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# The impact of information from similar or different advisors on judgment

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#### ABSTRACT

People rely on others' advice to make judgments on a daily basis. In three studies, we examine the differential impacts of similarity between the source of that advice and the person making the judgment in two settings: judging others' behavior and judging one's own actions. We find that similarity interacts with the target of the judgment. In particular, information received from a different advisor is more heavily weighed than from a similar advisor in judging others' actions, but information from a similar advisor is more heavily weighed than from a different advisor in judging one's own. We provide two potential explanations for this interaction, difficulty of the judgment and informativeness of the advice. Our analyses show a moderated mediating role of informativeness and difficulty in the relationship between the advisor's similarity by judgment type interaction and advice use.

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Advice is like snow; the softer it falls, the longer it dwells upon, and deeper it sinks into the mind.

- Samuel Taylor Coleridge

When making a judgment, we often look to others for advice (e.g., Bandura & Jourden, 1989; Sims & Manz, 1982). This is true especially when the judgment is one with no clearly correct answer (Brockner et al., 1984). Once the advice is gathered, we weigh others' opinions with our own in order to come to our final judgment. For example, in health care settings, patients or their families consult experts' opinions for specific treatment recommendations and for information on others' behavior when facing similar medical decisions (Zola, 1973). And accountants seek the advice of their colleagues, superiors or subordinates when performing audit tasks and seek information on peers' behavior when dealing with similar requests from clients (Emby & Gibbins, 1988; Kennedy, Kleinmuntz, & Peecher, 1997).

In these and many other examples, the potential advisors (experts, friends or even strangers) vary along many dimensions. One of them is the similarity between the advisor and the advisee—on dimensions such as gender, race or age—as perceived by the advisee. Do these perceptions of similarity matter? Do they affect how much the advice is used?

There is certainly suggestive evidence in favor of this hypothesis. As research has shown, we like people who are similar to us

(Cialdini & Trost, 1998) and we are more inclined to comply with a request if we like the person making it (Cialdini, 2001). Despite the empirical evidence on the power of similarity in many areas of decision making, however, there is no previous research on the conditions under which people might value the opinion of different others more heavily than the opinion of similar others, nor is there a body of theory on why that might be the case.

The present work speaks to both issues. We report three studies that investigated the impact of advice from *similar* or *different* advisors on judgments involving either *others' actions* or *one's own actions*. The first study was a national phone survey experiment, while the second and third studies were conducted in a laboratory setting. In the studies, we were interested in understanding when advice would most heavily influence the judgments made by our participants.

# **Background and hypotheses**

**Terminology** 

Before presenting our hypotheses and the motivation behind them, we define the terms used in this paper. The majority of laboratory studies on advice taking employ a paradigm called Judge-Advisor System (JAS; Sniezek & Buckley, 1995; Sniezek & Van Swol, 2001). In a JAS, the Judge is the person making the final decision, but before committing to it, she is exposed to advice from one or more Advisors. Judges and Advisors share an interest in the decision or judgment they face. Prior work in the JAS literature has

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used either "choice" or "judgment" tasks (Bonaccio & Dalal, 2006). In the first case, judges choose among several alternatives that are qualitative in nature. In the second case, judges provide quantitative estimates. Experiments employing choice tasks operationalize advice as a recommendation from the advisor in favor of a particular option; advice is thus expressed in the form of "Choose Option ×" (e.g., Sniezek & Buckley, 1995). In contrast, studies using judgment tasks operationalize advice as another participant's estimate (e.g., Gino & Schweitzer, in press; Yaniv, 2004). In these tasks, the participant in the role of advisor is either equally informed as the advice-recipient on the judgment at hand (e.g., Gino & Moore, 2007) or has some expertise (e.g., Sniezek & Van Swol, 2001).

Another feature that varies across JAS studies is how the advice is provided to judges. In the traditional JAS, advice is imposed on decision makers. In other studies, advice is provided at the request of the decision maker (e.g., Gardner & Berry, 1995; Gino & Moore, 2007: Study 2). As in several previous JAS experiments employing judgment tasks, participants received advice in the form of a quantitative estimate in our studies. In particular, across the three studies, advice from an expert advisor was offered to participants by default. Thus, our studies employed judgment tasks, expert advisors and advice offered to participants by default.

# Similarity

Our first dimension in the three experiments is the similarity between the judge and the advisor. Although previous research has speculated about its importance, this question has not previously been examined. For example, Hovland, Janis, and Kelley (1953) stated:

An individual is likely to feel that persons with status, values, interests, and needs similar to his own see things as he does and judge them from the same point of view. Because of this, their assertions about matters of which the individual is ignorant about but where he feels the viewpoint makes a difference (...) will tend to carry special credibility. (p. 22)

Prior research has shown that similarity positively affects liking, for example, by increasing attraction (Byrne, 1971). Despite folk theories that opposites attract, empirical evidence has consistently shown that similarity breeds attraction and liking in interpersonal relationships (see Sunnafrank, 1983, for a review). Liking has been associated with similarity across a wide range of dimensions, including personality traits (Buss, 1984), attitudes (Byrne, 1971), physical characteristics (Berscheid, Dion, Walster, & Walster, 1971), and self-concept descriptions (LaPrelle, Hoyle, Insko, & Bernthal, 1990).

Related studies have found that liking is a positive force toward compliance (Cialdini, 2001; Heider, 1958). Demonstrations of the positive relationship between our liking of a person and the likelihood of us complying with his request are plentiful in the social influence literature (Cialdini et al., 1998). For instance, physical attractiveness, which robustly predicts interpersonal liking, has been shown to positively affect compliance across a variety of domains, including tip earnings (Lynn & Simons, 2000) or ID identifications in bars (McCall, 1997). Prior research has also shown that source similarity affects compliance to a request. In one of these studies, as described in Burger, Messian, Patel, del Prado, and Anderson (2004), participants were led to believe that their personality scores were either similar to or different from those of a confederate. Participants who shared personality scores with the confederate were more likely to comply with his request than participants with dissimilar scores. Even incidental similarities, such as having the same birthday, being born in the same state or having the same first name, have been found to increase compliance (Burger et al., 2004).

It is important to notice that compliance, while related, is not identical with incorporating the liked person's advice into one's own judgments. Indeed, compliance indicates a specific type of response (i.e., acquiescence) to a specific type of communication (a request). In addition, in compliance situations, the target recognizes that she is being urged to fulfill the request in a desired way (Cialdini & Goldstein, 2004). In contrast, in the case of advice taking, a person is facing a decision or judgment and is left with the option of choosing whether (and how much) to use the advice-received from others. Advisors do not make requests but only offer their opinions to judges.

The literature on compliance and social influence is thus suggestive (but not conclusive) of a positive relationship between similarity and the impact of advice on the target's judgment. The literature on social comparison also suggests but does not demonstrate this positive relationship. When evaluating our personal opinions about verifiable facts (i.e., our "beliefs" as suggested by Suls, Martin, & Wheeler, 2002), we compare our beliefs with those of others who share similar attributes to ourselves, such as background, gender, religion, politics or general world views (Suls & Wheeler, 2000). In fact, although we often base our beliefs on those of experts, our trust in expert opinions can be overridden when an expert does not have these attributes in common with us (Suls, Martin, & Wheeler, 2000). Thus, we hypothesize that:

**Hypothesis 1.** Individuals will assign a higher weight to advice provided by similar others than to advice from different others.

# Judgment type

The second dimension of our studies compares judgments made about others' actions and one's own future/hypothetical actions. For instance, "Among people who donate money to charities and nonprofit organizations, what do you think is the average contribution per month?" and "How many trips outside the US do you think the average American takes across their entire life?" are examples of judgments about others' action. In contrast, "If you did donate money to charities and nonprofit organizations, how much would you contribute per month?" and "How many trips outside the US do you think you will take across your entire life?" are examples of judgments about one's own hypothetical or future actions.

In making judgments involving one's own actions, people may not use the same strategies they use when judging others' actions. Self-information should be readily available, as people are the resident "experts" on their own behavior. As prior research suggests, people have better information about themselves than they do about others (Moore & Small, 2007; Pronin, Lin, & Ross, 2002; Ross & Sicoly, 1979) and self-knowledge is more mentally accessible than knowledge about others (Markus, 1977); this information might overwhelm advice from others.

