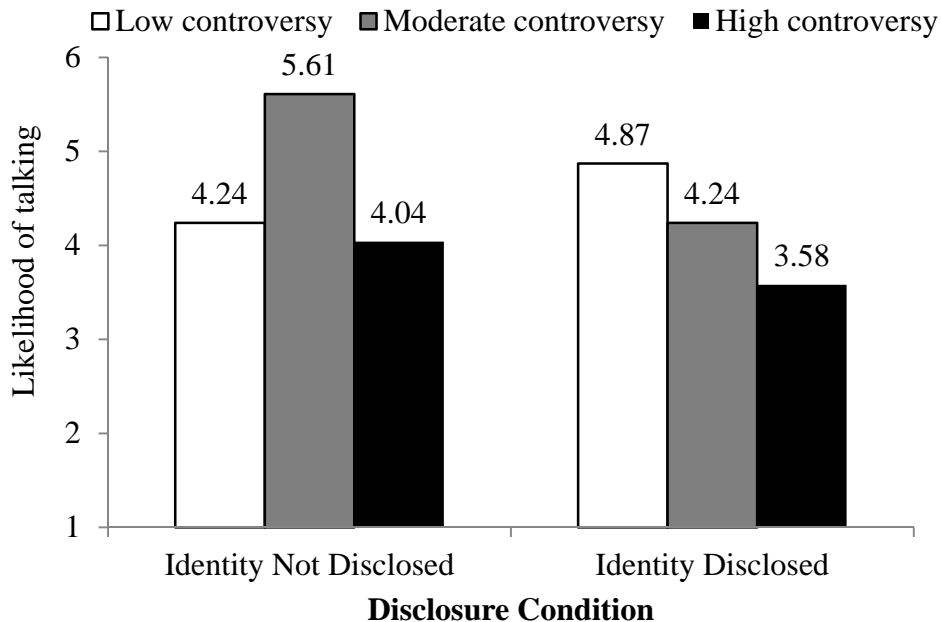
We also collected measures to test the hypothesized mechanisms. We asked participants to rate how interesting they found the subtopic (1 = not at all interesting, 7 = very interesting) and how comfortable they would feel talking about it in the condition described (1 = very uncomfortable, 7 = very comfortable, reverse coded as discomfort).

Results

How does disclosure affect the controversy-conversation relationship? Likelihood of discussion was analyzed using a 2(disclosure: identity not disclosed vs. identity disclosed) x 3(controversy: low vs. moderate vs. high) between-subjects ANOVA.

Results reveal a significant controversy \times disclosure condition interaction ($F(2,140) = 3.14, p < .05$, see figure 3).

FIGURE 3
EFFECT OF CONTROVERSY AND DISCLOSURE ON CONVERSATION (STUDY 3).



Consistent with the results of our first two studies, when identity was not disclosed, controversy has an inverted-U impact on likelihood of discussion ($F(2, 140) = 4.47, p = .01$). Moving from low to moderate levels of controversy increases likelihood of discussion ($M_{\text{low}} = 4.24$ vs. $M_{\text{moderate}} = 5.61, F(1, 140) = 5.87, p < .05$). Beyond that point, however, additional controversy actually decreases likelihood of discussion ($M_{\text{moderate}} = 5.61$ vs. $M_{\text{high}} = 4.04, F(1, 140) = 7.56, p < .01$). There was no difference in likelihood of discussion between the low and high controversy conditions ($M_{\text{low}} = 4.24$ vs. $M_{\text{high}} = 4.04, F < 1$).

When identity was disclosed, however, controversy marginally affected likelihood of discussion ($F(2, 140) = 2.68, p = .07$). While the differences between low and moderate ($M_{\text{low}} = 4.87$ vs. $M_{\text{moderate}} = 4.24, F(1, 140) = 1.12, p > .10$) and moderate and high controversy topics ($M_{\text{moderate}} = 4.24$ vs. $M_{\text{high}} = 3.58, F(1, 140) = 1.47, p > .23$) are not significant by themselves, people were significantly less likely to talk about high controversy topics than low controversy ones ($M_{\text{high}} = 3.58$ vs. $M_{\text{low}} = 4.87, F(1, 140) = 5.35, p < .05$).

