



# Disclosures About Disclosures: Can Conflict of Interest Warnings be Made More Effective?

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People regularly rely on advisors who have conflicts of interest. The law often requires advisors to disclose these conflicts. Despite these disclosures, people generally insufficiently discount conflicted advice. This might be partly due to people interpreting the very fact that the advisor is disclosing a conflict of interest as a sign that the advisor is trustworthy, undermining the purpose and effectiveness of the disclosure. This article presents the results of an experiment indicating that requiring advisors to also disclose that they are legally required to disclose their conflict of interest makes people discount their advice more. This occurs, at least in part, because such advisors are viewed as less trustworthy than advisors who merely disclose their conflict of interest without also stating that the disclosure is legally required.

## I. INTRODUCTION

People regularly rely on advisors who have conflicts of interest. The most common policy approach to this problem is to require the advisors to disclose these conflicts. Despite these disclosures, however, advisees still insufficiently discount advice given by advisors with conflicts of interest. Thus it is important to determine if the disclosures can be made more effective.

Much of the rationale behind these disclosure requirements is that disclosure of the advisor's conflict will make advisees more skeptical of the advice. However, the very act of disclosure might be interpreted by some advisees as an act of honesty. In other words, they might view the fact that the advisor is disclosing the conflict of interest as evidence that the advisor is trustworthy. This could undermine the purpose and effectiveness of the disclosure.

This article presents a controlled experiment investigating whether requiring mandated disclosures of conflicts of interest to also state that the disclosures are legally required

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would make them more effective. It tests whether this information would make people less likely to attribute the disclosure to the advisor's trustworthiness, and thus less trusting of the advisor.

Participants in the experiment read a version of an email from an independent insurance agent (the advisor) discussing two identical auto insurance policies, each from a different insurance company. In the email, the agent recommended one of the policies, allegedly because that insurance company provides better customer service. Versions of the agent's email differed in whether they also disclosed that the insurance agent receives a higher commission on the recommended policy, and in whether they stated that this disclosure was required by law. After reading the email, participants stated which policy they would be more likely to buy, the strength of their preference, and how trustworthy they consider the agent.

Consistent with prior studies, we find evidence that advisees discount advisors' advice if the advisors disclose their conflicts of interest. In addition, however, we find that advisees discount the advice even more if the disclosure also states that the disclosure is required by law. This greater discounting appears to occur, at least in part, because advisors who disclose that the disclosure is legally required are perceived as less trustworthy. This suggests that requiring conflict of interest disclosures to also state that the disclosures are legally required will make the disclosures less likely to be perceived as acts of trustworthiness, thus making the disclosures more effective.

The next two sections of this article present brief background information. Section II discusses why advisees generally insufficiently account for bias created by advisors' conflicts of interest, even when the conflicts are disclosed. Section III explains why requiring advisors to state also that mandated disclosures of the conflicts are legally required might be more effective. Section IV presents the experiment that we used to test the effect of mandating that advisors inform advisees that a disclosure of a conflict of interest is legally required. Section V discusses the experiment's findings and their implications for laws requiring disclosure of conflicts of interest.

## II. PEOPLE INSUFFICIENTLY DISCOUNT ADVICE FOR CONFLICTS OF INTEREST

A conflict of interest exists when a person's self-interest conflicts with his or her professional obligations. Advisors' conflicts of interest can skew the advice they give, possibly harming those who naively follow the advice. For example, substantial evidence exists that sell-side securities analysts who work for companies that also provide investment banking services give overly optimistic recommendations of particular companies' stock to help secure investment banking business from those companies (see Fisch 2007). Similarly, medical researchers with financial relationships with pharmaceutical companies are more likely to report research results favorable to those companies than are other medical researchers (Angell 2000; DeAngelis 2011).

The most common policy approach to conflicts of interest is to require their disclosure (Cain et al. 2011). Disclosure's popularity stems in part from its being less intrusive

than other approaches. Advisors with a conflict of interest generally prefer merely disclosing the conflict to reducing or eliminating it (Cain et al. 2005). Also, some advisors and policymakers likely support disclosure because they believe it largely shifts to advisees the responsibility for avoiding harm from the conflict of interest. Because disclosure informs advisees of the conflict, it is more difficult for the advisees to claim that they were misled by the conflicted advice (Cain et al. 2005).

