



The influence of power on the information search, impression formation, and demands in negotiation[☆]

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Abstract

Based on work by Fiske (1992), we argue that power differences influence information search strategies during negotiation. Experiment 1 showed that negotiators with less power ask more diagnostic than leading questions, and more belief-congruent than incongruent questions, when facing a competitive rather than cooperative partner. Experiment 2 suggested that this result was caused by stronger accuracy and impression motivation among less powerful negotiators. Experiment 3 showed that belief-congruent rather than incongruent questions produce more positive impressions during negotiation. And when less powerful negotiators are asked leading questions about their willingness to cooperate (compete), they responded with lower (higher) demands. The results are discussed in terms of a motivated information-processing model of negotiation.

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Introduction

Negotiation is common in daily life—people negotiate with spouses about the division of household chores, with children about how to spend the holidays, or with potential employers about salary. Sometimes people are successful, and sometimes they are not. Negotiation is often difficult because even the simplest negotiations are both cognitively and emotionally taxing. People need to have at least some understanding of their own interests and opinions, they must keep those in mind during the interaction, and they must get them across to their negotiation partners. At the same time, people must pay attention to what these partners are saying, doing, and otherwise communicating, keep such things in mind, and try to figure out what they mean in terms of their partner's underlying interests, opinions, goals, and intentions.

In these taxing situations, people often need to search for additional information about their negotiation partners and about the task. Information that is or becomes available during negotiation is often the result of the questions that people ask one another, and the type of questions asked may have important consequences for the amount and kind of information that becomes available to the negotiators for subsequent processing. Rubin, Pruitt, and Kim (1994) hypothesize that negotiators have a strong tendency to seek confirmation rather than disconfirmation of their initial beliefs, plans, and strategies: “By framing questions in ways that could only confirm their hypotheses, both sides would be likely to discover only what they wanted to find.” (p. 105). Confirmatory search may easily lead to a self-fulfilling prophecy (Snyder, 1992) and when initial hypotheses are incorrect, problems associated with building a strategy on inadequate and incorrect assumptions, beliefs, and cognitive structures can arise (Neale & Bazerman, 1991).

Despite their obvious consequences, search strategies in negotiation have not been the focus of empirical research and thus are poorly understood. We do not know whether negotiators engage in confirmatory information search, and if so, then why they do so. We do not know whether information search strategies are contingent upon key aspects of negotiation, such as power differ-

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ences between the negotiators or beliefs about the cooperativeness or competitiveness of the negotiation partners. We do not know what the consequences are of one negotiator's information search strategies on the behavior of his or her partner. The goal of our research was to explore these and other issues. We examined the influence of power and beliefs about a partner's cooperativeness or competitiveness on search strategies during negotiation (Experiments 1 and 2), and how those search strategies influence the behavior of a negotiation partner (Experiment 3). We will argue and show that the influence of power on information search can be understood in terms of motivated information processing, and that information search can lead negotiators into a self-fulfilling prophecy, especially when they have more power than their partners.

Power and information gathering during negotiation

Of all the variables that have been identified as factors in negotiation, power is among the most important. Power is broadly defined as the possibility to influence others (Bacharach & Lawler, 1981; Kelley & Thibaut, 1978). We think of power as structural potential, which is different from any specific use of power, such as launching an attack, providing a reward, uttering a threat, or making a promise. Power as structural potential may derive from a variety of “power bases” (French & Raven, 1958), such as someone's position within a group or organization, or the possession of valuable resources, such as expertise (Lee & Tiedens, 2002; Podsakoff & Schriesheim, 1985; Yukl & Falbe, 1991).

Regardless of the specific power base(s) involved, it is the mutual dependence of individuals that allows power to occur. In exchange relations (such as negotiations) between two persons A and B, B's dependence on A increases with the value of the benefits A can give B, and it decreases with B's access to alternative sources for those benefits (Emerson, 1972). Negotiation research has been concerned primarily with the first aspect of dependence—the extent to which one can provide a negotiation partner with rewards and punishments (for reviews, see Bacharach & Lawler, 1981; Lawler, 1992; Rubin & Brown, 1975). Some researchers have also considered the second aspect of dependence—the availability of alternatives (e.g., Giebels, De Dreu, & Van de Vliert, 2000). In recent work, power has even been operationalized as the extent to which someone is central or peripheral in the group where negotiation takes place (Kim, 1997), or how easily coalitions with others can be formed (Beersma & De Dreu, 2002).

Compared to power balance, power differences lead to greater use of threats and punishments, so conflict escalation becomes more likely (see De Dreu, 1995; De Dreu, Giebels, & Van de Vliert, 1998; Hornstein, 1965; Lawler, 1992; Mogy & Pruitt, 1974; Smith & Anderson,

1975). When power differences exist, people with less power tend to have lower aspirations, demand less, make more concessions, and receive smaller outcomes than those with more power (De Dreu, 1995; Giebels, De Dreu, & Van de Vliert, 1998, 2000; Pinkley, Neale, & Bennett, 1994; Tjosvold, 1985; for a review, see Pruitt & Carnevale, 1993).

Power not only influences strategic decisions involving demands and the use of threats during negotiation, it also drives the processing of information about other people (e.g., Fiske, 1992; Fiske & Depret, 1998). The idea is that when people depend on others, they may try to (re)gain control over their own outcomes by paying close attention to those persons so as to accurately predict their intentions and behaviors. Erber and Fiske (1984), for example, found that outcome dependency produced heightened attention to information that was inconsistent with someone's expectations about another person. In a similar vein, Neuberg and Fiske (1987) found that outcome dependency increases the tendency to rely on individual attributes rather than stereotypes when forming impressions about others. They also showed that accuracy motivation mediated the effects of outcome dependency on impression formation. Finally, Goodwin, Gubin, Fiske, and Yzerbyt (2000) found that power increased attention to stereotypic attributes and decreased attention to counter-stereotypic attributes.

Although the research of Fiske and her colleagues clarifies the socio-cognitive consequences of having a power advantage or disadvantage, it is unclear whether their results would generalize to the context of negotiation, with its relatively conflict-laden character and greater incentive for truly understanding others. Granted, Ruscher and Fiske (1990; see also De Dreu et al., 1995; Vonk, 1998) have argued and shown that similar processes occur in cooperative and competitive settings, but their work does not speak to differences in power and dependency in a negotiation setting. Thus, it may well be that people try to individuate their negotiation partners regardless of how much power they have. In addition, work on power, dependency, and impression formation has not been extended to information search strategies. We do not know whether the effects of power are confined to encoding and retrieval processes or extend to information search strategies as well.

Information gathering during negotiation often involves questioning one's partner, and “asking for information” is indeed one of the important behavioral codes used in negotiation research (e.g., Pruitt & Lewis, 1975; Thompson, 1991). People ask questions to test their beliefs and hypotheses and these questions can be congruent or incongruent with those beliefs (e.g., Skov & Sherman, 1986). For example, when someone's partner is believed to have competitive goals, a belief-congruent question would involve that person's resistance to concession making, whereas a belief-incongruent question would

involve that person's willingness to abandon issues. Questions can also be diagnostic or leading. Diagnostic questions can often be answered with a simple "yes" or "no" and provide direct evidence for or against a belief or hypothesis. Leading questions, in contrast, are likely to yield answers that seem consistent with a belief or hypothesis, whether that belief or hypothesis is correct or not (Snyder, 1992). Thus, questions can be belief-congruent or incongruent, and diagnostic or leading (see Hodgins & Zuckerman, 1993; Skov & Sherman, 1986; Trope & Bassok, 1983). For example, a negotiator who believes that his or her partner has competitive goals may ask "What will you do to win the negotiation?" (a belief-congruent, leading question); "What will you do to establish a fair distribution of outcomes?" (a belief-incongruent, leading question); "Are you trying to win the negotiation?" (a belief-congruent, diagnostic question); or "Are you trying to distribute outcomes fairly?" (a belief-incongruent, diagnostic question).