Thus, people should know where they stand without having to rely on advice from others to make judgments about their own future/hypothetical actions. As a result, they might be more willing to listen to advice when judging others' action than when judging their own. Thus, we hypothesize that:

**Hypothesis 2.** When asked questions about their own behavior, individuals will weigh advice from others less than when asked questions about others' behavior.

### Interaction of similarity and judgment type

Some previous work also suggests we may find an interaction effect between these two dimensions. Social comparison theory suggests that, when evaluating our beliefs, we compare them

to those of others (Festinger, 1954). Prior research has shown that the effect of social comparison is moderated by similarity (Mussweiler, 2001, 2003). This similarity can be fairly arbitrary; even apparently irrelevant factors, such as people's belief that they share the same birthday with the comparison other (Brown, Novick, & Kelley, 1992), affect social comparison processes (Mussweiler, 2003).

Depending on how similar people think the advisors are to the other whose behavior they are judging, we may see different patterns in how people use advice. In particular, when people make judgments about themselves, their future/hypothetical self is more similar to their actual self (and thus more similar to a similar advisor), than to a different advisor. In contrast, when people make judgments about other people, different than themselves, these targets are more similar to a different advisor than to an advisor similar to themselves. This reasoning leads us to the following hypothesis:

**Hypothesis 3.** When asked questions about their own behavior, people will weigh information from similar advisors more than dissimilar advisors. However, when asked questions about others' behavior, people will weigh information from dissimilar advisors more than similar advisors.

# **Experiment 1**

This first study is concerned with how the similarity between a participant (in the role of advice-recipient and judgment-maker) and an expert advisor impacts the judgments about one's own behavior and others' behavior. We use a 2 (similarity: similar vs. different advisors) × 2 (judgment type: judgments of one's own behavior vs. judgments of others' behavior) design. The first factor is between-subjects, so each participant receives advice from either a similar or a different advisor. The second factor is within-subjects, so each participant makes judgments both about others' behavior and about their own future/hypothetical behavior. We use this design to test our three hypotheses above.

### Method

# Design

We conducted a national phone survey experiment. Participants were randomly assigned to one of two experimental conditions, with 74 participants in the similar advisor condition and 64 participants in the different advisor condition. Similarity was created by matching the participant's profile on the dimension of gender, geographical region, education, political affiliation, and age with that of the hypothetical advisor.

### Experimental implementation

The experiment was divided into two phases, each including two blocks of questions (four judgments of others' behavior and four judgments of one's own). The order of these blocks of questions was counterbalanced and, within each block, the order in which the four judgments were presented was randomized. The content of the judgment was the same for questions about one's own behavior and questions about others' behavior. In Phase I, participants formed judgments on their own, i.e., without any advice. In Phase II, another party was described as an expert, either similar or different from the participant, and they advised the participant on the appropriate judgment. Participants then formed a second judgment for the same eight questions (Appendix A lists all the questions used in the survey). Our dependent variable of interest will be derived from the differences between the first and second judgment formed, described in the Dependent Variable subsection below.

More specifically, at the beginning of Phase II, the interviewer told participants, "I will now ask you to answer the same series of questions. Yet, this time you will be given an answer from a randomly selected expert. Her name is Mary [His name is Tom]." Then, when asked for a judgment, participants were told what the advisor suggested. For example, for question 1 the interviewer said: "Among people who donate money to NPR or a local public radio station, what do you think is the average contribution per month? Mary [Tom] states the monthly contribution is 10 dollars."

The similarity manipulation influenced the description of the other party in Phase II, based on the profile of the participant. Participants randomly assigned to the similar condition received a description of Mary [Tom] with features similar to their own profile, including gender, geographical region, education, political affiliation and age. For instance, consider a participant who is a white female person working for pay, born in 1975, who lived on the West Coast for most of her life, who has completed a BA degree and who is a Democrat. We refer to this participant as Shelley. If Shelley were randomly assigned to the similar advisor condition, then she would have received a description of the advisor saying,

Mary is an expert on charitable donations and volunteering. She has lived on the West Coast all of her life. She graduated from college and is now working with an organization that does research on how much money, time and other resources Americans give to charitable and nonprofit organizations. She is a Democrat and is in her 30s. She has been working with the "National Survey of Giving, Volunteering, and Participating" for a long time. <sup>1</sup>

Participants randomly assigned to the different condition received a description of the advisor with features different than their own on the same dimensions. In particular, for each of the manipulated dimensions, the interviewer randomly selected a feature that was different from the one specified by the participant when answering the initial demographic questionnaire. So, for instance, if Shelley were randomly assigned to the different advisor condition, then she would have received a description of a male advisor, who spent most of his life in a location different from the West Coast (e.g., East Coast), with a different level of education (e.g., completed a graduate degree), a different age range (e.g., in his 50s), and so on. The values used as advice in Phase II were randomly selected by the experimenter among answers of 50 people who had previously completed Phase I. They were held constant across participants and across the two conditions (similar vs. different advisor).

# **Participants**

We recruited participants through TESS.<sup>2</sup> Telephone numbers were randomly generated from nationwide numbers using the Genesys list-assisted method, which includes unpublished numbers and new listings. A random sample of numbers, were matched to a database of business and non-working numbers; numbers which were either business or non-working were eliminated from the sample.

### *Incentives and participation*

At each phone number, we randomly selected a person from household members of age 18 or older. After the sample was drawn and non-working and business numbers were eliminated, the remaining sample was sent to a telephone list company for

<sup>&</sup>lt;sup>1</sup> We reported in italics the dimensions that were varied by the interviewer for the similarity manipulation.

<sup>&</sup>lt;sup>2</sup> The Time-sharing Experiments for the Social Sciences (TESS) is funded by the National Science Foundation. The Indiana University Center for Survey Research conducted the telephone survey part of the project, using trained and experienced interviewers. The purpose of the TESS project is to provide social science researchers interested in short, experimental topics, a cost-effective opportunity to gather data on a national level.

**Table 1**Respondents' demographics, Study 1

Measure (1)	Composition (2)
Gender	64 Male (46%); 74 Female (54%)
Marital status	70 Married (51%); 67 Not Married (49%); 1 N/A <sup>a</sup>
Non-currently married	4 Living with a partner; 21 Widowed; 2 Separated; 13 Divorced; 26 Never been married; 1 N/A
Education	8 Grade 1-1 (6%); 38 (28%) High-school degree; 47 (34%) Some college but no degree; 45 (33%) College degree or higher
Racial group	120 (87%) White; 6 (4%) Black or Afro-American; 12 (9%) N/A
Employment	68 (49%) Working for pay; 1 (1%) Temporarily unemployed; 43 (31%) Retired; 7 (5%) Homemakers; 7 (5%) Students; 4 (3%) Doing something else; 7 (5%) Not working because of disability; 1 N/A
Age	17 (12%) 18–29 years old; 34 (25%) 30–44 years old; 43 (31%) 45–64 years old; 44 (32%) 65 years old or older

In column (2), we report the number of respondents for each demographic category.

reverse-address matching. When an address was available, the household was mailed a pre-survey letter containing a \$5 bill. Of those letters mailed, 6% were returned as undeliverable. The letter described the upcoming phone call and explained that upon completion of the interview, the participant would receive a check for \$20. Regardless of whether a household received a pre-survey letter, each participant was informed during the telephone interview that they would receive a \$20 check when the interview was completed. Checks were mailed within three to four weeks of the completed interview. A total of 138 individuals participated. The participation rate was 32.4%.

### Participants' demographics

Table 1 reports information about participants' demographics. Participants reported their gender, marital status, level of education, race, employment, age, together with their state of origin, political orientation and religious preferences. The average age of respondents was 52 (*SD* = 18), the minimum age was 18 (by selection) and the maximum was 86.

To assess whether respondents to our survey were representative of the US population, we compared the demographic composition of the survey participants with national parameters established in the US Census Bureau. We used the US Census Bureau published in March 2004. Our analyses suggested that our sample was representative of the overall US population. Indeed, the demographic composition of the participants in our sample was close to the US Census parameters on the various indicators measured (*p*-values over .05 in all chi-square tests used for the comparisons).

