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Differential Accuracy in Person Perception Across Traits: Examination of a Functional Hypothesis

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Although strangers can assess certain traits of unacquainted others with moderate validity, overall validity is low. Differential validity across traits may be due to (a) the extent to which targets display valid cues or (b) the extent to which perceivers validly use cues. A functionalist perspective suggests that valid cue utilization should vary with how important the consequences of accurate trait assessment are. It was predicted from this perspective that perceivers would judge strangers' sociosexuality more accurately than 3 other traits—social potency, social closeness, and stress reaction. Perceivers viewed 1-min videotaped segments of targets being interviewed and rated them on the 4 traits. Ratings were correlated with target-reported trait measures. As predicted, perceivers' ratings of male sociosexuality agreed relatively well with self-reports. This effect was moderated by sex of target and sex of perceiver.

In everyday life, individuals often must judge the personalities of other people on the basis of minimal exposure to them. Because interactions between unacquainted individuals regularly occur, the ability to detect certain behavioral propensities in others—sociability, trustworthiness, warmth, manipulativeness, and so forth—may be highly functional. To the extent that brief interactions contain valid cues reflecting these propensities, one therefore might expect that people can and do use these cues in an attempt to accurately evaluate strangers' dispositions.

The literature, however, suggests otherwise. Funder and Colvin (1988) presented 5-min videotaped presentations of targets to strangers who then assessed the targets on the California Q-Sort. Overall, strangers' ratings agreed little with target self-reports. Although certain traits apparently can be validly assessed after brief exposure to unknown individuals (Funder & Colvin, 1988; Norman & Goldberg, 1966; Watson, 1989), overall accuracy tends to be moderate at best.

Why do social perceivers generally perform poorly to moderately well on these tasks? And why are some traits more accurately perceived than others? At least two possible reasons exist. First, for perceivers to perform well, cues must be available in targets' presentations; that is, *cue availability* must exist. Second, perceivers must use cues validly; that is, *valid cue utilization* must exist. Overall poor performance thus may result from the lack of either cue availability or valid cue utilization. Moreover, variability in accuracy across traits may be attributable to variability in either source.

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Brunswik Lens Model

These sources of accuracy can be conceptualized within the framework of Brunswik's (1955) lens model of inferential behavior (see Goldberg, 1968, 1970; Hammond, 1955; Hammond, Hursch, & Todd, 1964; Paunonen, 1989; Wiggins, 1973). The lens model is illustrated in Figure 1 (reproduced from Paunonen, 1989; see also Hammond et al., 1964). The circles represent variables and the lines represent relationships between variables. The variable at the left margin is the criterion (e.g., targets' standings on a trait) to be assessed. The variable on the right margin is the judge's assessment of the criterion. The line connecting the two represents the accuracy of the judgment. This accuracy is mediated using cues, such as features of behavior targets display that form the basis of the assessment. For judges to accurately assess the criterion, cues that validly relate to the criterion must be available (cue availability). Moreover, judges must use the available cues in valid ways (valid cue utilization).

The lens model is useful not only as a conceptual framework for understanding person perception processes; it also serves as an analytic guide to discerning sources of accuracy and inaccuracy. For, if one measures cues available to judges, one can separately assess components of overall accuracy. Hammond et al. (1964) showed that correspondence between judgment and criterion is a function of four components:

$$r_{cs} = (R_c^2 + R_s^2 - \Sigma_d)/2 + C(1 - R_c^2)(1 - R_s^2),$$

where r_{cs} = correlation between judgments and criterion; R_c = multiple correlation between cues and criterion; R_s = multiple

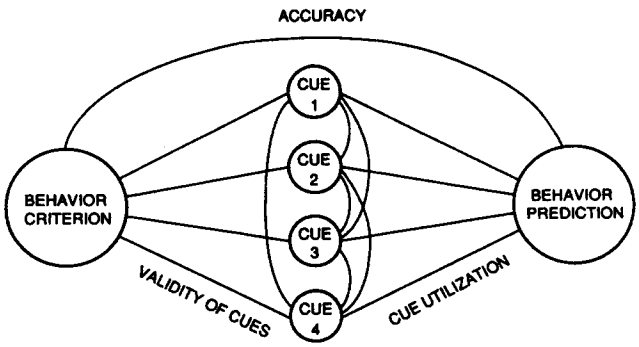

Figure 1. The Brunswik lens model. (From "Consensus in Personality Judgments: Moderating Effects of Target–Rater Acquaintanceship and Behavior Observability" by S. V. Paunonen, 1989, *Journal of Personality and Social Psychology, 56,* p. 824. Copyright 1989 by the American Psychological Association. Reprinted by permission.)

correlation between cues and judgments; Σ_d = product of $(r_{ei} - r_{si})$ $(\beta_{ei} - \beta_{si})$ summed across cues (where i = 1 to k, k = number of cues), interpretable as a measure of correspondence between cue validities and cue utilization, where smaller values indicate greater correspondence; and C = correlation between variance in criterion and variance in judgments not accounted for by linear combination of measured cues (e.g., accounted for by other cues or nonlinear combinations of measured cues).

Past Research

Funder and Colvin (1988) suggested that lack of cue availability accounts for at least some of the variability in accuracy. They had perceivers rate the behavioral visibility of the 100 characteristics contained within the California Q-Sort. They then aggregated these ratings to obtain a single visibility index for each characteristic. The aggregated ratings corresponded closely with the extent to which strangers could validly assess these characteristics. Thus, strangers could assess a highly visible characteristic such as "has social poise" somewhat accurately, yet they could not validly assess a less visible characteristic such as "has insight into own motives and behavior." Similarly, Watson (1989) has found that strangers can validly assess the socially evident trait of extraversion, yet they cannot validly assess emotional stability.

