# Beliefs About Female and Male Nonverbal Communication<sup>1</sup>

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Participants (N = 441) rated from 1 to 10 how frequently or well they believed hypothetical women and men performed each of twenty nonverbal behaviors or skills. Women were believed to use more expressive and involved nonverbal behaviors than men, and to be more skilled at sending and receiving nonverbal messages. Men were believed to be louder and more interruptive, and to display more nervous, dysfluent behaviors. Ratings given to females by females were higher than were ratings in the other gender combinations for over half the variables, which may accurately describe female–female interaction. Perceived gender differences correlated positively with differences reported in observational studies, indicating that beliefs about nonverbal gender differences were generally accurate.

What are the differences between women and men? When asked this question, everyday beliefs about differences in male and female social behaviors are elicited in abundance. Men are typically believed to be "instrumental" and task-oriented (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972), but also aggressive, dominant, noisy, and loud-mouthed (Antill, 1987). Women are believed to be emotional, gentle, and sensitive to others (Antill, 1987), but also passive and gossipy (Zammuner, 1987). Everyday perceptions about behavioral gender differences are found regardless of the gender of the perceiver (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968). Perceived gender differences in communication style reflect these common perceptions about gender differences. Women are be-

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lieved to talk more and to be better listeners than men (Broverman et al., 1972), to be more aware of others' feelings (Rosenkrantz et al., 1968), and to be more emotionally expressive than men (Brody & Hall, 1993; Broverman et al., 1972; Zuckerman & Larrance, 1979).

Interpersonal communication consists of both a verbal component and nonverbal cues. Gender differences are believed to exist for both communication components. Women and girls are commonly believed to outperform men and boys in tests of verbal ability by a wide margin. In fact, only small gender differences have been found for cognitive abilities, including mathematics and verbal skills. These gender differences are commonly believed to be much larger than they actually are, and within-gender differences are minimized or ignored (Baumeister, 1988; Feingold, 1988; Hyde, 1981).

Kramer (1977), in a study of stereotypical beliefs about verbal gender differences, found some beliefs about gender differences in nonverbal behaviors as well. Women were believed to smile more than men, to use the face and hands to express ideas more than men, and to be more concerned about the listener. Men were believed to be louder but less talkative than women. Our first task in the present study, therefore, was to further examine beliefs about gender differences in communication, but to focus on nonverbal behaviors and skills.

According to the small amount of prior research, beliefs about non-verbal gender differences seem to be derivative of other gender stereotypes. Being concerned about the listener, for example, may simply be a rephrasing in nonverbal terms of women's perceived greater sensitivity to others. These beliefs about nonverbal behavior may also be grounded in reality. People may hold beliefs about gender differences in nonverbal communication because they have observed differences in the nonverbal behavior of women and men. Our second task, therefore, was to assess how these everyday beliefs compared to measured gender differences in nonverbal communication. We did this by comparing beliefs about gender differences to corresponding gender differences found in studies that have measured nonverbal behavior or skill.

Observational methods have been used in past research to measure a variety of nonverbal behaviors and skills. In these studies, observers are typically asked to view the behavior of targets and to rate the level of behavior expressed, or to count the number of occurrences of a particular behavior. Skill in emotional expression, or accurately sending the nonverbal messages one wishes to send, has been operationalized in nonverbal research as encoding ability. Skill in emotional receptivity, or accurately judging other people's nonverbal cues, has been operationalized as decoding ability. Such skills are measured using standard paradigms, with instruments

such as the Profile of Nonverbal Sensitivity (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979).

According to data from observational research, a number of nonverbal gender differences have been found. For example, women smile and laugh more than men (Hall, 1984). Women are better nonverbal encoders and decoders (Hall, 1978, 1984), especially of facial expressions (Rosenthal et al., 1979).

