

## On Judging and Being Judged Accurately in Zero-Acquaintance Situations

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This research examined the role of personality, nonverbal skills, and gender as moderators of judging and being judged accurately in zero-acquaintance situations. Unacquainted participants, assembled in groups, completed a battery of personality tests, took 2 audiovisual tests (the Profile of Nonverbal Sensitivity [PONS] and the Interpersonal Perception Task [IPT]) intended to assess decoding skills and then rated themselves and every other person in the group on a set of personality dimensions. Results indicated that more sociable and extraverted participants tended to be more legible, that is, were judged more accurately. Participants who were more accurate judges tended to be less sociable and performed better on tests of decoding accuracy. Performance on the PONS predicted accuracy of judgment for men, whereas performance on the IPT predicted accuracy of judgment for women. On the whole, results suggest that some important and theoretically relevant moderators of accuracy in the zero-acquaintance situation have been identified.

Many decisions in our everyday lives are based on judgments arising from minimal interaction. For example, we often decide whom we are going to hire, whom we will approach for directions when we are lost, or whom we will sit next to on a long train ride, on the basis of minimal interaction. Such decisions have considerable and consequential influences on our social outcomes: We might have to cope with an irascible, unpleasant colleague at faculty meetings; we might be rudely rebuffed or misdirected by the person we approach for directions; or we might have to suffer a long, tedious train ride accompanied by a loquacious companion. And, in turn, (unpleasant though it might be to admit this) we are judged by others as potential colleagues, guides, or traveling companions on the basis of superficial interactions or even distant visual and auditory perceptions.

Fortunately for us, recent research indicates that we are able to make fairly accurate judgments of other people on the basis of minimal interactions or even mere glimpses of them (Albright, Kenny, & Malloy, 1988; Ambady & Rosenthal, 1992, 1993; Kenny, Horner, Kashy, & Chu, 1992; Passini & Norman, 1966; Paunonen, 1989; Watson, 1989). Much of the recent research in this area has been conducted within the unacquainted peer-rating or *zero-acquaintance* paradigm (Albright et al., 1988; Kenny et al., 1992; Passini & Norman, 1966; Paunonen, 1989; Watson, 1989). Typically, in these studies unacquainted peers assembled in small groups rate themselves and each other on

a variety of dimensions. These multiple peer ratings are then averaged and correlated with targets' self-ratings. Although the accuracy of such ratings improves with acquaintanceship (Funder & Colvin, 1988; Funder & Drobth, 1987; Paunonen, 1989), the convergence of strangers' ratings with self-ratings is quite unexpectedly high (Albright et al., 1988; Paunonen, 1989; Watson, 1989).

Although the accuracy of judgments in zero-acquaintance situations has been fairly well established, very little research has explicitly examined the role of moderating variables on such accuracy. For example, what are the characteristics of people who are more accurately judged in such situations? And what are the characteristics of people who are more accurate judges in such situations? These two potentially important moderating variables are suggested by the literature on nonverbal communication and will be examined in some detail in this article. First, accuracy of nonverbal communication has been related to the characteristics of the target (DePaulo, 1992; Friedman, Riggio, & Segall, 1980; Friedman, Riggio, & Casella, 1988). For example, people who are more expressive tend to be rated more accurately than their less expressive peers (Borkenau & Liebler, 1992; Gangestad, Simpson, DiGeronimo, & Biek, 1992). Thus, I might have had an unpleasant journey because my companion did not provide valid cues: She appeared to be engrossed in a novel, suggesting that she would not want to talk and would allow me to revise my manuscript during the ride. Second, accuracy of nonverbal communication depends on the characteristics of the rater (Estes, 1938; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979). Certain people are more skilled at picking up cues and interpreting the cues others give them (Borkenau & Liebler, 1992; Gangestad et al., 1992). Thus, I might have had an unpleasant journey because I did not pick up cues from my potential companion: I failed to notice the spark of interest she showed when I approached the vacant seat next to her. A number of characteristics suggested by the

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literature on personality and nonverbal communication that might be important in moderating target accuracy and rater accuracy are described below. These characteristics are classified under two broad categories: characteristics related to being judged accurately by others (target accuracy) and characteristics related to being an accurate judge (rater accuracy).

### Target Characteristics

Research on nonverbal behavior suggests that some people are more "legible" than others. These people are judged more accurately by others and are better at communicating both posed and spontaneous affect than their less legible peers. What are some of the characteristics of people who are more accurately judged? The nonverbal literature suggests some theoretical correlates of legibility that are likely to be operative in the zero-acquaintance situation. First, the nonverbal cues of expressive, extraverted, and sociable people are more accurately judged. Such people provide more spontaneous nonverbal cues that enable others to judge them accurately (Borkenau & Liebler, 1992; Buck, 1975, 1979; Buck, Miller, & Caul, 1974; DePaulo, 1992; Friedman, Riggio, & Segall, 1980; Riggio, Widaman, & Friedman, 1985). Expressive, extraverted people are more accurately judged, more charismatic, and are liked better than less expressive, shy people (Colvin, 1993; DePaulo, Blank, Swaim, & Hairfield, 1992; Friedman, Prince, Riggio, & DiMatteo, 1980; Friedman et al., 1988; Sabatelli & Rubin, 1986). Research in the zero-acquaintance situation indicating that certain traits related to extraversion and sociability are more accurately judged suggests that individuals high on these traits should be more legible in this situation (Albright et al., 1988; Funder & Colvin, 1988; Funder & Drobth, 1987; Kenrick & Stringfield, 1980; Norman & Goldberg, 1966; Park & Judd, 1989; Watson, 1989).

