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The pursuit of missing information in negotiation

Maia J Young [a]*, Christopher W. Bauman[b], Ning Chen[c]. Anthony Bastardi[d]

a Anderson School of Management, University of California, 110 Westwood Plaza A-411, Los Angeles, CA 90095, United States
b The Paul Merage School of Business, University of California, Irvine 92697, United States
c College of Business Administration, Clarion University of Pennsylvania, Clarion, PA 16214, United States
d Princeton University, 3379 Rose Ridge, Atlanta,GA 30340, United States

ABSTRACT

A large body of research has focused on how people exchange and use information during the negotiation process. This work tends to treat information as if it all were readily available upon request. The current research investigated how delays in the pursuit of missing information can influence people's ex-ante priorities and the final settlements they reach. Study 1 found that negotiators achieved more value on an issue after seeking missing information about that issue compared to when the same information was readily accessible. Study 2 found that the effect of searching for information on outcomes was mediated by changes in how important negotiators perceived the issue to be. Theoretical and practical implications are discussed.

Introduction

Information is a key to success in negotiations. Prior to any negotiation, negotiators should identify the issues likely to be discussed, understand their position on each issue, and establish their priorities across issues (Lax & Sebenius, 1986; Pruitt, 1981; Raiffa, 1982).They should also evaluate their options and determine the best alternative to a negotiated agreement (BATNA; Fisher & Ury, 1981; Mannix & Neale, 1993; Pinkley, Neale, & Bennett, 1994). Moreover, negotiators should seek information from their counterpart when the negotiation begins (Pinkley, Griffith, & Northcraft, 1995; Pruitt & Lewis, 1975; Thompson, 1991). Much of the information negotiators need to be successful will be readily available or easy to access, but some will require more effort to obtain.

When searching for an academic job, for example, candidates may identify a host of important issues, including salary, funding for research, teaching load, and the number of different courses (or "preps") they will teach. Details about most of these issues are specified in contracts that are extended along with initial offers of employment. When candidates receive an offer, they can review the contract and quickly access information such as the proposed salary, availability of research support, and teaching load. However, information about how many preps candidates will have is unlikely to be specified in the initial offers because deans usually control the terms of the contract while department chairs tend to determine the number of preps. Moreover, teaching assignments are typically made at a later date than hiring decisions, and the number of preps can change even if teaching load remains the same. Therefore, candidates must decide whether to pursue information about the number of preps before making a decision to accept, reject, or negotiate an offer. The missing information could affect candidates' overall feelings about the offer, whether and how much they want to negotiate the offer, and how strong their bargaining position is when exploring alternative deals. In sum, not all of the information relevant to job offers is likely to be equally accessible.

Research on judgment and decision making suggests that the pursuit of information can distort the way people use the information once they get it; people rely more on information when they must request it than when it is available up front (Bastardi & Shafir, 1998). The current paper constitutes a first step toward understanding how searching for missing information can impact negotiations. It complements and extends prior research that has focused on how negotiators exchange and use available information. However, it identifies a novel source of bias that stems from searching for unavailable information. Moreover, it calls attention to a range of situations in which efforts to make rational decisions based on complete and accurate information may bias outcomes. This work continues in the tradition of integrating the literatures on negotiations and decision making, but it also represents a new effort to bridge negotiations research and theories of attitude change and self-justification.

Information use in negotiation

Over the past 30 years, a large body of research has viewed negotiations as complex decision making tasks and focused on

* Corresponding author.
E-mail addresses: maia.young@anderson.ucla.edu (M.J Young), chris.bauman@uci.edu (C.W. Bauman), nchen@clarion.edu (N. Chen), bastardi@alumni.princeton.edu (A Bastardi).

