Stereotypes and Social Judgment: The Effects of Typicality and Group Heterogeneity

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Two experiments showed that when subjects believed a group to be heterogeneous, they based their liking for a particular group member on their liking for the group as a whole, independently of and in addition to the target's behavior, and regardless of the target's typicality. When they believed the group to be homogeneous, however, they treated the target's typicality as a favorable or unfavorable attribute, which affected their evaluation. The latter subjects used their group stereotype as a standard of comparison in judging the implications of the target's behavior for a trait to which it was relevant. All subjects' stereotypes had a positive influence on judgments of stereotype-related traits for which the target's behavior was uninformative. A conceptualization is proposed to account for these findings.

The impact of a group stereotype on the processing of information about an individual member appears to be influenced by at least two factors. One, the group member's typicality, refers to the extent to which the individual has attributes that are associated with the group as a whole. The second factor, the perceived heterogeneity of the group, refers to the variation over group members with respect to these attributes. Although these factors are likely to have interrelated effects on judgments of group members, their influence has generally been studied in isolation (cf. Fiske & Neuberg, 1990; Fiske, Neuberg, Beattie, & Milberg, 1987; Fiske & Pavelchak, 1986; Linville, 1982; Linville & Jones, 1980). The present studies examined the interactive effects of these variables and the conditions in which they occur.

Theoretical Background

Initial Considerations

For purposes of this article, a group stereotype is assumed to consist of (a) a central concept or category that refers to the group as a whole, and (b) a set of specific attributes (e.g., traits) that are believed to characterize group members (cf. Brewer, 1988; Wyer & Srull, 1989). The central concept is primarily evaluative and reflects one's attitude toward the group or liking for it. The more specific attributes that compose the stereotype, which have both evaluative and descriptive implications, apply to the "average" or prototypic group member. In the absence of any other information about an individual group member, these features provide best estimates, or "subjective expected values" (cf. Wyer, 1973), of the member along the attribute dimensions in question. A member who possesses a subset of the attributes that compose a group stereotype is likely to be viewed as typical of the group with respect to these attributes, whereas a member whose attributes do not match those of the stereotype is atypical.

As noted above, a group may also vary in its heterogeneity, or in the degree of variation over members with respect to the features that compose the stereotype (Judd & Park, 1988; Linville, Salovey, & Fischer, 1986; Park & Rothbart, 1982). There is some debate over how this knowledge is stored in memory (cf. Ostrom & Sedikides, 1989). It is nevertheless reasonable to assume that heterogeneity, like other group-related attributes, often becomes activated by information about a person's membership in the group. If this is so, perceptions of a group's heterogeneity can potentially determine both how and when stereotype-associated features are applied to individual members.

Inferences about Individual Members

In the studies reported in this article, subjects received information about (a) a target person's membership in a stereotyped group and (b) behavior that was either consistent or inconsistent with the implications of the group stereotype. After receiving this information, they reported their liking for the individual and inferred the likelihood that the person had specific attributes to which the behavior information was or was not directly relevant. Several conceptualizations of stereotype-based inferences have been applied under such conditions (cf. Bodenhausen, 1988; Brewer, 1988; Fiske & Neuberg, 1990; Wyer & Srull, 1989). However, the implications of these formulations for descriptive as well as evaluative judgments, and for
the combined effects of typicality and perceived group heterogeneity on these judgments, are often unclear.

In conceptualizing these possible effects, therefore, it seemed reasonable to consider more generally (a) the different judgmental criteria that are available to subjects, (b) the implications of each criterion, and (c) the conditions in which these implications are likely to be taken into account. Under the conditions we investigated, at least three sets of criteria might be applied, each of which could have different implications for the judgment to be made:

1. The target's behavior, or the trait that this behavior exemplifies;
2. The group to which the target belongs and the traits that compose the stereotype of this group; and
3. The target's typicality or atypicality (as inferred from the similarity of the traits implied by the target's behavior to the attributes that compose the group stereotype).

Note that from this perspective, the target's typicality, although derived from the other two sources of information, is assumed to function as a separate attribute of the target that can affect judgments independently of and in addition to the target's behavior or group membership per se.1 (For evidence in another content domain that the typicality or atypicality of a category exemplar has evaluative implications for judgments in its own right, see Martindale & Moore, 1988.) Judgments can theoretically be described as a weighted linear function of the separate contributions of all three informational factors (Golob, 1974; Wyer & Carlson, 1979).

The empirical questions that arise from this perspective concern the factors that determine both the implications of each judgmental criterion and the likelihood that this criterion is actually considered. The use of a given criterion might depend on the type of judgment, the perceived reliability of this criterion, and the availability of other, alternative criteria. It could also depend on perceptions of the heterogeneity of the group in question.

Evaluative (liking) judgments. The target's membership in a liked or disliked social group, and the trait implied by the target's behavior, could each be treated as a favorable or unfavorable attribute that influences liking for this person. The extent to which the target is typical or atypical of group members could also have evaluative implications. For example, subjects who like the group may believe that it is desirable to be typical and undesirable to be atypical, whereas those who dislike the group may have the opposite reactions to these attributes.2 Subjects' liking for the target could be based in part on this criterion as well.

It seems intuitively reasonable, however, to suppose that subjects will use typicality as a basis for judgment only if they perceive the group to be homogeneous. Subjects who believe that group members vary substantially in the attributes that compose their group stereotype are unlikely to consider the target's typicality or atypicality with respect to any given attribute as particularly diagnostic of the target's likableness. Therefore, they may ignore this factor and give relatively more weight to the target's group membership per se, independently of and in addition to the implications of the target's behavior. That is, they may evaluate the target more favorably if they like the group (and thus regard the target's membership in it as desirable) than if they do not.

Descriptive (trait) judgments. The effect of a target's group membership and typicality on trait judgments is apt to depend on whether the trait being judged is one for which the target's behavior has direct implications. First, suppose the trait to be judged is stereotypic but is not implied by the behavioral information about the target. In this case, subjects may base their judgments partly on the implications of their stereotype (cf. Bodenhausen, 1988; Locksley, Hepburn, & Ortiz, 1982). Alternatively, they could consider the target's typicality (or atypicality) with respect to one stereotype-related attribute (inferred on the basis of the behavioral information about the target) to be a good predictor of his or her typicality with respect to other stereotype-related attributes and could base their judgment on this criterion. For reasons noted previously, however, this latter criterion is more likely to be applied by subjects who consider the group to be homogeneous (and, therefore, are apt to believe that a group member's possession of one attribute is a reliable indicator of his or her other traits) than by those who regard the group as heterogeneous.

Different considerations arise when the attribute being judged is one to which the target's behavior is directly relevant. In this case, the target's typicality, which is presumably inferred from the target's similarity to the group with respect to the attribute implied by his or her behavior, is unlikely to play a role in later judgments of this same attribute. Three alternative possibilities were considered. First, all subjects could base their judgments solely on the implications of the individuating behavioral information and ignore the target's group membership entirely (Locksley et al., 1982). Second, they could base their judgments on the stereotype-related implications of group membership, leading these implications to influence judgments over and above the effect of the individuating information (Futoran & Wyer, 1986; Krueger & Rothbart, 1988; see also Bodenhausen & Lichtenstein, 1987). Third, subjects could use the implications of their group stereotype as a standard of comparison in construing the implications of the behavioral information for the attribute being judged (Higgins & Rholes, 1976; Ostrom & Upshaw, 1968). In the latter case, subjects' group stereotype would have a contrast effect on their judgments. Note that the use of this comparative standard is less likely when subjects perceive the group to be heterogeneous—and

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1 A distinction should be made between the use of typicality as an informational cue that has direct influence on judgments and the role that typicality is postulated to play in other formulations of stereotype-based inference. Fiske and Neuberg (1990; see also Fiske & Pavelchak, 1986), for example, do not view a group member's typicality as a piece of information that affects judgments in its own right; rather, they consider it to be a factor that determines how other information is processed. We consider this second possibility later.

2 In conceptualizing the possible valence of typicality and atypicality, it may be useful to conceive one's liking for the group, one's liking for the target, and the target's similarity to the group as components of a triad, each of which may have a positive or negative valence. When viewed in this way, the values of typicality and atypicality specified above are quite consistent with general principles of balance theory (Heider, 1958).
therefore consider its members to be variable with respect to the attribute being judged—than when subjects consider the group to be homogeneous. The merits of these alternative hypotheses were evaluated in the studies to be reported.

