Gender Gaps
Who Needs to Be Explained?

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ABSTRACT

The hypothesis that explanations for differences between prototypical and nonprototypical members of categories would focus more on attributes of the latter than on those of the former was examined. Explanations for alleged gender differences in the behavior of voters, elementary school teachers, and college professors were elicited. As predicted, explanations for gender differences within the 3 categories emphasized the qualities of the "deviant" member. SS' explanations of alleged gender gaps in the behavior of voters and college professors focused more on qualities of women than on qualities of men. In contrast, SS' explanations of an alleged gender gap in the behavior of elementary school teachers focused more on qualities of men than on qualities of women. The results are interpreted in terms of Kahneman and Miller's (1986) norm theory.

Portions of this article were presented at the Annual Convention of the Midwestern Psychological Association, May 1991, Chicago, Illinois.
The preparation of this article was supported by National Institute of Mental Health Grant MH44069 to Dale T. Miller and a National Science Foundation graduate fellowship to Michelle L. Buck. We wish to thank Saku Gunasegaram for her assistance with Study I. We also thank Cathy McFarland, Deborah Prentice, Eldar Shafir, Edward E. Smith, and William Turnbull for their comments on an earlier version of this article.
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Received: March 12, 1990
Revised: January 30, 1991
Accepted: February 7, 1991

Contemporary philosophical and psychological analyses of causal explanation prominently feature the explanandum, or the "effect to be explained" (Einhorn & Hogarth, 1986; Hesslow, 1983; Hilton & Sluga, 1986; Kahneman & Miller, 1986; Mackie, 1974; McGill, 1989, 1990; van Fraassen, 1980). This converging focus reflects the assumption that perceivers do not seek to explain an event per se, but rather the discrepancy between an event and some contrasting alternative. Recognizing that the same event can suggest more than one effect to be explained, theorists have begun to reconsider their accounts of various attributional phenomena, including divergences in causal explanations; for instance, no longer are discrepancies in the causal explanations of perceivers interpreted as suggesting that the different perceivers must be explaining the same event differently. It is now acknowledged that such differences may simply reflect the fact that the target event suggests different effects to be explained to the different perceivers (Einhorn & Hogarth, 1986; Kahneman & Miller, 1986; McGill, 1989, 1990).

Consider an example of the role of contrast in causal attribution provided by the legal philosophers Hart and Honoré in their classic, Causation in the Law (1959). The example involves a man who suffers from indigestion after his dinner one evening. His wife cites theparsnips he ate for dinner as the cause of his indigestion, whereas his doctor blames the ulcerated condition of his stomach. As Hart and Honoré pointed out, the causes chosen by the wife and by the physician in this example refer to the same event but explain different effects. The wife's answer indicates that she is trying to
account for a discrepancy between the event and an intrapersonal norm: "Why does he have indigestion today but not on other days?" The physician, on the other hand, is concerned with accounting for a discrepancy between the event and an interpersonal norm: "Why does this patient suffer from indigestion when others do not?" The explanations provided by the wife and the doctor are both reasonable, and, more important, they are not inconsistent with one another. Neither person would disagree with the other person's explanation for the effect that he or she was trying to explain.

In a related vein, McGill (1989) proposed that the familiar divergence in actors' and observers' causal attributions (Jones & Nisbett, 1971) may stem from the fact that the two are explaining different effects rather than the fact that the two are providing different accounts for the same event. Actors and observers in McGill's study provided similar accounts when presented with questions that clearly specified the contrast to be explained (either an interpersonal or an intrapersonal one). But when they were presented with questions that left the contrast or causal background unspecified, the actors and observers displayed the customary tendencies to emphasize situational factors and dispositional factors, respectively.

Mutability and the Definition of Effects

Assuming that perceivers explain contrasts between events and salient alternatives rather than the events themselves, what can be said about the factors that determine the contrasts that events suggest to perceivers? A systematic answer to this question has not yet been provided, but some possible candidates have been suggested (Hesslow, 1983; Hilton & Slugoski, 1986; Kahneman & Miller, 1986; McGill, 1989, 1990). One of these candidates, attribute mutability, is featured in Kahneman and Miller's (1986) norm theory. According to this theory, events evoke alternatives that share some but not all of the features of the target event. Kahneman and Miller referred to those shared features as the immutable aspects of the event and the nonshared features as the mutable aspects. Kahneman and Miller proposed that, when discrepancies exist between the mutable and immutable aspects of a target event, the immutable aspects will become the causal background against which the mutable aspects or attributes will be contrasted.

