How Beliefs About a Partner’s Goals Affect Referring in Goal-Discrepant Conversations

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This study examines how interlocutors’ beliefs about each other’s goals (partner-goal beliefs) affect conversational references. Pairs of participants whose mismatched conversational goals required getting information at a more or less specific level discussed abstract shapes. Pairs were either informed of the goal difference, misinformed that goals were the same, or noninformed about the goal difference. Partner-goal beliefs affected how participants collaborated on references: Speakers tailored their descriptions to fit their beliefs about addressees’ goals, and addressees’ verbal feedback was affected by speakers’ descriptions. Misinformed and noninformed pairs never differed reliably in their language use, but speakers in these pairs described shapes, and their addressees responded to their descriptions, differently than informed pairs. Afterward, informed participants recognized the shapes more or less accurately depending on their individual goal, whereas in the misinformed and noninformed pairs, participants’ recognition accuracy did not differ according to their individual goals. The pattern of results suggests that noninformed participants assumed their own goal was shared by their partner. Analyses of conversations and subjective questionnaires indicate that misinformed and noninformed pairs (a) overlooked clues that may have signaled the goal discrepancy, (b) made conversational inferences their partners did not intend, and (c) made misattributions about their partners.

Although most would agree that goals must play some role in conversation, what exactly this role is remains unclear (Craig, 1990; Levelt, 1992). Conversational settings and the goals people pursue in them are extremely diverse. Although

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some conversations (e.g., cross-examinations, debates, negotiations) involve clearly defined purposes that narrowly constrain people's conversational behavior, others do not. In cases of small talk or idle chitchat, for example, it is hard to define a single purpose that characterizes an interaction.

The wide range of conversational goals possible in language interactions makes it difficult to reach generalizable conclusions about the role of goals in conversation. People's conversational goals range from explicit and conscious (e.g., "to give directions efficiently") to vague and perhaps not entirely conscious (e.g., "to appear knowledgeable"). Although some goals may change moment by moment, others may persist over an extended period of conversation (P. Brown & Fraser, 1979; Grosz & Sidner, 1990). Complicating all of this, people may hold several goals simultaneously, and any of these goals may influence their conversational interaction at any given time (O'Keefe & Shepherd, 1987; Tracy & Coupland, 1990).

Yet, despite this tremendous variability, people's perceptions of conversational goals are often assumed to play a central role in the way they communicate with each other. A number of theories of language use hold that symbolic communication of any type requires people to have constraining beliefs about their "language game" (Wittgenstein, 1958), social "frame" (Bateson, 1955/1972), or "activity type" (Levinson, 1979, 1981). Grice (1975, 1987), for example, proposed that conversationalists strive (and believe their partners will strive) to make their utterances relate to commonly recognized goals (maxim of relation) and to provide levels of information consistent with these goals (maxim of quantity). According to these models, beliefs about a speaker's goals play a central role in the way listeners determine the meaning or relevance of an utterance, and speakers expect listeners to utilize such beliefs (see also Cohen & Perrault, 1979; Grosz & Sidner, 1990).

Pragmatic models of language use have also adopted this basic assumption. Clark and Wilkes-Gibbs (1986), for example, have proposed that speakers always take mutual responsibility that every reference will be understood "to a criterion sufficient for current purposes" (p. 33; see also Clark, 1996; Clark & Schaefer, 1989). On this theory, goals—current purposes—are at work in every reference.

In contrast, some models of conversation do not provide a role for goal beliefs at all (e.g., see Hovy, 1988), whereas other models explicitly question their importance (Sperber & Wilson, 1986). At a more general level, models such as that proposed by Grice (1975) have been critiqued on the grounds that they overestimate the extent to which conversationalists actually "cooperate" in furthering mutual conversational goals (Sarangi & Slembruck, 1992).

The difficulties inherent in studying conversational goals have discouraged language researchers from studying them (Tracy & Coupland, 1990). Observational studies of naturally occurring talk require researchers to make inferences about conversationalists' goals and goal beliefs and run the risk of misattributing conversational events or behaviors to participants' goals or plans where no such
relationship exists (Craig, 1990). Asking participants to comment on their goals after a conversation is equally problematic because, in this approach, participants become observers of themselves and prey to the same biases and misattributions. Experimental studies run the risk that their results may not apply to all natural settings: What is true in one context may not be true in another. In addition, experimental studies that have addressed goals in conversation have tended to assign participants a single, common goal and, therefore, have not adequately addressed the way people attend to, and orient themselves around, each other’s unique goals, as they often must in natural settings (Griffin, Cole, & Newman, 1982).

**GOALS AND CONVERSATIONS: A TWO-WAY RELATIONSHIP**

If people’s language use is constrained by their perception of the current language goals (or language game), we need to know whose purposes become common when as well as how conversationalists work this out over the course of a conversation (for a similar point, see G. Brown, 1994). For example, take the fact that a person’s conversational goals are likely to emerge or shift over the course of a conversation (Bly, 1993; Clark, 1996; Clark & Bly, 1995; Hopper & Drummond, 1990). If conversational partners adapt their language use to their understanding of the goals of the current language game, presumably they must deal with such shifts (or potential shifts) in their partner’s goals. Or take the fact that many conversational contexts involve “goal asymmetries” (Pratt, 1981) due to differences in participants’ status or differences in their level of interest in the interaction (Clark & Wilkes-Gibbs, 1986; Sarangi & Slembrouck, 1992). Presumably, people must reconcile their own and their partner’s unique goals with the shared goals of the language game.

As a number of language researchers have noted, people’s perceptions of the conversational context have a two-way—or bidirectional—relationship with their ongoing conversational interaction (P. Brown & Fraser, 1979; Forgas, 1983; Giles & Hewstone, 1982; Saunders, 1991). On the one hand, people’s contextual beliefs (including their beliefs about conversational goals) can influence their language use, affecting what they say and how they understand one another. On the other hand, the things people say to each other over the course of a conversation can influence their beliefs about the conversational context and their conversational goals.

How do conversationalists manage this two-way process? People may attend to their partners’ language behavior for “markers” (P. Brown & Fraser, 1979) of their conversational goals and, in this way, update or adjust their perception of the language game in an ongoing way. On the other hand, if goals are really necessary background assumptions against which utterances are interpreted, as
Grice's (1975) and Clark and Wilkes-Gibbs's (1986) accounts imply, they cannot be reconsidered constantly. People's goal beliefs may have to be at least somewhat "nonreconsiderable" to count as constraints on action at all (Bratman, 1990). And empirical evidence suggests that people avoid reconsidering other kinds of background assumptions. In a study of spatial descriptions, when people had mismatched vantage points on a scene (Schober, 1990), pairs of students who did not know that their vantage points differed went to remarkable lengths to continue interpreting their partners' utterances from the perspective they believed they shared. Only in the face of overwhelming counterevidence (extreme bizarreness of their partners' descriptions) did they question their assumption of a shared perspective.

To date, the way people balance these options—adjusting goal beliefs to fit the conversation or maintaining goal beliefs in order to understand the conversation—has not been studied experimentally. One of the key questions that must be addressed, and the one we address in this study, is the way in which people with different goals manage this two-way process in conversation.

## LANGUAGE USE IN GOAL-DISCREPANT SITUATIONS

One of the few points about language goals that researchers are in clear agreement on is that people's conversational interaction involves multiple goals at varying levels of awareness (e.g., Craig, 1990; Tracy & Coupland, 1990). Because it is doubtful that a person is ever operating with a single, uncomplicated conversational motive, it is equally doubtful that all of the aims a person brings to a conversation will be matched by those brought by their conversational partners. If people must have shared beliefs about their interactive language game (and its goals) in order to communicate, how do they work out these goal differences?