Testing the underlying processes. To examine whether interest and discomfort are driving our results, we tested whether they jointly mediate the relationship between controversy and likelihood of discussion. We used biased-corrected bootstrapping ($n = 5000$, see Briggs 2006; Preacher and Hayes 2008 for a discussion on the advantages of this method) to generate 95% confidence intervals around these indirect effects (interest and discomfort), where successful mediation occurs if the confidence interval doesn't include zero (Hayes 2009; MacKinnon, Lockwood, and Williams 2004; Preacher, Rucker, and Hayes 2007)

Collapsing across disclosure conditions, we find that interesting (95% CIs: .04 to .36) and discomfort (95% CIs: -.63 to -.13) simultaneously mediate the relationship between controversy and conversation likelihood. As predicted, controversy increases interest ($\beta = .63$, $SE = .18$, $t(142) = 3.46$, $p < .01$) and interest increases likelihood of discussion ($\beta = .25$, $SE = .08$, $t(142) = 3.17$, $p < .01$). At the same time, however, controversy increases discomfort ($\beta = .70$, $SE = .18$, $t(142) = -3.81$, $p < .01$), and discomfort decreases conversation ($\beta = -.50$, $SE = .08$, $t(142) = 642$, $p < .01$). Thus while controversy increases conversation by making topics more interesting to talk about, it simultaneously decreases conversation by making people feel uncomfortable talking about these topics.

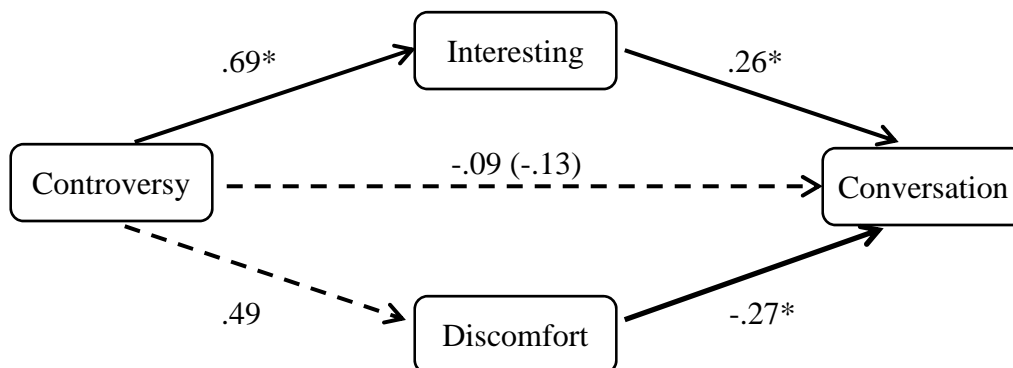
Understanding the effect of disclosure via underlying processes. Next, we examine why disclosure moderates the controversy-conversation relationship. In particular, we look at how disclosure impacts the underlying processes of interest and discomfort using two different tests.

First, we performed separate mediation analyses for the identity disclosed and identity not disclosed conditions, simultaneously testing interest and discomfort as mediators. For both conditions, the effect of controversy on likelihood of discussion via interesting is significant and positive (Identity Disclosed: 95% CIs: .03 to .44; Identity Not Disclosed: 95% CIs: .01 to .57).

