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# Referencing and Bias in Social Interaction

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The consequences of schematic referencing for social behavior were examined in two experiments. In the first, instructions designed to instantiate strong self-referencing versus weak other-person referencing resulted in biased recall of subjects' own behavior over another person's behavior in a dyadic interaction. The second experiment employed an alternative, more realistic manipulation of self-referencing using situational cues. The biased recall effect was replicated. Moreover, corresponding biases in subjects' attributions about the quality of their performance were found. The results are interpreted as confirming that self-referencing cues can cause the sort of egocentric reactions that have been observed in previous studies in which members of an interaction remember more of their own contributions and attribute more responsibility for joint tasks to themselves.

Recent research has demonstrated that self-referencing can affect memory for information such as trait descriptions. The purpose of the present study was to extend this research to show that self-referencing can explain features of social interaction, specifically the tendency of participants to show biased recall of their own behavior and to attribute greater success to their own contributions.

To understand the role of self-referencing in social interaction, it is necessary to take note of several studies that indicate the nature of the self-referencing effect. Rogers, Kuiper, and Kirker (1977) and Kuiper and Rogers (1979) operationalized self-referencing by providing subjects with trait word information and asking whether the words were self-descriptive. These instructions produced better recall and faster reaction times than when subjects were asked to make other judgments. Subsequent studies have shown that the self-referencing effect is not limited strictly to relating information to oneself. Markus (1977) demonstrated that subjects must be schematic for a trait (i.e., feel it to be important to them). Keenan and Baillet (1980) found that recall of traits depends in general on the degree of familiarity with the person judged. Schemas apparently exist for familiar people as well as the self, and these schemas produce encoding differences, too. Bower and Gilligan (1979) showed that judgments of relevance to personal experiences and to one's mother's experiences also produce the effect. The conclusion that emerges is that schematic referencing in general causes a marked effect on information processing. This effect does not, however, necessarily depend on the self-concept per se. Rather, it is related to the strength of schematic encoding. The self-concept is but one source, albeit a potentially strong one, of such schematic encoding.

Previous research has thus demonstrated that information is differentially encoded according to whether the schema to which the information is assimilated is a strong one, as with self-concepts. It remains to be shown what the social consequences of this effect are. The present research examines the implications of schematic referencing for social interaction.

## Experiment 1

Suppose that a person receives strong referencing instructions that instantiate the self schema in encoding information about an interaction with another person. It follows from previous research that these instructions should result in heightened recall of information relevant to the self-schema. However, not all information in an interaction will be equally relevant. One type of information that ought to be most relevant to the self-schema is the person's own behavior. Thus recall of

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one's own behavior in an interaction should be greater with self-referencing.

The prediction was that self-referencing causes a bias in the recall of one's own behavior over the recall of another person's behavior in a social interaction. To test this prediction, we developed a task that mirrors the information-processing features of trait word research but also allows interaction between subjects. Two subjects participated in each experimental session. The task took the form of a word association exercise in which subjects alternated in giving associations to a series of initial stimulus words. The subject's own behavior in the interaction was his or her associations, and the other person's associations were the other's behavior. At the end of the experiment, recall of all the associations was assessed. Hence the task provided a natural measure of recall bias in the interaction.

The independent variable was the presence of referencing instructions. Some subjects were given self-referencing instructions in processing task information. These subjects were told that the purpose of the association exercise was for the other subject to learn about them. Other subjects were given other-referencing instructions. They were told that the purpose of the exercise was for them to learn about the other subject. Following previous research we reasoned that because the other person was a stranger, any schema instantiated by these instructions would be weaker than the one due to self-referencing. This logic is supported by Keenan and Baillet's (1980) findings regarding familiarity with the person judged. Subjects thus performed the task under either self-referencing instructions designed to instantiate a strong self-schema or other-referencing instructions designed to instantiate a weak, non-self-related schema.

Although subjects in the two groups were given different referencing instructions, they had to process all of the task words. No matter which instructions they received, subjects had to attend to the other subject's words to generate their own words. To further ensure that they would pay attention to both sets of words, they were told that they would be asked to recall words afterward. Variation in recall must therefore follow from differences in schematic encoding. Both words were equally important in performing the word association task.

Finally, a control group was included in which subjects were given no referencing instructions. Our logic was that a nonreferencing condition would not be feasible, because it would be impossible to ensure that subjects did not have some schema. Nonetheless, it would be of interest to see how subjects behaved naturally, without the self- or other-referencing instructions.