Although this research suggests that lack of cue availability may account for variation in accuracy across different traits, lack of valid cue utilization cannot be ruled out. To optimally assess cue availability, one must directly measure behavioral cues that might be indicative of different traits to examine their predictive power. Funder and Colvin (1988) assessed cue availability indirectly by asking perceivers to rate the visibility of traits. Although indirect assessments may relate substantially to direct assessments, they may be influenced by factors unrelated to cue availability as well. In particular, Funder and Colvin's perceivers may have rated some traits as lacking visibility not because valid cues of those traits do not exist, but because perceivers did not "see" the relevance of existing valid cues for rating those traits. Funder and Colvin's procedure, then, may not fully unconfound cue availability and cue utilization.

The present research was designed to explore the possibility that variation in perceivers' accuracy in assessing unknown others across certain traits may be attributable to variation in valid cue utilization.

Functional Analysis of Valid Cue Utilization

Why might perceivers be better attuned to validly assess cues related to certain traits than to others? It seems reasonable to address this question from a functionalist perspective. According to a functionalist account, the validity and efficiency of cue utilization across traits should vary as a result of the consequences of correctly or incorrectly evaluating a given trait accurately. When the consequences are relatively important, perceivers should use cues validly; when they are unimportant, cue utilization should be less valid.

One approach particularly suited to a functionalist view is an ecological one (e.g., Gibson, 1979; McArthur & Baron, 1983). According to the ecological perspective, perception is assumed to promote individual adaptation because perceivers "pick out" information that affords adaptive action. In the words of Gibson (1979), "perception is for doing." As such, the perceptual system is assumed to be selected, ontogenetically as well as phylogenetically, to be attuned to features of the environment that can be acted on to promote individual goals. Not all features of the environment are equal in this regard and hence perceivers selectively pick out certain environmental cues and ignore others.

The perceptual system is believed to operate according to biological preprogramming of attunements to certain environmental cues and the regulation of the ontogenetic education of perceptual attunements (i.e., constraints on perceptual learning). Such biological preprogramming is a response to evolutionary pressures such as Darwinian selection. From a neo-Darwinian perspective, actions are of consequential importance to the extent that they have implications for survival and reproductive success. Accordingly, if selection has tailored our perceptual mechanisms in domain-specific ways (cf. Cosmides & Tooby, 1987), a neo-Darwinian perspective would suggest that the perceptual system should allow relatively efficient perception of traits whose correct or incorrect identification had implications for actions relevant to survival and reproduction in our evolutionary past.

Various traits may meet this criterion. Sensitivity to others' social dominance, for instance, should have been adaptive in the evolutionary past given the importance of social hierarchies in the regulation of interactions. It also should have been adaptive to be sensitive to others' interpersonal warmth or trust, because one benefits from treating social contracts with trustworthy and nontrustworthy people differently. And it might have been adaptive to be able to assess another's emotional stability because, in stress-inducing situations, one can count on emotionally stable individuals to a greater degree than emotionally labile persons (see Hogan, 1983).

Whereas each of these traits might be associated with cues to which perceivers should be adaptively attuned, we identified another individual difference as a best candidate—the individual difference of sociosexuality (Gangestad & Simpson, 1990; Simpson & Gangestad, 1991). Sociosexuality refers to individ-

ual differences in willingness to engage in sexual relations without closeness or commitment. *Unrestricted* individuals are relatively willing to engage in sex without commitment. Specifically, they report having had sex with many different partners in the past, having engaged in sex with partners on only one occasion, and foreseeing many different partners in the future. *Restricted* individuals, on the other hand, tend to insist on the development of closeness and commitment before engaging in sex, and they possess the opposite set of behavioral characteristics. Recent research has validated a self-report measure of sociosexuality, the Sociosexual Orientation Inventory (SOI), using independent reports concerning sexual behavior provided by individuals' romantic partners (Simpson & Gangestad, 1991). Unrestricted individuals, relative to their restricted counterparts, tend to engage in sex earlier in their relationships and to have had more than one concurrent sexual relationship. Restricted individuals, by contrast, express more commitment to their partners and, accordingly, tend to be involved with partners who report more love, investment, and commitment to them (see Simpson & Gangestad, 1991, for more details).

Assessment of another's sociosexual orientation may have been an important component in individuals' solutions to three adaptive problems in the evolutionary past:

1. Choice of a mate—Selection should have favored individuals who made adaptive mate choices. Some individuals (perhaps women in particular; Trivers, 1972) should have been selected to choose a mate who would be willing to invest heavily in the relationship and in any offspring produced by it. Sociosexual orientation appears to be related to willingness to invest exclusively in a single relationship.

2. Assessment of paternity—Selection should have favored men who would invest in their own offspring. A woman's sociosexual orientation may have been associated with certainty of paternity, such that paternity was less certain in unrestricted women.

3. Choice of a reproductive strategy—Selection may have favored individuals who facultatively adapted components of reproductive effort (e.g., criteria of mate choice and expenditure of mating effort vs. investment effort) to ecological circumstances (Tooby & Cosmides, 1990). Some ecological circumstances may have influenced the strategy choices of others. In certain circumstances, individuals may have been selected to imitate the strategies of others (see Draper & Belsky, 1990). In other circumstances, individuals may have been selected to choose a strategy that contrasted with those of others (e.g., it may have been adaptive for a man to expend more effort in offspring investment if competitors deemed more attractive expended more effort in mating; see Gangestad & Simpson, 1990). In either case, the sociosexual orientation of others may have been associated with their reproductive strategies (see Gangestad & Simpson, 1990). Hence, it might be a dimension to which social perceivers have been selected to be adapted.