But legibility, though it involves both expressiveness and sociability, also includes an additional component: accuracy. Some people might be extremely expressive but may not be accurately judged by others. In his classic work on the presentation of self in everyday life, Erving Goffman (1959) described a number of instances in which expressive people might not always communicate intended information; they may "give off" different information from that which they intend to "give." People who are accurately rated are likely to give off information that they intend to give. This skill appears to be related to self-monitoring. Thus, theoretically, high self-monitors give off information that they intend to give—they are more likely to be read in the manner they intend to be read than are low self-monitors (Snyder, 1974, 1987). High self-monitors are expressive but are also good at controlling their emotions according to situational demands (Friedman & Miller-Herringer, 1991). However, research on nonverbal communication suggests that the relationship between self-monitoring and target accuracy is not quite so clear-cut. Some studies have found that high self-monitors communicate emotions more accurately (Friedman, DiMatteo, & Taranta, 1980; Riggio & Friedman, 1982; Snyder, 1974), but other studies have not supported these findings (Zuckerman & Larrance, 1979).

A third variable that might moderate target accuracy or legi-

bility is self-esteem. In the area of nonverbal communication, self-esteem has been found to be positively related to encoding ability. For example, some studies have found that people with high self-esteem were more accurate communicators of spontaneous emotions (Buck et al., 1974; Buck, Savin, Miller, & Caul, 1972).

Thus, the nonverbal communication literature suggests that target accuracy or legibility in the zero-acquaintance situation should be positively related to variables such as expressivity, sociability, self-monitoring, and self-esteem. In summary, we expect that individuals who are more accurately judged in the zero-acquaintance situation should be more expressive, more sociable, and less shy than their less expressive peers. Furthermore, we expect that more legible individuals are more likely to be high self-monitors and have higher levels of self-esteem than less legible individuals in the zero-acquaintance situation.

### Rater Characteristics

Literature in the area of nonverbal communication also informs us that some people are more accurate than others in making judgments (Rosenthal, 1979). Individuals who perform well on tests of nonverbal sensitivity seem to be skilled at picking up cues from others. Assuming that this skill generalizes to other situations, we would expect that such people should also be more accurate judges in the zero-acquaintance situation. In fact, Paunonen (1991) suggested, on the basis of his computer simulation study of peer-rating situations, that the presence of one or two nonrandom judges could account for the overall accuracy of strangers' ratings in any group. It seems likely that these nonrandom, accurate judges can be identified by certain audiovisual tests used to study accuracy of judgment of nonverbal behavior such as the Profile of Nonverbal Sensitivity (PONS; Rosenthal et al., 1979) or the Interpersonal Perception Task (IPT; Archer & Costanzo, 1988a, 1988b).

The relationship between rater accuracy and the self-report measures described in the previous section used to measure target accuracy is complicated. There is some evidence that extraverted people are better judges than introverts (Akert & Panter, 1988; Funder & Harris, 1986), but a number of studies have found no relationship between extraversion and decoding ability (Rosenthal et al., 1979; Riggio & Friedman, 1982). There is also some evidence that people who are more perceptive and are better decoders of some types of nonverbal behavior are more socially awkward and vulnerable than their less perceptive peers (Rosenthal & DePaulo, 1979), but other evidence suggests that people who are better decoders are more socially skilled. For example, Funder and Harris (1986) found that people who were better decoders, as identified by their scores on the PONS (Rosenthal et al., 1979), were liked more and were seen as more honest and open by their peers, possessing characteristics similar to the prototype of the effective clinician. The same complicated relationship has been found between self-monitoring and nonverbal decoding ability. Theoretically, self-monitoring is related to perceptiveness (Snyder, 1974, 1987). High self-monitors should be more accurate at reading the situation and judging other people, and there is some evidence for this relationship (Funder & Harris, 1986; Mill, 1984), but other re-

search has shown very little relationship between self-monitoring and decoding accuracy (Riggio & Friedman, 1982; Rosenthal et al., 1979). Taking into consideration all the contradictory evidence, we would not expect to find any conclusive relationships between the personality measures theoretically related to target accuracy and rater accuracy.

### Gender

A third variable that might moderate the accuracy of judgments in unacquainted peer rating situations is gender. Although Watson (1989) found no effects for sex in his study examining the validity of strangers' ratings in an unacquainted peer rating situation, the nonverbal behavior literature suggests that sex might be an important moderating variable, especially of rater accuracy. There is unambiguous, consistent evidence that women are better decoders of both posed as well as spontaneous nonverbal behavior than men (Hall, 1979, 1984). It is likely, then, that women will be better judges than men in the zero-acquaintance situation. Furthermore, women seem to be better encoders of nonverbal behavior than men (Hall, 1979, 1984). Therefore, it is also likely that women will be more accurately judged than men in the zero-acquaintance situation.

In summary, the present study expands on the work on the accuracy of strangers' judgments in several ways. First, we explicitly examine the role of moderating variables theoretically related to target and rater accuracy in the zero-acquaintance paradigm. Second, we examine the role of gender as a moderating variable in this paradigm. Note that the criterion variable used to evaluate accuracy in this study is targets' self-ratings. Although accuracy in social perception can be operationalized in a number of different ways (Kruglanski, 1989), such as how targets are perceived by their peers, or how targets behave across different situations, these different ways of measuring personality are related to each other empirically. For example, individuals' assessment of their own personality is highly correlated with how they are perceived by strangers (Albright et al., 1988; Levesque & Kenny, 1993; Paunonen, 1989; Watson, 1989), how they are perceived by acquaintances (Funder & Colvin, 1988; Funder & Dobroth, 1987; Paunonen, 1989), and how they behave in social interaction (Levesque & Kenny, 1993).

### Method

Participants were 90 summer school students who were recruited at dining halls in a private East coast university and were paid for their participation. Participants were run in groups of 3 to 7, and we assigned them to sessions in which they were unacquainted with the other members of their group. While seated around a large table, participants first completed a battery of paper-and-pencil self-report measures and then took two audiovisual tests designed to evaluate decoding ability.

After completing these measures, participants took part in a peer-rating task designed to evaluate target accuracy (the accuracy with which participants were judged by others) and rater accuracy (the accuracy with which participants judged others). This task was modeled after other peer-rating tasks (Passini & Norman, 1966; Watson, 1989).

