

Tell Me Something I Don't Know

Decision Makers' Preference for Advisors With Unshared Information

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This article examined strategic requests for information in a group structured as a judge advisor system (JAS) with one group member designated as the decision maker and the other two members as advisors. The decision maker could solicit advice from the two advisors. One advisor's advice contained only information shared in common with the decision maker, and the other's advice contained half unshared information. The authors proposed an alternative to research on information sampling and mutual enhancement and predicted that the decision maker would prefer information from the advisor with more unshared information. The decision maker solicited more information from the advisor with more unshared information and rated this advisor's information as more important and influential than the advisor with only shared information.

Keywords: *common information bias; information sampling bias, unshared information; shared information; group decision making; judge advisor system; advice seeking*

People often seek information from others to improve their decision making or increase their confidence in their decision (Sniezek & Buckley, 1995; Sniezek & Van Swol, 2001; Van Swol & Sniezek, 2005). Whereas much research has examined how members in freely interacting groups share and discuss information (e.g., Wittenbaum & Stasser, 1996), less research has examined how people make strategic requests for information in structured groups. A judge advisor system (JAS) is a group in which members are structured into the roles of judge or advisor (Savadori, Van Swol, & Sniezek, 2001; Sniezek & Buckley, 1995; Sniezek & Van Swol, 2001; Van Swol & Sniezek, 2005). The judge has the implicit or explicit power in the group to make a final decision after receiving advice from one or more advisors. This article uses a JAS to examine how the judge makes strategic requests for information from advisors with either unshared information or information shared in common with the judge.

Judge Advisor Systems

Not all groups make consensual decisions. Sometimes a group is assembled to receive information and opinions from group members but not have the whole group

participate in the decision process. For example, Vroom and Yetton's model (Vroom, Jago, Eden, Yetton, & Craig, 1998) describes five methods of managerial decision making. Only the last level, Group II, is group decision making, and the first level, Autocratic I, is individual decision making. The other three levels are structured as a decision maker receiving advice and information from a group but making the final decision alone. For example, at the Consultative II level, the manager meets collectively as a group with subordinates to obtain ideas and information but makes the decision individually. Heath and Gonzalez (1995) stated that the majority of important decisions are made after communicating with another person for advice, and they claimed that a model in which a person seeks advice from others but makes the decision alone is a better model of most social decision making than group decision making because "consensual group decisions are comparatively infrequent in daily life" (p. 306). For example, Stewart, Gudykunst, Ting-Toomey, and Nishida (1986) found that most Japanese employees surveyed preferred a more consultative managerial decision-making style over a participative decision-making style, contrary to the popular perception that the Japanese use extensive consensual group decision making. With the consultative managerial decision-making style, employees were consulted by managers about a decision but ultimately did not have final decision power.

This type of decision making is inherently different from that of an unstructured group. It involves role assignment and people varying in levels of voice in the decision. The judge advisor system was designed as a tool to study this type of interactive decision making in which the judge makes the final decision and the other group members participate as advisors (Savadori et al., 2001; Sniezek & Buckley, 1995; Sniezek & Van Swol, 2001; Van Swol & Sniezek, 2005).

Previous research examining judge advisor systems has found that many factors affect the judge's use and solicitation of advice. For example, research overwhelmingly has found that judges are more likely to request advice and use advice from more confident advisors (Price & Stone, 1994; Sniezek & Buckley, 1995; Sniezek & Van Swol, 2001; Van Swol & Sniezek, 2005; Yaniv, 1997). Judges also are more likely to accept advice from expert advisors than novice advisors (Harvey & Fischer, 1997; Yaniv & Kleinberger, 2000) and from advisors in which they have higher trust (Sniezek & Van Swol, 2001; Van Swol & Sniezek, 2005). However, little research has examined how the content of an advisor's advice affects the judge's continued use of that advisor's advice. This article examines how the sharedness of the advisor's information with the judge affects whether the judge continues to request advice from that advisor.

Research on Information Sampling

Shared information is information that people all share in common before the group discussion, and unshared information is information that a group member holds uniquely before the discussion (Wittenbaum & Stasser, 1996). Research on

information exchange in groups overwhelmingly has found that groups exchange information that is shared and common to all members rather than pooling their unique, unshared resources (for review, see Stasser & Titus, 2003; Wittenbaum, Hollingshead, & Botero, 2004) and group members with more shared information are often more influential in the group (Kameda, Ohtsubo, & Takezawa, 1997).

