



Don't ask, don't tell: The problems with soliciting advice

Citation

Dillon, Kyle David. 2019. Don't ask, don't tell: The problems with soliciting advice. Doctoral dissertation, Harvard University, Graduate School of Arts & Sciences.

Link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:42029640>

Terms of use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material (LAA), as set forth at

<https://harvardwiki.atlassian.net/wiki/external/NGY5NDE4ZjgzNTc5NDQzMGIzZWZhMGFIOWI2M2EwYTg>

Accessibility

<https://accessibility.huit.harvard.edu/digital-accessibility-policy>

Share Your Story

The Harvard community has made this article openly available.
Please share how this access benefits you. [Submit a story](#)

Don't ask, don't tell: The problems with soliciting advice

A dissertation presented

by

Kyle David Dillon

to

The Department of Psychology

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

in the subject of

Social Psychology

Harvard University

Cambridge, Massachusetts

May 2019

© 2019 Kyle David Dillon
All rights reserved

Don't ask, don't tell: The problems with soliciting advice

Abstract

In everyday life, we are constantly bombarded with decisions: How should I invest my money? Which dessert should I order? What should I wear? Fortunately, we can turn to others for advice. We ask financial advisors whether we should invest in stocks or bonds; we ask waiters whether we should order the dacquoise or the tiramisu; and we ask our sartorially inclined friends whether this belt matches these shoes. Of course, asking for advice is simply one way to receive it. Sometimes others are so eager to offer their advice that they do so without being asked. This distinction between solicited and unsolicited advice raises two interesting questions. As advisors, does the quality of our advice change when we are solicited? And as advisees, do we respond similarly to solicited and unsolicited advice?

The present work explores these questions and arrives at a paradox in advice giving. Solicited advice is, on average, worse than unsolicited advice, but once people have asked for advice, they heed it more. In a series of eight studies, I demonstrate that: 1) advisors are more confident and more accurate when providing unsolicited advice relative to solicited advice; 2) advisees incorporate solicited advice into their decisions more frequently and more completely than unsolicited advice; and 3) observers evaluate advice they overhear equally, regardless of whether or not that advice was solicited or unsolicited. Finally, I explore whether the act of soliciting advice lowers advisees' confidence, thus driving them to incorporate solicited advice into their decisions more frequently.

Table of Contents

Abstract	iii
Table of Contents	iv
Introduction	1
Study 1a	5
Study 1b	10
Study 2	14
Study 3a	17
Study 3b	21
Study 4	24
Study 5	28
Study 6	32
Discussion	42
References	48
Appendix A	52

In everyday life, we are constantly bombarded with decisions: How should I invest my money? Which dessert should I order? What should I wear? Fortunately, we can turn to others for advice. We ask financial advisors whether we should invest in stocks or bonds; we ask waiters whether we should order the dacquoise or the tiramisu; and we ask our sartorially inclined friends whether this belt matches these shoes. Of course, asking for advice is simply one way to receive it. Sometimes others are so eager to offer their advice that they do so without being asked. This distinction between solicited and unsolicited advice raises two interesting questions. As advisors, does the quality of our advice change when we are solicited? And as advisees, do we respond similarly to solicited and unsolicited advice?

The present work explores these questions and arrives at a paradox in advice giving. Solicited advice is, on average, worse than unsolicited advice, but once people have asked for advice, they heed it more. In a series of eight studies, I demonstrate that: 1) advisors are more confident and more accurate when providing unsolicited advice relative to solicited advice; 2) advisees incorporate solicited advice into their decisions more frequently and more completely than unsolicited advice; and 3) observers evaluate advice they overhear equally, regardless of whether or not that advice was solicited or unsolicited. Finally, I explore whether the act of soliciting advice lowers advisees' confidence, thus driving them to incorporate solicited advice into their decisions more frequently.

Background

From momentous decisions like choosing a college major to everyday decisions like choosing where to eat lunch, people often seek the advice of others, both experts and peers, before making their choice. This process of information exchange can be roughly divided into three categories: seeking advice, receiving advice and giving advice. But not all advice is sought.

Indeed, individuals can give and receive both *solicited* and *unsolicited* advice. Individuals can receive unsolicited advice from any advisor at any time, while seeking advice from a particular advisor is a prerequisite to receiving solicited advice from that advisor.

Seeking Advice

Unsurprisingly, people seek advice more often when they are unsure about their initial choice (Cooper, 1991) or when they are feeling anxious (Gino, Brooks & Schweitzer, 2012). When they seek this advice, they are more likely to turn to others whom they know to be accurate and trustworthy (Hofmann, Lei & Grant, 2009). Interestingly though, even when accurate advice is readily accessible, people do not always seek it out (Gardner & Berry, 1995). Why might individuals avoid seeking helpful information? One possibility, especially likely in the workplace, is that we fear seeking advice will cause others to view us as less competent. Contrary to common belief, people perceive advice seekers as *more* competent than individuals who do not seek advice (Brooks, Gino & Schweitzer, 2015). Another possibility for why individuals do not seek advice more often is that seeking advice implies we'll follow it (Liljenquist, 2010). Depending on the advice received, this may not always be the best or preferred choice for the advisee.

Receiving Advice

So what do people do when they receive advice? People can benefit greatly from learning information from others when completing challenging tasks or when exploring novel situations (Larrick & Soll, 2006). However, including information from others can also lead to suboptimal outcomes, so it is critical for people to figure out when and how to incorporate advice in order to improve decisions (Vroom & Jago, 1978). Many factors moderate the extent to which an advisee will incorporate the recommendation of an advisor, but advisees have a general tendency to

discount advice received (Yaniv & Kleinberger, 2000). More specifically, advisees place greater emphasis on their own opinion than an advisor's opinion because they have greater access to the reasons supporting their opinion (Yaniv, 2004).

While this ego-centric discounting of advice is common, some factors can mitigate this effect. First, people are reluctant to completely reject any advice offered to them, no matter how unhelpful. Even when experts receive advice from novices, the experts minimally incorporate the information provided to them in order to avoid the appearance of rejecting help (Harvey & Fischer, 1997). Second, expertise can outweigh personal opinions. For instance, patients incorporate the recommendation of an expert (their physician), even when that recommendation is in conflict with the patient's stated preference (Mendel et al., 2012). Third, the cost of advice also mitigates ego-centric discounting. People rely more heavily on advice they pay for than advice they receive freely, and this effect is driven by the same forces that cause the sunk-cost fallacy (Gino, 2008).

While Gino operationalized cost in the literal sense, requiring participants to pay for advice, it is easy to imagine solicited advice as having a higher social cost than unsolicited advice. Advisees must expend social capital to request information from another individual and obtain solicited advice, while they receive unsolicited advice without prompting their advisor. Additionally, the very act of asking for advice might cause an advisee to reflect on their own lack of confidence. Taken together, these suggest that people might rely more heavily on solicited advice than unsolicited advice. Furthermore, people show reactance when receiving unsolicited advice and often intentionally contradict that advice (Fitzsimons & Lehmann, 2004), perceiving it as "butting in" and critical (Goldsmith & Fitch, 1997). Receiving unsolicited advice can be so unwanted that it causes a psychophysical stress response in advisees (Deelstra et al., 2003).

Taken together, these factors suggest advisees are more likely to follow advice they solicit than that which they do not.

Giving Advice

Most of the existing literature on advice focuses on when people seek advice and what people do with it when they get it. Relatively less is known about how people give advice (Bonaccio & Dalal, 2006; Jonas & Frey, 2003). What is known about advice giving is often examined through the social psychological tradition of self-other differences. For example, physicians occasionally give unsolicited advice to patients in the form of medical recommendations for issues the patients did not think or want to discuss. When they do, physicians recommend different treatments for patients than they would choose for themselves (Ubel, Angott & Zikmund-Fisher, 2011).

More generally, advisors often focus on fewer dimensions of a decision and place the most weight on the dimension judged most socially important (e.g., more weight on job satisfaction over salary or benefits when advising between possible occupations). In contrast, individual decision makers focus on more dimensions of a decision and weigh the dimensions equally (Kray & Gonzalez, 1999), although this is not due to a lack of motivation on the part of advisors. Rather, advisors are motivated to be accurate but incorrectly infer the preferences of advisees (Kray, 2000). This demonstrates that advisors provide recommendations that differ from how they themselves would respond, but is their advice necessarily better or worse than an advisor-less individual's decision? On one hand, individuals often search through information only for evidence that supports their current views (confirmation bias; Wason, 1960). When forming a recommendation, advisors conduct a more balanced search including both supporting and disconfirming evidence (Jonas & Frey, 2003). On the other hand, when they provide their

recommendation to an advisee, advisors selectively include more supporting evidence to justify their choices (Jonas, Schultz-Hardt & Frey, 2005). This suggests advice could be either better or worse than the advisee's initial decision.

There is no single answer to whether advice is, on average, helpful, hurtful or neutral to advisees, and there is no answer to whether the quality of that advice increases, decreases or remains the same when advisors provide solicited or unsolicited advice. Given that advisees might rely more heavily on solicited advice than unsolicited advice, it is critical to know whether advisors give better or worse advice when solicited. The present work answers these questions and arrives at a paradox in advice giving. Solicited advice is, on average, worse than unsolicited advice, but once people have asked for advice, they heed it more. In a series of eight studies, I demonstrate that: 1) advisors are more confident and more accurate when providing unsolicited advice relative to solicited advice (Studies 1a, 1b, 2); 2) advisees incorporate solicited advice into their decisions more frequently and more completely than unsolicited advice (Studies 3, 4a, 4b, 5, 6); and 3) observers evaluate advice they overhear equally, regardless of whether or not that advice was solicited or unsolicited (Study 6). Finally, I explore whether the act of soliciting advice lowers advisees' confidence, thus driving them to incorporate solicited advice into their decisions more frequently (Study 6).

Study 1a

Study 1a examined the process of giving advice by recruiting participants to be advisors. Advisors were given the opportunity to provide solicited and unsolicited advice to another person, allowing me to examine how often advisors offer advice and how confident they are in that advice.

Participants

After reviewing common effect sizes in the advice literature, I decided to recruit advisors until either I had 60 analyzable advisors or the semester ended, whichever happened sooner. I recruited 64 advisors from the Harvard University subject pool. I excluded four because they knew the confederate, one because he did not follow the instructions, and one due to a computer malfunction. My final sample included 58 advisors (22 males, 34 females, 2 gender unknown; M age = 19.7 years, SD = 1.76 years). Advisors received course credit for participating and could earn an additional \$10 bonus during the experiment.