Other Formulations of Stereotype-Based Inference

The above, informational analysis of stereotype-based judgment processes provides a general framework for conceptually integrating the issues to be investigated in this research. Other conceptualizations of stereotype-based inferences should, of course, not be ignored (e.g., Bodenhauen & Lichtenstein, 1987; Brewer, 1988; Fiske & Neuberg, 1990; Futoran & Wyer, 1986; Linville, 1982). However, none of these conceptualizations explicitly provides for the possible effects of all three judgmental criteria and the contingency of their use on perceptions of group heterogeneity. Nor do they explicitly consider the possibility that the effects of different criteria depend on the judgment to be made. The implications of our results for these models will be discussed after these results have been reported.

Two studies were conducted. In one, subjects with different beliefs about the likableness and morality of priests in general, and with different perceptions of the heterogeneity of priests with respect to this attribute, made judgments of a particular priest whose behaviors implied a certain degree of immorality. In the second study, subjects who perceived sorority members to be either relatively homogeneous or heterogeneous were asked to make evaluative and descriptive judgments of a single sorority member whose behaviors varied in favorableness and in their descriptive consistency with subjects' stereotypes of sororities. The specific issues at stake in each study will be discussed in more detail in the context of presenting the results.

Experiment 1

Method

Overview

Sixty-two introductory psychology students participated in partial fulfillment of a course requirement. In an initial testing session, subjects reported the overall level of morality they associated with Catholic priests, as well as the perceived variability of priests with respect to this attribute. Six weeks later, they were asked to form an impression of a target person who (a) was ostensibly either a priest or a businessman and (b) performed a dishonest behavior. After reading about the target, subjects both reported their liking for him and rated him with respect to several specific traits.

Selection of the Target Group

Twelve group-attribute pairs (e.g., Catholic priests—morality) were selected for initial consideration. The attribute paired with each group was one that we intuitively believed would be stereotypically associated with it. In an initial session of the experiment, we assessed subjects' perceptions of (a) the amount of each attribute that was typical of people who belonged to the group with which it was paired and (b) the homogeneity of the group with respect to this attribute. The procedure was similar to that used by Wyer (1973; see also Judd & Park, 1988). Specifically, subjects were given an 11-category scale, ranging from not at all (0) to extremely (10), pertaining to the attribute paired with each group. In each case, they estimated how many group members out of 100 were likely to fall into each of the 11 scale categories. Each subject's responses therefore formed a frequency distribution. The expected value (mean) of this distribution was used to infer the subject's perception of the average amount of the attribute that was possessed by group members and, therefore, the level that the subject perceived a typical member of the group to have. The standard deviation of the distribution was used to infer the subject's perception of the heterogeneity of the group with respect to the attribute. (For evidence that the mean and variance of such distributions predict subjects' ratings of a single group member and their uncertainty about the validity of this rating, see Wyer, 1973). After generating these data, subjects reconsidered each of the 12 groups and evaluated each group along a scale ranging from extremely unfavorable (-20) to extremely favorable (+20).

The frequency distributions that subjects generated were used to identify a group for which subjects differed in terms of both (a) the amount of an attribute they believed to be typical of group members, and (b) their perception of the heterogeneity of the group with respect to the attribute. Of the 12 group-attribute pairings considered, Catholic priests and morality best met our criteria. Averaged over subjects, the mean morality associated with priests was 8.23, and the mean heterogeneity of priests with respect to this attribute (in units of standard deviation) was 1.71. Subjects were therefore classified as either high or below the median with respect to these two variables. Estimates of priests' morality were above the scale midpoint (5.0) regardless of whether they were above or below the median. Therefore, the two levels of perceived morality are more appropriately referred to as high and moderate rather than as high and low. Mean values of each index are shown as a function of the two classification variables in Table 1. As can be seen, the perceived morality of priests does not depend appreciably on perceived group heterogeneity, and vice versa.

Procedure

Approximately 6 weeks after completing the initial questionnaire, subjects returned to the laboratory. In this session, they were asked to participate in a number of tasks, the first two of which were not related

<table>
<thead>
<tr>
<th>Variable</th>
<th>Perceptions of priests' morality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morality of priests in general</td>
<td></td>
</tr>
<tr>
<td>High perceived group variability (above the median)</td>
<td>8.95 (n = 13)</td>
</tr>
<tr>
<td>Low perceived group variability (below the median)</td>
<td>9.22 (n = 17)</td>
</tr>
<tr>
<td>Heterogeneity of priests</td>
<td></td>
</tr>
<tr>
<td>High perceived group variability</td>
<td>2.27</td>
</tr>
<tr>
<td>Low perceived group variability</td>
<td>.80</td>
</tr>
</tbody>
</table>

Table 1: Perceived Morality and Variability of Priests as Inferred from Frequency Distributions Generated by Subjects: Experiment 1
to the current investigation. In the third task, subjects were told that we were interested in "how people formed impressions and judgments of other individuals on the basis of the information they learn about them." With this preamble, they were asked to form an impression of a target person named Robert Abernathy. The information given to all subjects was identical except for an indication of Abernathy's vocation. Half of the subjects were randomly assigned to the priest target condition, in which they were given an information sheet indicating that "Robert was born in Eugene, Oregon, and attended school at UCLA. He currently is a priest at a moderately large church in suburban Denver. His annual salary is approximately $31,000." The remaining subjects, in businessman target conditions, received identical information except that the phrase "currently a priest at a moderately large church" was replaced by "currently employed at a business firm."

In all conditions, the information also indicated that the target had engaged in dishonest behavior, specifically:

Robert Abernathy has been at his position for six years. Until recently, he was more or less secure at his job, and was reasonably happy with how his work was going. Within the past year, however, Robert has been accused of stealing some expensive electronic equipment from a local store. Although he initially denied these accusations, later evidence proved that he had, in fact, stolen the equipment in question. Confronted with this evidence, Robert claimed in his defense that he was going to share the equipment with other members of his organization. However, later evidence revealed that he intended to use it for his own personal use. Although Robert is still at his position, his superiors will in all likelihood soon decide to terminate his contract.

Assessment of Dependent Variables

After the target descriptions were collected, subjects reported their impressions of the target. First, they evaluated the target along a scale ranging from very very unfavorable (-5) to very very favorable (+5). Second, they estimated the degree to which the target was moral, honest, and trustworthy along scales ranging from not at all (0) to extremely (10). Third, subjects indicated the likelihood that Robert would perform three behaviors that were consistent with their general stereotype of priests as kind but were descriptively unrelated to the information contained in the target essay (i.e., "volunteers to help handicapped persons," "is sympathetic to others less fortunate than he," and "is kind to children"). Fourth, subjects estimated the likelihood that the target had three traits (sociable, insecure, and intelligent) that were not directly related to either the group stereotype or the target information. These judgments were all reported along a scale ranging from very very unlikely (0) to very very likely (10).

Finally, subjects were asked how typical they thought Robert was of people who were in similar occupations. These judgments were reported along a scale ranging from very very atypical (0) to very very typical (10). Note that this question was the first point at which subjects were given any indication that they should consider either the target's group membership or his conformity to their group stereotype.

Postexperimental questionnaire. After completing the dependent measures described above, subjects were asked to recall the descriptive information on the first page of the target essay. This was done to ensure that all subjects were aware of the target's group membership. (This was, in fact, the case.) Finally, subjects were asked what they thought about the nature of the experiment. No subjects showed any awareness of the experimental hypothesis under consideration, nor did they make any direct connection between their responses on the initial group questionnaire and their rating of the target in the second session. After completing the postexperimental questionnaire, subjects were completely debriefed and dismissed.

Scoring

Judgments of the target's typicality and likableness were analyzed separately. The remaining ratings were subjected to a principal-components factor analysis, which yielded four varimax-rotated factors with eigenvalues greater than 1.0. Factor 1 was characterized by high loadings of the target's morality (.82), honesty (.83), and trustworthiness (.74). Factor 2 was characterized by high loadings of estimations that the target volunteered to help handicapped persons (.87), is sympathetic to less fortunate others (.90), and is kind toward children (.85). Factor 3 was characterized by high loadings of estimations that the target was sociable (.68) and insecure (-.81), and Factor 4 was characterized by a high loading of the target's intelligence (.84). Each subject's scores on these variables were averaged (after reverse scoring, where appropriate) and used as indices of the target's morality, kindness, sociability, and intelligence, respectively. Note that these measures correspond to (a) a stereotype-related attribute to which the target's behavior was directly relevant (morality), (b) a stereotype-related attribute to which the target's behavior was irrelevant (kindness), and (c) two attributes that were not directly relevant to either subjects' stereotype of priests or the behavioral information (sociability and intelligence).