One reason groups focus on shared information is that shared information is often perceived as more important than unshared information. Research on mutual enhancement (Wittenbaum, Hubbell, & Zuckerman, 1999) explains that a group member mentioning shared information may receive positive reinforcement by other members and be judged as more task competent because the shared information can be validated and verified by others in the group and reinforces what the other members already know. However, group members may find it difficult to respond to someone presenting unshared information because the members need time to process and integrate the new information into preexisting opinions, and the new information does not validate their own knowledge. Therefore, unshared information may be ignored when mentioned and perceived as less valuable. Researchers have found that members who have or discuss more shared information in groups are more influential, more resistant to persuasion, and more active in the group than members with more unshared information (Kameda et al., 1997; Sargis & Larson, 2002; Van Swol & Seinfeld, 2006).

Unshared and Shared Information in Strategic Requests for Information

Much previous research on the discussion of shared and unshared information has examined information sampling in unstructured groups or dyads in which members are unlikely to have different roles or motives. Wittenbaum et al. (2004) called for more research exploring motivational processes in information sharing and suggested that previous research "does not capture many features of information exchange that likely operate in organizational groups" (p. 287). They suggested that group members are likely to be "motivated communicators" with goals about what information to discuss or withhold. In this article, we explore how roles and motives affect information sharing. Rather than examine group members as "motivated communicators" though, we examine how one makes strategic requests for information in a group in which members are assigned the different motives of judge or advisor. The JAS has dynamics that should facilitate a focus on unshared information and a perception of unshared information as more important.

Savadori et al. (2001) found that JASs were more likely to focus on unshared information than unstructured groups and suggested this was due to key differences between the JAS and unstructured group affecting communication patterns. Specifically, unstructured groups and JASs differ in their centralized networks, consensus seeking, and role assignment. We summarize these briefly in the context of why processes that promote a focus on shared information, like mutual enhancement,

would not apply in a JAS. We then propose an alternative process in which strategic requests for information in a JAS would lead to a focus on unshared information.

Group members respond positively to those who mention shared information and perceive them as more influential (Wittenbaum et al., 1999), but this may not apply to strategic requests for information. Communication is centralized in a JAS, and discussion is controlled by the judge, so members are less likely to spontaneously validate shared information when it is mentioned. This could reduce the positive response that shared information receives and its perceived importance. Furthermore, members with more shared information in a group often talk more (Larson, Sargis, Elstein, & Schwartz, 2002; Sargis & Larson, 2002), giving them the opportunity to discuss shared information and increase its perceived importance. However, the judge's power to request information and control discussion is likely to reduce the amount that holders of shared information contribute to the discussion.

The judge could enjoy receiving shared information from the advisors because it is validating. However, given the emphasis on task goals in a JAS and the lack of need to establish consensus with the advisors, it is unlikely the judge would strategically request shared information just to receive validation. Unstructured groups strive to reach consensus, and this should increase the focus on shared information because shared information is validating and is likely to favor prediscussion preferences (Gigone & Hastie, 1993; Henningsen & Henningsen, 2003; Van Swol, Savadori, & Sniezek, 2003; Winkvist & Larson, 1998). Validation may be less important in a JAS because the judge has the decision power.

Because of the judges' greater assigned power, judges may feel less of a need to establish themselves in the group discussion through a focus on shared information. Research by Larson and colleagues (Larson, Christensen, Abbott, & Franz, 1996; Larsen, Foster-Fishman, & Franz, 1998) found that leaders focus less on shared and more on unshared information than nonleaders, and Cruz, Henningsen, and Smith (1999) found that directive leaders had a strong impact on the group's discussion of information. Also, Wittenbaum (1998, 2000) found that high status members are less prone to favor shared information than lower status members.

Finally, because participants have clear roles in a JAS, there is likely to be less uncertainty and more emphasis on task than social functions in the group. Discussion of shared information fulfills social goals in a group and reduces uncertainty by helping build common ground among members and by helping members increase their status in the group (Wittenbaum et al., 2004). However, the judge has already been given status with the power to make the final decision and has been given a specific task to fulfill. This should reduce the judge requesting shared information to receive validation, reduce uncertainty, or build a common ground with the advisors.

We propose a different process and explain why someone strategically requesting information in a group would prefer to receive unshared information. First, role differentiation in the JAS may increase the desire for unshared information. Judges may prefer advisors to engage in different strategies than they themselves would use to make the decision (Kahn & Baron, 1995). One reason people seek advice is to acquire

alternative information and viewpoints (Heath & Gonzalez, 1995) or to gain access to information that they themselves do not have (Budescu & Rantilla, 2000; Valley, White, Neale, & Bazerman, 1992), and researchers have found that decision makers are more accurate and unbiased when they use advice from independent and uncorrelated sources (Hogarth, 1988; Soll, 1999; Yaniv, 2004). Decision makers may be aware of this and prefer advisors who give unshared information because unshared information has the potential to have more of an effect because it is nonredundant and offers the judge the opportunity to make a more fully informed decision.

