

## Research Article

## IS THE SELF-CONCEPT A HABITUAL REFERENT IN JUDGMENTS OF SIMILARITY?

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**Abstract**—People typically provide higher similarity ratings in response to the question “How similar is the typical preppie to you?” than to the question “How similar are you to the typical preppie?” Observed asymmetries in comparisons of the self and person prototypes have been offered as evidence that the self-concept acts as a habitual reference point in social judgment. However, such a task does not test the habitual placement of a concept in the referent position of a comparison. In this study, participants judged the similarity between the self and person prototypes in response to linguistic (forced directional) queries or to spatial (nonforced) queries in which the self was positioned above or below the person concept. Participants also rated pairs of familiar and unfamiliar countries in a similar manner, to replicate and extend the work of Tversky (1977). Expected asymmetries were observed in forced comparisons: The self and the familiar country were seen as more similar to other people and less familiar countries, respectively, when the former concepts served as the referent of a comparison than when they served as the subject. Asymmetries were not observed in the nonforced conditions, and mean similarity in these conditions was of the same magnitude as in the forced condition in which the more familiar stimulus was the referent of the comparison. This result provides the first direct evidence that the self serves as a habitual referent in similarity judgments.

That the self-concept mediates most, if not at all, stages of social information processing has been a popular, if not uncontested, notion in social psychology (e.g., Lambert & Wedell, 1991; Markus, 1977; Rogers, 1981; see Kihlstrom & Klein, 1994, for review), beginning at least with the writings of William James (1890/1981). For example, individuals tend to focus on self-relevant dimensions rather than other dimensions as they form impressions of others (Catrambone & Markus, 1987), and they manipulate the information in an expert fashion (Markus, Smith, & Moreland, 1985). In an influential statement of the special vantage point of the self that looks out on the social environment, Rogers (1981) proposed that the self-concept acts as a “fixed reference point for the interpretation of . . . information” (p. 199). Thus, he argued, individuals should prefer to view other people in relation to the self rather than to view the self in relation to other people. In this article, we review the empirical evidence offered as supportive of this notion. We contend that the conclusion that the self-concept serves as a habitual, or fixed, point of reference in social comparison is based primarily on an experimental methodology, involving forced directional comparison of the self and other person con-

cepts, that in fact does not test this notion. We report on an experiment that included a nonforced similarity task designed to provide a more conclusive test of the possible habitual use of the self-concept as a referent in judgments of similarity.

Empirical evidence that the self-concept mediates attention, encoding, retrieval, and interpretation of social information is frequently offered as indicating that the self-concept has a qualitatively special role in information processing, which is apparently what James had in mind (see Kihlstrom et al., 1988, for discussion). For example, information that has been thought about in relation to the self is processed more deeply than most other information (the *self-reference effect*; Rogers, Kuiper, & Kirker, 1977). However, it appears that the self-reference effect is not due to a unique processing of the self-concept, but rather is a predictable cognitive benefit of the organization and elaboration of a highly familiar concept (e.g., Greenwald & Banaji, 1989; Kihlstrom & Klein, 1994; Klein & Kihlstrom, 1986). Similar interpretations are possible for any evidence that the self-concept functions as a habitual reference in judgments of similarity. That is, even if the self-concept functions as a habitual referent, one cannot conclude from this that the self-concept has a qualitatively special role as a cognitive reference point.

## COGNITIVE REFERENCE POINTS AND REFERENTS IN JUDGMENTS OF SIMILARITY

Rogers's (1981) notion of self as reference point in social judgments derives in part from Rosch (1975), who argued that prototypic members of natural categories serve as stimuli “in relation to” which other, less prototypic, members are judged. Rosch marshaled evidence to suggest that the perception and conception of prototypic stimuli, compared with nonprototypic stimuli, have special properties. First, there are asymmetries in the tendency to assimilate one stimulus to the other such that nonprototypic items are seen more readily as similar to prototypic items than vice versa (Rosch, 1975). For instance, 29 is seen as essentially the same as 30, but 30 is not seen as essentially the same as 29. Second, there is evidence of asymmetries in psychological distance. Ordinary locations are seen as closer to *landmarks* (reference points) than landmarks are to ordinary locations. For instance, college students perceive an unfamiliar restaurant to be closer to the student union than the student union is to the restaurant (Sadalla, Burroughs, & Staplin, 1980). Perhaps in most types of judgments involving the self, the self is seen as the prototypic person with which other individuals are compared (Dunning & Cohen, 1992; Dunning, Perie, & Story, 1991). Indeed, some evidence that the self-concept serves as a fixed reference point was provided by Rogers, Kuiper, and Rogers (1979).