Procedure

When advisors arrived at the lab, a male experimenter greeted them and told them that the study was interactive and that he was waiting on another participant. Shortly after the advisor arrived, a female confederate entered the waiting area. To establish credibility, the confederate always asked the participant, “Hi, are you here for the trivia study?” The experimenter then greeted the advisor and the confederate and brought them to separate testing rooms. After the advisor provided informed consent, the experimenter explained that the experiment involved three parts: in the first part, the advisor and confederate would answer general knowledge questions on their own, and in the second and third parts, the two would interact with one another to answer more questions.

For Part 1 of the study, the experimenter told the advisor that he/she and the confederate would answer several general knowledge questions, but the advisor and the confederate would answer different sets of questions. The experimenter gave the advisor a survey containing 32 multiple-choice trivia questions, adapted from Moore et al. (2007, 2008) and shown in Appendix A. Below each question was a confidence scale that ranged from 0% to 100%, with labels at each

10% increment. The experimenter told the advisor to answer every question and to rate his or her confidence in each answer.

After advisors answered the trivia questions and reported their confidence in their answers, the experimenter explained Part 2. Advisors learned that in this part the confederate would be asked to answer the same trivia questions that the advisor had just been asked to answer. Because the advisor had already answered these questions, he/she now had the chance to help the confederate by providing advice. The experimenter explained that the confederate would earn \$1 for every correct answer he/she provided. The experimenter explained that in Part 3 of the experiment, the advisor and confederate would change roles and that the advisor would answer a new set of trivia questions and possibly earn money, while the confederate offered advice. In fact, there was no Part 3. I told advisors about Part 3 simply to motivate them to provide good advice in Part 2, which I hoped would make them believe that their partner would return the favor in Part 3. Because advisors did not actually have a chance to earn a bonus, I paid all advisors the maximum possible bonus of \$10.

Advisors learned that Part 2 involved two question types: “consulting questions” and “advising questions.” The rules of the game specified that on consulting questions, the confederate could ask for advice if she wished and if she did, then the advisor could provide it if he/she wished; but on advising questions, the confederate could not ask for advice, but the advisor could offer it if he/she wished. Thus, the answers to consulting questions constituted solicited advice trials and the answers to advising questions constituted unsolicited advice trials. On both solicited and unsolicited advice trials, then, advisors always had two response options: they could respond with advice or they could do nothing and wait for the next trial. As a red

herring, I also included two “no-activity” questions on which the confederate could not ask for advice and the advisor could not provide it.

I connected the advisor and the confederate through Skype’s messaging feature. By using screen sharing, the advisor could see which question the confederate was answering, and the two could communicate by typing. Importantly, advisors could see the question and answer choices, but they could not see the confederate. On the three unsolicited advice trials, the advisor had to choose whether or not to offer advice. On three of five solicited advice trials, the confederate sought advice by sending a message to the participant which read, “What do you think the answer is?” (I included two solicited advice trials on which the confederate did not ask for advice in order to increase the believability of the cover story). If the advisor chose to offer advice when solicited or when not solicited, he/she was instructed to type the words “I think the answer is X” where X was his/her answer to that question from Part 1.

The advisor and the confederate completed ten trials, which always corresponded to the first ten of the 32 trivia questions the advisor had answered in Part 1. Questions 4 and 9 were always no-activity trials; questions 1 and 6 were always solicited advice trials on which the confederate did *not* seek advice; and the remaining six questions were divided into two sets: questions 2, 5 and 8 and questions 3, 7 and 10. I randomly assigned advisors to one of two orders. For order 1, questions 2, 5 and 8 were solicited advice trials and questions 3, 7 and 10 were unsolicited advice trials, and for order 2, questions 2, 5 and 8 were unsolicited advice trials and questions 3, 7 and 10 were solicited advice trials. I observed no order effects in analyses, so I report all results collapsing across order.

After advisors completed Part 2, they answered a few demographic questions before being paid and debriefed.

Results

Study 1a aimed to answer two questions: 1) Are advisors more likely to offer advice when solicited than to offer advice when not solicited? and 2) Are advisors less confident when they offer solicited advice than when they offer unsolicited advice? To examine the first question, I calculated the proportion of trials on which advisors offered advice. Advisors were much more likely to offer the confederate advice when they were solicited by the confederate ($M = 58\%$; $SD = 17\%$) than when they were not solicited by the confederate ($M = 40\%$; $SD = 23\%$), $t(57) = 5.76$, $p < .001$, $d = .89$. In other words, advisors were more likely to give advice when requested.

Next, I examined whether advisors were less confident in the advice they gave when that advice was solicited than when it was unsolicited. I began by estimating the confidence threshold above which an advisor offered advice and below which he/she withheld advice. First, I standardized the confidence ratings across all trials within each advisor. Then, to estimate an advisor's *solicited advice threshold*, I inspected the advisor's standardized confidence ratings on each of the three solicited advice trials on which the confederate had requested advice. If the advisor had offered advice on all three of these trials, I calculated his/her solicited advice threshold by subtracting one from the lowest standardized confidence rating on these three trials. If the advisor had offered advice on just two of these trials, I calculated his/her solicited advice threshold by subtracting one from the lowest standardized confidence rating on these two trials. If the advisor had offered advice on just one of these trials, I calculated his/her solicited advice threshold by subtracting one from his/her standardized confidence rating on that one trial. Finally, if the advisor had offered no advice on these trials, I calculated his/her solicited advice threshold by adding one to his/her highest standardized confidence rating on the three solicited

advice trials on which the confederate had asked for advice. I estimated an advisor's *unsolicited advice threshold* using the same method on the three unsolicited advice trials.

The average unsolicited advice threshold was 65% ($SD = 26\%$), meaning that advisors had to be at least 65% confident in an answer in order to offer it to the confederate as unsolicited advice. The average solicited advice threshold was 54% ($SD = 28\%$), meaning that advisors had to be at least 54% confident in an answer in order to offer it when solicited by the confederate. These two values differed, $t(57) = -3.47$, $p = .001$, $d = .41$, indicating that solicitation causes advisors to offer advice in which they have less confidence.

Study 1b

Study 1b replicated and expanded the findings of Study 1a. In this study, I recruited online participants to be advisors. As with Study 1a, advisors were given the opportunity to provide solicited and unsolicited advice to another person, allowing me to examine how often advisors offer advice and how confident they are in that advice.

Participants

Based on the effect sizes from Study 1a, I estimated that I would need 49 advisors to achieve a power of .8. Because they participated online instead of in the lab, I hoped to recruit more advisors than my estimate. I recruited 200 advisors from Amazon Mechanical Turk. I excluded two who had zero variability in their responses. My final sample included 198 advisors (115 males, 83 females; M age = 36.9 years, $SD = 12.1$ years). Advisors received \$1.50 for participating in a 15-minute survey.

Procedure

After advisors provided informed consent, the instructions explained that the experiment involved two parts: in the first part, advisors would answer general knowledge questions on their

own, and in the second part, advisors would interact with a confederate to answer more questions.

Next, advisors answered 10 multiple-choice trivia questions, adapted from Moore et al. (2007, 2008) and shown in Appendix A (first 10 questions). Below each question were two follow-up questions. The first follow-up question was, “How likely is it that you have the right answer?” and the second follow-up question was, “How likely is it that the average person would have the right answer?” Response options for both questions ranged from 0% to 100%, with labels at each 10% increment. The instructions told the advisor to answer every trivia question and the subsequent follow-up questions.

I then ostensibly linked advisors with another participant on Amazon Mechanical Turk. To make this believable, I first had advisors select an avatar from a list of six avatars. Next, I displayed a ticking clock while ostensibly linking them with the other participant. I then told advisors that they had been linked with another participant and that their own ID number was 17. Finally, to reinforce the cover story, I displayed the advisor’s avatar and what was ostensibly the other participant’s avatar side by side, and then asked the advisor to re-select his/her own avatar.

After the linking process, the instructions explained Part 2. Advisors learned that in this part the other participant would be asked to answer the same trivia questions that the advisor had just been asked to answer. Because the advisor had already answered these questions, he/she now had the chance to help the other participant by providing advice.

Advisors learned that Part 2 involved two question types: “consulting questions” and “advising questions.” The rules of the game specified that on consulting questions, the other participant could ask for advice if he/she wished and if he/she did, then the advisor could provide it if he/she wished; but on advising questions, the other participant could not ask for advice, but

the advisor could offer it if he/she wished. Thus, the answers to consulting questions constituted solicited advice trials and the answers to advising questions constituted unsolicited advice trials. On both solicited and unsolicited advice trials, then, advisors always had two response options: they could respond with advice or they could do nothing and wait for the next trial. As a red herring, I also included two “no-activity” questions on which the other participant could not ask for advice and the advisor could not provide it.

On the three unsolicited advice trials, the advisor had to choose whether or not to offer advice. On three of five solicited advice trials, the other participant ostensibly sought advice, and the survey displayed a statement that read, “The other worker has chosen to consult you on this question.” (I included two solicited advice trials on which the other participant did not ask for advice in order to increase the believability of the cover story). If the advisor chose to offer advice when solicited or when not solicited, he/she had to select a check box next to the statement, “I want to give my advice, and I think the answer is X” where X was his/her answer to that question from Part 1.

The advisor and the other participant completed ten trials, one for each of the trivia questions the advisor had answered in Part 1. Questions 4 and 9 were always no-activity trials; questions 1 and 6 were always solicited advice trials on which the other participant did *not* seek advice; and the remaining six questions were divided into two sets: questions 2, 5 and 8 and questions 3, 7 and 10. I randomly assigned advisors to one of two orders. For order 1, questions 2, 5 and 8 were solicited advice trials and questions 3, 7 and 10 were unsolicited advice trials, and for order 2, questions 2, 5 and 8 were unsolicited advice trials and questions 3, 7 and 10 were solicited advice trials. I observed no order effects in analyses, so I report all results collapsing across order.

After advisors completed Part 2, they answered a few demographic questions before being paid and debriefed.

Results

Study 1b aimed to replicate the results of Study 1a with a larger and more diverse sample. In Study 1a I found that 1) advisors were less likely to offer unsolicited advice than solicited advice and 2) advisors were less confident in the advice they provided when solicited rather than unsolicited. Like Study 1a, I calculated the proportion of trials on which advisors offered advice, and advisors were much more likely to offer the other participant advice when they were solicited by the other participant ($M = 66\%$; $SD = 33\%$) than when they were not solicited by the other participant ($M = 53\%$; $SD = 35\%$), $t(197) = 4.76$, $p < .001$, $d = .38$. In other words, advisors were more likely to give advice when requested.