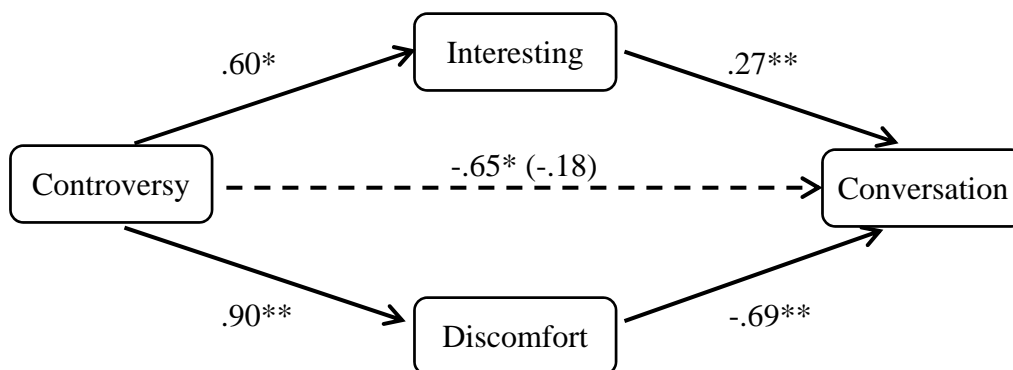
Discomfort, however, more strongly mediates the relationship between controversy and likelihood of discussion in the disclosure condition (Identity Disclosed: 95% CIs: -1.03, to -.28; Identity Not Disclosed: 95% CIs: -.53 to .03; see figure 4 for path coefficients). Consistent with our theorizing, this suggests that discomfort acts as a more significant driver of conversation when people have to disclose their identity.

FIGURE 4
MEDIATING ROLE OF INTEREST AND DISCOMFORT AND MODERATING ROLE OF IDENTITY DISCLOSURE (STUDY 3)

Identity Not Disclosed



Identity Disclosed



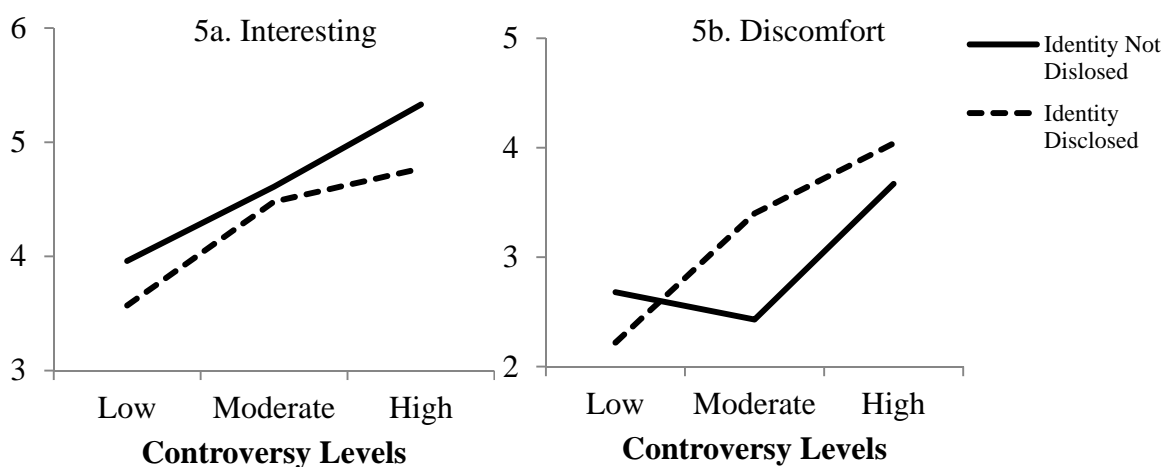
* indicates significance at 5%, ** indicates significance at 1%

Second, a moderated mediation (Preacher et al. 2007) over discomfort, with disclosure as moderator, yields similar results. Specifically, disclosure and discomfort interact to affect

conversation (disclosure coding: 0 = identity not disclosed, 1 = identity disclosed; $\beta = -.38$, $SE = .16$, $t(139) = 2.41$, $p < .05$). Conditional indirect effects show that discomfort matters in the identity disclosed condition (95% CIs: -1.08 to -.31) but not in the identity not disclosed condition (95% CIs: -.54 to .01). Again, discomfort plays a larger role in driving conversation when people have to disclose their identity.

Finally, further illustration of how interest and discomfort combine to drive conversation can be seen by looking at their relative values across different disclosure and controversy conditions (figure 5).

FIGURE 5
INTERESTING AND DISCOMFORT AS A FUNCTION OF CONTROVERSY AND DISCLOSURE CONDITION (STUDY 3)



When people do not reveal identity, a move from low to moderate level of controversy increases likelihood of discussion since interest increases (solid line in figure 5a) while discomfort fails to increase (solid line in figure 5b). However, likelihood of talking decreases as topics go from moderate to high in controversy because discomfort increases more than interest. When people disclose identity, however, controversy always increases discomfort more than interest (dotted lines). Moving from low to moderate controversy boosts interest by 0.91 and

discomfort by 1.18. Moving from moderate to high controversy boosts interest by 0.29 and discomfort by 0.64. As a result, the positive effects of interest is canceled out, and in this case overwhelmed, by the negative effects of discomfort.