To illustrate the concept of mutability and its relation to the definition of effects to be explained, consider the variable of temporal order. Kahneman and Miller (1986) proposed that early events in a temporal sequence are perceived as less mutable than later events and hence tend to be taken as the causal background when discrepancies exist between them and later events. D. T. Miller and Gunasegaram (1990) tested this hypothesis by presenting subjects with one of two inconsistent sequences in exam performance (grades of A and C and of C and A). According to the link between temporal order and mutability hypothesized by Kahneman and Miller (1986), the alternative grade sequence evoked most strongly by these sequences should be one that holds the first event constant and modifies the second (i.e., A, A for the first student and C, C for the second student). Thus, explanations of the A, C sequence should seek to explain why the sequence was not A, A, whereas explanations of the C, A sequence should seek to explain why it was not C, C. D. T. Miller and Gunasegaram (1990) tested this reasoning by asking subjects to indicate whether a "better and more natural explanation" for the inconsistency in the student's grades would be one that (a) accounted for why the second grade was not the same as the first or (b) accounted for why the first grade was not the same as the second. Consistent with the mutability hypothesis, the majority of subjects selected the first of these options.

The present research continued the search for the determinants of attribute mutability and, in addition, sought to relate the variable of attribute mutability to the process of causal explanation. The variable we focused on is the typicality of category membership (Rosch & Mervis, 1975; Smith & Medin, 1981). Following Kahneman and Miller (1986), we proposed that people find it more natural to imagine the behavior of a nonprototypical member of a category matching the behavior of a prototypical member than vice versa. Thus, the contrasting alternative evoked by a behavioral discrepancy between prototypical and nonprototypical members of a category should be one in which people not only eliminate the discrepancy but eliminate it in a particular way: Specifically, the contrasting case should be one in which the nonprototypical member (variant) behaved like the prototypical member.

The Gender Gap

A possible illustration of the typicality—mutability link occurred in the 1988 U.S. presidential campaign. During this campaign, the media gave considerable attention to the fact that female voters tended to prefer the Democratic candidate, whereas male voters tended to prefer the Republican candidate. We were particularly interested in the nature of the attempts to explain this so-called "gender gap." It seemed, to us at least, that the explanations for the difference focused on female voters, speculating either on why they liked the Democratic candidate or on why they disliked the Republican candidate. For example, in a front page article in the June 19, 1988, New York Times, a writer observed,
For if it weren't for what politicians call the "gender gap," the different voting patterns of men and women and particularly the tendency of women to vote Democratic more than men do, Michael S. Dukakis would not have anything like the large lead he now enjoys over Vice President Bush.

The writer of this article made no mention of the alternative and equally logical possibility that if men were voting more like women, Dukakis would have had a much greater lead. The writer then goes on to say, "Looking for explanations, politicians ask if there is something about Mr. Bush himself that makes him especially unappealing to women. Or do women perceive in Mr. Dukakis some singular sensitivity toward their concerns?" Once again, the writer ignores the other question that the gender gap logically invites: Is there something about Mr. Dukakis himself that makes him especially unappealing to men? Or do men perceive in Mr. Bush some singular sensitivity to their concerns? At least one member of the media, New York Times writer R. W. Apple Jr., in an article on October 27, 1988, acknowledged the disproportionate attention women received in analyses of the gender gap and offered the following explanation for it: "Because of the advent of the women's movement in the late 60's, an identifiable agenda of 'women's issues' has emerged, so it is to women, not to men, that social scientists and journalists have turned in trying to understand the disparity."

We derived a different account for the explanation of the gender gap from the link between mutability and typicality that we have proposed. This account begins with the assumption that maleness is perceived to be the default value of the attribute gender for the prototypical voter. The fact that voters in this country were exclusively male for over 100 years is one obvious reason why this would be the case. If maleness is the prototypical value (and femaleness the variant) for the attribute of voter gender, then the differential mutability hypothesis suggests that discrepancies between male and female voters should evoke alternatives that involve modifications of the behavior of female voters rather than the behavior of male voters. But we are getting ahead of our story, as we have not yet presented systematic evidence supporting either the hypothesis that the typical voter is viewed as male or the hypothesis that people's accounts of voter gender gaps do focus on women. Our purpose in Study 1 was to secure evidence for these hypotheses.