These three adaptive problems were directly tied to reproduction in the evolutionary past. Adaptive problems solved by efficient assessment of other traits are less clearly tied to reproduction. Thus, one might expect from a neo-Darwinian perspective more efficient perception of others' sociosexuality relative to perception of other traits.

In this research, we sought to determine whether social perceivers could provide assessments of sociosexuality from brief presentations of targets that would agree with targets' self-assessments to a greater extent than perceivers' assessments of three other traits. Perceivers viewed 1-min presentations (interviews) of 20 targets in which only visual cues were available to them. They then rated each target on four traits: sociosexuality, social potency, social closeness, and stress reaction. Data were analyzed in two ways. First, we correlated raters' social judgments with self-report markers of the traits provided by targets. Second, we broke overall accuracy into components specified by the lens model. To do so, we identified and measured a number of obvious cues that perceivers could potentially use.

One such cue is physical attractiveness. Physical attractiveness appears to be related to male sociosexuality (Simpson & Gangestad, in press) and other traits (e.g., social potency; Rowe, Clapp, & Wallis, 1987). Valid use of this cue, however, reveals nothing about perceivers' attunements to behavioral features of targets' performances. Hence, we mainly used physical attractiveness as a covariate, partialing out its contribution to agreement between perceivers' ratings and targets' self-reports.

Two sorts of behavioral cues were measured. First, we assessed 11 dimensions of the targets' nonverbal behavior displayed during the presentation (e.g., percentage of time spent smiling, percentage of time maintaining eye contact, and number of laughs). Five principal components are known to account for the bulk of the variance underlying these 11 behavioral indicators (Simpson, Gangestad, & Biek, 1991). We treated these components as composite behavioral cues. Second, we assessed global impressions created by the targets during their presentations. Independent raters evaluated each target on a heterogeneous set of 34 adjective descriptors (e.g., *animated, inhibited,* and *relaxed*). Five interpretable factors underlie these descriptors (Simpson et al., 1991), and we treated these five dimensions as impressionistic cues.

Perceivers could have used cues other than those we measured (e.g., more subtle forms of nonverbal expressions not reflected in gross measures such as percentage of time smiling). Through lens model analyses, however, we were able to assess the extent to which perceivers' agreement with target self-reports were attributable to valid use of the cues we both did and did not measure.

Method

Participants

Targets. One-hundred sixty Texas A&M University students (80 men and 80 women) participated as targets in exchange for credit toward a class grade.

Perceivers. Two-hundred seven University of New Mexico students (89 men and 118 women) participated as perceivers in exchange for credit toward a class grade.

Procedures

Overview. Targets were individually interviewed by an opposite-sex person for a purported lunch date. These interviews were videotaped, after which targets completed a series of self-report measures. Perceivers (run in groups of 2–15) then viewed 20 one-min clips of these interviews. Each clip depicted a different target. Participants were

shown the tapes with the sound turned off, and thus they were exposed to only the video portion of each target's presentation. Perceivers rated each target person on 14 different dimensions.

Development of stimulus materials: The Texas A&M phase. Tapes of the target persons were developed at Texas A&M University (Simpson et al., 1991). Introductory psychology students were recruited to participate in a study on interpersonal relations and dating. Participants were interviewed in a small room (individually) by an attractive opposite-sex interviewer through a video monitor for a potential lunch date. Participants were told that the interviewer could see them through a video camera mounted in the corner of the room. They were instructed to look at the camera (interviewer) when answering all questions. Unknown to participants, the interviewer was a videotaped confederate. Experimenters in a nearby control room controlled the presentation of the videotape so that the interviewer asked each question directly after each participant had finished answering the previous one. All interviews were unobtrusively videotaped.

After the interview, participants completed several personality measures, including (a) the Eysenck Personality Questionnaire Extraversion Scale (Eysenck & Eysenck, 1975), a measure known to tap social potency (Tellegen, 1982; Cronbach's $\alpha = .77$); (b) the Multidimensional Personality Questionnaire (MPQ) Social Closeness Scale (Tellegen, 1982; Tellegen & Waller, in press; $\alpha = .89$); (c) the MPQ Stress Reaction Scale (Tellegen, 1982; Tellegen & Waller, in press; $\alpha = .83$); (d) a series of adjective ratings that were developed by Tellegen to mark the MPQ traits of social potency, social closeness, and stress reaction (see below)[1]; (e) the SOI (Simpson & Gangestad, 1991), which consists of five indices aggregated to produce a single score: (i) number of partners in the past year; (ii) number of partners foreseen in the next 5 years; (iii) number of "one night stands"; (iv) frequency of sexual fantasy with other partners; and (v) three aggregated attitudinal items (e.g., "I can imagine myself being comfortable and enjoying casual sex with different partners"; $\alpha = .75$). Participants were assured anonymity of their responses. After participants were debriefed, they were asked to sign a release form allowing us to use their tape for research purposes. All subjects agreed to do so.

All interviews were viewed by trained raters and coded for the occurrence of specific behaviors (e.g., the percentage of time spent smiling, the percentage of time eye contact with the camera was maintained) as well as 34 specific impressions the interviewees conveyed during the interview (e.g., how animated they were, how relaxed they appeared, and how phony they appeared; see Simpson et al., 1991). Reliabilities of the ratings aggregated across raters ranged from .61 to .94 and averaged .79. We submitted the behavioral variables to a principal-components analysis for each sex. Five components, accounting for 69% and 76% of the variance for men and women, respectively, were retained and varimax rotated. Table 1 provides the loadings on these components.