The idea was most strenuously tested using a methodology associated with Tversky's (1977) contrast model, which is a

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process account of asymmetries in similarity judgments such as those observed by Rosch. Under Tversky's model, in making similarity judgments, decision makers consider first, and weight most heavily, the features of whichever stimulus they start with in their comparison (i.e., the *subject*) and match these features to the features of the other stimulus (i.e., the *referent*). A familiar stimulus with many unique known features will seem distinctive when it is the subject of a comparison with a less familiar referent stimulus because a large proportion of the familiar stimulus's features will not be features of the less familiar stimulus. This situation is shown in the top panel of Figure 1. The features of A (a familiar stimulus) are mapped onto B (an unfamiliar stimulus), and few matches are found. A familiar stimulus will seem less distinctive when it is used as the referent, however, because a greater proportion of the features chosen for comparison (contained in the less familiar stimulus) will match its features. This situation is shown in the bottom panel of Figure 1. B's features are mapped onto A's, and many matches are found. Thus, perceived similarity will be greater when a familiar stimulus is the referent rather than the subject

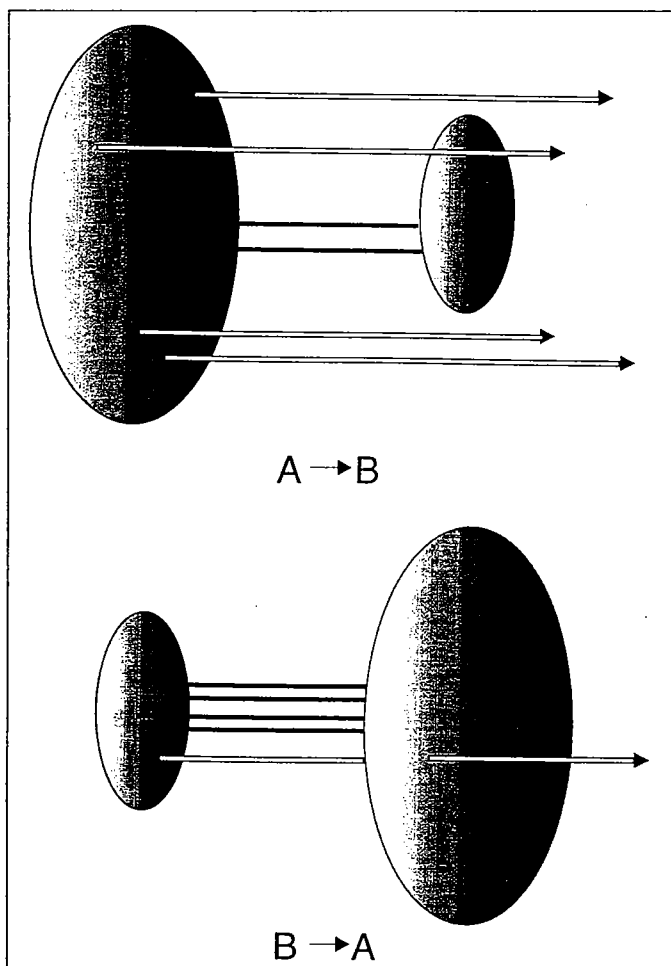


Fig. 1. Example of asymmetry in directional judgments of similarity. Black lines indicate matching features. A is a familiar stimulus with many unique known features. B is an unfamiliar stimulus.

of a comparison to a less familiar stimulus. Indeed, participants in Tversky's (1977) study judged China (a familiar country) to be less similar to North Korea (an unfamiliar country) than they judged North Korea to be to China.