Next, I examined whether advisors were less confident in the advice they gave when that advice was solicited than when it was unsolicited. I began by estimating the confidence threshold above which an advisor offered advice and below which he/she withheld advice. First, I standardized ratings to the question “How likely is it that you have the right answer?” across all trials within each advisor. Then, to estimate an advisor’s *solicited advice threshold*, I inspected the advisor’s standardized confidence ratings on each of the three solicited advice trials on which the other participant had requested advice. If the advisor had offered advice on all three of these trials, I calculated his/her solicited advice threshold by subtracting one from the lowest standardized confidence rating on these three trials. If the advisor had offered advice on just two of these trials, I calculated his/her solicited advice threshold by subtracting one from the lowest standardized confidence rating on these two trials. If the advisor had offered advice on just one of these trials, I calculated his/her solicited advice threshold by subtracting one from his/her

standardized confidence rating on that one trial. Finally, if the advisor had offered no advice on these trials, I calculated his/her solicited advice threshold by adding one to his/her highest standardized confidence rating on the three solicited advice trials on which the other participant had asked for advice. I estimated an advisor's *unsolicited advice threshold* using the same method on the three unsolicited advice trials.

The average unsolicited advice threshold was 63% ($SD = 27\%$), meaning that advisors had to be at least 63% confident in an answer in order to offer it to the other participant as unsolicited advice. The average solicited advice threshold was 56% ($SD = 27\%$), meaning that advisors had to be at least 56% confident in an answer in order to offer it when solicited by the other participant. These two values differed, $t(197) = -2.78$, $p = .006$, $d = .26$, indicating that solicitation causes advisors to offer advice in which they have less confidence.

These results replicated the findings of Study 1a and greatly expanded the generalizability of those results. This study 1) involved a larger and more diverse advisor population and 2) used a new, albeit conceptually similar, primary dependent measure for confidence ratings. Furthermore, in this study advisors never met a live confederate. Rather, they interacted with a computer program and were told they had been paired with a real partner. Simply being asked for advice from an ostensibly anonymous, online individual via text on a computer screen was powerful enough to cause advisors to lower their thresholds for giving advice. In other words, when asked, people will give advice that they would not otherwise give.

Study 2

Studies 1a & 1b demonstrated that people are more likely to offer advice when solicited and that soliciting advice causes advisors to lower their confidence thresholds. Study 2 asked whether soliciting advice also lowers its overall quality. In addition, Study 2 used a between-

subjects manipulation of solicitation, rather than a within-subjects manipulation like Studies 1a and 1b.

Participants

Based on the effect sizes from Studies 1a and 1b and the between-subjects design of Study 2, I estimated that I would need 292 advisors to achieve a power of .8. I recruited 300 advisors from Amazon Mechanical Turk. All advisors were kept in the final sample (159 males, 141 females; M age = 34.6 years, SD = 10.9 years). Advisors received \$1.00 for participating in a 10-minute survey.

Procedure

After advisors provided informed consent, they read a cover story that explained that the study was designed to collect data on people's communication habits, skills and preferences and that it involved several tasks, such as reading news articles, rating jokes, or interacting with other participants. To reinforce the cover story, advisors then read three jokes and rated how funny each joke was.

Next, the instructions explained that advisors would be interacting with another participant who was answering a trivia question. I then ostensibly linked advisors with another participant on Amazon Mechanical Turk. To make this believable, I displayed a ticking clock while ostensibly linking advisors with the other participant and told advisors that they had been linked with another participant.

I then randomly assigned advisors to the solicited or unsolicited condition. In both conditions, advisors read "The other worker is viewing the following question: How many feet are in a mile?" Advisors in the solicited condition then received a message that ostensibly came from the other participant asking for advice. The message read "hey. what do you think the

answer is?” Then, advisors in the solicited condition were asked to choose between these two responses:

- I want to respond to the other participant. “I think the answer is...

- I do not want to respond to the other participant.

Advisors in the unsolicited condition received no message from the other participant, and were asked to choose between these two responses:

- I want to speak up to the other participant. “I think the answer is...

- I do not want to speak up to the other participant.

In both conditions, if advisors chose to offer advice, they typed that advice into the empty text box.

After advisors completed this part, they answered a few demographic questions before being paid and debriefed.

Results

Study 2 aimed to answer two questions: 1) Are advisors more likely to offer advice when solicited than to offer advice when not solicited? and 2) Is the solicited advice they offer of poorer quality than the unsolicited advice they offer? To examine the first question, I calculated the percent of advisors in each condition who offered advice. Many more advisors offered the other participant advice when they were solicited by the other participant ($M = 69\%$; $SD = 46\%$) than when they were not solicited by the other participant ($M = 47\%$; $SD = 50\%$), $\chi^2(1, N = 300) = 14.3, p < .001$, *Cramér's V* = .22. In other words, advisors were more likely to give advice when requested to do so.

I then analyzed the accuracy of solicited and unsolicited advice. For the subset of advisors who provided advice ($n = 175$), I coded an advisor's response as accurate if his/her answer to the question "How many feet are in a mile?" was 5280, and I coded his/her answer as inaccurate if it was anything else. Advisors in the solicited condition gave advice that was accurate 41.5% of the time, whereas advisors in the unsolicited condition gave advice that was accurate 59.4% of the time, $\chi^2(1, N = 175) = 5.37, p = .021$, *Cramér's V* = .18. In other words, solicited advice was of lower quality than unsolicited advice.

Study 3a

Studies 1a, 1b, and 2 show that advisors are more likely to give advice when asked for it, but that they are less confident in the advice they give, and that the advice they give is of lower quality. In Study 3 I turned my attention to advisees to see if they responded differently to solicited and unsolicited advice. I predicted that advisees would be more likely to follow advice they had asked for than advice they had received unsolicited.

Participants

Based on the effect sizes from my previous online studies and the between-subjects design of Study 3a, I hoped to recruit 600 participants as advisees. I successfully recruited 604 advisees from Amazon Mechanical Turk. All advisees were kept in the final sample (355 males, 247 females; M age = 31.8 years, $SD = 10.1$ years; 2 advisees chose not to answer demographic questions). Advisees received \$1.00 for participating in a 10-minute survey.

Procedure

After advisees provided informed consent, they read a cover story that explained that the study was designed to collect data on people's communication habits, skills and preferences and that it involved several tasks, such as reading news articles, rating jokes, or interacting with other

participants. To reinforce the cover story, advisees then read three jokes and rated how funny each joke was.

Next, the instructions explained that advisees would be answering a trivia question and interacting with another participant who “can communicate with you about the trivia question.” I then ostensibly linked advisees with another participant on Amazon Mechanical Turk. To make this believable, I displayed a ticking clock while ostensibly linking advisees with the other participant and told advisees that they had been linked with another participant. Advisees also received a message that read, “Remember, the other participant has the option to send you a message when you are answering the trivia question.”

I then presented advisees with the following trivia question: “In the story of the Trojan War, what son of King Priam dies in battle with the Greek warrior Achilles?” followed by a set of potential answers: “A. Patroclus; B. Ajax; C. Hector; D. Antilochus.” Advisees were instructed to think about their answer, but they could not yet submit a response.

I then randomly assigned advisees to the solicited or unsolicited condition. In the unsolicited condition, after reading the trivia question advisees received the following message: “*The other participant has spoken up:* OTHER PARTICIPANT: hey. i think the answer is Ajax.” In the solicited condition, after reading the trivia question advisees were instructed to ask for advice by sending a message to the other participant. Importantly, advisees were required to request advice and were not given the option of abstaining. This was crucial to avoid selection effects. In the unsolicited condition advisees always received advice; therefore, it would be unfair to compare that group to only those advisees in the solicited condition who chose to ask for advice. Presumably, those who freely chose to ask for advice might need the advice more and thus be more likely to follow it. This would only amplify my effect, so by requiring advisees to

ask for advice in the solicited condition, I am providing a very conservative test of my hypothesis. To support the cover story of studying communication habits, I showed advisees four advice solicitations: “1) hey. what do you think the answer is?; 2) hi! what do you think the right option is?; 3) Hello, what do you think the correct response is?; 4) hi there. which choice do you think is correct?” I then asked advisees to choose one of the four messages and type it into a text box. The chosen message was ostensibly sent to the other participant. After sending the message, advisees in the solicited condition received the same advice as advisees in the unsolicited condition (i.e., “OTHER PARTICIPANT: hey. i think the answer is Ajax.”). Note that the correct answer to the question is Hector, so in both conditions advisees received incorrect advice. Given that many advisees might know the answer to the trivia question, I decided to give advisees incorrect advice in order to prevent a ceiling effect on percent of advisees following the advice. After receiving advice, advisees viewed the trivia question and were asked to submit an answer.

I then asked advisees several follow-up questions. First, I asked, “What answer would you have given before the other participant communicated with you?” Next, I asked how certain advisees were that the answer they gave was correct. Advisees responded on a Likert scale that ranged from 1 (with an endpoint labeled “not at all certain”) to 7 (with an endpoint labeled “extremely certain”). I also used a “feeling thermometer” to gauge advisees’ feelings toward their ostensible advisor. The thermometer had labels at 0 (Very cold or unfavorable feeling), 50 (Mixed feeling or no feeling at all), and 100 (Very warm or favorable feeling). Finally, advisees answered a few demographic questions before being paid and debriefed.

Results

This study investigated the question: Are advisees more likely to follow solicited advice than unsolicited advice? To answer this question, I compared the percent of advisees who gave the incorrect answer Ajax, as advised, in the solicited and unsolicited conditions. Whereas 59% ($SD = 49\%$) of advisees in the solicited condition answered Ajax, only 49% ($SD = 50\%$) of advisees in the unsolicited condition answered Ajax. Advisees were more likely to take bad advice when they asked for it than when someone offered it to them, $\chi^2(1, N = 604) = 5.64, p = .018$, *Cramér's V* = .10. This means that simply being required to ask for advice from an anonymous, online individual actually made advisees more likely to follow the advice they asked for.

I next examined how certain advisees were in the answers they provided. I found that, regardless of whether or not they followed the advice, advisees who were required to solicit advice were more certain that their answer was correct ($M = 3.83, SD = 1.99$) than were advisees who received unsolicited advice ($M = 3.44, SD = 1.97$), $t(602) = 2.43, p = .015, d = .20$. So not only were advisees more willing to follow advice that they had asked for than advice that they had received unsolicited, but they were more certain that their answer was correct if they had asked for advice than if they had received advice unsolicited.

While more advisees in the solicited condition ($M = 52\%, SD = 50\%$) than in the unsolicited condition ($M = 42\%, SD = 49\%$) reported that they would have answered Hector (which happened to be the correct answer) if they had not received any advice, this difference was only marginally significant, $\chi^2(3, N = 604) = 7.67, p = .053$, *Cramér's V* = .11. Additionally, advisees in the solicited condition felt as warm toward their partner ($M = 63.1, SD = 16.8$) as did advisees in the unsolicited condition ($M = 61.8, SD = 18.3$), $t(601) = .926, p = .355, d = .07$. This

suggests that soliciting advice does not cause the advisee to follow the advice more than unsolicited advice because of increased liking for the advisor.