A primary rationale behind disclosure requirements is that people who receive the disclosure will be skeptical of—and thus discount—the advice. Indeed, many studies have demonstrated that people discount advice when informed that the advisor has a conflict of interest (Cain et al. 2005, 2011; Church & Kuang 2009; Robertson 2011; Sah et al. 2013a). However, these studies also generally show that people fail to *sufficiently* discount the advice even when the conflict is disclosed (Cain et al. 2005, 2011; Church & Kuang 2009; Robertson 2011). In other words, disclosure causes advisees to discount the advice, but generally not enough to completely offset the distortion of the advice caused by the conflict.<sup>1</sup>

There are several possible reasons why even people who actually read a conflict disclosure would insufficiently discount the advice. First, generally people erroneously believe that the danger posed by a conflict of interest is corruption, that is, that advisors might “consciously and intentionally misrepresent their advice for personal gain” (Cain et al. 2005). In reality, however, the bias created by conflicts of interest often occurs because of unintentional and unconscious motivational processes (Moore & Loewenstein 2004). In other words, conflicts of interest often affect advisors’ behavior in ways the advisors neither intend nor are even aware of. Many advisees fail to consider this unconscious bias and thus likely underestimate the conflict’s effect. They believe that their advisors are not corrupt and thus erroneously believe that the conflict of interest is not problematic.

Second, even people who believe that their own advisor’s conflict is problematic likely will still be overly influenced by the conflicted advice. Because it is difficult to know how much to discount conflicted advice, some advisees might fail to discount it at all (Silverman et al. 2010). In addition, even advisees who try to ignore conflicted advice will likely fail to do so. Because of anchoring effects, people’s judgments are affected by information they receive, even if they know that the information is unreliable or irrelevant and should be ignored (Strack & Mussweiler 1997; Tversky & Kahneman 1974).

Another reason that people might insufficiently respond to conflict disclosures is the focus of this article: the very act of disclosure could be interpreted as a sign of the advisor’s trustworthiness. This interpretation would undermine the purpose and effectiveness of the disclosure. Attribution theory in the social psychology literature provides insight into why this might occur.

Attribution theory deals with how people use information to explain causes of events. When someone (an observer) observes someone else (an actor) behaving a certain way, the observer can attribute the actor’s behavior to different possible causes. Dispositional

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<sup>1</sup>There is evidence that not all conflicts of interest cause advisors to distort their advice. For example, there is some evidence that owning a particular stock does not bias the recommendations and forecasts of securities analysts regarding the stock (Johnston 2013). In such circumstances, it is not desirable for advisees to discount the advice they are given.

attribution occurs if the observer attributes the actor's behavior to the actor's internal dispositions, such as the actor's personality, attitudes, or beliefs. Situational attribution occurs if the observer instead attributes the actor's behavior to external factors (i.e., the actor's situation) (Gilbert & Malone 1995). For example, imagine that a person arrives late for a meeting. Observers who engage in dispositional attribution might assume that he is late because he is irresponsible and unable to manage his time. Observers who engage in situational attribution might instead assume that he got stuck in traffic.

Similarly, observers can differ in how they interpret an advisor's disclosure of a conflict of interest. Observers who engage in situational attribution might assume that the advisor disclosed the conflict because the advisor was legally required to do so. Observers who engage in dispositional attribution might instead assume that the advisor disclosed the conflict because the advisor is trustworthy.

Extensive research has demonstrated that people generally exhibit a correspondence bias: they underestimate the power of situations to explain behavior (Gilbert & Malone 1995). In other words, in explaining the causes of an actor's behavior, observers generally attribute too much influence to the actor's disposition and too little influence to the actor's situation. Thus, many people likely at least partly interpret conflict of interest disclosures as being signs of the disclosers' trustworthiness.

A dispositional attribution of a conflict disclosure is especially problematic. As discussed above, people erroneously believe the primary problem caused by a conflict of interest is corruption, rather than unconscious bias. Thus, if advisees interpret the advisor's act of disclosure as an act of trustworthiness, they could view the advisor as less likely to be corrupt and thus less likely to succumb to the conflict of interest. This would undermine the purpose of the disclosure: to make advisees wary of the advice.

There is evidence that this should be a concern. Research has shown that being forthcoming about bad news can increase one's credibility. For example, managers of publicly-traded companies sometimes warn investors that the company will report disappointing financial results in the near future. A study found that securities analysts judge these managers to have more integrity than do managers who do not provide such warnings (Libby & Tan 1999). Similarly, another study found that in the short term, investors view these managers as having higher reporting credibility (i.e., trustworthiness and competence in financial reporting) (Mercer 2005).

In summary, there is reason to believe that disclosing a conflict of interest can be viewed as a sign of the advisor's trustworthiness. This interpretation can undermine the purpose of the disclosure, making the disclosure less effective. In the next section of this article, we discuss why requiring mandated disclosures of conflicts of interest to also state that the disclosures are legally required might reduce this perverse effect.

### III. EFFECT OF DISCLOSING THAT A CONFLICT DISCLOSURE IS LEGALLY REQUIRED

In this article, we test whether having advisors disclose that they are required to disclose a conflict of interest will make advisees trust the advisors less. There is reason to believe that this will be effective.

As discussed above, dispositional attribution occurs if an observer attributes an actor's behavior to the actor's internal dispositions; situational attribution occurs if the observer attributes the actor's behavior to external factors. Attribution theory predicts that observers are more likely to make situational attributions—and less likely to make dispositional attributions—if external factors that might explain the actor's behavior are apparent (Jones & Davis 1965; Mercer 2005).

