The present investigation explores the association between nonverbal sensitivity (i.e., the Social Skills Inventory) and accuracy of flirting detection in videos of third-party zero-acquaintance interactions. The results showed no sex differences in detection accuracy and no association between nonverbal sensitivity and overall flirting detection accuracy. Participants’ (N = 257) social sensitivity, however, was negatively associated with accurately judging flirting in female targets. The results are discussed in light of past research on courtship and nonverbal sensitivity.

Keywords: Courtship; Nonverbal Sensitivity; Perceptual Accuracy; Sex Differences; Social Skills Inventory

One’s ability to accurately encode and decode nonverbal cues plays a significant role in our ability to develop and maintain interpersonal relationships (Burgoon & Bacue, 2003; Riggio, 2005). This ability allows us to perceive subtle cues and provides insight to appropriate social behaviors in a given circumstance. An individual’s level of nonverbal sensitivity also may influence our perceptions of romantic interest in potential partners (Farris, Treat, Viken, & McFall, 2008). Although research suggests that females hold the advantage over their male counterparts in both nonverbal sensitivity (Hall, 2006) and in accuracy of flirting perceptions (Farris et al., 2008), no research to date has documented whether the two constructs are, in fact,
correlated. The aim of this study is to explore the relationship between self-reported levels of nonverbal sensitivity through the Social Skills Inventory (SSI) (Riggio, 2005) and accuracy in flirting detection in video clips of first interactions between heterosexual, cross-sex strangers.

**Nonverbal Sensitivity**

Hall (2006) defined nonverbal sensitivity as “people’s ability to infer the meanings of nondeceptive nonverbal cues conveyed in the face, body, and vocal channels” (p. 63). Nonverbal sensitivity is the ability to perceive the cues being displayed and to interpret those behaviors accurately (Burgoon & Bacue, 2003). Researchers have developed several instruments to measure nonverbal sensitivity. The SSI relies on the self-report method for 90 items measuring competence in both emotional and social communication (Riggio, 2005). Specifically, the SSI considers three dimensions of communication—skills in encoding, skills in decoding, and skills in regulation, referred to as expressivity, sensitivity, and control respectively (Riggio, 2005). Riggio (2005) reports that the SSI has construct validity and is “acceptable to good internal consistency” (p. 28). Evidence for convergent validity has been indicated by correlations between the SSI and other self-report measures of nonverbal skills as well as correlations with the Profile of Nonverbal Sensitivity—PONS (Rosenthal, Hall, DiMatteo, & Rogers, 1979). The SSI scales have also shown discriminant validity, as there is little evidence that the social desirability bias is impacting responses (Riggio, 2005). There are also predictable sex differences in SSI scores. Riggio (2005) indicates that women tend to score higher than men on emotional and social sensitivity, suggesting women are more skilled at decoding nonverbal behaviors. These findings are consistent with previous instruments, such as the PONS, where females were found to have higher scores than males 80% of the time (Hall, 2006). Accordingly, we offer:

**H1**: Women will score higher in nonverbal sensitivity than men.

**Flirting Perceptions**

Flirting perceptions refer to the extent of awareness or degree of understanding one has when another person is displaying behaviors intended to communicate romantic or sexual interest. Research indicates that women and men have differing perceptions of the amount of flirtatiousness, seductiveness, and promiscuousness in cross-sex interactions, wherein males overestimate female targets’ sexual intent (Abbey & Melby, 1986; Saal, Johnson, & Weber, 1989; Shotland & Craig, 1988). Abbey and Melby (1986) discussed differences between men and women as a difference in interpretation of cues. When presented with ambiguous cues relating to eye contact, touch, and interpersonal distance, “males perceived the female target as being sexier and more seductive than did females” (Abbey & Melby, 1986, p. 295). Other studies (e.g., Saal et al., 1989; Shotland & Craig, 1988) found similar results: Men rated both...
women and other men as displaying more sexually interested behaviors than women. Meta-analyses conducted by La France, Henningsen, Oates, and Shaw (1986) concluded: “men’s ratings of flirtatious, seductive, and promiscuous behavior were higher than women’s ratings” (p. 273). While Abbey and Melby (1986) explain men’s greater estimation of sexual interest in women as evidence of inaccuracy, few studies have actually measured the accuracy of courtship related perceptions. One’s accuracy of flirting perceptions refers to an ability to correctly judge the meanings or intentions of behaviors perceived to be indicative of romantic or sexual interest. There is good reason to believe that one’s accuracy level should be related to one’s nonverbal sensitivity. Ambady, Hallahan, and Rosenthal (1995) noted that “individuals who perform well on tests of nonverbal sensitivity seem to be skilled at picking up cues from others” (p. 519). It can be assumed that skill in picking up cues would correlate to accuracy, as one must first be cognizant of the cues being displayed to correctly interpret the meaning behind those cues. Ambady et al. (1995) argued that accuracy is not only related to ability to decode nonverbal behavior, or nonverbal sensitivity, but that it is also related to biological sex. These two elements—sex and decoding abilities—are clearly intertwined.