Discussion

Study 3 extends the findings of studies 1 and 2 and provides deeper insight into the processes behind, and moderators of, the observed effects.

First, reinforcing the findings of studies 1 and 2, we find that in an online setting where identity is not disclosed, controversy has a curvilinear impact on likelihood of conversation. Controversy increases likelihood of conversation up until a moderate level of controversy, after which point additional controversy decreases conversation. Illustrating this effect across a variety of conversation topics speaks to the generalizability of this effect.

Second, we show that the effect of controversy on likelihood of discussion is moderated by identity disclosure. Moderate controversy only increases conversation when people do not have to reveal their identity. When people have to reveal identity however, controversy fails to increase, and actually decreases conversation.

Third, we demonstrate that two opposing underlying mechanisms, interest and discomfort, drive the effect of controversy on likelihood of discussion. When people do not have to disclose identity, controversy increases conversation by increasing interest. When people have to disclose their identity, however, controversy also has a negative impact on conversation by making people feel uncomfortable. This, in turn, counteracts the positive impact of controversy on likelihood of discussion via interest.

Ancillary analyses also rule out an alternative explanation. One could argue that these results are somehow driven by knowledge, rather than interest and discomfort. People might feel like they know more (or less) about more controversial topics, which in turn drives the effect of controversy on likelihood of conversation. This is not the case. We measured how much participants thought they knew about each subtopic and included it in the mediation analysis; this did not mediate the relationship between controversy and likelihood of discussion (95% CIs: -.01 to .12). Further, this explanation cannot explain why disclosure would moderate the effects of controversy on likelihood of discussion. People should know the same amount about topics regardless of whether their identity is disclosed or not and so this explanation alone cannot explain the interactive pattern of results.

STUDY 4: THE MODERATING ROLE OF CONVERSATION PARTNER

Study 4 further tests our framework by investigating a different contextual factor that should also affect the underlying discomfort process, namely conversation partner (i.e., friend or stranger).

As discussed previously, discomfort should play less of a role in driving controversy's impact on conversation when social acceptance is less likely to be jeopardized. Consequently, discomfort should play less of a role when talking friends versus strangers. As a result, controversy should have a more positive impact on conversation when talking to friends than strangers, since the former is mostly driven by interest whereas the latter is driven by both interest and discomfort.

Method

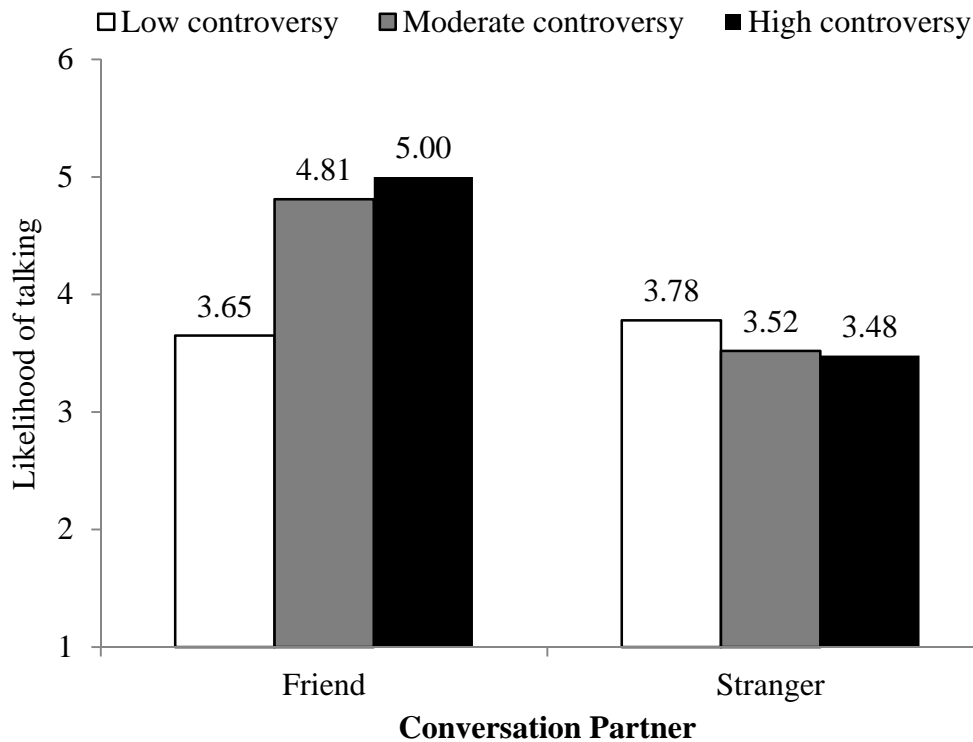
Forty-nine participants from an online pool completed the study for pay. Again, we first asked the participants to list a general topic and then three subtopics that varied in levels of controversy (low, moderate, and high).