Having conflict of interest disclosures also state that the disclosures are legally required makes apparent such an external factor. It informs advisees that the advisor is required to disclose the conflict of interest. This provides new information to advisees who did not know that the disclosure was required. Also, it makes this legal requirement more salient to advisees who already knew that the disclosure was required. Thus, advisees should be less likely to attribute the act of disclosure to the advisor's disposition (i.e., trustworthiness) and more likely to attribute it to the advisor's situation (i.e., being legally required to disclose the conflict). In this article, we conduct an experiment to test whether this occurs.

The only somewhat similar research of which we are aware is a recent, unpublished paper by Sah and colleagues (2013b) examining how disclosure of doctors' conflicts of interests affect patients' trust in the doctors. They found that participants who were informed by the doctor of a conflict of interest had less trust in the doctor's recommendation, were less likely to believe that the doctor had their best interests at heart, were less likely to continue to see the doctor in the future, and were less likely to follow the doctor's advice. However, they also found that first notifying participants that "your doctor will tell you about a conflict of interest because he is required to do so by law" did not have an additional effect.

Our experiment differs from that in some important ways. First, that study sought to understand participants' reactions to disclosures of *doctors'* conflict of interests. People might react very differently, however, to disclosure of other advisors' conflicts of interests. Previous research indicates that the doctor-patient relationship is special. In general, people have great trust in their doctor, and few people can imagine that their doctor would be affected by a conflict of interest (Hall 2002). In addition, unlike trust of many other advisors, trust in a doctor generally is not a calculative trust, but instead is an emotive trust, that is, trust that is based on the patient's feelings generated by the level of care and concern that the doctor demonstrates. Thus, because patients "resist calculative methods for evaluating physician trustworthiness, it may be difficult to use legal tools to influence trust in marginal ways. Indirect mechanisms to influence trust in the relationship are far more likely to be ignored in favor of feelings about the relationship itself" (Hill & O'Hara 2006).

People might especially react differently to information that a doctor's disclosure—rather than another advisor's disclosure—is required by the government. People trust their doctors much more than the government (Gallup, Inc. 2012; Gerber et al. 2014), and thus they might attach little importance to the fact that the government is requiring the disclosure. In addition, many people are wary of government interference in the doctor-patient relationship (Barron 2011). A mandatory disclosure might be perceived as such an interference. In summary, there is reason to suspect that people react differently to doctors' conflict disclosures—and to information that the doctor's disclosure is legally required—than they do to other advisors' conflict disclosures. In the current article, therefore, we use

a scenario involving an independent insurance agent giving advice to a client. Although there might be unique characteristics in this relationship as well, we believe it is more likely than the special doctor-patient relationship to be generalizable to other domains.

Another difference in our studies is the medium of disclosure. In Sah et al.'s (2013b) doctor experiment, the disclosure of the conflict of interest was given via a voice recording rather than in writing. An audio disclosure might lead to a nearer social distance between an advisor and advisee that could affect how the advisee responds to the disclosure. For example, Sah et al. (2013a) found that disclosures of conflicts of interest in face-to-face settings can make advisees feel compelled to follow the distrusted advice.

## IV. EXPERIMENT

### A. Overview

This article presents the results of a randomized, controlled experiment testing whether informing consumers that a disclosure of a conflict of interest is legally required would make the disclosure more effective. Participants read a version of an email from an independent insurance agent discussing two identical auto insurance policies, each from a different insurance company. The agent's email recommended one of the company's policies, allegedly because—in the agent's opinion—that insurance company provides better customer service. After reading the email, participants were asked which policy they would be more likely to purchase, the strength of their preference, and their evaluation of the agent's trustworthiness. Versions of the agent's email differed in whether they disclosed that the agent received a higher commission from the recommended policy and in whether they disclosed that the agent was legally required to make that disclosure.

We hypothesize that requiring the agent to also state that the disclosure of the agent's conflict of interest is legally required will cause people to be less likely to follow the agent's advice. Our experiment directly tests this hypothesis. Also, we examine whether the relationship between disclosure of the agent's conflict of interest and participants' insurance purchase decisions is mediated by participants' perceptions of the agent's trustworthiness. Prior research has shown that people are more influenced by the advice of advisors they trust (Sniezek & Van Swol 2001).

### B. Method

#### 1. Participants

A total of 503 adults located in the United States participated in the experiment. Fifty-six percent of the participants were male. Participants ranged in age from 18 to 70, with an average age of 33. They were recruited via Amazon's Mechanical Turk, and received \$1 each for their participation.<sup>2</sup> All participants completed the experiment online and on the

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<sup>2</sup>This amount is substantially more than Mechanical Turk participants typically receive for surveys of this size. However, prior research has found that the compensation level does not affect the quality of the data obtained from

same day. Before participating, participants were informed that their participation was voluntary and that their individual responses would remain anonymous.