Diagnostic questions allow negotiators to develop more accurate impressions of their partners than do leading questions (Klayman & Ha, 1987; Skov & Sherman, 1986; Trope & Bassok, 1983). Research has shown that people who are motivated to develop an accurate impression of someone indeed ask more diagnostic and fewer leading questions than do people who are less concerned about accuracy (Biesanz, Neuberg, Smith, Asher, & Judice, 2001). We argued earlier that people with a power disadvantage are more concerned with developing individuated and accurate impressions of their negotiation partners than are people with a power advantage. It can thus be predicted that people with a power disadvantage would be more inclined to ask diagnostic rather than leading questions.

From the work discussed thus far, it is unclear whether people with a power disadvantage would prefer belief-congruent or belief-incongruent questions. Powerful people are sometimes reluctant to use power to their own advantage because they like and respect their negotiation partners and wish them well (Tjosvold, 1985). Capitalizing on this reluctance, people without much power may seek situational control by making positive impressions (Copeland, 1994; Jones, 1986). Dardenne and Leyens (1995) found that people ask more belief-congruent questions when they have lower status than those they are questioning. In a follow-up study, Leyens, Dardenne, and Fiske (1998, Exp. 2) found that people consider belief-congruent questions to be just as informative as belief-incongruent questions, and the former questions have the added benefit of showing empathy. Thus, people who are more motivated to please others may have a stronger preference for belief-congruent rather than belief-incongruent questions. Because people with less power are likely to have greater impression motivation, they are also more likely to ask belief-congruent rather than incongruent questions.

Beliefs about other's personality

To determine whether questions are belief-congruent or incongruent, it is necessary to know someone's beliefs about his or her negotiation partner. Although negotiators often assume that their partners are competitive and "out to get them," they sometimes assume that their partners are trustworthy and cooperative (e.g., Kelley & Stahelski, 1972). People are generally more cooperative when they believe their partners are cooperative rather than non-cooperative or even competitive (for a review, see Pruitt & Kimmel, 1977).

Whether a negotiation partner seems cooperative or competitive may also influence the tendency to ask diagnostic questions. De Bruin and Van Lange (1999) found that information indicating that someone is competitive had more impact on impressions and behavioral intentions than did information suggesting that someone is cooperative (see also De Dreu, Yzerbyt, & Leyens, 1995). Vonk (1998) found that competitive others are perceived as a potential threat, producing caution, careful information processing, and conservative judgments. Thus, facing a competitive rather than cooperative partner may lead negotiators to ask diagnostic rather than leading questions. People facing a competitive partner may also prefer to ask belief-congruent rather than incongruent questions so as not to upset or annoy their partner. These tendencies are less likely among more powerful negotiators because having power provides protection against competitive others.

Experiment 1

We have reviewed research showing that people with less power are more motivated to develop an individuated and accurate impression of others on whom they depend, and to please those persons if possible. This research was often conducted in cooperative settings, such as simulated job interviews. Researchers have not examined these issues in the context of negotiation, or the information search strategies that negotiators use, or the impact of a negotiation partner who is believed to be cooperative or competitive. All of these matters were examined in Experiment 1. Negotiators were placed in a more or less powerful position than their partners and they were told that their partners had competitive or cooperative personalities. Just before negotiations began, these negotiators were given the opportunity to write down questions they would like to ask their partners. These questions were content-coded as diagnostic or leading and as belief-congruent or belief-incongruent.

Because low power negotiators are motivated to develop accurate impressions, especially when their partners are competitive rather than cooperative, we predicted that negotiators with low power would be

more likely to ask diagnostic rather than leading questions, especially when their partners were competitive rather than cooperative (*Hypothesis 1*). Because low power negotiators are also motivated to make positive impression on their partners, especially when their partners are competitive rather than cooperative, we predicted that negotiators with low power would be more likely to ask belief-congruent rather than incongruent questions, especially when their partners were competitive rather than cooperative (*Hypothesis 2*). Finally, because low power negotiators try to simultaneously satisfy their accuracy motivation and their impression motivation, we predicted that they would prefer diagnostic rather than leading questions that were belief-congruent rather than belief-incongruent, especially when their partners were competitive rather than cooperative (*Hypothesis 3*).

Method

Design and participants

The design was a 2 (power: low vs. high) \times 2 (partner's personality: cooperative vs. competitive) between-participants factorial. The main dependent variable was the kind of questions that participants asked. Participants were 71 psychology students (23 males and 48 females) at the University of Amsterdam. The students received course credit for participation and were assigned randomly to conditions. Gender had no effects on the results and thus will not be discussed further.

Procedure

Four participants came to the laboratory for each session. They were first asked to complete a (fake) personality test “as part of a large-scale test-development project that is not related to the other tasks in this experiment.” The test allegedly measured collaboration skills, and contained 20 items having to do with cooperation in daily life (e.g., In the bus, I stand up and leave my seat for other people; I enjoy working with other people; love and respect are more important than status and money; Winning is everything; I like situations in which I can compete with others). Participants indicated their agreement on five-point rating scales (1 = *completely disagree*, to 5 = *completely agree*). Upon completion, the materials were collected and new instructions about the rest of the experiment were distributed.

Manipulation of power and beliefs about partner's personality

Participants read that the study was about how people perform tasks in organizations. They were asked to imagine that they worked in an office designing advertisement campaigns for various organizations. They would be working with another person on several tasks. One person would be the supervisor (*high power*) and the

other the subordinate (*low power*). To enhance experimental realism, and to make the power manipulation seem credible and legitimate, we told participants that creativity was an important and valuable asset for many tasks. Each participant completed a “creativity test,” and was told that the person in each pairing with the highest creativity score would be the supervisor, and the other one would be the subordinate. The creativity test involved 20 anagrams, of which only 15 were solvable. This allowed us to provide credible bogus feedback.

Participants were given 5 min to complete as many anagrams as they could. The experimenter then collected the materials “to calculate test scores.” After a few minutes, each participant was given a feedback form with a complicated (and fictitious) mathematical formula leading to a test score. The form also informed participants whether they would act as the supervisor, or as the subordinate. In reality, these roles were assigned on a random basis.¹ Together with this feedback, participants saw “the other person's personality test filled out earlier this session, to give you some idea of whom you'll be working with today.” The test scores were manipulated in such a way that in one condition, the partner appeared to be a *competitive person*, while in the other condition the partner appeared to be a *cooperative person*.

Following role assignments and the bogus test feedback, participants were told that they would engage in two tasks—a negotiation and an execution task. The execution task was explained first. Participants learned that it would involve a series of interesting and boring tasks. The experimenter placed two thick, sealed envelopes on the participant's table: One envelope read (in blue writing) “interesting tasks,” and the other envelope read (in red writing) “boring tasks.” Participants were told that the supervisor would decide how many interesting and boring tasks the subordinate had to complete. This manipulation provided the supervisor with coercive power (assigning boring tasks) as well as reward power (assigning interesting tasks).