Next, we manipulated conversation partner. We randomly assigned participants to imagine having a face-to-face conversation with either a friend (friend condition) or a stranger (stranger condition). With the scenario in mind, participants rated the likelihood of discussing each of the three subtopics, how interesting they found each subtopic to be, and how comfortable they would feel talking about each subtopic using the measures employed in study 3.

Results

How does conversation partner affect the controversy-conversation relationship? The data were analyzed using a mixed linear model with controversy level (low, moderate, vs. high) as the within-subject factor and conversation partner (friend vs. stranger) as the between-subject factor. Results revealed a significant controversy by conversation partner interaction ($F(2,94) = 3.48, p = .04$; see figure 6).

FIGURE 6
EFFECT OF CONTROVERSY AND PARTNER ON CONVERSATION (STUDY 4)



In the friend condition, controversy increases likelihood of discussion ($F(2, 94) = 4.94, p < .01$). A move from low to moderate levels of controversy significantly increases conversation likelihood ($M_{\text{low}} = 3.65$ vs. $M_{\text{moderate}} = 4.81, F(1, 94) = 6.21, p < .03$). Further increases in controversy did not yield any additional positive effect ($M_{\text{moderate}} = 4.81$ vs. $M_{\text{high}} = 5.00, F < 1$).

In the stranger condition, however, there was no effect of controversy on conversation ($F(2,94) = .22, p = .80$). People reported being equally likely to talk about low, moderate, and highly controversial topics ($M_{\text{low}} = 3.78, M_{\text{moderate}} = 3.52$ vs. $M_{\text{high}} = 3.48$, all pairwise comparisons insignificant at $p > .50$).

Testing the underlying processes: Once again we simultaneously test interesting and discomfort as indirect effects using biased-corrected bootstrapping ($n = 5000, 95\%$ confidence interval). Collapsing across partner conditions, results show that interest (95% CIs: .23 to .71)

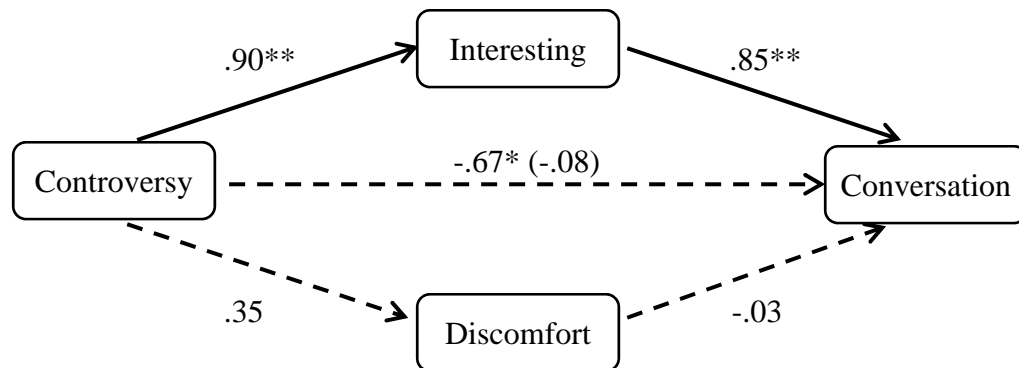
and discomfort (95% CIs: -.43 to -.08) simultaneously mediate the relationship between controversy and likelihood of discussion. As predicted, controversy increases interest ($\beta = .74$, $SE = .19$, $t(143) = 3.90$, $p < .01$) and interest increases likelihood of discussion ($\beta = .59$, $SE = .08$, $t(143) = 7.87$, $p < .01$). At the same time, however, controversy increases discomfort ($\beta = .63$, $SE = .21$, $t(143) = -3.03$, $p < .01$), and discomfort decreases likelihood of discussion ($\beta = -.35$, $SE = .07$, $t(143) = 5.02$, $p < .01$).

