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If You Are Gender Schematic, All Members of the Opposite Sex Look Alike

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Sex-typed, androgynous, undifferentiated, and cross-sex-typed subjects of both sexes were asked to recall "who said what" after listening to a taped conversation either among three men and three women (the gender study) or among three blacks and three whites (the race study). An analysis of subjects' errors revealed that both sex-typed and cross-sex-typed subjects confused the members of the opposite sex with one another significantly more than androgynous or undifferentiated subjects did. In contrast, no individual differences related to sex typing emerged in the race study, which suggests that the greater gender schematicity of sex-typed individuals is specific to gender, as Bem's gender schema theory implies. Included in the article is a discussion of (a) the intriguing finding that cross-sex-typed subjects were significantly more gender schematic than anyone else and (b) the apparent inconsistency of the data with Markus's self-schema theory.

It is possible, in principle, for any individual in any situation to categorize and thereby perceive any multidimensional stimulus—including a human being—in a variety of ways. In practice, however, both situational and individual differences constrain which dimension or dimensions will be given cognitive priority when a particular individual is confronted with a particular multidimensional stimulus in a particular situation.

The current study is an extension of previous theory and research on individual differences in the use of gender as a cognitive organizing principle, or schema, for structuring and guiding one's perception of reality. According to gender schema theory (Bem, 1981b, in press), individuals differ in their readiness to search for and to assimilate incoming information in gender-related terms, with sex-typed individuls having a greater readiness than non-sex-typed individuals to encode and to organize information on the basis of gender despite the existence of other dimensions that could serve equally well as an organizing principle.

Recent empirical research supports gender schema theory's basic claim that sex-typed individuals have a greater readiness than non-sex-typed individuals to engage in gender-schematic information processing.[1] In a study of gender clustering in free recall (Bem, 1981b), for example, the sequence of recall for sex-typed subjects revealed significantly more runs or clusters of feminine items and of masculine items than the sequence of recall for non-sex-typed subjects. Thinking of one feminine (or masculine) item could enhance the probability of thinking of another feminine (or masculine) item in this way only if the individual spontaneously encoded both items as feminine (or masculine) and the gender schema thereby linked the two items in memory. Similarly, in a study that measured the subject's latency when asked whether each of a series of personality attributes was or was not self-descriptive (Bem, 1981b), sex-typed subjects were significantly faster than non-sex-typed subjects when endorsing sex-appropriate attributes and when rejecting sex-inappropriate attributes; they were also significantly slower than non-sex-

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[1] See Bem (in press) for a complete and up-to-date review of the empirical literature related to gender schema theory.

typed subjects when endorsing sex-inappropriate attributes and when rejecting sex-appropriate attributes. This pattern of rapid delivery of gender-consistent self-descriptions and slow delivery of gender-inconsistent self-descriptions confirms gender schema theory's contention that sex-typed individuals spontaneously sort information into categories or equivalence classes on the basis of gender.

There is also evidence that sex-typed individuals have a greater readiness than non-sex-typed individuals to organize the social world on the basis of gender, that is, to assimilate other people into masculine and feminine categories. In one study, for example, Deaux and Major (1977) reported that sex-typed subjects differentiated between people of different sexes significantly more than androgynous subjects did when asked to segment each person's videotaped sequence of behaviors into units that seemed natural and meaningful to them. In another study, Andersen and Bem (1981) reported that when conversing with four different people who varied both in sex and in alleged physical attractiveness, the behavior of sex-typed subjects was more likely to be influenced by the level of the partner's physical attractiveness when the partner was a member of the opposite sex than when the partner was a member of the subject's own sex; in contrast, the behavior of androgynous subjects did not vary as a function of the partner's sex. Finally, Taylor and Falcone (1982) reported that when asked to recall "who said what" after listening to a group discussion, sex-typed (and cross-sex-typed) subjects were more likely than androgynous subjects to make within-sex rather than cross-sex errors, that is, to confuse women with women and men with men.

The study by Taylor and Falcone (1982) is of particular interest because it used an ingenious paradigm that was initially developed by Taylor, Fiske, Etcoff, and Ruderman (1978) as a method for examining the categorical basis of racial and sexual stereotyping. In the paradigm, subjects listen to a tape recording of six people discussing some topic. As each person speaks, a slide of his or her photograph is simultaneously projected on a screen. At the end of the slide and tape show, each subject is given all six of the speakers' photographs as well as a randomized list of all the speakers' statements from the discussion. The subject's task is then to match each statement with the appropriate photograph, that is, to recall who said what.