# Dependent measure

To capture the impact of advice on responders' judgments we used the "weight of advice" (hereafter, WOA). Remember that each participant made two judgments of the same question, one by themselves in Phase I and one after receiving advice in Phase II. The WOA is a measure of how much the advice is incorporated into the new judgment. In our setting: WOA =  $\frac{|Phase \ ||\ judgment-|Phase \ ||\ judgment|}{|Advice-|Phase \ ||\ judgment|}$ . This measure has been used in many previous studies (see, for instance, Hell, Gigerenzer, Gauggel, Mall, & Muller, 1988; Harvey & Fischer, 1997; Gino, 2008; Gino & Moore, 2007; Yaniv, 2004).

The weight of advice measure reflects how much a participant reacts to the advice received in forming her judgment. If the Phase II judgment is the same as the Phase I judgment, the advice is ignored and the WOA = 0. If the Phase II judgment is the same as the advice, then the initial judgment is ignored and the WOA = 1. Of course, values in the middle reflect a weighting of initial (Phase I) judgment and advice.

This measure is subject to a few limitations (for further details, see Bonaccio & Dalal, 2006). First, it yields undefined values when the advice is equal to the initial (Phase I) judgment. In our study, this was rare (80 out of 1104, about 7% of the cases); fol-

lowing previous research these observations were dropped (Yaniv, 2004; Gino & Moore, 2007). Second, the WOA does not distinguish situations in which the Phase II judgment moves towards the advice from situations in which it moves away from the advice, although the latter occurs seldom (9 out of 1104, about 1% of the cases). Following previous research, we included these observations in the analyses we present below; however, the nature of the results does not change if we drop them. Finally, the WOA has a lower bound of zero but does not have an upper bound. If the Phase II judgment overshoots the advice, the WOA is greater than one. This rarely happens (67 out of 1104, about 6% of the cases), and in this study, following previous research, we truncate the WOA value to 1 (Harvey & Fischer, 1997; Gino & Moore, 2007).

In the study, there were some missing data points for the WOA measure due to "Don't Know" and "Refused to answer" responses (10 out of 1104, about 1% of the cases). "Don't Know" and "Refused to answer" were not provided to respondents as a response option but were used whenever a participant volunteered "don't know" or refused to answer a question after an interviewer probed for a substantive response. Whenever a participant answered either "Don't Know" or "Refused to answer" their response for a certain question was not recorded in the dataset, thus resulting in a missing data point for WOA. Finally, we did not compute a WOA for people who answered YES to the questions asking about one's own behavior on past contributions and volunteering (215 out of 1104, about 19% of the cases), but did not reveal how much they contributed or volunteered. Note, however, that the nature and significance of the results presented below does not change if these cases are included in the analyses (see footnote 3 below).

# Results

In total, there were 839 valid data points for the WOA measure. First, we computed the mean for each participant's WOA values in each condition, and then we compared the distribution of those values across conditions.

# Weight of advice

We used the values for WOA in an analysis of variance (ANOVA) in which similarity (similar vs. different advice source) served as a between-subjects factor, and judgment type (own or others' behavior) served as within-subject factor. Results revealed a significant main effect of judgment type, F(1,130)=128.55, p<.001,  $\eta^2=.50$ , supporting Hypothesis 2: advice was weighed more heavily when the participant judged the actions of others (M=0.56, SD=0.28) than when they judged their own future/hypothetical actions (M=0.21, SD=0.26). However, in contrast to Hypothesis 1's prediction, we found no significant main effect for similarity (p=.80): Information from similar advisors was weighed the same as information from different advisors.

<sup>&</sup>lt;sup>a</sup> N/A indicates that the respondent refused to answer.

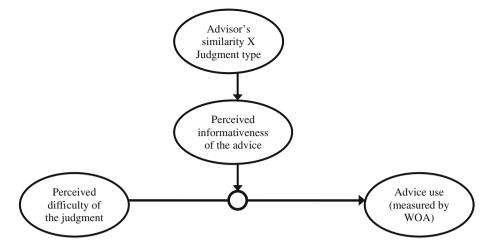


Fig. 1. Proposed model explaining the interaction between advisor's similarity and judgment type.

Finally, the results revealed a significant interaction effect between judgment type and similarity, F(1,130) = 3.97, p < .05,  $\eta^2 = .03$ , thus supporting Hypothesis 3. There was no significant difference in the impact of information received from a different advisor (M = 0.58, SD = 0.29) and information from a similar advisor in judging others' behavior (M = 0.53, SD = 0.26; t[133] = 1.02, p = .31). In contrast, information from a similar advisor was more impactful (M = 0.24, SD = 0.27) than from a different advisor in judging one's own behavior (M = 0.18, SD = 0.25), but not significantly (t[133] = 1.37, p = .17).

### Explaining the interaction effect

We present two potential explanations for the interaction effect between judgment type and similarity, which will be developed and tested in Studies 2 and 3. The first, we call difficulty, is that people perceive questions about others' behavior as more difficult than questions about their own behavior, and they rely more heavily on different advisors for difficult questions. While the results of Experiment 1 seem to be inconsistent with this explanation, we consider it as a viable mechanism since prior research has demonstrated that difficulty of a task influences advice taking (Gino & Moore, 2007). The second, we call informativeness, is that similar advisors are perceived as more accurate than different advisors in judging one's own actions (and thus the advice they provide is perceived as more informative), but that different advisors are more accurate than similar advisors in judging others' actions. We explain the rationale behind these two explanations in the next section.

# **Experiment 2**

Our first objective in Experiment 2 is to replicate the results from our first study on a student population with a different set of judgments. Our second objective is to measure possible mediators and moderators for the interaction effect between judgment type and similarity. We explain the hypotheses for a moderated mediation analysis below. The moderator, difficulty, is about the judgment, while the mediator, informativeness, is about the advice received. Fig. 1 illustrates our proposed model.

As depicted in Fig. 1, we suggest that *informativeness* of the advice received mediates the relationship between the judgment type by similarity interaction and advice use. When judging one's own future/hypothetical behavior, the advice of those similar to you is more informative, as it represents a draw from a population more likely to act as you would act (or more accurate in forecasting your own actions). In contrast, when judging another's behavior, advice from someone similar to you is likely to be duplicative of one's own opinion, and thus will not carry much independent information. Thus for judgments about others, people weigh advice from those who are different than them more than advice from those who are similar and vice versa.

We also suggest that the mediating effect of informativeness is moderated by people's perception of the difficulty of the judgment they faced. Prior research has found that people rate themselves above average in domains in which the average person feels capable, such as driving a car or operating a computer mouse, and below average in more challenging domains, such as juggling and computer programming (Kruger, 1999), a tendency labeled 'solo-comparison effect' (Moore & Kim, 2003). Related work has explored the implications of the solo-comparison effect for advice-taking and found that people tend to overweight advice on difficult tasks and underweight advice on easy tasks (Gino & Moore, 2007).

Related research has shown that perceived similarity between the average participant and the judgment-maker moderates BTA and WTA effects (Moore & Small, 2008). Thus, on difficult tasks, since people think of themselves as worse than others, advice from similar advisors is likely to be of less value (i.e., less informative) than advice from different advisors. In other words, on difficult tasks, people think of themselves and of similar advisors as worse than different advisors, and thus will be more willing to take advice coming from different advisors. In contrast, on easy tasks, people think of themselves and similar others as better than different others. Thus advice from advisors similar to themselves will be more heavily weighed than advice from advisors different than themselves. This explanation is consistent with our proposed model (see Fig. 1).

In Study 2, we collected measures on both perceived difficulty of each judgment and perceived informativeness of the advice, and conducted mediation analyses including both variables. For Study 2, we created new sets of questions so as ensure that we had difficult judgments about one's own behavior and easy judgments about others' behavior. This design provided us a diverse set of questions and a broad range of difficulty ratings for each judgment type.

<sup>&</sup>lt;sup>3</sup> As with the restricted sample, we found a main effect for judgment type: participants weighed advice more heavily on judgments about other's behavior (M=0.57, SD=0.27) than on judgments about one's own actions (M=0.21, SD=0.23), F(1,132)=184.22, p<0.01,  $\eta^2=0.58$ . In addition, we found no main effect for similarity (p=0.79). Also, the interaction effect between judgment type and similarity was significant, F(1,132)=5.10, p=0.026,  $\eta^2=0.08$ . These results are all consistent with the previous results.