Larson et al. (2002) compared two competing hypotheses that unshared or shared information would be more influential during discussion. They found that group members who discussed more unshared information on a decision-making task were perceived as more influential than members with more shared information. They suggested that the impact of unshared information during discussion contributed to its influence. Unshared information can affect participants during the discussion, whereas shared information usually influences predominately through prediscussion preferences (Winquist & Larson, 1998). However, Larson et al. noted that participants in their study were professionals with a "very self assured, authoritative manner" and brought lots of notes to the group discussion, and this contributed to the acceptance of their unshared information. Other researchers (Burnstein & Vinokur, 1977; Larson et al., 2002) have found that novel arguments can be more persuasive and that participants may prefer novel information to familiar information (Feather, 1969). Concluding, because of its value for increasing the judge's knowledge and its potential for impact, unshared information can be a way for advisors to establish credibility. It should be sought after by the judge and perceived as more important and influential.

Finally, Phillips, Mannix, Neale, and Gruenfeld (2004) stated "Organizations . . . create subgroups by adding 'knowledge specialists' to provide groups with novel perspectives and information" (p. 497). This is similar to the role of advisor, and as such, one would expect more unshared information from an advisor. Furthermore, the advisor having a different role than the judge is likely to give the advisor more of an "outsider" status than a fellow group member would have with other group members, and Phillips et al. stated that unshared information may be better received and even expected from an outsider. Unshared information is often discounted because it cannot be socially validated by others (Larson et al., 2002). However, because the advisors' role is to provide information, their unshared information may be viewed as more reliable and less subject to validation than information provided by a member of an unstructured group. Concluding, the judge may desire unshared information because of its value toward fulfilling the task role of making the best decision, and unshared information from the advisor may be perceived as more legitimate because of the advisor's specified role.

Overview of Study

The experiment used Stasser and Stewart's (1992) murder mystery hidden profile task. In a hidden profile, the majority of unshared information supports a superior

alternative, and the majority of shared information supports an inferior alternative. To uncover the best answer, the majority of the unshared information must be presented in discussion. The decision maker met with two advisors with whom he or she could solicit information. One advisor had predominantly unshared information to give the decision maker, and the other had only shared information. Based on the research presented earlier, the study tests the following hypotheses:

Hypothesis 1: The decision maker will ask for more information from the advisor with unshared information than the advisor with shared information.

Hypothesis 2: The information from the advisor with unshared information will be viewed as more influential and important than the information from the shared advisor.

Hypothesis 3: Because the task is a hidden profile, the decision maker should be more likely to choose the correct answer after meeting with advisors when the decision maker solicits more unshared information.

Method

Participants and Design

A total of 135 undergraduates at a private Midwestern university participated in partial fulfillment of a research requirement for their introductory communication course. To create a 3-person JAS, participants were randomly assigned to the role of either a decision maker (DM), shared advisor (AS), or unshared advisor (AU). Of these 45 groups, five JASs were excluded from all analyses either because of mistakes in the experimental procedure or because participants did not follow instructions.

Task

There were two different murder mystery packets (Profile 1 or 2) adapted from Stasser and Stewart (1992). Participants received one of two packets. Each packet contained 19 pages of supporting material such as investigative interviews, maps, and a list of major characters. The two packets varied by the interviews and background information that they contained. The interviews in the two packets contained 18 clues crucial to solving the murder mystery, 6 of which were shared by all three members of the JAS (universally shared) and included both in Profile 1 and 2. To create a hidden profile, the clues were divided among the decision maker/AS and AU so that no one participant had enough clues on his or her own to incriminate the correct suspect. The decision maker needed to use both the shared and unshared information to have enough information to incriminate the correct person, and two of the suspects could be exonerated by the total set of 18 clues. Participants' individual information neither implicated nor exonerated one of the three suspects. Of the 18 total pieces of information, each participant received 12 pieces. The DM and AS

always received the same 12 pieces of information. AU received 6 pieces of information that were shared with the DM and AS but also received 6 pieces of unshared information.

The shared information in both Profile 1 and 2 included three clues that seemed to implicate an innocent suspect, one clue that helped exonerate an innocent suspect, one clue that could implicate the guilty suspect but only in conjunction with other information, and one clue that provided important background information. Profile 1 had six additional clues only included in that profile. In Profile 1, three of the clues helped implicate the correct suspect, two exonerated an innocent suspect, and one helped implicate an innocent suspect. Profile 2 also had six additional clues that were only included in that profile. In Profile 2, three of the clues implicated the correct suspect and three of the clues exonerated innocent suspects. It was counterbalanced whether the decision maker and AS received Profile 1, making the additional six clues in Profile 1 shared between the decision maker and AS (partially shared), and AU received profile 2, making the six additional clues in Profile 2 unshared information (unshared); or whether the decision maker and AS received Profile 2 and AU Profile 1. This ensured that in about half the conditions the additional clues in Profile 1 were the unshared information and in the other half the additional clues in Profile 2 were the unshared information.

