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Actual Versus Perceived Transparency
of Emotional States in the Context of Deception:
The Effects of Gender Stereotypes

Gordon Brian O'Connell

A Thesis Submitted To the Faculty of Graduate Studies
in Partial Fulfilment of the Requirements
for the Degree of

MASTER OF ARTS

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**ACTUAL VERSUS PERCEIVED TRANSPARENCY
OF EMOTIONAL STATES IN THE CONTEXT OF DECEPTION:
THE EFFECTS OF GENDER STEREOTYPES**

BY

GORDON BRIAN O'CONNELL

A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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Abstract

Women have previously been found to overestimate how readily apparent their emotions are to a same-sex observer; such a pattern is not evident for male-male interaction partners. The present study was designed to determine whether this effect is due to the sex of the actor, the sex of the observers, or both. This study was also designed to illuminate the roles played by gender stereotypes (of women as especially expressive and as especially perceptive) in producing the effect. Male and female actors attempted to deceive either same-sex observers or opposite-sex observers about their negative emotional state. Results revealed that having a female rather than a male observer was connected to transparency overestimation; there were no effects associated with actor sex. However, there was no clear evidence that gender stereotypes accounted for individuals' greater likelihood to exhibit transparency overestimation with a female audience.

Actual Versus Perceived Transparency
of Emotional States in the Context of Deception:
The Effects of Gender Stereotypes

Concealing one's current emotions from other people is a common occurrence. For example, individuals may not want another person to know that they are angry with him or her, hurt by what he or she says, or happy over his or her misfortune. The present research examines how observable people consider their concealed emotions to be when engaging in deceptive communications. In particular, I explore whether gender stereotypes foster predictable inaccuracies in people's perceptions of how apparent their emotional states are to others.

Gender stereotypes affect people in many aspects of their lives. Stereotypes are involved in the way we see the movements of male and female babies (Ruble, Provenzano, & Luria, 1974), in people's reactions to a baby's cry (Condry & Condry, 1976), and in parents' decisions about the toys they give to a child (Pomerleau, Bolduc, Malcuit, & Cossette, 1990). As well, parents' gender-differentiated expectations and perceptions influence the self-perceptions and activity choices of their children (Eccles, Jacobs, & Harold, 1990). Although current research suggests that gender stereotypes have less influence upon social perception than they have had in previous decades (Astin et al., 1991; Niemi et al., 1989), the literature indicates

that people generally agree about the content of masculine and feminine stereotypes (e.g., Martin, 1987) and that these stereotypes are influential in some circumstances (Eagly, 1995).

This research investigates whether gender stereotypes affect judgments about the transparency of one's emotions in a deceptive context. My analysis has four components. First, I will define stereotypes and examine evidence pertaining to their accuracy and over-application. Second, I will discuss research on deception and discrepancies between deceivers' and perceivers' perceptions. Third, I will discuss preliminary research demonstrating sex differences in the perceived transparency of emotion in deceptive (and non-deceptive) contexts. Finally, I will argue that the obtained sex differences could be understood in terms of individuals' utilization of gender stereotypes. I then present an indirect experimental test of this hypothesis.

Stereotypes

A near universal human tendency is to categorize people into social groups (Hamilton, 1979). In this document, a stereotype is defined as "a cognitive structure containing the perceiver's knowledge and beliefs about a social group and its members" (Hamilton, Sherman, and Ruvolo, 1990, p. 36). The cognitive processes of categorization and stereotyping have implications for social perception. Social behavior is often open to a variety of interpretations, and

stereotypes can exert a particularly strong influence in ambiguous situations. Stereotypes could, for example, have an effect on how people make inferences about another's abilities, motives, and personal qualities from his or her behavior.

Stereotype Accuracy

Stereotypes consist of attributes assumed to be characteristic of a group or category as a whole (Myers, 1993). Stereotypes may sometimes be "accurate," in the sense that they may map onto mean differences that occur at the group level. Indeed, members' self-perceptions can correspond reasonably well to cultural stereotypes about their group. The validity of this accuracy criterion is debatable, however. Findings have been inconclusive regarding whether stereotypes are comparable with actual characteristics of groups. In some cases, stereotypes have been found to be similar to the actual group characteristics (McCauley & Stitt, 1978), whereas in other cases, stereotypes have been found to be quite dissimilar to group characteristics (Martin, 1987).