In one study that addressed goal-discrepant conversations, Wilkes-Gibbs (1986) had students who were not informed of each other's goals exchange information about walking routes through cities. The students were assigned either a high-criterion goal of finding out very specific information from their partners (the exact route) or a low-criterion goal of finding out more general information (estimating the walking time of the route). The study showed that students' unique individual goals affected what they said: Pairs who both had the high-criterion goal used different types of directions, said more, and remembered more than pairs who both had the low-criterion goal. In pairs with mismatched goals, both students adjusted what they said in the direction of their partner's goal. In these pairs, students with the low-criterion goal said more and remembered more than low-criterion students who spoke with other low-criterion students. For students with the high-criterion goal, the effect was reversed: High-criterion students who spoke with low-criterion students said less and remembered less than high-criterion students who spoke with other high-criterion students.
Wilkes-Gibbs’s (1986) study demonstrates that the unique goals of both participants in a conversation affect the way a pair verbally interacts. What Wilkes-Gibbs’s study does not tell us is how the participants in her study perceived the language game (and its goals) as well as how these perceptions affected their ongoing interaction. When conversationalists’ goals differ, this is particularly important because, in goal-discrepant conversations, people must find a way to coordinate their efforts around each other’s unique goals.

PARTNER-GOAL BELIEFS

In this study, we examine how (and whether) conversationalists actively assess conversational contexts for goal-relevant information and how (and whether), over the course of a conversation, this information comes to influence their conversational actions. In a laboratory experiment, we assigned pairs of students mismatched goals in a language game and then examined how their beliefs about each other’s goals in the game—their partner-goal beliefs—emerged and influenced their interactions.

We operationalized disparate goals much as Wilkes-Gibbs (1986) did, but, in addition, we manipulated participants’ knowledge of each other’s goals. All participants in our study were paired with another person whose goal differed from theirs. One participant required high-criterion, exact information about the identity of referents; this person needed to know exactly which abstract figure from among a set of figures their partner was looking at. The other participant in the pair required only low-criterion, general information about the referents; this person needed to decide only what general type of figure their partner was looking at. The participants took turns describing the shapes (being the director) and receiving descriptions while carrying out their assigned goal (being the matcher).

We manipulated partner-goal beliefs in the following way: Some pairs were explicitly informed that their goals were different (given a correct partner-goal belief), others were explicitly misinformed that their goals were the same (given an incorrect partner-goal belief), and others were noninformed about each other’s goals (given no initial partner-goal belief by the experimenter).

In this study, we examine two different ways conversationalists may determine goal-relevant information. First, they may assess the “extralinguistic context” (Clark & Carlson, 1981) for partner-goal information (i.e., things such as physical setting, knowledge or assumptions about partners, etc.). In our study, the noninformed pairs, like the mismatched pairs in Wilkes-Gibbs’s (1986) study, were given no initial information about their partner’s unique goal. However, these participants could still make assumptions about their partner’s goal based on the experimental setting, the behavior of the experimenter, and so on. For example, because participants were given apparently identical materials and treated in seemingly the same manner by the experimenter, noninformed participants could
assume that their partner had the same goal as they did. If noninformed pairs assumed that goals were the same, their interactions should resemble those of the pairs explicitly misinformed that goals were the same.

Second, people may attend to ongoing conversational events for clues regarding their partner’s goals (or goal beliefs). As Giles and Hewstone (1982) noted, the way people use language together not only stems from “their subjective construals of situations” but also “acts as an independent variable creatively defining and redefining situations for those involved” (p. 187). On this view, the things our participants said to each other while trying to achieve their different goals should influence their perception of the interaction and each other’s goals within it. For example, if noninformed participants initially assumed their partner’s goal was the same as their own, they could adjust this belief as they converse based on the kinds of things their partner says.

To explore the influence of participants’ goal beliefs on their conversational interaction, we examine a number of specific conversational features that have been linked to common conversational purposes. We examine how speakers initiate conversational contributions, following Clark and Wilkes-Gibbs’s (1986, p. 139) proposal that speakers’ beliefs about “current purposes” affect how they choose between one-shot contributions (“Looks like a swan with his neck up high”) and more protracted multiturn contributions that allow addressees to register their understanding (“Looks like a swan . . .”/“uh-huh”/“. . . with his neck up high”/“okay”). Although such exchanges are a collaborative product involving both participants’ contributions, a speaker’s intonation, hesitation, or choice of words can project an addressee’s next move (Clark & Wilkes-Gibbs, 1986). If partner-goal beliefs play a role in this process, then speakers who believe they are addressing a partner with a goal requiring very detailed understanding should produce more initial utterances that lead to multiturn exchanges than speakers who believe they are addressing a partner whose goal requires less detailed understanding.

We also examine how addressees display their understanding of a contribution. As Clark and Schaefer (1989, p. 154) proposed, addressees may give nondetailed evidence to a speaker (e.g., “uh-huh,” “okay”) when they believe the current goals for understanding are less demanding, and they may give more detailed demonstrations (e.g., repeating things verbatim or paraphrasing what their partner has said) when they believe more detailed understanding is being sought. On this view, an addressee’s feedback should reflect not only the level of detail their personal goals for understanding require but also the level of detail the speaker believes the addressee requires. So, for example, an addressee should provide more detailed feedback and request additional information more often when speaking with a partner who believes the addressee has a high-criterion goal because it will take more evidence to convince the speaker that adequate understanding has been reached. Conversely, an addressee should provide less detailed
feedback and request additional information less often with a partner who believes the addressee has a low-criterion goal for understanding because such a speaker will be more easily satisfied that the addressee has understood.

We use these conversational features, among others, in two ways. First, we examine whether they are affected by participants’ partner-goal beliefs at all. Second, any features that are shown to be affected by partner-goal beliefs can be used to monitor whether participants’ beliefs about each others’ goals change over the course of their conversations.

PREDICTIONS

In general, if partner-goal beliefs are relevant to language use, participants who know what their partners’ goals are should offer descriptions that have the appropriate level of detail for their partners’ needs. Participants who mistakenly believe their partner’s goal coincides with their own should use inappropriate descriptions, either too general or too detailed. These conversational differences should also lead to differences in what people learn from each other and, consequently, what they remember. Participants given the high-criterion goal who have partners providing appropriate levels of detail should learn and remember the shapes better than high-criterion participants who have partners providing insufficient detail.

Informed and misinformed pairs were given explicit information about their partners’ goals. If partner-goal beliefs influence language use, participants in these pairs should differ in their language use: Participants explicitly informed of their partner’s goal should offer descriptions that are tailored to their partner’s needs, whereas those explicitly misinformed should offer descriptions that are misdesigned for their partner’s needs (either too general or too detailed). If noninformed pairs erroneously assume that their partner’s goal is the same as their own, they should offer their partners misdesigned descriptions just as misinformed pairs do.

Participants may also adjust their partner-goal beliefs as they talk. Participants with erroneous beliefs about their partner’s goals may reconsider their partner-goal beliefs to match incoming evidence that is inconsistent with those beliefs. This should also lead to changes in their patterns of language use over the course of the conversation. If misinformed pairs reconsider their erroneous partner-goal beliefs, they should alter their patterns of referring over time so as to provide their partners with the kind of information their partners need. Noninformed pairs should also alter their language use over time only if their initial partner-goal beliefs are wrong (i.e., if they are contextually misinformed at the start). In addition, if noninformed pairs are contextually misinformed originally, they may be more likely to adjust their inferred partner-goal beliefs than the misinformed
pairs who were explicitly misled by the experimenter (and therefore may have better reason to maintain those beliefs). Of course, informed pairs who already give each other the right level of detail should have no need to change their behavior.

METHOD

Participants

One hundred ten undergraduates at Ramapo College, New Jersey, participated in the experiment. Of those, 71 were female students, and 39 were male students, ranging in age from 18 to 45 years old. Course credit was received by 108 participants, and 2 (not in the same pair) received payment. Participants were paired with other students who were strangers or whom they had never seen outside of school. Results were discarded from three pairs because they were friends, from two pairs because in each pair 1 participant did not understand the instructions and performed the task incorrectly, from one pair because 1 participant spoke English as a second language, and from two pairs because their conversations were not recorded due to technical difficulties. This left 94 participants, for 47 pairs.