Negotiation task

Participants learned that their first task was a negotiation with the other person on several issues related to the “project” they would work on during the next few months. There were three issues in the negotiation, namely (a) the company that would be their client; (b) the deadline for submitting the campaign proposal; and (c) the type of campaign they would design. Participants were shown an issues chart (see Table 1), and

¹ This procedure implies that participants had power rooted in several bases, including position power, reward power, coercive power, and to some extent expert power. Although this is not uncommon in supervisor-subordinate relationships, it also means that we cannot know for sure what specific power base was responsible for the effects observed. We return to this issue in General discussion.

Table 1
Issue Chart

	Issue A Client	Issue B Deadline	Issue C Campaign type
Agreement level			
1	Unilever (400)	1 week (120)	Road Shows (240)
2	Ahold (350)	1.5 weeks (105)	National TV (210)
3	Shell (300)	2 weeks (90)	National Radio (180)
4	DSM (250)	2.5 weeks (75)	Local TV (150)
5	DeBoer (200)	3 weeks (60)	Local Radio (120)
6	Stork F&D (150)	3.5 weeks (45)	Weekly Magazine (90)
7	Volkskrant (100)	4 weeks (30)	National Newspaper (60)
8	Post Office (50)	4.5 weeks (15)	Local Newspaper (45)
9	Highschool (0)	5 weeks (0)	Leaflets (0)

Note. Numbers in brackets reflect the points earned when participants settled at each agreement level.

told that “You can see that the best deal for you is 1–1–1, for a total outcome of 760 points (400 + 120 + 240).” The corresponding payoffs for the partner were not displayed, and participants were told only that those payoffs differed from their own. To motivate participants to take the negotiation seriously, they were told that the more points they acquired, the better their chances would be to win 50 guilders (approx. 20 US dollars).

Dependent variables

After learning about the tasks, participants were told that they could “ask their opposing negotiator some questions in order to further prepare.” Participants were given a sheet of paper and asked to write down questions they would like to ask the other party. We emphasized that questions would be exchanged and answers returned at some point during the negotiation. All questions were coded by two individuals blind to hypotheses and experimental conditions. The codes they used were: (a) diagnostic versus leading, and (b) concerned with cooperation or competition. We used the criteria discussed by [Trope and Bassok \(1983\)](#) and [Dardenne and Leyens \(1995\)](#) to guide the coding. A few questions were concerned with both cooperation and competition (e.g., “are you going to be tough or are you willing to concede”). These questions were coded twice (dropping them from the analyses did not change the results). Initial levels of interrater agreements were good (Cohen’s *K* for the coding of diagnostic vs. leading was .81, $p < .025$; Cohen’s *K* for the coding of cooperative vs. competitive was .85, $p < .01$). Remaining discrepancies were resolved through discussion.

After participants wrote down the questions they would like to ask, they were given a questionnaire about the upcoming negotiation. The questionnaire contained two manipulation checks. First, participants were asked to recall their role (supervisor or subordinate), and who had more power (1 = certainly I do, to 5 = certainly the other does). We also asked participants about their level of aspiration, by asking them to fill in the minimum

number of points they would view as acceptable. Second, we asked participants how competitive, tough, and demanding they thought the other party would be (all 1 = *not at all*, 5 = *very much*). These ratings were averaged to create an index of other’s competitiveness (Cronbach’s $\alpha = .85$).

After participants completed the questionnaire, the experiment was over and the participants were debriefed. We found no evidence at this time that participants were suspicious about what they were told earlier during the experiment, or that they had guessed our research hypotheses. To compensate for the fact that participants would not engage in the negotiation (and thus could not earn extra money), we told everyone that five of them would be randomly selected to receive a bonus prize of 50 guilders when the whole experiment was over.

Results

Manipulation checks

All participants answered the question about their role (supervisor or subordinate) correctly. Analysis of variance (ANOVA) on the power ratings showed only a main effect for power—low power participants thought that their partners had more power ($M = 4.08$) than did high power participants ($M = 2.51$), $F(1,67) = 71.44$, $p < .001$. Both means differed from the scale midpoint (3.00), with low power responding above that midpoint, $t(35) = 3.66$, $p < .025$, and high power participants responding below it, $t(34) = 1.97$, $p < .10$. We also found significantly lower aspirations among low power participants ($M = 356$) than among high power participants ($M = 455$), $F(1,67) = 6.74$, $p < .025$. Again, there were no effects involving partner’s personality, or the interaction between power and partner’s personality.

Results for the competitiveness index were also as expected. An ANOVA showed only a main effect for partner personality—partners were expected to be more competitive when the test suggested the they had com-

petitive rather than cooperative personalities, $M = 3.55$ vs. $M = 2.40$, $F(1, 67) = 5.84$, $p < .025$. In both conditions, the mean deviated from the scale's midpoint (3.00). Participants in the competitive partner condition gave ratings above that midpoint, $t(35) = 2.51$, $p < .05$, and participants in the cooperative partner condition gave rating below it, $t(35) = 2.46$, $p < .05$.

Information gathering

Participants generated an average of 4.31 questions, of which 1.27 (29%) were coded as diagnostic questions dealing with cooperation or competition, and .46 (12%) were coded as leading questions dealing with cooperation or competition. Indices of the relative number of leading or diagnostic questions about cooperation or about competition were computed by dividing the number of questions in a particular category by the total number plus one (to avoid a zero in the denominator). These four indices were submitted to a $2 \times 2 \times 2 \times 2$ power \times partner's personality \times question type [leading vs. diagnostic] \times question hypothesis [cooperative vs. competitive] ANOVA, with the first two factors varying between participants and the last two varying within participants.²

Cell means are shown in Table 2. We predicted that negotiators with a power disadvantage would be more likely to ask diagnostic rather than leading questions, especially when their partners were competitive rather than cooperative (*Hypothesis 1*). This implies a three-way interaction among power, question type, and partner's personality. We also predicted that negotiators with a power disadvantage would be more likely to ask belief-congruent rather than incongruent questions, especially when their partners were competitive rather than cooperative (*Hypothesis 2*). This implies a three-way interaction among power, question hypothesis, and partner's personality. Finally, we predicted that negotiators would ask more diagnostic than leading questions concerned with competition rather than cooperation, especially when they had a power disadvantage and their partners were competitive rather cooperative (*Hypothesis 3*). This implies a four-way interaction among power, partner's personality, question type, and question hypothesis.

The ANOVA revealed only two significant main effects, for question type and question hypothesis. Participants wrote down more diagnostic than leading questions, $M = .27$ vs. $M = .05$, $F(1, 67) = 34.99$, $p < .001$, an effect consistent with findings reported by Trope and Bassok (1983). Participants also wrote down more questions about competition than about cooper-

ation, $M = .22$ vs. $M = .10$, $F(1, 67) = 30.67$, $p < .001$, an effect that may reflect the tendency for people to think about negotiation in competitive terms (Pruitt & Carnevale, 1993). These main effects were qualified by a question type \times question hypothesis interaction, $F(1, 67) = 3.97$, $p < .05$. Participants wrote down more diagnostic questions about competition than about cooperation ($M = .19$ vs. $M = .085$), but there was no difference for leading questions ($M = .036$ vs. $M = .010$).