For us, this paradigm has two important virtues. First, it provides an elegant measure of how much the subject organizes his or her perceptions of others on the basis of gender. Note that whenever the subject is wrong with respect to the precise identity of the original speaker, he or she may not necessarily be wrong with respect to the speaker's sex. If the subject gets the speaker's sex right, he or she has made a within-sex error; if the subject gets the speaker's sex wrong, he or she has made a cross-sex error. Because within-sex errors indicate that the subject is confusing people who are alike in terms of gender, the subject's within-sex error rate constitutes a measure of the subject's readiness to use gender as a cognitive organizing principle. Moreover, because the within-sex error rate can be computed separately for speakers of different sexes, it is possible to determine not only how much a particular subject treats the members of a given sex as if they were equivalent, but also how much the subject treats the members of one sex as even more equivalent than the members of the other sex.

Second, this paradigm enables us to include a control dimension in our research and thereby to discover whether the greater schematicity of sex-typed individuals is specific to gender or extends as well to other important social and demographic categories, such as race. More specifically, with but minor changes in the stimulus materials, the very same methodology can be used to assess individual differences in race schematicity as well as gender schematicity.

The study to be reported here replicates and extends the preliminary study of Taylor and Falcone (1982). Like Taylor and Falcone, we too are interested in the effects of sex typing in the who-said-what paradigm. However, Taylor and Falcone used a sample of only 20 subjects, which precluded them from conducting the appropriate statistical analyses. For example, they were unable to conduct an analysis of variance that would simultaneously take account of both the subject's sex and sex type. Moreover, they compared masculine, feminine, and androgynous sub-

jects with one another, but they did not examine the distinction that is of greater conceptual importance in any consideration of gender-schematic processing, namely, the distinction between sex-typed and non-sex-typed individuals. Finally, they did not analyze their data separately for speakers whose sex matched and did not match the subject's own sex.

The present study was designed not only to overcome these several limitations of the Taylor and Falcone (1982) study but also to add a parallel study using the control dimension of race. Coincidentally, the present study also permits us to test once again two important hypotheses originally put forth by Taylor et al. (1978): (a) that subjects (considered as a group) make more within-sex errors than cross-sex errors and more within-race errors than cross-race errors, a hypothesis that was confirmed in the 1978 study, and (b) that subjects make more within-sex and within-race errors, respectively, for speakers whose sex and race do not match the subject's own than for speakers whose sex and race do match the subject's own, a hypothesis that was not confirmed in the 1978 study.

Finally, the present study permits us to explore once again the ambiguous theoretical status of the cross-sex-typed individual. As noted in Bem (1981b), there is no clear prediction on the basis of either theory or research about whether cross-sex-typed subjects should be less gender schematic than sex-typed subjects. Like sex-typed subjects, cross-sex-typed subjects sort the attributes on the Bem Sex Role Inventory into gender categories when asked to describe themselves, but unlike sex-typed subjects, they also rate the sex-incongruent set as more self-descriptive. Moreover, their pattern of results in two previous studies of gender-schematic processing (Bem, 1981b) was inconsistent. Accordingly, we make no specific predictions in this study about the cross-sex-typed group. Rather we hypothesize only (a) that sex-typed subjects should be more likely than androgynous or undifferentiated subjects to sort other people into equivalence classes on the basis of gender, but not on the basis of race, and (b) that androgynous and undifferentiated subjects should not differ from one another.

To test these hypotheses, two distinct studies using the who-said-what paradigm were run: a gender study and a race study. Within each study, moreover, there were two conditions. Thus, in the gender study, sex-typed, cross-sex-typed, androgynous, and undifferentiated subjects of both sexes listened either to an all-white or an all-black group containing three men and three women. Likewise, in the race study, sex-typed, cross-sex-typed, androgynous, and undifferentiated subjects of both sexes listened either to an all-female or an all-male group containing three blacks and three whites.