Study 3b

In Study 3a I found evidence that advisees are more likely to follow advice when they ask for it than when they receive the same advice unsolicited. In Study 3b I aimed to conceptually replicate this result with a different trivia question.

Participants

I hoped to recruit the same number of participants (600) as advisees for Study 3b as for Study 3a. I successfully recruited 600 advisees from Amazon Mechanical Turk. All advisees were kept in the final sample (307 males, 293 females; M age = 32.4 years, SD = 10.2 years). Advisees received \$1.00 for participating in a 10-minute survey.

Procedure

Study 3b used almost exactly the same procedure as did Study 3a. However, instead of asking advisees about the Trojan war, I asked them to report how many feet are in a mile. The advice advisees received always suggested that the answer was 5260. As in Study 3a, this was incorrect, which is to say that all advisees received bad advice. After receiving the advice, advisees responded by providing a numerical answer rather than choosing an answer from a list as in Study 3a.

Results

This study investigated the question: Are advisees more likely to follow solicited advice than unsolicited advice? To answer this question, I compared the percent of advisees who gave the incorrect answer 5260, as advised, in the solicited and unsolicited conditions. Whereas 48% (SD = 50%) of advisees in the solicited condition answered 5260, only 32% (SD = 47%) of

advisees in the unsolicited condition answered 5260. Advisees were more likely to take bad advice when they asked for it than when someone offered it to them, $\chi^2(1, N = 600) = 16.2, p < .001$, *Cramér's V* = .16. This means that simply being required to ask for advice from an anonymous, online individual actually made advisees more likely to follow the advice they asked for.

I next examined how certain advisees were in the answers they provided. Unlike Study 3a, I found that, regardless of whether or not they followed the advice, advisees who were required to solicit advice were as certain that their answer was correct ($M = 4.56, SD = 2.13$) as were advisees who received unsolicited advice ($M = 4.40, SD = 2.22$), $t(598) = 0.90, p = .368, d = .07$.

While more advisees in the solicited condition ($M = 43\%, SD = 50\%$) than in the unsolicited condition ($M = 39\%, SD = 49\%$) reported that they would have answered 5280 (which happened to be the correct answer) if they had not received any advice, this difference was not significant, $\chi^2(1, N = 600) = .879, p = .349$, *Cramér's V* = .04. Additionally, advisees in the solicited condition felt as warm toward their partner ($M = 63.0, SD = 17.6$) as did advisees in the unsolicited condition ($M = 61.3, SD = 19.2$), $t(598) = 1.13, p = .259, d = .09$. This suggests that soliciting advice does not cause the advisee to follow the advice more than unsolicited advice because of increased liking for the advisor.

In addition to replicating Study 3a with a new question, Study 3b also allowed me to measure advice-taking in a second way. To do so, I first calculated a measure that is similar to what researchers have called the “weight-of-advice” (Gino, 2008; Yaniv, 2004). In traditional weight-of-advice (WOA) paradigms, participants provide an initial estimate for a numerical question, they then receive advice about that question, and they then provide a second estimate to

that question. The “weight-of-advice” is defined as the ratio of 1) the difference between the second estimate and the initial estimate and 2) the difference between the advice and the initial estimate. That is, $WOA = \frac{|\text{second estimate} - \text{initial estimate}|}{|\text{advice} - \text{initial estimate}|}$. Higher WOA values indicate greater use of advice.

Instead of the traditional weight-of-advice measure, I calculated a “self-perceived weight-of-advice.” I used advisees’ answer to “How many feet are in a mile?” as their second estimate, and I used advisees’ answer to “What answer would you have given before the other participant communicated with you?” as their initial estimate. I used 5260, the advice offered by the other participant, as the advice. Instead of measuring how much the advice changed advisees’ behavior, my “self-perceived weight-of-advice” measured how much advisees *thought* the advice changed their behavior.

Twenty-six advisees (4%) had an initial estimate of 5260, exactly the same value as the advice given, which produced a division by zero in the self-perceived weight-of-advice formula. Following previous literature (see Gino, 2008), I excluded these advisees from this analysis. Of the remaining 574 advisees, 23 (4%) had self-perceived weight-of-advice values greater than 1. Again following previous literature, I set any self-perceived weight-of-advice value greater than 1 to be equal to 1.

To answer if advisees use solicited advice more than unsolicited advice, I compared the “self-perceived weight-of-advice” of advisees in the solicited and unsolicited condition. Advisees in the solicited condition thought they used the advice they received from the other participant more (self-perceived weight-of-advice $M = .50$; $SD = .50$) than advisees in the unsolicited condition thought they used the advice they received from the other participant (self-perceived weight-of-advice $M = .38$; $SD = .47$). Advisees thought they used bad advice more

when they asked for it than when someone offered it to them, $t(572) = 2.86, p = .004, d = .25$.

This means that simply being required to ask for advice from an anonymous, online individual made advisees think they used the advice they asked for more.

Study 4

In Studies 3a and 3b I found evidence that advisees are more likely to follow advice when they ask for it than when they receive the same advice unsolicited. Using my “self-perceived weigh-of-advice” in Study 3b, I also showed that advisees *think* they use advice more when they ask for it than when they don’t. In Study 4 I wanted to use the traditional “weight-of-advice” paradigm to show that advisees *actually* use advice more when they ask for it than when they don’t. To do this, I asked advisees to answer a question both before and after receiving advice.

Dependent Measure

In the weight-of-advice paradigm (Gino, 2008; Yaniv, 2004), advisees provide an initial estimate for a numerical question, they then receive advice about that question, and they then provide a second estimate to that question. The “weight-of-advice” is defined as the ratio of 1) the difference between the second estimate and the initial estimate and 2) the difference between the advice and the initial estimate. That is, $WOA = \frac{|\text{second estimate} - \text{initial estimate}|}{|\text{advice} - \text{initial estimate}|}$. A value of 0 means the advisee did not change her initial response (and therefore ignored the advice) and a value of 1 means the advisee changed her initial response to perfectly match the advice given.

Note that WOA values usually fall between 0 and 1, but they can be 1) undefined if an advisee’s initial estimate is equal to the advice given or 2) greater than 1 if an advisee’s second estimate is further from the initial estimate than the advice is from the initial estimate. Ten advisees (1.7%) had an initial estimate of 5260, exactly the same value as the advice given, which produced a division by zero in the weight-of-advice formula. Following previous literature

(see Gino, 2008), I excluded these advisees from WOA analyses. Of the remaining 590 advisees, 35 (5.9%) had WOA values greater than 1. I analyzed WOA values greater than 1 in three ways. In one set of analyses, following previous literature (Gino, 2008; Yaniv, 2004), I set WOA values greater than 1 to be equal to 1. In a second set of analyses, I adjusted WOA values greater than 1 to be as far below one as they had initially been above it (e.g., a value of 1.25 was transformed into 0.75). In a third set of analyses, I excluded WOA values greater than 1. All analyses yielded consistent results. Following conventions in the literature (see Gino, 2008), I report analyses where I set WOA values greater than 1 to be equal to 1.

Participants

I hoped to recruit the same number of participants (600) as advisees for Study 4 as for Studies 3a and 3b. I successfully recruited 600 advisees from Amazon Mechanical Turk. All advisees were kept in the final sample (306 males, 294 females; M age = 35.5 years, SD = 11.1 years). Advisees received \$1.00 for participating in a 10-minute survey.

Procedure

After advisees provided informed consent, they read a cover story that explained that the study was designed to collect data on people's communication habits, skills and preferences and that it involved several tasks, such as reading news articles, rating jokes, or interacting with other participants. To reinforce the cover story, advisees then read three jokes and rated how funny each joke was.

Next, the instructions explained that advisees would be answering a trivia question and interacting with another participant who "can communicate with you about the trivia question." I then ostensibly linked advisees with another participant on Amazon Mechanical Turk. To make this believable, I displayed a ticking clock while ostensibly linking advisees with the other

participant and told advisees that they had been linked with another participant. Advisees also received a message that read, “Remember, the other participant has the option to send you a message when you are answering the trivia question.”

I then presented advisees with the following trivia question: “How many feet are in a mile?” Unlike my previous studies, I then asked advisees to provide an answer to this question *before* they received advice. I used their answer as the initial estimate for WOA calculations.

I then randomly assigned advisees to the solicited or unsolicited condition. In the unsolicited condition, after reading the trivia question and providing their initial estimate advisees received the following message: “*The other participant has spoken up:* OTHER PARTICIPANT: hey. i think the answer is 5260.” In the solicited condition, after reading the trivia question and providing their initial estimate advisees were instructed to ask for advice by sending a message to the other participant. Importantly, as in Studies 3a and 3b, advisees were required to request advice and were not given the option of abstaining. To support the cover story of studying communication habits, I showed advisees four advice solicitations: “1) hey. what do you think the answer is?; 2) hi! what do you think the right option is?; 3) Hello, what do you think the correct response is?; 4) hi there. which choice do you think is correct?” I then asked advisees to choose one of the four messages and type it into a text box. The chosen message was ostensibly sent to the other participant. After sending the message, advisees in the solicited condition received the same advice as advisees in the unsolicited condition (i.e., “OTHER PARTICIPANT: hey. i think the answer is 5260.”). Note that the correct answer to the question is 5280, so in both conditions advisees received incorrect advice. Given that many advisees might know the answer to the trivia question, I decided to give advisees incorrect advice in order to prevent a ceiling effect on percent of advisees following the advice. I used 5260, the

advice given to all advisees, as the advice value for WOA calculations. After receiving advice, advisees viewed the trivia question again and were asked to answer it. I used this answer as the second estimate for WOA calculations.

I then asked advisees several follow-up questions. First, I asked how certain advisees were that the answer they gave was correct. Advisees responded on a Likert scale that ranged from 1 (with an endpoint labeled “not at all certain”) to 7 (with an endpoint labeled “extremely certain”). I also used a “feeling thermometer” to gauge advisees’ feelings toward their ostensible advisor. The thermometer had labels at 0 (Very cold or unfavorable feeling), 50 (Mixed feeling or no feeling at all), and 100 (Very warm or favorable feeling). Finally, advisees answered a few demographic questions before being paid and debriefed.