Participants' opinions were individually taken in a prediscussion and postdiscussion questionnaire. Participants were asked to check off which of the three suspects they thought committed the murder and rate their confidence in their decision on a scale of 1 (*very confident*) to 9 (*not at all confident*). In addition, the postdiscussion questionnaire asked participants to rate the other two JAS members on several dimensions, including influence and competence at the task.

Procedure

After informed consent and role assignment, the DM went to a different room than the advisors to prevent information sharing before the discussion. Each participant was given a packet to read. The DM and AS received the same packet (Profile 1 or 2), and AU received the alternate, with what packet AU received being counterbalanced. Participants were unaware they received different information. Participants were instructed to read through the evidence about the murder and wait quietly when finished. Participants individually read through their packets for approximately 20 minutes.

The packets then were collected, and prediscussion decision questionnaires were given to participants individually. Upon completion, the advisors' questionnaires were collected, and advisors were given 12 cards, each with a single numbered clue typed on it. Clues contained information taken verbatim from the advisors' information packet. The order of the clues was counterbalanced to prevent possible order effects. Half of the clues were the same, and the other half differed between the two

advisors so that the shared and unshared information was distributed as described previously. The experimenter instructed the advisors, "Now you will meet with the decision maker. The decision maker is allowed to ask for 10 pieces of information total from the advisors. This information may be split among the two of you any way the decision maker wishes. You may tell the decision maker the name of the suspect you picked if he or she asks, but you cannot provide any justification for your decision, beyond the information the decision maker asks for." The advisors were then told that the 12 cards each contained a single clue that they could give to the decision maker when asked for a piece of information. They were instructed to read through the clues and put them in order of what they felt was most to least relevant/important to the discussion, and it was reiterated that they were not to provide any more information than what was on the cards. Lastly, the advisors were told that when giving a piece of information to the DM, they were to read the clue aloud first (or paraphrase) and then hand the card to the DM. Advisors were given 5 minutes to organize their clues. Advisors were given these cards so that the experimenter could track how much and what type of information the DM solicited from each advisor because the discussions were not videotaped.

After distributing the cards to the advisors, the experimenter collected the DM's prediscussion decision questionnaire. The experimenter instructed the DM, "You will now meet with two advisors who will give you information about the suspects. The advisors are differentiated by a different colored piece of construction paper. You can ask for a total of 10 pieces of information from the advisors. You may split these 10 pieces any way you want." Numerical examples of splitting up the information inquiries were given, and the instructions further noted that the DM did not have to state how many pieces he or she wanted from each advisor up front. This allowed the DM to change his or her questioning strategy according to whichever advisor he or she preferred. Finally, the DM was told that he or she was allowed to ask the advisors' opinions of the suspect without counting this information as part of the 10 clues.

Once the advisors had their clues ordered, the DM was brought into the discussion room and seated directly across from both advisors. The DM met simultaneously with both advisors, and different colored pieces of construction paper were arranged on the table in front of each person. Participants were informed that they would be asked questions about specific group members in a questionnaire after the discussion and that members would be identified in the questionnaire by their color. The experimenter told them to begin the discussion and to open the door when they were finished. Most discussions lasted about 15 minutes, and no discussion lasted more than 20 minutes. The experimenter waited outside for most of the discussion and could check the group through two large glass windows in the lab.

After the group discussion, the experimenter collected the advisors' remaining clues and the clues collected by the DM. The clues collected by the DM were used to determine what information the DM solicited from the advisors. The advisors remained in the room and were given the postdiscussion questionnaire. The DM was

led back into his or her room and given the questionnaire. The experimenter questioned the participants to ensure that they followed the procedure. Five groups were excluded from data analysis because they did not follow the experimental procedure. Upon completion, participants were debriefed and thanked for their time.

Results

Manipulation Checks

Because decision makers rated both advisors, ratings are not independent and therefore were analyzed using paired samples *t* tests. Questions used a 7-point scale from 1 (*strongly agree*) to 7 (*strongly disagree*). To assess whether the DMs were aware that the advisors were providing different information, DMs were asked at the end of their posttask questionnaire, "On the whole, the information given by advisor U (red)/advisor S (blue) was not information that I originally read about the murder suspects" (reverse coded) and "On the whole, the information discussed by advisor U (red)/advisor S (blue) was familiar to me." The mean of the two questions was analyzed, and the Cohen's alpha was reliable: $\alpha = .88$ for the AU and $\alpha = .65$ for AS. The DM rated information given by AU ($M = 4.18$, $SD = 2.25$) as less familiar than information from AS ($M = 2.69$, $SD = 1.88$), $t(39) = 3.54$, $p < .001$, Cohen's $d = .072$. Thus, the DMs realized the advisors were providing different information.