Method

Subjects

Ninety-six male and 96 female undergraduates from the introductory psychology course at Cornell University during the 1981–1982 academic year served as subjects in this research. All but 6 of the subjects were white. The subjects were placed into one of four categories on the basis of their scores on the Bem Sex Role Inventory (BSRI; Bem, 1981a). The BSRI is a paper-and-pencil self-report instrument that asks the respondent to indicate on a 7-point scale how well each of 60 attributes describes himself or herself. Although it is not apparent to the respondent, 20 of the attributes reflect the culture's definition of masculinity (e.g., *assertive, independent*), 20 reflect the culture's definition of femininity (e.g., *tender, understanding*), and 20 serve as filler. Each respondent receives both a masculinity score and a femininity score. Those who score above the median on the sex-congruent scale and below the median on the sex-incongruent scale are defined as sex typed. Those who show the opposite pattern are defined as cross sex typed. Those who score above the median on both scales are defined as androgynous. Those who score below the median on both scales are defined as undifferentiated. Previous research has indicated that sex-typed individuals are more likely than non-sex-typed individuals to limit their behavior to sex-appropriate domains, to prefer sex-appropriate behaviors, and to resist sex-inappropriate behaviors (Bem, in press). Moreover, as noted earlier, sex-typed individuals are also more likely than androgynous or undifferentiated individuals to use gender to organize and evaluate information—including information about the self (Bem, in press).[2]

[2] It should be noted that the 192 subjects who participated in the current research were actually selected and recruited on the basis of the short BSRI (Bem, 1981a), a 30-item subset of the original BSRI. Because the short BSRI classifies a much smaller percentage of subjects as sex-typed than the original BSRI, however, and also because the short BSRI had not previously been used to select subjects for a laboratory study, the precaution was taken of administering the original BSRI to all 192 subjects as the last procedure of the experimental session. As it turned out, none of the main effects or interactions

Stimulus Materials

The 192 subjects in this study all listened to a tape recording of a carefully scripted and rehearsed discussion in which six people talked about various universal aspects of college life, such as finding an apartment, eating dormitory food, visiting local scenery, paying rising tuition, and studying in the library. Because pretesting indicated that subjects could reliably distinguish between the taped voices of male and female students but could not reliably distinguish between the taped voices of black and white students, the decision was made not to recruit black students to tape the voices of "black" speakers. Instead, both the "black" and the "white" voices were taped by white graduate students, half of whom were men and half of whom were women. As would be the case in a spontaneous discussion, the order in which the speakers spoke was not systematic. However, all speakers spoke a total of 12 times, and all spoke for the same amount of total time. The script was recorded three times: once with male and female voices (for use in both the all-black and the all-white conditions of the gender study), once with all female voices (for use in the all-female condition of the race study), and once with all male voices (for use in the all-male condition of the race study).

As each speaker spoke during the conversation, a photograph of the speaker was projected onto a screen. The photographs had all been selected from an initial pool of 80 informal snapshots from a midwestern college yearbook on the basis of ratings by four male and four female judges. More specifically, the photographs were selected because they were all moderately liked by all the judges and because both the sex and the race of the person in the photograph were correctly identified by all the judges. Twelve photographs were selected in all: 3 white women, 3 black women, 3 white men, and 3 black men. These 12 photographs were used in both the gender study and the race study, rearranged to create the necessary conditions within each study.

Procedure

Gender study. Ninety-six subjects, half men and half women, were contacted by phone and asked to participate in a psychology experiment. The caller was unaware of the subject's BSRI category. Subjects were scheduled to come to the laboratory at their convenience and were run in groups varying in size from 1 to 6. The one male and one female experimenter who took turns running these groups were also unaware of the subject's BSRI category. Subjects were randomly assigned either to the all-white or to the all-black condition before arriving at the laboratory.

Upon their arrival, subjects were told that they would be listening to a tape-recorded discussion of six people talking about their adjustment to college life at Cornell, and also that as each person spoke on the tape, his or her photograph would be projected on a screen in front of the subjects. (More accurately, subjects were asked to proceed as if the photographs were genuine. To minimize deception, however, subjects were explicitly told that the photographs were not actually pictures of the people on the tape.) Subjects were then informed that after the 5-min conversation was over, they would be asked some questions about the conversation to see how much they remembered about it. The experimenter then answered any questions the subjects had and started the slide and tape show.

After the show, subjects were handed a list of all 72 out-of-order verbatim excerpts from the conversation. They were also given a folder containing the six photographs (half men and half women) that had been used in their condition (either all black or all white). Subjects were asked to match each speaker's picture with his or her particular comments. If they were uncertain about their answers or could not remember, they were asked to guess. When all the subjects in that session had completed the who-said-what questionnaire (and had filled out the original BSRI), the experimenter explained the purpose of the study and answered questions.