There were two significant higher-order interactions. One was a three-way interaction among power, question type, and partner's personality, $F(1, 67) = 6.41$, $p < .025$, and the other was a four-way interaction among power, partner's personality, question type, and question hypothesis $F(1, 67) = 7.15$, $p < .01$. Comparisons among the cell means in Table 2 clarified both of these interactions. The three-way interaction was due largely to the tendency for low power participants to ask significantly more diagnostic questions when they had competitive rather than cooperative partners. This finding supports Hypothesis 1. Because the three-way interaction among power, partner's personality, and question hypothesis was not significant, Hypothesis 2 was not supported. The four-way interaction was due largely to the tendency for low power participants to ask many diagnostic, belief-congruent questions, but only when their partners were competitive rather than cooperative. The questions that high power participants asked were not influenced by their partner's personality. This finding supports Hypothesis 3.

Experiment 2

Experiment 1 showed that negotiators with less power are more inclined to ask diagnostic belief-congruent questions when they believe that their partners are competitive. When individuals have more power, or they believe that their partners were cooperative, there are less clear preferences among information search strategies. A replication of this critical effect would be desirable, however, so one goal of Experiment 2 was to reaffirm that negotiators with less power prefer diagnostic and belief-congruent questions when their partners are competitive, but not when they are cooperative.

Another goal of Experiment 2 was to better understand the psychological process underlying the results from Experiment 1. One explanation for those results is that having low power and a competitive partner induces a strong desire to form accurate impressions, and maybe to "soften" one's partner by showing empathy. The desire to form accurate impressions leads people to ask diagnostic rather than leading questions, and the desire to manage positive impressions leads people to ask belief-congruent rather than incongruent questions.

² Proportions are seldom normally distributed, which can bias results. Therefore, we did other ANOVAs using arcsine transformed scores (see Stevens, 1992). The results were about the same, so we decided to report the analyses based on untransformed scores.

Table 2

Mean number of diagnostic and leading questions about Partner's cooperation or competition as a function of power and Partner's personality

Partner's Personality		Participant's Power			
		High		Low	
		Cooperative	Competitive	Cooperative	Competitive
<i>Diagnostic Questions</i>					
Cooperative	<i>M</i>	.079 ^{b,x}	.076 ^{b,x}	.076 ^{b,x}	.109 ^{b,x}
	<i>SD</i>	.095	.115	.106	.101
Competitive	<i>M</i>	.171 ^{b,y}	.160 ^{b,y}	.111 ^{b,x}	.305 ^{a,y}
	<i>SD</i>	.126	.134	.120	.141
<i>Leading Questions</i>					
Cooperative	<i>M</i>	.013 ^{b,z}	.021 ^{b,x}	.001 ^{b,y}	.008 ^{b,z}
	<i>SD</i>	.077	.048	.002	.031
Competitive	<i>M</i>	.039 ^{b,z}	.063 ^{b,x}	.011 ^{b,y}	.031 ^{b,z}
	<i>SD</i>	.073	.130	.091	.097

Note. Numbers refer to the relative number of questions. ^{a,b}Cell means within the same row with different superscripts differ with $p < .05$, according to between-participant t tests. ^{x,y,z}Cell means within the same column with different superscripts differ with $p < .05$, according to within-participant t tests.

These desires are weaker when someone has a power advantage, a cooperative partner, or both.

Although there is evidence already that accuracy motivation leads people to ask diagnostic questions (Biesanz et al., 2001), and impression motivation leads people to ask belief-congruent questions (Dardenne & Leyens, 1995; Leyens et al., 1998), that evidence was obtained in cooperative rather than competitive settings (such as negotiation). In Experiment 2, we again manipulated negotiators' beliefs about their partners and asked them to generate questions they would like to ask their partners. In one condition, participants were given low power, to replicate (part) of the results obtained in the first experiment. In two other conditions, participants were told nothing about their relative power. Instead, they were asked to generate questions that would help them to form as accurate an impression of their partners as possible (accuracy goal condition), or to generate questions that would create as positive an impression of themselves as possible for their partners (impression goal condition).

We argued earlier that negotiators with less power ask diagnostic rather than leading questions because of their desire to develop an accurate impression of their partners. If that is true, then participants in the accuracy goal condition should prefer diagnostic rather than leading questions, just like participants in the low power condition. And that should happen primarily when participants have a competitive partner; a cooperative partner may reduce the need to develop an accurate impression, which might counteract instructions to obtain an accurate impression of that person.

We also argued earlier that negotiators with less power, and those who have competitive partners, ask belief-congruent questions because of their desire to make a positive impression. If that is true, then participants in the impression goal condition should prefer

belief-congruent rather than incongruent questions, just like those in the low power condition. And again, that should happen primarily when participants have a competitive partner; a cooperative partner may reduce the need to make a positive impression, which might counteract the instruction to make a positive impression on that person.

Several predictions were thus tested in Experiment 2. First, we expected negotiators with low power and those in the accuracy goal condition to write down fewer leading and more diagnostic questions than negotiators in the impression goal condition, especially when their partners were competitive (*Hypothesis 4*). Second, we expected negotiators with low power and those in the impression goal condition to write down more belief-congruent than incongruent questions than negotiators in the accuracy goal condition, especially when their partners were competitive (*Hypothesis 5*).

Method

Design and participants

The design was a 2 (partner's personality: cooperative vs. competitive) \times 3 (accuracy goal vs. impression goal vs. no goal, but low power) between-participants factorial. Participants were 69 psychology (27 males, 42 females) students at the University of Amsterdam. The students received course credit for participation and were assigned randomly to conditions. Gender had no effects on the results and thus will not be discussed further.

Procedure

The procedures and manipulation of partner's personality were the same as in Experiment 1, except that participants were either in a low power condition or (in the other two conditions) were not provided with feed-

back about the creativity test (and thus had no role or power position). Instead, participants in these conditions received instructions intended to induce a particular processing goal. We used a procedure adapted from Neuberg, Judice, Virdin, and Carrillo (1993). Just before participants were asked to write down their questions, participants in the *accuracy-goal condition* were told that “extensive research has shown that when generating questions, professional negotiators tend to work hard to develop an accurate impression of the opposing person. Thus, to make the current study as valid as possible, you are asked that to generate questions that help you to get an accurate picture of the other negotiator.” Participants in the *impression-goal condition* were told that “extensive research has shown that when generating questions, professional negotiators tend to work hard to induce a positive impression of themselves in the opposing person. Thus, to make the current study as valid as possible, you are asked to generate questions that lead the other negotiator to see you as favorably as possible.”

Dependent variables

Self-generated questions were coded in the same way as in Experiment 1. Initial levels of interrater agreement were good (Cohen's K for the coding of diagnostic vs. leading was .82, $p < .05$; Cohen's K for the coding of cooperative vs. competitive was .83, $p < .05$) and any remaining discrepancies were resolved through discussion. Participants also completed a short questionnaire that contained manipulation checks. They were asked what their role was (1 = supervisor, 2 = subordinate, 3 = not yet announced), whether they were supposed to form an accurate impression of their partner (1 = yes, 2 = no, 3 = I don't remember), and whether they were supposed to make a positive impression on their partner (1 = yes, 2 = no, 3 = I don't remember). We also included the three competitive partner items used in Experiment 1 (Cronbach's $\alpha = .81$). After participants completed this questionnaire, they were fully debriefed. Again, we found no evidence that participants were suspicious about what they were told earlier during the experiment, or that they had guessed our research hypotheses.