Results

Data were generally analyzed as a function of target group (priest vs. businessman), subjects' perceptions of the morality of priests (high vs. moderate), and their perceptions of group heterogeneity. These analyses were supplemented by more specific comparisons that will be discussed below.

Preliminary Analyses

Perceptions of target's typicality. As expected, the priest target was perceived as less typical of his occupational group (M = 2.14) than was the businessman target (M = 3.84), F(1, 52) = 13.70, p < .01. Moreover, the priest target was judged to be less typical by subjects who considered priests in general to be highly moral (M = 1.50) than by subjects who considered them to be only moderately moral (M = 2.73), F(1, 25) = 10.79, p < .04. These effects, however, were not significantly contingent on subjects' perceptions of group variability (F < 1.0).

General attitudes toward priests. Subjects' attitudes toward priests in general were inferred from their evaluations of this target group in Session 1. These evaluations were generally favorable (M = 10.49 along a scale from -20 to +20). However, priests were evaluated more favorably by subjects who considered them to be highly moral (M = 13.28) than by subjects who perceived them to be only moderately so (M = 7.70), F(1, 57) = 10.09, p < .002. This was true regardless of whether subjects perceived priests as a group to be heterogeneous (12.85 vs. 7.53) or homogeneous (13.71 vs. 7.86). In summary, subjects had more favorable attitudes toward

3 Because morality perceptions and group heterogeneity perceptions were both response defined, continuous variables, these analyses of variance were supplemented by multiple regression analyses of judgments as a function of these variables, a dichotomous variable pertaining to target group, and interaction terms involving various combinations of these variables. The results of these analyses confirm the results of the analyses of variance. For the sake of expositional clarity, only the results of the latter analyses will be reported in detail.
priests as a whole, and considered the particular target priest to be more atypical of this group, if they believed that priests in general were highly moral rather than only moderately so. Neither of these differences, however, depended significantly on subjects' perceptions of group heterogeneity.

**Evaluative Judgments of Target**

Subjects' liking for the target could be based on either the evaluative implications of (a) the target's behavior, (b) the target's group membership, (c) the target's atypicality, or a combination of these factors. Because the target's behavior was the same in all conditions, its effects could not be directly assessed. However, although subjects' liking for priests in general was positive (as noted above), their liking for the dishonest priest was generally negative ($M = -2.48$). This suggests that the target's dishonest behavior had an unfavorable influence on liking for him over and above any effects of his group membership.

The results of primary interest concern the relative effects of group membership and typicality. Subjects who believed priests in general to be highly moral had more favorable attitudes toward the group, but believed the target to be more atypical, than subjects who believed priests to be only moderately moral. This means that if subjects used the target's group membership per se as a basis for evaluating him, their evaluations should increase with their perceptions of priests' morality. If, on the other hand, subjects based their evaluations of the target on his atypicality (an unfavorable attribute), their evaluations of the target should be affected in the opposite way by their perceptions of priests in general.

Data bearing on these possibilities are shown in the top section of Table 2. Subjects who regarded the group as heterogeneous based their liking for the target priest on the evaluative implications of his group membership. That is, they reported greater liking for him if they perceived priests in general to be highly moral (and, therefore, more likable) than if they did not ($-3.00$ vs. $-.57$). In contrast, subjects who considered priests to be homogeneous appeared to base their liking for the target on his atypicality; these subjects liked the target less when they regarded priests as highly moral (and, therefore, considered the target to be highly atypical) than when they did not ($-.57$ vs. $3.00$). This pattern of effects was not evident when the target was a businessman, subjects who perceived priests in general to be homogeneous ($M = 6.32$) than if he was a businessman ($M = 5.64$). This difference was evident regardless of whether subjects perceived priests as a group to be homogeneous ($5.90$ vs. $3.80$) or heterogeneous ($6.81$ vs. $3.83$). In other words, all subjects tended to use their stereotype of priests in general to infer the kindness of the target priest in particular.

**Sociability and intelligence.** Sociability and intelligence, which were not central features of subjects' stereotypes of priests, were not seen as any more characteristic of priests ($5.02$ and $7.23$, respectively) than of businessmen ($4.39$ and $6.52$, respectively), in each case $p > .10$. This was true regardless of subjects' perceptions of the morality of priests or of group variability (all ps > .10). Thus, the effects of factors that influence subjects' judgments of priests with respect to stereotype-related attributes do not generalize to attributes that are evaluatively similar but are not contained in the group stereotype.

Comparative conclusions can be drawn from direct comparisons of ratings of priests with ratings of businessmen. Specifically, subjects who considered priests in general to be highly moral but believed the group to be heterogeneous with respect to morality rated the target more favorably when he was a priest ($M = -2.67$) than when he was a businessman ($M = -2.10$), suggesting that the target's group membership had a positive influence on their judgments. In contrast, subjects who perceived priests in general to be highly moral and homogeneous rated the target as less likable when he was a priest than when he was a businessman ($-3.86$ vs. $-2.89$), suggesting that in this case, the target priest's atypicality had the predominant influence.

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Table 2
Likableness and Trait Judgments of Targets as a Function of Perceptions of Priests’ Morality and Homogeneity: Experiment 1

<table>
<thead>
<tr>
<th>Judgment</th>
<th>Priest target</th>
<th>Businessman target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High morality</td>
<td>Moderate morality</td>
</tr>
<tr>
<td></td>
<td>of priests in</td>
<td>of priests in</td>
</tr>
<tr>
<td></td>
<td>general</td>
<td>general</td>
</tr>
<tr>
<td>High perceived heterogeneity of</td>
<td>−.57</td>
<td>−3.00</td>
</tr>
<tr>
<td>priests</td>
<td>−3.86</td>
<td>−2.50</td>
</tr>
<tr>
<td>Morality</td>
<td>3.24</td>
<td>1.86</td>
</tr>
<tr>
<td>Low perceived heterogeneity of</td>
<td>1.58</td>
<td>2.62</td>
</tr>
<tr>
<td>priests</td>
<td>7.05</td>
<td>6.57</td>
</tr>
<tr>
<td>Kindness</td>
<td>5.50</td>
<td>6.29</td>
</tr>
</tbody>
</table>

Discussion

The influence of a target's typicality on evaluations of the target is clearly contingent on subjects' perceptions of group heterogeneity. Subjects who considered priests to be heterogeneous based their liking for the target, and judgments of his morality, on their beliefs about priests in general, regardless of his typicality. This was not true, however, of subjects who considered priests to be homogeneous. These subjects judged the target to be relatively less likable, and also less moral, when they believed that priests in general had extreme amounts of these characteristics.

The likableness data support our speculation that subjects who believed that priests as a whole were homogeneous treated the target's atypicality as an unfavorable attribute and integrated its evaluative implications with those of other characteristics of the target to arrive at an estimate of his likableness. As noted above, however, an analogous interpretation of the effects of subjects' group stereotypes on morality judgments is less plausible. (That is, it seems unlikely that the target's atypicality would be a determinant of judgments of the same attribute that provided the basis for inferring the target's atypicality in the first place.) It is therefore more reasonable to attribute these effects to subjects' use of their stereotype as a standard of comparison in construing the implications of the target's behavior for his morality, resulting in contrast effects on judgments of the target with respect to this attribute (cf. Higgins & Rholes, 1976; Ostrom & Upshaw, 1968). These effects could be mediated in part by augmentation processes of the sort postulated by Jones and Davis (1965); that is, a person may be attributed a more extreme degree of a trait if his or her behavior deviates from social role expectancies than if it does not.

In any event, these processes do not occur when subjects consider the group to be heterogeneous. When subjects believe that priests vary considerably with respect to morality, their expectations for the morality of any particular priest may be less clear, and so they do not use their stereotype-based perceptions of the "average" priest as a comparative standard. Moreover, subjects use their stereotype as a standard of comparison only when the attribute being judged is one for which the target's behavior has descriptive implications. When the judgment concerns a trait for which the target's behavior does not have implications (e.g., kindness), subjects appear to use the descriptive implications of their group stereotype as a basis for judgments, regardless of their perceptions of the group's homogeneity or their evaluation of the group.