To summarize, it may be helpful to illustrate the predicted effect in the context of the experimental procedure. Consider first the self-referencing condition. Suppose the other person says "green," and the subject responds with "spinach." The subject's own behavior, the response *spinach,* should be easily assimilated to his or her self-schema (e.g., "I am health conscious. I try to eat lots of green vegetables. I love spinach."). Certainly the word "spinach" should be more assimilable to the person's self-schema than the other person's word (green). Now consider the other-referencing condition. Only a weak schema is instantiated to begin with, and there is little basis for assimilating the word "spinach" to that schema. In fact, both "spinach" and "green" ought to be equally assimilable.

Thus, recall of the word "spinach" should be higher under self-referencing, due to its superior encoding in that condition. The prediction in general is that recall of one's own words will be higher under self-referencing. Control subjects given no referencing instructions could, depending on the schema naturally instantiated, show a recall bias similar to either the self-referencing subjects or the other-referencing subjects.

## *Method*

*Procedure.* Subjects were 23 female and 21 male student volunteers. They participated in the experiment in pairs, with each member of a pair being randomly assigned to a different experimental treatment. None of the paired subjects were previously acquainted. Of the 22 experimental dyads, 7 were male–male, 7 were female–female, and 8 were female–male. As an inducement to participate, the subjects were offered a chance to win $50 in a lottery held at the conclusion of the study.

The students interacted with the other member of their dyad in a word association task. Each subject was given a standard set of 10 ordered stimulus words on a set of index cards. Stimulus words consisted of familiar household product names (e.g., Campbell's soup, Prell shampoo, Dial soap, Brut cologne) and numbered 20 in all. To perform the task, one subject would read aloud one of the stimulus

words, and his/her partner would respond to that stimulus word with the first word that came to mind. The first subject would then respond to the partner's association with the first word that came to mind; this continued in the same manner until both participants had responded twice after the original stimulus word. This completed a set of associations. Then it became the second subject's turn to read aloud the next of his/her stimulus product names, thus starting the next sequence of word associations. In the way a total of 20 stimulus brand names were alternately read by the subjects, and a total of 80 word associations (4 per stimulus product name) were created. The task required about 15 minutes to complete. The associations were tape-recorded for analysis.

The task was designed with two main requirements in mind. First, it forces the subjects to attend to the other person's behavior as well as their own. It ensures that subjects will attend to both sets of words. Furthermore, because the task was fast paced, both sets of words received about the same processing time. Subjects did not have time to dwell on word associations once made. Differences in recall patterns should therefore be due to differences in the way information is processed and not merely to superficial differences in attention. Second, this type of task allows for the separate analysis of recall of both own behavior (self-generated words) and other's behavior (the other person's words).

To be sure that subjects attended to all of the words, they were told that their recall of the words would be tested. Subjects thus expected to be tested on all of the words.

*Independent variables.* On arriving for the experiment, the students were placed in different rooms so that each member of a pair could be given different instructions prior to the task interaction. In this way it was possible to assign each subject randomly to treatments. There was no way for a subject to know what instructions the other member of the dyad had been given. The instructions were presented on videotape for standardization.

All of the subjects were told that the association task was part of a new market research technique being developed to study consumers. The association task was then explained at some length. In order to ensure that the subjects fully understood the task, they were made to watch a simulated sequence of trials on the videotape.

After the basic instructions, subjects received further instructions about their role in the study. Subjects in the self-referencing condition were told

> There are two people participating in this study. Your role is simply to give the word associations that occur to you. The other person's role is to try to form an impression of you based on your word associations. After the association task, the other person will rate you on a number of personality traits. While they are doing this, you will fill out a scientific personality test yourself, one that was developed by psychologists. The test measures your personality traits. We want to determine if your choices of word associations are revealing of your personality.

To strengthen this manipulation, subjects were also told

> In order to help the other person form an impression of you, we would like you to fill out the personal data sheet in the folder in front of you. We will give the other person this information before the word association task starts. Please fill it out carefully once the tape you are now hearing ends. After the task is over, come back to this room. You will take a personality test here while the other person fills out an impression questionnaire asking about your personality.

The self-referencing instructions were thus designed to lead subjects to process task information in terms of its relevance for their self-concept.