Regardless, any such general accuracy, of course, would be limited to statements about the group as a whole. Group-level characterizations cannot be equally accurate of all individuals who comprise the group, since there is usually considerable individual or within-group variability. When perceivers encounter an individual group member, they

possess both information about the group to which the target person belongs (usually stereotypes), and specific individual information about this particular target person. Perceivers over-apply the stereotype they possess when they ignore the individual's unique characteristics and rely on the stereotype instead.

Regardless of their potential inaccuracy, stereotypes can be very powerful factors in determining people's beliefs about themselves and others. Perceiving oneself as a group member biases self-perception, leading people to stereotype themselves in terms of the group's ostensible attributes (Hogg & Turner, 1987). For instance, when people describe themselves, they endorse attributes that are seen as typical of ingroup members and reject those that are seen as typical of outgroup members (Simon & Hamilton, 1994). In a parallel fashion, perceiving another person in terms of his/her group membership can exert a powerful influence on perceptions of that person. Darley and Gross (1983), for example, have shown that socioeconomic class stereotypes influence perceivers' interpretations of students' academic performance.

Gender Role Stereotypes

One of the major ways individuals categorize themselves and others is on the basis of sex (Bem, 1981; Hurtig & Pichevin, 1990). The process of categorizing people in terms of their sex is habitual and automatic (Ashmore & Del Boca,

1979). Culture supports beliefs and expectations that persons within a sex category will behave in a similar, predictable way (Stoll, 1974). Indeed, certain aspects of a person's personality are related to sex roles. "Girls and boys presumably learn fairly early in life what is an appropriate constellation of interests and abilities for their sex and come to acquire them through modelling, reinforcement, and self-socialization (Hall, 1984, p. 50)." Gender stereotypes reflect sex roles in that they consist of people's beliefs about the psychological traits and characteristics, as well as the activities, appropriate to men or women (Brannon, 1996). Men, for example, have more often than women been characterized as forceful, aggressive, independent, active, dominant, and inventive. Whereas, women have more often been characterized as gentle, sensitive, affectionate, emotional, and sentimental (Matlin, 1993).

One widely held belief is that there are sex differences in emotionality. In the following discussion I will examine two stereotypes of the feminine sex role which characterize the different ways in which women and men communicate emotionally; i.e., 'emotional expressiveness' and 'emotional perceptiveness'. I will then discuss the research findings on the emotional feelings of men and women, the expression of emotions by men and women, and the perception of others' emotions by men and women.

Gender Stereotypes Relevant to Emotional Communication

As a reflection of the feminine stereotype, people believe that women are more emotional than men. That is, regardless of the emotion being experienced, women are believed to be more expressive of those emotions than men are (Bem, 1974; Deaux, 1984; Martin, 1987; Ruble, 1983).

Similarly, people believe women to be more perceptive of others' feelings than men (Bem, 1974; Deaux, 1984; Haviland & Malatesta, 1981; Martin, 1987; Ruble, 1983). Women are also believed to be more understanding, compassionate, nurturing, and sensitive when compared to men (Martin, 1987; Rosenkrantz et al., 1968; Ruble, 1983). Presumably, in order to be nurturing, compassionate and sensitive to the feeling state of another, one has to be aware of how another is really feeling. These gender stereotypes reflect people's beliefs about how men and women differ in terms of emotional communication. Next, I will examine the extent to which the above feminine stereotypes appear to reflect actual differences between women and men.

The Research on Emotions and Stereotypes

Similarity of Emotional Experience by Men and Women

Women and men seem to have similar experiences of emotion on a physiological level (Brannon, 1996). In a cross-cultural study measuring physiological responses that accompany emotion, Ellgring and Rime (1986) noted that men and women reported similar physiological symptoms and inner

bodily sensations. For example, both men and women described sadness as a general state of unpleasant rest accompanied by 'stomach sensations' and 'chest/breathing problems'.

Because overt behaviors do not necessarily accompany internal emotional experiences, variation in expression can occur. Indeed, behaviors associated with emotion have been shown to vary from culture to culture and from individual to individual (Brandon, 1996; Scherer, Summerfield, & Wallbott, 1983).

Emotional expressivity of the sexes and the stereotype.