Solicitation of Information

A paired samples *t* test on the information the DM solicited was significant, $t(39) = -4.13$, $p < .0001$, Cohen's $d = 1.29$. In support of Hypothesis 1, the DM asked for more information from AU ($M = 5.73$, $SD = 1.18$) than AS ($M = 4.23$, $SD = 1.14$). The GPOWER program (Erdfelder, Faul, & Buchner, 1996) was used to calculate post hoc the power of the matched *t* test. Power was high (power = .98, Delta = 4.11). All but one DM asked for the full 10 pieces of information. The DM received 2.85 ($SD = 0.95$) pieces of universally shared information and 2.88 ($SD = 1.34$) pieces of unshared information from AU.

Decision Maker's Decision

The DM did not improve significantly from the first (30% chose correct suspect) to the second decision (38%), $t = .90$, $p = .37$. Furthermore, contrary to Hypothesis 3, there was not a correlation between solicitation of unshared information and picking the correct suspect in the second decision, $r = .02$, $p = .92$. In 21 of the JASs the DM did not agree with either of the advisors' individual prediscussion choice of suspects, in 4 of the JASs all three JAS members agreed, in 8 of the JASs the DM and

AU agreed, and in 7 JASs the DM and AS agreed. In a repeated measures analysis of variance, it was analyzed whether there was an interaction between agreement with advisor AU or AS and solicitation of information from AU or AS. There was not, $F(1,36) = 0.11$, $\eta^2 = 0.01$, $p = .95$. Therefore, the DM was not more likely to solicit information from one advisor when that advisor agreed with him or her than when they did not agree.

Confidence in the decision from the prediscussion to the postdiscussion questionnaire was analyzed in a repeated measures analysis of variance with the between-subjects factor of role assignment (DM, AS, or AU). Confidence increased for all three JAS members from pre- to postdiscussion (AU pre = 5.30, $SD = 1.70$, post = 6.38, $SD = 1.33$; AS pre = 4.75, $SD = 1.60$, post = 6.05, $SD = 1.32$; DM pre = 5.30, $SD = 1.90$, post = 6.48, $SD = 1.50$), $F(1, 114) = 57.52$, $\eta^2 = 0.34$, $p < .0001$.

Perception of Advisors

The DM was asked, "How important and influential was advisor U's (red)/advisor S's (blue) information during discussion?" and answered on a 7-point scale from 1 (*not important*) to 7 (*very important*). A paired samples t test served to test differences. In support of Hypothesis 2, AU's information ($M = 5.30$, $SD = 1.67$) was rated as more important and influential than AS's ($M = 3.88$, $SD = 1.76$), $t(39) = 3.34$, $p < .005$, Cohen's $d = .83$. A post hoc power test was conducted using the GPOWER program (Erdfelder et al., 1996). Power was high (power = .90, Delta = 3.34). There was a significant correlation between the amount of pieces of unshared information that the DM received from AU and how important and influential the DM rated AU's information, $r = .48$, $p < .005$. There was no correlation between the amount of shared information the DM received from AU and ratings of influence, $r = .05$, $p < .78$. However, there was a correlation between the amount of information, which was all shared, the DM received from AS and ratings of influence, $r = .37$, $p < .05$. Advisors rated each other for how important and influential the advisor's information was. A one-way analysis of variance served to test differences. AU rated AS's information ($M = 4.05$, $SD = 1.52$) as less important and influential than AS rated AU's information ($M = 4.80$, $SD = 1.36$), $F(1, 79) = 5.51$, $\eta^2 = 0.07$, $p < .05$. Advisors also rated their own information. AUs ($M = 4.78$, $SD = 1.40$) rated their own information as more important and influential than ASs rated themselves ($M = 3.98$, $SD = 1.39$), $F(1, 79) = 6.57$, $\eta^2 = 0.08$, $p < .05$. In support of Hypothesis 2, all JAS members viewed AU's information as more important and influential.

Discussion

This study examined what type of information a decision maker preferred when making strategic requests for information. The JAS structure is commonly used in

real-life decision making as individuals obtain information and advice from others to increase knowledge and make a more informed decision. Previous research has examined many factors that affect the judge's use and solicitation of advice but often has not examined how the content of advice affects making future requests of information from an advisor. We examined how the sharedness of an advisor's advice affected continued use of that advice and proposed an alternative to research on the information sampling bias. We predicted the decision maker would prefer an advisor who provided more unshared than shared information (Hypothesis 1) and would view this advisor's information as more important and influential (Hypothesis 2).