Participants completed the following self-report measures thought to evaluate dimensions related to target accuracy or legibility:

1. *Expressiveness* was measured by the Affective Communication Test (ACT; Friedman, Prince, et al., 1980). The ACT is a 13-item self-

report measure of nonverbal emotional expressiveness or charisma. This trait is related to an individual's ability to excite or captivate others through his or her ability to communicate his or her felt emotional states. The ACT has good reliability (alpha coefficient = .77, test-retest = .90) and validity (correlation with friend's judgments, convergent and discriminant validity with other personality measures; Friedman, Prince, et al., 1980).

2. *Self-monitoring* was measured by the 18-Item Self-Monitoring Scale (Snyder, 1987). Self-monitoring measures the degree to which people are sensitive to social interactions and use cues from the social behavior of others to regulate their own self-presentation (Snyder, 1987). High self-monitors should be more skilled at controlling their nonverbal behavior and emotional displays. The 18-item scale is an improved version of the original 25-item Self-Monitoring Scale (Snyder, 1974). Snyder (1987) claimed that the 18-item scale is more internally consistent and factorially purer than the previous version.

3. *Sociability and shyness* were measured by the Shyness and Sociability Scale (Cheek & Buss, 1981). This scale measures the construct of shyness, "the discomfort and inhibition that may occur in the presence of others," and sociability, "a preference for affiliation or need to be with people" (Cheek & Buss, 1981, p. 330). The Shyness scale consists of 9 items; the Sociability scale consists of 5 items interspersed with the shyness items. The internal consistency of the Shyness scale is .79, and the Sociability scale has an internal consistency of .70. The scale is reported to have satisfactory levels of convergent and discriminant validity (Cheek & Buss, 1981; Jones, Briggs, & Smith, 1986).

4. *State self-esteem* was measured by the State Self-Esteem Scale (Heatherton & Polivy, 1991). This scale is designed to measure state self-esteem and has high internal consistency (Cronbach's alpha = .92). It has three correlated subscales (Performance, Social, and Appearance self-esteem), but we used the full-scale self-esteem score.

Participants then completed two audiovisual tests designed to measure dimensions thought to be related to perceptiveness:

1. The *PONS* measures nonverbal sensitivity at decoding posed emotional states (Rosenthal et al., 1979). The PONS is a 45-min 16 mm sound film (or videotape) that comprises 220 two-second auditory or visual segments showing a single individual portraying various emotional states. Each segment is accompanied by a pair of behavioral alternatives written on an answer sheet. The viewer has to decide which alternative best describes the segment. The 220 segments represent scenarios from four affective quadrants (positive-dominant, positive-submissive, negative-dominant, negative-submissive) crossed by 11 nonverbal channels (e.g., face, body, tone of voice). The internal consistency of the PONS ranges from .86 to .92, and its median test-retest reliability is .69. Because of time constraints, we used the "Half-PONS," a shortened version of the PONS consisting of the first 110 segments.

2. The *IPT* is a 38-min videotape instrument created by Archer and Costanzo (1988a, 1988b; Costanzo & Archer, 1989). Viewers are presented with 30 videotaped scenes, 60-90 s in length, of naturalistic behavior. Each scene is followed by a different question regarding the scene that has an objectively correct answer. Five different types of scenes are illustrated in the IPT—kinship, lies, competition, status, and intimacy. The internal consistency rating (KR-20) of the instrument is .52. The IPT seems to have fairly good validity as indicated by peer reports and measures of convergent validity (Archer & Costanzo, 1988a, 1988b; Costanzo & Archer, 1989). Unlike the PONS, which is a measure of sensitivity to nonverbal cues alone, the IPT evaluates sensitivity to nonverbal and verbal cues.

After completing the measures described above in a small group, participants rated themselves on a 9-point scale on a set of 15 descriptive adjectives. These adjectives were: *anxious, attractive, cheerful, confident, conscientious, depressed, dominant, expressive, likable, observant, outgoing, shy, sociable, tense, and thoughtful*. After completing the self-

ratings, participants rated every other person in their group on the same set of adjectives. Group members were identified by their seating order—a card with a letter of the alphabet was placed in front of each person in the group. Whereas in most other studies in which this peer-rating task has been used participants were able to observe each others' behavior (for example, Watson [1989] had participants behave cooperatively by moving their desks into a circular array and introducing themselves to each other), we provided no such opportunities. Participants did not talk to each other at all—they filled out paper-and-pencil measures and then participated in the two audiovisual judgment tasks.

Participants were asked to identify whether they were acquainted with any of the people in their group. Across the entire sample, only 2 people knew each other. These 2 participants were dropped from all further analyses. Another 9 participants were dropped from the analyses because either they did not rate every member of their group, or they were not rated by every member of their group. The final sample thus consisted of 79 participants: 44 women and 35 men. A total of 18 groups were run, ranging from 3 to 7 members. The average group size was 4.9.

## Results

### Intercorrelations Among Measures

Intercorrelations among the self-report and audiovisual measures are reported in Table 1 for all 88 participants as well as separately for male and female participants. On the whole, measures related to legibility or target accuracy such as the ACT, sociability, self-monitoring, and self-esteem scales were found

to be positively correlated, and shyness was found to be negatively related to the other scales. A very low correlation was found between the two measures related to rater accuracy, the PONS and IPT,  $r(88) = .03$ , suggesting that the two measures might tap different skills in the present sample of participants.