If this interpretation is correct, the results of the present study can be summarized as shown in Table 3 in terms of the three informational factors identified earlier and the contingency of their use on group homogeneity. (In this table, +, −, and 0 refer to positive, negative, and no relation between the judgment in question and the implications of the informational factor for this judgment.)

1. All subjects use the evaluative implications of the target's behavior to judge his likableness and the descriptive implications of this behavior to judge traits to which the behavior is relevant. This is true regardless of whether they believe the target to be typical or atypical of the group to which he belongs or their perceptions of the group's homogeneity.

2. Subjects who believe the group to be heterogeneous use their group stereotype as a basis for inferring attributes of the target that are contained in this stereotype (morality and kindness). Moreover, they use their liking for the group as a whole to infer the target's likableness. This is true regardless of their perception of the target's typicality.

3. Subjects who regard the group as homogeneous also use their stereotype to infer attributes for which the target's behavior has no implications (e.g., kindness). When the target's behavior has implications for a stereotype-related attribute, however, these subjects use their stereotype-based expectations as a comparative standard in assessing the implications of the behavior, producing a contrast effect of the stereotype on judgments. Moreover, they base their liking for the target on his typicality

A similar process might appear to underlie the effect of group membership on liking judgments. That is, subjects who consider the group to be homogeneous may use their attitude toward the group as a whole as a comparative standard in estimating their liking for the target in particular. If this were the case, however, these effects should also be evident in judging traits other than morality that have evaluative implications. These effects did not occur. Other evidence suggesting that the effects of likableness are not attributable to standard-of-comparison processes was obtained in Experiment 2.
Table 3
Summary of Effects of Informational Variables on Likableness and Trait Judgments

<table>
<thead>
<tr>
<th>Type of judgment</th>
<th>Evaluative and descriptive implications of</th>
<th>Group membership/ stereotype</th>
<th>Target's typicality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likableness of target</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group perceived as heterogeneous</td>
<td>+</td>
<td>+</td>
<td>0</td>
</tr>
<tr>
<td>Group perceived as homogeneous</td>
<td>+</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>Judgments of stereotype-related trait implied by target's behavior</td>
<td>Group perceived as heterogeneous</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Group perceived as homogeneous</td>
<td>+</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Judgments of stereotype-related trait that is not implied by target's behavior</td>
<td>Group perceived as heterogeneous</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>Group perceived as homogeneous</td>
<td>0</td>
<td>+</td>
<td>0</td>
</tr>
<tr>
<td>Judgments of nonstereotype-related trait</td>
<td>Group perceived as heterogeneous</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Group perceived as homogeneous</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

Note. Cell entries refer to positive (+), negative (−), and no (0) relations between the judgments in question and the implications of the informational factor for this judgment. Thus, for example, a positive (+) relation between typicality and liking judgments indicates that the target’s typicality increases judgments of likableness by subjects who believe that typicality is favorable (as in Experiment 1), but decreases judgments of likableness by subjects who consider typicality to be unfavorable (Experiment 2).

Experiment 2

Although the conclusions drawn from Experiment 1 are provocative, their generalizability is unclear for several reasons. First, we considered only a single stereotyped group and used only subjects with favorable attitudes toward this group. Second, the behavior of the target was always atypical and was the same in all conditions. Consequently, the effects of information that the target person is typical of group members were not established. Furthermore, the influence of the behavioral information per se could only be inferred indirectly by comparing judgments of the target with normative judgments of the group as a whole. Finally, the descriptive and evaluative implications of the behavioral description were confounded. As a result, the relative impact of these two factors on perceptions of the target’s typicality, and the influence of these perceptions on judgments, could not be assessed.

These ambiguities were eliminated in Experiment 2. Subjects with favorable and unfavorable attitudes toward sororities were asked to form an impression of a woman who (a) either did or did not belong to a sorority and (b) performed behaviors that varied both in favorableness and in their descriptive implications for the woman’s gregariousness (an attribute that is stereotypic of sorority members). After receiving this information, subjects reported their liking for the target and also rated her with respect to several traits that were stereotypic of sorority members.

We expected that both subjects’ evaluations of the stereotyped group and their perceptions of the group’s heterogeneity would be inextricably linked to their own membership in the group. There is ample evidence that people who belong to a group generally perceive it to be more heterogeneous than do nonmembers (Linville, 1982; Linville & Jones, 1980; Linville et al., 1986; Park & Rothbart, 1982; Quattrone & Jones, 1980). Moreover, one’s membership in a group is often an inherent determinant of one’s attitude toward it (cf. Tajfel, 1970). Thus, in the present study, subjects with favorable attitudes toward sororities were more likely to be members of the fraternity-sorority system and to perceive sororities to be heterogeneous than were subjects with unfavorable attitudes. These confounds, however, do not seriously compromise the interpretation of our results. (Note that in Experiment 1, subjects’ perceptions of the perceived heterogeneity of priests, and their attitude toward priests in general, affected judgments of individual priests even though no subjects in this experiment were priests themselves.) The possible effects of these confounds will be discussed in more detail after the results are reported.

An additional issue was addressed in this experiment that could not be examined in Experiment 1. Specifically, the target’s behavior in the first experiment pertained to a favorable trait (morality) that was contained in all subjects’ stereotype of priests. Thus, the evaluative consistency of the trait with subjects’ overall evaluation of priests and the descriptive consistency of that trait with the group stereotype were confounded. A question arises as to whether stereotypes affect judgments of traits that, although descriptively related to those in the stereotype, are evaluatively different. By varying both the evaluative and the descriptive implications of the essays describing the target’s behavior, we gained insight into this matter.

Method

Overview

Subjects with either extremely favorable or extremely unfavorable attitudes toward sororities were asked to form an impression of a
woman on the basis of a one-page description of her. The description indicated that the woman lived in either a sorority house (and, therefore, was a sorority member) or off-campus housing (implying that she was not a sorority member). In addition, it characterized her behavior in a way that implied that she was either sociable, dependent, independent, or aloof. Thus, this information varied in both its favorableness and its descriptive consistency with subjects' stereotype of sorority members. (Evidence supporting this assumption will be provided below.) After reading about the target, subjects reported their liking for the target and rated her along a number of specific trait dimensions. These judgments were compared as a function of (a) subjects' attitudes toward sororities (favorable vs. unfavorable), (b) the target's group membership (sorority member vs. nonmember), (c) the descriptive consistency of the target's behaviors with subjects' stereotype of sorority members, and (d) the favorableness of these behaviors.

Assessment of Perceived Group Heterogeneity

The relations among subjects' group membership, their attitudes toward sororities, and their perceptions of group heterogeneity were determined in a pilot study involving 88 college undergraduates who did not participate in the main experiment. First, subjects rated several different groups, one of which was "sorority members," along a scale ranging from very similar to all the same (0) to very different (10). Second, they were asked to construct a frequency distribution of the gregariousness of sorority members using the same procedure employed in Experiment 1. Third, they indicated whether they personally belonged to a sorority or fraternity and reported their attitude toward sororities on a scale from −20 to +20.

As expected, subjects who belonged to fraternities or sororities had more favorable attitudes toward sorority members (n = 35, M = 10.40) than those who did not (n = 53, M = −9.11), F(1, 86) = 34.22, p < .001. Further analyses were restricted to 11 fraternity and sorority members whose overall ratings of the group were greater than +15 and 11 nonmembers whose evaluations of the group were less than −15. A comparison of the mean expected values of the frequency distributions generated by subjects in these extreme categories indicated that they did not differ in the gregariousness they attributed to sorority members as a whole (M = 8.54 vs. 8.60 for prosorority vs. antisorority subjects, respectively). However, prosorority subjects perceived sororities to be more heterogeneous. This difference was evident from both the standard deviation of the frequency distributions they generated (1.26 vs. 1.06 for prosorority and antisorority subjects, respectively) and their more general category ratings of sorority members' variability (6.09 vs. 2.45, respectively). These data confirmed our assumptions that (a) prosorority and antisorority subjects both perceive sorority members as a whole to be gregarious, but (b) prosorority subjects perceive sorority members to be relatively more heterogeneous with respect to this characteristic.