Procedure

Pairs of participants with mismatched individual goals carried out a shape matching task in which participants needed information from each other. Their conversations were audiorecorded. Participants were separated by a visual barrier so that communication was restricted to speech. Each participant was given a binder containing 10 pages, alternating 5 pink information sheets and 5 white answer sheets. The pages were arranged so that whenever 1 participant had an information sheet, the other had an answer sheet, and vice versa. On each page were 12 ambiguous geometric figures taken from Elffers's (1976) Tangram Shapes Game (see Figure 1 for samples). The same figures appeared for both participants but were arranged differently on their pages so that participants could not use location on the page to describe the figures. On each page, 8 of the figures resembled each other in one way (e.g., they all looked like ducks, or arches, or people, etc.), and the 4 remaining figures resembled each other in a different way (e.g., they all looked like boats, or dogs, or houses, etc.).

In each pair, 1 participant was randomly assigned a low-criterion goal, and the other was assigned a high-criterion goal. Participants were instructed to pursue their goal whenever they had an answer sheet. They were told that, whenever they had an answer sheet, the other participant's corresponding information sheet had 1 of the 12 figures circled. This figure was the target figure.
Sample A. When the low-criterion participant was the matcher:

Low-criterion participant's (white) answer sheet:

High-criterion participant's corresponding (pink) information sheet with the target figure circled:

Sample B. When the high-criterion participant was the matcher:

High-criterion participant's (white) answer sheet:

Low-criterion participant's corresponding (pink) information sheet with the target figure circled:

FIGURE 1 Samples of Tangram figures and the stimulus pages: low- and high-criterion matcher sheets with corresponding director sheets.

The goal for high-criterion participants whenever they had an answer sheet was to determine exactly which figure was the target figure and to circle it on their sheet. The goal for low-criterion participants required less precision. On their answer sheets, a single circle was drawn around the four similar figures (see Figure 1). Low-criterion participants were to determine whether the target figure fell inside or outside the circle of four figures and to circle the appropriate
word, *inside* or *outside*, at the bottom of the page. Low-criterion participants did not need to know exactly which figure the target figure was but only whether it was more like the figures inside or outside the circle of four on their sheet.

Pairs of participants fell into one of three groups: (a) informed about each other’s goals (16 pairs), (b) misinformed that goals were the same (15 pairs), or (c) noninformed about each other’s goals (16 pairs). Informed participants were given an explicit description of their partner’s goal, and they were told that their partner’s goal required them to give less (or more) detail than their own goal did. Misinformed participants were told, untruthfully, that their partner’s goal was the same as their own and that their partners would require the same kind of information that they required. Noninformed participants were neither told what their partner’s goal was nor that it was different from their own. For these pairs, instructions outlined each participant’s own personal goal but said only that their partner would be “wanting information” for their own answer sheets, with no mention of what they would be wanting it for. The exact wording of the instructions given to participants is included in the Appendix.

Instructions included examples of information sheets and answer sheets. The experimenter answered participants’ questions after they had read all the instructions. Because participants were in the same room, if a participant in either a misinformed or noninformed pair asked a question about his or her own unique goal, the experimenter pointed out the relevant section of the instructions and asked the participant to read it again.

After they received the instructions, participants were given an individual practice task similar to the high- or low-criterion task they would perform in the conversation. The high-criterion participant was given 10 examples in which they had to decide which of a group of Tangram figures was identical to a stimulus figure. The low-criterion participant was given 10 examples in which they had to decide which of two groups of figures was more like a stimulus figure. After this individual practice task, participants conversed to perform the main experimental task for 10 corresponding sets of information and answer sheets.

After the conversation, all participants were given a 10-page individual (high-criterion) recognition task. Each page contained exactly the same figures they had seen in the experiment but arranged in a different order. For each page, they were asked to select the figure that had been the target figure for that page during the conversation. This meant that, for every participant, half the target figures they were asked to recognize had been circled on their own information sheets (*directed items*), whereas the other half had been circled on their partner’s information sheets (*matched items*).

After the recognition test, participants were given a brief questionnaire. They evaluated their own performance, their partner’s performance, and the performance of the pair on a 5-point scale, ranging from 1 (*very badly*) to 5 (*very well*). In addition, they were asked to comment on whether they were aware of any differences in goals or in the level of detail their partner appeared to want.
RESULTS

Recall that on 5 of the 10 trials, each participant acted as the matcher, recording answers on five different answer sheets; on the other 5 trials, the same participant acted as the director, providing information for their partner. Pairs varied a great deal in how long they took to complete the task, ranging from conversations of 316 words (3.5 min) to 2,279 words (13.75 min) over the 10 pages. Pairs varied in the number of turns they exchanged describing a shape (or shapes), checking descriptions with each other, and agreeing that an understanding had been reached. The simplest form of exchange consisted of a single description of a target figure by the director, followed by some form of acceptance by the matcher. However, trials consisting of a single turn exchange were few—only 31 (7%) of the 470 trials over all 47 pairs. Most trials consisted of at least a few turn exchanges, with the longest single trial involving 46 exchanges from the initial description to the final acceptance and acknowledgment of understanding.

Over all the pairs, participants exchanged more words (592) over the pages on which the high-criterion participant was the matcher than over the pages for which the low-criterion participant was the matcher (382 words), $F_1(1, 44) = 34.48, p < .0001$, and $F_2(1, 8) = 132.23, p < .0001$. This makes sense: People should say more to each other when their current purposes entail a high criterion of understanding rather than a low criterion. This replicates Wilkes-Gibbs’s (1986) finding that differences in two individuals’ goals lead to differences in the way they coordinate their conversational actions.

Effects of Partner-Goal Beliefs

What goals did our participants believe they were pursuing together, and how did these goal beliefs affect their language use? To address this question, we examine the influence of partner-goal beliefs on five conversational features:

1. How much both parties said on the low- and high-criterion trials, respectively;
2. How directors initiated references for low- and high-criterion matchers;
3. How low- and high-criterion matchers displayed their understanding;
4. How directors explicitly attempted to impose their beliefs about matchers’ comprehension needs; and
5. How accurately low- and high-criterion participants recognized the figures after the conversation.

We also contrast the effects of people’s partner-goal beliefs with the effects of their own goals. All analyses include two planned contrasts. First, noninformed pairs are compared with misinformed pairs: If participants in noninformed pairs correctly infer
their partner's goal, they should interact differently than the misinformed pairs; alternatively, if noninformed pairs erroneously assume goals are the same, these two groups should not differ. Second, informed pairs (who are correctly informed about each other's goals by the experimenter) are compared with all other pairs (who are not): If partner-goal beliefs influence language use, pairs with correct beliefs about their partners' goals should interact differently than pairs with incorrect or merely inferred beliefs about their partner's goals.

*How much both parties said.* Partner-goal beliefs affected how much more people said when the high-criterion participant was the matcher than when the low-criterion participant was the matcher. Correctly informed pairs averaged 67 more words in discussing trials with a high-criterion matcher than on trials with a low-criterion matcher. This difference was reliably greater than among noninformed and misinformed pairs who averaged, respectively, 28 and 30 more words on trials in which the matcher had a high-criterion goal (planned contrast), \( F_1(1, 44) = 5.90, p < .02, \) and \( F_2(1, 12) = 21.16, p < .001. \) Noninformed and misinformed pairs did not differ reliably (planned contrast), \( F_1(1, 44) = 0.02, ns, \) and \( F_2(1, 12) = 0.07, ns. \)

*How references were initiated.* We coded directors' initial descriptions for the 10 trials of each conversation as initiating either single-exchange or multiple-exchange contributions (see Table 1 for examples). Coding criteria for *multiple-exchange* contributions were as follows: If a director explicitly demon-

<table>
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<tr>
<th>TABLE 1</th>
<th>Types of Utterances Used to Initiate Contributions</th>
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| Single exchange | A: looks like a swan with its neck up high  
| Elementary | B: okay  |
| Episodic | A: looks like a house, a chimney place, it has two slopes  
| | B: okay  |
| Multiple exchange | A: okay I've got an object that looks like a duck or a swan  
| Installment | B: okay  
| | A: swimming to the left  |
| Presequence | A: you know the arches in front of Ramapo?  
| | B: yeah  
| | A: looks kinda like that  |
| Proxy | A: looks like a barn with a big uh you know those tall cylinder things that the *barn*  
| | B: *silo*  
| | A: yeah looks like that  
| | B: okay  |

*Note.* Categories based on Clark & Wilkes-Gibbs (1986).
strated their search for a specific word for a description they provided, this was coded as a *proxy* noun phrase (whether or not the matcher provided the word they searched for); if a director explicitly asked for feedback regarding background knowledge prior to making an actual reference, this was coded as a *presequence* (whether or not the addressee provided the feedback); if a director presented part of a noun phrase descriptor, their addressee provided feedback in the immediate next turn (without overlap), and the director continued the noun phrase in the immediate next turn (e.g., with a joiner such as *and* or *but*), this was coded as an *installment* noun phrase.\(^1\) All other initial contributions were coded as *single-exchange* contributions. Coders were blind to the partner-goal information participants were given. Interrater agreement was extremely high (97% agreement, with 58 of 60 identical codings) for the six conversations that were coded by both raters.