ways in which negotiators can improve performance by eliminating or exploiting cognitive decision making biases (Bazerman & Neale, 1983; Neale & Bazerman, 1991; Thompson, 1990). The basic premise behind this approach is that understanding the way people process information can explain why people fail to achieve optimal outcomes (Bazerman & Carroll, 1987; Carroll, Bazerman, & Maury, 1988). For example, people often fail to seek important information during negotiations. Rather than ask their counterparts to explain their interests and priorities, negotiators often assume that their counterpart's positions directly oppose their own, which in turn causes them to miss compatible issues and forgo opportunities to create value by making tradeoffs across issues (Bazerman & Neale, 1983; De Dreu, Koole, & Steinel, 2000; Schelling, 1960; Thompson & Hastie, 1990; Walton & McKersie, 1965). Moreover, people often misuse readily available yet flawed information. They allow first offers to anchor their value judgments, and they may alter their information search to justify rather than contest their assumptions (Galinsky & Mussweiler, 2001; Mussweiler & Strack, 2001; Northcraft & Neale, 1987). Taken together, these examples illustrate how research on behavioral negotiation theory has focused heavily on how negotiators acquire and (mis)use information during negotiations (Neale & Northcraft, 1991).

From a rational perspective, it should always be advantageous to have access to more information that is relevant to one's position. Consistent with this idea, negotiation research typically finds that having and using more complete sets of information leads to better negotiated outcomes. However, important differences can exist between having accurate information and accurately using information. It is well established that people's prior experiences, motives, and expectations can bias the way they integrate new information with their existing attitudes (e.g., Asch, 1946; Bern, 1967; Ditto & Lopez, 1992; Festinger, 1957; Kunda, 1990; Staw, 1976). Along these lines, we propose that searching for missing information is a psychologically significant experience that will affect the way negotiators use the information once they have it. Specifically, we expect that people will interpret their act of searching for information as an indication that the information is important to them, which in turn will cause them to push harder to achieve better outcomes related to the information.

In summary, prior research has focused on how biases can disrupt the way people search for and use information (Bazerman & Neale, 1983; Neale & Bazerman, 1991). The current research investigates the possibility that searching for missing information can distort the way people understand their own position in a negotiation.

The effect of information search on decision-making

How information is acquired-whether it is actively pursued or whether it is available without seeking-can affect how it is used in decision making. Specifically, searching for information can cause people to rely on it more than if it were immediately accessible (Bastardi & Shafir, 1998). In one study, for example, Bastardi and Shafir (1998) asked participants to decide whether to approve a mortgage application for an applicant with a good job and good credit history. Some participants read that the applicant had not paid a $5000 debt for the last 3 months. Other participants were told that the applicant had not paid a debt but they would not find out until the following day whether the unpaid debt was $5000 or $25000. Participants in the latter condition were given the option to make the decision without the information or postpone their decision until they learned the amount of the unpaid debt. Results revealed that a strong majority of participants (71%) rejected the mortgage application when they knew upfront that the applicant's unpaid debt was $5,000. In contrast, only a minority the participants (44%) rejected the application when the information was initially uncertain.[1] In short, searching for missing information can increase the extent to which people subsequently use the information when making decisions, even if others do not perceive the same information to be instrumental to their choice when it is readily available.

Explanations for why searching for missing information affects decision making stem from theories of attitude change (Bern, 1967; Festinger, 1957; see also Staw, 1976, 1981). For example, self-perception theory argues that under conditions of uncertainty, people construct their attitudes based on salient cues that include how they acted in the past (Bern, 1967). From this perspective, people may infer that they searched for the missing information because it was important to them, which in turn may make them feel that they ought to use it when making a decision. That is, the act of searching may cause people to endow the information with more value than it would have otherwise.

We expect self-justification processes to underlie the effect of searching for missing information on people's preferences and outcomes in negotiation in much the same way that they explain the success of the foot-in-the-door technique (Freedman & Frazer, 1966; Pliner, Hart, Kohl, & Saari, 1974; Snyder & Cunningham, 1975). The foot-in-the-door technique is a compliance tactic that involves making a small request to make it more likely that a person complies with a larger request. Self-perception theory suggests that when people agree to grant the small favor, they begin to see themselves as "the kind of person who does this sort of thing," which in turn affects their responses to subsequent requests (Freedman & Frazer, 1966, p. 201). Along similar lines, we propose that when people decide to search for missing information in negotiations, they may begin to see themselves as someone who cares about this sort of information, which in turn should affect their goals for the negotiation and ultimately their outcomes. Searching for missing information may not permanently alter people's self-concept, but it may be sufficient to change people's priorities in an impending negotiation.