Determination of Sorority Stereotypes

The content of sorority stereotypes was further evaluated on the basis of data collected in a second pilot study. Thirty-two prosorority subjects and 32 antisorority subjects were first asked to "write down all of the trait adjectives that you think accurately describe sorority members." The traits that prosorority subjects spontaneously used to characterize sorority members implied (in order of decreasing frequency) sociable, good-looking, and active. In contrast, the traits that were most commonly listed by anti-sorority subjects implied snobbish, dependent/conforming, and fake. Note that both groups of subjects perceived sorority members as gregarious. However, prosorority subjects described this gregariousness in favorable terms (as sociable), whereas antisorority subjects described it unfavorably (as socially dependent).

The two subject groups' stereotypes differed descriptively as well. For example, antisorority subjects stereotyped sorority members as snobbish, whereas prosorority subjects did not. These differences become important in interpreting our results, as will be seen.

Selection of Subjects and Design

Approximately 1,000 University of Illinois undergraduates completed a brief questionnaire in which they were asked to express their attitudes toward approximately 30 social groups (including sorority members) on a 40-point scale ranging from extremely unfavorable (−20) to extremely favorable (+20). This form was embedded in a much longer (20-page) political science survey, and its inclusion did not appear to be of more than routine interest. Later in the same survey, these subjects were asked if they would like to participate in subsequent studies "unrelated to the current political survey" for payment of $4/hour. Subjects were considered eligible for participation if their attitudes toward sororities were either extremely favorable (greater than +15) or extremely unfavorable (less than −15). On the basis of our pilot data, we expected subjects in the first category to perceive sororities as heterogeneous and those in the second category to perceive the group as homogeneous. This assumption proved to be correct.

Eligible subjects were contacted approximately 3 weeks after completing the political science survey. Of the 131 subjects who agreed to participate, 3 reported some insight into the objectives of the experiment and were discarded prior to analyses. Of the remaining subjects, 32 men and 32 women had favorable attitudes toward sororities, and an equal number of each gender had unfavorable attitudes. Four prosorority and 4 antisorority subjects of each gender were randomly assigned to conditions representing each of 8 possible combinations of target group membership (sorority member vs. nonmember), the descriptive consistency of the target's behaviors with the sorority group stereotype, and the favorableness of the target's behaviors.

Procedure

Upon entering the laboratory, subjects were informed that they would participate in an investigation of how people form impressions of others. The instructions went on to indicate that:

As part of a previous investigation, student volunteers agreed to keep detailed diaries of their own thoughts and behavior over a three-week period. Other students later read those diaries and wrote detailed descriptions of the people who kept them. In today's experiment, you'll be reading an excerpt from one of those descriptions about a person named Margaret Coleman (not her real name). Your job is simply to form an impression of Margaret based on the information that you read about her.

After receiving these instructions, subjects were given a one-page information sheet about the target person, the content of which varied over experimental conditions in the manner indicated below.

Group membership. At the top of the information sheet, a short biographical sketch was provided that indicated the target's name, year in college (junior), major (English), and living accommodations during her first 3 years on campus. The latter information indicated that Margaret had either lived in a sorority house during her sophomore and junior years (group member condition) or lived in off-campus housing (nonmember condition). This information appeared as incidental background data about the target and gave no indication that subjects should either consider it or ignore it in forming their impressions.

Behavioral descriptions. The individualizing information about the target was conveyed in a one-paragraph description of her social behavior. Four different essays were constructed that varied in both their
favorableness and their implications for the target's gregariousness. Specifically, one favorable, gregarious essay implied that Margaret was sociable (e.g., "Many who meet Margaret for the first time come away with a sense that she very much enjoys the companionship of others"); a second, unfavorable, nongregarious essay implied that she was socially dependent on others (e.g., "Many . . . come away with the sense that she might be a little lost without her group of friends around"); a third, favorable, nongregarious essay implied that the target was independent (e.g., "Many . . . come away with the sense that she can provide for herself"); and the fourth, unfavorable, nongregarious essay implied that she was aloof (e.g., "Many . . . come away with the sense that she might often prefer to keep her distance from others").

Assessment of Dependent Variables

Impression ratings. After the target descriptions were collected, subjects were given a questionnaire concerning their impressions of the target. On page 1, they wrote a short open-ended description of her. On page 2, they first reported their overall evaluation of the target along a scale ranging from very very unfavorable (-10) to very very favorable (+10) and then generated "one word that would summarize your impression of Margaret." On page 3, subjects estimated the degree to which the target possessed a number of specific dimensions. These judgments were made along a scale ranging from not at all (0) to extremely (10). Four of these dimensions pertained to an overall evaluation of the target: likable, pleasant, agreeable, and friendly. Seven were relevant to the characterizations of the target's behavior: independent, withdrawn, dependent, sociable, insecure, assertive, and self-assured. Finally, two judgments pertained to stereotypic unfavorable traits about which none of the essays provided any information (snobbish and materialistic). In addition, subjects estimated how much they would like to meet Margaret, using a scale ranging from not at all (-5) to very much (+5).

Finally, to confirm our manipulation of the consistency of the target description with subjects' stereotypes, subjects in all conditions were asked: "On the basis of your own beliefs and attitudes about what sorority members are like, how typical is Margaret of what you think sorority members are like in general?" This question was answered along a scale ranging from not at all (0) to extremely (10). This question was the first point at which subjects were given any indication that they belonged to a fraternity or sorority member.

Postexperimental questionnaire. Subjects completed a final questionnaire in which they reported their attitudes toward a variety of groups, among which was "sorority members." These ratings were made along a scale identical to that used to select subjects initially. Subjects also completed a short questionnaire about themselves, one item of which concerned whether they belonged to a fraternity or sorority.

Finally, subjects were asked what they thought about the nature of the experiment. As noted earlier, only three indicated that they were aware of the true purpose of the experiment. After completing the postexperiment questionnaire, subjects were debriefed, paid for their services, and dismissed.

Scoring

Subjects' open-ended descriptions of the target and their one-word characterizations of her were both rated by independent judges (who were blind to experimental conditions) along a scale ranging from very unfavorable (-10) to very favorable (+10). To reduce these and other ratings of the target to a small number of dimensions that were relevant to the hypotheses being investigated, a principal-components factor analysis was performed on (a) independent raters' judgments of subjects' open-ended descriptions of the target, (b) subjects' overall favorableness ratings of the target, (c) their desire to meet the target, and (d) their trait ratings of her. This analysis yielded three varimax-rotated factors with eigenvalues greater than 1.0. Factor 1 was characterized by high loadings of subjects' overall favorableness ratings (81), their desire to meet the target (68), their ratings of her as likable (86) and pleasant (75), and independent judges' ratings of the two open-ended descriptions of the target (80 and .79). Factor 2 was characterized by positive loadings of dependent (94) and insecure (65), and negative loadings of independent (- .93) and self-assured (- .63). Factor 3 was characterized by high loadings of snobbish (69) and materialistic (56). Each subject's scores on these variables were averaged (after reverse scoring, where appropriate) and used as indices of (a) likableness, (b) social dependence, and (c) snobbiness, respectively.

Note that these composite variables correspond to three types of judgments that we considered in Experiment 1: (a) overall evaluations of the target, (b) ratings of the target with respect to a stereotype-related trait for which her behaviors had implications, and (c) ratings of the target with respect to a stereotype-related trait for which her behaviors had no implications.

Results and Discussion

Manipulation Checks

General characterization of the targets. The trait adjectives that subjects used to characterize the target in each condition confirmed our assumptions that the descriptive essays conveyed their intended meaning. A rater who was blind to experimental conditions coded these adjectives in terms of whether they were synonymous with one of the four attributes assumed to be conveyed by the essays (i.e., sociable, dependent, independent, or aloof) or were unrelated to any of these attributes. In each case, at least 50% of the subjects spontaneously characterized the target with a trait that was both descriptively and evaluatively synonymous with one we assumed to be conveyed by the essay, and few if any characterized her with a trait that was assumed to characterize any of the other three essays.

Subjects' group membership. On the last page of the questionnaire, we also obtained information as to whether subjects belonged to a sorority or a fraternity. None of the 64 antisorority subjects belonged to sororities or fraternities, whereas all but 5 of the 64 prosorority subjects belonged to one of the two groups. Therefore, in light of the results of our pilot experiments as well as findings reported elsewhere (e.g., Park & Rothbart, 1982), it seemed justifiable to assume that prosorority (in-group) subjects perceived sororities to be more heterogeneous than antisorority (out-group) subjects.