We factor analyzed the impressionistic variables, initially for each sex separately. Results for the two sexes were highly similar. Hence, we conducted a factor analysis on the full sample. A scree test revealed the existence of five factors, which were rotated according to varimax criteria. The resultant factors included: (a) Social Engagement (marked by high ratings on engaging, witty, competent, stimulating, disclosing, drawing attention to self, dominant, captivating, and skilled, and low ratings on dull); (b) Interest (marked by high ratings on flirtatious, inviting, conveys interest, and bold); (c) Comfort (marked by high ratings on relaxed and low ratings on anxious, self-conscious, inhibited, and shy); (d) Provocativeness (marked by high ratings on seductive, provocative, and sexually appealing); and (e) Pretentiousness (marked by high ratings on arrogant and phony, and low ratings on nice).

To create stimulus materials for the present study, we copied the first minute of each interview onto master tapes. Four tapes contained 20 male interviewees and four contained 20 female interviewees. All interviewees were either White or Hispanic. During the first minute, each interviewee addressed the same, general introductory question ("Tell me about yourself, including who you are, what you like to do, and what you don't like to do").

Collection of rating data: The University of New Mexico phase. Perceivers were told they would be asked to view a series of 20 one-min video segments depicting 20 different targets. For all segments, the audio portion of the tape was turned off.[2] After viewing each target, perceivers were given 2 min to rate the target on 14 adjective scales. Twelve of the 14 adjective ratings made on each target concerned impressions of the target's personality on four traits: (a) sociosexuality (marked by the dimensions sexually permissive, sexually active, and concerned with faithfulness—reverse keyed); (b) social potency (marked by socially visible, persuasive, and dominant); (c) social closeness (marked by gregarious, people-oriented, and affectionate); and (d) stress reaction (marked by tense, even-tempered—reverse keyed, and sensitive). Each adjective was accompanied by a paragraph describing the prototypical high and low scorer on each dimension. The 12 adjective descriptors were presented in a random order standardized for all perceivers. The final two ratings assessed each target's physical appearance: "Physical attractiveness: How physically attractive is this person?"; and "Sex appeal: How much sex appeal does this person have?" All 14 ratings were made on 5-point scales, where 1 = *lowest 5%*, 2 = *lower 30%*, 3 = *middle 30%*, 4 = *higher 30%*, and 5 = *highest 5%*.[3]

Ratings on the individual adjective descriptors were aggregated to form five composite rating indices: One for each of the four personality traits (sociosexuality, social potency, social closeness, and stress reaction) and one for global physical attractiveness (a sum of the physical attractiveness and sex appeal ratings).

At the completion of the study, perceivers were fully debriefed and thanked.[4]

Results

Agreement Between Aggregated Perceptions and Self-Reports

To examine the agreement between aggregated perceptions of targets and targets' self-reports, we first summed the ratings on each individual difference dimension (sociosexuality, social

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[1] We collected these adjective ratings as a second set of self-report markers of the three traits. Results yielded by analyses on these measures essentially duplicated those reported, and hence we do not report them. Interested readers can contact us for further information.

[2] The audio portion was turned off because targets were being interviewed about themselves. Obviously, we did not want perceivers' "social perceptions" to reflect interpretations of what targets simply said about themselves.

[3] The rating scales tapping Social Potency, Social Closeness, and Stress Reaction were adopted from research on the MPQ demonstrating that peer ratings on these dimensions do relate to their self-report markers (Tellegen & Waller, in press). Rating scales tapping Sociosexuality were constructed specifically for this research.

[4] In fact, after the rating task perceivers completed the battery of self-report measures completed by targets. Consistent with previous research (see Kenny & Albright, 1987), we found no evidence for strongly generalized abilities in trait perception. Moreover, we found few relations between perceiver traits, as assessed by self-report, and their ability to assess particular traits, as assessed by the agreement between their ratings and target self-reports. We do not report these analyses in this article. Interested readers can contact us for more information.

Table 1
Principal-Component Loadings of Explicit Nonverbal Behaviors

	Component									
	Men					Women				
Variable	1	2	3	4	5	1	2	3	4	5
% of time smiling	.00	.76	−.02	.38	.17	.60	−.05	.15	.58	.12
% of time eye contact	.38	.26	−.63	−.05	.25	.67	−.37	.32	.25	.07
% of time open posture	.60	.31	.03	.27	−.21	.12	.34	.55	.47	−.06
% of time head cant	.36	.56	.13	−.35	.08	.16	.01	.81	−.09	.28
% of time forward lead	−.02	.01	.01	.12	.93	.12	.11	.07	.10	.94
% of time downward gaze	.06	−.11	.88	−.02	.06	−.11	.90	.06	.00	.09
Gestures	.74	−.06	−.05	.28	−.09	.23	.23	.64	.65	−.13
Flirtatious glances	.05	.76	−.14	−.07	−.12	.86	.02	.18	.00	−.05
Eyebrow flashes	.74	.10	.07	−.14	.17	.76	.26	.08	.08	.21
Downward looks	.31	.38	.64	.15	.12	.22	.81	.28	.14	.06
Laughs	.18	.04	.10	.84	.14	.07	.07	.01	.89	.07

potency, social closeness, and stress reaction) across all same-sex raters. Number of raters contributing to each aggregate ranged from 9 to 14 for male perceivers and 9 to 26 for female perceivers. Mens' and womens' ratings were highly correlated (for sociosexuality, .83; for social potency, .83; for social closeness, .79; for stress reaction, .62). Therefore, we also formed a total aggregate of mens' and womens' ratings on each trait. We then correlated these aggregates (all perceivers, male perceivers, and female perceivers) with targets' self-reports on each trait scale. Results are presented in Table 2.

Across all targets, the aggregate of all perceivers' ratings correlated significantly with targets' self-reports of three traits: sociosexuality ($r = .39$), social potency ($r = .28$), and social closeness ($r = .25$). A preplanned comparison between agreement on sociosexuality and agreement on the other three traits (involving correlated correlations; see Olkin & Finn, 1990) revealed a significant effect, $z = 2.04$, $p < .05$.[5] A follow-up test of the difference between the other three traits yielded no significant difference, χ^2 (2, $n = 160$) = 3.38, *ns*.