Subjects in the other-referencing condition had their role described in exactly opposite terms. They were told

> There are two people participating in this study. Your role is to form an impression of what the other person is like, based on the word association he or she gives. After the association task, we will ask you to rate the other person on a number of personality traits. While you are giving your impression ratings, the other person will fill out a scientific personality test developed by psychologists. We want to determine if you can accurately judge the personality of the other person based on their word associations. Try to be completely candid in your personality ratings. The comparison with the personality test results will, of course, depend on the sensitivity of your ratings.

And to strengthen this, they were also told

> In order to help you form an impression of your partner, we've asked the other person to fill out a personal data sheet. You will be given this information before the word association task starts. Please look at it carefully. After the task is over, come back to this room. You'll fill out the personality rating questionnaire here while the other person takes a personality test. For now, just wait here until the research assistant comes in.

All participants in this condition were then given a "data sheet" containing the same basic demographic information about the other person. The other-referencing instructions thus by design led subjects to process task information in terms of a weak stereotypical schema rather than any stronger, self-related schemata.

*Dependent variables.* To assess the effects of the treatments on processing of information in the interaction task, a free-recall measure was used. Subjects were given a stack of cards on completion of the task and asked to write down as many of the words given as associations as they could remember, using one card for each word recalled. This procedure ensured that subjects employed individual words as the unit of recall. Own versus other words were identified by means of the tape recording of the session.

## *Results*

The prediction that subjects would recall more own words under self-referencing was examined by comparing the relative proportion of own to other words. Analysis centered on the ratio of own words to the total number of words recalled.

Means and standard deviations for the recall ratio are shown in Table 1. An overall analysis

Table 1
*Recall for Experiment 1*

| | Referencing instructions | | |
|---|---|---|---|
| | | Group | |
| Recall ratio[a] | Self | Other | No-instruction (control) |
| *M* | 0.61 | 0.54 | 0.64 |
| *SD* | 0.08 | 0.08 | 0.10 |

[a] Ratio of own words to total words.

of variance revealed a significant treatment effect, $F(2, 41) = 5.19$ $p < .01$. The proportion of own words recalled was higher under the self-referencing than the other-referencing condition, $t(24) = 2.23$, $p < .05$, and the no-instruction control group was also higher than the other-referencing condition, $t(29) = 3.23$, $p < .01$.

Further analysis yielded no significant effects for the total number of words recalled. The subjects recalled an average of 25.93 words across conditions. There was, however, considerable variability in the total number of words recalled, indicating the need to examine the ratio of own to total words. Effects for own words separately were not significant because of this variability, but the pattern of means is the same as for the recall ratios (16.38 for self-referencing, 14.00 for other referencing, and 15.61 for the no-instruction control).

### *Discussion*

The results of Experiment 1 extend the findings of previous referencing studies to a task involving social interaction. When people are given self-referencing instructions, they re call their own behavior better than the behavior of another person. When given other-referencing instructions, however, recall of own behavior decreases and is about equal to recall of the other's behavior. These results were obtained in the present experiment even though, for methodological reasons, the task forced attention to the other's behavior and people expected to be tested for their recall of both their own and the other person's behavior.

The students in the no-instruction control group also recalled a higher ratio of own words than the other-referencing group. This suggests that these subjects may have naturally engaged in self-referencing and encoded information using the self-schema. It would have been entirely reasonable for the control subjects to have assumed that the task had to do with learning more about them, thereby prompting self-referent processing. This raises the possibility that self-referencing may not be an isolated phenomenon in social interaction.

## Experiment 2

Suppose self-referencing effects of the type observed in Experiment 1 were to occur commonly in social interaction. What would be the consequences? Obviously the most immediate consequence would be that people's recall of task interaction might not be veridical. People might recall their own behavior better even if the contributions of all parties were in fact equally balanced. This in turn could lead a person to make erroneous self-attributions of responsibility for the outcome of an interaction. Just such egocentric biases in availability of information and self-attributions of responsibility have been observed by Ross and Sicoly (1979). They demonstrate in a variety of interactions that people do recall more about their own behavior and view their own contribution as greater. Both husbands and wives, for instance, remember more of their own contributions to household tasks and attribute more responsibility for such tasks to themselves.

The purpose of Experiment 2 is to extend the results of the first experiment to the phe nomenon of availability and attributional biases. The same word association task was used, again adopted from the self-referencing paradigm. However, instead of explicit instructions to engage in self- or other-referenc ing, more ecologically valid referencing cues of the sort typical of self-awareness studies were used. Such manipulations can be interpreted as quite congenial to the concept of self-referencing investigated here (see Hull & Levy, 1979).