Typicality ratings. Perceptions of the target's typicality were influenced by both the descriptive and evaluative implications of the essay describing her behavior. Specifically, gregarious (sociable and socially dependent) targets were perceived to be much more typical of sorority members \( (M = 6.88) \) than were nongregarious (independent and aloof) \( (M = 2.31) \), \( F(1, 56) = 68.64, p < .01 \). This difference did not depend on whether \footnote{A complete description of the stimulus paragraphs may be obtained from Alan J. Lambert.}
subjects were prosorority (6.50 vs. 2.19) or antisorority (7.25 vs. 2.44) or whether subjects were male (7.21 vs. 1.85) or female (6.61 vs. 2.63), in each case \( p > .10 \). Thus, the effects of the descriptive implications of the essay on typicality judgments generalized over subject groups.

The evaluative implications of the target essay also affected perceptions of typicality. Prosorority subjects rated targets who were described by favorable (sociable and independent) essays as more typical than those who were described by unfavorable (socially dependent or aloof) essays (5.13 vs. 3.56). In contrast, antisorority subjects rated favorably described targets as slightly less typical than unfavorably described ones (4.69 vs. 3.00). The interaction implied by these differences was marginally significant, \( F(1, 56) = 2.90, p < .09 \). Therefore, although typicality ratings were influenced primarily by the descriptive consistency of the target’s behavior with subjects’ group stereotype, the evaluative consistency of these behaviors with subjects’ stereotype played a role as well.

The dependent variables of primary interest pertained to ratings of the target’s likableness, dependence, and snobishness. A preliminary analysis of variance was performed on each type of judgment as a function of subject attitude (prosorority vs. antisorority), subject gender, the target’s group membership, the descriptive consistency of the target description with the sorority stereotype, and the favorableness of this description. Each analysis revealed significant main effects, interactions, or both involving experimentally manipulated variables and subjects’ attitudes, the nature of which will be described below. However, only one uninterpretable interaction involving gender (which occurred in analyses of dependence ratings) was significant. Therefore, data are collapsed over gender in the analyses reported below.

**Likableness**

Targets were liked better if the behaviors described in the target essay implied a favorable trait (independent or sociable) \( (M = 4.78) \) than if they implied an unfavorable one (aloof or dependent) \( (M = -1.14), F(1, 112) = 120.86, p < .001 \). Thus, all subjects took the evaluative implications of the target’s behavior into account in judging her likableness, over and above any effects of the target’s group membership and typicality. This confirms conclusions drawn on the basis of Experiment 1 (see Table 3).

As noted earlier, prosorority subjects perceived sorority members to be more heterogeneous than antisorority subjects. Consequently, if the implications of our first experiment (see Table 3) generalize to the conditions of concern here, prosorority subjects’ evaluations of the target should be based on the (favorable) implications of the target’s group membership, whereas antisorority subjects’ liking for her should be influenced by her typicality. These predictions were confirmed on the basis of planned comparisons pertaining to judgments by each subject group separately.** Likableness ratings are summarized in the top section of Table 4. First consider prosorority subjects, who perceived sororities to be heterogeneous. These subjects judged the target to be more likable when she belonged to a sorority than when she did not (3.35 vs. 1.93). Although this difference was only marginally significant, \( F(1, 112) = 3.08, p < .09 \), it was positive under all four essay conditions. The difference was somewhat greater when the target’s behavior was descriptively inconsistent with subjects’ sorority stereotype (2.16 vs. -.42) than when it was consistent with this stereotype (4.54 vs. 4.28). However, this difference was not statistically reliable (\( p > .15 \)). These data, therefore, confirm the conclusion that subjects who perceive the group to be heterogeneous base their liking judgments primarily on the evaluative implications of the target’s group membership, regardless of the target’s typicality.

Now consider the ratings reported by antisorority subjects, who considered the group to be homogeneous. These subjects, who presumably considered typicality to be unfavorable and atypicality to be favorable, based their judgments of the target on this criterion rather than on the target’s group membership per se. Specifically, they evaluated a sorority member whose behavior was descriptively consistent with their sorority stereotype (i.e., dependent or sociable) less favorably than they evaluated a nonmember who behaved the same way (−.05 vs. 1.88). However, they evaluated a sorority member whose behavior was descriptively inconsistent with their stereotype (either independent or aloof) more favorably than a nonmember who behaved similarly (2.01 vs. .12). The interaction implied by these diametrically opposite effects is highly significant, \( F(1, 56) = 7.14, p < .01 \).

Note that this interaction eliminates an alternative interpretation of the results of Experiment 1 (see Footnote 5). Specifically, these findings cannot be attributed to a general tendency for subjects who perceive the group to be homogeneous to use their overall evaluation of the group as a standard of comparison in forming liking judgments of the individual member. If this tendency existed, antisorority subjects (who evaluated sororities as a whole unfavorably) would have rated the sorority target as more likable than the nonsorority target regardless of her typicality. They did not, however. The use of group stereotypes as standards of comparison appears to come into play only in making descriptive (trait) judgments, as noted earlier.

To the extent that antisorority subjects based their judgments on the target’s typicality, an additional question arises. Our pilot study revealed that antisorority subjects spontaneously characterize sorority members as socially dependent but not as sociable. This indicates that evaluative as well as descriptive factors enter into other perceptions of the target’s typicality. (This conclusion is also implied by subjects’ category ratings of the target’s typicality, as noted earlier) If this is so, the effects of typicality noted above should be more evident when the target’s behavior was characterized as socially dependent (an attribute that was contained in subjects’ stereotype) or as independent (the bipolar opposite of this trait) than when it was character-

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8 An analysis of data from both subject groups in combination revealed that gregarious (sociable and socially dependent) sorority members were liked less overall (\( M = 2.25 \)) than gregarious nonmembers (\( M = 3.08 \)), whereas nongregarious (independent and aloof) sorority members were liked more (2.08 vs. −.15). The interaction implied by this directionally opposite difference was significant \( F(1, 112) = 8.08, p < .01 \), and did not depend on subjects’ attitudes toward sororities (\( p > .10 \)).
Table 4
Likableness and Trait Judgments as a Function of Subject Type, Target Group Membership, the Descriptive Consistency of the Target’s Behaviors with the Stereotype, and the Favorableness of the Behaviors: Experiment 2

<table>
<thead>
<tr>
<th>Implications of target’s behavior</th>
<th>Likableness judgments</th>
<th>Social dependence judgments</th>
<th>Snobbishness judgments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sorority target</td>
<td>Nonsorority target</td>
<td>Difference</td>
</tr>
<tr>
<td>Descriptively consistent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with stereotype</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable (sociable)</td>
<td>7.77</td>
<td>7.71</td>
<td>.06</td>
</tr>
<tr>
<td>Unfavorable (dependent)</td>
<td>1.31</td>
<td>.85</td>
<td>.46</td>
</tr>
<tr>
<td>Descriptively inconsistent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with stereotype</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable (independent)</td>
<td>4.35</td>
<td>2.48</td>
<td>1.87</td>
</tr>
<tr>
<td>Unfavorable (aloof)</td>
<td>-.04</td>
<td>-3.31</td>
<td>3.27</td>
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</tbody>
</table>

In fact, this appears to be the case. That is, antisorority subjects’ liking for the sorority member target was least (relative to the nonsorority member target) when the essay characterized her behavior as socially dependent (-3.46 vs. -1.00), and was greatest (relative to the nonsorority target) when the essay described her behavior as independent (5.24 vs. 2.48). The interaction of target group membership and the evaluative implications of the behavioral essay was not reliable ($p > .10$). Nonetheless, it seems clear that the effects of typicality must take into account the evaluative as well as the descriptive consistency of the target’s behavior with the group stereotype.

Effects on Descriptive (Trait) Judgments

According to Table 3, the effects of subjects’ group stereotype on judgments of a stereotype-related trait that is implied by the target’s behavior should depend on their perceptions of the group’s heterogeneity. Specifically, subjects who consider the group to be heterogeneous should base their judgments directly on the implications of their stereotype, whereas those who consider the group to be homogeneous should use their stereotype as a standard of comparison in evaluating the implications of the target’s behavior, producing a contrast effect on judgments. On the other hand, subjects’ judgments of a stereotype-related trait to which the target’s behavior is irrelevant should be based on their stereotype, regardless of the group’s heterogeneity. Finally, judgments of traits that were not contained in the stereotype should be unaffected by the target’s group membership.

