Predicting Individual Evaluations From Group Evaluations and Vice Versa

Different Patterns for Self and Other?

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We examined people's beliefs about how well an individual's evaluations can predict the average evaluations of a group and how well a group's average evaluations can predict those of an individual. The individual in question was either the self or a stranger. Subjects believed that the group predicts a stranger better than the stranger predicts the group, but believed that the self predicts the group as well as or better than the group predicts the self. This asymmetry in estimates of predictability mirrors asymmetries found by other researchers for similarity judgments, suggesting that beliefs about predictability may be guided by similarity judgments. This may lead to errors in predictions about self and others, including the false consensus bias.

The conduct of our social life is determined to a great extent by our predictions about how people will behave in various situations, and how they will feel and think about a variety of issues. At times people are quite good at making such predictions. When predicting a single instance—such as one person's evaluation—from another single instance, or when predicting an aggregate such as a group's evaluation from another aggregate, people are capable of being both logically consistent and accurate in their predictions (Kunda & Nisbett, 1986a).

Statistical reasoning is facilitated when events are relatively "codable," that is, capable of being unitized and interpreted clearly (Kunda & Nisbett, 1986a; Nisbett, Krantz, Jepson, & Kunda, 1983). Statistical reasoning is also facilitated in within-subjects designs requiring each subject to make several predictions (Fischhoff, Slovic, & Lichtenstein, 1979; Kunda & Nisbett, 1986a). Under such

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circumstances people recognize that it is easier to predict an aggregate from an aggregate than it is to predict a single instance from a single instance, and the accuracy of their predictions is clearly enhanced by this recognition.

But even under the best of circumstances people have great difficulty in predicting aggregates from instances and in predicting instances from aggregates. People tend to believe, erroneously, that an instance is better predicted by an aggregate than the aggregate is by the instance. For example, they believe that the score on an abbreviated intelligence test is better predicted from the score on the full-length test than score on the full-length test is from the score on the abbreviated test (Tversky & Kahneman, 1980). Similarly, people believe that social behavior on a single occasion is better predicted from social behavior over many occasions than social behavior over many occasions is from social behavior on a single occasion (Kunda & Nisbett, 1986b).

These judgments are mistaken because the predictability of the aggregate from a single event is identical to the predictability of the single event from the aggregate. This counterintuitive point may be better understood if one recognizes that predictability reflects correlation, and the magnitude of correlation does not depend on the direction of the prediction—the correlation between an aggregate and an instance is identical to the correlation between the instance and the aggregate.

Why do people believe that instances are better predicted from aggregates than vice versa? We have argued recently that such beliefs are guided, in large part, by an incorrect, or perhaps half correct inferential rule: People correctly recognize that predictability increases with the size of the predictor class of events, but fail to recognize that predictability increases with the size of the predicted class of events. In other words, people recognize that it is easier to predict from larger samples but fail to recognize that it is easier to predict to larger samples. Consequently, they believe that an instance is better predicted from an aggregate than the aggregate is from the instance because in the first case the predictor is larger than it is in the second case. We found strong evidence for people's use of this partially correct heuristic and showed that people were even able to articulate it when asked to explain their predictions (Kunda & Nisbett, 1986b).

It seems unlikely, however, that predictions are governed entirely by this partially correct heuristic. Kahneman and Tversky (1972, 1973) have provided extensive evidence indicating that people base their beliefs about the predictability of one object from another on the representativeness heuristic, that is, on judgments about the similarity between the two objects. Accordingly, they proposed that people's belief that an instance is better predicted by an aggregate than an aggregate is by an instance is based on their belief that an instance is more similar to an aggregate than an aggregate is to an instance (Tversky & Kahneman, 1980).

This interpretation rests on the finding that similarity judgments tend to be asymmetric: Simply represented, nonsalient objects are judged as more similar to richly represented, salient ones than vice versa (Tversky, 1977). For example, people believe that North Korea (a relatively simply represented, nonsalient country) is more similar to Red China (a relatively richly represented, salient country) than Red China is to North Korea. According to Tversky's (1977) contrast model of similarity judgments, this asymmetry is due to the fact that, when making judgments of the form "How similar is A to B?," similarity is decreased more by unique aspects of the subject (A) than by unique aspects of the referent (B). And salient objects, which have rich and complex representations, are likely to possess more unique and distinctive features than are nonsalient ones. Therefore similarity will be judged to be lower when the salient object is the subject of the comparison than when it is the referent. Since aggregates are likely to be more salient and richly represented in memory than are instances, people are likely to believe that instances are more similar to aggregates than vice versa. And if predictions are based on these similarity judgments, they will believe that instances are better predicted by aggregates than vice versa.