### Composite Variables

We used a principal-components analysis with varimax rotation on the 15 rated variables to create composite variables. Variables loading onto the first composite variable, Extraversion, were *outgoing, expressive, dominant, sociable, confident, and not shy* (loadings ranged from .60 to .79). The second composite variable, Agreeableness, was composed of the variables *likable, cheerful, and attractive* (loadings ranged from .62 to .88). Dimensions loading onto the third composite, Emotional Stability, included the variables *depressed, tense, and anxious* (loadings ranged from  $-.77$  to  $-.80$ ). Finally, the fourth composite variable, Conscientious, included the variables *thoughtful, observant, and conscientious* (loadings ranged from .63 to .81). These four composite variables are very similar to the first four factors of the "Big Five" (McCrae & Costa, 1987; Goldberg, 1981; John, 1990) and also to the five factors that have been shown to emerge from factor analyses of personality ratings by acquaintances and strangers (Norman, 1963; Passini &

Table 1  
Intercorrelations Among Measures Related to Target and Rater Accuracy

Variable	1	2	3	4	5	6	7
All Participants ( $N = 88$ )							
1. Affective communication	—	.46***	.44***	-.52***	.17	-.22*	-.05
2. Self-monitoring		—	.26**	-.18	-.14	-.18	-.03
3. Sociability			—	-.30**	-.05	-.20	-.13
4. Shyness				—	-.54***	-.01	.14
5. Self-esteem					—	-.01	-.11
6. PONS						—	.03
7. IPT							—
Men ( $n = 41$ )							
1. Affective communication	—	.54**	.48**	-.49**	.25	-.37*	.06
2. Self-monitoring		—	.28	.01	-.24	-.24	-.02
3. Sociability			—	-.12	-.10	-.35*	-.03
4. Shyness				—	-.67**	.08	.04
5. Self-esteem					—	-.14	.07
6. PONS						—	-.05
7. IPT							—
Women ( $n = 47$ )							
1. Affective communication	—	.47**	.45**	-.60**	.19	-.13	-.17
2. Self-Monitoring		—	.24	-.32*	-.09	-.11	-.03
3. Sociability			—	-.47**	-.02	.00	-.22
4. Shyness				—	-.45**	-.11	.20
5. Self-esteem					—	.17	-.25
6. PONS						—	.11
7. IPT							—

Note. PONS = Profile of Nonverbal Sensitivity; IPT = Interpersonal Perception Task.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Norman, 1966). As can be seen in Table 2, the intercorrelations among variables comprising each of the four composites were high ( $r_s = .52, .53, .38, \text{ and } .40$ ); the intercorrelations between the composites, except for Extraversion and Agreeableness, were low ( $r = .37$  between Extraversion and Agreeableness, and  $r_s$  ranging from  $.12$  to  $-.28$  for the other variables). Because of the fairly high correlation between the composites of Extraversion and Agreeableness, we created a fifth composite variable, Positive Affect, combining the variables *outgoing, expressive, dominant, sociable, confident, not shy, likable, cheerful, and attractive*. The intercorrelation of these nine variables was  $r = .47$ , and the intercorrelation between this new composite and the composite variables of Emotional Stability and Conscientiousness was low ( $r_s = .06$  and  $-.27$ , respectively). We retained the variables of Extraversion and Agreeableness for all further analyses because of their similarity to the first two factors of the Big Five.

We calculated reliabilities for each composite variable separately for each of the 18 groups by intercorrelating the ratings of each rater with every other rater within each group for each target on all five composite variables (each member served as a target, and each member rated every other member). These reliabilities were then averaged. The average reliability of a single judge was  $r = .27$  for Extraversion,  $r = .18$  for Agreeableness,  $r = .07$  for Emotional Stability,  $r = .13$  for Conscientiousness, and  $r = .23$  for Positive Affect. On the basis of these reliabilities, the effective reliability<sup>1</sup> for a set of four judges (the average group included approximately 5 members) were  $R = .59$  for Extraversion,  $R = .47$  for Agreeableness,  $R = .23$  for Emotional Stability,  $R = .37$  for Conscientiousness, and  $R = .54$  for Positive Affect (Rosenthal, 1987). Table 3 presents the effective reliabilities for groups of different sizes based on the reliabilities computed for a single judge. These reliabilities support previous results indicating that judges tend to agree more in their ratings of extraversion than in their ratings of traits such as emotional stability (Kenny et al., 1992).

### Target Accuracy (Legibility)

Recall that legibility or target accuracy involves how accurately a person is judged by other people. For each of the five composite variables we computed a target accuracy score for each participant by averaging the correlations of the participant's self-ratings on the variables comprising the composite

with the rating of that participant by every other person in the group on the same variables. By correlating items instead of using difference scores to evaluate accuracy, we avoided some of the difficulties inherent in the use of differences scores (Cronbach, 1955; see also Snodgrass & Rosenthal, 1985). Thus, participants who were more accurate targets on each of the five composites were those whose self-ratings correlated strongly with the group members' rating of them. Because of missing data, the following analyses were conducted for 79 participants.

We had hypothesized that participants scoring high on personality traits related to Extraversion and Expressiveness would be more legible. Table 4 shows that participants' scores on the ACT were positively related to their legibility on the dimensions of Extraversion,  $r(77) = .29, p < .01$ , and Agreeableness,  $r(77) = .22, p < .05$  (and Positive Affect, a composite combining the former two variables), whereas shyness was negatively related to legibility of Extraversion,  $r(77) = -.24, p < .05$ . Participants scoring higher on sociability were more accurately judged on their degree of Agreeableness,  $r(77) = .22, p < .05$ , and somewhat more accurately on their degree of Extraversion,  $r(77) = .19$ . Contrary to the hypothesis, there were no significant relationships between self-monitoring and any of the legibility composites, although self-monitoring was positively related to legibility of Agreeableness. This result supports some previous research suggesting that self-monitoring may be related to social functioning primarily when deception is involved, but self-monitoring may not be very important in predicting legibility of emotional expressiveness per se (Friedman, DiMatteo, & Taranta, 1980). Participants' scores on the self-report measures did not significantly predict their legibility on the composite variables of Emotional Stability and Conscientiousness. An unexpected negative relationship was found between scores on the PONS and legibility on Agreeableness,  $r(77) = -.29, p < .01$ , suggesting that people who are accurately judged to be agreeable might not be very good at decoding nonverbal behavior. Overall, the results suggest that people who are expressive, sociable, and not shy are more legible.