### THE SELF-CONCEPT AS REFERENT

The work of Rosch, Tversky, and other investigators suggested to self-concept researchers that there should be asymmetries in the perceived similarity between another person and the self versus the self and another person because the self is the most familiar social object for most individuals. In the research conducted to date, experimental participants judged the similarity between themselves and some generalized other (e.g., "the typical premed major") or specific other (e.g., "Ronald Reagan"). The order in which the two items were compared was manipulated linguistically: Participants were asked either "How similar is X to you?" or "How similar are you to X?"

Several experiments produced the expected asymmetries in similarity judgments. Srull and Gaelick (1983) found that judgments of the similarity of the self to others were lower than judgments of others' similarity to the self. Similarly, Holyoak and Gordon (1983) found that friends were judged to be more similar to the self than vice versa. In addition, unfamiliar types of people were seen as more similar to the self than vice versa. For other familiar concepts (e.g., "jock"), this asymmetry was minimized, however. From this result, Holyoak and Gordon concluded that highly elaborated person concepts are "at least as prominent as reference points as the self" (p. 886). Finally, Karylowski (1990) found that comparisons of any prototypic person with a less prototypic person were made more slowly than vice versa. Thus, he maintained that people are more efficient or better practiced at placing a prototypic (rather than a nonprototypic) person in the referent position for comparative judgments.

### DIAGNOSING HABITUAL REFERENTS

The results we have outlined suggest that asymmetries in judgments of similarity of social objects are mediated by the familiarity or salience of the compared options. However, the studies do not test the idea that the self is used habitually as the referent in judgments of similarity, and certainly not the idea that the self is a cognitive reference point in Rosch's (1975) or Rogers's (1981) sense. There is a difference between methodologies that are useful for revealing the presence of directional asymmetries and methodologies that are useful for determining a person's preference for using one concept over another as the comparison referent. The directional similarity task that has been employed cannot diagnose the chronic tendency to use a concept as a referent.

Consistent with this distinction, Tversky (1977) contrasted two types of similarity judgments, *directional* ("Assess the degree to which *a* is similar to *b*" [vs. *b* is similar to *a*]) and *nondirectional* ("Assess the degree to which *a* and *b* are similar to each other" [vs. *b* and *a* are similar]). According to Tversky, asymmetries should obtain only in the directional comparisons, because only then is each of the concepts forced to be in either the subject or the referent position. In nondirectional com-

## Habitual Referents

parisons, the more well-known concept should, by default, be used as the referent. That is, people should translate a nondirectional comparison into a directional one, putting the more well-known concept in the referent position.

Similarly, Rosch (1975) pointed out that methods of forced choice ("Which is more similar to which?") reveal asymmetries in the prototypicality of the items being compared, whereas methods of nonforced choice ("Arrange these items in space according to similarity") are more suited to diagnosing habitual reference points. In other words, when the referent in a similarity judgment is specified linguistically (i.e., a transient reference point is established; e.g., Holyoak, 1978), asymmetries in judgment will be observed when the concepts being compared differ in familiarity or prototypicality. Thus, any tendency for naturally placing a concept in the referent position will be overwhelmed by the linguistic manipulation that forces one concept to be the subject and the other the referent.

The foregoing analysis suggests that if the self-concept is indeed a habitual referent in social comparison, it should typically be used as such when linguistic convention does not force a direction of comparison. To test this idea, we arranged for participants to make similarity judgments in two different formats. Some participants were presented with the typical linguistic format ("How similar is *X* to you?" or vice versa), which we call the *forced-placement* (i.e., directional) presentation. Other participants were presented with a spatial format in which the concepts to be compared were presented in a vertical display, which we call the *nonforced-placement* (i.e., nondirectional) presentation. In this condition, the question stem read: "How similar are these two people in general?" Beneath the question, "self" and "*X*" were arranged vertically. Although Tversky (1977) proposed the difference between directional and nondirectional similarity judgments, he did not compare them empirically, so we asked participants in the present experiment also to make similarity judgments of familiar and unfamiliar countries in order to replicate and extend his work on the habitual use of familiar items as referents.