Thus although it seems clear that people do rely on the partially correct inferential rule in making predictions and base their predictions on the size of the predictor class of events, there is reason to believe that predictions are also influenced by other, nonstatistical considerations such as the similarity among events. The operation of such nonrule factors would be indicated if it could be shown that the pattern of predictions of an aggregate from an instance and of an instance from an aggregate is influenced by the nature and identity of the instance when sample size is held constant.

To assess these alternatives we examined people's beliefs about how well a group's opinion predicts, or can be predicted by, the opinion of the self or the opinion of a stranger. If subjects base their predictions entirely on the size of the predictor, it is expected that it will make no difference whether the individual is the self or a stranger. In both cases subjects will show the typical pattern of asymmetry: They will believe that the individual is better predicted by the group than the group is by the individual.

If, on the other hand, similarity judgments also play a role in guiding predictions, the above asymmetry is expected when the individual is a stranger, but not when the individual is the self. A group is most probably represented more richly and complexly than is a stranger. Consequently, a stranger will be judged as more similar to the group, and therefore as better predicted by the group, than vice versa. But a different pattern should emerge when the individual is the highly salient, complex, and richly represented self (Klein & Kihlstrom, 1986). The self has been shown to function as a relatively rich and complex object in similarity judgments: People judge others as more similar to the self than the self is to others (Holyoak & Gordon, 1983; Srull & Gaelick, 1983). The asymmetry typically found for predictions will therefore be muted, or even reversed, in this case: People will believe that the group is predicted better (or at least as well) by the self than the self is by the group.

Of course predictions involving the self and a group may differ from predictions involving a stranger and a group in the manner described above not only because of differences in the richness and complexity of the representations of self and other and the consequent differences in corresponding judgments of similarity. Several other factors may also be implicated in such differential patterns of prediction. These may include motivation to see the self as highly predictive of others and yet as relatively unique and unpredictable, greater subjective confidence in making predictions from the self, or greater familiarity with making predictions from and to the self—to name but a few such potential sources of differential predictions. But whatever the sources of such differences may be, if the pattern of predictions about the self and a group differs from the pattern of predictions about a stranger and the group, this would provide a strong indication that predictions are not governed exclusively by the size of the predictor. Moreover, differences in presumed predictability for self versus other would be of interest in their own right, independent of theoretical interpretations.

METHOD

Overview

Subjects predicted the evaluations made by a group from those made by an individual (i.e., item-to-total correlations) or predicted the evaluations made by an individual from those made by a group (i.e., total-to-item correlations). The individual in question was either the self or a stranger. We examined beliefs about predictability of three types of evaluation: evaluations of stimuli presented in the lab, evaluations of the attributes of other people, and evaluations of college courses.

Subjects

Subjects who judged predictability for the first two types of evaluation were 76 University of Michigan undergraduates of both sexes enrolled in introductory psychology. Predictability for course evaluations was estimated by 48 additional subjects drawn from the same population. Subjects participated in groups of 3 to 8 subjects of the same sex. As sex did not affect any of the dependent measures it will not be discussed further.

Design

For each of three types of evaluation, half the subjects estimated predictability of an evaluation made by one individual from that made by a group of 20, and half estimated the predictability of the group's evaluation from the individual's. For half the subjects in each condition the individual was the self, and for half the individual was the person sitting on their right, a stranger. The design for each type of evaluation was thus 2 × 2: Direction of Prediction (item-to-total or total-to-item) × Target (self or other).

Dependent Variables

We used the same question format employed by Kunda and Nisbett (1986a) to assess beliefs about predictability for all three types of evaluation. Subjects in the item-to-total condition were asked to estimate the probability that a group of 20 would agree with an individual in the ranking of two objects. And subjects in the total-to-item condition were asked to estimate the probability that an individual would agree with a group of 20 in the ranking of two objects. For example, the item-to-total question for estimates about one of the kinds of stimuli presented in the lab read as follows:

> Suppose you rated a particular painting, A, as better than another painting, B. What do you suppose is the probability that the rest of our 20 subjects, on average, would also rate painting A as better than painting B?