Results

This study investigated two questions: 1) Are advisees more likely to follow solicited advice than unsolicited advice? and 2) Do advisees use solicited advice more than unsolicited advice? To answer the first question, I compared the percent of advisees whose second estimate was the incorrect answer 5260, as advised, in the solicited and unsolicited conditions. Whereas 44% ($SD = 50\%$) of advisees in the solicited condition gave a second estimate of 5260, only 35% ($SD = 48\%$) of advisees in the unsolicited condition gave a second estimate of 5260. Advisees were more likely to take bad advice when they asked for it than when someone offered it to them, $\chi^2(1, N = 600) = 5.39, p = .02$, *Cramér’s V* = .09. This means that simply being required to ask for advice from an anonymous, online individual actually made advisees more likely to follow the advice they asked for.

To answer if advisees use solicited advice more than unsolicited advice, I compared the “weight-of-advice” of advisees in the solicited and unsolicited condition. Advisees in the

solicited condition used the advice they received from the other participant more (weight-of-advice $M = .55$; $SD = .49$) than advisees in the unsolicited condition used the advice they received from the other participant (weight-of-advice $M = .46$; $SD = .48$). Advisees used bad advice more when they asked for it than when someone offered it to them, $t(588) = 2.19$, $p = .029$, $d = .19$. This means that simply being required to ask for advice from an anonymous, online individual made advisees use the advice they asked for more.

I next examined how certain advisees were in the answers they provided. Like Study 3b, I found that, regardless of whether or not they followed the advice, advisees who were required to solicit advice were as certain that their answer was correct ($M = 4.36$, $SD = 2.17$) as were advisees who received unsolicited advice ($M = 4.51$, $SD = 2.12$), $t(598) = -0.86$, $p = .392$, $d = .07$.

While fewer advisees in the solicited condition ($M = 34\%$, $SD = 47\%$) than in the unsolicited condition ($M = 37\%$, $SD = 48\%$) gave an initial estimate of 5280 (which happened to be the correct answer), this difference was not significant, $\chi^2(1, N = 600) = .497$, $p = .481$, *Cramér's V* = .03. Additionally, advisees in the solicited condition felt as warm toward their partner ($M = 64.0$, $SD = 19.1$) as did advisees in the unsolicited condition ($M = 63.1$, $SD = 17.0$), $t(598) = .535$, $p = .593$, $d = .05$. This suggests that soliciting advice does not cause the advisee to follow the advice more than unsolicited advice because of increased liking for the advisor.

Study 5

Studies 3a, 3b and 4 provided evidence that advisees are more likely to follow advice when they ask for it than when they receive the same advice unsolicited. In addition, Study 3b showed that advisees *think* they use advice more when they ask for it than when they don't, and Study 4 showed that advisees *actually do* use advice more when they ask for it than when they

don't. But does this happen in everyday life? To find out, I examined the consequences of receiving solicited or unsolicited advice on tourists who were trying to find a specific location in Harvard Yard.

Participants

Participants were lost tourists who approached an experimenter in Harvard Yard and asked for directions. It is important to note that in order to be sure I was studying lost tourists, I waited for participants to approach the experimenter, rather than having the experimenter approach potential participants and asking them if they were lost. Because I wanted tourists to exhibit natural behavior, the IRB agreed that I did not need to request informed consent before the experiment began, and that instead, after the experiment was complete, I could debrief tourists and request the use of their data. Because I wanted the study to be quick for tourists, I did not collect age or gender data.

I conducted this study with the help of four summer research assistants. Before they collected data from the first lost tourist, the research assistants spent hours practicing the scripted interaction between experimenter, confederate and tourist. Because of this training, I decided to collect data from as many tourists as possible until the research assistants left campus that summer. They collected data from 162 lost tourists during the months of July and August.

Of the original 162 lost tourists, ten were excluded because of a language barrier that made it difficult for the experimenter to communicate with the tourist. Eight tourists were excluded because they explicitly mentioned that they had received conflicting directions immediately before asking directions of the experimenter. Two tourists were excluded because they asked directions to numerous locations. Two tourists were excluded because the confederate did not know the location of the requested destination. One tourist was excluded because the

tourist and experimenter were interrupted during the script and asked to take a picture for someone else. The final sample included 139 lost tourists.

Procedure

I wanted this study to demonstrate natural behavior outside of a lab context, so the procedure involved stationing one college-age female experimenter and one college-age male confederate in Harvard Yard near an exit into Harvard Square. The experimenter wore a Harvard t-shirt and stood in the Yard as if she were there to provide assistance to visitors. The confederate was dressed as a student with a backpack seated at a table near the experimenter. The confederate ostensibly focused on his phone and ignored the experimenter, but he was situated so that he could overhear any conversations the experimenter had.

The experiment began when an individual (hereinafter called “the lost tourist”) approached the experimenter and asked for directions to a single location (e.g., the library). In the unsolicited condition, the experimenter responded to the lost tourist by saying that she was unfamiliar with the location. The confederate then joined the conversation without being asked, acting as though he had overheard the lost tourist asking for directions. The confederate repeated the location (“The library...”) and then provided accurate directions by pointing to a particular path or walkway and saying something like, “I think it’s in that building over there.” In the solicited condition, the experimenter also responded to the lost tourist who had asked directions by saying that she was unfamiliar with the location, but then she looked around and said, “But I don’t know, maybe you could ask this guy” and then pointed to the confederate. Lost tourists in the solicited condition naturally turned and repeated their question to the confederate, who then provided directions by pointing to a particular path or walkway and saying something like, “I think it’s in that building over there.”

In both conditions, immediately after the confederate gave directions to the lost tourist, both the experimenter and confederate turned and walked away so that the lost tourist could choose his or her path without being overtly observed. Immediately after he gave directions to the lost tourist, the confederate said, “Oh, I have to get to class” and then walked away. At the same time, the experimenter took out her phone, as if she were receiving a call, and said to the lost tourist, “Excuse me” as she walked away. The experimenter then answered the fake call, “Hello? I’m actually at work right now... can you just give me a few minutes? Great. Thanks, bye.” Prior to the study, the experimenter had prepared her phone by setting the lock screen to a screen shot of her phone when she was actually receiving a call in case the lost tourist saw her phone when she received the fake call.

After walking away, the experimenter surreptitiously observed the lost tourist’s behavior. The experimenter coded the lost tourist as “following directions” if he or she walked down the path indicated by the confederate, and as “not following directions” if he or she stopped to ask someone else for directions, went in a direction other than the one indicated by the confederate, or looked at a map. After recording the lost tourist’s behavior, the experimenter ran after him or her, properly debriefed him or her, and then asked for his or her permission to use his or her data.

Results

I hypothesized that lost tourists who were tricked into soliciting directions from a confederate would be more likely to follow those directions than would lost tourists who received the same directions from the confederate without soliciting them.

To test this hypothesis, I compared the percent of lost tourists who followed the directions in the solicited and unsolicited conditions. Eighty-six percent ($SD = 35\%$) of the lost tourists followed the confederate’s advice when they solicited it from him, but only 68% ($SD =$

47%) followed his advice when he offered it unsolicited, $\chi^2(1, N = 139) = 6.60, p = .010$, *Cramér's V* = .22. In other words, simply being instructed to ask a stranger for directions made lost tourists more likely to follow those directions. It is interesting to note that lost tourists in both conditions began by asking for directions, but only in the solicited condition were they then tricked into making a direct request of the person who ended up giving them the advice. It is also important to note that the experimenter and confederate could not be kept blind to condition in this study, and therefore the results must be viewed with some caution.

Study 6

Studies 1-5 provide evidence that 1) advisors are more confident when providing unsolicited rather than solicited advice, and the advice they give is more accurate; and 2) advisees are more likely to use solicited rather than unsolicited advice. In other words, solicitation makes advice worse while increasing the likelihood that it will be followed. It is easy to understand why solicitation makes advice worse: People will offer advice about which they are highly confident whether they are asked or not, but they are reluctant to offer advice in which they are less confident unless invited to do so, presumably because the solicitation shifts the moral burden of giving bad advice from the advisor to the advisee (“Okay, so it turned out to be Hector instead of Ajax—but hey, he asked me what I thought so I told him.”). But why does asking for advice make people more likely to take it? There are two reasons why advisees might be more likely to follow solicited than unsolicited advice: 1) soliciting advice may increase the likelihood that an advisee will follow that advice, and 2) receiving unsolicited advice may decrease the likelihood that an advisee will follow that advice. These reasons are not mutually exclusive and may describe two distinct psychological mechanisms.

Both self-perception theory and impression management could explain why asking for advice makes people more likely to take it. On one hand, people might be more likely to follow the advice they ask for because the very act of asking causes them to question their confidence in an answer. People may assume that if they asked for advice, they must need it, and this may make them more likely to take the advice they receive (see Bem, 1967). According to a self-perception account, requesting information, even when required to do so, should cause people to use that information more even when people's behavior is unobservable. On the other hand, people might be more likely to follow the advice they ask for because they want to maintain a positive impression in the eyes of others. According to an impression management account, requesting information should cause people to use that information more only when they know that others will observe their behavior. It is important to note that while self-perception and impression management are distinct, they are not mutually exclusive.

Impression management can help explain why, in everyday life, asking for advice makes people more likely to take it. We have a desire to avoid the appearance of rejecting help (Harvey & Fischer, 1997), and just asking for advice implies to our advisor that we'll use it (Liljenquist, 2010). It might even be perceived as rude to disregard advice we have requested. Indeed, advisors penalize those who disregard their advice (Blunden, Logg, Brooks, John & Gino, 2018). And yet, while impression management may play a role in explaining why asking for advice makes people more likely to take it, it cannot, by itself, explain the results of the foregoing studies. First, in Studies 3a, 3b and 4 advisees received advice from an anonymous, online advisor who could not possibly observe their decisions. Second, in Study 5, immediately after the confederate gave directions to the lost tourist, the experimenter and confederate turned and walked away so that the lost tourist could choose his or her path without being overtly observed.

Taken together, these studies suggest that impression management alone cannot explain why people in these studies were more likely to use solicited rather than unsolicited advice. This suggests that self-perception must have played a role. Study 6 tests this suggestion by measuring self-perceived confidence as a mediator.

In addition to testing whether self-perception causes advisees to follow solicited advice more than unsolicited advice, Study 6 also tests whether receiving unsolicited advice causes advisees to follow that advice less. If advisees knew that unsolicited advisors were, on average, more confident and more accurate, then we'd expect advisees to heed unsolicited advice more often. However, when advisees think of receiving unsolicited advice, the most salient examples may be misleading. Advisees might recall "that one advisor" who simply has to share her advice on everything or the car salesman who insists on providing advice, likely from an ulterior motive. These outspoken advisors taint an advisee's view of any unsolicited advice by undermining the credibility and trustworthiness of unsolicited advisors, an effect I will call the untrusted advisor account.