Although it has already been determined that women are typically more nonverbally sensitive, this difference may be heightened in contexts in which motivation is a factor (Thomas & Fletcher, 2003). For example, women appear to be more motivated in situations including intimate relationships, as women “focus more attention on intimate relationship information, possess more elaborate and complex relational schemas, and talk more about relationships than men” (Thomas & Fletcher, 2003, p. 1083). Perhaps women are particularly nonverbally sensitive, and therefore more accurate, in contexts relating to relationships. Indeed, women appear to be more accurate than men at interpreting a dating partner’s feelings (Thomas & Fletcher, 2003). Therefore, we offer:

**H2:** Individuals with greater nonverbal sensitivity will more accurately detect flirting.

In courtship initiation contexts, the evidence of women’s greater accuracy is decidedly mixed. In a 2008 study, Farris et al. asked participants to sort photographs of women into categories: friendly, sexually interested, sad, or rejecting. Men not only mistakenly perceived friendly behavior as sexually interested behavior, but they also erred in the opposite direction. Because men misperceived both sets of behaviors, Farris et al. concluded that the etiology of the misperception was not due to differing thresholds but was instead due to men’s relative insensitivity to emotional signals. That is, men’s lack of nonverbal sensitivity leads to less accuracy in detecting sexual and romantic interest. However, their study only used female targets to draw conclusions, so it is unknown whether male or female targets can be more accurately interpreted. Other research, however, has indicated that there is no difference between men and women’s ability to accurately detect romantic interest. Early research demonstrated that both sexes are able to differentiate between sexually interested and
friendly behaviors (Saal et al., 1989; Shotland & Craig, 1988). Women and men may have different perceptions of what constitutes sexual interest, but both are equally accurate at perceiving interest overall. Similarly, Place, Todd, Penke, and Asendorpf (2009) conducted a study in which participants viewed short video clips of individuals during speed dates and were then asked to determine if the daters were interested in one another. Their results indicated that sex was not a significant predictor of accuracy: “male and female observers were equally good at predicting interest levels” (p. 22). Given the mixed evidence, we offer:

RQ1: Will women be more accurate than men at detecting flirting?
RQ2: Will women’s greater nonverbal sensitivity explain greater accuracy in flirting detection if it is present?
RQ3: Will there be a difference in detection accuracy when judging male or female targets?

Method

Participants

Participants (N = 257) were recruited from introductory public speaking courses at a large Midwestern public university in exchange for course credit equivalent to 0.5% of their final grade. There were more female participants (n = 182) than male participants (n = 76). The sample was predominantly White or Caucasian (86.8%), and other races and ethnicities were represented: 5.6% Hispanic or Latino, 3.2% African American or Black, 2.4% mixed race, and 2.0% Asian or Asian American. Participants were on average 19.6 years of age (SD = 3.29; range was 18 to 47; mdn = 19; mode = 19). Participants’ self-reported sexual orientation was heterosexual (94.8%), 2.4% identifying as gay or lesbian, and 2.8% identifying as bisexual.

Procedure and Study Measures

Participants signed up to attend a 20-minute lab session in groups of 10–20 individuals. After arriving at the lab, participants were told that the purpose of the study was first impressions in initial interactions. Following informed consent, participants completed demographic measures.