Results

Manipulation checks

All participants in the low power condition stated correctly that they were the subordinate, whereas those in the other two conditions stated correctly that their roles had not yet been announced. All participants in the accuracy condition correctly recalled that they were supposed to form an accurate impression of their partner, and all participants in the impression condition correctly recalled that they were supposed to make a

positive impression on their partner. All participants in the low power condition accurately stated that they had not received specific instructions about what to do when generating questions. Finally, an ANOVA on the competitiveness index revealed only a main effect for partner's personality—partners were expected to be more competitive when the personality test had indicated they had competitive ($M = 3.33$) rather than cooperative ($M = 2.18$) personalities, $F(1, 65) = 48.73$, $p < .001$. In both conditions, the mean differed from the scale's midpoint (3.0) in the expected direction. In the competitive partner condition, ratings were above that midpoint, $t = 2.06$, $p < .05$, and in the cooperative partner condition, ratings were below it, $t = 2.11$, $p < .05$.

Information gathering

Participants generated an average of 3.28 questions, of which 1.76 (54%) were coded as diagnostic questions dealing with cooperation or competition, and .22 (8%) were coded as leading questions dealing with cooperation or competition. The low number of leading questions is consistent with what we found in the first experiment, and with work by Trope and Bassok (1983) showing that spontaneously generated questions are more often diagnostic than leading.

We predicted (Hypothesis 4) that negotiators with low power and an accuracy goal would prefer diagnostic rather than leading questions, especially when their partners were competitive. Unfortunately, a fair test of Hypothesis 4 seemed impossible due to the low number of leading questions that participants generated. No one generated leading questions in the accuracy goal condition or in the low power condition. In the impression goal condition, eight participants (34%) generated at least one leading question (four participants in the cooperative partner condition, and four participants in the competitive partner condition). Although we had too few leading questions to do meaningful analyses, these frequencies were certainly in the expected direction. Consistent with Hypothesis 4, the pattern suggests that low power negotiators avoid leading questions because of an accuracy motivation.

Because so few leading questions were generated, especially in some conditions, we decided to employ an analytical strategy similar to the one used in Experiment 1, but omitting leading questions as a dependent variable. The relative number of diagnostic questions about cooperation and the relative number of diagnostic questions about competition were computed as in Experiment 1. We predicted (Hypothesis 5) that negotiators with low power and negotiators with an impression goal would prefer belief-congruent rather than incongruent questions, especially when their partner was competitive. This implies a three-way interaction among condition, partner's personality, and question type.

Data were submitted to a 2 (partner's personality: cooperative vs. competitive) \times 3 (condition: low power vs. accuracy goal vs. impression goal) \times 2 (question hypothesis: cooperation vs. competition) ANOVA, with the first two factors varying between participants, and the last one varying within participants.

The only significant effect was a three-way interaction among condition, partner's personality, and question hypothesis, $F(2, 65) = 3.98$, $p < .025$. Table 3 shows that participants in the low power/competitive partner condition, and participants in the impression goal/competitive partner condition indeed generated more belief-congruent than belief-incongruent questions ($ps < .05$). In the low power/cooperative partner and the impression goal/cooperative partner conditions, the number of belief-congruent and incongruent questions generated did not differ. Note also that participants with an accuracy goal clearly differed from those in the low power condition—they asked more belief-incongruent than belief-congruent questions ($p < .05$).

The results also showed that the cooperative partner/impression goal condition was similar to the cooperative partner/low power condition, in that there was no difference in either condition between the number of cooperative and competitive questions that were asked. Cell means are again shown in Table 3. Although this was as expected, we did expect the total number of questions asked in the cooperative partner/impression goal condition to be higher than in the cooperative partner/low power condition. Perhaps a lack of power makes people somewhat timid and cautious, so that they ask few questions. Research is needed to test this explanation.

Taken together, these results show that negotiators with an accuracy goal ask diagnostic and belief-incongruent questions, whereas those with an impression goal or those with low power ask diagnostic but belief-congruent questions if their partners seem competitive. Negotiators with low power, but a cooperative partner, do not prefer belief-congruent or incongruent questions. These results suggest that low power negotiators with a competitive partner ask diagnostic questions because of

their accuracy motivation and belief-congruent questions because of their impression motivation.

Experiment 3

Taken together, the results of the first two experiments reveal a consistent picture that corroborates our theorizing about the influence of power on information gathering during negotiation. Experiment 1 showed that less powerful negotiators prefer diagnostic and belief-congruent rather than leading and belief-incongruent questions, especially when their partners are competitive. Experiment 2 suggested that this pattern of results is due to higher accuracy motivation and higher impression motivation among low power negotiators.

Some information search strategies may result in sub-optimal negotiation processes and outcomes (Neale & Bazerman, 1991; Rubin et al., 1994). The first two experiments did not test this possibility, nor has past research. The purpose of Experiment 3 was to fill this void. We examined the demands and impressions made by negotiators with more or less power as a function of their partner's diagnostic versus leading questions and belief-congruent versus incongruent questions.

Leading vs. diagnostic questions and the self-fulfilling prophecy in negotiation

Leading questions are more likely than diagnostic questions to induce self-fulfilling prophecies (for a review, see Snyder & Stukas, 1999). A self-fulfilling prophecy here means that negotiators respond with low demands when they are asked questions about their cooperative goals, or they respond with high demands when they are asked questions about their competitive goals. Because leading questions are more likely to induce self-fulfilling prophecies, these effects should be stronger when questions are leading rather than diagnostic.

These effects might also be stronger among negotiators who have low rather than high power. Snyder and

Table 3

Mean number of diagnostic questions about Partner's cooperation or competition as a function of Partner's Personality and processing motivation

Question Hypothesis:		Partner's Personality			
		Cooperative		Competitive	
		Cooperation	Competition	Cooperation	Competition
Accuracy goal	<i>M</i>	.12 ^a	.26 ^b	.18 ^b	.08 ^a
	<i>SD</i>	.13	.17	.17	.07
Impression goal	<i>M</i>	.24 ^a	.21 ^a	.14 ^b	.25 ^a
	<i>SD</i>	.15	.18	.09	.16
Low power	<i>M</i>	.13 ^a	.14 ^a	.14 ^a	.32 ^b
	<i>SD</i>	.12	.08	.09	.15

Note. Numbers refer to the relative number of questions. Cell means within the same row with different superscripts differ at $p < .05$, according to between-participant *t* tests.

Haugen (1994; Copeland, 1994) found that perceivers are most prone to self-fulfilling prophecies when they have power and their targets do not. We have argued that negotiators with less power pay closer attention to their partners and prefer to please rather than annoy them. As a result, they may attend to messages from their partners and comply with the expectations implicitly or explicitly communicated in those messages. Negotiators with more power, in contrast, are more likely to operate on the basis of their own wishes and demands, instead of those of their partners. As a result, they do not attend to messages from their partners, and they do not comply with the expectations implicitly or explicitly communicated in those messages. Thus, we predicted a three-way interaction: Participants should make lower demands when they receive questions about cooperation rather than competition, especially when these questions are leading rather than diagnostic, and when the negotiators have low rather than high power (*Hypothesis 6*).

Belief-congruent vs. incongruent questions, impression formation, and mismatching

The first two experiments showed that low power negotiators often ask belief-congruent rather than incongruent questions, and there was evidence that this is due their desire to make a positive impression on their partners (Copeland, 1994; Leyens, 1989; Snyder & Haugen, 1994). Does this impression management strategy work? If so, then negotiators should develop more positive views of their partners when they are asked questions that are congruent rather than incongruent with their own goals. Negotiators differ in their social value orientations. Pro-social negotiators seek good outcomes for both themselves and for their partners, whereas selfish negotiators seek good outcomes for themselves, even if it this harms their partners (for recent reviews and discussions, see De Dreu, Weingart, & Kwon, 2000b; Van Lange, 1999). In the current context, this means that pro-social participants should develop more positive impressions of their partners when they are asked questions about cooperation rather than about competition, and selfish participants should develop more positive impressions of their partners when they are asked questions about competition rather than about cooperation (*Hypothesis 7*).