Study 6 tests this untrusted advisor account of why advisees follow unsolicited advice less often than solicited advice by examining the behavior of observers. When an observer overhears solicited advice, she is not beholden to follow it through self-perception or impression management because she herself never asked for advice. Being unaffected by the possible effect of soliciting advice, observers isolate the possible effect of receiving unsolicited advice and provide a direct test of the untrusted advisor account. To the extent that all individuals, advisees and observers alike, have a negative impression of unsolicited advisors, then observers should follow solicited advice more than unsolicited advice, just like advisees do.

Participants

Because Study 6 had twice as many conditions as Studies 3a, 3b and 4, I hoped to recruit twice as many participants (1200). I successfully recruited 1202 participants from Amazon Mechanical Turk. All participants were kept in the final sample (603 males, 577 females, 22 gender unknown; M age = 37.2 years, SD = 11.4 years). Participants received \$1.00 for participating in a 10-minute survey.

Procedure

After participants provided informed consent, they read a cover story that explained that the study was designed to collect data on people's communication habits, skills and preferences and that it involved several tasks, such as reading news articles, rating jokes, or interacting with other participants. To reinforce the cover story, participants then read three jokes and rated how funny each joke was.

I then randomly assigned participants to the advisee condition or the observer condition.

Advisee Condition

In the advisee condition, the instructions explained that advisees would be answering a trivia question and interacting with another participant who "can communicate with you about the trivia question." I then ostensibly linked advisees with another participant on Amazon Mechanical Turk. To make this believable, I displayed a ticking clock while ostensibly linking advisees with the other participant and told advisees that they had been linked with another participant. Advisees also received a message that read, "Remember, the other participant has the option to send you a message when you are answering the trivia question."

I then presented advisees with the following trivia question: "How many feet are in a mile?" Advisees were instructed to think about their answer, but they could not yet submit a response.

I then randomly assigned advisees to the solicited or unsolicited condition. In the unsolicited condition, after reading the trivia question advisees were asked: “How confident are you that you know the correct answer to the question?” Advisees responded by selecting a value on a slider. The slider had labels at 0 (“Not at all confident”) and 100 (“Extremely confident”). Next, advisees received the following message: “*The other participant has spoken up:* OTHER PARTICIPANT: hey. i think the answer is 5260.”

In the solicited condition, after reading the trivia question advisees were instructed to ask for advice by sending a message to the other participant. Importantly, as in Studies 3a, 3b and 4, advisees were required to request advice and were not given the option of abstaining. To support the cover story of studying communication habits, I showed advisees four advice solicitations: “1) hey. what do you think the answer is?; 2) hi! what do you think the right option is?; 3) Hello, what do you think the correct response is?; 4) hi there. which choice do you think is correct?” I then asked advisees to choose one of the four messages and type it into a text box. The chosen message was ostensibly sent to the other participant. After sending the message, but before receiving a response, advisees were asked: “How confident are you that you know the correct answer to the question?” Advisees responded by selecting a value on a slider. The slider had labels at 0 (“Not at all confident”) and 100 (“Extremely confident”). After rating their confidence, advisees in the solicited condition received the same advice as advisees in the unsolicited condition (i.e., “OTHER PARTICIPANT: hey. i think the answer is 5260.”). As in Studies 3b and 4, the correct answer to the question is 5280, so in both conditions advisees received incorrect advice.

After receiving advice, advisees in both the solicited and unsolicited conditions viewed the trivia question again and were asked to submit an answer. I then asked advisees a few demographic questions before being paid and debriefed.

Observer Condition

In the observer condition, the instructions explained that observers would be watching an interaction between two other participants who had previously completed the study. Specifically, I told observers:

We are interested in how individuals evaluate different types of communication between other people. In this section of the study, we will show you the responses of two previous participants in a similar study. We asked one participant to answer a question, and the other participant could communicate with him or her about the question.

I then randomly assigned observers to the observe-solicited or observe-unsolicited condition. In the observe-unsolicited condition, observers were shown the following description:

1. We asked Participant_1 to think about this question: “How many feet are in a mile?”
2. We explained to Participant_1 that Participant_2 could also see the question.
3. We also explained that if he/she chose to do so, Participant_2 was allowed to send a message containing advice to Participant_1.
4. In fact, Participant_2 chose to send a message containing the following advice: “hey. i think the answer is 5260.”
5. Participant_1 read the message from Participant_2 and then answered our question.

After reading about the interaction between the previous participants, I asked observers: “How many feet do YOU think are in a mile?” Next, I asked observers: “How confident do you think

Participant_2 was when he or she offered advice?” I then asked observers a few demographic questions before being paid and debriefed.

In the observe-solicited condition, observers were shown the following description:

1. We asked Participant_1 to think about this question: “How many feet are in a mile?”
2. We explained to Participant_1 that Participant_2 could also see the question.
3. We then instructed Participant_1 to send a message to Participant_2 asking for advice.
4. As instructed, Participant_1 sent a message asking for advice.
5. Participant_2 then sent a reply with the following advice: “hey. i think the answer is 5260.”
6. Participant_1 read the reply from Participant_2 and then answered our question.

After reading about the interaction between the previous participants, I asked observers: “How many feet do YOU think are in a mile?” Next, I asked observers: “How confident do you think Participant_2 was when he or she offered advice?” I then asked observers a few demographic questions before being paid and debriefed.

Results

This study investigated three questions: 1) Are advisees more likely to follow solicited advice than unsolicited advice? 2) Do advisees follow solicited advice more than unsolicited advice because soliciting advice lowers their confidence? and 3) Are observers more likely to follow solicited advice they overhear than unsolicited advice they overhear?

Advisee Condition

To answer whether advisees are more likely to follow solicited advice than unsolicited advice, I compared the percent of advisees who gave the incorrect answer 5260, as advised, in the solicited and unsolicited conditions. Whereas 42% ($SD = 49\%$) of advisees in the solicited

condition answered 5260, only 31% ($SD = 46\%$) of advisees in the unsolicited condition answered 5260. Advisees were more likely to take bad advice when they were assigned to ask for it than when someone offered it to them, $\chi^2(1, N = 593) = 7.43, p = .006$, *Cramér's V* = .11. This means that simply being required to ask for advice from an anonymous, online individual actually made advisees more likely to follow the advice they asked for.

Do advisees follow solicited advice more than unsolicited advice because soliciting advice lowers their confidence? To determine whether self-perceived confidence mediated the relationship between type of advice (solicited or unsolicited) and following that advice, I conducted a bootstrapping analysis using Hayes's (2013) PROCESS macro. Results based on 5,000 bootstrapped samples did not support the proposed mediation. The direct effect of type of advice on following that advice was significant, $b = .48, SE = .20, p = .02$, and the indirect effect was not, $b = .15, SE = .11, CI = [-.06, .35]$.

In post hoc analyses, I determined that type of advice had failed to change advisees' confidence ratings. Advisees in the solicited condition were 56% ($SD = 36\%$) confident in their answer after asking for advice but before receiving it while advisees in the unsolicited condition were 60% ($SD = 36\%$) confident in their answer before receiving advice. While directionally in line with a self-perception account, the confidence of advisees in the conditions did not differ, $t(591) = 1.43, p = .153, d = .12$.

However, a close inspection of advisees' confidence ratings revealed that 26 advisees in the solicited condition (9.1%) rated their confidence as zero. It is possible that these advisees had confidence ratings above zero before being asked to solicit advice and the act of soliciting reduced their confidence ratings to zero, but it is also possible they had zero confidence to start and therefore the manipulation could not have affected them. A similar number of advisees (29)

in the unsolicited condition (9.5%) had confidence ratings of zero. After excluding all advisees with a confidence rating of zero, advisees in the solicited condition were 62% ($SD = 32\%$) confident in their answer after asking for advice but before receiving it while advisees in the unsolicited condition were 67% ($SD = 32\%$) confident in their answer before receiving advice. Advisees in the solicited condition were marginally less confident than advisees in the unsolicited condition, $t(536) = 1.77, p = .077, d = .15$. Analyzing only advisees whose confidence ratings were non-zero, I conducted a bootstrapping analysis using Hayes's (2013) PROCESS macro. Results based on 5,000 bootstrapped samples marginally supported the proposed mediation. The direct effect of type of advice on following that advice was significant, $b = .50, SE = .21, p = .02$, and the indirect effect was marginally significant, $b = .18, SE = .10, CI = [-.03, .37]$, suggesting partial mediation.

Observer Condition

Are observers more likely to follow solicited advice they overhear than unsolicited advice they overhear? To answer whether observers differentiate between solicited and unsolicited advice, I compared the percent of observers who gave the incorrect answer 5260, the advice they observed, in the solicited and unsolicited conditions. Thirty-six percent ($SD = 48\%$) of observers in the solicited condition answered 5260, and 37% ($SD = 48\%$) of observers in the unsolicited condition answered 5260. Observers were no more likely to take bad advice when they heard it asked for than when they heard someone offer it to another unsolicited, $\chi^2(1, N = 609) = .0898, p = .764, \text{Cramér's } V = .012$. Furthermore, observers thought advisors were equally confident when they offered solicited advice ($M = 71.6, SD = 21.1$) as when they offered unsolicited advice ($M = 71.2, SD = 19.3$), $t(607) = .244, p = .807, d = .02$. This means that observers evaluate advice they overhear equally, regardless of whether or not that advice was asked for.

Given that observers do not differentiate between solicited and unsolicited advice, I next asked if observers looked more similar to advisees in the solicited or unsolicited condition. Thirty-seven percent ($SD = 48\%$) of all observers answered 5260, and 42% ($SD = 49\%$) of advisees in the solicited condition answered 5260. Observers were no more likely to take bad advice when they heard it asked for than when advisees asked for that advice, $\chi^2(1, N = 896) = 2.23, p = .136, \text{Cramér's } V = .050$. Observers were also no more likely to take bad advice when they heard someone offer it to another unsolicited (37%, $SD = 48\%$) than when advisees received that advice unsolicited (31%, $SD = 46\%$), $\chi^2(1, N = 915) = 2.79, p = .095, \text{Cramér's } V = .055$. While observers follow advice more than unsolicited advisees and less than solicited advisees, they do not significantly differ from either group.

Taken together, the results from advisees and observers provide suggestive support *for* the self-perception account of soliciting advice and provide suggestive support *against* the untrusted advisor account of receiving unsolicited advice. Soliciting advice lowered advisees' confidence and subsequently caused them to rely more on advice they received. In other contexts, impression management might play a role in explaining why asking for advice makes people more likely to take it, but Study 6 showed that self-perception can also play a role. These accounts are not mutually exclusive and could co-occur, further increasing the likelihood that an advisee will follow advice she solicits.