As Figure 2 shows, when they were the director, participants who were correctly informed of their high-criterion partner’s goal presented more utterances that initiated multiple-exchange sequences (22% of their initiating contributions) than participants who were either misinformed (8%) or noninformed (1%) about their high-criterion partner’s goal. Conversely, when they were the director, participants

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\(^1\)Unlike the other two forms of multiple-exchange contributions, the criterion for coding installment noun phrases includes addressee feedback. This approach likely leads to an underestimate of the number of times directors attempt to initiate such exchanges. Our results, therefore, may not reflect the full extent to which misinformed directors modified their presentations according to their partner-goal beliefs because addressees may be more likely to fail to provide such feedback when their partner is misinformed about their goals (i.e., a low-criterion matcher whose partner believes they have a high-criterion goal is less likely to provide the feedback the director expects).
correctly informed of their partner’s low-criterion goal initiated fewer multiple-exchange sequences (9% of their initiating contributions) than those who were misinformed (19%) or noninformed (20%) about their low-criterion partner’s goal (interaction, planned contrast), $F_1(1, 44) = 18.75, p < .0001$, and $F_2(1, 12) = 24.40, p < .0005$. Noninformed and misinformed pairs did not differ reliably from each other (interaction, planned contrast), $F_1(1, 44) = 1.05, ns$, and $F_2(1, 12) = 2.89, ns$.

Following Clark and Wilkes-Gibbs’s (1986) reasoning that multiple-exchange sequences are more appropriate for higher criterion purposes, correctly informed participants were more likely to initiate exchanges that matched their partner’s needs than misinformed and noninformed participants were. Note that correctly informed directors initiated multiple-exchange sequences for high-criterion matchers about as much (22%) as misinformed directors did for low-criterion matchers (19%). Both of these groups had reason to believe their partners had a high-criterion goal, and this was reflected in the way they initiated references. Noninformed directors initiated multiple-exchange references for low-criterion matchers with the same frequency (20%) as misinformed directors.

**How addressees displayed understanding.** After directors gave descriptions, matchers could either show evidence that they understood or they could explicitly request more information. Low-criterion matchers gave evidence that they had understood their partner’s descriptions less often than high-criterion matchers, 1.80 to 3.09 times per answer page, $F_1(1, 44) = 18.63, p < .001$, and $F_2(1, 8) = 127.62, p < .0001$. Thus, low-criterion participants’ less demanding goal led them to give evidence of understanding less often than high-criterion participants, whose goal for understanding was more demanding.

Partner-goal beliefs also affected how often people gave evidence they had understood. Among high-criterion participants, those who received descriptions from correctly informed directors were the most active matchers. On average, these high-criterion participants gave some kind of evidence of understanding 4.1 times per answer page, reliably more than those with noninformed partners (2.65 times per page) and those with misinformed partners (2.52 times per page; planned contrast), $F_1(1, 44) = 5.06, p < .03$, and $F_2(1, 12) = 39.31, p < .0001$. Misinformed and uninformed participants were not reliably different (planned contrast), $F_1(1, 44) = 0.01, ns$, and $F_2(1, 12) = 0.11, ns$.

What types of evidence of understanding did matchers give their partners? As Clark and Schaefer (1989) described, addressees can provide nondetailed evidence of their understanding by merely continuing to pay attention, nodding, or providing a verbal back channel such as *uh-huh*. Alternatively, they can provide detailed evidence of their understanding by repeating what the director said or rephrasing the director’s description. We coded matchers’ contributions as either *nondetailed* or *detailed* evidence of understanding or as explicit *requests* for more information (see Table 2). Again, coders were blind to the partner-goal information participants were given, and interrater agreement was extremely high (99% agreement, with 96 of 97 identical codings) for the three conversations coded by both raters.
TABLE 2
Types of Evidence Matchers Gave of Their Understanding

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
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<tbody>
<tr>
<td>Nondetailed</td>
<td>A: looks like a house, a chimney place</td>
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<tr>
<td></td>
<td>B: [pause of more than 2 s]</td>
</tr>
<tr>
<td></td>
<td>A: a fireplace with like two slopes on either side.</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>A: actually like legs not like the ones with, like the</td>
</tr>
<tr>
<td></td>
<td>just the triangles</td>
</tr>
<tr>
<td></td>
<td>B: okay</td>
</tr>
<tr>
<td>Detailed</td>
<td>A: yeah and it has like a triangle coming out of its</td>
</tr>
<tr>
<td></td>
<td>like stomach</td>
</tr>
<tr>
<td></td>
<td>B: yeah it’s also coming out of its like shoulders</td>
</tr>
<tr>
<td>Demonstration</td>
<td>A: his body, he’s not leaning to the side or anything.</td>
</tr>
<tr>
<td></td>
<td>B: not leaning to the side or anything</td>
</tr>
<tr>
<td>Display</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>


High-criterion participants, regardless of their partner-goal beliefs, gave more detailed evidence of understanding than low-criterion participants, $F_1(1, 44) = 21.71, p < .0001$, and $F_2(1, 8) = 165.16, p < .0001$. On average, high-criterion participants offered a display or demonstration of their understanding 1.17 times per answer page, whereas low-criterion participants offered such evidence .40 times per answer page.

The amount of detailed evidence of understanding participants gave each other was also affected by people’s partner-goal beliefs. As Figure 3 shows, high-criterion matchers in correctly informed pairs gave reliably more detailed types of evidence (1.69 times per answer page) than high-criterion matchers in either of the other two groups (planned contrast), $F_1(1, 44) = 4.84, p < .05$, and $F_2(1, 12) = 29.70, p < .001$. High-criterion matchers in the noninformed (0.97 times per page) and misinformed pairs (0.85 times per page) did not differ reliably (planned contrast), $F_1(1, 44) = 0.02, ns$, and $F_2(1, 12) = 0.53, ns$.

Not surprisingly, high-criterion matchers requested additional information more often than low-criterion matchers (1.89 vs. 0.73 times per answer page), $F_1(1, 44) = 60.57, p < .0001$, and $F_2(1, 8) = 176.89, p < .0001$. As Figure 4 shows, beliefs about a partners’ goals also affected how often matchers requested additional information. Among informed pairs, high-criterion matchers averaged about four times more requests per answer page than their low-criterion partners did when they were the matcher. Among noninformed and misinformed pairs, high-criterion matchers averaged about twice as many requests per answer page as their low-criterion partners. Noninformed and misinformed pairs did not differ (planned contrast), $F_1(1, 44) = 0.00, ns$, and $F_2(1, 12) = 0.01, ns$, but informed pairs were reliably different from the rest (planned contrast), $F_1(1, 44) = 6.97, p < .02$, and $F_2(1, 12) = 15.37, p < .01$. 