## 2. Procedure

All participants were blinded to the purposes of the study<sup>3</sup> and presented the same scenario. They were told to imagine that they have moved to another state and are looking to buy insurance for their car, so they meet with a nearby independent insurance agent to help them decide which insurance policy to buy. Participants were informed that “[b]ecause independent insurance agents do not work for a particular insurance company, they might be able to recommend whichever insurance company’s policy is best for you.” The next day, the agent sends them an email stating that the agent found two insurance policies from two different fictional insurance companies—Alpha Company and Beta Company—that meet the participant’s needs. Although the policies are identical (i.e., they have the same coverage limits and deductibles) and cost the same, the agent recommends the Alpha Company policy because “in my opinion . . . Alpha Company provides better customer service than does Beta Company.” The agent’s email concludes by asking which policy the participant prefers.

Participants were randomly assigned to receive one of five versions of the email from the insurance agent.<sup>4</sup> The experiment has a 2 (Conflict of Interest: Yes, No) × 2 (Disclosure: Standard, Mandatory) full factorial, between-participants design, with one control condition. In the CONFLICT OF INTEREST conditions, the insurance agent has a conflict of interest: the agent receives a 21 percent commission from Alpha Company (i.e., the recommended company) and only a 9 percent commission from Beta Company. In the NO CONFLICT OF INTEREST conditions, the agent receives a 15 percent commission from both insurance companies. In the STANDARD DISCLOSURE conditions, the agent’s email discloses the commissions the agent would receive, but does not indicate whether the agent is required to disclose them. In the MANDATORY DISCLOSURE conditions, the agent’s email discloses the commissions the agent would receive, and also states that this disclosure is legally required. Specifically, in the CONFLICT OF INTEREST WITH STANDARD DISCLOSURE condition, the agent’s email states:

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Mechanical Turk. Also, higher compensation has been found to speed data collection (i.e., participant recruitment) and it addresses ethical concerns regarding the low compensation that Mechanical Turk participants usually receive (Buhrmester et al. 2011; Mason & Suri 2012).

<sup>3</sup>The recruiting material merely asked participants to “[a]nswer a 10–15 minute survey for an academic study of how people make decisions.”

<sup>4</sup>The survey program that we used randomly assigned each participant to a particular experimental condition. This randomization appears to have been successful. Across the experimental conditions, there were no significant differences in any of the demographics of the participants. In addition, there was a significant correlation between only one dependent variable (perceived trustworthiness of agent) and one demographic variable (quality of participant’s prior experiences with insurance companies’ customer service departments). Also, an additional 34 participants voluntarily dropped out of the experiment before completing it, but there was no significant relationship between the experimental condition to which they were assigned and their likelihood of dropping out.

Also, in fairness, you should know that I will receive a 21% commission from Alpha Company if you buy the Alpha Company policy and I will receive a 9% commission from Beta Company if you buy the Beta Company policy.

In the NO CONFLICT OF INTEREST WITH STANDARD DISCLOSURE condition, the agent's email states:

Also, in fairness, you should know that I will receive a 15% commission from Alpha Company if you buy the Alpha Company policy and I will receive a 15% commission from Beta Company if you buy the Beta Company policy.

In the CONFLICT OF INTEREST WITH MANDATORY DISCLOSURE condition, the agent's email states:

Also, state law requires that I tell you that I will receive a 21% commission from Alpha Company if you buy the Alpha Company policy and I will receive a 9% commission from Beta Company if you buy the Beta Company policy.

In the NO CONFLICT OF INTEREST WITH MANDATORY DISCLOSURE condition, the agent's email states:

Also, state law requires that I tell you that I will receive a 15% commission from Alpha Company if you buy the Alpha Company policy and I will receive a 15% commission from Beta Company if you buy the Beta Company policy.

In addition to these four experimental conditions, there is one control condition (the NO DISCLOSURE condition). In the NO DISCLOSURE condition, the agent's email lacks any disclosure of the agent's commissions.

We chose this scenario for the experiment because it presented a possible real-life scenario in which people might suspect—but would not be sure—that the advisor was required to give the disclosure. In the absence of a law specifying the exact wording of the disclosure, advisors would have some discretion in how to phrase it. We chose the wording of the standard disclosure (“in fairness, you should know that I will receive . . .”) because it is a way that a real agent is likely to try to soften the impact of a mandatory disclosure of commissions. By citing concern about “fairness,” the agent might try to appear more trustworthy without explicitly falsely claiming that the disclosure is voluntary. Indeed, participants in the STANDARD DISCLOSURE conditions were unsure whether the agent was required to disclose the commissions, while participants in the MANDATORY DISCLOSURE conditions understood that the disclosure was legally required. Near the end of the experiment, participants were asked: “Do you believe that the agent voluntarily stated the commissions that (s)he would receive or that (s)he was required to state them?” They answered this question on a scale with endpoints labeled “(S)he definitely VOLUNTARILY disclosed the commissions” (1.0) and “(S)he definitely was REQUIRED to disclose the commissions” (7.0). Participants in the STANDARD DISCLOSURE conditions reported a mean response of 4.38 ( $SD = 1.77$ ), whereas participants in the MANDATORY DISCLOSURE conditions reported a mean response of 6.10 ( $SD = 1.57$ ),  $F(1, 380) = 99.86$ ,  $p < 0.001$ ,  $\eta^2 = 0.21$ .