Despite the similarity of the experience of emotional states, men and women have been found to differ with respect to emotional expression. Research using self-report measures has shown that women describe themselves as more emotionally expressive than men (Allen & Haccoun, 1976; Balswick & Avertt, 1977; Ellgring & Rime, 1986; Friedman, Prince, Riggio, & DiMatteo, 1980; Martin, 1987). It may be noted that emotional expressivity serves a function by facilitating attempts at being close and intimate with others. Research on both adolescents (Berndt, 1982; Sharabany, Gershoni, & Hofman, 1981) and adults (Caldwell & Peplau, 1982) concludes that women are more likely than men to create and value emotionally intimate friendships with others. It seems reasonable to speculate, then, that women are more willing to express their emotions in part because of their desire to increase the depth of their interpersonal

relationships.

Although numerous researchers have found that women describe themselves as more expressive than men, some have found this to be the case only with respect to a few specific emotions, however. Balswick and Avertt (1977) obtained self-reported expressiveness regarding a multitude of emotions: anger, hate, resentment, rage, love, tenderness, affection, warmth, sorrow, grief, sadness, feeling blue, happiness, delight, joy, and elation. Women's self-reported expressivity exceeded men's only with respect to three emotions: love, happiness, and sadness.

In a thorough review of the self-reporting of emotionality, LaFrance and Banaji (1992) suggest that gender differences in self-report measures disappear when the measure is indirect rather than direct, when the self-reported emotion is privately experienced rather than potentially perceptible by others, when the emotion eliciting context is impersonal rather than interpersonal, and when discrete emotions are examined rather than global emotionality. Allen and Haccoun (1976), for example, found that although women are more likely than men to report interpersonal elicitors of emotions (i.e., emotional expression in the presence of others) there were no sex differences in the with respect to the frequency of impersonal elicitation of emotions (i.e., emotional expression when alone).

The validity of self-reported emotional expressivity can be questioned, as well. Both men and women have been shown to incorporate elements of sex-role stereotypes into their self-concepts (Rosenkrantz et al., 1968). Greater emotional expressivity is believed to be associated with the feminine rather than the masculine role, so differences in men's and women's self-reports could reflect the effects of their acceptance of the stereotype rather than actual differences in behavior. Female participants in studies using self-reports may subscribe to the feminine stereotype that women are expressive and, as such, tend to report that they are expressive, more so than men do.

The research literature provides some evidence for sex differences in actual emotional expressivity. Research on nonverbal cues such as body movements and facial expressions has established that these cues are often closely tied to emotions and that they can dramatically affect the nature of social interaction. Women smile and laugh more than men (Hall, 1984). Women are also better than men at nonverbal encoding of facial expressions. Women are better, that is, at altering nonverbal responses to facilitate the 'sending' of an emotion (Buck et al., 1974; Rosenthal et al., 1979). For example, Buck et al. (1974) had 'senders' view emotionally loaded color slides and verbally report their emotional response to the slides. Hidden 'observers' made judgments about the nature of each slide and the sender's

reaction to it while the experimenter noted the sender's facial movement. Buck and his colleagues found that women were more accurate senders than men, and, in response to affect-laden material, women were more facially expressive than men.

Although it has been found that women demonstrate greater facial expressivity, men have been found to be nonverbally expressive in their own manner. In a study examining the role of expressive behavior in impression formation, nonverbally skilled women displayed more facial expressiveness whereas nonverbally skilled men tended to display more outwardly focussed and fluid expressive behaviors (Friedman, Riggio & Casella, 1988). Men tended to express themselves through body movements such as posture shifts (e.g. leg movements), head movements, parallel gestures (e.g. hand movements), and also through speech characteristics such as fluency and rate of speech. Perceived sex differences in emotional expressiveness may reflect these differences in the use of expressive nonverbal cues by men and women. The fact that people generally use the face more than other nonverbal behaviors to 'read' the expressions of others (Ekman & Friesen, 1969) may contribute to the perception that women are more expressive than men.

Emotional perceptiveness of men and women and the stereotype. The feminine stereotype is also influential with respect to beliefs about men and women as audiences of

emotional communications. Women are expected to be more aware of others' feelings than men (Martin, 1987, Ruble 1983). This stereotype is closely connected to the belief that women are more nurturing and sensitive than men. In order to be nurturing and sensitive, one has to be aware of how others feel and respond accordingly.