Race study. The procedure for the 96 subjects in the race study was exactly the same as that for subjects in the gender study except that different photographs and tapes were used. Subjects in the race study were randomly assigned either to the all-male or to the all-female condition before arriving at the laboratory.

Results

Gender Study

As noted earlier, subjects in the gender study listened either to an all-white or an all-black conversation in which three of the speakers were men and three were women. Subjects were then presented with an out-of-order verbatim list of all the 72 statements on the tape as well as a folder containing the photographs of the six speakers and were then asked to indicate about each statement which speaker had said it.

Four scores were recorded for each subject: the number of within-sex and cross-sex errors that he or she made when the speaker's sex matched (i.e., was the same as) the subject's,

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that included the categories derived from the short BSRI were statistically significant in the analysis of variance. Hence, the 192 subjects were all reclassified on the basis of their scores on the original BSRI, and the decision was made not to use the short BSRI in any further research in our laboratories. The results to be reported in this article are based on this reclassification. The cell sizes resulting from this reclassification are as follows: In the gender study, there were 14 sex-typed men and 18 sex-typed women, 18 androgynous men and 8 androgynous women, 10 undifferentiated men and 12 undifferentiated women, and 6 cross-sex-typed men and 10 cross-sex-typed women. In the race study, there were 16 sex-typed men and 15 sex-typed women, 9 androgynous men and 8 androgynous women, 19 undifferentiated men and 6 undifferentiated women, and 4 cross-sex-typed men and 19 cross-sex-typed women.)

and the number of within-sex and cross-sex errors that he or she made when the speaker's sex did not match the subject's.[3] Because, for any given statement, three of the available photographs would constitute cross-sex errors but only two would constitute within-sex errors, chance alone would produce a higher number of cross-sex than within-sex errors overall. Accordingly, to make the number of within-sex and cross-sex errors directly comparable, each subject's cross-sex error rate was reduced by one third prior to any statistical analysis.

The four error scores were analyzed in a five-way analysis of variance (ANOVA), with sex of subject (male or female); sex type of subject (sex typed, androgynous, undifferentiated, or cross sex typed); and condition (all black or all white speakers) treated as between-subject variables, and with type of error (within sex or cross sex) and sex match of speaker (same as or different from the subject's own sex) treated as within-subject variables. Because this study is primarily concerned with the extent to which subjects of different sex types confuse the members of a given sex with each other, it is their within-sex error rates (and hence any interaction involving sex type and type of error) that are of primary importance in the analysis.

The results of the ANOVA demonstrate that the subjects in this study, considered as a group, did encode the sex of the speaker while listening to the original conversation and did also confuse speakers on the basis of that information about sex. Two specific findings, both displayed in Table 1, make this clear. First, there was a significant main effect for type of error, $F(1, 80) = 215.98$, $p < .0001$, with subjects (considered as a group) being much more likely, when making an error, to misattribute a man's statement to another man or a woman's statement to another woman than to misattribute either a man's statement to a woman or a woman's statement to a man. This result, it should be noted, replicates the basic finding of Taylor et al. (1978).

Second, there was a significant interaction between type of error and sex match of speaker, $F(1, 80) = 7.90$, $p < .01$, with subjects being even more likely to make more within-sex than cross-sex errors when the speaker's sex was different from their own sex. That is, male subjects were most likely to confuse female speakers with one another, and female subjects were most likely to confuse male speakers with one another. This result, it should be noted, confirms the familiarity hypothesis that Taylor et al. (1978) had themselves put forth but failed to confirm with their own data. As can be seen in Table 1, this increase in within-sex errors for opposite-sex speakers also produced a significant main effect for sex match of speaker, $F(1, 80) = 6.19$, $p < .01$, with subjects making significantly more errors overall when the speaker's sex was different from the subject's sex.

Table 1
Mean Number of Errors in the Gender Study for All Subjects Combined

	Type of error	
Sex match of speaker	Within sex	Cross sex
Same as subject	10.8	7.5
Different from subject	12.1	7.1

Note. Because chance alone would have produced three cross-sex errors for every two within-sex errors, the cross-sex error rate has been reduced by one third.

The results presented thus far indicate that our adaptation of Taylor's paradigm did cause subjects (considered as a group) to confuse speakers on the basis of sex. As we shall see shortly, however, the paradigm also evoked significant individual differences relevant to our hypotheses.