#### Method

#### Design

The experiment employed a 2 (judgment type: judgments of one's own vs. judgments of others' behavior)  $\times$  2 (similarity: similar vs. different advisors) mixed design in which judgment type was a within-subject factor and similarity was a between-subject factor.

### Procedure

The experiment consisted of two phases, both conducted on computer. In Phase I, participants answered a few demographic questions as in Study 1, and then made 16 judgments (see Appendix B). The judgments included four blocks of four questions each: two blocks consisted of questions about the self and two blocks consisted of questions about others. The order in which blocks of questions and judgment types (self vs. other) were presented to participants was counterbalanced, and the order in which questions were presented within each block was randomized. In addition to the judgments about future contribution and volunteering used in Study 1, Study 2 included hypothetical judgments about both self and others. For instance, a hypothetical judgment about the self asked, "If you had a \$5000 monthly disposable income, how much money would you contribute to a charity or a nonprofit organization per month?" Similarly, a hypothetical judgment about others asked, "Consider a person who has a \$5000 monthly disposable income. How much money do you think that person contributes to charities and nonprofit organizations per month?" We added these hypothetical types of questions so that we could have variance in the level of difficulty of judgments. In other words, when participants are provided with a budget constraint, questions about others' behavior will become easier, and more comparable with questions about one's own behavior.

At the beginning of Phase II, people were randomly assigned to one of two conditions: advice from a similar advisor or from a different advisor. We used the same manipulation for similarity as in Study 1, but in Study 2 we eliminated the information about political affiliation both from the demographic questions and from the vignette used for the similarity manipulation. After hearing the description of their advisor, participants were asked to rate on a 1–7 scale "how much do you think the advisor is a person like you?" with endpoints not like me at all (1) and very similar to me (7) as a manipulation check. Then they faced the same 16 questions they had answered in Phase I, along with advice. We randomly selected the values used as advice in Phase II among answers of 30 students who had previously completed Phase I for course credit.

In Phase II, after each judgment participants rated the difficulty of the judgment on a 1–7 scale (1 = very easy; 7 = very difficult). Judgments varied in terms of their level of difficulty, so that we had both easy and difficult judgments about one's own actions, as well as both easy and difficult judgments about others' actions. These new judgments had been extensively pre-tested to ensure we had some variance in difficulty ratings. After each judgment in Phase II participants also rated how informative the additional information they had received from Mary [Tom] was on a similar 1–7 scale.

### **Participants**

One hundred and six individuals participated in Study 2. We recruited participants using ads in which we offered \$7 to people who would complete a 20-minute survey on individual behavior. Fifty-two males (49%) and 54 females (51%) participated. Their average age was 24. Most participants (73%) were students from local universities. Forty-eight individuals participated in the similar advisor condition, and 58 individuals participated in the different advisor condition.

#### Results

As in Study 1, we did not compute a WOA for people who answered only YES to the questions asking about one's own behavior on past contributions and volunteering (65 out of 1696, about 4% of the cases) without providing specifics as we requested. Note, however, that the nature and significance of the results presented below does not change if these cases are included in the analyses (see footnote 4 below).

## Manipulation check: Similarity

Consistent with our expectations, the similarity ratings in the different advisor condition were significantly lower (M = 2.67, SD = 1.22) than the similarity ratings in the similar advisor condition (M = 4.25, SD = 1.55), t(104) = -5.86, p < .001.

#### Difficulty measures

As we mentioned above, the judgments used in Study 2 had been selected to generate variance in the difficulty of the judgments for both self and others. As Fig. 2 shows, judgments about others' behavior were perceived as more difficult (M = 3.90, SD = 1.52) than questions about one's own behavior (M = 2.38, SD = 1.31), F(1,60) = 602.02, p < .001,  $\eta^2 = .58$ .

### Informativeness measures

In Study 2, we also collected measures on the informativeness of the advice participants received from others. Informativeness and difficulty rating were positively correlated (r = .26, p < .001). As Fig. 3 shows, informativeness ratings also varied based on judgment type. In particular, participants perceived advice received on questions about others' behavior as more informative (M = 4.58, SD = 1.40) than advice received on questions about one's own behavior (M = 3.58, SD = 1.56), F(1,60) = 228.88, p < .001,  $\eta^2 = .27$ .

### Advice-taking

We used the WOA values as the dependent variable in an ANO-VA similar to the one conducted for Study 1 in which judgment type (judgments of one's own actions vs. judgments of others' behavior) served as within-subject factor and similarity (similar vs. different advisor) served as a between-subject factor. This analysis replicated the results from our first study. In particular, we found a main effect for judgment type: participants weighed advice more heavily on judgments about other's behavior (M = 0.74, SD = 0.24) than on judgments about one's own actions (M = 0.40, SD = 0.25), F(1,104) = 140.98, p < .001,  $\eta^2 = .58$ . In addition, we found no main effect for similarity (p = .38). Also, the interaction effect between judgment type and similarity was significant, F(1,104) = 8.24, p = .005,  $\eta^2 = .07$ . For judgments about others, participants weighed advice from different others (M = 0.79, SD = 0.21) more heavily than advice from similar others (M = 0.68, SD = 0.26; t[104] = 2.50, p = .014). For judgments about the self, we did not find significant differences in how much participants weighed advice from similar others (M = 0.42, SD = 0.24) compared to advice from different others (M = 0.38, SD = 0.27; t[104] < 1, p = .35).

### Mediation analysis

To test the effects hypothesized in our model (see Fig. 1), we followed Baron and Kenny's (1986) recommendation and used the

<sup>&</sup>lt;sup>4</sup> As with the restricted sample, we found a main effect for judgment type: participants weighed advice more heavily on judgments about other's behavior (M=0.74, SD=0.24) than on judgments about one's own actions (M=0.37, SD=0.24),  $F(1,104)=182.67, p<0.01, \eta^2=.64$ . In addition, we found no main effect for similarity (p=3.3). Also, the interaction effect between judgment type and similarity was significant,  $F(1,104)=8.65, p=0.04, \eta^2=0.08$ . These results are all consistent with the previous results.

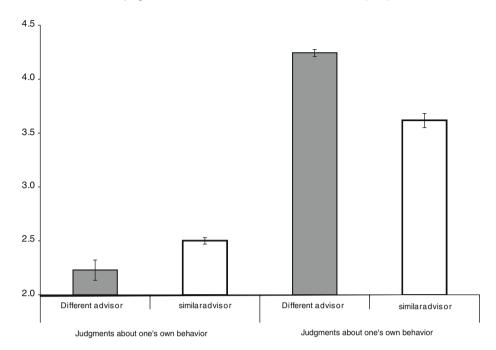


Fig. 2. Difficulty ratings for judgments used in Study 2 (1-7 scale). Error bars represent the standard error.

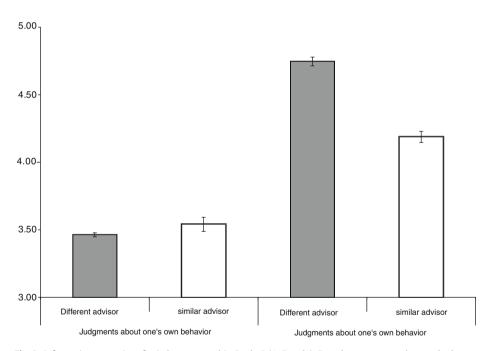


Fig. 3. Informativeness ratings for judgments used in Study 2 (1–7 scale). Error bars represent the standard error.

multiplicative product of the variables in hierarchical multiple regression analyses. In the analyses, we used the change in the amount of variance explained ( $\Delta R^2$ ) to test the significance of interaction terms (Cohen & Cohen, 1983). Because the regression analyses involved interactions, the main effect and product terms were likely to be correlated, raising the issue of multicollinearity. Multicollinearity is problematic since it can make regression coefficients unstable and difficult to interpret (Cohen & Cohen, 1983). To address this problem, we centered the variables used in the mediation analysis so as to reduce multicollinearity (Aiken & West, 1991).