In sum, we expect that seeking missing information will shape negotiators' view of their position and the final settlements they achieve. Specifically, we predict that searching for missing information will cause people to make higher demands and reach better outcomes on the negotiable issue that is related to the information. Stated formally:

Hypothesis 1a. When people search for missing information about an issue, they will have higher expectations for their outcome on that issue compared to when the same information was available upfront.

Hypothesis 1b. When people search for mtssmg information about an issue, they will negotiate more favorable final settlements on that issue compared to when the same information was available upfront.

Moreover, we expect that negotiators who search for missing information will justify their decisions to search (and also wait to proceed with the negotiation) by valuing the issue related to the information more than they would if they had the information at the outset.

Hypothesis 2. When people search for missing information, they will perceive the related issue to be more important compared to when the same information was available upfront.

[1] There were 100 participants in the missing information condition. Twenty-five participants made their decision without searching for the missing information about the size of the debt; of them. 23 rejected and two approved the application. Of the 75 who waited for the information, 21 rejected and 54 approved the application.

Hypothesis 3. Searching for missing information will cause people to perceive it to be more important which in turn will cause them to achieve better outcomes. That is, issue importance will mediate the relationship between information condition and final settlements.

In summary, the present research explores the impact of searching for missing information on negotiation behavior. Although it is well-documented that information processing is critical to performance in negotiations (Bazerman & Carroll, 1987; Carroll et al., 1988), prior research has implicitly assumed that all information is equally available. The current work therefore examines a novel source of bias in negotiations by examining one way in which the information acquisition process can affect outcomes. In Study 1, we explore whether searching for unavailable information will cause negotiators to expect more and reach better outcomes on that particular issue than if it were available upfront. In Study 2, we test an alternative explanation and provide evidence for the means by which searching for unavailable information leads to better outcomes.

Study 1

Method

Participants and research design

Participants were 88 MBA students enrolled in an organizational behavior course at a public, West Coast university. Participants were randomly assigned to play the role of either an employer or an employee, creating 44 negotiation dyads. Additionally, participants in the employee role were randomly assigned to one of two experimental conditions; employees either lea rned up front (Certain Condition) or could search for information (Uncertain Condition) about the number of vacation days the outside offer included. Details about the manipulation are provided below.

Procedure

The task was a modified version of a teaching exercise involving a negotiation between an employer and an employee who had received a job offer from another company (Maddux, 2008). Participants received the study materials 48 h in advance and were asked to come to class prepared to negotiate. Instructions explicitly told participants to try to get the best possible deal for themselves. The materials provided background information about the general negotiation context and some confidential instructions about their role and the six negotiable iss ues: salary, time until promotion review, performance bonus, size of 401 (k) match, location of the job, and amount of vacation time. The materials established the negotiators' preferences by explicitly describing each issue as a top priority, of intermediate importance, or not something to wor- ry too much aboutfnot difficult to provide. The materials did not include a scoring system or payoff table. The simulation included distributive, compatible, and tradable issues, but the focus of the study manipulation (i.e., vacation time) was a distributive issue of intermediate importance to both parties. Before the negotiation, participants were asked to "indicate [their] target" or outcome aspiration for each of the six issues. After the negotiation, participants reported the details of the final agreement or indicated they reached an impasse.

Information search manipulation

Employers received the same information irrespective of the experimental condition to which the employee in the dyad was assigned. However, we manipulated whether employees could immediately access or needed to search for information about how many vacation days their outside offer included. In the Certain Condition, employees read that the company usually offered between 14 and 24 days of vacation, and that they would have 20 days of vacation per year for the first 2 years. In the Uncertain Condition, employees read that the company usually offered between 14 and 24 days of vacation, but that the exact number of vacation days the outside offer included was not yet known. Employees in the Uncertain Condition could decide to negotiate without this information or ask the instructor for it before negotiating. All participants in the Uncertain Condition asked for and received the information (that they would have 20 days of vacation per year for the first 2 years) before the negotiation began. We did not measure actual waiting time, but participants in the Uncertain Condition waited from the time they first read their role materials (i.e., up to48 h before the negotiation) until immediately before the negotiation (i.e., when they came to class and asked the instructor for the missing information).