It will be recalled that we have two different measures of the subject's readiness to confuse speakers on the basis of sex: (a) the subject's within-sex error rate, which directly reflects the extent to which the subject confuses speakers of a given sex with each other, and (b) the difference between the subject's within-sex error rate for same-sex and opposite-sex speakers, which reflects the extent to which

[3] Speakers are classified as matching or not matching the subject's own sex (rather than as male or female), in part because previous research by Andersen and Bem (1981) had suggested that this distinction might be more psychologically significant for sex-typed individuals than for androgynous individuals.

the subject confuses the members of one sex more than the members of the other sex.

With respect to the first of these measures, the relevant interaction in the ANOVA (Sex Type × Type of Error) did not approach statistical significance even though the very same interaction had reached significance in the Taylor and Falcone (1982) study. With respect to the second of these measures, the relevant interaction (Sex Type × Type of Error × Sex Match of Speaker) was significant, $F(3, 80) = 3.81$, $p < .02$. This interaction is diagramed in Figure 1.

To help clarify the meaning of this interaction, a number of planned and post hoc comparisons were carried out. Consider, in the upper portion of Figure 1, the *difference* for each group of subjects between same-sex and opposite-sex speakers. As noted earlier, this difference reflects the extent to which subjects especially confused speakers whose sex was different from their own. Planned comparisons on this difference revealed (a) that sex-typed subjects were significantly more likely than either androgynous or undifferentiated subjects to confuse members of the opposite sex with each other to a greater extent than members of their own sex, planned $t(80) = 2.72$, $p < .01$, and (b) that androgynous and undifferentiated subjects did not differ from one another in this regard, planned $t(80) < 1$, *ns*.

Although it was not predicted and hence could not be included in any planned comparisons, by far the most visually compelling result in the upper portion of Figure 1 is the very large difference between same-sex and opposite-sex speakers for cross-sex-typed subjects. Post hoc comparisons on this difference revealed that cross-sex-typed subjects were significantly more likely than androgynous, undifferentiated, or sex-typed subjects to confuse members of the opposite sex with each other to a greater extent than members of their own sex ($p < .01$ in all three post hoc comparisons). It should be noted in passing

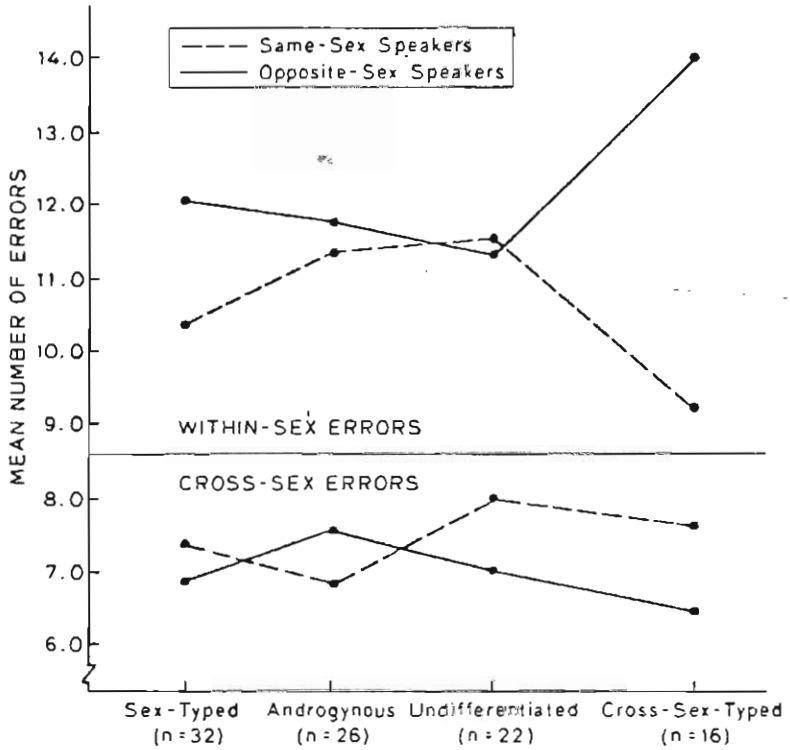

Figure 1. Mean number of within-sex and cross-sex errors for same-sex and different-sex speakers by sex-typed, androgynous, undifferentiated, and cross-sex-typed subjects.

that cross-sex-typed subjects were also significantly more likely than anyone else to make more total errors when the speaker's sex was different from the subject's own, Sex Type × Sex Match of Speaker $F(3, 80) = 5.70$, $p < .002$.