Separate analyses on the ratings provided by male perceivers and female perceivers revealed that male ratings on sociosexuality agreed with target reports ($r = .44$) to a greater extent than did their ratings on the other three traits (mean $r = .20$), $z = 3.02$, $p < .005$. For female perceivers, however, no significant difference emerged, $z = 1.06$, *ns*.

Additionally, for male perceivers, a significant difference among the correlations for the traits other than sociosexuality emerged, χ^2 (2, $n = 160$) = 6.18, $p < .05$. Inspection of the correlations revealed that this effect was largely due to male judgments of social potency corresponding more highly with target self-reports than male judgments of stress reaction.

After these analyses, we examined ratings made on male and female targets separately. These analyses revealed that the overall effect was largely carried by male targets. Hence, male self-reports of sociosexuality were predicted to a greater extent by perceiver ratings than were reports on the other three traits by the aggregate of all perceivers ($z = 2.14$, $p < .05$), male perceivers ($z = 2.84$, $p < .005$), and (to a marginally significant extent) female perceivers ($z = 1.53$, $p < .10$). By contrast, no significant differences emerged from the ratings of female targets (all zs ≤ 1.18, *ns*).

Perceiver–target correspondence on the three traits other than sociosexuality significantly differed from one another when targets were male and perceivers were of either sex, χ^2 (2, $n = 80$) = 7.81, $p < .05$, or perceivers were male, χ^2 (2, $n = 160$) = 13.34, $p < .01$. Correspondence was greatest for the trait of social potency and least for stress reaction.

Agreement With Physical Attractiveness Partialed Out

Did perceivers' ratings correspond more highly with self-reports of sociosexuality than with self-reports of the other traits merely because physical attractiveness is, to some extent, a valid cue of male sociosexuality (for men, r between SOI and physical attractiveness = .40; for women, $r = .09$; see Simpson & Gangestad, in press). To explore this question, we correlated perceiver ratings with self-reports, controlling for the effects of physical attractiveness.[6] These correlations are presented in Table 3.

Analyses on these correlations yielded several significant comparisons: Across all targets, agreement on sociosexuality exceeded agreement on the other traits for the aggregate of all perceivers ($z = 3.42$, $p < .001$), male perceivers ($z = 4.77$, $p < .001$), and (marginally significantly) female perceivers ($z = 1.59$, $p < .06$).

Across male targets, this effect was marginally significant for the aggregate of all perceivers ($z = 1.44$, $p < .08$) and significant

[5] All predicted effects were assessed with one-tailed tests. All other effects were assessed with two-tailed tests.

[6] For these analyses, we used perceivers' own ratings of attractiveness. Thus, in partialing out attractiveness from trait ratings made by all perceivers, we composited the attractiveness ratings made by all perceivers. When partialing out attractiveness from ratings made by male perceivers, we composited the attractiveness ratings made by male perceivers, and so forth.

Table 2
Correlations Between Target Self-Reports and Perceiver Ratings

Condition	Socio-sexuality	Social potency	Social closeness	Stress reaction	z^a	p
All perceivers						
All targets	.39***	.28***	.25***	.12	2.04	.021
Male targets	.50***	.45***	.28**	.13	2.14	.016
Female targets	.16	.08	.08	.09	0.62	*ns*
Male perceivers						
All targets	.44***	.29***	.25***	.07	3.02	.001
Male targets	.55***	.50***	.26**	.10	2.84	.002
Female targets	.20*	.03	.09	.02	1.18	*ns*
Female perceivers						
All targets	.30***	.25***	.23***	.14	1.06	*ns*
Male targets	.42***	.36***	.26**	.14	1.53	.063
Female targets	.11	.11	.06	.14	0.00	*ns*

[a] Tests contrasting correlation for sociosexuality and correlation for the other three traits, with corresponding p values. One-tailed p values applied to these predicted effects.
* $p < .10$. ** $p < .05$. *** $p < .01$.

for male perceivers ($z = 2.53$, $p < .01$). No significant effect emerged for female perceivers ($z < 1$, *ns*).

Across female targets, a single marginally significant effect emerged. Male perceivers' ratings agreed to a greater extent with female targets' self-reports of sociosexuality than did their ratings of the other traits agree with self-reports on these traits ($z = 1.51$, $p < .07$).

With physical attractiveness partialed out, no differences across the correlations involving social potency, social closeness, and stress reaction could be detected, χ^2 (2, $n = 160$) $\leq$ 4.29, *ns*.

Overall, then, we found little evidence that raters' superior judgments of sociosexuality were attributable to their utilization of physical attractiveness as a cue. Indeed, in some cases this superiority was enhanced once physical attractiveness was partialed out.

Sex Differences

We found somewhat different patterns of agreement across male and female targets as well as across male and female perceivers. To explore these sex differences, we performed additional comparisons.

The overall superiority of ratings of sociosexuality over the other three traits was carried by male targets. Specific comparisons between male and female targets revealed that male sociosexuality was perceived more accurately than female sociosexuality (for all perceivers, $z = 2.37$, $p < .05$; for male perceivers, $z = 2.55$, $p < .05$; and for female perceivers, $z = 2.07$, $p < .05$). Once physical attractiveness was partialed out, however, these differences did not reach conventional levels of statistical significance (all zs ≤ 1.58, *ns*).