Participants watched six 1-minute audio/video clips projected on a screen, viewing only one person from the dyad on the screen. The clips were selected from 52 videotaped zero-acquaintance interactions drawn from a prior study reported elsewhere (Hall & Xing, in press), wherein pairs of heterosexual cross-sex strangers interacted for 10–12 minutes and reported their attraction to their conversation partner and whether or not they flirted with their partner during the interaction. The 26 videos included 13 men and 13 women. The 1-minute clips were extracted from minutes 6–11 of the interaction, since this is the most accurate period for perceiving flirting (Place et al., 2009). The clips captured a conversational exchange or a story in its entirety. The person in the video talked the majority of the time, with some off-screen verbal comments/questions.
Each group watched three male and three female clips. After watching each video, participants answered seven yes/no questions about the person in the video. In an attempt not to prime participants to look for flirting or romantic attraction, the questionnaire had six distractor items, an acquaintance check item (i.e., “Have you ever met the person in the video before?”) and the dependent measure. Very few participants had previously met the person in the video (1.9%). Distractor items included, “Did this person genuinely enjoy the conversation?” and “Do you think this person would make a good boss?” The dependent measure was “Do you think this person was flirting?” After watching all six videos, participants were asked to write at the bottom of the questionnaire what they believed that the study was really about to check for suspicion. Employing a broad criterion for detecting suspicion, 11.2% of participants reported suspicion that the study was about attraction or dating, but none reported the true study purpose (i.e., flirting detection accuracy). Participants were finally debriefed and dismissed.

**Accuracy criteria.** Participants were accurate when they perceived the person in the video was flirting and the person in the video had self-reported flirting during the interaction (true positive) or when they perceived the person in the video was not flirting and the person in the video had self-reported not flirting during the interaction (true negative). Participants were not accurate when they either perceived flirting in the video when it was not present (false positive) or failed to perceive flirting when it was present (false negative). After judging six videos, participants’ total accuracy scores varied between 0% and 100%.

**Nonverbal sensitivity.** Approximately one week before the lab session, participants completed an online questionnaire to measure nonverbal sensitivity. In the questionnaire, participants responded to 30 items from the SSI (Riggio & Carney, 2003). Items were presented on a 5-point Likert-type scale from 1 (not at all like me) to 5 (exactly like me). To measure nonverbal sensitivity, items pertaining to social sensitivity (SS) and emotional sensitivity (ES) were included. An exploratory factor analysis was conducted to ensure a two-factor solution. The highest loading seven items measuring SS ($\alpha = .85$) were retained (e.g., “I am greatly influenced by the moods of those around me”; “Sometimes I think that I take things other people say to me too personally”). The seven highest loading factor items measuring emotional sensitivity were retained ($\alpha = .81$; e.g., “At parties, I can immediately tell when someone is interested in me”; “I am interested in knowing what makes people tick”). Confirmatory factor analysis was then performed to ensure that each of the retained items loaded on their respective latent factor and that cross loadings were not significant. The correlation matrix is reported on Table 1.

**Results**

*H1* predicted that women would be more nonverbally sensitive than males. Correlations between sex and ES, $r(256) = .15$, $p < .05$, and sex and SS, $r(256) = .25$, $p < .001$, confirmed that being female was associated with greater nonverbal sensitivity. *H2* predicted that nonverbal sensitivity would be positively correlated with flirting
detection accuracy. The correlations between accuracy and emotional sensitivity, \( r(256) = .02, p > .05 \), and social sensitivity, \( r(256) = -.09, p > .05 \), were not significant, showing a lack of support for H2.

RQ1 queried whether women or men would be more accurate at detecting flirting. Men were accurate 57.4% of the time and women were accurate 56.5% of the time, but this difference was not significant, \( F(1, 256) = 1.10, p = .29 \). While women were more nonverbally sensitive, they were no more accurate than males, so RQ2 was not explored further.

To explore RQ3, accuracy was calculated separately when judging male targets and female targets. The correlation matrix revealed a significant correlation between accuracy when judging females and SS, \( r(256) = -.13, p < .05 \), wherein SS was negatively

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detection accuracy. The correlations between accuracy and emotional sensitivity, \( r(256) = -.02, p > .05 \), and social sensitivity, \( r(256) = -.09, p > .05 \), were not significant, showing a lack of support for H2.