Taken as a whole, these sex-typing results indicate that although individuals of different sex types did not differ in their overall tendency to confuse the members of a given sex with each other, both sex-typed and cross-sex-typed individuals were significantly more likely than either androgynous or undifferentiated individuals to confuse the members of the opposite sex with one another.[4]

Race Study

As noted earlier, subjects in the race study listened either to an all-male-speaker or to an all-female-speaker conversation in which three of the speakers were white and three were black. Subjects were then presented with a complete list of all the statements on the tape as well as a folder containing the photographs of the six speakers and were asked to match each statement with the appropriate photograph.

As in the gender study, four types of errors were recorded separately for each subject: the number of within-race and cross-race errors that he or she made when the speaker was white, and the number of within-race and cross-race errors that he or she made when the speaker was black. To make the number of within-race and cross-race errors directly comparable, each subject's cross-race error rate was reduced by one third. The four error scores were then analyzed in a five-way ANOVA, with sex of subject (male or female); sex type of subject (sex typed, androgynous, undifferentiated, or cross sex typed); and condition (all male or all female speakers) treated as between-subject variables, and with type of error (within race or cross race) and race of speaker (black or white) treated as within-subject variables. Note that the race of the *subject* is not a variable in this analysis, because all but 4 of the subjects were white. Note also that the race of the *speaker* is coded in absolute terms as black or white rather than in relational terms as matching or not matching the race of the subject.

Table 2
Mean Number of Errors in the Race Study for All Subjects Combined

	Type of error	
Race of speaker	Within race	Cross race
White	8.8	9.2
Black	11.3	9.2

Note. Because chance alone would have produced three cross-race errors for every two within-race errors, the cross-race error rate has been reduced by one third.

The results of the ANOVA demonstrate that just as subjects in the gender study (considered as a group) confused speakers on the basis of sex, so too did subjects in the race study confuse speakers on the basis of race. As in the gender study, two specific findings, both displayed in Table 2, make this clear. First, there was a significant main effect for type of error, $F(1, 80) = 9.93$, $p < .005$, with subjects being more likely, when making an error, to misattribute a black speaker's statement to another black and a white speaker's statement to another white than to misattribute either a black speaker's statement to a white or a white speaker's statement to a black.[5]

[4] The only other results to reach statistical significance in the analysis of variance for the gender study involved complicated differences between the all-white and all-black conditions. Because none of these results is pertinent to the current investigation, they will be described but not discussed. First, there was a significant three-way interaction between condition, sex of subject, and type of error, $F(1, 80) = 9.11$, $p < .005$, with male subjects making more within-sex errors than female subjects in the all-white condition, and with female subjects making more within-sex errors than male subjects in the all-black condition. Second, there was a significant four-way interaction between condition, sex of subject, type of error, and sex type, $F(3, 80) = 3.98$, $p < .02$. This second interaction qualified the first by revealing that although the within-sex error rates of sex-typed, androgynous, and cross-sex-typed subjects all followed the pattern described above, the within-sex error rates of undifferentiated subjects did not differ in the black and white conditions. Finally, there was a significant four-way interaction between condition, sex of subject, type of error, and sex match of speaker, $F(1, 80) = 4.20$, $p < .05$. This third interaction revealed that whereas subjects in the all-white condition made more within-sex errors when the speaker was female rather than male, subjects in the all-black condition made more within-sex errors when the speaker was male rather than female.

[5] As can be seen in a comparison of Tables 1 and 2, the main effect for type of error was actually much

Second, there was a significant interaction between type of error and race of speaker, $F(1, 80) = 19.9$, $p < .0001$, with subjects being especially likely to make more within-race errors than cross-race errors when the speaker was black rather than white. As in the gender study, these two results again support the two hypotheses of Taylor et al. (1978) that were described earlier. As can be seen in Table 2, this increase in within-race errors for black speakers also produced a significant main effect for speaker race, $F(1, 80) = 37.51$, $p < .0001$, with subjects making significantly more errors overall when the speaker was black rather than white.