Comparisons across accuracy of ratings of male and female

Table 3
Correlations Between Target Self-Reports and Perceiver Ratings With Physical Attractiveness Partialed Out

Condition	Socio-sexuality	Social potency	Social closeness	Stress reaction	z^a	p
All perceivers						
All targets	.40***	.12	.15	.08	3.42	<.001
Male targets	.34**	.27**	.19*	.11	1.44	.075
Female targets	.13	.01	.08	−.02	.75	*ns*
Male perceivers						
All targets	.47***	.16	.12	.04	4.77	<.001
Male targets	.43***	.29**	.12	.03	2.53	.006
Female targets	.20*	−.01	.06	−.03	1.51	.065
Female perceivers						
All targets	.26**	.08	.17*	.10	1.59	.056
Male targets	.25**	.19*	.20*	.12	.65	*ns*
Female targets	.04	.04	.11	.09	−.10	*ns*

[a] Tests contrasting correlation for sociosexuality and correlations for other three traits, with corresponding p values. One-tailed p values applied to these predicted effects.
* $p < .10$. ** $p < .05$. *** $p < .01$.

targets on the other three traits yielded only two significant results. Male social potency was rated more accurately than female social potency by all perceivers ($z = 2.45$, $p < .01$) and male perceivers ($z = 3.18$, $p < .01$). When physical attractiveness was partialed out, these effects did not achieve statistical significance ($zs \leq 1.80$, *ns*).

The overall superiority of ratings of sociosexuality also was carried by male perceivers. Follow-up analyses revealed that men rated sociosexuality significantly more accurately than did women: for all targets, $t(151) = 3.33$, $p < .01$; for male targets, $t(74) = 2.55$, $p < .02$; for female targets, $t(74) = 1.31$, *ns*. Moreover, these sex differences persisted when physical attractiveness was partialed out: for all targets, $t(150) = 3.97$, $p < .001$; for male targets, $t(73) = 2.48$, $p < .01$; for female targets, $t(73) = 1.70$, $p < .10$.

Comparison between the accuracy of male and female perceivers' ratings of the other three traits yielded a single significant difference. Male ratings of male social potency predicted target reports better than did female ratings, $t(74) = 2.40$, $p < .02$.

Summary of Agreement Data

1. As expected, perceivers' ratings of sociosexuality agreed more highly with target self-reports than did perceivers' ratings of social potency, social closeness, and stress reaction, an effect that persisted when the effects of physical attractiveness were removed.
2. The superiority of ratings of male sociosexuality was more pronounced than was the superiority of ratings of female sociosexuality, an effect that did reach conventional levels of significance when physical attractiveness was partialed out.
3. The superiority of sociosexuality ratings was particularly pronounced for male perceivers. In particular, men rated male sociosexuality more accurately than did women, and only male perceivers evidenced any superiority in rating female sociosexuality relative to other female traits (specifically, when physical attractiveness was partialed out).

Lens Model Analyses

To explore the superiority of ratings of sociosexuality relative to those of the other traits, we performed lens model analyses on target report and perceiver rating agreements (with physical attractiveness partialed out) on each trait for male and female raters separately. These lens model analyses decompose overall agreement into four components: (a) R_e, the multiple correlation between our 10 measured behavioral cues and self-reports of a trait; (b) R_s, the multiple correlation between our 10 measured behavioral cues and perceivers' ratings of the trait; (c) Σ_d, the correspondence between the variance in the self-reports predicted by the cues and the variance in the perceivers' ratings predicted by the cues, which can be translated into a correlation between these variances, r_c; and (d) C, the correlation between the variance in the self-reports not predicted by the cues and the variance in the perceivers' ratings not predicted by the cues. Results are presented in Table 4.

A word of caution in regard to the interpretation of these analyses is in order. Correlations between the components in the target reports and the perceivers' ratings accounted for by the cues are most meaningful when the multiple correlations of the cues with the self-reports and perceivers' ratings are each high. If one or both are relatively low, the multiple correlations may well reflect sample-specific variance that is not generalizable, rendering the correlation between the components of the self-report and perceivers' ratings predicted by the cues relatively unmeaningful.

Several findings emerged from the lens model analyses:

First, there exist differences across traits in the extent to which the cues we measured predict self-reports. Across male and female targets, social potency is the trait best predicted by the cues ($R_e = .53$), providing clear support for Funder and Colvin's (1988) claim that this trait is a relatively visible one. The cues least predicted self-reports of stress reaction ($R_e = .39$). Male sociosexuality was better predicted by the cues than was female sociosexuality (R_es = .52 and .33, respectively), which may substantially account for the fact that male sociosexuality

Table 4
Brunswik Lens Model Analyses

Variable	Parameter				
	R_e	R_s	Σ_d	r_c	C
Male sociosexuality					
Male perceivers	.52	.58	.21	.70	.32
Female perceivers	.52	.38	.20	.57	.17
Female sociosexuality					
Male perceivers	.33	.41	.50	.10	.22
Female perceivers	.33	.43	.52	−.13	.07
Male social potency					
Male perceivers	.62	.49	.34	.47	.22
Female perceivers	.56	.59	.37	.44	.07
Female social potency					
Male perceivers	.47	.59	.20	.65	−.26
Female perceivers	.47	.65	.23	.68	−.23
Male social closeness					
Male perceivers	.45	.61	.71	−.24	.26
Female perceivers	.44	.65	.62	−.02	.30
Female social closeness					
Male perceivers	.34	.66	.32	.51	−.07
Female perceivers	.37	.69	.33	.55	−.04
Male stress reaction					
Male perceivers	.41	.60	.44	.18	−.01
Female perceivers	.41	.48	.22	.46	.04
Female stress reaction					
Male perceivers	.38	.56	.35	.26	−.11
Female perceivers	.38	.62	.32	.39	−.01

Note. Analyses were performed on correlations between target self-reports and perceiver ratings with physical attractiveness partialed out. R_e = multiple correlation between target self-report and measured cues; R_s = multiple correlation between ratings and measured cues; Σ_d = measure of discrepancy between cue validities and cue utilization; r_c = correlation between variance in target self-reports attributable to measured cues and variance in perceiver ratings attributable to measured cues; C = correlation between variance in target self-reports not attributable to measured cues and variance in perceiver ratings not attributable to measured cues.

was predicted more accurately by perceivers than was female sociosexuality. Nonetheless, across male and female targets, sociosexuality was no better predicted by measured cues than were the other traits (mean R_es = .42 and .44, respectively). Hence, the overall superiority of perceivers' ratings of sociosexuality cannot be attributed to the fact that the relatively visible cues we measured related more strongly to sociosexuality than the other traits.