It is acceptable in western culture, even encouraged, for girls and women to be emotionally expressive. Boys' and men's gender-role expectations are different. They are taught that suppressing most emotions is proper masculine behavior (Brody & Hall, 1993). Therefore men may see nonverbal communication of emotion as relatively unimportant, while women see nonverbal expression as worthy of their attention. Research does suggest that women are more alert to nonverbal behavior in general, as well as being better at recognizing the specific messages conveyed by nonverbal cues (Hall, 1984).

Because nonverbal communication is an acceptable feminine concern, are women more aware of observed gender differences than men? Specifically, we predicted that female participants' pattern of ratings would more closely parallel the pattern of measured gender differences than would male participants' ratings.

In sum, the present study was designed to measure both genders' beliefs about female and male nonverbal communication, and to assess the validity of those beliefs. "Nonverbal" refers to communication styles and skills that do not include the literal verbal content of communication. We addressed the following questions: 1) What gender differences are believed to exist in everyday nonverbal communication? 2) Do women and men hold different beliefs about these differences? 3) Are beliefs consistent with gender differences reported in studies of observed behavior and skill? 4) Are the beliefs held by women more accurate in this respect than the beliefs of men?

## METHOD

## **Participants**

Participants (N = 441; 183 women, 258 men) were undergraduates at Northeastern University, a large private university in Boston, Massachusetts. They were enrolled in introductory psychology classes, and received class credit for participation. Questions about race and ethnicity were not

asked; however, the population of students taking introductory psychology classes at this university tends to be predominantly Caucasian Americans.

## Assessment of Perceptions

Each participant was told that we were interested in their opinions about how women and men behave. Participants were asked to complete a pencil-and-paper measure, in which they made separate ratings of the degree to which they believed men and women engage in each of 20 non-verbal behaviors and skills by assigning a number from *never* (1) to *always* (10) for each gender. The 20 items were selected to represent the nonverbal behaviors most commonly examined with respect to gender. Behaviors related to speech style were included (e.g., quantity of speech, interruptions, and speech dysfluencies) because these are often examined along with more purely nonverbal behaviors (Hall, 1984). The items were:

- 1. talks a lot in mixed-sex groups,
- 2. interacts with other people at close distances,
- 3. recognizes a face they've seen before,
- 4. speaks with dysfluencies such as stammers and false starts,
- 5. interrupts others,
- 6. smiles at others,
- 7. is skilled in using the face, body, or voice to express self,
- 8. gazes at others during interaction,
- 9. has an expressive face,
- 10. has restless feet and legs,
- 11. can read others' emotions from their nonverbal cues,
- 12. intersperses own speech with "um" and "ah,"
- 13. frowns at others,
- 14. speaks loudly,
- 15. pays attention to people's "body language,"
- 16. uses hand gestures while speaking,
- 17. touches oneself during interaction,
- 18. interacts facing people directly rather than at an angle,
- 19. laughs during interaction, and
- 20. has an expressive voice.

Each of the 20 nonverbal variables was analyzed using a 2 (gender of participant)  $\times$  2 (gender of target) analysis of variance (ANOVA). Gender of participant was a between-subjects factor and gender of target was a within-subjects factor that referred to whether hypothetical men's or women's behavior was being rated. Perceived gender differences were said

to exist when the repeated measures variable (gender of target) was statistically significant (p < .05, two-tailed).

In order to determine the size of the perceived gender difference using a standardized metric, F-statistics were converted to effect size statistics (r) using the formula  $\sqrt{F/(F+df)}$  (Rosenthal & Rosnow, 1991).

# Accuracy of Ratings

To determine the accuracy of participants' beliefs with respect to the pattern of published nonverbal gender differences, mean target gender effect sizes for female and male participants were first converted to Fisher's z equivalents, and then correlated with the corresponding mean observed gender effect sizes for the same nonverbal variables, as summarized in Hall's meta-analysis (1984). This meta-analysis was a quantitative review of previous observational studies of nonverbal gender differences. The meta-analysis provided effect size statistics that expressed the overall size of each gender difference. Thus, male participants' beliefs about the sizes of gender differences were correlated with the observed gender differences, as were female beliefs. These correlations indicated how well the profile of perceived gender differences matched the profile of measured differences.