**Study 1: Explaining Candidate Preference**

**Pretest**

We have proposed that people's explanations of gender differences in voter behavior will focus more on characteristics of women than on characteristics of men because the default gender for voters is viewed as male. In the pretest to Study 1, we examined the latter assumption by testing the hypothesis that people imagine a man when they think of the typical voter.

**Method Subjects.**

The subjects were 103 undergraduates recruited through campus-wide solicitation. They completed the experimental questionnaire anonymously as part of a large questionnaire packet.

**Procedure.**

We told subjects that the questionnaire was to determine "the detail with which people could imagine concrete instances of abstract social categories." The questionnaire identified the category of interest as the "American voter." We asked subjects to take a few moments to imagine in as much detail as they could the "typical American voter" and then to answer four questions about the person whom they had imagined. There were two forms of the questionnaire. Each form contained four questions, three of which concerned the age, marital status, and home state of the person the subjects had imagined. The fourth, and key, question varied across the two forms and asked subjects for either the person's gender or the person's first name.

**Results and Discussion**

The responses to both gender probes were consistent with the hypothesis. Significantly more subjects described the typical American voter as male than as female (72% vs. 28%), and significantly more subjects assigned a male name to their image than a female name (82% vs. 18%). No sex-of-subject differences emerged on either the gender or name question.
Based on the pretest results, it seems that both male and female college students imagine men when they think of voters. Interestingly, this appears to be a case in which the prototypical member of the category and the most common member of the category are not the same (Rosch & Mervis, 1975; Smith & Medin, 1981; Tversky & Gati, 1978). If subjects' judgments of typicality had followed the male—female ratio in the population, these judgments should have favored women over men.

Main Study

The main study tested the hypothesis that people's accounts for the gender gap in voter preferences during the 1988 U.S. presidential campaign would more likely focus on women than on men. This prediction derived from the assumption that people's causal accounts would attempt to explain not simply why the two genders differed but why the nonprototypical members of the category (women) differed from the prototypical members (men).

Method Subjects.

The subjects were 116 male and female Princeton University undergraduates enrolled in an introductory psychology course. The study was conducted 4—6 weeks before the November 8, 1988, U.S. presidential election.

Procedure.

Subjects were presented with a questionnaire concerned with the Bush vs. Dukakis presidential race. The questionnaire asked subjects to indicate their sex and to answer two questions. The first question requested them to explain the gender gap in voter preference, and the second requested them to predict the most likely form that any reduction of this gap would take. All gender gap descriptions began with the statement, "National polls show that male and female support for the presidential candidates differs greatly." The description that followed took one of four forms: (a) "Bush's support from females is almost 20 points lower than his support from males," (b) "Bush's support from males is almost 20 points greater than his support from females," (c) "Dukakis's support from females is almost 20 points greater than his support from males," and (d) "Dukakis's support from males is almost 20 points lower than his support from females." Following the description of the gender gap, subjects were asked to explain it. Finally, subjects were presented with the second question, which read, "If the gender gap were to disappear, whom do you think would be more likely to change their preference?"

Results and Discussion

Two coders who were blind to the questionnaire form coded the responses to the open-ended question about the gender gap for male and female references. Explanations were coded as female if they focused on reasons why women either supported or did not support a particular candidate, and they were coded as male if they focused on reasons why men either supported or did not support a particular candidate. Examples of responses that would be coded as female and male, respectively, are "women seem to believe that Dukakis is more concerned with women's issues such as day-care support or pro-choice issues" and "men tend to be more militarily oriented so they probably would be more likely to support a candidate like Bush who would want to spend a significant amount of money on weapons and defense." The mean agreement between the two coders was .83 for explanations coded as male and .82 for explanations coded as female. Discrepancies were resolved through discussion.