We expected to observe the typical asymmetries in similarity judgments in the forced-placement conditions for the self-other judgments. Specifically, participants were expected to perceive greater similarity between self and other when the self was the referent rather than the subject of comparison. However, if the self is habitually used as a referent, then the similarity ratings of participants in the nonforced conditions would be symmetrical. The alternative hypothesis, that there would be an asymmetry in the nonforced conditions, was plausible because the spatial arrangement might suggest to participants that they compare the top item to the bottom item. Indeed, Goldstone, Medin, and Halberstadt (1995) found asymmetries in similarity when two objects to be compared were simply placed in left and right horizontal positions. This finding implies that there is a tendency to impose a linguistic context on left-to-right orderings of stimuli. However, we predicted that participants in nonforced conditions would translate each comparison into the linguistic context "How similar is *X* to myself?" that is, to habitually place the self in the referent position. As a consequence, participants in the nonforced conditions were expected to generate similarity ratings that were approximately equal to those of the participants in the forced condition in which the self was the

referent of the comparison. Finally, all three of these groups were predicted to generate higher similarity ratings than participants in the forced condition that explicitly presented the self as the subject of the comparison (i.e., "How similar are you to *X*?")

Our predictions for the country comparisons were similar. That is, we expected the two nonforced groups to perform similarly to each other as well as to the forced group with the more well-known country in the referent position. We predicted that all three of these groups would provide higher similarity ratings than participants in the forced condition in which the more well-known country was in the subject position.

## METHOD

## Participants

Participants were 92 students at the Georgia Institute of Technology. They participated in the experiment for course credit.

## Procedure

Participants, who were run individually in the experiment, sat in front of an IBM PS/2 computer with a color monitor and were told that a series of nine pairs of "types of people" (including themselves and person prototypes) would appear on the screen before them. They were instructed to make a judgment of how similar the two types of people in each pair were and to indicate their judgment by pressing the appropriate button on the keypad of a computer keyboard. The keypad buttons corresponded to a scale from 1 (*not very similar*) to 7 (*very similar*). The prototypes used for the general similarity ratings were those used by Holyoak and Gordon (1983): co-op member, premed student, fraternity or sorority member, business student, preppie, vegetarian, dorm resident, radical, and jock. After completing the self-other comparisons, participants were instructed to judge the similarity of 10 pairs of countries.

To determine the familiarity of the countries to the participants, we had asked a group of students who came from the same population but would not take part in the main study to rank the 20 countries in order of familiarity. Mean rank order for each country was calculated, with the most familiar country (the United States) receiving a rank of 1. The 10 comparisons for the main study were then constructed by pairing the United States with the country that was ranked 11th, the 2nd-ranked country with the 12th-ranked country, and so on. For each condition, country judgments were presented in the same format as the self-other judgments (replacing the prototype with the less well-known country and the self with the more well-known country).

Participants were randomly assigned to one of four between-subjects conditions that corresponded to the four presentation formats of the similarity judgments. The first two conditions were forced-placement conditions; in one, the self or more familiar country was always presented as the subject ("How similar are you to the typical *X* in general?"; "How similar is the

United States to Greece in general?"), and in the other, the self or more familiar country was always presented as the referent ("How similar is the typical *X* to you in general?"; "How similar is Greece to the United States in general?"). The other two conditions were nonforced-placement conditions in which the self and person prototype (or the two countries) were displayed vertically on the screen; in one of these conditions, the self (or more well-known country) was always presented in the top position, and in the other, the self (or more well-known country) was always presented in the bottom position. For the nonforced conditions, on each trial, the question "How similar are these two people in general?" (or "How similar are these two countries in general?") appeared at the top of the screen.

### Design

The design of the experiment was a  $2 \times 2$  factorial. The between-subjects variables were directionality (forced vs. nonforced) and position (self first or on top vs. self second or on bottom; more well-known country first or on top vs. more well-known country second or on bottom). The person concepts to which the self was compared and the various countries used in the country comparisons were treated as repeated measures in the analyses. The dependent measures were the similarity judgments participants provided for each comparison.