The effects of a partner's impression management on a negotiator's demands are difficult to predict. It may be that negotiators respond more positively to a partner they perceive as sociable, pleasant, and empathic. Thus, belief-congruent rather than incongruent questions may lead a negotiator to make lower demands. This intuitively appealing idea is, however, inconsistent with a phenomenon called mismatching—the tendency for negotiators to become tougher when they see their part-

ners as weak, and softer when they see their partners as strong (for a review and discussion, see Pruitt & Carnevale, 1993). Mismatching is most likely when negotiators have no information about their partner's preferences and priorities (Liebert, Smith, Hill, & Keiffer, 1969), or limits and aspirations (Pruitt & Syna, 1985).³ The negotiators in our research operated under these constraints.

Although most studies have shown mismatching of perceived concession size and concession frequency (e.g., Pruitt & Syna, 1985; Smith, Pruitt, & Carnevale, 1982), mismatching following impression management has also been observed. For instance, Baron, Fortin, Frei, Haver, and Shack (1990) found that flattering one's negotiating partner makes that person less conciliatory, and Vonk (1999) found that people dislike others who ingratiate. Thus, we predicted that pro-social participants would make higher demands when their negotiating partner asked questions about cooperation rather than about competition, and that selfish participants would make higher demands when their partner asked questions about competition rather than about cooperation (*Hypothesis 8*).

To test these hypotheses, we assessed all participants' social value orientations (see McClintock, 1977) prior to their negotiations. In line with past negotiation research, participants were classified as "pro-social" when they preferred equality and maximum joint outcomes, or as "selfish" when they preferred good personal outcomes and disregarded the outcomes of their partners (De Dreu & Van Lange, 1995). In this context, belief-congruent questions were questions about cooperation (competition) asked to a pro-social (selfish) person, and belief-incongruent questions were questions about competition (cooperation) asked to a pro-social (selfish) individual.

Method

Design and participants

The design was a 2 (negotiator power: low vs. high), \times 2 (social value orientation: pro-social vs. selfish) \times 2 (partner's question type: diagnostic vs. leading) \times 2 (partner's question hypothesis: cooperative vs. competitive) between-participants factorial, with demand level, impressions of the partner, and manipulation checks as dependent variables. A total of 237 psychology students

³ At first blush, the mismatching phenomenon may seem inconsistent with the observed tendency for negotiators to reciprocate, or match, their partners' competitive behavior. Matching is usually observed in situations like the prisoner's dilemma game, where matching competitiveness produces better personal outcomes than mismatching. Mismatching is usually observed in situations like the chicken dilemma game (and most negotiation games), where matching produces worse personal outcomes and endangers agreement (see Pruitt & Carnevale, 1993).

participated (105 males, and 132 females), for which they received either 20 Dutch guilders (approximately US \$8) or two points of course credit. Participants were randomly assigned to experimental conditions, and the experimenters were blind to this assignment. Gender and type of reward (money or credit) had no effects on the results and thus will not be discussed further.

Procedure and negotiation task

The procedure was similar to the one used in the other two experiments, except that participants were seated in front of a computer screen, where all of the materials were presented. Also, participants did not complete the personality test that we used in Experiments 1 and 2 to manipulate beliefs about personality. Instead, we assessed their social value orientation using the Kuhlman and Marshello (1975) decomposed game measure. In a series of nine hypothetical games, participants could choose from different distributions of outcomes to themselves and another person. Outcomes were presented as points that were said to have value. Participants were given a choice among three alternatives, each corresponding to a different social value orientation. One option provided a higher outcome for the self (e.g., 50–30; the individualistic option), one option provided the largest relative gain for the self (e.g., 40–0; the competitive option), and one option provided equal outcomes combined also provided a greater joint outcome than any other option (e.g., 40–40; the pro-social option). Participants who chose the pro-social alternative at least six times were classified as “pro-social” ($n = 76$). Participants who chose the individualistic alternative at least six times were classified as “selfish” ($n = 121$). Twenty participants consistently chose the competitive alternative, and we classified them as “selfish” too (e.g., De Dreu & Van Lange, 1995). Thus, there were a total of 141 selfish participants in all.⁴ Twenty participants (8%) could not be classified and so their data were excluded from further analyses.

The assessment of social value orientation was followed by a 10-min filler task (a public opinion survey) intended to reduce suspicion among participants. Participants were then told that the first study was over and that a second, unrelated study would begin. This study, they were told, examined how people in organizations work together and perform tasks. Task instructions and

a power manipulation, identical to those described earlier, were then used again. After reading their task instructions and learning their roles (supervisor or subordinate), participants were given more information about the upcoming negotiation. It was a computerized version of the negotiation described in Experiment 1, except that this time participants’ demands were assessed. Participants were told that they would make the first demand, that their partner could respond with a counter-demand, and that the negotiation would end when an agreement was reached or time was over. If there was no agreement, then no points would be awarded, so no lottery prizes could be won. Nothing was said about: (1) what would be the best strategy, or (2) the maximum number of rounds.

To manipulate the partner’s question type and question hypothesis, we used the questions generated in previous experiments to construct four sets of questions: cooperative-diagnostic, cooperative-leading, competitive-diagnostic, and competitive-leading. The questions that we used are given in Table 4. These questions were pre-tested by asking 42 psychology students to complete a questionnaire about “questions people could ask in a negotiation.” Each student rated all of the questions (presented in a random order) in terms of diagnosticity (could the question be answered with a simple “yes” or “no”), comprehensibility, and whether the question implied cooperation or competition. All of the ratings were on five-point (1–5) scales. The ratings were analyzed in three 2×2 (Question Hypothesis \times Question Type) within-participant ANOVAs. The results showed no main or interaction effects involving question type or question hypothesis on comprehensibility ratings, all $F(1,40) < 1.73$, ns, suggesting that all of the questions were equally easy to understand (overall $M = 4.08$). Ratings for diagnosticity only showed a main effect for diagnosticity – diagnostic questions were rated higher on diagnosticity than leading questions, $M = 3.76$ vs. $M = 1.71$, $F(1,40) = 51.30$, $p < .001$. These ratings differed from the mid-point of the scale (3.0) in the expected directions—diagnostic questions were rated above the midpoint of that scale, $t(38) = 2.68$, $p < .05$, and leading questions were rated below it, $t(38) = 3.55$, $p < .025$. Ratings for competitiveness showed only a main effect for question hypothesis—competitive questions were rated higher on competitiveness than cooperative questions, $M = 3.27$ vs. $M = 2.88$, $F(1,40) = 10.84$, $p < .005$. These ratings also differed from the mid-point of the scale (3.0) as expected. Competitive questions were rated above the midpoint of that scale, $t(38) = 2.15$, $p < .05$, and cooperative questions were rated below it, $t(38) = 1.97$, $p < .05$.

Participants were told that “since you don’t know each other yet, you will be given the opportunity to exchange some information,” and so they could write up to six questions on the computer for their partner.

⁴ Readers may wonder why we combined individualists and competitors into one category, because some research suggests that they can behave quite differently (McClintock & Liebrand, 1988). We had several reasons for doing so. First, maintaining competitors as a separate category would have resulted in low frequencies in some cells of the experimental design. Second, dropping competitors from the analyses resulted in similar results and conclusions, suggesting that individualists and competitors behaved similarly in our research. Third, we have combined individualists and competitors in past studies (e.g., De Dreu & Van Lange, 1995; Van Lange & Kuhlman, 1994), so doing the same here facilitates comparisons with those studies.