Results

Outcome aspirations

We first tested whether our information search manipulation affected employees' aspiration for each issue in the negotiation. As seen in Table 1, there were no differences as a function of information search condition in employees' expected outcomes for salary, time until promotion review, performance bonus, and size of 401 (k) match. Moreover, there was no effect of information search condition on employees aspirations about the location of the job,[2] x^2 (1, $N = 37$) = 1.42, $p = .28$. In contrast, however, participants in the Uncertain Condition sought more vacation days than those in the Certain Condition; that is, results supported Hypothesis 1a.

Final settlements

We then tested whether our information search manipulation affected the final negotiated settlements (see Table 1). Again, there were no differences between conditions for salary, time until promotion review, performance bonus, size of 401 (k) match, and location of the job, x^2 (1, $N = 44$) = 0.01, $p = 1.00$. In support of Hypothesis 1b, final settlements included more vacation days in the Uncertain than in the Certain Condition.

Discussion

Study Hound that that searching for missing information about an issue ca n lead to higher expectations and better outcomes on that issue. When employees sought information about the number of vacation days the outside offer included, they subsequently expected to be able to reach an agreement that provided more vacation days than when information about vacation days had been included along with the other terms of the contract and was therefore immediately accessible. Moreover, employees who searched for missing information about vacation days appear to have pushed harder on that issue because they successfully negotiated a more advantageous final settlement in terms of the number of vacation days their compensation package included. Importantly, the gains in the number of vacation days were not offset by what employees achieved on other issues. That is, employees who searched for information achieved higher individual gains than did those for whom the information was readily available.

Although our data are consistent with the idea that searching for missing information about an issue in a negotiation makes the issue seem more important, there exists a plausible alternative

[2] Based on the information in the case, employees' top priority in the negotiation should have been location. Although eight potential job locations are mentioned in the exercise, employees overwhelmingly expected to achieve their preferred location. Therefore, we created a dummy code to indicate whether employees expected to achieve their preferred location and ran a simplified, yet more conservative, test of the effect of information search condition on location.

Table 1
Employees' outcome aspirations and final settlements as a function of information search in Study 1.

	Certain Condition		Uncertain Condition		*F*
	M	*SD*	*M*	*SD*	
Employees' expected outcomes					
Vacation days	18.2	5.00	21.00	3.34	4.14*
Performance bonus (%)	15.5	2.77	17.50	3.90	2.63
Salary (% increase)	9.64	4.18	11.17	3.55	1.42
401 k (%match)	100.00	19.61	97.83	31.90	0.05
Promotion (months)	3.86	4.20	3.38	3.89	0.13
Final settlements					
Vacation days	13.4	5.19	17.19	5.64	5.08*
Performance bonus (%)	13.2	4.14	13.79	4.10	0.23
Salary(% increase)	5.40	0.99	5.29	2.77	0.03
401 k (%match)	90.00	30.78	91.67	28.23	0.04
Promotion (months)	7.10	3.01	6.94	2.57	0.04

*$p < .05$.

explanation for the effect. Specifically, one could point out that the missing information in our study was relevant to the employees' BATNA. Therefore, searching for missing information in our study could have caused the employees to place greater importance on the strength of their BATNA in determining the amount of vacation time they could expect to get. Given that the missing information in our study ended up being advantageous to the employees' BATNA, having a stronger belief in the idea that one's BATNA ought to determine one's demands in negotiations would have resulted in greater perceived power (Fisher & Ury, 1981; Mannix & Neale, 1993; Pinkley et al., 1994). Unfortunately, Study 1 cannot disentangle whether the differences we observed between conditions stem from the extent to which our participants perceived their BATNA to be more important or whether they perceived the vacation time itself to be more important.

Study 2

The data from Study 1 could not distinguish between two explanations for the effect because the proposed mechanisms both predict more advantageous final settlements after searching for missing information. Study 2 addressed this limitation by making the missing information disadvantageous to the employee. Specifically, the missing information in Study 2-once revealed-was bad news for the employee; rather than providing 20 vacation days as in Study 1, the outside offer in Study 2 included only 14 days, the minimum of the expected range. In this new situation, predictions based on the two explanations diverge. If searching for missing information increases the importance of one's BATNA, then people who search for missing information should agree to *lower* final settlements than those who could access the information up front. If searching for missing information increases the importance of the underlying issue, then people who search for missing information should agree to *higher* final settlements than those who could access the information up front.