Despite the overall inclination of subjects in the race study to confuse speakers on the basis of race, however, it is important to note that, in contrast to the gender study, no significant differences emerged in the race study between sex-typed, androgynous, undifferentiated, and cross-sex-typed subjects. Neither the subject's within-race error rate nor the difference between the subject's within-race error rate for speakers of different races showed any significant interactions, Sex Type × Type of Error $F(3, 80) < 1$, *ns*, Sex Type × Type of Error × Race of Speaker $F(3, 80) < 1$, *ns*. Accordingly, we may conclude that the greater schematicity of sex-typed individuals is specific to gender and does not reflect a content-independent cognitive style.[6]

Discussion

Taken together, the results of these two studies indicate that although our procedures were quite sufficient to evoke at least a moderate level of both gender and race schematicity (in the gender and race studies, respectively), significant individual differences related to sex typing emerged only in the gender study, a finding that suggests that the greater schematicity of sex-typed individuals is specific to gender. Even in the gender study, however, significant individual differences related to sex typing emerged for only one of the two measures of gender schematicity. In particular, although sex-typed subjects were not more likely than androgynous or undifferentiated subjects to confuse speakers of *any* sex with one another, they were more likely than androgynous or undifferentiated subjects to confuse speakers of the opposite sex with one another.

Although gender schema theory did not specifically predict which sex of speaker, if any, would yield higher within-sex error rates or even that only one of the two measures would yield significant results, these results are nevertheless compatible with the theory because they confirm that sex-typed individuals are more likely than androgynous or undifferentiated individuals to categorize people on the basis of gender. In particular, sex-typed individuals differentiate more between speakers of different sexes, implying that a speaker's sex is more psychologically meaningful for them. Moreover, they confuse opposite-sex speakers with one another more, implying that they are more likely to encode the sex of opposite-sex speakers and also to use that information to treat them as similar to one another.

Gender Schema Theory Versus Self-Schema Theory

It will be recalled that cross-sex-typed subjects were also especially likely to confuse opposite-sex speakers, a finding that is pertinent to the debate between gender schema theory and self-schema theory (Bem, 1982; Crane & Markus, 1982). According to self-

stronger in the gender study, $F(1, 80) = 215.98$, $p < .0001$, than in the race study, $F(1, 80) = 9.93$, $p < .005$, a difference that may stem in part from the fact that (in this research) speakers of different sexes differed with respect to both visual and auditory cues whereas speakers of different races differed only with respect to visual cues. Whatever the reason for the difference, however, it should be noted that (a) both the gender and the race manipulations were sufficient to produce significant type of error effects and (b) the direction of the difference should work against our hypothesis, making it harder, not easier, for individual differences in schematicity to emerge in the gender study than in the race study. This is because, like all individual differences, individual differences in schematicity can best be detected when not overwhelmed by some powerful feature of the situation.

[6] Only four other results reached statistical significance in the analysis of variance for the race study, none related to the focus of the current research. First, male subjects made more total errors than female subjects, $F(1, 80) = 4.34$, $p < .05$. Second, this sex difference was especially pronounced in the all-female condition, $F(1, 80) = 4.70$, $p < .05$. Third, subjects made more errors overall in the all-female condition than in the all-male condition, $F(1, 80) = 7.28$, $p < .01$. Fourth, this condition difference was especially pronounced for within-race errors, $F(1, 80) = 9.53$, $p < .005$.

schema theory (Markus, Crane, Bernstein, & Siladi, 1982), masculine individuals have a masculinity self-schema but not a femininity self-schema, feminine individuals have a femininity self-schema but not a masculinity self-schema, androgynous individuals have both a masculinity and a femininity self-schema, and undifferentiated individuals have neither a masculinity nor a femininity self-schema.

If one assumes that knowledge about men is included in one's masculinity self-schema and, likewise, that knowledge about women is included in one's femininity self-schema, then self-schema theory would seem to predict (a) that subjects with a masculinity self-schema (i.e., sex-typed men and cross-sex-typed women) would make more within-sex errors for female speakers than for male speakers, (b) that subjects with a femininity self-schema (i.e., sex-typed women and cross-sex-typed men) would make more within-sex errors for male speakers than for female speakers, and (c) that subjects with both a masculinity and a femininity self-schema (i.e., androgynous subjects) would make few within-sex errors overall, whereas subjects with neither a masculinity nor a femininity self-schema (i.e., undifferentiated subjects) would make many within-sex errors overall. None of these predictions about cross-sex-typed, androgynous, or undifferentiated subjects was confirmed in the current study. Only the theory's predictions about sex-typed subjects—predictions also made by gender schema theory—were confirmed.