Our manipulation in fact is quite similar to the self-awareness plus personal concern induction used by Stephenson and Wicklund (1983). Their subjects listened to recordings of their own voices to create self-awareness and were put in a situation designed to elicit

concern about being evaluated by others. It was found that these self-awareness plus personal concern subjects did exhibit attributional bias. No such bias was observed among subjects in a self-aware-only condition. It is our contention that such a self-awareness plus personal concern manipulation is conceptually analogous to our self-referencing instructions. The manipulation is no doubt broader, but our purpose is not to refine the concept of self-referencing through tighter operationalization. Rather, we seek a manipulation that has sufficient ecological validity to be used in meaningful social interaction while preserving the essential feature of self-referencing instructions—self-awareness plus personal concern about the self.

Hence in Experiment 2 one group of subjects performed the association task in front of judges and video recording equipment to establish self-awareness. Furthermore, as in the Stephenson and Wicklund (1983) study, personal concern was introduced by instructing subjects in this group that their performance was being evaluated by the judges. A second group performed the task by themselves. We reasoned that the first group would be led to engage in self-referencing through self-awareness with personal concern whereas the other group would necessarily be more aware of the other person and engage in less self-referencing. An effect on recall comparable to that in the first experiment would constitute strong evidence for the occurrence of self-referencing in social interaction.

Another rationale for the above manipulation of self-referencing is that it allowed us to question subjects about their contribution to the task. Subjects were told only that the task was a new consumer research technique designed to develop new product ideas and marketing strategies. They were thus completely free to make inferences about their performance in both the self-referencing and other-referencing groups. It was predicted that self-referencing would cause subjects to attribute a greater contribution to themselves, viewing their own performance as better than their partner's.

## Method

*Procedure.* Fourteen male and 18 female student volunteers participated in experimental sessions involving 2 subjects at a time. Of the 16 pairs that resulted, 4 were male–male, 6 were female–female, and 6 were male–female. As an inducement to participate in the experiment, all subjects were offered a chance to win $75 in a lottery held at the conclusion of the study.

Subject pairs in both treatment conditions were seated at a small table directly facing each other. The experimenter then gave the following introduction and instructions:

> The study you are about to participate in is one in a series of studies designed to illuminate some of the dynamics of a new consumer research technique. This technique simply involves two or more people bouncing as many ideas as possible off each other. In this sense it is not unlike "brainstorming."

The association task was then explained exactly as in Experiment 1.

*Independent variables.* As discussed earlier, subjects received a standard self-awareness manipulation along with instructions designed to create personal concern. This manipulation was aimed at producing self-referencing versus other-referencing while leaving subjects free to judge their performance. There was no implication in the experimental procedure that one subject was more the focus of the research than the other. In the self-referencing groups, the experimenter and two other people were seated in full view of the subjects along one side of the table at which the subjects were seated. Subjects were told that the other people were there to evaluate their performance in the exercise. On the other side of the table, opposite the experimenter and confederates, was positioned an array of videotaping equipment that included a TV camera, videotape recorder, and TV monitor. In addition, a microphone was placed on the table directly between the subjects. All of this equipment was in full view of the subjects, and the entire experimental session was recorded using this equipment. No reason was given for the presence of the videotaping equipment.

Subjects in the other-referencing condition were not exposed to the videotaping equipment. The other people were not present, and the experimenter sat out of sight of the subjects while they engaged in the experimental task. A microphone, placed unobtrusively in the corner of the room, recorded the audio portion of the experimental session.

*Dependent variable.* After the association task, free recall of the words given was assessed in the same manner as in the first experiment. Again, own versus other words were identified from the recording of the session.

Following the reasoning of Ross and Sicoly (1979), attributional biases were expected to occur in subjects' perceptions of their contribution to joint task performance relative to their partners' contribution. Evidence of bias would occur if subjects considered their contribution to the joint performance product to be greater than their partner's. Two separate measures were used to assess such bias. After the free-recall measure, subjects were asked to write down on five additional cards and rank order the five most novel or unique associations made by either subject in the experiment. When this was completed, subjects were then asked to rank order on five more cards the five word associations that they felt had the most potential usefulness to executives charged with marketing the brand name products used in the task. The attribution bias measures thus obtained for each subject were defined as the

number of own word associations regarded as unique and the number regarded as potentially useful. Both measures reflect the extent to which subjects believed in the merit of their own performance relative to their partner's.