### Gender and Target Accuracy

We had hypothesized that women might be more accurately judged than men. As can be seen from the last column of Table 4, there was no apparent relationship between gender and legibility on any of the composite variables. This result does not support previous evidence indicating that in general women are more legible than men on nonverbal sending or encoding tasks (Hall, 1979, 1984) but supports previous findings indicating no gender differences in target accuracy in zero-acquaintance situations (Watson, 1989). Table 5 reveals some interesting sex differences in the correlations between legibility and our seven measures. Some of these variables do not predict legibility as well for one sex as they do for the other. For example, shyness,

Table 2  
Average Correlations of Variables Within and Between Factors

Factor	1	2	3	4	5
1. Extraversion	<u>.52</u>	.37	-.01	-.27	
2. Agreeableness		<u>.53</u>	.12	-.28	
3. Emotional Stability			<u>.38</u>	.04	.06
4. Conscientiousness				<u>.40</u>	-.27
5. Positive Affect					<u>.47</u>

Note. Underlined numbers represent the average correlation of variables within a factor to each other. Nonunderlined numbers represent the average correlation of variables within a factor to variables in other factors.

<sup>1</sup> The Spearman-Brown formula (see Guilford, 1954, p. 354, Equation 13.20) was used to compute the effective reliability for sets of judges:  $R = n\bar{r}/1 + (n - 1)\bar{r}$ , where  $n$  = number of judges and  $\bar{r}$  = average reliability of judges.

Table 3  
Effective Reliabilities for Different-Sized Groups

No. judges per group	No. groups	Extrav. (6)	Agreeab. (3)	EmStab. (3)	Consc. (3)	PosAff. (9)
1 <sup>a</sup>		.27	.18	.07	.13	.23
3	3	.53	.40	.18	.32	.47
4	3	.59	.47	.23	.37	.54
5	7	.65	.52	.27	.43	.60
6	3	.69	.57	.31	.47	.64
7	2	.72	.61	.35	.51	.68

Note. Numbers in parentheses are the number of variables comprising each composite. Extrav. = Extraversion; Agreeab. = Agreeableness; EmStab. = Emotional Stability; Consc. = Conscientiousness; PosAff. = Positive Affect.

<sup>a</sup> Reliability for any single rater.

sociability, and expressivity all predict legibility on the dimension of Extraversion nearly equally well for women and men, but self-esteem is more strongly related to legibility on this dimension for women ( $r = .38$ ) than it is for men ( $r = .06$ ). The difference between these correlations approaches significance ( $z = 1.57, p = .06$ ), suggesting that people were relatively more accurate at judging extraversion for women with high self-esteem than for women with low self-esteem, whereas accuracy at judging extraversion in men was almost entirely unrelated to their level of self-esteem.

None of the individual-difference variables predicted legibility on Emotional Stability when male and female participants were grouped together, but some interesting differences emerge when these correlations are examined separately by sex. It seems easier to judge Emotional Stability in men who are low self-monitors ( $r = -.17$ ) and who are low in sociability ( $r = -.34$ ). Conversely, it is easier to judge Emotional Stability in women who are high self-monitors ( $r = .30$ ). These differences between the sexes in predicting Emotional Stability are statistically significant, both for sociability ( $z = 1.88, p < .05$ ), as well as for self-monitoring ( $z = 2.04, p < .05$ ). A similar relationship can be seen between self-monitoring and legibility on the dimension of Conscientiousness. Men who were low self-monitors were more legible on the dimension of Conscientiousness ( $r =$

$-.26$ ), whereas self-monitoring was almost unrelated to the legibility of women on this dimension ( $r = .06$ ). The sex difference in the strength of these relationships approaches significance ( $z = 1.38, p = .08$ ).

As mentioned previously, an unexpected negative relationship was found between the PONS and legibility, particularly on the dimension of Agreeableness. Although the PONS was negatively related to legibility on Agreeableness for both men and women, this relationship seems much stronger for men ( $r = -.42$ ) than it is for women ( $r = -.14$ ). The PONS is also negatively related to legibility on the dimension of Extraversion for men ( $r = -.23$ ) but is positively related to legibility on this dimension for women ( $r = .08$ ). These differences between women and men in the PONS's ability to predict legibility on Agreeableness ( $z = 1.30, p = .10$ ) and Extraversion ( $z = 1.33, p = .09$ ) both approach significance. On the whole, these results suggest that the individual-difference measures are more predictive of legibility for men than for women.

#### Rater Accuracy

Recall that rater accuracy involved how accurately participants judged other people in their group. We computed rater accuracy by correlating each participant's ratings of each other

Table 4  
All Participants: Correlations of Legibility on Five Dimensions With Seven Variables and Gender

Dimension of legibility	Shy.	Sociab.	ACT	SM	SE	PONS	IPT	Gender <sup>a</sup>
Extraverted	-.24*	.19	.29**	-.02	.19	-.09	-.09	-.08
Agreeable	-.07	.22*	.22*	.18	.04	-.29**	.05	.12
Emotional	-.03	-.11	.04	.09	.03	-.13	.04	-.12
Conscientious	-.00	-.05	-.13	-.07	.01	-.01	-.14	.02
Positive Affect	-.23*	.14	.22*	-.03	.21	-.16	-.12	.11

Note.  $N = 79$ . Shy. = shyness; Sociab. = sociability; ACT = Affective Communication Test; SM = self-monitoring; SE = self-esteem; PONS = Profile of Nonverbal Sensitivity; IPT = Interpersonal Perception Task.