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<th>Table 2 OLS Regression for Female Target Accuracy</th>
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Dependent variable: female accuracy.
* \( p < .05 \).
associated with accuracy of flirting detection when judging female targets. To further explore the relationship between SS and flirting accuracy when viewing female targets, an OLS regression analysis was conducted using female accuracy as the dependent variable (Table 2). The regression results indicate that SS was a significant predictor of female accuracy, $\beta = -0.16$, $t = -2.29$, $p < .05$, confirming that higher SS is associated with lower accuracy when detecting flirting in female targets.

**Discussion**

The results of this study demonstrate that when measured from two parts of the SSI (i.e., ES, SS), nonverbal sensitivity is not positively associated with accuracy of flirting detection. These results do not support $H2$ and are in contrast to the previously reported association between nonverbal sensitivity and an ability to accurately decode others’ cues (Ambady et al., 1995). Considering accuracy when judging only female targets ($RQ3$), results showed a significant but weak negative correlation between SS and accuracy. Controlling for demographic characteristics and participant sex, OLS regression analysis supported this finding: Higher SS appears to impede one’s ability to accurately judge flirtatious behaviors in female targets.

A potential explanation for this finding may come from further exploration of the SS conceptual definition. Riggio (2005) describes SS as “sensitivity to and understanding of norms governing appropriate social behavior” (p. 27). High SS indicates that an individual is aware of what is considered socially appropriate for a given circumstance. The circumstances in the case of this study were zero-acquaintance interactions; participants viewed videotaped interactions of an opposite-sex dyad who were meeting for the first time. Perhaps participant with higher SS scores inferred that flirting behaviors by females would be socially inappropriate given these particular circumstances. Such a viewpoint may hinder one’s ability to accurately decode the nonverbal behaviors taking place, as the participant has already concluded that flirting behaviors should not occur in the interaction. Another interpretation is that flirting is behaviorally similar to deception in that communicators’ behavior may not fully reveal their intentions, particularly female communicators (Place et al., 2009). Indeed, when messages are incongruent across channels, they are not only more difficult to decode (DePaulo & Rosenthal, 1979), but females’ advantage in decoding relative to males decreases (Burgoon & Bace, 2003). If deception detection is unrelated to nonverbal sensitivity (Hall, 2006), then it stands to reason that nonverbal sensitivity may be similarly unrelated to accurately detecting flirting, particularly in female targets.

The lack of difference between males and females in flirting detection accuracy supports similar findings (Place et al., 2009; Shotland & Craig, 1988). Whether evaluating a male target or a female target, observers can distinguish between friendly and sexually interested conditions (Shotland & Craig, 1988) and seductive and friendly conditions (Sigal, Gibbs, Adams, & Derfer, 1988). By contrast, Farris et al. (2008) suggested that greater flirting detection accuracy by women is due to greater nonverbal sensitivity but did not offer direct evidence for this explanation. The present
investigation suggests that such conclusions may be premature, and more study is needed. When women show greater accuracy when detecting flirting and romantic interest, nonverbal sensitivity should not be assumed to be the reason.

Limitations and Directions for Future Research

This study is the first to directly explore the association between nonverbal sensitivity and the accurate detection of romantic interest. The results offer weak and unexpected evidence that nonverbal sensitivity—at least the SS component of the SSI—is negatively correlated with accuracy. As this is the first study to date to explore this relationship, further research should seek to replicate these results in different contexts, as the results may be spurious. The importance of contextually appropriate behavior cannot be ignored. That is, behavior that is appropriate during speed dating or a social location (i.e., bar) may be more interpretable than behavior in zero-acquaintance circumstances, where flirting is rare (Abbey & Melby, 1986). Other measures of nonverbal sensitivity, including the PONS (Rosenthal et al., 1979) and the IPT-15 (Costanzo & Archer, 1989) should be also employed to further address this relationship. Finally, the samples of participants and targets were primarily White, so the results may not generalize to other races or ethnicities.

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References