While by no means conclusive, Study 6 also provided evidence against the untrusted advisor account. Randomly assigned to their roles, advisees and observers should have had similar experiences with untrusted advisors. These experiences with untrusted advisors should lead both groups to discount unsolicited advice, but observers did not differentiate between solicited and unsolicited advice. This suggests receiving unsolicited advice does not decrease the

likelihood that advisees follow that advice because of a general heuristic against trusting unsolicited advisors. However, since observers weren't the direct recipients of the advice, it is still possible that receiving unsolicited advice decreases the likelihood that advisees follow that advice because of advisees' reactance against the advisor (e.g., Fitzsimons & Lehmann, 2004; Goldsmith & Fitch, 1997).

Discussion

In a fast-paced and challenging world, we are fortunate in being able to seek and receive advice from others. We label over 70% of memorable or "life-changing" communication as advice (Knapp, Stohl & Reardon, 1981), and we can hardly go hours without exchanging advice in some form or another. Indeed, even estimating how frequently people seek or give advice requires seeking advice, whether from a sample of surveyed advisees, an expert in social communication or Google. The frequency of advice exchange should not come as a surprise given the potential benefits. We can gain confidence in a decision where previously we were anxious (Gino et al., 2012); we can make ourselves look more competent in the eyes of our advisors (Brooks et al., 2015); and we can offer social support to close others (Feng, 2009). And these benefits are not limited strictly to dyads. Even minimal advice exchange in groups of simple, learning agents, especially groups with heterogeneous learning algorithms, can lead to enhanced task performance (Nunes & Oliveira, 2003). Advice exchange is so pervasive and potentially beneficial that even children as young as three years old incorporate advice into their decisions differentially based on their advisor's expertise (Rakoczy, Ehrling, Harris & Schultze, 2015).

However, both seeking and even just receiving advice are fraught with concerns. On one hand, asking for advice implies we'll follow it (Liljenquist, 2010), even if the advice we receive

is unpalatable, and advisors penalize those who disregard their advice (Blunden et al., 2018). On the other hand, people show reactance when receiving unsolicited advice and often intentionally contradict that advice (Fitzsimons & Lehmann, 2004), perceiving it as “butting in” and critical (Goldsmith & Fitch, 1997).

Taken together, these concerns suggest we should solicit advice from trusted advisors who are unlikely to lead us astray and who may be more forgiving if we do not follow their advice. We fail to realize that the very act of soliciting advice from another allows our advisor to speak more freely than she otherwise would and traps us into relying more heavily on that advice than we otherwise would. This solicitation need not be anything elaborate or powerful. Studies 2, 3, 4 and 6 all recruited online participants, and simply requesting that those participants send a question to an anonymous, online stranger caused the participants to incorporate solicited advice into their decisions more frequently and more completely than unsolicited advice. Importantly, advisees most often ask for advice when they are unsure of an answer (Cooper, 1991; Gino et al., 2012), which means they would be even more likely to follow advice they receive. Because the advisee was unsure, we might think that any advice they receive would be helpful, but the solicitation makes that advice worse, possibly harming the advisee more than if she had just answered without seeking advice in the first place.

It is possible that advisee’s rely more heavily on solicited advice because 1) soliciting advice increases the likelihood that an advisee will follow that advice, 2) receiving unsolicited advice decreases the likelihood that an advisee will follow that advice, or 3) both. While by no means conclusive, study 6 provided suggestive evidence in line with a self-perception account of why soliciting advice increases the likelihood that an advisee will follow that advice. As people solicit advice from others, they may decrease their own confidence, causing them to rely more on

whatever advice is offered. Observers did not show this effect, further suggesting the mechanism for why soliciting advice increases the likelihood that an advisee will follow that advice resides within the mind of the advisee.

More generally, observers did not differentiate between solicited and unsolicited advisors. This means that while observers do not mistakenly react against unsolicited advice or heedlessly follow solicited advice, they fail to fully appreciate the value of an unsolicited advisor. An observer or advisee perfectly attuned to the social intricacies of advice exchange would actually rely more on unsolicited advice because advisors will offer advice about which they are highly confident whether they are asked or not, but they are reluctant to offer advice in which they are less confident unless invited to do so.

So what is an advisee (or even an observer) to do? If soliciting advice lowers the quality of that advice while simultaneously making advisees more likely to follow it, how can we benefit from the experience of others, and how can we best share our experiences with them? There are several possible strategies to mitigating the negative consequences of the paradox of advice giving substantiated by the present studies. First, asynchronous communication, such as email, allows advisees the chance to consider advice without the immediate effect of having asked for that advice. That is, while advisees might decrease their own confidence by asking for advice, the longevity of that effect is likely tenuous, so advisees could better incorporate solicited advice with some delay between solicitation and receipt of advice (e.g., Prahl, Dexter, Van Swol, Braun & Epstein, 2015). Second, as advisees we could provide a limited choice set to advisors instead of asking an open-ended question. If we ask our waiter what he recommends on the menu, he might recommend something we dislike, like the eggplant moussaka, and we will be more likely to order that dish simply because we asked. However, if we ask our waiter whether he

recommends the sous vide pork belly sliders or the moules au champignon, both of which we expect to enjoy, then we are less likely to order a sub-optimal meal. Third, as advisors we can more frequently communicate our confidence and, especially when providing unsolicited advice, soften our message. When advisors provide more explicit indications of their confidence, it allows advisees to more accurately incorporate advisors' advice. Similarly, when advisors include discourse markers (e.g., repeated words and fillers like "uhm") in their advice, advisees are more likely to incorporate that advice into their decisions, and this is true for both human and even robotic advisors (Torrey, Fussell & Kiesler, 2013).

While the present work demonstrates that advisees, on average, follow advice which they ask for more than advice which they receive unsolicited, it is important to note that many demographic factors and psychological trait also impact an advisee's receptivity to advice. Cultural references to women being more likely to seek advice, especially directions, may be comedic only (although see Felsten, 1998; Hobfoll, Dunahoo, Ben-Porath & Monnier, 1994), but women *are* more likely to heed advice they receive (Feng & MacGeorge, 2006). Individuals high in agency, a desire to master one's environment and assert oneself, are less likely to heed advice (Schultze, Gerlach & Rittich, 2017). Similarly, those low in emotionality and interdependence are less likely to rely on advice they receive (Feng & MacGeorge, 2006).

Of course, not all factors affecting receptivity to advice reside solely within the advisee. The closeness of the relationship between advisee and advisor also plays a critical role in how likely an advisee is to incorporate advice they receive. Unsurprisingly, close social relationships predict higher levels of trust between individuals (Berscheid, 1994) and, in turn, higher degrees of receptivity to advice between close advisor-advisee pairs. In fact, the closeness between advisee and advisor is often the single most important factor in determining the advisee's

receptivity to advice, surpassing even expertise of the advisor (Feng & MacGeorge, 2006). This seems to be due in part to the fact that advisees see advice as less appropriate and more critical when received from a distant, relative to a close, advisor (Goldsmith & Fitch, 1997). Advisors seem to be aware of this difference as advisors in close relationships with advisees provide more unsolicited advice than advisors in relatively distant relationships with advisees (Feng & Magen, 2016).

Importantly, while the primary purpose of advice exchange should be to improve decision making, advisees also seek advice for numerous other reasons. In some instances, advisees seek advice not to inform an upcoming decision but rather to validate a previous decision. Similarly, advisees might seek advice that confirms their previously held beliefs rather than providing contrary evidence (e.g., Jonas, Schulz-Hardt, Frey & Thelen, 2001). Advice exchange can also serve a purely social function by providing support to others (e.g., Feng, 2009) and affirming advisors' expertise (Brooks et al., 2015). Soliciting advice can even increase feelings of closeness between consumers and organizations, motivating consumers to engage further with that organization (Liu & Gal, 2011).

While advisees seek advice for many reasons beyond just making a better decision and while many factors affect an advisee's receptivity to advice, my studies demonstrate a paradox in advice giving. Solicited advice is, on average, worse than unsolicited advice, but once people have asked for advice, they heed it more. This is not to say advice exchange is fraught with peril and to be avoided. We should not blindly accept unsolicited advice, nor should we stop seeking advice when we need it. The present studies simply show that asking for advice triggers psychological mechanisms that affect the quality of that advice and how likely we are to take it.

Unfortunately, we often ignore that which we should heed and heed that which we should question.

References

- Bem, D. J. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological review*, 74(3), 183.
- Berscheid, E. (1994). Interpersonal relationships. *Annual review of psychology*, 45(1), 79-129.
- Blunden, H., Logg, J. M., Brooks, A. W., John, L., & Gino, F. (2018). Seeker beware: The relational costs of advice-seeker decisions. *Working Paper 18-084*. Harvard Business School.
- Bonaccio, S., & Dalal, R. S. (2006). Advice taking and decision-making: An integrative literature review, and implications for the organizational sciences. *Organizational Behavior and Human Decision Processes*, 101(2), 127-151.
- Brooks, A. W., Gino, F., & Schweitzer, M. E. (2015). Smart people ask for (my) advice: Seeking advice boosts perceptions of competence. *Management Science*, 61(6), 1421-1435.
- Cooper, R. S. (1991). Information processing in the judge–adviser system of group decision-making. Unpublished master's thesis, University of Illinois, Urbana-Champaign.
- Deelstra, J. T., Peeters, M. C., Schaufeli, W. B., Stroebe, W., Zijlstra, F. R., & van Doornen, L. P. (2003). Receiving instrumental support at work: when help is not welcome. *Journal of applied psychology*, 88(2), 324.
- Felsten, G. (1998). Gender and coping: Use of distinct strategies and associations with stress and depression. *Anxiety, Stress and Coping*, 11(4), 289-309.
- Feng, B. (2009). Testing an integrated model of advice giving in supportive interactions. *Human Communication Research*, 35(1), 115-129.
- Feng, B., & MacGeorge, E. L. (2006). Predicting receptiveness to advice: Characteristics of the problem, the advice-giver, and the recipient. *Southern Communication Journal*, 71(1), 67-85.
- Feng, B., & Magen, E. (2016). Relationship closeness predicts unsolicited advice giving in supportive interactions. *Journal of Social and Personal Relationships*, 33(6), 751-767.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford university press.
- Fitzsimons, G. J., & Lehmann, D. R. (2004). Reactance to recommendations: When unsolicited advice yields contrary responses. *Marketing Science*, 23(1), 82-94.
- Gardner, P. H., and Berry, D. C. (1995). The effect of different forms of advice on the control of a simulated complex system. *Applied Cognitive Psychology*, 9, S55–S79.