<sup>a</sup> 1 = female; 2 = male.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 5  
*Broken Down by Gender: Correlations of Legibility on Five Dimensions With Seven Variables*

Dimension of legibility	Shy.	Sociab.	ACT	SM	SE	PONS	IPT
Women ( <i>n</i> = 44)							
Extraverted	-.35*	.22	.22	-.08	.38*	.08	-.20
Agreeable	-.14	.27	.18	.22	.11	-.14	-.01
Emotional	-.04	.09	.14	.30*	-.04	-.18	-.07
Conscientious	.01	-.06	-.16	.06	.04	-.02	-.19
Positive Affect	-.32*	.24	.27	-.05	.35*	-.06	-.21
Men ( <i>n</i> = 35)							
Extraverted	-.12	.17	.33*	.06	.03	-.23	.03
Agreeable	.00	.16	.34*	.10	-.07	-.42*	.13
Emotional	-.01	-.34*	-.11	-.17	.16	-.13	.22
Conscientious	-.03	-.04	-.10	-.26	-.04	.01	-.06
Positive Affect	-.15	.05	.26	-.04	-.03	-.21	-.03

Note. Shy. = shyness; Sociab. = sociability; ACT = Affective Communication Test; SM = self-monitoring; SE = self-esteem; PONS = Profile of Nonverbal Sensitivity; IPT = Interpersonal Perception Task.  
 \*  $p < .05$ .

member of his or her group on the variables comprising each of the five composite variables with each of those members' self-ratings on the same adjectives and then averaging the correlations. Thus, participants who scored high on rater accuracy on each composite were those whose ratings of others in the groups correlated most positively with others' self-ratings. As has been shown in previous research (Rosenthal et al., 1979), the correlations between rater and target accuracy were quite low:  $r = .02$  for Extraversion,  $r = -.13$  for Agreeableness,  $r = .12$  for Emotional Stability,  $r = .13$  for Conscientiousness, and  $r = -.10$  for Positive Affect. These results suggest that being an accurate target is not related to being an accurate rater.

As shown in Table 6, rater accuracy in judging Extraversion was positively related to PONS scores,  $r(77) = .28$ ,  $p < .05$ , as was rater accuracy in judging Positive Affect,  $r(77) = .32$ ,  $p < .01$ . Thus, individuals with higher PONS scores were more accurate in judging Extraversion and Positive Affect of other people in their group, but IPT scores were not found to be re-

lated to rater accuracy. Interestingly, sociability was negatively correlated with accuracy in judging all five composite variables. This suggests that sociable people are relatively less accurate at reading other people in superficial interactions but are good at being read by other people (sociability was positively related to legibility in Agreeableness). Accuracy at judging emotionality was positively related to self-monitoring,  $r(77) = .27$ ,  $p < .05$ .

#### Gender and Rater Accuracy

We had hypothesized that women would be more accurate raters than men. As can be seen from the last column of Table 6, there was a significant correlation between gender and rater accuracy for the variables of Extraversion,  $r(77) = -.22$ ,  $p < .05$ , and Positive Affect,  $r(77) = -.34$ ,  $p < .005$ . These results indicate that women were more accurate in judging these variables than were men.

Correlations between the five dimensions of accuracy and

Table 6  
*All Participants: Correlations of Judgment Accuracy of Five Dimensions With Seven Variables and Gender*

Dimension of accuracy	Shy.	Sociab.	ACT	SM	SE	PONS	IPT	Gender <sup>a</sup>
Extraverted	.05	-.31**	-.11	.06	-.16	.28*	.00	-.22*
Agreeable	.13	-.32**	-.10	.08	-.19	.19	.10	-.18
Emotional	-.13	-.01	.07	.27*	-.12	-.03	.14	.10
Conscientious	.13	-.23*	-.04	-.12	.10	-.02	.13	-.05
Positive Affect	.07	-.37**	-.12	.03	-.20	.32**	-.00	-.34**

Note. *N* = 79. Shy. = shyness; Sociab. = sociability; ACT = Affective Communication Test; SM = self-monitoring; SE = self-esteem; PONS = Profile of Nonverbal Sensitivity; IPT = Interpersonal Perception Task.

<sup>a</sup> 1 = female; 2 = male.

\*  $p < .05$ . \*\*  $p < .01$ .

standardized measures are presented separately by gender in Table 7. Again, as in the case of target accuracy, the results for rater accuracy show that these individual-difference variables do not necessarily predict rater accuracy equally well for women and men, although the negative relationship between sociability and judgment accuracy for Positive Affect and Extraversion seems to be similar for both sexes. For the trait of Agreeableness, however, judgment accuracy was somewhat stronger for men ( $r = -.45$ ) than for women ( $r = -.17$ ), and the difference between these correlations approaches significance ( $z = 1.33, p = .09$ ).

Furthermore, the relationship between shyness and judgment accuracy seems to be moderated by gender. Shy women ( $r = .24$ ) and women who were low in expressivity ( $r = -.44$ ) were more accurate at judging Extraversion. Men who were not shy ( $r = -.15$ ) were more accurate in judging Extraversion, and expressivity was almost unrelated to how accurately men judged Extraversion ( $r = .02$ ). These sex differences in predicting Extraversion from shyness ( $z = 1.68, p < .05$ ) and expressivity ( $z = 2.09, p < .05$ ) are both statistically significant.