Method

Participants and research design

Participants were 82 executive MBA students enrolled in a negotiations course at a public, West Coast university. The negotiation was completed following the second session of the course and in the first quarter of the EMBA program. Therefore, participants likely had met each other before completing the study, but none of the pairs were close friends or had worked together. As in Study 1, participants were randomly assigned to play the role of either an employer or an employee. Participants in the employee role also were randomly assigned to one of two experimental conditions; employees either learned up front (Certain Condition) or could search for information (Uncertain Condition) about the number of vacation days the outside offer included. One dyad in the Uncertain Condition reached an impasse. Data from these participants were removed from analysis, leaving 40 valid dyads.

Procedure

Once again, the task involved a negotiation between an employer and an employee who had received a job offer from another company (Maddux, 2008). Different from Study 1, participants were given 1 week to complete the negotiation over email; face-to-face and telephone conversations were prohibited. Participants also were asked to rate how important each issue was to them using sin- gle-item, 7-point scales that ranged from 1 (not *at ail important)* to 7 *(extremely important).* We placed the questionnaire that solicited the issue important ratings at the very end of the role materials so that participants who searched for the missing information would complete the questionnaire after they received it. After the negotiation, participants reported the details of the final agreement or indicated that they reached an impasse. The negotiation involved the same six issues as in Study 1, but important aspects of the information search manipulation differed.

Information search manipulation

We again manipulated whether employees could immediately access or needed to search for information about how many vacation days their outside offer included. In the Certain Condition, employees read that the company usually offered between 14 and 24 days of vacation and that they would have 14 days of vacation per year for the first 2 years. In the Uncertain Condition, employees read that the company usually offered between 14 and 24 days of vacation but that the exact number of vacation days the outside offer would include was not yet known. Employees in the Uncertain Condition could decide to negotiate without this information or email the company making the outside offer (i.e., their instructor) and request it before negotiating. Participants received a response with the missing information at least two and no later than 10 h after their inquiry. All participants in the Uncertain Condition requested the information before the negotiation began.

Results

Perceived importance of issues

We first tested whether our information search manipulation affected how important the employees' perceive each issue to be. As seen in Table 2, the information search condition did not affect

employees' perceived importance of salary, time until promotion review, performance bonus, size of 401 (k) match, or location of the job. In support of Hypothesis 2, however, employees in the Uncertain Condition perceived vacation time to be more important than did employees in the Certain Condition.

Final settlements

We then tested whether our information search manipulation affected the final negotiated settlements. As seen in Table 2, there were no differences between conditions for salary, time until promotion review, performance bonus, size of 401 (k) match. Additionally, there was no effect of information search condition on the location of the job, $X^2(1, N = 40) = 0.48$, $p = .60$. However, final settlements included more vacation days in the Uncertain than in the Certain Condition. Therefore, Study 2 provided additional support for Hypothesis 1b.

The role of issue importance in final settlements

To assess whether changes in employees' perceived importance of vacation time mediated the effect of information search on final settlements, we used both the multiple regression procedure outlined by Baron and Kenny (1986) and a bootstrapping procedure described by Preacher and Hayes (2004, 2008). Although the Baron and Kenny procedure is more traditional and perhaps more widely understood, bootstrapping is a technically superior procedure that is rapidly becoming common in the literature (Hayes, 2009; Preacher & Hayes, 2004, 2008). Bootstrapping is particularly appropriate when sample sizes are small (i.e., $N < 400$; Stone & Sobel, 1990).

Analyses reported above already established the significance of the direct effect of information search condition on perceived importance (i.e., path *a*) and final settlement (i.e., path c). Following convention, Fig. 1 displays the results of regressions analyses that parallel the prior ANOVAs and show that the data satisfy the first two criteria of Baron and Kenny's (1986) procedure. Baron and Kenny's third criterion is that controlling for the mediator should significantly decrease the effect of the independent variable on the dependent variable. In support of Hypothesis 3, the effect of information search condition on final settlement significantly weakened when perceived importance was added to the model, Sobel z1.9S, *p*.OS. However, the direct effect of information search condition on final settlement remained significant with perceived importance in the model, indicating only partial mediation. Nevertheless, the analyses confirm that the searching for missing information prompted people to perceive the issue to be more important, which in turn caused them to achieve a better final settlement.