### RESULTS

# Perceived Gender Differences

Table I shows the mean ratings, broken down by target and participant gender. Table II displays the target gender main effects and the effect size for each nonverbal variable. These target gender main effects showed that participants rated hypothetical women significantly higher than hypothetical men on the following variables: interacting with other people at close distances, recognizing faces, smiling, gazing, having an expressive face, paying attention to others' nonverbal cues, using the hands to communicate, laughing, and having an expressive voice. Women were also perceived by our participants as having significantly better encoding and decoding skill than men. Participants rated hypothetical men significantly higher than women on the following variables: using speech dysfluencies such as stammers and false starts, interrupting others, having restless feet and legs, interspersing speech with "um" and "ah," speaking loudly, and touching themselves during interactions. No perceived gender differences were found for talking a

Table I. Perceived Gender Differences in Nonver
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	Perceptions about men		Perceptions about women		
Nonverbal variable	Male participants	Female participants	Male participants	Female participants	
Talks a lot	5.85	6.20	6.20	6.22	
Interacts closely	5.72	5.82	6.02	6.38	
Recognizes faces	6.02	5.82	6.67	7.26	
Speaks with dysfluencies	5.23	5.14	4.50	4.42	
Interrupts others	5.89	6.39	5.53	6.00	
Smiles at others	5.65	6.07	7.30	7.73	
Has encoding skill	5.48	5.90	7.37	8.20	
Has restless feet and legs	6.14	6.63	5.48	5.69	
Gazes at others	6.31	6.50	6.54	7.03	
Has an expressive face	6.11	5.86	6.77	7.29	
Has decoding skill	5.59	5.51	6.74	<i>7.7</i> 8	
Uses "um" and "ah"	6.56	6.48	5.62	6.09	
Frowns at others	5.75	5.41	5.55	5.50	
Speaks loudly	6.95	7.54	5.52	5.83	
Pays attention to cues	6.41	6.58	6.66	7.32	
Uses hand gestures	6.36	6.37	6.24	7.32	
Touches oneself	5.56	5.75	5.16	5.06	
Interacts facing directly	5.95	6.30	6.04	6.40	
Laughs	6.39	6.57	7.10	7.50	
Has an expressive voice	6.57	6.56	6.66	7.44	

<sup>&</sup>lt;sup>a</sup>Values are means on a 10-point scale ranging from never (1) to always (10).

lot in mixed-sex groups, frowning, and facing another person directly (rather than at an angle) when talking.

# Effect of Participant Gender

Table I shows that female participants often assigned higher ratings than male participants, regardless of target gender. These participant gender main effects were significant for the following variables: interrupts, F(1,439) = 10.36, p < .01; smiles, F(1,439) = 10.73, p < .001; has encoding skill, F(1,439) = 22.36, p < .0001; gazes, F(1,439) = 5.31, p < .05; speaks loudly, F(1,439) = 10.94, p < .01; has restless feet and legs, F(1,439) = 5.32, p < .05; pays attention to others' nonverbal cues, F(1,438) = 7.90, p < .01; has decoding skill, F(1,439) = 9.84, p < .01; uses hand gestures, F(1,439) = 13.52, p < .001; faces others directly, F(1,439) = 5.27, p < .05; laughs, F(1,439) = 4.00, p < .05; and has an expressive voice, F(1,439) = 1.00