These hypotheses were supported. The decision maker elicited more information from the unshared advisor and rated this advisor's information as more important and influential. In fact, all three JAS members rated the unshared advisor as contributing more important and influential information. Also, the decision maker rated the unshared advisor's information as more influential and important when the unshared advisor provided more unshared information but not when the unshared advisor provided more shared information. This suggests that it was the unshared advisor's unshared information that was instrumental in influencing the decision maker's perception.

Mutual enhancement predicts that people will prefer to receive shared information because it validates their own knowledge and that people who provide shared information will be more influential (Wittenbaum et al., 1999). However, we predicted that the mechanisms that underlie mutual enhancement, such as validation and reinforcement of those mentioning shared information, inability to socially validate unshared information, and the conversational benefits of mentioning shared information, should be reduced in the JAS. We proposed an alternative in which the benefits of unshared information, such as offering an alternative viewpoint, may be more important to the decision maker and unshared information should have more impact and influence than shared information when presented (Winquist & Larson, 1998).

Furthermore, a decision maker would have different expectations of an advisor than fellow group members would have of each other because of the advisor's role. For example, Kameda et al. (1997) proposed that people may have a cognitive centrality heuristic of consensus implies correctness, where the more someone shares information in common with others, the more competent they are perceived. This heuristic may be less applicable to a JAS group. People may have expectations of advisors to present new information because of their designated role, and in fact, people may be disappointed when they solicit information from an advisor only to be told something that they already knew. Therefore, people may react more positively to unshared information presented by an advisor.

Finally, Larson et al. (2002) also found that members with more unshared information were rated as more influential. In their study, the participants had high task knowledge and presented their information assertively and competently. Under these circumstances, Larson et al. hypothesized that due to the participants' competence

and confidence about their knowledge, the importance and validity of contributed unshared information was not doubted. This eliminated two major reasons for why mutual enhancement occurs. A similar process may have occurred in our experiment. Advisors may have been confident about their information due to the designated role as information providers. Furthermore, the information was given to the decision maker in written form after the advisor stated his or her piece of information aloud. This should have eliminated the need to socially validate the unshared information. Similar to Larson et al., participants may have had little doubt about the validity of the unshared information or its importance. Therefore, whereas normally unshared information is given less weight than shared information because it cannot be validated by others, participants may have had fewer doubts about the validity of the unshared information in our experiments.

Decision

Although the decision makers solicited more information from the unshared advisor, the decision makers' final decision did not significantly improve, and they were not more likely to uncover the hidden profile. Contrary to Hypothesis 3, the decision makers' final decision did not improve as they solicited more unshared information. The limitation to 10 pieces of information may have limited the amount of unshared information the decision maker received.

Despite the fact that the decision makers did not increase in accuracy, their confidence in their decision after meeting with the advisors did increase in all three experiments. This replicates the findings of Heath and Gonzalez (1995) which found that decision makers' confidence is higher after meeting with advisors. Meeting with the advisors and receiving more information may have helped the decision makers construct rationales and justify their decision, which increased their confidence in that decision (Heath & Gonzalez, 1995).

Limitations

The experiment offered a very constricted test of the hypotheses. The decision maker and advisors were restricted to a very structured form of communication that limited the findings. For example, having the advisor read information on a card provided by the experimenter and then hand it to the decision maker obviated the need for any kind of validation or verification, social or otherwise, that is at the core of mutual enhancement because the unshared information was highly demonstrable. Therefore, future research may want to examine communication between the decision maker and advisors in a less structured environment with more relaxed discussion constraints and videotape the interaction to see if the hypotheses generalize. Furthermore, the decision maker was limited to only 10 pieces of information, so again, future research may want to relax this discussion constraint and allow more

open flow of information. The decision maker may be more likely to ask for unshared information when the amount of information he or she can solicit is limited. However, if able to freely talk to both advisors, the decision maker may be more willing to receive both shared and unshared information. Finally, future research may want to increase uncertainty about the advisors' information by not having the experimenter provide the information on written cards. This may increase participants' concerns about the veracity of the unshared information, and it should be tested whether the decision maker's preference for unshared information will generalize to this situation.

Because the interaction was not videotaped and decision makers were not instructed to preserve the order in which they requested the cards, we were unable to examine the order in which the decision maker requested information from the two advisors. It is likely that the decision maker asks for information fairly equally from the two advisors initially but then may start to favor the unshared advisor later in the discussion as he or she starts to understand the content of their advice. However, this conjecture will have to be examined in future research.

Future Research

In addition to future research suggested by the limitations of the study, the results suggest other areas for future research. First, future research may want to tell advisors that they have important information that differs from the other advisor. This may increase accountability and responsibility to the task as advisors are aware that they possess information that the other advisor does not have. Furthermore, in naturally occurring advice-seeking situations people are typically aware that they are giving advice that is most likely different from what others are giving. This could initiate something similar to a "know more" mindset in which "individuals who think that they have more relevant information than other prospective group members may identify themselves as potential transmitters and thus attend to information more carefully and process it more deeply" (Augustinova, Oberle, & Stasser, 2005, p. 620). An advisor in a "know more" mindset may be more motivated to discuss unshared information.