Because the self-concept of the cross-sex-typed individual necessarily includes both a masculine and a feminine element (one element coming from his or her sex and the other from his or her sex type), it may be that self-schema theory would not make predictions (a) and (b) above regarding the cross-sex-typed subject. Even so, self-schema theory would still seem bound to predict that androgynous subjects would make fewer within-sex errors overall than undifferentiated subjects. In fact, however, there was no difference between androgynous and undifferentiated subjects in this research.

As noted earlier, gender schema theory is also unable to account fully for the findings that emerged from this research. In particular, gender schema theory cannot by itself explain why it is always the opposite-sex (or opposite-race) speakers who are treated as especially equivalent. Although never previously documented in the who-said-what paradigm in particular, this finding that members of the other sex or race are especially likely to be confused with one another is consistent with much previous research (e.g., Brigham & Barkowitz, 1978; Cross, Cross, & Daly, 1971; Going & Read, 1974; Luce, 1974; Malpass & Kravitz, 1969; Malpass, Lavigueur, & Weldon, 1973). Moreover, it follows quite logically from previous research by Linville (1982; Linville & Jones, 1980) suggesting that individuals have a more highly articulated and differentiated schema for their own group than they have for other groups.

Are Cross-Sex-Typed Individuals Gender Schematic?

Because cross-sex-typed individuals are relatively rare, few laboratory studies have included them in the sample. When they have been included, moreover, they have typically been lumped together with sex-typed individuals. In recognition of their potential importance, we have included them as a distinct group in nearly all of our studies, but until the current study, they have not behaved in any striking or consistent way.

If cross-sex-typed subjects have been waiting for a more congenial context in which to make themselves visible, they appear to have found it in the current study. As can be seen in Figure 1, when asked to recall who said what in the current paradigm, cross-sex-typed subjects distinguished between same-sex and opposite-sex speakers almost three times as much as sex-typed subjects.

It is intriguing that cross-sex-typed individuals, whose self-descriptions on the BSRI closely match the cultural stereotype of what the opposite sex is supposed to be like, should have so much difficulty distinguishing members of the opposite sex from one another and so little difficulty distinguishing members of their own sex from one another. If we assume that the pattern of making more within-sex errors for opposite-sex speakers than for own-sex speakers reflects a knowledge difference, the question becomes all that much more intriguing. Why, after all, should someone whose self-description matches the cultural stereotype for the opposite sex be so

knowledgeable about same-sex others and so ignorant about opposite-sex others?

There are several possibilities. These possibilities are neither mutually exclusive nor exhaustive, and they all derive from the cultural fact of life that, especially for a child or an adolescent, to be cross sex typed is to be both statistically and socially deviant.

The first possibility is that parents and other socializing agents may have tried to "correct" the cross-sex-typed individual's deviance by constantly pointing out and discussing culturally appropriate examples of behavior (or hairstyle or clothing or body movement or whatever) in other same-sex individuals. Second, if cross-sex-typed individuals tend to be rejected by their same-sex agemates as a result of their being gender deviant, that rejection may itself have caused same-sex others to hold a special fascination for the cross-sex-typed individual. Finally, whether rejected or not, cross-sex-typed individuals may have felt ambivalent or even negative about their gender deviance, and those feelings, in turn, may have led them to pay especially close attention to the group with respect to whom they feel deviant. Any or all of these processes would clearly lead the cross-sex-typed individual to have much more knowledge about same-sex others than about cross-sex others.

A question that has recurred again and again not only in this article but in previous articles as well is whether cross-sex-typed individuals, like sex-typed individuals, have a greater readiness than androgynous or undifferentiated individuals to encode and to organize information on the basis of gender. On the basis of the current data, it would seem that cross-sex-typed individuals may well have a greater readiness than androgynous or undifferentiated individuals to organize at least some kinds of information (in particular, information about other people) on the basis of gender. Despite this and other similarities, however, the fact is that one group has a history of gender conformity, and the other, a history of gender deviance. Accordingly, even when sex-typed and cross-sex-typed individuals both appear to be gender schematic (as they did in the current study), it may be wrongheaded of us to think of them as being gender schematic in exactly the same way or for exactly the same reasons.

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