The pattern of results obtained in this study is consistent with these predictions. To see this, however, one must take into account differences in the content of prosorority and antisorority subjects’ stereotypes.

Social dependence. Pooled over other experimental variables, targets whose behaviors were characterized as socially dependent were rated highest in dependence ($M = 8.66$), followed by those whose behaviors were characterized as sociable ($M = 5.08$), aloof ($M = 3.88$), and independent ($M = 1.75$). Thus, subjects based their ratings of the target partly on the descriptive implications of the behavioral information. The difference between ratings in the first two conditions and ratings in the second two conditions was highly significant, $F(1, 112) = 206.91, p < .01$.

The effects of group-related variables on social dependence judgments are reflected in a significant four-way interaction.
involving subjects' attitude toward sororities, the target's group membership, the evaluative implications of the target essay, and its descriptive consistency with the group stereotype, \( F(1,112) = 7.47, p < .01 \). Data pertaining to this interaction, which are shown in the middle section of Table 4, are most easily interpreted by considering each subject group separately.

Prosorority subjects considered the group to be heterogeneous. Moreover, the trait to be judged, social dependence, is descriptively related to their stereotype of sorority members as "sociable" but is evaluatively inconsistent with it. Therefore, the trait is not actually contained in the stereotype. Consequently, according to Table 3, these subjects should ignore the implications of their stereotype entirely when judging this trait. This appears to have been the case. The target's group membership had no effect whatsoever on these subjects' ratings of the target's social dependence (\( M_s = 4.40 \) and 4.52 for ratings of sorority and nonsorority targets, respectively). This was true regardless of the implications of the target essay.

Now consider antisorority subjects, who perceived sororities to be homogeneous. In this case, the trait they are asked to judge, social dependence, is contained in their stereotype. According to Table 3, therefore, these subjects should use the stereotype as a standard of comparison in evaluating the implications of the target essay when this essay describes behaviors that pertain directly to this attribute (i.e., it implies either social dependence or its bipolar opposite, independence). However, they should use the implications of their stereotype as a direct basis for their judgments when the target's behavior does not directly pertain to this attribute.

In fact, our results exhibit this pattern. When the behaviors described in the target essay implied either social dependence or independence, the target's group membership had a small but consistent contrast effect on judgments; subjects rated the target as less socially dependent if she belonged to a sorority (\( M = 6.33 \)) than if she did not (\( M = 6.52 \)). When the target's behavior implied that she was either sociable or aloof, however, subjects appeared to base their judgments on the direct implications of their stereotype, rating her as more socially dependent if she belonged to a sorority (\( M = 5.92 \)) than if she did not (\( M = 4.13 \)). These conclusions are confirmed statistically by a three-way interaction involving the target's group membership, the evaluative implications of the target essay, and the descriptive implications of this essay, \( F(1,112) = 5.28, p < .05 \). In summary, then, this pattern of effects for both prosorority and antisorority subjects is compatible with the conclusions drawn from Experiment 1 and summarized in Table 3. However, both the descriptive and the evaluative implications of subjects' stereotypes must be taken into account in predicting the way that these stereotypes are used.

**Snobishness.** Table 3 implies that when subjects judge a trait that is contained in their stereotype but for which the target's behavior has no implications, they base their judgments directly on the stereotype. As our pilot data indicate, however, only antisorority subjects stereotype sorority members as snobbish. Therefore, only these subjects' snobishness judgments should be influenced by the target's group membership.

The effects of experimental variables on subjects' snobishness ratings, shown in the bottom section of Table 4, confirm this hypothesis. The effects of primary concern are reflected in an interaction of subjects' attitude, the target's group membership, and favorableness of the behavioral information \( F(1,112) = 4.05, p < .05 \). Antisorority subjects rated the target as more snobbish if she belonged to a sorority (\( M = 5.37 \)) than if she did not (\( M = 3.75 \)), \( F(1,156) = 14.99, p < .01 \), and this was true regardless of whether the description of her behavior was favorable or unfavorable or whether it was descriptively consistent or inconsistent with the group stereotype. In contrast, prosorority subjects rated the target similarly regardless of whether or not she belonged to a sorority (3.75 vs. 3.58).

**General Discussion**

The studies reported in this article provide several new insights into the effects of group stereotypes in both evaluative and trait judgments of individuals and the contingencies of these effects on perceptions of group homogeneity. In conceptualizing these effects, we considered the impact of three sources of information—the target person's behavior, the target's membership in a stereotyped group, and the target's typicality—and considered the conditions in which each of these criteria was likely to have an impact. The results of both experiments converge on the following conclusions:

1. Descriptions of a target's behavior influence all subjects' judgments of both the target's likableness and traits that the behavior exemplifies. These effects are evident regardless of the target's group membership or the consistency of the behavior with the group stereotype.

2. When subjects believe that a group is heterogeneous (i.e., that members vary substantially with respect to the descriptive attributes that compose their group stereotype), their liking for the target is based in part on their attitude toward the group as a whole. Moreover, these subjects use their group stereotype to infer traits of the target that are both descriptively and evaluatively related to ones that are contained in this stereotype. This is true regardless of whether subjects perceive the target to be a typical or atypical group member.

3. When subjects believe that a group is homogeneous, they base their liking for a target on the target's typicality rather than his or her group membership per se. Moreover, they use their group stereotype as a direct basis for trait judgments only when the target's behavior is either descriptively or evaluatively unrelated to the trait being judged. When the target's behavior does have implications for a trait that is contained in the group stereotype, these subjects use their stereotype-based expectations for this trait as a standard of comparison in construing the implications of the behavior. Consequently, their stereotype has a negative, contrast effect on judgments of the trait.

Considered in combination, the two studies we have reported suggest that the above conclusions are fairly generalizable. For example, the conclusions hold regardless of whether subjects' attitudes toward the stereotyped group are favorable (as in Experiment 1) or unfavorable (as in Experiment 2) and, therefore, regardless of whether the target's typicality is considered to be favorable or unfavorable. Subjects' perceptions of group heterogeneity in the second experiment were confounded with their own membership in the stereotyped group as well as their attitudes toward the group. A similar confound could also have existed in Experiment 1. No subjects in this
experiment belonged to the target group (priests) per se. It is nonetheless conceivable that subjects who believed priests to be heterogeneous with respect to morality were likely to know more priests than subjects who viewed priests as homogeneous. To this extent, subjects' perceptions of group heterogeneity may have been related to differences in their familiarity with group members (Linville, Fischer, & Salovey, 1989).

The effects of this latter confound are less serious than it might appear. Note, for example, that in Experiment 1, subjects who perceived priests to be more or less homogeneous did not perceive priests in general to differ systematically in morality (see Table 1). Yet, they rated the morality of the target priest differently. In other words, any confounding effect that familiarity might have had on judgments of the target was not mediated by its effect on the extremity of the attributes that composed subjects' group stereotypes. Alternative ways in which familiarity differences might have accounted for the pattern of results we obtained are not clear. Nonetheless, the existence of this and other possible confounds, which may be inevitable when stereotypes of existing groups are studied, suggests the need for some caution in drawing definite conclusions from our findings.

*Alternative Formulations of Stereotype-Based Inference*

Although the informational analysis of stereotype-based inference that guided the research reported here provides a good account of the results we obtained, the implications of these findings for other conceptualizations should, of course, be considered. The only current formulation of stereotype-based inferences that explicitly takes into account the effects of perceived group heterogeneity is Linville's (1982). This formulation, however, does not consider the effects of typicality. Moreover, it is restricted to evaluative judgments and, therefore, is unable to predict the pattern of effects on descriptive judgments summarized in Table 3.