Table 4

Questions used in Experiment 3 to manipulate Partner's question type (leading vs. diagnostic) and Partner's Question Hypothesis (cooperation vs. competition)

Diagnostic Questions Assuming Cooperation (Competition)

- Are there issues on which you are (not) willing to concede?
- Are you willing to meet my wishes (Do you want me to meet your wishes)?
- Will you let me have my way (try to have your way)?
- Do you like to cooperate (win) in negotiations?
- Are you going to cooperate (compete)?

Leading Questions Assuming Cooperation (Competition)

- On which issues are you (not) willing to concede?
- On which issues are you willing to meet my wishes (do you want me to meet your wishes)?
- How will you let me have my way (try to have your way)?
- What do you like about cooperating (winning) in negotiations?
- How are you going to cooperate (compete)?

Note. Questions have been translated from Dutch.

About half a minute after participants completed this task, their partner's questions were displayed on the computer screen. Depending on condition, participants received the five diagnostic-cooperative, or the five diagnostic-competitive questions, or the five leading-cooperative questions, or the five leading-competitive questions. To make the manipulation credible, we added some minor typographical errors in the questions. Participants were told that they would be given an opportunity to answer these questions soon, but that "for technical reasons, they would be asked first to make their opening offer in the negotiation."

The negotiation then began. Participants made their first demand by typing a number between 1 and 9 for each of the three issues A, B, and C (see Table 1), and then pressing the return key on the computer keyboard. After receiving their partner's counter-demand, participants were prompted to make a counter-offer. The negotiation continued for a maximum of six rounds, when it was interrupted for a short questionnaire. We controlled the "partner's" strategy, in an effort to simulate someone who was not overly cooperative or competitive (see De Dreu & Van Lange, 1995). Across the six rounds, the (simulated) partner proposed the following agreement levels (for Issue A, Issue B, and Issue C): "9–8–8," "9–7–8," "8–7–8," "7–6–7," "7–6–6," and "6–6–5."

Dependent variables

We assessed demand level by converting the agreement level proposed on a specific round for a specific issue, summing the point values over the three issues, and then averaging across the number of rounds negotiated. To assess the impression made by the partners, we asked participants four questions, namely whether they saw the other party as a (1) positive, (2) pleasant, and (3) sociable person (always, 1 = not at all, to 5 = very much), who would be (4) considerate of their views and interests (1 = not at all, to 5 = very much). Ratings were averaged into an overall impression index

(Cronbach's $\alpha = .82$). To assess the effectiveness of our power manipulation, we asked the participants to rate how much (a) power and (b) influence their partners had.⁵ Both ratings were made on five-point (1–5) scales.

At the end of the experiment, participants were debriefed and thanked for their participation. As in the other experiments, none of the participants seemed suspicious about our procedures, and no one seemed to have guessed our hypotheses.

Results

Manipulation checks

All participants answered the question about their role (supervisor or subordinate) correctly. The two manipulation checks for power were submitted to a $2 \times 2 \times 2 \times 2$ (power \times social value orientation \times partner's question type \times partner's question hypothesis) ANOVA. These analyses, which showed similar effects, indicated that the manipulation was indeed effective. For example, the analysis of power ratings showed only a main effect for power—low power participants thought that their partner had more power ($M = 3.47$) than did high power participants ($M = 2.65$, and $M = 2.77$), $F(1, 200) = 33.67$, $p < .001$. The ratings of low power participants were above the midpoint (3.0) of the scale, $t(107) = 2.68$, $p < .05$, and the ratings of high power participants were below it, $t(106) = 2.41$, $p < .05$.

⁵ The power manipulation could have influenced participants' moods, with subordinates experiencing less positive and more negative affect than supervisors. At the end of the experiment, we asked participants to rate their mood during the negotiation on three items: (1) During the negotiation I felt in a pleasant mood; (2) During the negotiation, I felt relaxed and comfortable; and (3) During negotiation, I felt tense and uptight (reverse coded). All items were scored on five-point (1–5) scales. Ratings across the three items were averaged to create a mood index (Cronbach's $\alpha = .75$). Analyses revealed no significant effects of the independent variables on that index (all F s < 1), and no significant correlations between the index and any other dependent variables (all $-0.04 < r$ s $< .03$).

Table 5

Impressions of the Partner and demands as a function of social value orientation and Partner's Question Hypothesis

Question Hypothesis:		Social value orientation			
		Prosocial		Selfish	
		Cooperation	Competition	Cooperation	Competition
<i>Dependent variable</i>					
Demand	<i>M</i>	523.42 ^{ab}	509.97 ^a	550.17 ^b	580.66 ^c
	<i>SD</i>	83.28	87.48	73.91	91.11
Impression	<i>M</i>	2.86 ^a	2.64 ^b	2.65 ^b	2.84 ^a
	<i>SD</i>	.77	.83	.81	.70

Note. Higher numbers indicate tougher negotiation behavior and more positive impressions. Cell means within the same row that have different superscripts differ significantly at $p < .05$.

Impressions of the partner

An ANOVA of the impression index scores revealed only the predicted interaction between social value orientation and the partner's question hypothesis, $F(1, 200) = 3.77, p < .05$. Table 5 shows that pro-social participants had more favorable impressions of their partners when they were asked about cooperation rather than competition, whereas selfish participants had more favorable impressions of their partners when they were asked about competition rather than cooperation. These results support Hypothesis 7.

Demands

An ANOVA of demands revealed two significant main effects, one for social value orientation and another for power, one significant two-way interaction between social value orientation and partner's question hypothesis, and one three-way interaction among power, partner's question hypothesis, and partner's question type. The main effect for social value orientation showed that pro-social participants made lower demands than did selfish participants, $M = 517$ vs. $M = 565$, $F(1, 200) = 16.17, p < .001$. This main effect was qualified by the interaction between social value orientation and partner's question hypothesis, $F(1, 200) = 2.95, p < .10$. The cell means, shown in Table 5, indicate that pro-social participants made similar demands whether they were asked cooperative or competitive questions, whereas selfish participants made higher demands when they were asked competitive rather than cooperative questions. This pattern, which reflects the mismatching phenomenon often observed in negotiation studies, supports Hypothesis 8.

The main effect for power showed that low power participants made lower demands than did high power participants, $M = 530.80$ vs. $M = 564.66$, $F(1, 200) = 7.00, p < .001$. This main effect was qualified by the three-way interaction (see Fig. 1) among power, partner's question hypothesis, and partner's question type, $F(1, 200) = 6.67, p < .025$. Simple effects analyses showed no effects of partner's question type and partner's question hypothesis on the demands of high power

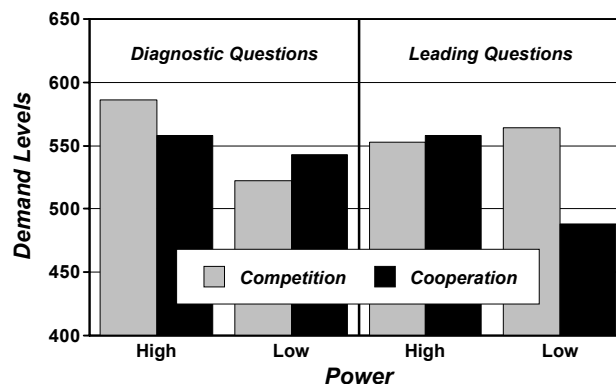


Fig. 1. Demands by high or low power Negotiators when Partner's Questions about cooperation or competition are diagnostic or leading.

participants, $F_s < 1$. But for low power participants, the interaction between partner's question type and partner's question hypothesis was significant, $F(2, 212) = 6.90, p < .025$. Low power participants were not influenced by competitive or cooperative questions that were diagnostic ($M = 522.78$ vs. $M = 543.36$), $t(53) = 1.31$, ns., but when leading questions were asked, low power participants made lower demands if those questions were cooperative ($M = 488.29$) rather than competitive ($M = 564.83$), $t(52) = 2.45, p < .05$. This finding supports Hypothesis 6.