It is interesting that the gender differences in the relationships between self-monitoring and sociability and the dimensions of Emotional Stability and Conscientiousness are extremely similar for both target and rater accuracy. Remember that women who were high in sociability and were high self-monitors were more legible on the dimension of Emotional Stability and that men who were low self-monitors were less legible on the dimension of Conscientiousness. Women who were high in sociability ( $r = .15$ ) and self-monitoring ( $r = .44$ ) were also more accurate on the dimension of Emotional Stability. Men who were high in sociability were less accurate on this dimension ( $r = -.17$ ), whereas self-monitoring seems to be almost unrelated to their accuracy at judging Emotional Stability ( $r = .06$ ). The sex difference in self-monitoring is significant ( $z = 1.75, p < .05$ ),

and the difference in sociability approaches significance ( $z = 1.37, p = .09$ ). Also, as was the case for the legibility results, men who were high self-monitors were less accurate at judging Conscientiousness ( $r = -.33$ ), whereas self-monitoring was unrelated to accuracy at judging Conscientiousness for women ( $r = .02$ ). This difference approaches significance ( $z = 1.54, p = .06$ ). One way that the pattern of relationships among self-monitoring, sociability, and the dimensions of Emotional Stability and Conscientiousness differs from target accuracy to rater accuracy is in the relationship between sociability and the dimension of Conscientiousness. For target accuracy (legibility) there is almost no difference between women ( $r = -.06$ ) and men ( $r = -.04$ ). For rater accuracy, however, men who were high in sociability were more accurate judges of Conscientiousness ( $r = .32$ ), whereas women who were high in sociability were less accurate on this dimension ( $r = -.14$ ). This difference is statistically significant ( $z = 2.09, p < .05$ ).

Some very interesting differences emerge when the relationship between the measures of nonverbal skill and accuracy are broken down by gender. The PONS is a much better overall predictor of accuracy for men than for women. Specifically, the PONS does a better job predicting judgment accuracy for men on the dimensions of Extraversion (men's  $r = .44$ ; women's  $r = .02$ ), Agreeableness (men's  $r = .33$ ; women's  $r = -.09$ ), and Conscientiousness (men's  $r = .21$ ; women's  $r = -.29$ ). All of these gender differences are statistically significant (Extraversion  $z = 1.92, p < .03$ ; Agreeableness  $z = 1.84, p < .05$ ; Conscientiousness  $z = 2.17, p < .05$ ). Although the PONS seems to be a better predictor of accuracy for men, the IPT seems to be a better predictor of accuracy for women. This is particularly true for the dimension of Agreeableness: Women who score high on the IPT are more accurate judges of Agreeableness ( $r = .33$ ), and men who score high on the IPT are worse judges of this dimension ( $r = -.14$ ). This difference is significant ( $z = 2.05, p < .05$ ). It appears that the PONS and IPT have

Table 7  
*Broken Down by Gender: Correlations of Judgment Accuracy on Five Dimensions With Seven Variables*

Dimension of accuracy	Shy.	Sociab.	ACT	SM	SE	PONS	IPT
Women ( $n = 44$ )							
Extraverted	.24	-.29	-.44**	.01	-.06	.02	.02
Agreeable	.08	-.17	-.04	.04	-.05	-.09	.33*
Emotional	-.12	.15	.18	.44**	-.26	.04	.19
Conscientious	.21	-.16	.09	.02	.04	-.29	.14
Positive Affect	.29	-.24	-.47***	.02	-.23	.02	.20
Men ( $n = 35$ )							
Extraverted	-.15	-.33*	.02	.17	-.23	.44**	.00
Agreeable	.20	-.45**	-.24	.17	-.29	.33*	-.14
Emotional	-.16	-.17	.04	.06	.00	-.05	.09
Conscientious	.01	.32	-.21	-.33*	.20	.21	.12
Positive Affect	-.09	-.50**	-.08	.11	-.13	.43**	-.17

Note. Shy. = shyness; Sociab. = sociability; ACT = Affective Communication Test; SM = self-monitoring; SE = self-esteem; PONS = Profile of Nonverbal Sensitivity; IPT = Interpersonal Perception Task.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

different predictive abilities for men and women, at least for the accuracy of judgment of others in zero-acquaintance situations.

### Discussion

Previous research has found that people are impressively accurate in making interpersonal judgments regarding certain attributes in zero-acquaintance situations. The present study extends the existing research on judgment accuracy by finding that a) people are not equally accurate in their ability to judge and be judged by others in zero-acquaintance situations, and b) there are specific individual-difference variables that predict who will be more or less accurate in these judgments. More specifically, this research found that individuals' personality traits, nonverbal skills, and gender moderate both target and rater accuracy.

*Legibility or target accuracy* refers to how well an individual can be judged by others. In social interactions, people encountering an individual who is judged easily should have more detailed and more accurate knowledge of that person's emotional state than they would have for an average person with a similar degree of acquaintance. Clearly, individual differences strongly moderate the accuracy of target judgment in zero-acquaintance situations. As predicted, participants who were more expressive, more sociable, higher in self-esteem, and less shy tended to be more accurately judged by other people, supporting results suggested by previous studies (Borkenau & Liebler, 1992; Colvin, 1993). But the relationship between these personality variables and legibility occurred only for personality dimensions related to affective expression, such as Extraversion or Agreeableness. There seems to be no clear relationship between any of the personality traits we examined and legibility on the dimensions of Emotional Stability or Conscientiousness. Surprisingly, women and men did not differ in how accurately they were judged by others. In short, a number of personality variables related to extraversion, expressivity, and social confidence were the strongest predictors of legibility on this zero-acquaintance task.

*Judgment accuracy* refers to the ability to make accurate judgments about others. In social interactions, people who are better judges of nonverbal behavior should have a more accurate knowledge of other people's emotional states than an average person would. Our results indicate that judgment accuracy is related to gender, skill in decoding nonverbal behavior, and self-monitoring. We found that high scorers on the PONS were more accurate at judging others on the dimensions of Extraversion and Agreeableness. High self-monitors were more accurate at judging the dimension of Emotional Stability and, overall, consistent with the existing nonverbal literature, female participants were more accurate judges of others than were male participants. Interestingly, more sociable individuals and those higher in self-esteem tended to be less accurate at judging others on most dimensions.