A 2 (sex of subject) × 4 (questionnaire form) × 2 (sex of reference) analysis of variance (ANOVA) revealed no main effects or interactions involving either sex of subject or form of questionnaire. The only significant effect to emerge was for the within-subjects variable of sex of reference, F (1, 108) = 108.81, p < .001. Consistent with the hypothesis, subjects mentioned many more characteristics of female voters than characteristics of male voters (M = 1.54 vs. M = 0.30).

The pattern of explanations supports the hypothesis that people tend to presuppose the behavior of male voters. This inference receives additional support from subjects' predictions about the most likely way in which the gap would disappear. Of the 109 subjects who answered this question, 67 (62%) indicated that they believed that women were more likely to change than were men, z (109) = 2.39, p < .01. This pattern was not affected by the sex of the subject or by the form of the questionnaire.
The findings of the present study are consistent with the experimental hypothesis, but certain design limitations compel us to interpret them cautiously. For one thing, although the design manipulated certain features of the presentation of the gender gap, it was not completely counterbalanced. In all versions, we followed the actual polls and described Bush as receiving more support from men than from women and Dukakis as receiving more support from women than from men. Second, as the gender gap had received a lot of media attention, it is possible that subjects' responses simply reflected the accounts they had encountered in the media. This pattern of influence would not necessarily be uncongenial to our hypothesis, of course. People in the media should not be expected to be immune from the process we posit. On the other hand, it remains possible that there may be some other reason—one peculiar to the people in the media—why they focused on the women's role in the gender gap. We designed Study 2 to avoid these interpretational problems.

**Study 2: Explaining Voter Turnout Rates**

For this study, we sought a gender gap in voting behavior that had not received media attention. By focusing on an uncelebrated gender gap, we could describe it as taking all possible forms and could be confident that subjects' explanations for it were not derived from those provided by the media. We decided on the gender gap in voter turnout rates. As in Study 1, we predicted that subjects' explanations for an alleged gender gap in voter turnout rates would be more likely to comment on something about women (the nonprototypical voter) than on something about men (the prototypical voter).

**Method**

**Subjects.** Subjects were 83 undergraduates enrolled in an introductory psychology class. They completed the questionnaires as a filler task during a laboratory exercise on memory processes.

**Procedure.** We presented subjects with a questionnaire allegedly concerned with voting in presidential elections. The questionnaire asked them to indicate their sex and to answer two questions. The first question requested them to explain the gender gap in voter turnout rates, and the second asked them to predict the most likely form that any reduction of this gap would take. All descriptions began with the statement, "In the past several Presidential elections in this country, a 'gender gap' in voter turnout has emerged." The description that followed took one of four forms: (a) "In general, 8% more men than women have voted"; (b) "in general, 8% more women than men have voted"; (c) "in general, 8% fewer men than women have voted"; or (d) "in general, 8% fewer women than men have voted." Once the subjects had read the description, we asked them to explain it. Finally, we presented subjects with the second question, which read, "If the gender gap were to disappear, would it more likely be due to: (a) men's turnout rate becoming like that of women's, (b) women's turnout rate becoming like that of men's."

**Results and Discussion**

The responses to the open-ended question about the gender gap were coded for male and female references by two independent coders who were blind to the questionnaire form. Explanations were coded as female if they focused on reasons why women might be more or less likely to vote in presidential elections, and they were coded as male if they focused on reasons why men might be more or less likely to vote in presidential elections. Examples of responses coded as female and male, respectively, are "perhaps women vote less frequently than men because the electoral system is a less viable means of change for women in society" and "men are more concerned about and hence involved with the power structure and economy." The agreement between the ratings of the two coders was .86 for references coded as male and .79 for references coded as female. Discrepancies were resolved through discussion.

A 2 (sex of subject) × 2 (sex of reference) × 2 (sex of focus) × 2 (frame of gap: lower vs. higher) ANOVA was conducted on subjects' explanations. The only significant effect to emerge was a main effect of the within-subjects variable of sex of reference, $F(1, 75) = 69.10, p < .001$. Paralleling the results of Study 1, subjects mentioned many more characteristics of female voters than characteristics of male voters ($M = 1.45$ vs. $M = .40$) in their explanations.