Second, on average about 32% of the variance in the perceivers' ratings was accounted for by the cues, constituting less than one half of the reliable variance in the ratings. Thus, despite our attempt to measure most obvious aspects of targets' nonverbal presentations relevant to trait assessment, it appears that perceivers relied on cues we did not assess to a significant extent. Whether these additional cues involve configurations of our measured cues or distinct cues altogether is unknown. Moreover, we do not know whether these additional cues could be systematically assessed across all targets or are highly target specific (see Meehl, 1954, on the ubiquity of rare-case information in clinical assessment, illustrated by his famous "broken leg" example). On average, ratings of sociosexuality were *less* predicted by the measured cues than were (on average) the ratings of the other traits (R_s^2 = .24 vs. .32 for male targets; .18 vs. .40 for female targets).

Third, valid cue utilization of our measured cues substantially contributed to valid assessment of male sociosexuality (r_cs = .70 and .57 for male and female perceivers, respectively). On average, however, valid cue utilization of our measured cues in the assessment of sociosexuality did not exceed valid cue utilization in assessment of the other three traits (mean r_cs = .31, .56, .20, and .32 for sociosexuality, social potency, social closeness, and stress reaction, respectively). Hence, the overall superiority of perceivers' ratings of sociosexuality cannot be attributed to perceivers' superior utilization of our measured cues.

Fourth, perceivers appeared to use cues other than our measured cues more validly in assessing sociosexuality than in assessing the other traits (mean Cs = .20 and .01, respectively). Hence, it appears that herein lies the major source of the superiority of perceivers' assessments of sociosexuality. Again, whether these cues are configural combinations of our measured cues or relatively subtle cues not tapped by our gross measurements is unknown.

Finally, the superior assessments of sociosexuality made by male perceivers relative to those made by female perceivers appears to be attributable to men's better utilization of both our measured cues (r_cs = .40 and .22 for male and female perceivers, respectively) and unmeasured cues (Cs = .27 and .12, respectively).

In Table 5, we separate out two components of the correlations between target rating and perceiver rating: the component of the correlation due to utilization of the measured cues and the component of the correlation not due to utilization of measured cues. As can be seen, and as we have already noted, perceivers' ratings of sociosexuality appear to be superior primarily because of valid utilization of cues not captured by our measurements.

Discussion

We predicted that, relative to three other prominent traits, social perceivers could validly assess the trait of sociosexuality on the basis of brief exposure to previously unacquainted individuals. Results supported our predictions. In general, social perceivers' ratings of sociosexuality corresponded with target self-reports to a greater extent than did their ratings of social potency, social closeness, and stress reaction.

It seems reasonable to suggest that the enhanced target–perceiver agreement on sociosexuality was in fact attributable to relatively superior validity of perceivers' ratings. The obvious alternative explanation that enhanced agreement was due to relatively superior validity of target self-reports on sociosexuality seems implausible. The reliabilities of the target self-reports on social potency, social closeness, and stress reaction all exceeded the reliability of the SOI, and although reliability does not imply validity, all three trait measures have been shown to relate substantially to peer report (e.g., Tellegen & Waller, in press).

In addition to the overall superiority of perceiver ratings of sociosexuality, however, we found that perceiver–target agreement on sociosexuality was moderated by sex of target and sex of perceiver. Perceivers could assess male sociosexuality with greater accuracy than female sociosexuality. Furthermore, male perceivers demonstrated superior assessment of sociosexuality relative to female perceivers.

With regard to the three traits other than sociosexuality, perceivers' ratings of social potency and social closeness correlated with target self-reports beyond chance levels. With the effects of physical attractiveness controlled for, however, only ratings of male social potency exceeded chance levels of agreement with target self-reports. Moreover, in those instances in which differences among the relations between target self-reports and perceiver ratings of the three traits emerged, correspondence was highest for social potency. These results, although not predicted a priori, are not surprising in light of the considerable role that social dominance (and particularly male social potency) probably assumed in the regulation of social interactions during evolutionary history (e.g., Buss, 1991). Available cues also correlated more substantially with social potency than with the other traits (Funder & Colvin, 1988). Nonetheless, across all comparisons, perceiver–target agreement on social potency never exceeded perceiver–target agreement on sociosexuality.

Lens model analyses designed to identify the locus of enhanced perceiver–target agreement on sociosexuality revealed that perceiver assessments of sociosexuality were *not* superior because perceivers utilized cues we measured more validly (even though perceivers did utilize these cues in valid ways when assessing male targets). Rather, the superiority of perceivers' ratings of sociosexuality primarily stemmed from their utilization of cues not captured by our measures. The explicit cues we assessed were relatively gross motor ones (e.g., time spent smiling and time leaning forward). Perceivers may have utilized cues involving subtle microfacial expressions and body movements to validly assess sociosexuality.