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Nonverbal variable	Beliefs about men	Beliefs about women	F(df error)	r
Talks a lot	5.60	6.21	2.18 (439)	.07
Interacts closely	5.76	6.17	$11.07 (438)^c$	.16
Recognizes faces	5.94	6.92	$76.38 (438)^d$	.39
Speaks with dysfluencies	5.19	4.47	$24.16 (434)^d$	23
Interrupts others	6.10	5.72	6.19 (439) <sup>b</sup>	12
Smiles at others	5.82	7.48	174.64 (439) <sup>d</sup>	.53
Has encoding skill	5.65	7. <i>7</i> 1	$276.87 (439)^d$	.62
Has restless feet and legs	6.34	5.57	33.61 (439) <sup>d</sup>	27
Gazes at others	6.38	6.74	9.61 (439) <sup>b</sup>	.15
Has an expressive face	6.01	6.98	39.65 (437) <sup>d</sup>	.29
Has decoding skill	5.56	7.16	173.25 (439) <sup>d</sup>	.53
Uses "um" and "ah"	6.52	5.82	19.26 (438) <sup>d</sup>	21
Frowns at others	5.61	5.53	.13 (439)	02
Speaks loudly	7.19	5.64	134.34 (439) <sup>d</sup>	48
Pays attention to cues	6.48	6.93	$13.35 (438)^c$	.17
Uses hand gestures	6.36	6.69	8.96 (439) <sup>b</sup>	.14
Touches oneself	5.64	5.11	$12.50 \ (437)^c$	17
Interacts facing directly	6.10	6.19	.58 (439)	.04
Laughs	6.47	7.26	69.68 (439) <sup>d</sup>	.37
Has an expressive voice	6.56	6.98	18.56 (439) <sup>d</sup>	.20

Table II. Target Gender Main Effects<sup>a</sup>

6.56, p < .01. There were no behaviors for which male participants provided higher overall ratings than female participants.

# Target Gender × Participant Gender Interaction

There were significant interactions of participant gender and target gender for recognizes faces, F(1,438) = 10.97, p < .01; has an expressive face, F(1,437) = 5.24, p < .05; has decoding skill, F(1,439) = 18.48, p < .05.0001; uses hand gestures while speaking, F(1,439) = 14.89, p < .001; and has an expressive voice F(1,439) = 12.14, p < .001. In each case the residuals, defined as cell means with the main effects removed (Rosenthal & Rosnow, 1991), revealed higher ratings for participants rating their own gender.

<sup>&</sup>lt;sup>a</sup>Means are on the same scale as Table I. Entries in column 4 are effect sizes, calculated by  $\sqrt{F/(F+df)}$  (Rosenthal & Rosnow, 1991). Positive effect sizes indicate women were believed to perform the behavior more than men. Negative signs indicate men were believed to perform the behavior more than women.

 $<sup>{}^{</sup>b}p \leq .01.$ 

 $<sup>\</sup>stackrel{c}{p} \le .001.$   $\stackrel{d}{p} \le .0001.$ 

## The Female-Female Cell

As noted above, there were many main effects of target gender, as well as main effects of participant gender and interactions of these two variables. A common source of such a pattern is the occurrence of a single cell that stands out from the others, producing both the main effects and the interaction (Rosenthal & Rosnow, 1991). In our data, this was the case. As shown in Table I, the ratings given to females by females were noticeably larger than were ratings in the other three cells for over half of the nonverbal variables. Accordingly, a contrast was calculated for each variable comparing the female-female cell mean to the mean of the others. This contrast was significant for recognizes faces, F(1,438) = 57.72, p < .0001; smiles, F(1,439) = 97.97, p < .0001; has encoding skill, F(1,439) = 182.25, p < .0001; gazes, F(1,439) = 16.84, p < .001; has an expressive face, F(1,437) = 29.00, p < .0001; has decoding skill, F(1,439) = 133.10, p < .0001.0001; pays attention to others' nonverbal cues, F(1,438) = 26.36, p < .0001; uses hand gestures while speaking, F(1,439) = 41.35, p < .0001; laughs, F(1,439) = 26.73, p < .0001; and has an expressive voice, F(1,439) = 34.94, p < .0001. Thus, for over half of the variables, the highest levels of skill or behavior were attributed by women to women.