Table 2
Employees' perceived importance of negotiated issues and final settlements as a function of information search in Study 2.

	Certain Condition		Uncertain Condition		*F*
	M	*SD*	*M*	*SD*	
Employees' perceived importance					
Vacation days	3.95	0.87	5.05	0.85	16.45**
Performance bonus (%)	4.05	1.20	4.32	0.89	0.63
Salary (% increase)	3.71	1.27	3.68	1.42	0.01
401 k (% match)	2.38	1.07	2.44	0.98	0.37
Promotion (year)	6.14	0.73	6.05	0.71	0.16
Final settlements					
Vacation days	10.10	3.70	17.32	4.30	32.62**
Performance bonus (%)	12.95	3.51	11.79	3.84	0.32
Salary (% increase)	5.52	2.32	5.21	3.02	0.14
401 k (% match)	78.57	37.32	86.84	32.67	0.55
Promotion (year)	7.57	2.44	7.26	3.25	0.12

** $p < .001$.

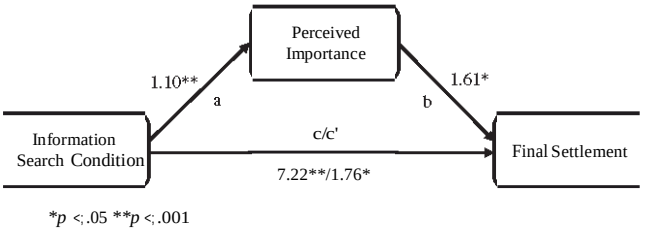

Fig. 1. The effect of information search through perceived importance on final settlements Study 2. *$p < .05$, **$p < .001$.

We also used a bootstrapping procedure to estimate of the size of the indirect effect (Preacher & Hayes, 2004, 2008; Shrout & Bolger, 2002). The procedure drew 1000 random samples with replacement from the full sample and estimated the size of the indirect effect to be significantly greater than zero, c' 1.77, z2.00, $p <$.OS. More- over, the bootstrap procedure generated a 9S% confidence interval of the indirect effect that excluded zero (0.01, 4.0S). In short, the size of the indirect effect was significant. Therefore, the results of the bootstrapping procedure also supported Hypothesis 3.

Discussion

Study 2 found further support for the idea that searching for missing information affects negotiation behavior. In our study, those who searched for information about how many vacation days an outside offer included achieved more in their negotiations with their current employer than did those who received all of the information up front. Moreover, Study 2 provided direct evidence for the mechanism that underlies this effect. Those who search for missing information about vacation time perceived vacation time to be more important to their position, which in turn prompted them to claim more value in the final settlement. Furthermore, Study 2 found no evidence that searching for the information increased the importance people placed on their BATNA; the missing information weakened rather than strengthened their BATNA, but their final settlements improved. Therefore, it appears that people are more likely to categorize the missing information in terms of the issue it represents in the negotiation rather than in terms of their BATNA.

General discussion

The two experiments presented here provide evidence that seeking missing information in negotiation can affect people's perception of their position and the final settlements they achieve. Study 1 explored the effect of information search on expectations and outcomes. It revealed that negotiators who seek missing information expect more in the ensuing negotiation and have higher final settlements than those who could immediately access the same information. The difference across conditions held true for the issue relevant to the missing information only; final settlements were the same on all other issues of the negotiation. Study 2 replicated the effect of information search on final settlements, and it ruled out an alternative explanation for why negotiators who searched for more information achieved more advantageous final settlements. The act of searching for missing information can cause people to perceive the underlying issue to be more important, which in turn causes them to push for a better outcome along that dimension.

It was somewhat unexpected to find in both studies that searching for missing information resulted in a net gain in the favorability

of the outcome overall. Those who searched for missing information did not make concessions on other issues to achieve success on the issue they prioritized more strongly as a result of the search. That is, those who were motived to acquire more vacation time did not have to give up anything in exchange for it. One reason why this may have occurred is that the issue was only moderately important to employers, and they had considerable flexibility in terms of how many vacation days they could offer. Therefore, it was fairly easy for employers to accommodate employees' demands without asking for something in return (cf. Huber & Neale, 1987). Had the missing information caused employees to push on more contentious issue, employers may have made tradeoffs rather than concessions, or more negotiations may have ended in impasse. In sum, we do not expect that searching for missing information is always likely to have beneficial effects. It could lead negotiators to over-prioritize an issue and lose sight of their true priorities. As a result, the potential exists for people to make the wrong tradeoffs or make demands that artificially reduce the zone of possible agreement.