In addition, no existing formulation has explicitly considered the possibility that when perceivers believe the group to be homogeneous, the target's typicality or atypicality may have evaluative implications that influence liking for the person. Instead, the typicality of a group member has been assumed to determine the way that other information about the person is processed. Fiske and Pavelchak (1986), for example, postulate that typical members are evaluated on the basis of their liking for the group as a whole, whereas atypical members are evaluated on the basis of more specific (behavioral or trait) criteria. One implication of this conception, however, is that atypical group members should be evaluated similarly to nonmembers who are described in the same way. In the present research, this was not the case. In Experiment 1, subjects who regarded the group as homogeneous judged a priest who behaved dishonestly to be less likable than a nonpriest who behaved the same way (see Table 1). In Experiment 2, antisorority subjects (who believed sororities to be homogeneous) judged atypical sorority targets to be more likable than nonmembers whose behavior was identical (Table 4). These data suggest that subjects who believed the target to be atypical did not simply consider the target's behavior alone in making their judgments.

More recently, Fiske and Neuberg (1990) postulated that typicality comes into play in the course of a continuous categorization and recategorization process that occurs as information about the target is received. That is, subjects who receive information about a particular group member first evaluate the trait implications of this information to determine whether he or she is typical and, if this is the case, evaluate the person on the basis of their liking for the group as a whole. If the person appears to be atypical, they attempt to identify a subcategory of the more general category (e.g., "immoral priest" or "independent sorority member") of which the target is typical and judge the target on the basis of their liking for this subcategory. Additional information about the target that is inconsistent with this subcategory may lead to still further recategorization.

Subcategorization processes of the sort postulated by Fiske and Neuberg (1990; see also Brewer, 1988) undoubtedly occur, and they may well have occurred in the present study. However, several additional assumptions must be made in order to account for our results in terms of these processes. For one thing, the effect of typicality was evident only when subjects perceived the group to be homogeneous, and only when liking judgments were made. To be compatible with our findings, therefore, one must assume that the subcategorization processes outlined above occur only when subjects believe the group to be homogeneous and that these effects are evident only when subjects make evaluative judgments rather than trait inferences. Because the subcategorization process postulated by Fiske and Neuberg (1990) theoretically occurs as information is received rather than at the time of judgment, this latter assumption seems inconsistent with their model in its present form.

Note also that when subjects believed priests to be homogeneous with respect to morality, they judged an immoral priest to be less likable, but also more kind, than a nonpriest who behaved similarly. In Experiment 2, antisorority subjects (who considered sorority members to be homogeneous) rated atypical (independent and aloof) sorority members to be more likable, but also more snobbish, than their nonsorority counterparts. To account for this pattern of results in terms of Fiske and Neuberg's model, one must assume that the subcategory "immoral priest" is more unfavorable than the more general category "immoral persons" even though members of this subcategory have more favorable attributes (e.g., kindness). Correspondingly, antisorority subjects consider "independent sorority member" to be a more favorable category than "independent persons" despite the fact that members of the former category have more unfavorable characteristics (e.g., snobbishness). In short, the characteristics of the specific subcategories that must

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9 An additional consideration surrounds the possible role of self-selection biases. In Experiment 1, subjects were divided into different combinations of perceived typicality and perceived group heterogeneity on the basis of their own judgments of these characteristics. In Experiment 2, prosorority and antisorority subjects were also classified on the basis of self-reports. Thus, in both experiments, the relation of independent variables to judgments could, in principle, result from the common influence of a third factor on both sets of variables rather than a casual relation between one set and the other. Although this possibility cannot be entirely dismissed, the nature of this third variable, and how it would account for the pattern of effects we observed in both studies, is not at all obvious.
be assumed to account for our results in terms of the subcategorization processes postulated by Fiske and Neuberg (1990) are not intuitively obvious to us.

A Conceptual Integration

In light of the challenges that our results provide for other current models of stereotype-based judgment, it may be of heuristic interest to outline an alternative conceptualization of inference processes that potentially integrates these results and has additional empirical implications.

In accordance with more general theories of person impression formation (cf. Srull & Wyer, 1989), we assume that when subjects receive information about a person with instructions to form an impression, they use this information to form an evaluative concept of the person. This concept is formed at the time the information is received. When subjects are later asked to indicate their liking for the person, they simply recall and use the implications of this concept as a basis for judgment. In contrast, their descriptive (trait) inferences about the person are only computed at the time they are asked to report these inferences, based on the original information they can recall and their stereotype-based knowledge.10

Therefore, suppose subjects receive information about a person's behavior with instructions to form an impression. The sequence of cognitive steps we propose to occur is shown in Figure 1, and is described more fully below.

Evaluative Concept Formation

The first three steps occur at the time information is presented, before any judgments are requested.

1. Subjects first assess the evaluative implications of the behavioral information.
2. If the target belongs to a stereotyped group that is believed to be heterogeneous (i.e., above some threshold value along the continuum of heterogeneity), subjects determine the evaluative implications of the target's group membership (a function of their attitude toward the group as a whole). If the group is homogeneous, however, subjects determine the target's typicality or atypicality on the basis of a comparison between the implications of the group stereotype. If this is so, subjects should assess the evaluative implications of the target's behavior, and do not consider their descriptive implications unless an assessment of the target's typicality is made. According to our conceptualization, this occurs only when the group is perceived to be homogeneous. When subjects perceive the group to be heterogeneous, they may not spontaneously consider the target's atypicality at all.

Further implications of the formulation arise from the fact that each of the cognitive steps we postulate to occur en route to a judgment presumably takes time. If this is so, the model generates predictions of the relative time required to make evaluative versus descriptive judgments and the contingency of these judgment times on subjects' group stereotypes and perceptions of group homogeneity. For example, the assumptions noted above could be evaluated by asking subjects explicitly to make atypicality judgments after reporting their liking for the target and by assessing the time required to report each judgment. It presumably takes longer to compute the target's typicality (which involves a comparison of the target's behaviors with features of the group stereotype) than to assess the evaluative implications of the group stereotype. If this is so, subjects should take less time to report their liking for the target when they perceive the group to be heterogeneous than when they believe it to be homogeneous. However, they should take more time to

Judgment Processes

Now suppose that after receiving the above information, subjects are asked to judge the target. To estimate their liking for the person, they simply retrieve and report the implications of the evaluative concept they formed of the person at the time the information was received (Step 3). If they are asked to make a trait judgment, however, additional processing is required.

4. Subjects first recall the behavioral information they received earlier and assess its implications (if any) for the trait.
5. If the trait to be judged (or its bipolar opposite) is not contained in their group stereotype, subjects base their judgments exclusively on the implications of the individuating behavior information.
6. If the trait to be judged (or its bipolar opposite) is contained in subjects' group stereotype but is not implied by the target's behavior, subjects base their judgment on the implications of their stereotype.
7. Suppose that the trait to be judged (or its bipolar opposite) is descriptively and evaluatively implied by the target's behavior as well as subject's group stereotype. Then:
   a. If the group is heterogeneous, subjects assess the implications of their stereotype and base their judgment on a composite of these implications and those of the behavioral information.
   b. If the group is homogeneous, subjects reassess the implications of the target's behavior in relation to those of the stereotype, and base their judgments on these re-evaluated implications.

Although the sequence of processing steps summarized above is compatible with the pattern of results noted in Table 3, further research must obviously be conducted to validate several assumptions on which this sequence is based. Certain features of the formulation are nonetheless of heuristic interest. For example, Fiske and her colleagues assume that the initial step in making an evaluative judgment of a stereotyped group member is to assess the member's typicality on the basis of an assessment of the descriptive implications of the member's behavior and attributes. In contrast, we assume that subjects with the goal of evaluating a group member first assess the evaluative implications of the target's behavior, and do not consider their descriptive implications unless an assessment of the target's typicality is made. According to our conceptualization, this occurs only when the group is perceived to be homogeneous. When subjects perceive the group to be heterogeneous, they may not spontaneously consider the target's atypicality at all.

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10 A distinction should be made between the encoding of behaviors in terms of trait concepts they exemplify (Srull & Wyer, 1989; Winter & Uleman, 1984), which may occur at the time the behaviors are first presented, and assignment of these traits to the actor, which may not occur until later, at the time of judgment.
Figure 1. Flow diagram of concept formation and inference processes underlying the use of behavioral and group membership information to make both evaluative and trait judgments of a target person. (Circles denote cognitive operations performed by the subject, diamonds denote decisions that are made, and rectangles denote overt actions by either the experimenter or the subject.)
report the target's typicality in the first case (when they must compute it at the time they are asked) than in the second (when they need only recall and report the results of a computation they had made previously in processing the information at the time it was received). These and other implications of the model may be worth exploring.

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