In direct opposition to this stereotype, in a well known series of studies addressing the question of whether any facial expressions of emotion are universal, experimenters showed still photographs of faces to people from different cultures (Ekman & Friesen, 1969; Ekman & Friesen, 1971; Ekman, Sorenson, & Friesen, 1969). The data revealed no significant differences between male and female participants in the discrimination of the emotions of happiness, anger, sadness, disgust, surprise, and fear. Other studies utilizing perception/interpretation of affect from posed expression to determine emotional sensitivity have usually found either no differences between the sexes or nonsignificant trends favouring women (Dickey & Knowler, 1941; Glitter, Mostofsky, & Quincy, 1971; Stafferi & Bassett, 1970).

The strongest evidence of gender differences in emotional perceptiveness lies within the literature addressing people's ability to decode (i.e., recognize and interpret correctly) the nonverbal behaviors of others (Briton & Hall, 1995; Rosenthal, Hall, Archer, DiMatteo, &

Rogers, 1979). This type of research incorporates active people as opposed to still photographs. A person who is a good decoder should notice another's facial expression, body posture, and voice, and be able to deduce the emotion the other is feeling. When assessing decoding ability, researchers have found that women are better than men (DePaulo, 1992; Hall, 1984; Zuckerman, Lipets, Koivumaki, & Rosenthal, 1975). In an analysis of 75 studies of gender differences in accuracy of decoding nonverbal cues, Hall (1978) concluded that women are better visual and auditory decoders than men of all age levels. Other researchers assert that when compared to men, women seem to be particularly skilled at "reading" facial expressions and that their advantage over men is less pronounced in the area of body posture, and least pronounced in the area of voice cues (Ekman & Friesen, 1974).

Women are not especially accurate perceivers of others' emotions in every circumstance, though. In a study by DePaulo and Rosenthal (1979), male and female judges were shown videotapes of people who were describing people they liked or disliked; half of the time they were honest and half of the time they were dishonest. For example, participants would claim to like someone they actually disliked or vice versa. DePaulo and Rosenthal (1979) found that women in fact believed the feigned message of like and dislike more than the male judges did. DePaulo et al. (1993,

p. 136) conclude: "Women, then, are more skilled than men at understanding how others are really feeling when those others are telling the truth; but they are not any better, and sometimes even worse, when others are lying." DePaulo et al. further surmise that women are especially accommodating in their perceptions of others. That is, women are more likely than men to believe what others want them to believe.

In addition, a review of research concerning sex differences in social sensitivity stresses that although studies generally support the contention that women and girls are more socially responsive than men and boys, there is a danger of overgeneralization (Maccoby and Jacklin, 1974). Maccoby and Jacklin (1974) argue that the social judgment skills of men and boys have been seriously underrated and that existing findings do not warrant any conclusion that girls have a greater "capacity" for social responsiveness. They suggest that a person's social responsiveness probably depends to some extent on his/her familiarity with the situation, as well as upon his/her feelings of personal identity with those being judged. They suggest that neither sex has greater ability to judge the reactions and intentions of others in any generalized sense, but that when activities are sex-typed (such that one sex is likely to know more about a given situation than the other) the sex most familiar with the activity will have better social judgments.

Research in status differences has shown that regardless of sex, those in a subordinate role are more sensitive to social cues than those in a dominant role. Subordinates are more accurate about how their leaders feel toward them than leaders are about how their subordinates feel (Snodgrass, 1985). This research suggests that greater social sensitivity demonstrated by women might be explained in part by their traditionally subordinate role to men (Snodgrass, 1992). Indeed, Snodgrass (1985) found that women were not more sensitive than men when they occupied a dominant rather than subordinate role.

In summary, the evidence suggests that sex differences that do exist are unlikely to be as general and strong as gender stereotypes imply. There is some evidence that women are more emotionally expressive and more perceptive about others' feelings than men. However, the sex differences have been found to be small and inconsistent across studies. Women have been shown to perceive themselves as more emotionally expressive than men, but there are limitations with self-report measures. Moreover, there are many factors such as the nature of the emotion in question and the communication channel considered that affect the nature of sex differences that occur with respect to emotional expressiveness. Women have sometimes been shown to be better than men at accurately perceiving the emotions of others, but their ability is not always superior to men's (e.g. in

deceptive contexts or when they occupy high power positions).

Thus, there is evidence that women are more emotionally expressive and more perceptive of emotions in others than men but the differences are context specific and vary according to the dependent measures. It stands to reason that, in emotional contexts, judgments guided by gender stereotypes would not typically be sensitive to such qualifying factors and such judgments may be erroneous.