We tested the moderated mediation underlying our proposed model through a series of hierarchical regressions based on the four steps recommended by Baron and Kenny (1986). In the first step, we established the relationship between the similarity by judgment type interaction and advice use in absence of informativeness (the mediator). In the same manner that difficulty and informativeness should interact to influence advice use, similarity  $\times$  judgment type and difficulty should interact when informativeness is not included into the model. In the second step, we demonstrated the relationship between similarity  $\times$  judgment type and informativeness. In the third step, we established the relationship between informativeness and advice use (in this case, also interacting with difficulty). Finally, in the fourth step we demonstrated that the effect of the initial variable (the interaction of difficulty and similarity  $\times$  judgment type) was reduced or insignificant when the mediator (the interaction between informativeness

Table 2 Moderated mediation: Results of hierarchical multiple regression analysis, Study 2

	Variables		F	$R^2$	$\Delta R^2$	VIF
	Perceived informativeness $\beta$	Advice use $\beta$				
Mediation analysis, Step 1						
Step 1						
Similarity $\times$ judgment type		.097***	70.18***	.085		1.02
Difficulty		.261***				1.02
Step 2						
(Similarity $\times$ judgment type) $\times$ difficulty		084	49.85***	.090	.005**	1.37
Mediation analysis, Step 2						
Step 1						
Similarity $\times$ judgment type	.078**		10.39**	.006		1.00
Mediation analysis, Steps 3 and 4						
Step 1						
Similarity × judgment type		.082***	156.12 <sup>***</sup>	.237		1.03
Difficulty		.160***				1.09
Informativeness		.404***				1.07
Step 2						
(Similarity $\times$ judgment type) $\times$ difficulty		$049^{\dagger}$	96.04***	.242	.005***	1.40
Informativeness $\times$ difficulty		052*				1.06

Each mediation step contains a regression analysis with either one or two steps.

and difficulty) was added to the model. We implemented these four steps in the mediation analyses presented below. The results are shown in Table 2. Support for this method is implied by Hull, Tedlie, and Lehn (1992) discussion about the importance of controlling for moderators. Prior empirical studies have employed similar moderated mediation analyses as the one presented here (e.g., Brockner, Chen, Manniz, Leung, & Skarlicki, 2000; Langfred, 2004; Sheeran & Abraham, 2003).

Results of the moderated mediation

To check for multicollinearity, we calculated variance inflation factor (VIF) scores for the variables in the regression model. As shown in Table 2, all VIF scores were below 2, suggesting that multicollinearity was not a serious problem in our analyses.

The first step of the mediation (see "Mediation analysis, Step 1" in Table 2) indicates that the interaction of perceived difficulty and similarity × judgment type has a significant effect of advice use  $(\beta = -.084, p = .004; \Delta F = 8.49, p < .01)$ . This result satisfies step 1 of the four-step mediation analysis. The second step of the mediation (see "Mediation analysis, Step 2") demonstrates a positive and significant relationship between similarity × judgment type and informativeness ( $\beta$  = .246, p < .001). This result satisfies Step 2 of the four-step mediation analysis.

The third and fourth steps of the mediation analysis are reported in "Mediation analysis, Steps 3 and 4" in Table 2. As shown in the table, the informativeness by difficulty term is significant ( $\beta$  = -.052, p = .025), with similarity × judgment type, difficulty, informativeness, and the interaction between similarity × judgment type and difficulty controlled. The change in explained variance  $(\Delta R^2)$  due to the addition of the informativeness by difficulty term is also significant ( $\Delta F = 5.03$ , p < .05), thus establishing the third step of the mediation analysis.

The fourth step of the mediation analysis indicates that the interaction between difficulty and similarity x judgment type from the first step is no longer significant when it is included together with the interaction term between difficulty and informativeness ( $\beta = -.049$ , p = .066). In other words, the effect of the interaction term between similarity × judgment type and difficulty on advice use is significant when the mediating effect of informativeness is not included in the model, but the same effect is eliminated when the mediator (the interaction between informativeness and difficulty) is added. Thus, these findings satisfy all four steps of the mediation analysis recommended by Baron and Kenny (1986), and suggest that the expected mediation does occur. Overall, these results demonstrate strong support for the expectation that perceived informativeness of the advice would mediate the relationship between similarity × judgment type and advice use.

# Discussion

The results of Study 2 replicate our findings from Study 1. People use advice from others more heavily when judging others' behavior than when judging their own future/hypothetical behavior. Furthermore, people use advice from similar others more than different others when judging their own behavior, but from different others more than similar others when judging others' behavior. Additional analyses demonstrated that the indirect effect of similarity × judgment type is accounted for by the level of perceived informativeness of the advice participants received in Phase II. The pattern of results suggests that when people receive advice from a similar advisor on judgments about their own behavior or advice from a different advisor on judgments about others' behavior they perceive the advice as highly informative, and when this condition is combined with high levels of perceived difficulty, advice use increases.

# **Experiment 3**

The findings of the two studies demonstrated a consistent interaction effect between similarity and judgment type. Yet, the design used in both Studies 1 and 2 included two confounds that should be further explored. A first problem concerns the nature of the judgments used: while judgments about others asked about objective facts, judgments about the self involved a decision of some sort (e.g., whether or not to contribute to charity). The additional judgments about hypothetical behavior for both self and others used in Study 2 help to address this concern, but do not eliminate it completely.

p < .10.

p < .05.

p < .01.

p < .001.

A second problem concerns the target of the judgments employed in the first two studies. While judgments about others asked about the average behavior of a group of people of indefinite size, judgments about the self asked about the behavior of only one individual. Finally, the way in which advice was expressed varied based on whether the judgment was about the self (in which case advice had a prescriptive nature) or others (in which case advice had a descriptive nature).

We designed a third study to explore these issues. In this third experiment, we used 12 judgments, each of which involved judgments about three different targets: the first referred to the self, the second to the average American and the third to a randomly selected participant in the experiment. Thus, across the three types of judgments, we kept constant the size of the target group whose behavior was estimated by participants. All judgments asked about objective facts for both the self and others (e.g., How many items of clothing do you think you [the average American, a randomly selected participant] will buy next year?). Finally, across all conditions, advice was expressed in the same way (i.e., the same advice was given in the self and other conditions).

In our third experiment, we also introduced a change regarding the measures for both informativeness and difficulty. While in Study 2, participants rated the difficulty of the judgment and the informativeness of the advice after each judgment in Phase II, in Study 3 participants rated the difficulty of the judgment in Phase I, before any manipulation took place. They then rated the informativeness of the advice during Phase II, once they were given advice from others. We introduced this change in the design to test whether the significant and positive correlation between difficulty and informativeness ratings observed in Study 2 might be due to the fact that the two questions were asked together.

# Method

# Design

The experiment employed a 3 (judgment type: judgment of one's own behavior vs. judgment of the behavior of the average American vs. judgment of the behavior of a randomly selected participant)  $\times$  2 (timing of manipulation check: before Phase II vs. after Phase II)  $\times$  2 (advisors' profile: similar vs. different) mixed design in which judgment type was a within-subject factor and advisors' profile and manipulation check were between-subject factors.

### Procedure

The experiment consisted of two phases, both conducted on computer. At the beginning of the study, participants received the following instructions,

In this study you will be asked to answer a series of questions about your behavior, the behavior of others and the behavior of a randomly selected participant among the individuals who have already participated in this study. All the questions about others refer to the behavior of an average person in the United States. As for the questions about a randomly selected participant, they refer to a randomly selected participant among all the individuals who have already participated in this study. It is important that you do not talk, laugh, or make any noise during this study. The study consists of two parts. Both parts of the study will take place on the computer. Before starting the first part of the study we will ask you to answer a few demographics questions. Please answer all questions as accurately as possible.

Participants then answered a few demographic questions as in Study 2. In Phase I, participants made 12 judgments (see Appendix C). These 12 judgments were written in three different forms: (1)

referring to one's own behavior (e.g., "How many upper respiratory infections do you think you will get next year?"); (2) referring to the behavior of the average American (e.g., "How many upper respiratory infections do you think the average American will get next year?"); (3) referring to a randomly selected participant (e.g., "How many upper respiratory infections do you think a randomly selected participant will get next year?"). Of the twelve judgments each participant made, four were about the self, four about the average American and four about a randomly selected participant. We divided judgments in blocks of 4 questions each so that each participant answered questions whose content varied across judgment types (self vs. average American vs. randomly selected participant). So, for instance, if a participant answered questions 1 through 4 about the self (see Appendix C), then she would answer questions 5–8 about the average American and 9–12 about the randomly selected participant. In the experiment we randomized the order of the blocks of judgments. We also randomized the order in which judgments were presented within each block.