- Gino, F. (2008). Do we listen to advice just because we paid for it? The impact of advice cost on its use. *Organizational behavior and human decision processes*, 107(2), 234-245.
- Gino, F., Brooks, A.W., and Schweitzer, M.E. (2012). Anxiety, advice, and the ability to discern: Feeling anxious motivates individuals to seek and use advice. *Journal of Personality and Social Psychology*, 102(3), 497-512.
- Goldsmith, D. J., & Fitch, K. (1997). The normative context of advice as social support. *Human Communication Research*, 23, 454-476.
- Harvey, N., & Fischer, I. (1997). Taking advice: accepting help, improving judgment, and sharing responsibility. *Organizational Behavior and Human Decision Processes*, 70, 117-133.
- Hobfoll, S. E., Dunahoo, C. L., Ben-Porath, Y., & Monnier, J. (1994). Gender and coping: The dual-axis model of coping. *American journal of community psychology*, 22(1), 49-82.
- Hofmann, D. A., Lei, Z., and Grant, A. (2009). Seeking help in the shadow of doubt: The sensemaking processes underlying how nurses decide who to ask for advice. *Journal of Applied Psychology*, 94(5), 1261-1274.
- Jonas, E., & Frey, D. (2003). Information search and presentation in advisor-client interactions. *Organizational Behavior and Human Decision Processes*, 91(2), 154-168.
- Jonas, E., Schulz-Hardt, S., & Frey, D. (2005). Giving advice or making decisions in someone else's place: The influence of impression, defense, and accuracy motivation on the search for new information. *Personality and Social Psychology Bulletin*, 31(7), 977-990.
- Jonas, E., Schulz-Hardt, S., Frey, D., & Thelen, N. (2001). Confirmation bias in sequential information search after preliminary decisions: an expansion of dissonance theoretical research on selective exposure to information. *Journal of personality and social psychology*, 80(4), 557.
- Knapp, M. L., Stohl, C., & Reardon, K. K. (1981). "Memorable" messages. *Journal of Communication*, 31(4), 27-41.
- Kray, L. J. (2000). Contingent weighting in self-other decision making. *Organizational behavior and human decision processes*, 83(1), 82-106.
- Kray, L., & Gonzalez, R. (1999). Differential weighting in choice versus advice: I'll do this, you do that. *Journal of Behavioral Decision Making*, 12(3), 207-218.
- Larrick, R. P., and Soll, J. B. (2006). Intuitions about combining opinions: Misappreciation of the averaging principle. *Management Science*, 52, 111-127.
- Liljenquist, K. A. (2010). Resolving the impression management dilemma: The strategic benefits

- of soliciting others for advice. Unpublished dissertation. Evanston, Illinois.
- Liu, W., & Gal, D. (2011). Bringing us together or driving us apart: The effect of soliciting consumer input on consumers' propensity to transact with an organization. *Journal of Consumer Research*, 38(2), 242-259.
- Mendel, R., Traut-Mattausch, E., Frey, D., Bühner, M., Berthele, A., Kissling, W., & Hamann, J. (2012). Do physicians' recommendations pull patients away from their preferred treatment options?. *Health Expectations*, 15(1), 23-31.
- Moore, D. A., & Healy, P. J. (2008). The trouble with overconfidence. *Psychological review*, 115(2), 502.
- Moore, D. A., & Small, D. A. (2007). Error and bias in comparative judgment: On being both better and worse than we think we are. *Journal of personality and social psychology*, 92(6), 972.
- Nunes, L., & Oliveira, E. (2003, July). Advice-exchange in heterogeneous groups of learning agents. In *Proceedings of the second international joint conference on Autonomous agents and multiagent systems* (pp. 1084-1085). ACM.
- Prahl, A., Dexter, F., Van Swol, L., Braun, M. T., & Epstein, R. H. (2015). E-mail as the appropriate method of communication for the decision-maker when soliciting advice for an intellectual decision task. *Anesthesia & Analgesia*, 121(3), 669-677.
- Rakoczy, H., Ehrling, C., Harris, P. L., & Schultze, T. (2015). Young children heed advice selectively. *Journal of experimental child psychology*, 138, 71-87.
- Schultze, T., Gerlach, T. M., & Rittich, J. C. (2018). Some People Heed Advice Less than Others: Agency (but Not Communion) Predicts Advice Taking. *Journal of Behavioral Decision Making*, 31(3), 430-445.
- Torrey, C., Fussell, S., & Kiesler, S. (2013, March). How a robot should give advice. In *Proceedings of the 8th ACM/IEEE international conference on Human-robot interaction* (pp. 275-282). IEEE Press.
- Ubel, P. A., Angott, A. M., & Zikmund-Fisher, B. J. (2011). Physicians recommend different treatments for patients than they would choose for themselves. *Archives of internal Medicine*, 171(7), 630-634.
- Vroom, V. H., & Jago, A. G. (1978). On the validity of the Vroom-Yetton model. *Journal of Applied Psychology*, 63(2), 151-162.
- Wason, P. C. (1960). On the failure to eliminate hypotheses in a conceptual task. *Quarterly journal of experimental psychology*, 12(3), 129-140.

- Yaniv, I. (2004). Receiving other people's advice: Influence and benefit. *Organizational Behavior and Human Decision Processes*, 93(1), 1-13.
- Yaniv, I., & Kleinberger, E. (2000). Advice taking in decision making: Egocentric discounting and reputation formation. *Organizational behavior and human decision processes*, 83(2), 260-281.

Appendix A: Trivia Questions

1. Who is considered “The King” of rock?

- A. Duke Ellington
- B. Bob Dylan
- C. Elvis Presley
- D. Michael Jackson

2. What is the largest species of whale?

- A. Sperm Whale
- B. Humpback Whale
- C. Megalodon Whale
- D. Blue Whale

3. In the story of the Trojan War, what son of King Priam dies in battle with the Greek warrior Achilles?

- A. Patroclus
- B. Ajax
- C. Hector
- D. Antilochus

4. What is the name for a group of lions?

- A. Pack
- B. Herd
- C. Pride
- D. Hunt

5. What is the capital of Turkey?

- A. Ankara
- B. Istanbul
- C. Izmir
- D. Adana

6. Mo, Larry, and Curly are a trio more commonly known by what name?

- A. The Three Tenors
- B. The Three Stooges
- C. The Three Amigos
- D. The Three Heads of Cerberus

7. What period in European cultural history took place from the 14th to the 17th century, after the Dark Ages?

- A. French Revolution
- B. Romantic
- C. Renaissance
- D. Enlightenment

8. Eliot Ness and the Untouchables are associated with the pursuit of what prohibition-era Chicago mafia figure?

- A. Carlo Gambino
- B. Vito Genovese
- C. Al Capone
- D. Albert Anastasia

9. Antibiotics kill what class of pathogen?

- A. Bacteria
- B. Virus
- C. Prion
- D. Fungus

10. What chemical element has the atomic number five?

- A. Silicon
- B. Aluminum
- C. Boron
- D. Nitrogen

11. In what U.S. state is Atlantic City located?

- A. Georgia
- B. New Jersey
- C. Maryland
- D. Maine

12. The New Deal is most closely associated with what U.S. president?

- A. Woodrow Wilson
- B. Andrew Jackson
- C. Franklin Delano Roosevelt
- D. Theodore Roosevelt

13. What actor plays an overweight college instructor & several other characters in The Nutty Professor?

- A. Morgan Freeman
- B. Eddie Murphy
- C. Ryan Reynolds
- D. Paul Rudd

14. What three famous musicians died together in a plane crash on February 3rd, 1959?

- A. Ronnie VanZant, Steve Gaines, and Cassie Gaines
- B. Buddy Holly, Ritchie Valens, and J.O. Richardson ("The Big Bopper")
- C. Jim Croce, Maurice Muehleisen, and Dennis Rast
- D. Rickey Nelson, Allen Kemp, and Dennis Larden

15. In Monty Python's Holy Grail, the French soldier taunts King Arthur by telling him, "Your mother was a hamster and your father smelt of _____"?

- A. Wildeberries
- B. Elderberries
- C. Snozberries
- D. Briddleberries

16. What country's team won the 2002 World Cup?

- A. China
- B. Spain
- C. Brazil
- D. Russia

17. Who starred as high school student Marty McFly in the hit science-fiction comedy "Back to the Future"?

- A. Michael J. Fox
- B. Christopher Lloyd
- C. Woody Harrelson
- D. Iain Glen

18. Who won the first Super Bowl?

- A. New York Giants
- B. Denver Broncos
- C. Kansas City Chiefs
- D. Green Bay Packers

19. What does the suffix "itis" mean?

- A. Pain
- B. Weakness
- C. Disease
- D. Inflammation

20. Sweden, Denmark, Poland, and Finland all border what sea?

- A. Baltic Sea
- B. Mediterranean Sea
- C. North Sea
- D. Black Sea

21. What team did Larry Bird play for?

- A. Boston Celtics
- B. Orlando Magics
- C. Chicago Bulls
- D. New England Patriots

22. What is the name of the world's largest coral reef, located off the coast of Australia?

- A. Great Barrier Reef
- B. Andros Barrier Reed
- C. Great Indian Reef
- D. Apo Reef

23. Who holds the NHL record for the most goals in a season?

- A. Joe Malone
- B. Gordie Howe
- C. Chris Chelios
- D. Wayne Gretzky

24. What was the name of the famous 3-day music festival, held in 1969, which featured artists such as Bob Dylan, Janis Joplin, and Jimi Hendrix?

- A. Summerfest
- B. Bonnaroo
- C. Woodstock
- D. Glastonbury

25. Mick Jagger, at the age of 62, recently went on tour with what legendary rock band for which he sings lead vocals?

- A. Kiss
- B. Rolling Stones
- C. Nirvana
- D. Led Zeppelin

26. Beyonce Knowles rejoined what musical group in 2004?

- A. En Vogue
- B. Destiny's Child
- C. Spice Girls
- D. DLC

27. The bilby, bandicoot, and quokka are all representatives of what mammalian subclass?

- A. Placentals
- B. Marsupials
- C. Prototheria
- D. Diapsida

28. The island of Honshu is part of what country?

- A. Indonesia
- B. Japan
- C. South Korea
- D. Brunei

29. What geographical area was once referred to as "Seward's Folly?"

- A. Louisiana
- B. Mesoamerica
- C. Canada
- D. Alaska

30. What sport does Oscar De La Hoya participate in?

- A. Water polo
- B. Tennis
- C. Boxing
- D. Bullfighting

31. During the Second Punic War, what Carthaginian general led his army on a famous crossing of the Alps?

- A. Scipio
- B. Hasdrubal
- C. Augustus
- D. Hannibal

32. Who was the Native American woman who accompanied Lewis and Clark on part of their expedition in the Pacific Northwest?

- A. Pocahontas
- B. Maria Tallchief
- C. Sacajawea
- D. Awashonks