For both target and rater accuracy, we found personality variables that reliably predicted accuracy on the dimensions of Extraversion and Agreeableness but not on the dimensions of Conscientiousness and Emotional Stability. In fact, the number of significant correlations between our set of personality variables

and target and rater accuracy on the dimensions of Conscientiousness and Emotional Stability was barely more than what would be expected by chance (6/88; see Tables 4–7), although many more significant correlations were observed between the personality variables and accuracy on the dimensions of Extraversion and Agreeableness. From the earliest scientific interest in the topic (Darwin, 1872), investigations of nonverbal behavior have focused primarily on affective or emotional expression. There is a fairly strong consensus that there is some underlying "hard wired" physiological basis to the relationship between emotion and nonverbal expression (DePaulo, 1992). Of course, it is possible that other individual variables that were not examined here might better predict judgment accuracy for the other dimensions, such as Conscientiousness. It seems reasonable, however, that stronger predictors of target and rater accuracy would be found on the dimensions related to expressions of an individual's emotional state.

This research also identified sex differences in interpersonal accuracy. The relationship between gender and accuracy is already well established (Hall, 1979, 1984), but to our knowledge this is the first study to identify sex differences related to the accuracy of judgment in zero-acquaintance situations. Some interesting differences emerged between men and women in how well different standardized measures of nonverbal decoding predicted skill and rater accuracy. The PONS was a relatively better predictor of rater accuracy for men, and the IPT was a relatively better predictor of rater accuracy for women. These results suggest that the PONS may tap skills that differentiate good male decoders from poor male decoders and that the IPT may tap skills that differentiate good female decoders from poor female decoders in real life situations such as the peer-rating situations. Although they are both measures of nonverbal decoding ability, the PONS and the IPT tap different skills. The PONS is a test of purely nonverbal decoding ability, whereas the IPT is a test of verbal as well as nonverbal decoding ability. It may be that men who rely purely on nonverbal information are more accurate judges in the zero-acquaintance situation, but women who rely on both verbal as well as nonverbal information are better judges in the same situation. To our knowledge, a similar pattern of gender differences on measure of decoding ability has not been found so far, and this result certainly merits closer examination in future research.

Furthermore, it is interesting that although women were more accurate than men, men who were relatively more accurate exhibited a similar pattern of personality correlates to women. That is, both more accurate female and male judges were lower in expressiveness, sociability, and self-esteem than their less accurate peers. Considered together with findings indicating that socially skilled, sociable, and expressive people are liked more than their less skilled counterparts (DePaulo, 1992), these results suggest that for both genders, individuals lower in social skills such as sociability, expressiveness, and self-esteem are more accurate judges of others than individuals who are high in these skills. These results are provocative, supporting previous research suggesting that personally and socially vulnerable individuals may be better at decoding nonverbal behavior (Rosenthal & DePaulo, 1979). The important difference between the present study and previous research, however, is

that whereas judgments were based on video and audio clips in previous studies, in the present study, judgments of people were made in a real life situation.

It seems likely that both target and rater accuracy could help people smoothly negotiate social interactions. Consider the words that are used generally to describe good interpersonal relations: words such as *sympathy*, *empathy*, *charisma*, and *rapport*. All of these words characterize the ability to communicate affective information to others (Friedman, 1979). Differences in people's facility at reading the emotional states of others, or at expressing their own emotional states through nonverbal cues, may explain some of their behavior in social interactions. This interpersonal accuracy may well account for differences between people who are extremely skillful at social activity and those who are rather inept in social situations. Practically, this accuracy may be a useful predictor of success in tasks that require some degree of interpersonal sensitivity.

As both types of skill may be socially useful, the relationship between any one measure of accuracy and interpersonal success might not be so clear-cut. Future research could examine the possible "strategies" that people who are relatively better or worse at these two types of accuracy might use to manage social interactions. Possibly people who are better judges of others might not give off much information about themselves but rather would be especially sensitive to their partner's behavior and would adjust their own behavior accordingly, while an individual who was especially easily read by others might manage his or her interactions successfully by giving off a good deal of information that allows others to judge him or her accurately.

On a practical level, these results suggest that in situations when fairly rapid judgments have to be made regarding others (such as in selection and recruitment of personnel), good judges of behavior might be identified by their performance on tests of nonverbal decoding ability. Furthermore, in such situations, judges should be aware that although their judgments regarding Extraversion and sociability might have some validity, their judgments of traits such as Conscientiousness or Emotional Stability might not be very accurate.

This research also can provide some insight into the relationship between a person's skill at judging and expressing nonverbal communication. A number of different studies have examined the relationship between individual encoding and decoding ability with different results. The results of some of the studies suggest that there is a relationship between encoding and decoding ability (Akert & Panter, 1988; Funder & Harris, 1986; Mill, 1984; Swann, Stein-Seroussi, & McNulty, 1992) whereas other research has found no evidence of such a relationship (Cunningham, 1977; Riggio & Friedman, 1982; Rosenthal et al., 1979). There is little evidence of a strong relationship between these two variables in this study. In fact, participants who were more sociable and had higher self-esteem tended to be relatively less accurate judges, and participants who did well on the PONS tended to be less accurately judged, suggesting, if anything, a negative relationship between encoding and decoding ability.

Although this study is provocative, it has certain limitations. First, it might be useful to explore the specific cues related to target and rater accuracy by videotaping participants in this sit-

uation. Furthermore, other criterion measures, such as peer ratings, should be used in addition to self-reports.

What might be the consequences of being a good target or rater? Possessing either skill might be adaptive. Of course it is useful to be able to judge others accurately, but it is also useful to be able to transmit valid cues to allow others to judge oneself. Consider the examples at the beginning of this article. People who are better decoders of other people will be unlikely to choose an inappropriate partner for a train ride, a difficult colleague, or an unsympathetic guide, because they will be able to pick up and accurately interpret others' cues. People who are more legible and more accurately judged may also not have to suffer in their social interactions presumably because they transmit and communicate cues that allow others to judge them accurately, and thus elicit appropriate responses from others. Thus, more legible, expressive people might be able to signal either their desire for solitude or for companionship on a train to others. Also, because expressive people are generally liked better, such people may be able to elicit more cooperation from a difficult colleague, more sympathy from a guide, and perhaps, may be able to discourage a talkative fellow traveler (DePaulo, 1992).

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