## RESULTS

### Similarity Between Self and Prototypes

A mixed model analysis of variance (ANOVA) was performed on similarity judgments, with directionality and position as between-subjects variables and prototype as a repeated measure. There was an uninteresting significant effect of prototype,  $F(8, 704) = 7.71, p < .0001, MSE = 2.23$ , that merely reflected the fact that participants considered some prototypes more similar to themselves than others. There were also marginal effects of directionality,  $F(1, 88) = 2.77, p = .10, MSE = 3.30$ , and position,  $F(1, 88) = 3.03, p = .085$ . However, there was a significant interaction between the variables,  $F(1, 88) = 4.50, p$

$= .037$ . Prototype did not interact with either of the between-subjects variables. Table 1 presents the mean rating for each prototype as a function of condition.

As predicted by the self-as-habitual-referent view, the means indicate that participants who made forced directional comparisons with self in the subject position gave lower similarity ratings than the other groups. Shaffer (1986) sequential Bonferroni pair-wise comparisons (family-wise  $\alpha = .05$ ) demonstrate that the forced self-as-referent group and the two nonforced groups produced higher average similarity ratings than the forced self-as-subject group (all  $p$ s less than the required .017 probability). None of the first three groups differed significantly from each other (all  $p$ s greater than .75).

### Similarity Between Countries

The pattern of similarity judgments involving countries matched the pattern involving prototypes. Similarity ratings for the country pairs were also submitted to an ANOVA with directionality and position as between-subjects variables and country pair as a repeated measure. There was a significant effect of country pair,  $F(8, 704) = 23.59, p < .0001, MSE = 1.17$ , that reflected the fact that participants considered some country pairs more similar than others. There were no main effects of directionality,  $F(1, 88) = 2.65, p = .107, MSE = 4.44$ , or position,  $F(1, 88) = 2.55, p = .114$ . As with the prototypes, though, there was a significant interaction between the variables,  $F(1, 88) = 5.65, p = .02$ . Country pair did not interact with either of the between-subjects variables (both  $p$ s  $> .11$ ). Table 2 presents the mean rating for each country-pair comparison as a function of condition.

Consistent with the hypothesis that the more well-known item in the comparison will habitually be used in the referent position, the means in Table 2 suggest that the group making forced comparisons with the more well-known country in the subject position gave lower similarity ratings than the three other groups. Bonferroni pair-wise comparisons demonstrate that the forced well-known-country-as-referent group and the two nonforced groups produced higher average similarity rat-

Table 1. Similarity ratings of self and prototype as a function of directionality and position

| Prototype                    | Directional     |                  | Nondirectional |                |
|------------------------------|-----------------|------------------|----------------|----------------|
|                              | Self as subject | Self as referent | Self on top    | Self on bottom |
| Co-op member                 | 3.52            | 4.04             | 3.74           | 3.87           |
| Premed student               | 3.78            | 3.70             | 4.43           | 4.52           |
| Faternity or sorority member | 3.13            | 3.96             | 3.43           | 3.74           |
| Business student             | 3.96            | 4.48             | 4.35           | 3.70           |
| Preppie                      | 3.09            | 3.78             | 3.57           | 3.70           |
| Vegetarian                   | 3.30            | 3.91             | 3.57           | 4.09           |
| Dorm resident                | 4.26            | 4.78             | 5.13           | 4.87           |
| Radical                      | 3.22            | 3.74             | 3.65           | 3.13           |
| Jock                         | 3.09            | 3.35             | 3.78           | 3.61           |
| Average                      | 3.48            | 3.97             | 3.96           | 3.91           |

Note. Maximum similarity rating = 7.  $N = 23$  for each condition.