General discussion

Information gathering is central to negotiation—the strategies that negotiators use may have important consequences for the types of information they obtain and the actions that they take. Past research and theory has not addressed, however, what information search strategies negotiators engage in, why they do so, and what consequences those strategies have for the behavior of their partners. We will discuss the main findings of the three experiments, address some limitations, highlight some avenues for future research, and end with some specific conclusions that can be derived from our findings.

Information search in negotiation: results and implications

Inspired by the work by Fiske (1992) we argued that power would influence the information search strategies that negotiators use. The assumption was that negotiators who are less powerful have a stronger desire to develop an accurate understanding of their negotiating partner, which would lead them to ask diagnostic rather than leading questions. Less powerful negotiators were also assumed to have a stronger desire to please their partners, which would lead them to ask belief-congruent rather than incongruent questions. The results of Experiment 1 were consistent with this reasoning. Negotiators with a power disadvantage preferred diagnostic to leading questions, and belief-congruent to incongruent questions. However, Experiment 1 also showed that this pattern occurred only when negotiators had competitive partners, and not when they had cooperative partners. Experiment 2 provided evidence for the idea that negotiators with low power ask more diagnostic, belief-congruent questions because they simultaneously desire to form accurate impressions of their partners and make positive impressions on these partners. Again, this seemed to hold only when negotiators had competitive partners. Perhaps a cooperative partner makes one feel at ease, and thus less motivated to develop an accurate impression, or convey a positive image (see also De Bruin & Van Lange, 2000; Vonk, 1998).

Experiment 3 showed that low power negotiators complied with the hypotheses implied by their partner's questions—they lowered their demands when asked questions about cooperation rather than competition, especially when those questions were leading. This suggests two reasons why low power negotiators may be susceptible to self-fulfilling prophecies. First, low power negotiators are more likely to be asked leading questions, and leading questions are more likely than diagnostic questions to result in the confirmation of prior beliefs (Snyder, 1992). Second, low power negotiators are more likely to attend to the messages conveyed by their partners.

Our results also showed that asking belief-congruent questions, which is characteristic of low power negotiators with competitive partners, creates positive impressions. Experiment 3 showed that negotiators respond to such positive impressions with high demands, especially when they have a selfish value orientation. This result is consistent with the mismatching phenomenon often observed in negotiation (Pruitt & Carnevale, 1993). It suggests (ironically) that low power negotiators with competitive partners are most likely to create (through believe-congruent questions) positive impressions, which leads their competitive partners to respond with tougher behavior.

The results of Experiment 2 corroborated earlier work suggesting that negotiators ask belief-congruent questions because of impression management concerns (Dardenne & Leyens, 1995; Leyens, 1989; Leyens et al., 1998). Experiment 3 provides, as far as we know, the first evidence that receiving belief-congruent questions indeed creates a more positive impression of the sender. But why, exactly, do belief-congruent questions create more positive impressions? Leyens et al. (1998) argued that belief-congruent questions show empathy and convey something like “I understand your motives and I respect your values.” An alternative process may involve self-affirmation. Receiving belief-congruent questions strengthens one's confidence in the value of one's beliefs, and thus makes it easier to act upon them. Our research was not designed to discriminate between these two explanations. Future research is needed to settle the issue.

Although our research focused on the effects of power, other classic variables in the negotiation literature may have important consequences for information search as well. Variables that strengthen or weaken a negotiator's desire to form accurate impressions may affect the tendency to ask diagnostic rather than leading questions. For example, people with a greater need for cognitive closure are less motivated to engage in systematic processing of information, and thus rely more on heuristic cues when making demands and concessions (De Dreu, Koole, & Oldersma, 1999; De Grada, Kruglanski, Mannetti, & Pierro, 1999). Likewise, process accountability can lead people to engage in more pre-emptive self-criticism (see Tetlock, 1992), to process information more systematically, and rely less on existing cognitive structures involving negotiation (De Dreu, Koole, & Steinel, 2000a). It would be interesting to see whether these variables, like power, affect the tendency to ask diagnostic rather than leading questions.

Limitations

A limitation of our research is that we have no strong evidence why low power negotiators with competitive partners ask more diagnostic than leading questions, and more belief-congruent than incongruent questions. The results of our first two experiments suggest that increased accuracy motivation and increased impression motivation could be responsible for the tendency to ask diagnostic questions, and belief-congruent questions, respectively. Although the “strong inference design” used in Experiment 2 seems to support this interpretation, future research (using good measures of accuracy motivation and of impression motivation) should test mediation in the more traditional way.

Another issue involves the manipulation of power. We provided powerful negotiators with punitive capabilities and suggested that they were good problem

solvers. Powerful negotiators were also placed in the role of supervisor, rather than subordinate. High and low power negotiators thus differed in terms of coercive power, expert power, and position power, so we cannot know which power bases are responsible for the observed effects on information search strategies and negotiation behavior. Research on supervisor-subordinate relationships has begun to address this issue (Goodwin et al., 2000; Rodriguez-Bailon, Moya, & Yzerbyt, 2000) and may provide ways to resolve it more clearly. Future research could also examine the (il)legitimacy of the power position that someone occupies. When designing our experiments, we considered assigning participants to power positions on arbitrary grounds, to prevent confounding power with some other variable (like bogus feedback on someone's creativity). We decided against this tactic because it would have undermined the legitimacy of the power position, which would have weakened the possible effects of power. However, power differences are not always legitimate in the eyes of one or both negotiators, so it is important for future research to consider the differential impact of various power bases alone and in interaction with the legitimacy of power differences.

Conclusion

In their scholarly and provocative review of information search strategies, Leyens, Dardenne, Yzerbyt, Scaillet, and Snyder (1999) concluded: "The image of people that emerges from this research is that of very flexible perceivers. Given the circumstances, they will spend lots of effort, or none, at confirming or disconfirming specific hypotheses. These flexible perceivers are not simply reactive to their environment. They are concerned with the construction of a positive image of themselves... [and] skillful at engaging in successful social interactions... They are flexible, proud, sociable, but selective in their dealing with information and with other people... (p. 225). Our research corroborates, but also qualifies these claims. First, negotiators are likely to be the victim of self-fulfilling prophecies, especially when they have less rather than more power than their partners. Second, negotiators try to make positive impressions by framing their questions to match the (presumed) goals of their partners, especially when they have less rather than more power. Third, and somewhat ironically, efforts to make positive impressions have little impact on partners who have cooperative goals, and lead partners who have selfish goals to become tougher and more demanding. Thus, during negotiation, people seem flexible in how they search for and process information, and do seem concerned about developing and maintaining a positive image. Unfortunately, when people negotiate with competitive partners, their desire

to develop accurate impressions and to be sociable and flexible can backfire, resulting in a partner who is demanding rather than conciliatory.

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