Understanding the effect of conversation partner via underlying processes. Next, to understand why conversation partner moderates the relationship between controversy and likelihood of discussion, we look at how partner affects the underlying processes.

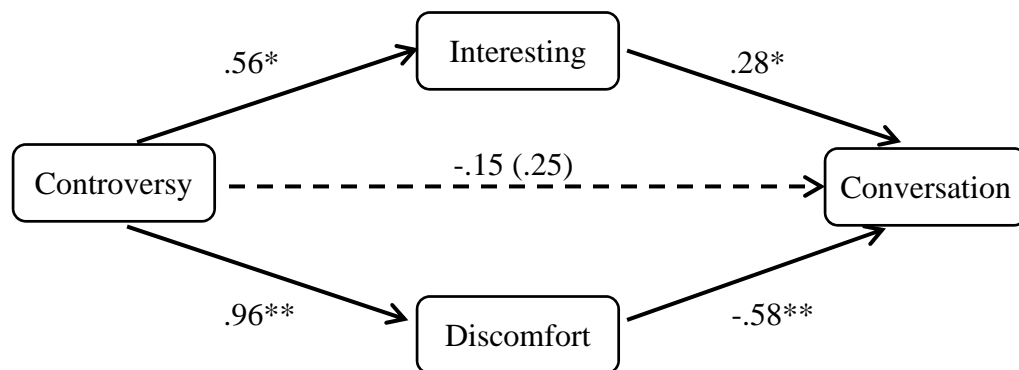
First, we performed separate mediation analyses for the friend and stranger conditions. For both conditions, the effect of controversy on likelihood of discussion via interest is significant and positive (Stranger: 95% CIs: .02 to .44; Friend: 95% CIs: .32 to 1.21). The mediating effect of discomfort, however, is only significant in the stranger condition (Stranger: 95% CIs: -.99 to -.21; Friend: 95% CIs: -.12 to .02; See figure 7 for path coefficients). This suggests that discomfort only acts as a significant driver of conversation when people are talking to strangers.

FIGURE 7
 HOW INTERESTINGNESS AND DISCOMFORT DRIVE THE CONTROVERSY-
 CONVERSATION RELATIONSHIP WHEN TALKING TO FRIENDS VS. STRANGERS
 (STUDY 4)

Friends



Strangers



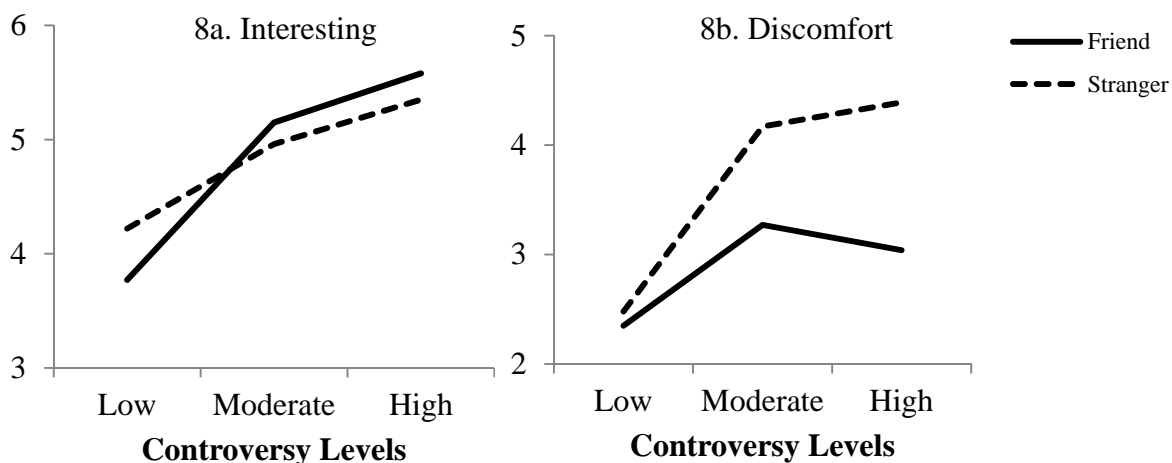
* indicates significance at 5%, ** indicates significance at 1%