As with Study 1, further support for the hypothesis that subjects presupposed the behavior of male voters came from subjects' predictions about the most likely way in which the gap would disappear. Of the 80 subjects who answered this question, 68 (85%) predicted that the disappearance of the gap would more likely be due to the women's turnout rate becoming like that of men than due to the men's turnout rate becoming like that of women, $z(80) = 6.26, p < .001$. 
Whether explaining gender gaps in voter preference (Study 1) or turnout rates (Study 2), male and female college subjects focused on features of women rather than on those of men. This was true whether the gap indicated that women were higher or lower than men on the dimension in question. Although women were the focus of explanations in Studies 1 and 2, our analysis does not imply that people will invariably explain gender gaps by reference to some aspect of women. This should be true only in those cases in which the prototypical member of the relevant category is male. When the prototypical category member is female, our analysis predicts that the existence of a gender gap should be explained by reference to characteristics of men rather than of women. We designed Study 3 to explore this hypothesis. Two social categories were featured in this study: one in which the prototypical member was assumed to be male (college professor) and one in which it was assumed to be female (elementary school teacher).

**Study 3: Explaining Gender Gaps in Two Groups of Teachers**

**Pretest**

Using a method identical to that used in Study 1, in the pretest to Study 3, we probed subjects' perceptions of the gender of the typical college professor and the typical elementary school teacher. We hypothesized that the typical college professor would be perceived to be male, whereas the typical elementary school teacher would be perceived to be female.

**Method Subjects.**

The subjects were 187 undergraduates recruited through campus-wide solicitation. They completed the experimental questionnaire anonymously as part of a large questionnaire packet.

**Procedure.**

Following the procedure of Study 1, we described the questionnaire as designed to determine "the detail with which people could imagine concrete instances of abstract social categories." The questionnaire identified the category of interest as either that of "college professor" or "elementary school teacher." We asked subjects to take a few moments to imagine in as much detail as they could either the "typical college professor" or the "typical elementary school teacher" and then to answer four questions about the imagined person. As in Study 1, there were two forms of the questionnaire, each including three filler items and a request for either the imagined person's gender or first name.

**Results and Discussion**

The responses to both gender probes were consistent with the hypothesis. The vast majority of subjects described the typical college professor as male (91%) and the typical elementary school teacher as female (96%). Furthermore, an overwhelming majority of subjects assigned a male name to their imagined typical college professor (94%) and a female name to their imagined typical elementary school teacher (91%). No sex-of-subject differences emerged in the responses to either the gender or name question.

**Main Study**

Subjects, as predicted, appeared to view the typical college professor as male and the typical elementary school teacher as female. But how might they explain gender differences in these two social categories? Would they focus on characteristics of women in the case of college professors but on characteristics of men in the case of elementary school teachers? We conducted the main study to answer this question.

**Method Subjects.**

The subjects were 210 male and female college students recruited through campus-wide solicitation. They completed the experimental questionnaire anonymously as part of a large questionnaire packet.

**Procedure.**

Subjects received one of eight forms of the experimental questionnaire. All the forms asked subjects to indicate their sex
and to answer two questions. Four of the forms focused on college professors and four on elementary school teachers. All questionnaires began with the following description: "A recent national study examined the relationship between gender and illness rates in various professions. One finding was a gender gap in the illness rate of college professors (elementary school teachers). Specifically,...." The description that followed took one of four parallel forms: (a) "Male college professors (elementary school teachers) have 8% more doctor visits per year than do female college professors (elementary school teachers)," (b) "male college professors (elementary school teachers) have 8% fewer doctor visits per year than do female college professors (elementary school teachers)," (c) "female college professors (elementary school teachers) have 8% more doctor visits per year than do male college professors (elementary school teachers)," (d) "female college professors (elementary school teachers) have 8% fewer doctor visits per year than do male college professors (elementary school teachers)."

We asked subjects to explain the gender gap once they had read the description of it. Finally, we presented subjects with the second question, which read,

If this gender gap in the percent of doctor visits were to disappear, would it more likely be due to: (a) the frequency of doctor visits for female college professors (elementary school teachers) becoming more like that of male college professors (elementary school teachers), (b) the frequency of doctor visits for male college professors (elementary school teachers) becoming more like that of female college professors (elementary school teachers).