Table 5
Correlation Between Target Self-Reports and Perceiver Ratings Attributable to Utilization of Measured Cues and Utilization of Other Cues

Condition	Sociosexuality	Other traits (*M*)	Difference
	Correlation attributable to measured cues		
Male targets			
Male perceivers	.21	.04	.17
Female perceivers	.11	.08	.03
Female targets			
Male perceivers	.01	.12	−.11
Female perceivers	−.02	.15	−.17
M			
Male perceivers	.11	.08	.03
Female perceivers	.05	.11	−.06
Overall	.08	.09	−.01
	Correlation not attributable to measured cues		
Male targets			
Male perceivers	.22	.11	.11
Female perceivers	.14	.09	.05
Female targets			
Male perceivers	.19	−.11	.30
Female perceivers	.06	−.07	.13
M			
Male perceivers	.21	.00	.21
Female perceivers	.10	.01	.09
Overall	.16	.01	.15

Note. Analyses were performed on correlations between target self-reports and perceiver ratings with physical attractiveness partialed out.

A Potential Explanation

One potential explanation of our findings concerns the conditions under which we videotaped targets. Interviewees were participants in a study that examined dating initiation, and they were interviewed by an attractive member of the opposite sex. Under these conditions, targets might have displayed relatively many behaviors relevant to dimensions highly linked to dating behavior (such as sociosexuality) and fewer behaviors relevant to dimensions not associated with dating. According to this line of reasoning, the context in which we elicited target behavior may have dictated which traits perceivers could most accurately assess.

For this explanation to be a viable one, however, differences in the predictability of traits from behavioral cues should have existed across traits, such that sociosexuality was the most predictable trait. We found no such differences. The traits of social potency, social closeness, and stress reaction were as predictable from measured target behaviors as was sociosexuality. Although it is possible that cues we did *not* measure related more strongly to sociosexuality than to the other traits, there exists no compelling reason to believe this is so. Therefore, it seems reasonable to conclude that perceivers' superior assessment of sociosexuality, relative to the other traits, was due to enhanced cue utilization, not more abundant cue availability. Of course, contexts may exist in which no behaviors relevant to sociosexuality are elicited. In these contexts, sociosexuality may be assessed less validly by strangers.

Male Versus Female Targets

We found substantial evidence that strangers could, in our paradigm, detect male sociosexuality better than the other three traits. By contrast, we found little evidence that female sociosexuality could be detected with superior accuracy. Recognizing that this sex difference did not reach conventional levels of statistical significance once the effects of physical attractiveness were partialed out, what might account for this trend?

Our lens model analyses provide some answers. The difference appears to be at least partly due to differential cue availability. Whereas the gross nonverbal cues we measured predicted male sociosexuality relatively well, they did not predict female sociosexuality. Perceivers did use measured cues more validly in predicting male relative to female sociosexuality. However, assessment of valid cue utilization is meaningless when the cues whose utilization is assessed possess little or no validity (as appears to be true of the measured cues for female sociosexuality). Interestingly, lens model analyses revealed that perceivers (particularly male perceivers) did validly use cues *not* measured when assessing female sociosexuality. These additional cues may have been used by perceivers as validly as cues relevant to male sociosexuality. In sum, it is not yet possible to conclude that differences in the assessment of male and female sociosexuality are attributable to differential cue utilization.

One might wonder whether the lesser availability of cues relevant to female sociosexuality is due to greater construct validity of the SOI for men. The available evidence suggests

not. Previous research validating the SOI with questionnaire data as well as life data (reports of current relationship partners) yielded no evidence that there exists a sex difference in the validity of the measure (Simpson & Gangestad, 1991).

Male Versus Female Perceivers

Although we did not predict sex differences in the assessment of sociosexuality, a sex difference emerged such that men judged sociosexuality more validly than did women. This sex difference is interesting in part because it runs counter to trends reported in the nonverbal decoding literature. Generally speaking, women perform better than men at decoding tasks (particularly when decoding involves emotional cues; e.g., Hall, 1984).

Why, then, do men perceive sociosexuality more validly? At this point, we can only speculate. Earlier, we discussed three adaptive problems to which accurate perception of sociosexuality could potentially constitute a partial solution: Choice of a mate by allowing one to decide who might invest in a relationship; assessment of paternity by allowing one to decide who might be faithful; and choice of a reproductive strategy by allowing one to assess the reproductive strategy of other same-sex individuals. Of these, the first two involve intersexual selection, whereas the last one involves selection by intrasexual competition. From a neo-Darwinian functionalist perspective, men may be better than women at detecting sociosexuality for two reasons: (a) The importance of detecting female sociosexuality was more important to optimal mate choice (or choice to invest in a mate's offspring) for men than for women. In this regard, Daly and Wilson (1988) suggested that, given the cost of cuckoldry, men ought to have been selected to be particularly sensitive to indications of infidelity on the part of a mate, an ability that may generalize to assessing sociosexual orientation of potential mates; (b) The importance of assessing other same-sex individuals' reproductive strategies may have been greater in male intrasexual competition than female intrasexual competition. Indeed, Trivers (1972) has noted that intrasexual competition is generally stiffest among the sex that contributes least investment early on—in humans, men.

One additional sex-of-perceiver effect emerged from our results. Male ratings of male social potency agreed to a greater extent with male targets' self-reports than did female ratings. Again, in light of the significant role that male social dominance is presumed to have played in the regulation of male interactions in evolutionarily relevant environments, this result is not surprising from an ecological perspective.

Role of the Environment

We have speculated that perceivers may be biologically predisposed to pick up behavioral cues of sociosexuality. This speculation, however, does not rule out the important mediating role the environment undoubtedly assumes in the development of accurate perception for male sociosexuality. It only suggests that biological preprogramming may channel the development of social perceptual processes so that cues related to sociosexuality—some of which may be culturally specific—are picked up. The precise nature of the biological programming, as well as the ontogenetic education of the social perceptual system, must be identified in future research.

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