After each of the 12 judgments participants made in Phase I, they rated the difficulty of the judgment on a 1–7 scale (1 = very easy; 7 = very difficult).

In Phase II, participants made the same judgments they made in Phase I. At the beginning of Phase II, people were randomly assigned to one of two conditions: information from similar advisor or from different advisor. The description used for the similarity manipulation was similar to the one employed in Study 2 and read:

Emily [Scott] is an expert on national opinion surveys. She [He] has lived on the West Coast [on the East Coast|in the South|in the Mid-West] all of her [his] life. She [He] did not graduate from high school [graduated from high school|has some college, but no degree|completed{her|his}{Associates Degree|graduated from college|completed a graduate degree} and is now working with an organization that conduct national opinion surveys. She [He] is in her [his] 20s [30s|40s|50s|60s]. She [He] has been working at the current organization with the position of "data analyst" for a long time.

Within each of these two advisor-type conditions, participants were also randomly assigned to one of two conditions about the timing of the similarity manipulation check (before Phase II vs. after Phase II). In the condition "manipulation check before Phase II", after reading the description of their advisor, participants rated on a 1–7 scale "how much do you think the advisor is a person like you?" with endpoints not like me at all (1) very similar to me (7). They also rated on a 1–7 scale "how much do you like the advisor based on the description you read?" with endpoints not at all (1) very much (7). In the condition "manipulation check after Phase II", people answered these two questions about the advisor only after the end of Phase II.

In Phase II, participants faced the same 12 judgments they made in Phase I, along with advice from the advisor. We randomly selected the values used as advice in Phase II among answers of 30 students who had previously completed a short survey asking the judgments about the average American used in Phase I of Study 3. The advice provided for each judgment did not vary across judgment type and it was expressed in the same way across all conditions: "Emily [Scott] states the answer is (...)." In Phase II, after each question participants indicated how informative the additional information received from the advisor was, using a 7-point scale.

Before the last screen thanking participants for their participation, people saw the following screen: "Please answer the following questions as best as you can. (i) How much do you think the average American is a person like you? [with endpoints not like me at all (1) very similar to me (7)]; (ii) How much do you think

the randomly selected participant is a person like you? [with endpoints not like me at all (1) very similar to me (7)]".

Once they completed this brief questionnaire, participants were thanked, paid, debriefed and dismissed.

#### **Participants**

One hundred and twenty-three individuals (43% male) participated in Study 3. As in Study 2, participants were recruited using ads in which we offered people \$7 to complete a 20-min survey on individual behavior. The average age of participants was 26 (SD = 8.92). Most participants (54%) were students from local universities.

#### Results

#### Manipulation check: similarity

Consistent with our expectations, participants rated similar advisors as more similar to them (M = 4.53, SD = 1.14) than different advisors (M = 1.92, SD = 0.88), t(121) = 14.20, p < .001. We also checked whether the similarity ratings were influenced by the timing of the manipulation check (i.e., whether the similarity question was asked before or after Phase II). An ANOVA with both similarity (similar vs. different advisor) and the timing of the manipulation check (before vs. after Phase II) revealed that our similarity manipulation was effective (F[1,119] = 199.64, p < .001,  $\eta^2$  = .63) and it was not influenced by the timing of the manipulation check (main effect for the timing of the manipulation check: F[1,119] < 1, p = .52,  $\eta^2$  = .004; interaction effect: F[1,119] < 1, p = .77,  $\eta^2$  = .001).

### Liking ratings

In our third study, we also asked participants how much they liked their advisor based on the description they read. Consistent with the "similarity breeds liking" hypothesis, participants liked similar advisors significantly more (M = 4.38, SD = 1.30) than different advisors (M = 3.35, SD = 1.23), t(121) = 4.40, p < .001. A partial correlation analysis (which controlled for experimental conditions) revealed that similarity and liking ratings were positively correlated (r = .41, p < .001).

### Difficulty measures

Judgments about others' behavior were perceived as more difficult (M = 4.12, SD = 1.33 for judgments about a randomly selected participant; M = 4.16, SD = 1.44 for judgments about the average American) than judgments about one's own behavior (M = 3.28, SD = 1.25), F(1,122) = 36.38, p < .001,  $\eta^2$  = .23. In Study 3, the difficulty ratings were asked after each judgment in Phase I, i.e., before any of the experimental manipulations occurred. Thus, no difference in difficulty ratings should be expected across experimental conditions. An ANOVA with difficulty ratings as dependent variable, judgment type as within-subject factor and similarity and timing of the manipulation check as between-subject factors confirmed that this was the case (the only significant effect for this analysis was the main effect of judgment type, F[2,238] = 26.67, p < .001,  $\eta^2$  = .18).

# Informativeness ratings

As Fig. 4 shows, informativeness ratings varied based on judgment type. In particular, participants perceived advice received regarding judgments about others' behavior as more informative (M = 4.32, SD = 1.55 for judgments about a randomly selected participant; M = 4.23, SD = 1.65 for judgments about the average American) than advice received on questions about one's own behavior (M = 2.50, SD = 1.38), F(1,60) = 228.88, p < .001,  $\eta^2$  = .27.

To test whether our manipulations influenced the informativeness ratings, we conducted an ANOVA with informativeness ratings as dependent variable, judgment type as within-subject factor and similarity and timing of the manipulation check as between-subject factors. As expected, this analysis revealed a significant main effect for judgment type (F[2,238] = 58.30, p < .001,  $\eta^2 = .33$ ) and a significant interaction effect between judgment type and similarity (F[2,238] = 5.47, p = .005,  $\eta^2 = .04$ ). We found no other significant effect.

### Advice-taking

We used WOA values as the dependent variable in an ANOVA in which judgment type (self vs. randomly selected participant vs. average American) served as within-subject factor while similarity

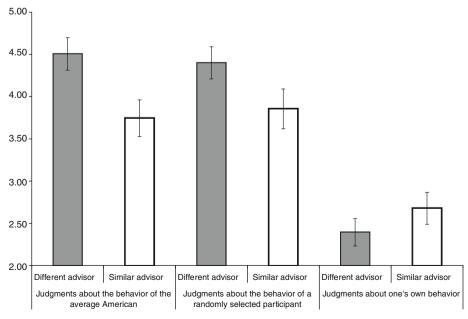


Fig. 4. Informativeness ratings for judgments used in Study 3 (1–7 scale). Error bars represent the standard error.

(similar vs. different advisor) and timing of manipulation check (before Phase II vs. after Phase II) served as between-subject factors.

This analysis revealed a main effect for judgment type, F(2,238) = 60.67, p < .001,  $\eta^2 = .34$ . Participants weighed advice less heavily for judgments about one's own behavior than for judgments about others' behavior both when the target was a randomly selected participant and when it was the average American (0.24 for judgments about the self versus 0.59 for both judgments about others' behavior). In addition, the main effect for similarity was insignificant (p = .58) as well as the main effect for timing of the manipulation check (p = .77) and their interaction (p = .90).

This analysis also revealed a significant interaction effect between judgment type and similarity, F(2,238) = 11.58, p < .001,  $\eta^2 = .09$ . For judgments about the self, participants weighed advice from similar others (M = 0.35, SD = 0.28) more heavily than advice from different others (M = 0.19, SD = 0.19), t(121) = 3.81, p < .001. For judgments about a randomly selected participant, we found only a marginally significant difference in how much participants weighed advice from different others (M = 0.62, SD = 0.27) compared to advice from similar others (M = 0.63, SD = 0.30), t(121) = 1.85, p = .066. Similarly, for judgments about the average American, participants weighed advice from different others (M = 0.64, SD = 0.28) more heavily than advice from similar others (M = 0.51, SD = 0.28) t(121) = 2.35, p = .02.

### Similarity ratings for the target of judgments

At the end of the study, participants rated how similar they perceived themselves to be to the randomly selected participant and to the average American on a 1–7 scale. Participants rated the average American as more different from them (M=2.88, SD=1.20) than the randomly selected participant (M=3.23, SD=1.38), F(1,122)=9.86, p=.002,  $\eta^2=.08$ . Thus, both targets were judged as more different than similar to the self. Indeed, a one-sample t-test comparing the similarity rating for the target with the mid-value of the scale revealed significant differences for both the similarity rating for the randomly selected participant (t[122]=6.19, p<.001) and the similarity rating for the average American (t[122]=10.38, p<.001).