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At first, this result may seem counterintuitive: If accurate partner-goal beliefs enable directors to tailor their descriptions, matchers in correctly informed pairs should have needed to ask for extra information less often than people who received less well-designed descriptions. However, the result makes sense in light of Clark and Schaefer’s (1989, p. 154) observation that the way a speaker presents information can affect the amount of evidence an addressee believes they must provide to demonstrate their understanding (and satisfy the speaker). If this is
the case, then an addressee’s displays of understanding should reflect not only the level of detail the addressee actually requires but also the level of detail the speaker believes the addressee requires, and possibly the addressee’s beliefs about the speaker’s beliefs, and so on. Therefore, high-criterion participants in informed pairs may have been more active matchers, giving more detailed evidence of understanding and requesting information more often because their partners correctly believed they had a high-criterion goal.

_How speakers explicitly attempted to impose their beliefs about addressees’ comprehension needs._ Directors sometimes explicitly indicated that their partners were not doing what they expected. We coded directors’ utterances as _impatient_ if they suggested that enough description had been given about a figure and it was possible to move on to the next page before their partners had shown they were satisfied, as in the following italicized utterance:

(1) H: it’s not the one that has the arrow on it?
   L: um: no arrow no
   H: no arrow
   L: know which one it is?
   H: I think so say something else about it

We coded directors’ utterances as _persistent_ if they continued to give more detail after the matcher explicitly displayed readiness to move on to the next page, as in the following italicized utterance:

(2) H: and the other one’s pointing towards the right
   L: all right I got it
   H: it look looks like the toe is touching the heel
   L: yeah yeah I got it

The goals participants were assigned as matchers influenced the frequency with which they made impatient utterances when they were directing. Across the 47 conversations, participants who had a low-criterion goal when they were the matcher gave a total of 15 impatient utterances when they were the director (averaging 0.32 per conversation), whereas participants who had a high-criterion goal when they were the matcher totaled only 4 impatient utterances when directing (averaging 0.09 per conversation), t(46) = 2.14, p < .05. Similarly, participants’ tendency to make persistent utterances as the director was influenced by the goals they pursued as the matcher. Directors who had a high-criterion

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2Transcriptions of conversations employ the following conventions: H and L indicate high- and low-criterion speakers, respectively; asterisks enclose overlapping speech; question marks indicate rising intonation; a period following a space indicates a pause; a partial word ending in a hyphen was cut off by the speaker; and a colon indicates a lengthened sound.
goal when they were the matcher gave a total of 54 persistent utterances (averaging 1.15 per conversation), whereas directors who had a low-criterion goal when they were the matcher totaled 26 persistent utterances (averaging 0.57 per conversation), $t(46) = 2.30, p < .05$.

In the comparison of real interest, however, partner-goal beliefs did not affect the number of either impatient or persistent utterances (although this may be because there were very few). Of the 15 impatient utterances made by directors who themselves had a low-criterion goal, 3 were made by correctly informed directors, 3 by misinformed directors, and 9 by noninformed directors, $F(2, 44) = 1.19, ns$. Of the 54 persistent utterances made by directors who themselves had a high-criterion goal, 23 were made by noninformed directors, 17 by correctly informed directors, and 14 by misinformed directors, $F(2, 44) = .021, ns$. Thus, people's individual information-receiving goals (i.e., their goal as the matcher) biased the way they explicitly provided information for their addressee, even when they were correctly informed that their partner's goal differed from their own.

*How accurately both parties recognized the figures after the conversations.* Participants' ability to recognize the shapes they discussed provides a measure of the specificity of understanding they gained during the conversation. Participants given the low-criterion goal needed only general information about the figures that were described to them; therefore, they should do less well on the recognition test than high-criterion participants who needed to identify the shapes exactly. If partner-goal beliefs influence the specificity of participants' understanding, then recognition accuracy should also be affected.

As Figure 5 shows, partner-goal beliefs did indeed affect participants' recognition accuracy. Informed low-criterion participants recognized only 56% of the figures described to them, reliably fewer than the misinformed and noninformed low-criterion participants (planned contrast), $F_1(1, 44) = 5.90, p < .05$, and $F_2(1, 12) = 8.82, p < .02$. The misinformed and noninformed low-criterion participants recognized more and about the same amount (73% and 71%, respectively; planned contrast), $F_1(1, 44) = 0.31, ns$, and $F_2(1, 12) = 0.08, ns$.

High-criterion participants did not reliably differ across information conditions in how accurately they recognized the figures described to them, $F_1(1, 44) = 0.54, ns$, and $F_2(2, 12) = 1.04, ns$. However, as Figure 5 also shows, informed high-criterion participants remembered more of the five target figures for which they had been the matcher (78% on average) than their low-criterion partners remembered of their matched target figures (56% on average), whereas in misinformed and noninformed pairs, participants did not vary in their accuracy (interaction, planned contrast), $F_1(1, 44) = 4.62, p < .05$, and $F_2(1, 12) = 6.97, p < .05$. In misinformed and noninformed pairs, the low-criterion participants remembered as much as the high-criterion participants (interaction, planned contrasts), $F_1(1, 44) = 0.01, ns$, and $F_2(1, 12) = .36, ns$.

These results make sense given the other findings reported so far: Informed pairs tailored their conversation to the unique demands of each participant's goal.
(saying more and being more specific on trials in which the matcher had a high-as opposed to a low-criterion goal), whereas misinformed and noninformed pairs did not tailor their conversations as much in this way. These differences in conversational interaction led to differences in participants’ ability to recognize later the things they discussed.

As summarized in Table 3, our results show that, when people are given explicit evidence about their partners’ goals (either correct or incorrect), their partner-goal beliefs affect how much they say, how they initially say it, how they display their understanding, and, consequently, what they remember of what was said. In this experiment, explicit evidence did not reliably affect how often speakers explicitly attempted to impose their beliefs about addressees’ comprehension needs. Table 3 also shows that noninformed pairs behaved virtually identically to the misinformed pairs on all six measures. Although we cannot know for sure what the noninformed participants believed, it is reasonable to infer that the markedly similar behaviors reflect markedly similar underlying beliefs.

Effects of Conversational Interaction on Participants’ Partner-Goal Beliefs

Conversationalists’ understanding of their interactive goals is based not only on their perception of the (extralinguistic) setting but may also emerge from their ongoing interactive language use (P. Brown & Fraser, 1979; Giles & Hewstone, 1982; Saunders, 1991). What kinds of partner-goal beliefs emerged from participants’ efforts to describe the shapes to each other? How did these emergent beliefs influence their language use?
### TABLE 3
Summary of Effects of Explicit Goal Information Over the Entire Conversation

<table>
<thead>
<tr>
<th>Measure</th>
<th>Informed</th>
<th>Misinformed</th>
<th>Noninformed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Words exchanged: Mean additional word pairs said on high- as opposed to low-criterion matcher sheets</td>
<td>67**</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td>Directors' initiating utterances: Mean percentage of additional multiple-exchange contributions initiated for high- as opposed to low-criterion matchers</td>
<td>16%**</td>
<td>-13%</td>
<td>-28%</td>
</tr>
<tr>
<td>Directors' explicit attempts to impose their partner-goal beliefs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Mean additional impatient utterances delivered to low- as opposed to high-criterion matchers</td>
<td>-0.06</td>
<td>-0.20</td>
<td>-0.33</td>
</tr>
<tr>
<td>b. Mean additional persistent utterances delivered to high- as opposed to low-criterion matchers</td>
<td>-0.50</td>
<td>-0.40</td>
<td>-0.81</td>
</tr>
<tr>
<td>Matchers' feedback: Mean additional utterances per page giving detailed evidence of understanding by high- as opposed to low-criterion matchers</td>
<td>1.29**</td>
<td>0.54</td>
<td>0.49</td>
</tr>
<tr>
<td>Matchers' requests for information: Mean additional requests per page for more information by high- as opposed to low-criterion matchers</td>
<td>1.71**</td>
<td>0.48</td>
<td>0.89</td>
</tr>
<tr>
<td>Recognition posttest: Mean percentage of additional correctly identified figures by high- as opposed to low-criterion matchers</td>
<td>22%*</td>
<td>0%</td>
<td>-1%</td>
</tr>
</tbody>
</table>

*Note.* All analyses based on planned contrasts. For informed versus misinformed and noninformed, significant differences are indicated by asterisks. For misinformed versus noninformed, all differences are nonsignificant.