In addition to the type of information the advisor offers, whether or not the advisor agrees with the decision maker is an important variable toward increasing the attention paid to that advisor's information. This study did not control whether the advisors discussed their opinion with the judge or not, but future research may want to make advisors' opinions more explicit or control for advisors' opinions and examine how this interacts with type of advice. A decision maker may be more likely to pay attention to an advisor who agrees with him or her and may assume that an agreeing advisor's advice is more valid.

Other research could try to replicate these results with a different task. The murder mystery task may be perceived as a fairly intellectual task with a correct

answer as participants strive to find the guilty suspect. With an intellectual task, participants may be especially interested in soliciting unshared information that may help them determine the correct answer (Stasser & Stewart, 1992). However, with a more judgmental task without a correct answer, participants may be inclined to solicit more shared information that validates what they already know. With a judgmental task, the decision maker's goal may have less to do with accuracy and more to do with increasing confidence and bolstering his or her opinion.

In conclusion, many groups rely heavily on their ability to pool information to reach optimal decisions. The results suggest that structuring the group as a JAS may help the group be less susceptible to overweighting shared information. Group members in the role of advisors are better able to educate others about unique aspects of the decision. Thus, more research in this area could prove useful for increasing the amount of unshared information used by small groups.

Note

1. Parts of this article were presented at the 2003 Society for Judgment and Decision-Making annual meeting in Vancouver, Canada, and the 2003 National Communication Association Conference in Miami, FL. This article is based on an honors thesis of the second author. Correspondence should be addressed to Lyn M. Van Swol, 2240 Campus Drive, Evanston, IL 60208; e-mail: s-van2@northwestern.edu.

References

- Augustinova, M., Oberle, D., & Stasser, G. L. (2005). Differential access to information and anticipated group interaction: Impact on individual reasoning. *Journal of Personality and Social Psychology*, 88, 619-631.
- Budescu, D. V., & Rantilla, A. K. (2000). Confidence in aggregation of expert opinions. *Acta Psychologica*, 104, 371-398.
- Burnstein, E., & Vinokur, A. (1977). Persuasive argumentation and social comparison as determinants of attitude polarization. *Journal of Experimental Social Psychology*, 13, 315-332.
- Cruz, M. G., Henningsen, D. D., & Smith, B. A. (1999). The impact of directive leadership on group information sampling, decisions, and perceptions of the leader. *Communication Research*, 26, 349-369.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, 28, 1-11.
- Feather, N. T. (1969). Preference for information in relation to consistency, novelty, intolerance of ambiguity, and dogmatism. *Australian Journal of Psychology*, 21, 235-249.
- Gigone, D., & Hastie, R. (1993). The common knowledge effect: Information sharing and group judgment. *Journal of Personality and Social Psychology*, 65, 959-974.
- Harvey, N., & Fischer, I. (1997). Taking advice: Accepting help, improving judgment, and sharing responsibility. *Organizational Behavior and Human Decision Processes*, 7, 117-134.
- Heath, C., & Gonzalez, R. (1995). Interaction with others increases decision confidence but not decision quality: Evidence against information collection views of interactive decision making. *Organizational Behavior and Human Decision Processes*, 61, 305-326.
- Henningsen, D. D., & Henningsen, M. L. (2003). Examining social influence in information-sharing contexts. *Small Group Research*, 34, 391-412.