Although it is possible to test a clearly voluntary disclosure, its wording would be awkward and unrealistic, for example: “Although I am not required to tell you this, you should know that I will receive . . .” In addition, for public policy purposes, the important question is not whether people respond differently to a disclosure that is voluntary than to a disclosure that is mandatory; rather, the question is whether people respond differently to a mandatory disclosure that states that the disclosure is required than to a mandatory disclosure that does not state this. Thus, in our experiment, the standard disclosure did not state whether the disclosure was required, but the mandatory disclosure did so.

### 3. Dependent Variables

After reading a version of the agent’s email, participants answered a series of questions. First, they were asked which insurance policy they would be more likely to purchase:

If you had to purchase one of the two insurance policies discussed by the agent, which would you choose?

In this article, we refer to the insurance policy that the agent recommended as the “Recommended” policy, and the other policy as the “Unrecommended” policy.

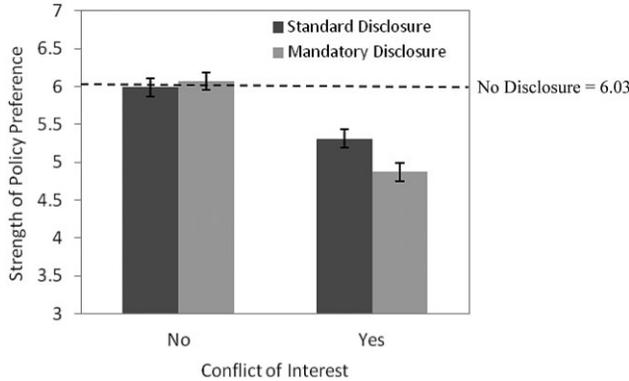
To measure the strength of their preferences, participants were next asked: “How strongly do you prefer the insurance policy you chose?” They responded on a scale with endpoints labeled “Not at All Strongly” (1.0) and “Extremely Strongly” (7.0) in increments of 0.1. To create a single, more meaningful scale that would differentiate participants who chose the Recommended policy from those who chose the Unrecommended policy, we transformed their responses to this question ( $X$ ) into a new variable that had the value of “ $4 + [(X - 1)/2]$ ” if participants chose the Recommended policy and “ $4 - [(X - 1)/2]$ ” if participants chose the Unrecommended policy. This transformation created a new variable that ranged from 1.00 (“Extremely strongly prefer the Unrecommended policy”) to 7.00 (“Extremely strongly prefer the Recommended policy”) in increments of 0.05.

Participants were also asked: “How trustworthy do you believe the insurance agent is?” They responded on a scale with endpoints labeled “Very Untrustworthy” (1.0) and “Very Trustworthy” (7.0) in increments of 0.1. After answering these questions, participants answered a number of demographic and manipulation-check questions.

### 4. Results

As described above, participants’ insurance policy preferences could range from 1 (“Extremely strongly prefer the Unrecommended policy”) to 7 (“Extremely strongly prefer the Recommended policy”). Participants in the NO DISCLOSURE control condition strongly preferred the Recommended policy ( $M = 6.03$ ,  $SD = 0.82$ ). This confirmed our expectations because the two policies are identical, cost the same, and the agent claims that the Recommended company provides better customer service. In the absence of disclosure of the agent’s conflict of interest, there is no reason for participants not to follow the agent’s advice. This control condition provides an important baseline: if participants show less

Figure 1: Mean strength of participants' insurance policy preferences by experimental condition.



NOTE: Figure 1 reports participants' mean level of strength of preference for the insurance policies in each experimental condition. The strength-of-preference scale ranges from 1.0 (Extremely Strong Preference for Unrecommended Policy) to 7.0 (Extremely Strong Preference for Recommended Policy). The experimental conditions vary in two dimensions. The first dimension is whether the insurance agent has a conflict of interest in recommending the Recommended policy over the Unrecommended policy because the Recommended policy pays a higher commission. The second dimension is whether and how the agent discloses the commissions on the two policies. In the STANDARD DISCLOSURE conditions, the agent discloses the commissions without saying whether the disclosure is legally required. In the MANDATORY DISCLOSURE conditions the agent discloses the commissions and states that the disclosure is legally required. In the NO DISCLOSURE condition the agent does not disclose the commissions.

preference for the Recommended policy in any of the four disclosure conditions, it suggests that the disclosure is influencing product preferences in that condition.