Results and Discussion

The responses to the open-ended explanation question about the gender gap were coded for male and female references by two independent coders who were blind to the questionnaire form. Explanations were coded as female if they focused on reasons why female college professors or elementary school teachers might have more or less doctor visits, and they were coded as male if they focused on reasons why male college professors or elementary school teachers might have more or less doctor visits. Examples of responses coded as female and male, respectively, are "women are more likely to be worried about illnesses" and "males tend to procrastinate and not go to the doctor." The agreement between the ratings of the two coders was .96 for references coded as male and .94 for references coded as female. Discrepancies were resolved through discussion.

We conducted a 2 (sex of subject) × 2 (sex of reference) × 2 (sex of focus) × 2 (profession: college professor vs. elementary school teacher) × 2 (frame of gap: more vs. fewer) ANOVA on subjects' explanations. Consistent with the experimental hypothesis, this analysis revealed a significant interaction between sex of reference and profession, \( F(1,180) = 5.89, p < .01 \). Subjects' tendency to provide female rather than male references was greater when women were the nonprototypical member of the category (college professor) than when they were the prototypical member (elementary school teacher).

There were two other significant effects of interest. First, there was a very robust main effect of the within-subjects variable of sex of reference, \( F(1, 180) = 16.06, p < .001 \). Overall, subjects provided more female references than male references (see Table 1). Second, there was a significant three-way interaction involving sex of reference, sex of target, and frame of gap, \( F(1, 180) = 42.98 p < .0001 \). This effect reflected subjects' tendency to provide many more female references when women were described as making more doctor visits (women 8% more, men 8% fewer) than when they were described as making fewer doctor visits (women 8% fewer, men 8% more; \( M = 1.23 \) and \( M = 0.61 \), respectively).

An inspection of the open-ended responses provided an interesting insight into this interaction. In those conditions in which women were described as making more doctor visits, a large proportion of the female references focused on issues related to gynecology or obstetrics (ob-gyn; e.g., pap smears and pregnancy tests). This was true in both the college professor and the elementary school teacher conditions. It appears that the opportunity to fall back on an obvious, ready-made explanation dominated the relevance of category prototype when the gap was framed as women making more (men making fewer) doctor visits. Given this, a different pattern of results might be expected if those female references that focused on ob-gyn—related health issues were dropped from the analysis. We conducted such an analysis, and indeed, the pattern was different (see Table 1). First, contrary to the overall analysis, this analysis revealed neither a significant main effect of sex of reference nor a significant three-way interaction between sex of reference, sex of target, and frame of gap; it did, once again, reveal a significant interaction between sex of reference and profession, \( F(1, 180) = 6.36, p < .01 \). Most important, this analysis revealed a crossover pattern of references: Explanations were focused more on
women than on men when explaining a gender gap in college professors' doctor visits (\( M = .72 \) vs. \( M = .46 \)), \( F (1, 180) = 8.26, p < .01 \), but were focused more on men than on women when explaining a gender gap in elementary school teachers' doctor visits (\( M = .68 \) vs. \( M = .45 \)), \( F (1, 180) = 4.31, p < .05 \).

Subjects' responses to the question that asked them to predict the most likely direction that any reduction in the alleged gender difference might take also strongly supported the experimental hypotheses. The majority of the subjects in the college professor condition predicted that female professors were more likely to change than were male professors (65% vs. 35%), whereas the majority of the subjects in the elementary school teacher condition predicted that male teachers were more likely to change than were female teachers (65% vs. 35%). These two patterns were significantly different, \( z (219) = 4.28, p < .001 \).

**General Discussion**

The principle focus of the present studies was the role of contrast in causal explanation. Previous research has established that the same target event can be contrasted to different causal backgrounds and thereby yield different explananda, or effects to be explained (Einhorn & Hogarth, 1986; Hilton & Slugoski, 1986; Kahneman & Miller, 1986; McGill, 1989). For example, the fact that the turnout rate for female voters under the age of 50 is 40% can be contrasted with at least two different backgrounds: the turnout rate of male voters under the age of 50 and the turnout rate of female voters over the age of 50. Which of these different backgrounds is salient is important, as it will guide and constrain the perceiver's causal selection. In the first case, the perceiver will select something that differentiates female from male voters, and in the second case, the perceiver will select something that differentiates female voters under 50 from female voters over 50 (Hesslow, 1983; Kahneman & Miller, 1986).