## Perception Accuracy

As described earlier, perception accuracy was defined in terms of the correlation between participants' beliefs about gender differences and the corresponding gender differences based on observation, reported in Hall's (1984) meta-analysis. Results showed that both male and female participants were quite accurate at discerning the pattern of observed gender differences, as indicated by these correlations of perceived with observed differences. Table III shows the target gender effect sizes from male participants for each nonverbal variable (column 1), the target gender effect sizes from female participants for each variable (column 2), and mean effect sizes of observed gender differences from Hall (1984, p. 142) (column 3).

Our prediction that female participants' ratings would more closely parallel the pattern of observed gender differences was not supported: for female participants, r(15) = .74; for male participants, r(15) = .68; both p < .005, 2-tailed. These two correlations (males' beliefs correlated with observed differences, and females' beliefs correlated with observed differences) did not differ significantly from one another. Both female and male participants' ratings corresponded significantly with the observational literature; only for the variable "touches oneself while speaking" was there

Table III. Target Gender Effect Sizes for Male and Female Participants an	ıd
Corresponding Data from Published Observational Studies <sup>a</sup>	

1 100	Target gend		
Nonverbal variable	Male participants	Female participants	Observed effect size (N studies)
Talks a lot	.14	.01	02 (10)
Interacts closely	.12	.19	.27 (17)
Recognizes faces	.26	.50	.17 (12)
Speaks with dysfluencies	20	31	32 (7)
Interrupts others	11	14	48 (2)
Smiles at others	.53	.56	.30 (15)
Has encoding skill	.58	.68	.25 (35)
Has restless feet and legs	23	31	34 (6)
Gazes at others	09	.20	.32 (30)
Has an expressive face	.17	.50	.45 (5)
Has decoding skill	.42	.61	.21 (64)
Uses "um" and "ah"	26	16	51 (6)
Frowns at others	05	.04	` 6
Speaks loudly	43	56	29 (3)
Pays attention to cues	.09	.24	Ъ
Uses hand gestures	04	.35	.28 (7)
Touches oneself	13	21	.22 (5)
Faces others directly	.03	.04	.15 (3)
Laughs	.32	.43	.36 (4)
Has an expressive voice	.04	.37	` &

<sup>&</sup>lt;sup>a</sup>Entries are effect sizes (see note to Table II). Entries in the "observed effect size" column are from Hall (1984). Number in parentheses is number of published studies on which the observed effect size is based.

bFewer than two effect sizes available for summary.

a noticeable discrepancy. Female and male participants agreed remarkably well with each other on the relative magnitudes of their believed gender differences, as indicated by a correlation of .92 between the female and male participants' target effect sizes.

### DISCUSSION

Women were perceived by both male and female participants to be fluent, skilled, and involved communicators. Men were perceived as more dysfluent, less skilled, restless, and loud. These perceptions are consistent with the stereotype that women are expressive, sensitive to others, and good listeners.

On about half the nonverbal variables, female participants attributed higher levels of skill or behavior to hypothetical others than males did. As noted earlier, however, most of these effects can be seen as due to the high ratings given by female participants to female targets. This was an unexpected and intriguing finding, for which several interpretations are possible. One is that women's ratings may have reflected a bias, such that women exaggerated the existence of socially desirable nonverbal traits in their own gender. We question this interpretation, though, because it is not readily apparent why a tendency toward socially desirable ratings should be present in female participants and not male participants. It is also debatable that the variables rated highest in the female-female cell are indeed socially desirable. Although the variables that are attributions of skill or expressiveness do seem to be socially valued (recognizes faces, has encoding and decoding skill, has an expressive face and voice), other behaviors are not as clearly positive. Smiling and laughing, for example, can mean different things depending on the social context in which the behavior occurs. Smiling and laughing can indicate pleasure, cheerfulness, and congeniality, but may also be signs of nervousness, submission, or appeasement. Similarly, interacting closely with someone and gazing at them can indicate liking and intimate involvement, but may also signify intrusion of the target's privacy or even an aggressive challenge, depending on the circumstances. Situational context is highly relevant in interpreting the meanings of nonverbal communication, and we have no way of knowing the situations that our participants were considering.