This question format has been shown to provide a highly sensitive measure of subjects' beliefs about predictability and was validated by the remarkable accuracy of subjects' estimates in some domains (Kunda & Nisbett, 1986a). Such probability estimates have the additional virtue of providing a direct measure of Kendall's tau, which, in turn, yields by derivation an estimate of Spearman's r: $E(r) = \text{Sin}\ \pi\ \tau/2$ (Kendall, 1962, p. 124). We report the results in terms of these derived correlations, although all statistical tests are based on the percentage estimates obtained from subjects.

Evaluations

The first type of evaluation consisted of ratings of a series of slides of paintings, black-and-white photographs of faces, and cookies—all of which had just been evaluated by the subjects. Subjects estimated correlations between the evaluations of an individual and the average of 20 other subjects for each kind of stimulus.

The second type of evaluation consisted of the evaluations of other people on the following 11 attributes: likability, frankness, warmth, poise, intelligence, fussiness, attractiveness, talkativeness, shyness, weight, and height. Subjects were asked to imagine that members of a sorority or a fraternity who knew each other well all rated each other on these attributes. For each attribute subjects estimated the correlations between the evaluations that might be made by an individual and those made by other members of the group, on average.

The third type of evaluation was college course evaluations. Subjects estimated the correlations between the evaluations made by an individual and those made by 20 other people who had all attended the same courses.

RESULTS

Subjects' beliefs about predictability followed the anticipated pattern, as may be seen in Figure 1. Subjects making predictions about the evaluations of a stranger and a group believed that the stranger is better predicted by the group than the group is by the stranger. Subjects making predictions about their *own* evaluations and those of a group, on the other hand, believed that the group is better or equally predicted by the self than the self is by the group. The interaction was marginal for ratings of lab stimuli, $F(1, 72) = 2.52, p = .12$, and significant for the two other evaluation types, $F(1, 72) = 5.59, p < .05$ and $F(1, 44) = 4.65, p < .05$, respectively, for the evaluations of attributes of people and for course evaluations.

DISCUSSION

Earlier research has shown that when making predictions involving aggregates and instances, people rely on a partially correct inferential heuristic: They recognize that predictability increases with the size of the predictor class of events but fail to recognize that predictability increases with the size of the predicted class of events (Kunda & Nisbett, 1986b). The present data imply that this heuristic cannot alone account for asymmetries in predictions, since predictions varied with the identity of the predictor and predicted classes of events, even though their sizes were held constant. Apparently nonstatistical considerations also play a role in guiding predictions across different levels of aggregation.

It seems plausible that predictions were influenced by similarity judgments because the obtained pattern of predictions mirrors the pattern of asymmetry typically found for similarity judgments: Just as objects that are less rich and complex are judged as more similar to richer, more complex objects than vice versa (Tversky, 1977), we found that less complex objects are judged as better predicted by the more complex ones than vice versa. It seems that when making judgments about a stranger and a group, the group is relatively more complex and rich. Consequently, people believe that the stranger is better predicted by the group than vice versa. But when making judgments about the self and a group, the self is equally or more complex and rich. Consequently, people believe that the group is predicted by the self better than, or as well as, the self is predicted by the group.

It is important to note, however, that although the indirect evidence pointing to the role of similarity judgments in guiding subjects' judgments about predictability is very substantial (Nisbett & Ross, 1980), as is the evidence concerning the salient role of the self when making similarity judgments (Holyoak & Gordon, 1979; Srull & Gaelick, 1983), the current study provides no direct evidence for the role of similarity judgments in guiding predictions. And indeed it is easy to imagine several other nonstatistical mechanisms that could