**Table 2.** Similarity ratings of familiar and unfamiliar countries as a function of directionality and position

| Country pair          | Directional                      |                                   | Nondirectional-              |                                 |
|-----------------------|----------------------------------|-----------------------------------|------------------------------|---------------------------------|
|                       | More familiar country as subject | More familiar country as referent | More familiar country on top | More familiar country on bottom |
| United States, Greece | 2.39                             | 2.83                              | 2.96                         | 3.17                            |
| Canada, Israel        | 2.04                             | 2.61                              | 2.17                         | 2.09                            |
| Mexico, Japan         | 2.61                             | 3.74                              | 3.70                         | 3.70                            |
| England, North Korea  | 2.13                             | 2.83                              | 2.65                         | 2.57                            |
| France, Germany       | 2.91                             | 4.04                              | 4.30                         | 4.04                            |
| Philippines, Brazil   | 2.13                             | 2.30                              | 2.61                         | 2.39                            |
| Ireland, Syria        | 2.00                             | 2.43                              | 2.43                         | 2.52                            |
| Italy, Ecuador        | 2.04                             | 2.61                              | 2.43                         | 2.17                            |
| China, Norway         | 2.22                             | 2.83                              | 2.83                         | 2.09                            |
| Poland, Peru          | 2.26                             | 2.04                              | 2.22                         | 2.48                            |
| Average               | 2.27                             | 2.83                              | 2.72                         | 2.66                            |

Note. Maximum similarity rating = 7.  $N = 23$  for each condition.

ings than the forced well-known-country-as-subject group (all  $ps$  less than the required .017 probability). None of the first three groups differed significantly from each other (all  $ps$  greater than .58).

## DISCUSSION

The results of the study can be summarized quite simply: When the stimuli to be used as the subject and referent of the comparison were determined by linguistic demands, similarity asymmetries were observed for both self-other similarity judgments and country similarity judgments. When, however, the same stimuli were presented in different spatial positions, but a direction of comparison was not forced, asymmetries disappeared. Moreover, the magnitude of the perceived similarity in this latter case corresponded to the magnitude of the perceived similarity in the forced-placement condition in which the more familiar item was the referent. This pattern occurred both for self-other similarity judgments and for familiar-unfamiliar country similarity judgments. We conclude that, in general, the more familiar of two stimuli will be used habitually as the referent of a comparison. The self-concept, then, will usually serve as the referent of social comparisons involving similarity.

These results provide the first direct evidence using a similarity judgment methodology that the self is habitually used as the referent of comparison. The results also suggest that the self-concept may have a special place in judgments of others because of its familiarity, but not necessarily because of special processing or representational properties. The social psychological literature contains a number of theories and experiments concerning the self as a cognitively unique entity (e.g., Markus, 1977; Rogers et al., 1977; Rogers et al., 1979; see Markus & Wurf, 1987, for discussion). Although no resolution to this debate is likely to occur soon, our study falls on the side of the self as nonunique; the apparent uniqueness of the self-concept among social stimuli may be a result of differences in degree

(e.g., of familiarity), not kind (see also Kihlstrom & Klein, 1994; Klein & Kihlstrom, 1986).

But whether it is the self or any other familiar stimulus being considered, the notion that certain stimuli are more likely than others to be placed in the referent position has important implications for categorization and judgment. For example, stimuli perceived as more similar to each other are more likely to be placed in the same category (Goldstone, 1994). Therefore, the direction in which two items are compared may affect whether those stimuli are seen as instances of the same category. To increase the probability that people will judge two items to be members of different categories, then, one can ask the people to consider the degree to which the more familiar stimulus is similar to the less familiar stimulus. When this idea is applied to the self-concept and person categories, it has implications for in-group/out-group phenomena. It is apparently natural and habitual to place the self-concept in the referent position, and this position also has the effect of maximizing perceived similarity. But when the context, linguistic or otherwise, leads one to place the self-concept in the subject position, similarity will decrease. In other words, when a psychology graduate student thinks of the similarity between herself and an M.B.A. student, she would habitually compare the M.B.A. student to herself, and see some similarity. If, however, she is encouraged to consider the similarity of herself to the M.B.A. student, perceived similarity will decrease, and with it the probability that she will judge the M.B.A. student as an in-group member. Such categorization in turn will affect liking, decision making, and the desire to see another person as an individual (Fiske & Taylor, 1991). And all of these cognitions mediate the course of social interaction.

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