A second possible explanation for the high female-female ratings is that these ratings are not only hypothetical but include self-ratings: when women rate women, they are not only rating others but also themselves. If this is the case, then their ratings may be accurate. All variables that showed elevated female-female ratings in the present study are behaviors and skills on which females actually do exceed men according to the observational literature (Hall, 1984). Yet an analogous effect did not occur for male participants rating men. As shown in Table 3, observational nonverbal research finds that men score higher than women on the following variables: uses dysfluencies, interrupts others, has restless feet and legs, uses "um" and "ah," and speaks loudly. The male-male cell for these variables was not elevated. In fact, female participants compared to male participants rated male targets higher on three of the variables: speaks loudly, interrupts others, and has restless feet and legs. The male participants might have been unwilling to admit that they perform these behaviors more than women. Again, however, these behaviors may be seen as either socially undesirable or desirable, depending on the context. Speaking loudly and interrupting others may be seen as inconsiderate in some instances, but could also be considered assertive and powerful.

A third possibility is that the high ratings given by our female participants to hypothetical women may offer insight into how women behave toward each other when interacting. In other words, women experience higher levels of these behaviors and skills in their interactions with other women than they do when interacting with men. For example, female participants perceived that women exhibit especially high levels of smiling and gazing, and interact at close distances. Studies have found, in fact, that female-female dvads show heightened levels of social smiling, gazing, and interpersonal closeness (Hall, 1984). Similarly, enhanced communication accuracy may occur in female-female dyads because women tend to be better encoders and decoders than men. Although for standardized tests of nonverbal decoding skill, there has been no tendency found for accuracy to be greatest when women judge other women's cues (see Hall, 1978), this question has not been studied in live interaction. The standardized testing situation, where participants rate photographs or other such stimuli, is qualitatively different from a live process of interaction between two or more communicators. In actual interactions, people have the opportunity to react to others and to modify or refine their behavior based on others' reactions. We therefore see it as a strong possibility that by providing high ratings to women for encoding and decoding skills, as well as the other variables for which the female-female cell stood out, our female participants were accurately describing their experience communicating with other women. If you are a woman, then, other women may truly have the heightened communication accuracy, involvement, and expressiveness that our female participants reported in their ratings.

This research suggests that beliefs about gender differences in non-verbal behaviors and skills are not unlike gender stereotypes for other forms of communication. Women were believed to possess greater skill and involvement in nonverbal communication, consistent with general sex-role stereotypes of women as more concerned with interpersonal relationships and the affiliative needs of others. Women held some beliefs about same-sex interaction that were not held analogously by men. Women perceived enhanced involvement and expressiveness in other women. This may reflect a ratings bias, but more likely reflects an accurate perception of actual female-female interaction.

The correlations between our participants' beliefs and results found in earlier observational studies showed that college students' beliefs corresponded well in terms of relative magnitude with gender differences summarized from the observational literature. Neither women nor men were more accurate at discerning the pattern of nonverbal gender differences found in observational research.

While the high correlations lend support to the validity of nonverbal gender stereotypes, they reveal nothing about the origin of those differences. We found that participants accurately described differences that exist between the genders, but why do those differences exist? Participants may have perceptions about gender differences in nonverbal behaviors and skills because they are real differences between women and men, but differences may exist because we possess stereotypes about them. We know that there are profound and early influences of gender stereotypes during gender-role socialization, when we learn behaviors appropriate for males and females. Socialization of gender-appropriate behavior continues to influence us, not only when we are children, but throughout our lives. The finding that beliefs about nonverbal gender differences parallel differences found in observational studies cannot be considered an answer to the continuing questions about the processes involved in the development of gender differences.

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