#### Mediation analysis

We followed the same procedure used in the mediation analyses conducted on the data from Study 2. In particular, we tested the moderated mediation underlying our proposed model through a series of hierarchical regressions based on the four steps recommended by Baron and Kenny (1986). The analyses were conducted separately using judgments about the average American and judgments about a randomly selected participant. Tables 3 and 4 summarize the results of each of these two cases respectively. Given the similarity of these analyses to the one presented for Study 2, we only discuss the last step of the mediation analyses. When considering judgments about the average American, the fourth step of the mediation analysis indicates that the interaction between difficulty and similarity × judgment type from the first step is no longer significant when it is included together with the interaction term between difficulty and informativeness ( $\beta = -.011$ , p = .83). Similarly, when considering judgments about a randomly selected other, the fourth step of the mediation analysis shows that the same interaction term is insignificant ( $\beta = -.010$ , p = .85). In the case of judgments about a randomly selected other, it is important to note that the interaction between difficulty and similarity x judgment type is only marginally significant in the first step of the moderated mediation (see Table 4, Mediation analysis, Step 1). This result differs from the significant effect for such interaction in the moderated analysis presented in Study 2 and the one presented here for the average American. Taken together, these additional analyses show a moderated mediating role of informativeness and difficulty in the relationship between the advisor's similarity by judgment type interaction and advice use.

# Discussion

The results for advice use of Study 3 replicated our findings from our first two studies and supported Hypotheses 1 and 3. People were more receptive to advice from others when judging others' behavior than when judging their own. We also found the predicted interaction effect: participants weighed advice from similar others more heavily than advice from different others on judg-

**Table 3**Moderated mediation: Results of hierarchical multiple regression analysis, Study 3 (self versus average American)

	Variables		F	$R^2$	$\Delta R^2$	VIF
	Perceived informativeness B	Advice use β				
Mediation analysis, Step 1						
Step 1						
Similarity $\times$ judgment type		.124	7.45**	.058		1.01
Difficulty		.193**				1.01
Step 2		*	***			
(Similarity $\times$ judgment type) $\times$ difficulty		151 <sup>*</sup>	6.63***	.076	.018	1.25
Mediation analysis, Step 2						
Step 1						
Similarity × judgment type	.236**		4.87**	.039		1.63
Mediation analysis, Steps 3 and 4						
Step 1						
Similarity × judgment type		.077 <sup>†</sup>	79.42***	.496		1.02
Difficulty		034				1.13
Informativeness		.703***				1.13
Step 2						
(Similarity $\times$ judgment type) $\times$ difficulty		011	49.35***	.507	.011 <sup>†</sup>	1.30
Informativeness × difficulty		.106 <sup>*</sup>				1.07

Each mediation step contains a regression analysis with either one or two steps.

<sup>†</sup> p < .10.

p < 0.05.

<sup>\*\*</sup> p < .01.

p < .001.

Table 4 Moderated mediation: Results of hierarchical multiple regression analysis, Study 3 (self versus randomly selected other)

	Variables		F	$R^2$	$\Delta R^2$	VIF
	Perceived informativeness $\beta$	Advice use β				
Mediation analysis, Step 1						
Step 1						
Similarity $\times$ judgment type		.142	14.83***	.109		1.01
Difficulty		.285***				1.01
Step 2			•••			
(Similarity $\times$ judgment type) $\times$ difficulty		$120^{\dagger}$	11.11***	.121	.012 <sup>†</sup>	1.18
Mediation analysis, Step 2						
Step 1						
Similarity $\times$ judgment type	.137 <sup>*</sup>		4.70°	.019		1.00
Mediation analysis, Steps 3 and 4						
Step 1						
Similarity × judgment type		.077	63.23***	.439		1.02
Difficulty		.049				1.18
Informativeness		.627***				1.19
Step 2						
(Similarity $\times$ judgment type) $\times$ difficulty		010	40.36***	.457	.017*	1.22
Informativeness $\times$ difficulty		.138**				1.11

Each mediation step contains a regression analysis with either one or two steps.

ments about the self, but weighed advice from different others more heavily than advice from similar others on both judgments about a randomly selected participant and judgments about the average American.

As Study 2, our third experiment also investigated potential mediators for this interaction effect between advisor's similarity and judgment type, and found a moderated mediating role of informativeness and difficulty in the relationship between the similarity by judgment type interaction and advice use.

# **General discussion**

When making judgments, people routinely rely on advice from others, although previous research suggests that this advice is underweighted (Yaniv & Kleinberger, 2000; Yaniv, 2004). Several variables have been found to moderate this effect of advice discounting, such as advice cost (Gino, in press; Patt, Bowles, & Cash, 2006), task difficulty (Gino & Moore, 2007) and advisors' expertise (Goldsmith & Fitch, 1997; Harvey & Fischer, 1997; Sniezek, Schrah, & Dalal, 2004).

In this paper, we extended this stream of research by testing the hypothesis that people would weigh others' advice significantly more in making judgments about others' behavior than in making judgments about their own behavior. We also predicted that the similarity between the person making the judgment and the person giving advice would interact with the type of judgment being made. In particular, we hypothesized that when facing judgments about their own behavior, people would weigh information from similar advisors more than information from dissimilar advisors. However, when facing judgments about others' behavior, people would weigh information from dissimilar advisors more than similar advisors.

These predictions were confirmed in three experiments involving different types of judgments with advice from others who were either similar to or different from the participant (i.e., advice-recipient) on several dimensions such as gender, age, and education. The results of the second and third study also provide evidence in support of our proposed model for a moderated mediation explaining the interaction between similarity and judgment type.

These results are interesting given that participants did not have any information on the opinions or values held by the advisors. In both our studies, similarity was manipulated by varying demographic characteristics of the advisor to match (or mis-match) the respondent's. Thus, based on the experimental condition, the advisor was either similar to or different from the advice-receiver on surface-level characteristics. It is often assumed that surface-level similarity (e.g., demographics) is equated with deep-level similarity (e.g., attitudes opinions, information, values), even though such congruence does not always exist (Phillips, 2003; Phillips & Loyd, 2006). Consistent with this research, our participants probably assumed congruence. As a result, they behaved as if their own opinions were worth less (or more) than those of an expert based on the judgment they faced and on the expert's surface-level characteristics. An expert of the same gender and level of education, for instance, was perceived as a more valuable and informative source of advice on judgments about the self than judgments about others.

We believe our findings have important practical implications. Various industries, from advertising to consulting, build their success on their ability to make the advice they provide valued by their customers. Similarly, public-health programs or political campaigns are considered effective when they succeed in influencing people's opinions and judgments. Our results suggest that the impact of such advice will vary depending on features of the advisor (her similarity to the target) and on features of the judgment (whether is about the self or others). Thus, for example, consumers might value advice on products for themselves more heavily when the advice is delivered by an advisor of the same gender and similar age, vet value advice on products for their family, friends or others more heavily when the advice is delivered by an advisor different from them. And firms composed of white male managers might pay more for market research (advice about) for products marketed to dissimilar others (e.g., women or other racial groups) than for products marketed to similar others (e.g., while males).

p < .10.

p < .05.

p < .01.

p < .001.

Our results also suggest a plausible explanation for failures in important public-health campaigns, such as the ineffective efforts in slowing the spread of HIV-AIDS in Africa (Cameron, Witte, Lapinski, & Nzyuko, 1999; Witte, 1998). By choosing advisors whose features (gender, race and age) are similar to the targeted audience, health-related advice could be more highly weighed. In some cases, such advisors might not be available, as in many international relief operations. For instance, it is difficult to find female relief workers to help female HIV victims; in this case, as our findings suggest, male advisors might be more successful by framing the health-related advice as advice about decisions women make for their families, for their husbands, or for their sons.