- Hogarth, R. (1988). *Judgment and choice* (2nd ed.). Chichester, UK: Wiley.
- Kahn, B. E., & Baron, J. (1995). An exploratory study of choice rules favored for high stakes decisions. *Journal of Consumer Psychology, 4*, 305-328.
- Kameda, T., Ohtsubo, Y., & Takezawa, M. (1997). Centrality in sociocognitive networks and social influence: An illustration in a group decision-making context. *Journal of Personality and Social Psychology, 59*, 296-309.
- Larson, J. R., Christensen, C., Abbott, A. S., & Franz, T. M. (1996). Diagnosing groups: Charting the flow of information in medical decision-making teams. *Journal of Personality and Social Psychology, 71*, 315-330.
- Larson, J. R., Foster-Fishman, P. G., & Franz, T. M. (1998). Leadership style and the discussion of shared and unshared information in decision-making groups. *Personality and Social Psychology Bulletin, 24*, 482-495.
- Larson, J. R., Jr., Sargis, E. G., Elstein, A. S., & Schwartz, A. (2002). Holding shared versus unshared information: Its impact on perceived member influence in decision-making groups. *Basic and Applied Social Psychology, 24*, 145-155.
- Phillips, K. W., Mannix, E. A., Neale, M. A., & Gruenfeld, D. H. (2004). Diverse groups and information sharing: The effects of congruent ties. *Journal of Experimental Social Psychology, 40*, 497-510.
- Price, P. C., & Stone, E. R. (1994). Intuitive evaluation of likelihood judgment producers: Evidence for a confidence heuristic. *Journal of Behavioral Decision Making, 17*, 39-57.
- Sargis, E. G., & Larson, J. R., Jr. (2002). Informational centrality and member participation during group decision making. *Group Processes and Intergroup Relations, 5*, 333-347.
- Savadori, L., Van Swol, L. M., & Sniezek, J. A. (2001). Information sampling and confidence within groups and judge advisor systems. *Communication Research, 28*, 737-771.
- Sniezek, J. A., & Buckley, B. (1995). Cueing and cognitive conflict in judge-advisor decision making. *Organizational Behavior and Human Decision Processes, 62*, 159-174.
- Sniezek, J. A., & Van Swol, L. M. (2001). Trust and expertise in a judge advisor system. *Organizational Behavior and Human Decision Processes, 82*, 288-307.
- Soll, J. B. (1999). Intuitive theories of information: Beliefs about the value of redundancy. *Cognitive Psychology, 38*, 317-346.
- Stasser, G., & Stewart, D. (1992). Discovery of hidden profiles by decision-making groups: Solving a problem versus making a judgment. *Journal of Personality and Social Psychology, 63*, 426-434.
- Stasser, G., & Titus, W. (2003). Hidden profiles: A brief history. *Psychological Inquiry, 14*, 304-313.
- Stewart, L. P., Gudykunst, W. B., Ting-Toomey, S., & Nishida, T. (1986). The effects of decision-making style on openness and satisfaction within Japanese organizations. *Communication Monographs, 53*, 236-251.
- Valley, K. L., White, S. B., Neale, M. A., & Bazerman, M. H. (1992). Agents as information brokers: The effects of information disclosure on negotiated outcomes. *Organizational Behavior and Human Decision Processes, 51*, 220-236.
- Van Swol, L. M., Savadori, L., & Sniezek, J. A. (2003). Factors that may affect the difficulty of uncovering hidden profiles. *Group Processes and Intergroup Relations, 6*, 285-304.
- Van Swol, L. M., & Seinfeld, E. (2006). Differences between minority, majority, and unanimous group members in the communication of information. *Human Communication Research, 32*, 178-197.
- Van Swol, L. M., & Sniezek, J. A. (2005). Factors affecting the acceptance of expert advisor. *British Journal of Social Psychology, 44*, 1-20.
- Vroom, V. H., Jago, A. G., Eden, D., Yetton, P. W., & Craig, J. F. (1998). Participative leadership. In F. Dansereau & F. J. Yammarino (Eds.), *Leadership: The multiple-level approaches: Classical and new wave* (Vol. 24, pp. 145-189). Greenwich, CT: JAI.
- Winquist, J. R., & Larson, J. R., Jr. (1998). Information pooling: When it impacts group decision making. *Journal of Personality and Social Psychology, 74*, 371-377.
- Wittenbaum, G. M. (1998). Information sampling in decision-making groups: The impact of members' task-relevant status. *Small Group Research, 29*, 57-84.

- Wittenbaum, G. M. (2000). The bias toward discussing shared information: Why are high-status group members immune? *Communication Research*, 27, 379-401.
- Wittenbaum, G. M., Hollingshead, A. B., & Botero, I. C. (2004). From cooperative to motivated information sharing in groups: Moving beyond the hidden profile paradigm. *Communication Monographs*, 71, 286-310.
- Wittenbaum, G. M., Hubbell, A. P., & Zuckerman, C. (1999). Mutual enhancement: Toward an understanding of the collective preference for shared information. *Journal of Personality and Social Psychology*, 77, 967-978.
- Wittenbaum, G. M., & Stasser, G. (1996). Management of information in small groups. In J. L. Nye & A. M. Brower (Eds.), *What's social about social cognition? Research on socially shared cognition in small groups* (pp. 3-28). Thousand Oaks, CA: Sage.
- Yaniv, I. (1997). Weighting and trimming: Heuristics for aggregation of judgments under uncertainty. *Organizational Behavior and Human Decision Processes*, 69, 237-249.
- Yaniv, I. (2004). The benefit of additional opinions. *Current Directions in Psychological Science*, 13, 75-78.
- Yaniv, I., & Kleinberger, E. (2000). Advice taking in decision making: Egocentric discounting and reputation formation. *Organizational Behavior and Human Decision Processes*, 83, 260-281.

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