*p < .05.  **p < .01.

As we have seen, noninformed and misinformed participants misdesigned their language use according to erroneous beliefs about their partners' goals. However, in only 1 of these 31 pairs (15 misinformed and 16 noninformed) did these misdirected efforts lead to an explicit discussion of the goal mismatch. This discussion, which occurred on the fourth trial of a conversation between noninformed participants, illustrates how both students previously believed their goals were the same and how resistant this belief was to change:

(3) **L:** ... all the ones circled look like they're graduation guys  
**H:** all the ones what?  
**L:** all the ones circled on my paper *look like um*  
**H:** *you shouldn't have* anything circled
L:  hm?
H:  There shouldn’t be any circled
L:  yeah, uh four of them are circled on my paper right now
H:  they are? is *this all right*?
L:  *I have* to choose inside or outside on mine
H:  well well let me *try and do it*
L:  *you don’t have to do it*?
H:  what?
L:  you don’t have to describe it that a we-, looks like a sailboat right?
H:  let me describe it
L:  all right fine [laugh; H and L continue to discuss shape for six more
turns] I already got the answer to it then trust me y- you see because,
on mine I have four objects circled, and I have to choose if the
object you’re describing is is either inside or or outside of that group
that’s circled
H:  oh okay
L:  and it’s obviously outside because all the sailboat ones are outside
‘kay

In this pair, the low-criterion participant refers to the circle of four figures as a
way of conveying that he has enough information; when his noninformed high-
criterion partner insists on giving more information, the low-criterion participant
finally describes his goal in detail.

In our corpus of conversations, we saw several examples in which participants
maintained their erroneous partner-goal beliefs even in the face of evidence that
their beliefs were incorrect. For example, in this misinformation pair, a low-criterion
participant accepts her partner’s initial description as sufficient by referring ex-
plicitly to her low-criterion goal (“I got it . . . it’s inside”), but the difficulties
that follow do not lead the pair to reassess their goal beliefs:

(4)  H:  wh- what you think you have *it*?
L:  *yeah* yeah I think I got it *I think* it’s inside
H:  oh okay hm .
L:  pretty sure it’s inside all the doorways are inside
H:  all the doorways yes it’s right in the middle of the *figure right*
      okay
L:  *yeah all right*
H:  right do I should I describe any more do you have it?
L:  no that’s all right
H:  okay so we’re going to go to the next one?
L:  yup
H:  okay
L:  all right
In this case, the low-criterion participant gives explicit evidence that she has enough information to meet the low-criterion goal she assumes they are both trying to satisfy ("all the doorways are inside"). The high-criterion participant makes sense of his partner's reference to her criterion of acceptance ("it's inside") by rephrasing it as a description of a shape ("yes it's right in the middle")—a rephrasing that the low-criterion participant accepts ("yeah all right"). The high-criterion participant, however, still appears doubtful that his partner has enough information (to meet a high-criterion goal), and the pair take a number of additional turns to ensure that the reference has been adequately understood. In this way, the pair manages to leave their erroneous (and different) goal beliefs intact, while still maintaining what Goffman (1959) has called "the veneer of consensus" (p. 9).

It is difficult to know how frequently our participants missed such potential clues because it is unclear what kinds of things may reasonably have pointed them toward the difference in their goals. Certainly, there are a number of different types of speech events that may have alerted participants to the goal mismatch. In the preceding example, it was a lexical clue—the low-criterion participant’s reference to the shapes being “inside”—that the participants overlooked. Another possible clue may have been directors’ impatient or persistent utterances (previously discussed) in which participants attempted to directly influence their addressee’s level of comprehension. In fact, any behavior influenced by a participant’s partner-goal beliefs could function, simultaneously, as a marker of that person’s perception of the current goals and, therefore, provide a clue for their partner (for a discussion of such bidirectional markers, see P. Brown & Fraser, 1979).

Following this reasoning, participants may have adjusted their goal beliefs without explicitly discussing them based on clues their interactive language use provided about each other’s goals and goal perceptions. We examined this by comparing pairs’ performance on the first four trials of the conversation with their performance on the last four trials. If participants adjusted their partner-goal beliefs, this should have led to changes in the way they interacted with one another over the course of their talk. We examined the same conversational features as before, with the exception of how often speakers explicitly attempted to impose their beliefs about addressees’ comprehension needs because there were too few cases to analyze.

These analyses include the same planned contrasts as the earlier analyses. Noninformed pairs were compared with misinformed pairs: If noninformed pairs adjust their beliefs while misinformed pairs maintain their erroneous beliefs, these two groups should come to differ over the course of their talk. Informed pairs were compared with all other pairs: If participants with incorrect or merely inferred partner-goal beliefs adjust those beliefs as they talk, their conversations should become more like those of the informed pairs over the course of the conversation.

The results from all tests are summarized in Table 4. Overall, pairs remained quite consistent over the course of the conversation in how much they said to
<table>
<thead>
<tr>
<th>Measure</th>
<th>Over the First Four Trials</th>
<th>Over the Last Four Trials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informed</td>
<td>Misinformed</td>
</tr>
<tr>
<td><strong>Words exchanged:</strong> Mean additional word pairs said on high- as</td>
<td>48</td>
<td>28</td>
</tr>
<tr>
<td>opposed to low-criterion matcher sheets</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Directors' initiating utterances:</strong> Mean percentage of additional</td>
<td>6%</td>
<td>−10%</td>
</tr>
<tr>
<td>multiple-exchange contributions initiated for high- as opposed to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low-criterion matchers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Matchers' feedback:</strong> Mean additional utterances per page giving</td>
<td>2.16</td>
<td>0.34</td>
</tr>
<tr>
<td>detailed evidence of understanding by high- as opposed to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low-criterion matchers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Matchers' requests for information:</strong> Mean additional requests per</td>
<td>1.90</td>
<td>0.80</td>
</tr>
<tr>
<td>page for more information by high- as opposed to low-criterion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>matchers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recognition posttest:</strong> Mean percentage of additional correctly</td>
<td>19%</td>
<td>4%</td>
</tr>
<tr>
<td>identified matched figures by high- as opposed to low-criterion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>participants</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* All analyses based on planned contrasts (Information × Time). For informed versus misinformed and noninformed, all differences are nonsignificant. For misinformed versus noninformed, significant differences are indicated by an asterisk.

*p < .10.
each other and how they said it. On three of the four conversational measures—how much pairs said, how matchers provided evidence of understanding, and how often matchers requested more information—there were no differences over time. Noninformed and misinformed pairs did not reliably differ on any of these measures over the course of their conversations (planned contrasts): for word counts, $F(2, 44) = 0.19, ns$; for matchers’ feedback, $F(2, 44) = 0.07, ns$; and for matchers’ requests for more information, $F(2, 44) = 0.55, ns$. The difference between the informed pairs and the other two groups combined did not change over the course of the conversations (planned contrasts): for word counts, $F(2, 44) = 1.64, ns$; for matchers’ feedback, $F(2, 44) = 0.53, ns$; and for matchers’ requests for more information, $F(2, 44) = 0.48, ns$.

Low- and high-criterion participants’ accuracy in recognizing the shapes afterward was also not affected by the point in the conversation (early or later on) the shape was discussed. Across all 10 shapes on the posttest, informed low- and high-criterion participants’ accuracy differed depending on the individual goal they were assigned. The accuracy of low- and high-criterion participants in noninformed and misinformed pairs, on the other hand, remained about the same, regardless of the point in the conversation the shape was discussed (planned contrasts), misinformed versus noninformed, $F(2, 44) = 1.40, ns$, and informed versus misinformed and noninformed, $F(2, 44) = 0.13, ns$. This suggests that the detail of understanding participants gained of the shapes did not differ over the conversation.