Figure 1 displays the mean of this strength-of-preference variable for each of the four disclosure conditions. We first conducted a one-way ANOVA (No Disclosure vs. No Conflict of Interest with Standard Disclosure vs. No Conflict of Interest with Mandatory Disclosure) with the strength of preference as the dependent variable. This analysis shows that, in the absence of a conflict of interest, the disclosures do not significantly change participants' preferences,  $F(2, 297) = 0.26, p = 0.77$ .

Next, we conducted a 2 (Conflict of Interest: No vs. Yes)  $\times$  2 (Disclosure: Standard vs. Mandatory) two-way ANOVA with the strength of preference as the dependent variable. This analysis shows a statistically significant main effect of Conflict of Interest,  $F(1, 400) = 63.55, p < 0.001, \eta^2 = 0.14$ ; the Recommended policy was less strongly preferred when there was a conflict of interest ( $M = 5.09, SD = 1.49$ ) than in its absence ( $M = 6.03, SD = 0.77$ ). In addition, although not statistically significant, the Recommended policy was slightly more preferred when the standard disclosure ( $M = 5.65, SD = 1.16$ ) rather than the mandatory disclosure was given ( $M = 5.47, SD = 1.38$ ),  $F(1, 400) = 2.35, p = 0.12, \eta^2 = 0.01$ .

However, these effects were qualified by a significant Conflict of Interest  $\times$  Disclosure interaction,  $F(1, 400) = 4.88, p = 0.03, \eta^2 = 0.01$ . To examine this interaction further, we computed pairwise contrasts. This analysis showed that when there was no conflict of interest, the type of disclosure caused no difference in strength of preference,  $t(400) = -0.48, p = 0.64$ . However, when a conflict of interest was present, participants in the STANDARD DISCLOSURE condition reported a significantly stronger preference for the

Recommended policy than did participants in the MANDATORY DISCLOSURE condition,  $t(400) = 2.65$ ,  $p < 0.01$ . From another angle, among participants given the standard disclosure, preference for the Recommended policy was stronger when there was no conflict of interest than when there was one,  $t(400) = 4.06$ ,  $p < 0.001$ . The same pattern was found for participants given the mandatory disclosure, but to an even greater degree,  $t(400) = 7.22$ ,  $p < 0.001$ .

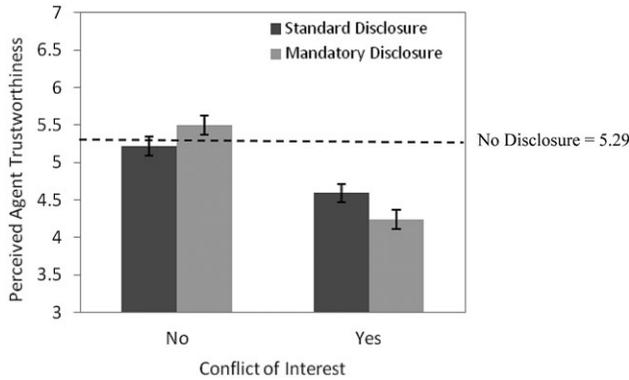
In this article, we use as the primary dependent variable a strength-of-preference variable rather than the binary-choice variable (i.e., which insurance policy each participant preferred, without regard to the strength of this preference). Because it has many more possible values, the strength-of-preference variable is more sensitive to changes in preferences caused by the disclosures. In addition, the binary-choice variable does not afford sufficient variation for our subsequent tests of moderating and mediating of the relationship between the preference and manipulated variables. Nevertheless, using the binary-choice variable instead yields similar results and conclusions because it is highly correlated with the strength-of-preference variable,  $r(501) = 0.82$ ,  $p < 0.001$ . In particular, a  $2$  (Conflict of Interest: No vs. Yes)  $\times 2$  (Disclosure: Standard vs. Mandatory)  $\times 2$  (Choice: Recommended policy vs. Unrecommended policy)  $\chi^2$  test of independence produces a significant three-way interaction,  $\chi^2(1) = 4.26$ ,  $p = 0.03$ . In the absence of a conflict of interest, almost all participants chose the Recommended policy whether given the mandatory disclosure (98.0 percent) or the standard disclosure (99.0 percent). However, when there was a conflict of interest, fewer participants chose the Recommended policy when given the mandatory disclosure (78.2 percent) than when given the standard disclosure (89.2 percent).

In addition to being statistically significant, the effect of the mandatory disclosure appears substantial. As just noted, in the presence of a conflict of interest, about twice as many participants preferred the Unrecommended policy when presented the mandatory disclosure (21.8 percent) as when presented the standard disclosure (10.8 percent). The effect on the strength-of-preference variable was less dramatic. For agents with a conflict of interest, the mandatory disclosure changed preferences to 4.87 from 5.31 on that six-point scale.

We hypothesized that people would be less likely to follow advice after the disclosure of a conflict of interest if the advisor also disclosed that the disclosure was legally required. Our theory was that informing people that the disclosure was required would make them view the advisor as less trustworthy. Thus we also examined the effect of the disclosures on participants' perceptions of the insurance agent's trustworthiness.