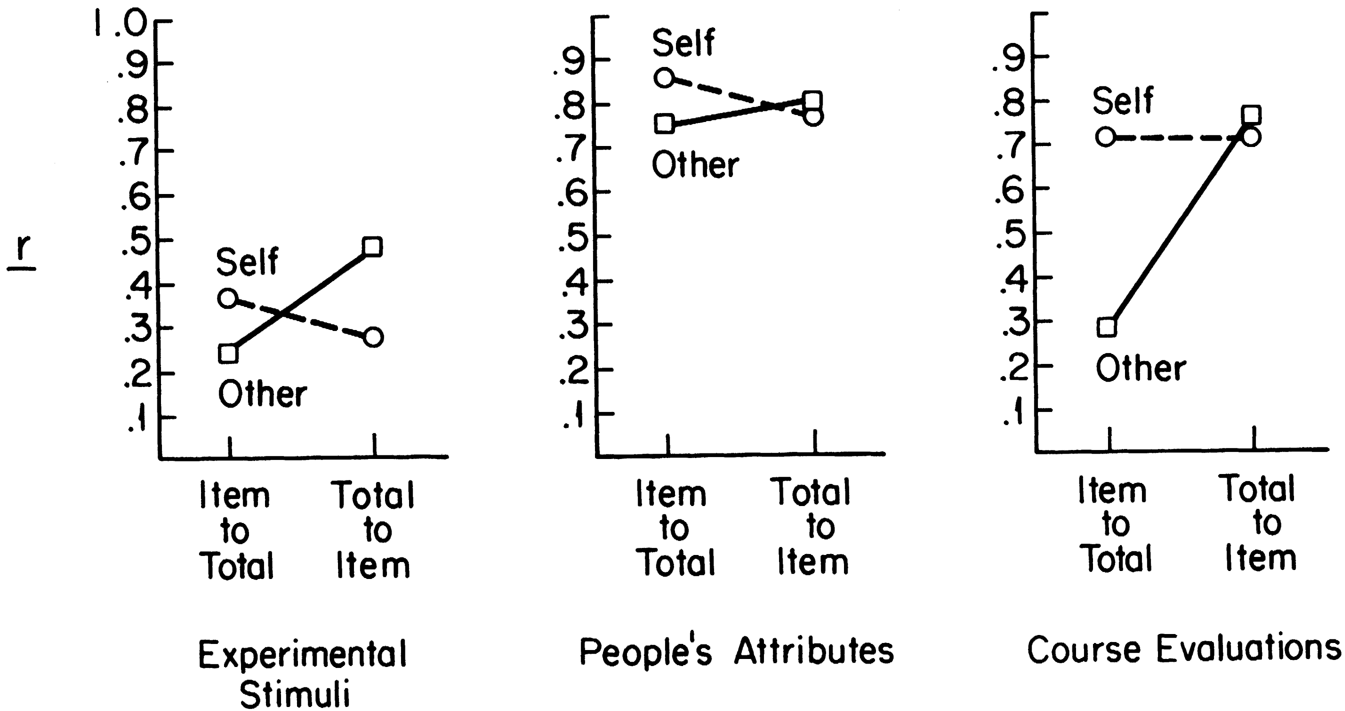

Figure 1 Average estimated item-to-total and total-to-item correlations for evaluations of experimental stimuli, attributes of people, and course evaluations when the item is the self and when the item is another person.

explain the obtained asymmetry in predictions. For example, asymmetric predictions could also result from differential motivations. People might well prefer to think of their own judgments as normative and thus as highly predictive of others' judgments, for example. The asymmetry might also be due to differential familiarity with predictions. People may attempt to predict self from group and group from self more often than stranger from group and group from stranger. But although the present data cannot determine which of the many plausible nonstatistical factors influence predictions, they do show that at least some factors associated with the self-other difference are important.

The present data have implications not only for predictions involving aggregates and instances but for prediction in general. It seems that statistical heuristics, which involve recognition of the role of chance and sample size, and more basic nonstatistical heuristics, such as the representativeness heuristic, exist side by side and that each plays an independent role in guiding predictions. The relative weight of these two kinds of heuristics is not yet clear, nor is it known when each will come into play, but it does appear that nonstatistical heuristics may often override statistical heuristics, as they do for predictions involving the self.

The combined reliance on faulty statistical heuristics and nonstatistical heuristics to guide predictions about individuals and groups can lead to serious inaccuracies in people's beliefs and expectations about their own opinions and those of other people. The present data provide a clear indication that these strategies may help produce one well-documented systematic bias, the false consensus bias, that is, people's tendency to overestimate the proportion of people who share their own attitudes (e.g., Ross, Greene, & House, 1977; Nisbett & Kunda, 1985).

Subjects believed that the group is better predicted by the self than it is by a stranger, as may be seen in Figure 1. This was true for all three evaluation types. The planned comparisons for these differences were significant for evaluations of attributes of people and for course evaluations, $t(72) = 3.0, p < .01$ and $t(44) = 2.86$, $p < .01$, respectively, but not for evaluations of experimental stimuli, $t(72) < 1$. This is exactly the pattern of beliefs that could sustain a false consensus bias, because it enables people to discount the relevance of the differing attitudes of other individuals to the prediction of the attitude of the group. Thus people may assume that the attitudes of most people are similar to their own even though they are no doubt familiar with individuals who do not agree with them (Nisbett & Kunda, 1985). They simply fail to consider the possibility that these dissenting individuals predict the group as well as they do.

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