It is also important to note that although our two studies examined the effect of searching for missing information about one's BATNA prior to the start of the negotiation, we expect that our results represent a broader phenomenon that can emerge when negotiators search for missing information about any aspect of a negotiation. In particular, we expect that people can have an experience with missing information when they pose questions to their counterpart and are told that the information they want is unavailable. This situation can develop when negotiators ask questions that their counterpart is either unable or unwilling to answer. For example, a sales representative may not have or may not want to provide precise information about the delivery date for a prod- uct. If a potential customer decides to push the issue and asks the salesperson find out the answer, the customer is in effect searching for missing information. As a result, the customer may more strongly emphasize the importance of the delivery date as an issue in the deal. Given that the amount of information negotiators ex- change during negotiations often is quite small (Pruitt & Lewis, 1975; Carnevale, Pruitt, & Seilheimer, 1981), there seems to be ample opportunity for the information search phenomenon to occur. Prior research on information exchange in negotiations has focused mainly on how sharing information can contribute to joint gains (e.g., Thompson, 1991). The current research suggests that the process of information exchange can have important consequences for individual gains. In sum, searching for information both before and during negotiation is likely to affect the way people perceive their position and the outcomes they reach.

Theoretical implications

Cognitive biases in information processing have long been a focus of negotiation research (e.g., Bazerman & Neale, 1983; Neale & Bazerman, 1991). However, research on how people acquire information in negotiations has tended to focus on information exchange, or the disclosure of known information across the bar- gaining table (e.g., Pinkley et al., 1995; Pruitt & Lewis, 1975; Thompson, 1991). The current research contributes to the negotiations literature by investigating the pursuit of missing information, or information that is not readily accessible by either party. Results provide initial support for the idea that the process of how people acquire information is important to negotiation outcomes, above and beyond the content of the information. Therefore, the current research integrates theories of decision making that depict people's preferences as contextually determined constructions rather than as fixed structures that must simply be retrieved (Shafir & Tversky, 1995; Slavic, 1995; Tversky & Kahneman, 1986).

Negotiation researchers often investigate phenomena by presenting participants a packet of complete role information and observing how they use it in a subsequent negotiation. Although this method is well-suited to answer a wide variety of research questions (see Thompson, 1990), it shrouds the potential impact of how people search for information and develop their understanding of their position. In the real world, negotiators must generate their own information, which includes both identifying which issues are likely to be of consequence and discovering important information about each. Some of this information will be readily available, but some will be missing. Given that much re- search has held constant the way negotiators access important information and has focused on what happens following the information-gathering phase, the impact of the information search process on negotiation may be underrepresented in the literature.

The current research also contributes to prior theoretical and empirical work on the impact of missing information on judgment and decision making. Most important, the current research is the first to document the means by which searching for information affects decisions. According to Bastardi and Shafir (1998), "the mere arousal of curiosity seems enough to lead people to focus on the missing information and act in accord with it once it is obtained" (p. 29). In our studies, we demonstrate that it is not simply a focus on missing information but it is also the perception that the information is more important that drives the effect in negotiations. That is, the current research contributes to the literature on decision making by demonstrating that searching for information affects perceived importance rather than mere salience of the information. Moreover, our studies extend prior research on the pursuit of missing information by demonstrating that the effects emerge in complex social interactions with high ecological validity.