Recall that we asked participants "How trustworthy do you believe the insurance agent is?" They responded on a scale with endpoints labeled "Very Untrustworthy" (1.0) and "Very Trustworthy" (7.0) in increments of 0.1. Participants in the NO DISCLOSURE control condition generally trusted the agent ( $M = 5.29$ ,  $SD = 0.94$ ). Figure 2 displays the mean responses for each of the four disclosure conditions. We conducted a one-way ANOVA (No Disclosure vs. No Conflict of Interest with Standard Disclosure vs. No Conflict of Interest with Mandatory Disclosure) with the insurance agent's perceived trustworthiness as the dependent variable. This analysis shows that in the absence of a conflict of interest, the disclosures do not significantly change participants' perceptions of the agent's trustworthiness  $F(2, 297) = 2.04$ ,  $p = 0.13$ .

Figure 2: Mean perceived trustworthiness of insurance agent by experimental condition.



NOTE: Figure 2 presents the mean level of participants' perception of the trustworthiness of the insurance agent in each experimental condition. The trustworthiness scale ranges from 1.0 (Very Untrustworthy) to 7.0 (Very Trustworthy).

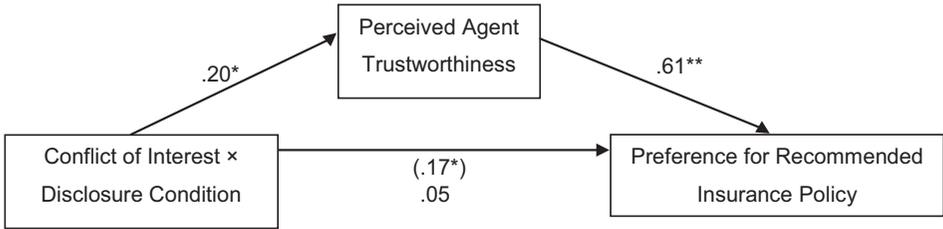
We also conducted a 2 (Conflict of Interest: No vs. Yes)  $\times$  2 (Disclosure: Standard vs. Mandatory) two-way ANOVA with the insurance agent's perceived trustworthiness as the dependent variable. That analysis shows no significant main effect of Disclosure,  $F(1, 400) = 0.08$ ,  $p = 0.78$ , but does show a statistically significant main effect of Conflict of Interest,  $F(1, 400) = 57.11$ ,  $p < 0.001$ ,  $\eta^2 = 0.13$ . Participants perceived the insurance agent as less trustworthy when there was a conflict of interest ( $M = 4.42$ ,  $SD = 1.43$ ) than when there was no conflict of interest ( $M = 5.35$ ,  $SD = 1.06$ ).

This main effect was qualified by a statistically significant Conflict of Interest  $\times$  Disclosure interaction,  $F(1, 400) = 6.41$ ,  $p = 0.02$ ,  $\eta^2 = 0.02$ . Pairwise contrast analysis shows that when there was no conflict of interest, participants' perceptions of the agent's trustworthiness were not significantly affected by the type of disclosure,  $t(400) = -1.58$ ,  $p = 0.11$ . However, when a conflict of interest was present, an agent who provided the mandatory disclosure was viewed as significantly less trustworthy than one who provided the standard disclosure,  $t(400) = 2.00$ ,  $p = 0.04$ . From another angle, participants exposed to the standard disclosure perceived significantly greater agent trustworthiness when there was no conflict of interest than when there was,  $t(400) = 3.54$ ,  $p < 0.001$ . Again, the same pattern was found for participants exposed to the mandatory disclosure, but to an even greater degree,  $t(400) = 7.15$ ,  $p < 0.001$ .

The previous analysis suggests that disclosure of the agent's conflict of interest reduces the agent's perceived trustworthiness. To test whether differences across experimental conditions in participants' insurance policy preferences were due to differences in participants' perceptions of the agent's trustworthiness, we conducted a mediated moderation analysis.

Mediated moderation, as described by Muller and colleagues (2005; see also Wegener & Fabrigar 2000), occurs when distal variables interact to influence a mediator variable, with that mediator directly carrying the effects of the interacting variables to the dependent measure. Parallel Conflict of Interest  $\times$  Disclosure interactions on perceived

Figure 3: Meditated moderation analysis.



NOTE: Figure 3 reports the results of a mediated moderation analysis showing that the relationship between the experimental conditions and the strength of participants' preference for the recommended insurance policy is mediated by participants' perceptions of the insurance agent's trustworthiness. The values reported are the standardized regression (path) coefficients ( $\beta$ ). \* $p < 0.05$ ; \*\* $p < 0.001$ .

agent trustworthiness and insurance policy preferences are consistent with perceived agent trustworthiness mediating the Conflict of Interest  $\times$  Disclosure interaction on insurance policy preferences. This type of mediated moderation would be reflected in the observed Conflict of Interest  $\times$  Disclosure interaction on perceived agent trustworthiness, coupled with a direct relationship between perceived agent trustworthiness and insurance policy preferences.