On the fourth conversational measure—the way directors initiated contributions—misinformed and noninformed pairs differed marginally over the course of the conversation (planned contrast), $F(2, 44) = 3.96, p < .10$. However, as Table 4 shows, these groups consistently provided more multiple-exchange contributions for low-criterion matchers than for high-criterion matchers (as indicated by the consistently negative differences). Had they adjusted their partner-goal beliefs to fit their partner’s goals, these pairs should have shifted to a pattern in which they provided more multiple-exchange contributions for high-criterion matchers as the informed pairs did (as evidenced by the consistently positive differences). Thus, although the frequency with which misinformed and noninformed participants initiated multiple-exchange contributions fluctuated over the course of their conversations, overall, directors in these pairs maintained erroneous partner-goal beliefs that continued to influence the way they initiated their descriptions.

By all our measures, therefore, the influence of partner-goal beliefs appeared to remain consistent over the conversations. This is further evidence that people maintained erroneous partner-goal beliefs in the face of potential counterevidence.

Attributions about partners. Although almost all noninformed and misinformed participants appeared not to adjust their erroneous beliefs about their partners’ task goals, they nevertheless had to make sense of each other’s (sometimes surprising) behavior. Participants’ comments on the final questionnaire
indicate that one way they did this was to form new beliefs, or change existing beliefs, about each other or about other interactive goals. For example, a noninformed low-criterion participant remarked about her high-criterion partner, “She seemed very interested,” and a misinformed low-criterion participant remarked, “She came across as someone who wanted to help me.” This was how these participants with erroneous partner-goal beliefs made sense of their high-criterion partners’ efforts to discuss information in a very detailed way. Conversely, a noninformed high-criterion participant (from a different pair) remarked about his partner, “It seemed as if she just wanted to get it over with,” and a noninformed high-criterion participant whose low-criterion partner repeatedly gave underspecific descriptions, wrote this on the final questionnaire, “We were both trying to score high. Or maybe score higher than one another.” This was how these participants with erroneous partner-goal beliefs made sense of their partners’ efforts to discuss information at only a general level of detail.

More participants made at least one such misattribution about their partner in misinformed pairs (7 of 15 pairs) and noninformed pairs (9 of 16 pairs) than among participants in informed pairs (1 of 16 pairs; planned contrast), \( F(2, 44) = 7.51, p < .001 \). Once again, misinformed and noninformed pairs did not reliably differ (planned contrast), \( F(2, 44) = 0.25, ns \). Thus, in their efforts to make sense of the conversation, participants who failed to adjust their erroneous partner-goal beliefs risked making incorrect attributions about their partners.

\textit{Misunderstandings.} Participants also demonstrated that, at times, their erroneous partner-goal beliefs affected the way they inferred each other’s communicative intentions. This finding is consistent with Grice’s (1975) model of conversational implicature, according to which interlocutors expect conversational contributions to relate to common conversational purposes and to be as informative as those purposes require. In this exchange, for example, a high-criterion participant mistakes her partner’s quick acceptance (“I got it”) as an attempt at humor (“no shut up”):

\begin{itemize}
  \item[(5)] L: oh great *looks* like a sailboat
  \item H: *yeah*
  \item L: well then, I got it already then
  \item H: [laughing] no shut up
  \item L: well, well because all the ones circled look like they’re graduation guys . . .
\end{itemize}

On a Gricean view, this makes sense. The low-criterion participant’s acceptance (“I got it”) seems incongruous to the high-criterion participant because she expects her low-criterion partner to need more information. However, by assuming that the low-criterion participant has intentionally flouted the maxim of quantity, the high-criterion participant infers that her partner meant to be funny. The high-cri-
terion participant indicates that she has taken her partner to be (knowingly) speaking nonsense by her laugh and response, “no shut up.”

On Grice’s (1975) model, the high-criterion participant’s interpretation of the low-criterion participant’s utterance is determined by the high-criterion participant’s notion of the current conversational purpose, that is, by her partner-goal belief. It is important to note that, in order to make this inference, the high-criterion participant must maintain her previous belief about the current language goals (i.e., that her partner requires an exact understanding) and interpret her partner’s utterance in light of this belief. The high-criterion participant does not, as some other models propose (e.g., see Sperber & Wilson, 1986), deductively infer the relevance of her partner’s contribution and then, as a result of this process, arrive at a belief about her partner’s goal (i.e., that her partner does not need any more information). Examples like this demonstrate that, at least at times, people can have somewhat “nonreconsiderable” beliefs (Bratman, 1990) about the goals of a conversation that precede, and therefore constrain, the inference process (for a discussion of this issue, see Gibbs, 1987). However, it is difficult to know how often these misunderstandings occur: Unless conversationalists explicitly discuss their confusion, an observer must infer that a misunderstanding has occurred based on clues, such as the high-criterion participant’s “no, shut up” in the preceding example. Although we identified only one other such case in the corpus, participants may have misunderstood each other on other occasions and not made their mistaken understanding explicit.

DISCUSSION

The goals we assigned our participants affected how much they said to each other, how they said it, and how much they remembered after their conversations. People’s own goals affected how they initiated references and how much explicit evidence they gave that their addressee was not behaving as expected. People’s goals also affected how much evidence they gave that they had understood a reference and how often they requested additional information. This replicates Wilkes-Gibbs’s (1986) results for route descriptions in this new domain.

Beyond replicating Wilkes-Gibbs’s (1986) results, in this study partner-goal beliefs were also clearly shown to be relevant to language use. In two of our experimental groups, we provided participants with initial explicit information about their partner’s goals that was either correct or incorrect. This initial information influenced participants’ conversations in a number of ways. For example, in correctly informed pairs, when participants provided information for partners with a low-criterion goal, they were more likely to initiate a reference in a single, one-shot description; when participants provided information for partners with a high-criterion goal, in these pairs, they were more likely to initiate a multiple-exchange contribution in which their partner provided ongoing feedback. In misinformed pairs, this pattern was reversed: Participants initiated multiple-exchange
contributions more often for low-criterion matchers and single-exchange contributions more often for high-criterion matchers.

These results make sense in light of participants’ partner-goal beliefs: When people believed they were addressing a low-criterion matcher, they tended to initiate a single-exchange reference, and when they believed they were addressing a high-criterion matcher, they tended to initiate a multiple-exchange reference. Correctly informed and misinformation pairs differed as well in how many more words they exchanged on trials in which the matcher had a high-as opposed to a low-criterion goal, how often—and in what ways—they provided evidence that they had understood each other, and in how accurately they later recognized the figures they had discussed during their conversations.

The performance of our third experimental group—pairs noninformed about their partner’s goals—suggests that they also instantiated partner-goal beliefs that influenced their language use. Like the explicitly misinformation participants, these participants initiated multiple-exchange contributions more often for low-criterion matchers and single-exchange contributions more often for high-criterion matchers. In fact, noninformed and misinformation pairs performed virtually identically on every measure, suggesting that the noninformed pairs had the same incorrect partner-goal beliefs as the misinformation pairs.

Although partner-goal beliefs clearly influenced participants’ language use, participants’ interactive language use almost never affected their beliefs about each other’s overall task goals. This was true even when people’s erroneous partner-goal beliefs led to problems and misunderstandings. Only 1 of the 31 pairs who were either noninformed or misinformation about goals discussed their differing goals at any point. The other 30 pairs appeared to maintain their erroneous partner-goal beliefs throughout their conversations. Among these pairs, on every measure, the effects of participants’ partner-goal beliefs remained consistent throughout the task. Instead, these participants made what social psychologists have called “the fundamental attribution error” (Heider, 1946; Ross, Greene, & House, 1977): They formed other beliefs about their partner’s personality that helped explain their partner’s behavior (e.g., partner is a very helpful person) in a way that was consistent with their erroneous partner-goal beliefs.