*Results and Discussion*

The same recall difference obtained in Experiment 1 was found in this experiment. As shown in Table 2, the ratio of own words to the total number of words recalled was higher in the self-referencing condition, $t(30) = 5.77$ $p < .001$. The other-referencing condition was again equal in own versus other words. As in the first experiment, the total number of words recalled varied considerably but did not differ between treatments.

Significant effects were also obtained for the attribution measures. As shown in Table 1, subjects in the self-referencing condition chose more of their own words as novel or unique, $t(30) = 3.54$, $p < .001$. They also thought that more of their own words would be of potential value to executives, $t(30) = 3.33$, $p < .002$. Subjects in the other-referencing condition re vealed no evidence of attributional bias, giving about the same number of the other person's words as their own for both the uniqueness and the value judgments.

The pattern of these results is therefore as predicted. The same availability bias as in Experiment 1 occurred for recall of behavior (own words), and this bias is paralleled in the subjects' attributions about their contribution to the task. It is, of course, not possible to conclude that the availability bias necessarily caused the bias in attributions, but both were produced by self-referencing, and there is an association between the two. If the recall ratio is taken as a covariate, the effects for both the uniqueness, $F(1, 30) = 0.63$, and the value, $F(1, 30) = 3.03$, attribution measures become nonsignificant.

It is of interest to compare our results with those of Stephenson and Wicklund (1983). As in their study, attribution bias was found among subjects who exhibited self-awareness with personal concern. Moreover, our data suggest that this bias is due to the effects of self-referencing on memory for social interaction. Interestingly, Stephenson and Wicklund did not find attribution bias among subjects who had self-awareness without personal concern. This suggests that self-awareness and self-referencing are slightly different theoretical constructs. Self-referencing appears to involve self-awareness but only when it is accompanied by personal concern. Finally, a difference between the two studies was observed for no-treatment control groups. Controls in the Stephenson and Wicklund study showed attribution bias, whereas controls in the present study did not. It is difficult, however, to interpret this difference because uncontrolled aspects of experimental setting could have produced differences in self-referencing. It is possible, for example, that controls in their study believed that the experiment was investigating something about them personally. Thus the setting itself may have caused subjects to be self-aware and personally concerned. In contrast, controls in the present study may have perceived the study as it was advertised—as a study of a new marketing research technique—and not as a study of them per se.

Although the results of our study confirm the predicted availability and attribution biases, it is of interest to explore possible explanations for the effect. It could be argued, for example, that the self-referencing cues led subjects to spend more time thinking about their own words, thereby improving memory for these words. Note, however, that the task was paced so that response times were essen-

Table 2
*Recall and Self-Attributions for Experiment 2*

| Treatment condition | Recall ratio[a] | | Attributions of uniqueness[b] | | Attributions of potential | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Self-awareness with personal concern | 0.66 | 0.07 | 3.75 | 1.0 | 3.75 | 0.77 |
| Control | 0.53 | 0.06 | 2.56 | 0.89 | 2.69 | 1.01 |

[a] Ratio of own words to total words.
[b] Number of own words recalled out of five selected for uniqueness of value.

tially the same. Moreover, because responses were linked as word associations, they should have been processed together rather than separately as required by a differential response time explanation.

Of more serious concern is the possibility that the self-referencing induction in Experiment 2 might have caused the words given by subjects in the two conditions to differ. The self-referencing induction was operationalized less directly than in Experiment 1 to allow subjects freedom to make attributions about their performance. Subjects were not given an explicit purpose in performing the task. The greater freedom inherent in the manipulation could have led subjects to interpret the task as one of generating unusual words. If the words generated under self-referencing were more unusual or less common, this would tend in itself to make these words more memorable.

This explanation was examined in two ways. We first tested the possibility that words in the self-referencing condition were more unusual or less common. All of the words given by subjects were coded for their occurrence in everyday language using word frequency norms (Thorndike & Lorge, 1944). This provided an objective index of the novelty of each word. An average word frequency score was computed for each subject. The means of these scores did not differ between treatments (46.0 for the self-referencing versus 46.7 for the other-referencing condition).