Once it is recognized that causal explanation focuses not on events per se but on contrasts between events and causal backgrounds, a natural focus of attention becomes the factors that determine the perceiver's choice of causal background. Much discussion of causation occurs in conversational contexts, and thus, one obvious place to begin this search is with principles of conversation (Grice, 1975; Lehnert, 1978; Sperber & Wilson, 1986; Turnbull, 1986; Turnbull & Slugoski, 1988). Intonation, for example, can direct a person to choose one background over another (e.g., "Why is the turnout rate for female voters under the age of fifty 40%?" vs. "Why is the turnout rate for female voters under the age of fifty 40%?"). Another important factor is the presuppositions that the cooperative answerer makes about the nature of the questioner's surprise (Sperber & Wilson, 1986; Turnbull & Slugoski, 1988). Even without the benefit of intonation, an answerer will often have information that allows him or her to identify the contrast of interest to the questioner.

Nonconversational factors also influence the salience of causal backgrounds. One such factor is the perceiver's past experience. Recall Hart and Honoré's (1959) example of the man suffering from indigestion. Given the experience of his wife, his indigestion seemed most unusual against the background of other nights when he did not have indigestion; for his physician, the man's indigestion seemed most unusual against the background of other patients who did not suffer from indigestion. The order in which individuals receive contrasting information can also influence the causal background they employ, and hence the effect they decide needs explaining. For example, D. T. Miller and Gunasegaram (1990) found that early events in a sequence often serve as the causal background against which later events are contrasted.

The present results suggest an important extension to previous analyses. They suggest that a full understanding of the role of contrast in causal explanation must go beyond the mere specification of the dimension of contrast (e.g., the intrapersonal vs. interpersonal dimension in Hart and Honoré's, 1959, example). In addition, what is taken as the referent and what is considered the standard, or what is taken as the figure and what as the ground, must be known. To return to our earlier example, knowing that the contrast is between the turnout rates of female voters under 50 and male voters under 50 does not specify precisely enough the effect to be explained. The present results show that people's explanations also will be affected by whether it is the turnout rate of female voters or that of male voters that they take to be the norm. If the first case obtains, the perceiver will point to characteristics of male voters that explain why their turnout rate is different from that of female voters, and if the second case obtains (as it apparently does), the perceiver will point to characteristics of women that explain why their turnout rate is different from that of male voters.

The question arises at this point, "What determines which of two values or features of the target event will become the ground and which the figure?" Following Kahneman and Miller (1986), we proposed that one determinant is the mutability (susceptibility to mental modification) of the two values. Mutable values are more likely to be figural and less
likely to be ground, than are immutable values (see also D. T. Miller & Turnbull, 1990; D. T. Miller, Turnbull, & McFarland, 1990). Of course, the next question to ask is, "What determines the mutability of attributes?" One determinant, we suggest, is typically. When there is a discrepancy between some physical or behavioral feature of a prototypical and a nonprototypical instance of a category, it is more natural to imagine the variant being like that of the prototype than vice versa (cf. Rosch, 1975; Tversky, 1977). This asymmetry in ease of mental modification results in the prototypical instance serving as the ground, and the variant as the figure, in the search for the explanation of the discrepancy.

Consequences of Explaining One Effect Rather Than Another

Important social psychological consequences may follow from the tendency to focus on the behavior of one particular group when explaining intergroup differences. For one thing, differential attention of this type can be stigmatizing for members of the focal group. Having to explain oneself or justify one's "deviance" can be highly unpleasant and leave one feeling humiliated, helpless, or infuriated. For example, Asian Americans who are continually asked why they academically outperform other groups may often feel that they are unjustly treated as deviants and that they are inappropriately held accountable for a state of affairs for which others are at least as responsible. Why, they reasonably ask, are other groups not being asked why they do not perform as well as Asian Americans? Similarly, female voters may understandably feel stigmatized and angry when it is from them, and not from male voters, that the political pundits and social scientists seek explanations for the gender gap. The general stigmatizing effect that the presumption of deviance can have on women is described well by Deborah Tannen (1990):

Some women fear, with justification, that any observation of gender differences will be heard as implying that it is women who are different—different from the standard, which is whatever men are. The male is seen as normative, the female as departing from the norm. And it is only a short step—maybe an inevitable one—from "different" to "worse." Furthermore, if women's and men's styles are shown to be different, it is usually women who are told to change." (p. 14)