These results raise further questions about how people instantiate and adjust their beliefs about each other’s goals across different conversational settings. For instance, how are partner-goal beliefs affected in situations in which people are more aware of other possible goals their partners may pursue or in which partner goals are less strongly implied? How are partner-goal beliefs worked out in situations in which conversationalists determine the conversational agenda and choose their conversational roles without experimental instructions or in situations in which individual goals overlap more? In such situations, people face different choices than our experimental participants did in weighing the predictive advantage of adopting partner-goal beliefs (the expectations they allow) against the dangers of maintaining erroneous partner-goal beliefs (as a source of misunderstanding).
Implications for Theories of Language Use

Our results are consistent with Clark and Wilkes-Gibbs's (1986) hypothesis that conversational participants take (and expect their partners to take) mutual responsibility in ensuring that a reference is understood to a “criterion sufficient for current purposes” (p. 39). On this model, speakers should attempt to tailor their descriptions to their partner’s goals, and because addressees expect them to do so, addressees’ responses and inquiries should be influenced by their partner’s descriptions. With the assumption of mutual responsibility, high-criterion matchers in our study appeared to infer that a quick and nondetailed description from their misinformed partners meant that the shape was easily identified and more information was probably not needed. Note that this cooperative spirit occurred despite the fact that our instructions stressed individual performance: Participants were told at the beginning and end of their instructions that their performance would be based on their own personal score alone (see the Appendix). Yet our participants still expected their partners to assume responsibility for their mutual understanding, and this expectation influenced the way they responded to descriptions and, consequently, the accuracy with which they learned the shapes.

For the most part, the purposes participants pursued (or believed they pursued) in these conversations were the purposes of the matcher: the information recipient. However, even correctly informed people’s personal goals sometimes overrode their beliefs about a matcher’s goals. For example, directors informed of their partner’s low-criterion goal (but who had a high-criterion goal themselves) continued giving information after their partners had accepted descriptions as sufficient twice as often as their low-criterion partners did when they were directing. Had directors been relying only on partner-goal beliefs, the reverse should have happened: Directors correctly informed of their partner’s high-criterion goal should have been more likely to persist in giving information. Thus, even informed participants showed, at times, a bias toward thinking at a level of detail appropriate to their own personal (matching) goal.

Why is this? One possibility is that it takes additional mental effort to maintain partner-goal beliefs when a partner’s goal for understanding differs from one’s own. When goals differ, as they did in this experiment, keeping someone else’s goals in mind during the referring process requires a kind of perspective taking. We know that it is harder for people to take someone else’s perspective in spatial descriptions (e.g., Herrmann & Grabowski, 1994; Schober, 1995, 1998a, 1998b); perhaps taking someone else’s intentional perspective requires extra effort as well. As Keysar (1994) suggested, people may not always be good at taking others’ intentional perspectives.

Finally, our results support the view that language goals and conversational behavior are ambiguously related and that conversationalists can misperceive the relationship between their partner’s behavior and conversational goals (for a similar point, see P. Brown & Fraser, 1979). This is important because, although
many theories assume that mutually perceived goals are central to natural language use (e.g., Clark & Wilkes-Gibbs, 1986; Grice, 1975), they do not address the question of how these goals are instantiated and come to be mutually held. In our study, people’s perceptions of their interactive language goals influenced the ways they acted together in conversation; however, when their misperceptions of goals led them to misdirect their language use, these misdirected behaviors did not lead them to recognize the differences in their goals or goal beliefs. Instead, language behaviors that may have signaled to pairs that they had different goals or goal beliefs were understood in other ways (e.g., as information about participants’ personalities). This shows that conversationalists coordinate their goals in a hit-or-miss fashion and are susceptible to both forming and maintaining erroneous goal beliefs. Theories of language use, therefore, must account not only for the way that people successfully coordinate on their interactive language goals but also for the ways that they fail to coordinate on goals as well as the effects these misperceptions have on their efforts to communicate.

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REFERENCES


APPENDIX

Instructions for the Conversation Task

1. All participants first read these instructions:

   You will be trying to get as high a personal score as possible in the task described below. Although you will find that you must cooperate with the person on the other side of the barrier, your score will be based ENTIRELY ON YOUR OWN ACCURACY.

   The green binder in front of you contains ten pages with figures printed on each page. The person on the other side of the barrier has the same ten pages with the same figures. However the figures are arranged differently on each of his or her pages.

   Take a look inside your binder. The sheets alternate in colour: your first sheet is white, your second sheet is pink, then white again, then pink, etc. The person on the other side of the barrier has pages of the opposite colours. Thus, when you have a white sheet, he or she has a pink sheet, and vice versa. **White sheets are Answer Sheets.** These are the sheets on which you will be marking down your answers, and on which your performance will be judged.

2. Only low-criterion participants read these instructions next:

   Notice that these sheets have a group of four figures circled, and that the words “inside” and “outside” appear at the bottom.

3. All participants read these instructions next:

   **Pink sheets are Information Sheets.** On the pink sheets one figure is circled. This figure is the “target figure” for that array.
4a. High-criterion participants read these instructions next:

**YOUR GOAL:** When you have a white Answer Sheet, you must get information from the person on the other side of the barrier. They have the pink Information Sheet with the “target figure” circled on it. Your goal is to find out which exact figure is the target figure for that array. When you think you have identified the target figure, circle it on your sheet. Your score will be based on how many correct figures you identify on your white answer sheets, so make sure you get it. The two of you may say anything you like to each other in order to describe the shapes.

4b. Meanwhile, low-criterion participants read these instructions next:

**YOUR GOAL:** When you have a white Answer Sheet, you must get information from the person on the other side of the barrier. They have the pink information sheet with the “target figure” circled on it. Your goal is to find out whether the “target figure” marked on their sheet matches a figure inside or outside the circle of four marked on your own sheet. You don’t have to know exactly which figure is the target figure. You just need to decide whether the target figure is a member of the group inside the circle or the group outside the circle. The two of you may say anything you like to each other in order to describe the shapes. When you have made your decision, circle the appropriate word—“inside” or “outside”—at the bottom of the page.

5a. Noninformed, high-criterion participants then read these instructions next (noninformed, low-criterion participants’ instructions were identical except where the participants’ own goal is mentioned):

When you have a pink Information Sheet, the person on the other side of the barrier will have a white Answer Sheet. They will be wanting information about the target figure from you. Again, the two of you may say anything you want to each other in order to describe the shapes.

Work through the sheets one by one: first white, then pink, then white, etc. When you have a white Answer Sheet, find out which exact figure is the target figure. When you have a pink Information Sheet, the person on the other side of the barrier will be wanting information about the target figure from you.

5b. Meanwhile, informed, high-criterion participants read these instructions next (informed, low-criterion participants’ instructions were identical except where the participants’ own goal is mentioned):
When you have a pink Information Sheet, the person on the other side of the barrier will have a white Answer Sheet. They will be wanting information about the target figure from you. The person on the other side of the barrier has a different goal from you. Their goal is to find out whether the target figure falls inside or outside a circle of four figures they have marked on their Answer Sheet. They don’t need to know exactly which is the target figure. They just need enough information to decide if the target figure belongs inside or outside of a group of four they have marked on their answer sheet. Again, the two of you may say anything you want to each other in order to describe the shapes.

Work through the sheets one by one: first white, then pink, then white, etc. When you have a white Answer Sheet, find out which exact figure is the target figure. When you have a pink Information Sheet, the person on the other side of the barrier will be wanting to get just enough information from you to find out whether the target figure falls inside or outside of a group of four marked on their sheet.

5c. Misinformed, high-criterion participants read these instructions next (misinformed, low-criterion participants’ instructions were identical except where the participants’ own goal is mentioned):

When you have a pink Information Sheet, the person on the other side of the barrier will have a white Answer Sheet. They will be wanting information about the target figure from you. The person on the other side of the barrier has the same goal as you do. Their goal is to find out exactly which figure is the target figure for that array, and to circle it on their Answer Sheet. Like you, they need to get enough information to identify the target figure exactly. Again, the two of you may say anything you want to each other in order to describe the shapes.

Work through the sheets one by one: first white, then pink, then white, etc. When you have a white Answer Sheet, find out which exact figure is the target figure. When you have a pink Information Sheet, the person on the other side of the barrier will be wanting to get enough information from you to find out which exact figure is the target figure.

6. All participants read these instructions last:

You are trying to get as high a personal score as possible. Your personal score will be based on the number of correct answers on your OWN white Answer Sheets. Good luck!