### Limitations and future research opportunities

One important topic for future research surrounds the limitations and boundary conditions of the effects we document. In all of our studies, advisors were described as experts. Future research could investigate whether the same pattern of findings hold when advice is received from someone who is not an expert, like a family member, a friend or a stranger. Future research could also explore how similarity between the advicerecipient and the target group (object of judgments) influences advice use. In our third study we included a measure of similarity for the target group but both the average American and the randomly selected participant were rated as quite different from the judge. Another direction for future research is the use of different types of judgment to investigate our effect. For instance, research might consider individual judgment tasks people are confronted with on a daily basis, such as investment decisions or purchasing choices, rather than forming judgments about their own or others' actions. Finally, our findings are suggestive of the idea that people will not only weigh advice differently depending on similarity and judgment type, but that they may also look for advice accordingly. Neither of our studies allowed participants the opportunity to search for advice from a set of advisors, who may vary in their similarity to the participant. This would be a natural and interesting extension.

# **Conclusions**

As former US President John Kennedy once remarked, "the advisor, after giving advice, goes on to other advice, but the official whom he advises goes on to an election" (Szanton, 1981). Taking advice can have very relevant consequences and it thus important to understand how much people value it and why. This research provides evidence of the differential impact of advice received from similar or different experts on judgments about others' behavior and one's own behavior. The results presented here have important implications for the question of when advice is incorporated into judgments, offers practical implications for how to make advice more meaningful and effective, and may also predict what advice will be sought by decision makers.

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### Appendix A. Survey questions (Experiment 1)

A.1. Judgments about others' behavior (Phase I)<sup>5</sup>

- 1. Among people who donate money to National Public Radio or a local public radio station, what do you think is the average contribution per month? (in dollars)
- 2. Among people who donate money to charities and nonprofit organizations, what do you think is the average contribution per month? (in dollars) $^6$
- 3. Among people who volunteer with the Red Cross, what do you think is the average number of hours volunteered per month?
- 4. Among people who volunteer with ANY organization, what do you think is the average number of hours volunteered per month?

# A.2. Judgments about one's own behavior (Phase I) $^7$

- 1. In the past year, have you contributed to National Public Radio or a local public radio station? (a) *If YES*: How much did you contribute per month? (b) *If NO*: If you did contribute, how much money would you contribute per month?
- 2. In the past year, have you contributed to a charity or a nonprofit organization? (a) *If YES*: How much did you contribute per month? (b) *If NO*: If you did contribute, how much money would you contribute per month?
- 3. In the past year, have you volunteered for the Red Cross? (a) *If YES:* How many hours did you volunteer each month? (b) *If NO:* If you did, how many hours would you volunteer each month?
- 4. In the past year, did you volunteer anywhere? (a) *If YES:* How many hours did you volunteer each month? (b) *If NO:* If you did, how many hours would you volunteer each month?

In Phase II, participants made the same judgments as in Phase I. After each question, participants received advice from an expert. An example is provided below for each judgment type.

<sup>&</sup>lt;sup>5</sup> Before asking this block of question, the interviewer told respondents what follows: "The following questions are going to ask you about how much time or money you think the average person spends on a variety of tasks per month. All questions refer to the behavior of an average person in the United States. For some questions, you might not have an answer in mind, but we encourage you to provide your best guess even in those cases."

<sup>&</sup>lt;sup>6</sup> Clarification, if needed: "Please do not include NPR or local radio station contributions in your answer. Please do include contributions to religious organizations."

Before asking this block of question, the interviewer told respondents what follows: "The following questions are going to ask you about how much time or money YOU contribute on a variety of tasks PER MONTH. In case you do not contribute regularly, please answer thinking how much you would contribute if you contributed on a regular basis."

### A.3. Judgments about others' behavior (Phase II)

 Among people who donate money to NPR or a local public radio station, what do you think is the average contribution per month?
 Mary [Tom] states the monthly contribution is [amount] dollars.

# A.4. Judgments about one's own behavior (Phase I)<sup>8</sup>

1. Earlier you said that you would give [gave] [amount] dollars {Earlier you did not say how much you would give} per month to National Public Radio or a local public radio station. Mary [Tom] states your average monthly contribution should be [amount] dollars. In the future, how much do think you would contribute per month?

# Appendix B. Survey questions (Experiment 2)

#### B.1. Judgments about others' behavior

- Among people who donate money to organ donation organizations, what do you think is the average contribution per month? (in dollars)
- 2. Among people who donate money to reduce pollution (caused by individual gasoline usage), what do you think is the average contribution to environmental organizations per month? (in dollars)
- 3. Among people who donate money to organizations that provide food to starving children, what do you think is the average contribution per month? (in dollars)
- 4. Among people who donate money to support organizations working on preserving water, what do you think is the average contribution to support water conservation per month? (in dollars)
- 5. Consider a person who has a \$5000 monthly disposable income. How much money do you think that person contributes to National Public Radio or a local public radio station per month? (in dollars)
- 6. Consider a person who has a \$5000 monthly disposable income. How much money do you think that person contributes to charities and nonprofit organizations per month? (in dollars)
- 7. Consider a person who works 20 hours per week. How many hours do you think that person volunteers with the Red Cross per month?
- 8. Consider a person who works 20 h per week. How many hours do you think that person volunteers with ANY organization per month?

### B.2. Judgments about one's own behavior

- 1. In the past year, have you donated money to organ donation organizations? (a) If YES: How much money did you give per month? (b) If NO: If you did, how much money would you give per month?
- 2. In the past year, have you donated money to any environmental organization to reduce pollution? (a) If YES: How much money did you give per month? (b) If NO: If you did, how much money would you give per month?
- <sup>8</sup> Before asking this block of question, the interviewer told respondents what follows: "The following questions are going to ask you about how much time or money YOU contribute on a variety of tasks PER MONTH. In case you do not contribute regularly, please answer thinking how much you would contribute if you contributed on a regular basis."

- 3. In the past year, have you donated money to any organizations that provide food to starving children? (a) If YES: How much money did you give per month? (b) If NO: If you did, much money would you give per month?
- 4. In the past year, have you donated money to support water preservation? (a) If YES: How much money did you give per month? (b) If NO: If you did, much money would you give per month?
- 5. If YOU had a \$5000 monthly disposable income, how much money would you contribute to National Public Radio or a local public radio station per month?
- 6. If YOU had a \$5000 monthly disposable income, how much money would you contribute to a charity or a nonprofit organization per month?
- 7. If YOU worked 20 h per week, how many hours would you volunteer for the Red Cross each month?
- 8. If YOU worked 20 h per week, how many hours would you volunteer anywhere each month?

# Appendix C. Survey questions (Experiment 3)

Question	Self	Average American	A randomly selected participant
1	How many upper respiratory infections do you think you will get next year?	How many upper respiratory infections do you think the average American will get next year?	How many upper respiratory infections do you think a randomly selected participant will get next year?
2	At what age do you think you will retire?	At what age do you think the average American retires?	At what age do you think a randomly selected participant will retire?
3	How many flights do you think you will book next year?	How many flights do you think the average American will book next year?	How many flights do you think a randomly selected participant will book next year?
4	How many hours of television do you think you will watch next month?	How many hours of television do you think the average American will watch next month?	How many hours of television do you think a randomly selected participant will watch next month?
5	At what age do you think you will pass away?	At what age do you think the average American passes away?	At what age do you think a randomly selected participant will pass away?

Appendix C (continued)							
6	How many books do you think you will read next year?	How many books do you think the average American will read next year?	How many books do you think a randomly selected participant will read next year?				
7	How many cars do you think you will buy across your entire life?	How many cars do you think the average American buys across their entire life?	How many cars do you think a randomly selected participant will buy across his/ her entire life?				
8	How many trips outside the US do you think you will take across your entire life?	How many trips outside the US do you think the average American takes across their entire life?	How many trips outside the US do you think a randomly selected participant will take across his/ her entire life?				
9	How many emails do you think you will write next month?	How many emails do you think you the average American write next month?	How many emails do you think you a randomly selected participant write next month?				
10	How many items of clothing do you think you will buy next year?	How many items of clothing do you think the average American will buy next year?	How many items of clothing do you think a randomly selected participant will buy next year?				
11	How many times do you think you will go to the movie theatre next year?	How many times do you think the average American will go to the movie theatre next year?	How many times do you think a randomly selected participant will go to the movie theatre next year?				
12	How many hours do you think you will spend in front of a computer next month?	How many hours do you think the average American will spend in front of a computer next month?	How many hours do you think a randomly selected participant will spend in front of a computer next month?				

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