Muller et al. (2005) specified a set of hierarchical regression analyses (see also Wegener & Fabrigar 2000) in which the interaction term (controlling for the main effects) is used as the initial predictor. The most conventional and efficient way to conduct this analysis involves a bootstrap procedure that constructs bias-corrected confidence intervals based on 5,000 random samples with replacement from the full sample, as recommended by methodologists and statisticians (Preacher & Hayes 2004, 2008). This method tests whether the size of an indirect effect differs significantly from zero.

As described earlier, we obtained a significant Conflict of Interest  $\times$  Disclosure interaction on perceived agent trustworthiness and insurance policy preferences. We computed a regression analysis including the effects of all the distal predictors on the criterion (insurance policy preferences) as reported in the previous ANOVA results and on the mediator (perceived agent trustworthiness). The size of the indirect effect was 0.37 ( $SE = 0.14$ ), and the 95 percent confidence interval excluded zero, 95 percent CI [0.10, 0.65]. Thus, perceived agent trustworthiness significantly mediated the relationship between the Conflict of Interest  $\times$  Disclosure interaction and insurance policy preferences (see Figure 3).

These results suggest that disclosure of the agent's conflict of interest reduces the perceived trustworthiness of the agent, which in turn reduces people's willingness to follow the agent's advice. This indicates that the mandatory disclosure is more effective than the standard disclosure at least in part because it makes the agent appear less trustworthy.

## V. DISCUSSION AND CONCLUSION

People regularly rely on advisors who have conflicts of interest. The most common regulatory approach to dealing with these conflicts of interest is to require their disclosure.

However, the very act of disclosure can undermine the purpose and effectiveness of the disclosure. Because of people's tendency to overattribute actions to the actor's disposition, many people are likely to view the disclosure as a sign of the advisor's trustworthiness. This article finds evidence that also requiring the advisor to disclose that the disclosure is legally required can reduce this problem. It might be important for laws to require disclosure not only of the conflict of interest but also of the motivation for the disclosure.

Before discussing the implications of these findings, some limitations of the experiment should be noted. Ecological validity issues must be considered in any controlled experiment. Here, participants made insurance purchase decisions after reading only the email from the agent. They did not have access to any additional information about the insurance companies. Indeed, we chose to use two hypothetical insurance companies in the experiment partly because we did not want participants' experiences with, or impressions of, particular actual insurance companies to influence their decisions. Because participants' decisions were based solely on the supplied information, and because the two policies were otherwise identical, participants might have given more weight to the agent's recommendation and/or conflict of interest than they would have if they possessed additional information about the insurance companies or if the policies differed in other ways as well.

Furthermore, the experiment's results might overestimate the effect of disclosing a conflict of interest for two additional reasons. First, participants were given a scenario in which they had no prior relationship with the agent; they were instructed to imagine that they had moved to a new state and visited a nearby insurance agent. To the extent that people have prior experience with a particular agent, however, they might be more trusting despite disclosure of a conflict of interest. In addition, the agent's emails in our experiment were brief. As a result, the conflict of interest disclosure probably was more likely to have been read by participants than would an actual disclosure tucked into a longer document provided by the agent.

Despite these limitations, the experiment's findings indicate that requiring advisors who are making a mandatory disclosure of a conflict to also disclose that the disclosure is legally required might be a useful public policy tool. Much previous research has demonstrated that people do not sufficiently discount advice for conflicts of interest, even when these conflicts are required to be disclosed. The current study finds that adding just a few words ("state law requires that I tell you . . .") to a conflict of interest disclosure can make it substantially more effective.

Before such a requirement is adopted in a particular domain, however, obtaining other information is necessary. For example, it should be determined whether advisees are already sufficiently discounting the advice for the conflict of interest. For example, as noted above, there is evidence that not all conflicts of interest cause advisors to distort their advice (Johnston 2013). In addition, even if the conflict is distorting the advice, advisees may be sufficiently discounting the advice already. In such circumstances, a stronger disclosure is unnecessary and could harm advisees if it causes them to overdiscount the advice.

Future research should also examine whether the stronger disclosure tested in this article is likely to affect the advisor's behavior as well. There is evidence that advisors might alter their advice if forced to disclose a conflict of interest (Cain et al. 2005, 2011). Because

the advisee has been warned of the conflict, the advisor might feel morally licensed to exaggerate the advice. Similarly, an advisor who believes that a disclosure might cause the advisee to discount the advice might exaggerate the advice to offset the discounting. Thus, if advisors believe that the stronger disclosure will cause people to discount their advice more, then they might distort their advice even more in response. In other words, advisors might strategically exaggerate their advice to offset the greater discounting. If advisees fail to account for such exaggeration, this stronger disclosure could make them worse off.

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