Next, we tested whether the relative unusualness of each subject's word associations as compared to his or her partner's words could account for treatment differences. A measure was constructed in which the average word frequency of the partner's words was subtracted from the average word frequency of the subject's words. This index was positive if the subjects' word associations were objectively more uncommon than their partners. To the extent that the partner's word associations were more unusual, the index was negative. This index was then correlated (after a linear transformation of subject scores so that they would not sum to zero) with the ratio of own to total words recalled. A nonsignificant correlation was obtained ($r = .14$) suggesting that differences in objective word frequency were not related to and thus could not account for the recall data. We concluded from these analyses that the unusualness of the words generated in the self-referencing condition was not responsible for their greater memorability.

The word frequency results suggest an encoding interpretation of the self-referencing manipulation. Because words do not appear to differ in their intrinsic memorability, they must differ in the way they were encoded. On reflection, however, one would not expect generation and encoding to be entirely divorced. The way words are related in generating associations ought to be manifest in how they are encoded in memory. With this in mind, we sought evidence for an encoding interpretation by an analysis of the connections between word associations. We reasoned that under self-referencing the associative connections between words would appear to an observer to be weaker or less congruent because word associations would be partly based on highly idiosyncratic information from the self schema. The schema should itself provide associative constraints on the words generated, so that subjects would not be responding as much to the words given by their partner. On the other hand, under conditions of weak other-referencing, in which a weak, other-related schema is instantiated, this type of associative interference would not have been as strong so that subjects should have been responding more to the other person's words.

To test this hypothesis, two independent raters who were unfamiliar with the study were asked to evaluate the congruence of the word association pairs. Using 7-point Likert-type items, each rater judged the word associations on the extent to which they were idiosyncratic or common, sensical or nonsensical, and egocentric or nonegocentric. These items were chosen to indicate the strength of the associative bond between words. The task of rating associations was conducted in sets of four according to stimulus brand name. This was necessary to prevent rater fatigue, which might have ensued had raters judged each of the approximately 1,280 associations on each of three items (3,840 judgments). Interrater reliability for these judgements was adequate ($r = .91$). For each individual rater, interitem reliabilities were also adequate. Coefficient alphas of .98 and .89 were recorded for the two raters. Consequently, a single scale was constructed by collapsing items into scales for each rater and then averaging rater scale values for each subject pair.

As anticipated, a significant treatment difference was obtained for the congruence ratings, $t(30) = 3.15$, $p < .01$. Subjects in the self-referencing condition ($M = 100.13$) were less congruent in their associations than subjects in the other-referencing condition ($M = 137.67$). The former's associations were less sensical, more idiosyncratic, and more egocentric. Together with the absence of differences in the unusualness of words, this finding for the congruence of word association pairs actually implicates the involvement of schematic processing.

## General Discussion

Taken together, the results of these two experiments indicate that self-referencing can affect social interaction. In this research we used both a standard manipulation of self-referencing through instructions as well as a less intrusive and more ecologically common one. Both produced the same effect. People recalled more of their own behavior than their partner's behavior.

In the second experiment, people also attributed superior performance to themselves. This effect was strongly associated with the above recall differences, suggesting that the effects of self-referencing transcend mere recall to cause people to reach biased judgments about an interaction.

As Ross and Sicoly (1979) have pointed out, these sorts of availability and attributional bias have profound implications. In many cases people certainly take more credit for their performance than they deserve solely for purposes of self-aggrandizement, but there also appear to be cases where bias is not intentional. In the present study, bias has been shown to result from basic cognitive processing. That simple self-awareness cues can cause this bias implies, moreover, that such processing may be ubiquitous in social interaction.

At a more theoretical level, the results of this study suggest that referencing cues affect the way information in social interactions is processed. Left unresolved, however, is the precise mechanism of this effect. Ross and Sicoly (1979) outline several factors, such as selective encoding and storage, differential retrieval, informational disparities, and motivational influences, that could produce availability and attributional biases. In the course of their discussion, they specifically hypothesize that "individuals' contributions are likely to fit more readily into their own cognitive schema. Contributions that fit such preexisting schemata are more likely to be retained" (p. 323). Consistent with this interpretation are the word analyses in Experiment 2. These analyses suggest that self-referencing causes word information to be encoded with a strong self-schema in mind.

Finally, on a methodological note, this study suggests that the sort of structured but open task interaction examined here has great potential for investigating the effects of cognitive processes on interaction. The word association task in particular provides a way of obtaining discrete behavior that is both meaningful within social interaction and readily linked to cognitive theories of encoding and generation. Future studies within this paradigm could go beyond the rough categorization of self versus other in the referencing literature to consider referents that come from many domains and that vary on specific structural dimensions that could be related to interaction.

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