The current research also integrates the literatures on negotiations and self-justification (Bern, 1967; Cooper & Fazio, 1984; Festinger, 1957; Eagley & Chaiken, 1993). Previous research has shown that people are motivated to see themselves in a positive light. As a result, they are more likely to pay attention to the information that is consistent with a positive self-image, such as any evidence that indicates one's own intelligence (Wyer & Frey, 1983) or competence (Beckman, 1973). For the same reason, individuals would like to see themselves as rational most of the time (Dunning & Cohen, 1992; Kunda, 1990) so that they "actively seek to maintain or restore the appearance of rationality to a previously chosen course of action" (Staw, 1976). The current research suggests that when negotiators decide to seek missing information, they may become motivated to justify that doing so is rational, that the effort and time they spent on seeking the information is not wasted, and to see the information as critical to their decisions. Therefore, once they obtain the information, they put additional value on that issue in the negotiation, no matter whether the sought-information was good or bad for one's BATNA

In summary, our data show that seeking missing information increases the subjective importance people assign to issues, which in turn causes people to achieve better outcomes along that dimension of a negotiation. We believe that theories of self-justification processes provide compelling descriptions of the psychological mechanisms that accompany this phenomenon. Of course, our data cannot rule out the possibility that other processes are involved. For example, perceptual processes, such as the availability heuristic, may play a role. Searching for missing information may make an issue more salient to negotiators, causing them to devote more attention to the issue and ultimately achieve a better outcome. When viewed from this lens, however, it is difficult to account for why salience necessarily should increase subjective importance of the issue. Nevertheless, future research should investigate whether and how searching for missing information can set in motion a variety of psychological processes that in turn affect negotiated outcomes.

Practical implications

One practical implication of the current research is that negotiators need to recognize that the weight they place on issues can change as a function of whether they searched for missing information. To ensure that they pursue their true rather than biased priorities, negotiators can evaluate their priorities and make them explicit prior to searching for missing information. Because people's priorities in a negotiation are subjective assessments of value, it is not necessary for people to have complete information about their alternatives to establish the basic framework of a planning document or scoring system (e.g., Moore, 2005; Simons & Tripp, 1997). That is, negotiators can rank issues they anticipate to encounter in a negotiation before they search for detailed information about potential options, and thereby preserve a record of their ex-ante priorities throughout the negotiation. In other words, negotiators should separate their evaluations of their priorities across issues from their assessments of the positions they may want to take within issues. By doing so, they can prevent the process by which they came by information from the content of the information itself.

Although our focus has been on the perspective of those who search for missing information, another practical implication of this work pertains to the searchers' counterparts. Negotiators may be able to anticipate or observe instances when their counterpart invests time or energy into finding information that was not initially available. When this happens, negotiators can anticipate that their counterpart is likely to increase their efforts to satisfy their goals involving the issue. Recognizing this tendency may allow negotiators to be strategic in their approach to the issue. For example, negotiators may be able to prevent their counterpart from becoming overly fixated on a particular issue by being prepared to provide the missing information. To continue the academic job search example we used at the start of the paper, the dean could speak with the department chair prior to making the candidate an offer. If a dean is prepared to discuss the number of preps a new hire would have, then the candidate would not experience having to search for missing information. If the dean is unprepared to discuss the number of preps, then the candidate's inquiry could make the issue seem more important, potentially even turning it into a deal-breaker. In short, negotiators can attempt to minimize sticking points associated with their counterparts' demands by preparing information that might not otherwise be readily available.

Another way that negotiators can be strategic when they recognize that their counterpart may want to search for missing information is to ask for bigger concessions when they expect to be able to provide their counterpart with what they want on that is- sue. For example, imagine a car salesperson who knows he can get a particular car in any color. He could feign uncertainty about whether he can get the car in the customer's favorite color and create an opportunity for his counterpart to experience searching for missing information. By withholding information from the customer, he may enhance his counterpart's demand for that color and subsequently be able to extract a higher price for the car compared to if the availability of that color had been apparent all along. Obviously, this is an aggressive tactic, and it shares some similarities (both benefits and liabilities) with using a compatible issue to one's strategic advantage (Lax & Sebenius, 1986). Therefore, negotiators should think carefully about the ramifications of this tactic before applying it.

Conclusion

The current research reveals a previously unidentified source of bias in negotiations. The search for missing information can affect the way that people understand their position and ultimately behave in negotiations. Research has long established that information exchange is important to success in negotiation (e.g., Bazerman & Neale, 1983; Schelling, 1960; Thompson & Hastie, 1990), but the current research unpacks the information acquisition process and finds differences as a function of whether information is easy or difficult to obtain. Therefore, the current research both complements and extends a long tradition of work on information exchange and use in negotiations.

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