The quote by Tannen raises an important fact about gender differences that we have not yet acknowledged: Namely, there may well be a general tendency to treat men as the norm and women as the deviants (see, for example Gilligan, 1982; Hall, 1987; McClelland, 1975; J. B. Miller, 1976). In effect, people (women and men alike) may view men as the prototypical member of the category person (Eagly & Kite, 1987). Thus, for gender gaps that transcend particular social categories, such as those that occur in nonverbal communication (Hall, 1987) and moral reasoning (Gilligan, 1982), the norm will be the behavior of men. Indeed, it may be that the only categories in which women are viewed as the prototypical members, and hence their behavior viewed as the norm, are those categories in which they are the most common member (e.g., elementary school teacher); men will be viewed as the prototypical members of those categories they statistically dominate as well as those in which they and women are equally common (e.g., voter).

In addition to stigmatizing the figural group, explaining one group rather than another may also serve to perpetuate the status quo. The more gender differences in voter behavior there are to explain, the more deviant female voters will seem, and the more strongly entrenched women will become as the deviant member of the category. And there may be even more insidious consequences if it turns out that some types of explanations for differences of variants from the prototype are preferred over others. For example, when explaining gender differences in voting behavior, there may be a preference for focusing on those characteristics that are lacking in women but present in men over those characteristics that are present in women but lacking in men. In other words, it may be more natural to simulate how women could "grow" to resemble men than how they could "shrink" to resemble men (Dunning & Parpal, 1989).

Finally, the process we have described may have implications that go well beyond everyday causal explanation, extending even to the development of scientific theory. In this regard, Krebs and Miller (1985) observed that the research efforts of investigators of altruism and aggression appear to be directed at questions with distinctly different formulations. Investigators of altruism appear to assume the presence of altruism as the norm and thus be most interested in answering the question of why there is so little altruism—a question that leads them most naturally to identify various cognitive processes that inhibit altruistic behavior. In contrast, investigators of aggression appear to assume the absence of aggression as the norm and thus be most interested in answering the question of why there is so much aggression—a question that leads them most naturally to identify various affective factors that facilitate aggressive behavior. Thus, the image of human nature that provides the causal background against which researchers view altruism and aggression may direct the researchers to very different questions and, in turn, to very different types of causal variables. If this is so, it may be that cognitive factors influence aggression as much as they do altruistic behavior and that affective factors influence altruistic behavior as much as they do aggression. The different emphasis that cognitive and affective variables
have received in the two domains may simply reflect the question that seems most relevant in each of these domains rather than the relative impact of these variables on the two types of social behavior.

Final Thoughts

By linking the concepts of mutability and typicality, the present findings deepen our understanding of both concepts. They enhance understanding of mutability by demonstrating that the typicality of a person's standing on an attribute (e.g., gender) determines the ease with which that person's behavior can be imagined otherwise. They enhance understanding of typicality by linking it to causal explanation and to predictions of change. The present results also further understanding of causal explanation by showing that, along with the perspective of the observer and conversational principles, knowledge structures can influence the identification of effects and, in turn, the selection of causes. All of these implications merit further exploration.

References

Miller, D. T. & Turnbull, W. (1990). The counterfactual fallacy: Confusing what might have been with what ought to have been. Social Justice Research, 4, 1-16.
Actually, the media first drew attention to the gender gap in candidate preference during the 1980 presidential election campaign (Borquez, Goldenberg, & Kahn, 1988).

In this study we endeavored to present subjects with gender gaps that paralleled as closely as possible the voter gender gaps that we employed in Studies 1 and 2. Although it was relatively easy for us to think of categories for which the prototypical member is perceived to be female (e.g., elementary school teacher), in all of these cases, women were also the most statistically common members. We could not think of a single gender-balanced category in which the prototypical member was perceived to be female. One obvious reason for this is that although there are examples of categories that were historically but are not currently male dominated (e.g., voter and driver), there are no examples of categories that were historically, but are not currently, female dominated. In any event, our prediction concerning explanation applies equally to those categories in which the prototypical member is also the most common member (e.g., elementary school teacher and college professor) and those in which it is not (e.g., voter).

Table 1

<table>
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