We find similar results using a moderated mediation (Preacher et al. 2007) over discomfort, with conversation partner as moderator. Specifically, we find that partner and discomfort interact to affect likelihood of discussion (partner coding: 0 = stranger, 1 = friend; $\beta = .45$, $SE = .16$, $t(138) = -2.79$, $p < .01$). Conditional indirect effects show that discomfort matters in the stranger condition (95% CIs: -1.02 to -.21) but not in the friend condition (95% CIs: -.30 to .04). This provides further evidence that discomfort matters more when people are making talking decisions with strangers than friends.

Finally, further illustration of how interest and discomfort combine to drive likelihood of discussion can be seen by looking at their relative values across conditions (figure 8).

FIGURE 8

INTERESTING AND DISCOMFORT AS A FUNCTION OF CONTROVERSY AND PARTNER CONDITION (STUDY 4)



Interest increases with controversy for both types of conversation partners (figure 8a). But the effects of controversy on discomfort depend on whether people are talking to a friend or a stranger (figure 8b). A move from low to moderate controversy increases discomfort more when people are talking to strangers than friends. So while a move from low to moderate level of controversy increases likelihood of discussion for friends (since increases in interest eclipse that of discomfort) that same move actually fails to increase likelihood of conversation when talking to strangers (since the positive effect of controversy on likelihood of conversation via interest is canceled out by the negative effect via discomfort).

Discussion

Study 4 provides further support for our underlying conceptualization. First, we again show that controversy does not always increase the likelihood of conversation. Even in cases where controversy increases likelihood of conversation, it does so only up until a moderate level of controversy.

Second, supporting our theoretical framework, we show that the effect of controversy on likelihood of discussion depends on who someone is talking to. For friends, moderate levels of controversy increases likelihood of conversation. For strangers, even moderate levels of controversy fail to increase likelihood of conversation.

Third, the relationship between controversy and likelihood of conversation can again be understood in light of interest and discomfort. Further, this mediation is moderated by situational factors, where discomfort is a stronger driver of conversation when talking to strangers than friends. When people are talking to their friends, the effect of controversy on likelihood of conversation is driven primarily by interest, with discomfort yielding little effect. However, when people are talking to strangers, the positive effect of controversy on likelihood of conversation via interest is canceled out by its negative effect via discomfort.

GENERAL DISCUSSION

While the impact of WOM on consumer behavior is undisputable, less is known about how content characteristics drive conversation. This research examines how controversy affects conversation. While marketers and consumers believe that controversy increases conversation, is

this actually the case? Further, we test the moderating roles of important situational factors and the mediating roles of interest and discomfort in driving these effects.

A combination of field data and laboratory experiments question the assumption that more controversy always leads to more buzz. Data from a real online discussion forum (study 1) and results of a lab experiment (study 2) show that while moderate levels of controversy increases likelihood of conversation, additional increases in controversy actually decrease likelihood of conversation. Additional lab experiments (studies 3 and 4) generalize these findings to a reasonably broad range of circumstances (e.g., talking to friends or strangers and when identity is disclosed or not). High controversy never yield higher likelihood of conversation than moderate controversy, and in some cases, even moderate levels of controversy are enough to decrease likelihood of conversation.

Our results also shed light on the underlying mechanisms behind these effects. Consistent with our theorizing, controversial issues are often more interesting, which makes people more inclined to talk about them. At the same time, however, controversy can decrease conversation by increasing discomfort. Consequently, how controversy impacts people's decision to talk in a particular context depends on the confluence of these two factors.

Further, we show that contextual factors such as identity disclosure and conversation partner that impact the relative strength of these two mediating processes have corresponding impacts on likelihood of discussion (studies 3 and 4). When social acceptance is less of a concern, as when people are granted anonymity (identity not disclosed condition, study 3), or when social acceptance is less threatened because the conversation partner knows the speaker decently well (friend condition, study 4), discomfort becomes a less important driver of

conversation. In these cases, the relationship between controversy and conversation tend to be more positive since it is driven primarily by interest.

Implications

These findings have important implications for managing word-of-mouth marketing campaigns. First they suggest that if the goal is to generate consumer to consumer word-of-mouth, marketers should shy away from campaigns that are above a moderate level of controversy. While it is intuitive that people avoid talking about topics that are extremely controversial (e.g., partial-birth abortions), we find that conversation tapers even at a moderate level of controversy. Firms might thus benefit from using ad campaigns that are moderate, at most, in controversy. For example, People for the Ethical Treatment of Animals (PETA) is likely to have fared better with their somewhat controversial “I’d Rather Go Naked Than Wear Fur” campaign than with their highly controversial “Holocaust on Your Plate” campaign (CNN 2003). High controversy may indirectly increase WOM, however, by generating negative publicity (Berger, Sorensen, and Rasmussen 2010).

Second, depending on the desired word-of-mouth channel and audience, different levels of controversy may be more or less effective. If marketers want to encourage online discussion, for example, then more controversy may be more tolerated in comparison to offline environments where identities are more likely to be disclosed. Similarly, while spreading information to strong ties (i.e., friends) is useful, spreading information to weaker ties (i.e., acquaintances) is more likely to help it diffuse throughout a social network (Granovetter 1973).

Consequently, less controversial campaigns may be more ideal if face-to-face word of mouth to weaker ties is desired.

Third, marketers could facilitate the spread of controversial content by assuaging social acceptance concerns. Recently, the thread “*What extremely controversial thing(s) do you honestly believe, but don’t talk about to avoid the argument?*” garnered thirteen-thousand responses within five hours and brought down the popular social news website Reddit.com (Read 2011). By making it social acceptable to talk about offensive issues, this question provided a safe haven for the spread of controversial content.

Future Research

There are a number of interesting questions for future research. While we examined *whether* people talk about controversies, a worthwhile next step would be to explore *how* people talk about controversies. We found that controversies are less likely to be discussed, but if people do start discussing them, will they have longer conversations than if they were talking about less controversial issues? Also, once people decide to talk about controversial topics, how do they steer and manage these conversations? Do they speak less strongly than they would otherwise? Similarly, do people talk about controversies the same way when they are with friends versus strangers? One possibility is that people might be more willing to take one side of a controversial issue when talking to friends, but remain agnostic when talking to strangers. Also, how will identity disclosure affect what people say online? People might speak more passionately about a controversial issue when they can hide behind an alias than when they have to disclose identity.

Research might also examine how the expectation of a response affects the sharing of controversial content. Sometimes people share things with the expectation that others will respond (e.g., an email), while other times people share information without necessarily expecting a response (e.g., blogging). Are people more or less likely to talk about controversies when others can't reply? One possible prediction is that controversy increases posting more in these one-sided environments due to the lack of negative feedback. However, the opposite might also occur. Since there is no feedback mechanism, there is no way for the message sender to know, and thus correct, if his message has been misinterpreted. Because what people say reflects who they are, people may refrain from talking about controversies in this one-sided environment since miscommunicating one's viewpoint on controversial issues may result in miscommunication of identity.

The current paper provides the first empirical look into the impact of controversy on likelihood of conversation. Disconfirming widely held beliefs that more controversy means more buzz, we show that increases in controversy doesn't necessarily translate to increases in likelihood of conversation. An understanding of how psychological mechanisms affect people's decision to talk about controversies can help marketers and politicians better prepare for future controversial campaigns.

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