Implications of Gender Stereotypes

Regardless of their accuracy, gender stereotypes can exert a powerful influence over social interactions and self-perceptions. Grossman and Wood (1993), for example, found that the extent to which individuals endorsed stereotypical differences between men and women (i.e. that women are emotionally labile and men are emotionally stoic) predicted men's and women's self-reports about their own emotional experiences. In a baseline condition, women reported more intense feelings of love, joy, fear, and sadness than did men. The researchers found, however, that they could eliminate this sex difference by manipulating individuals' expectations. By telling participants that previous research had shown no relationship between sex and emotionality (thus negating the stereotype), the sex-related differences in emotional reactions disappeared.

The two stereotypes regarding feminine emotional

expressivity and perceptiveness may have interesting implications for everyday interactions. First, the stereotype of feminine emotional expressiveness may lead women to exaggerate the transparency of their emotions: They may be more likely than men to overestimate (i.e., misperceive) how readily apparent their emotions are to others. Women might think that their emotions are apparent to others around them but that might not be true at all. Second, the stereotype of feminine emotional perceptiveness may lead both men and women to overestimate whether a female "audience" perceives their current emotional state. People may think that women can tell how they are feeling but that might not necessarily be the case.

The Deceptive Context

It is particularly interesting to consider the implications of these possible perceptual errors in the context of deception. Deceiving others about current emotional states involves concealing one's current emotional state and perhaps acting as if one is experiencing a different emotion. In this paper, the term 'emotional deception' will refer to this endeavour. When people are deceptive about their emotional state it is a deliberate act that could involve being careful about the way they act, what they say, and how they say it. Deceivers hope that their behaviors will be interpreted by others as displaying either no emotion at all, or a different emotion than the

one they are experiencing. Thus, people's perception of deception success hinges upon their perception of how concealed their current emotional state is.

There are two perspectives from which a deceptive interaction can be considered. Deceivers have a perception of how successful they are when attempting to deceive others. Observers, on the other hand, either perceive deception or they do not.

People do not generally expect deception in their daily social interactions. In an analysis of many studies on deception, DePaulo et al. (1985) conclude that observers are consistent in their tendency to judge others as basically truthful and to believe the feelings that others are trying to convey. In everyday interactions, observers are not likely to scrutinize others' behaviors for deceptive cues (DePaulo, 1992). According to O'Hair et al. (1988), differences in observers' perceptual orientation will vary depending on the degree to which they are suspicious of deceptive messages. When deception is not anticipated people employ a global impression formation based on a wide range of behaviors. If deception is somehow expected, people attend to specific behaviors of deceivers in an attempt to determine whether the person is being deceptive.

Even when an observer is suspicious of a deceptive attempt though, there is no guarantee of an increase in deception detection accuracy (Toris & DePaulo, 1985). People

have been found to be only somewhat better than chance at detecting whether someone is telling the truth or lying (Zuckerman, DePaulo, & Rosenthal., 1981). Moreover, researchers report that those people whose professions are to detect deception (e.g., police, airport security) are not significantly better at detecting deceit than lay people (DePaulo & Pfeifer, 1986; Kraut & Poe, 1980). A person who is suspicious of deception, then, will make a judgement call based upon behaviors of the deceiver that are attended to.

Research on Emotional Deception

In light of observers' low deception detection accuracy, there would seem to be considerable potential for deceivers to overestimate the transparency of current emotional states, such that they would feel more transparent than they actually are. Emotional transparency overestimation contributes to an underestimation of emotional deception success. That is, when deceivers overestimate the transparency of their true emotional state, they would concurrently underestimate the success of their deception attempts.

Briggs (1995) investigated deception success in the context of deception. She particularly explored whether deceivers would be especially likely to underestimate their deception success when engaged in emotional rather than nonemotional deception. Since people are privy to their current emotional states, Briggs thought that they may feel

their emotions are especially transparent to others. As such, their perceptions of deception success would suffer when they are deceptive about an emotional topic as opposed to when they are deceptive about a non-emotional topic. Male and female actors attempted to lie to same-sex observers about the content of either an emotionally arousing film or an emotionally neutral film. Regardless of the type of film, the actor attempted to persuade the observer that the film was about a camping expedition. After watching the actor watch the film, the observer, who thought there was a 50% chance of deception, quizzed the actor about the film. The observer then made some judgements about whether the actor was being honest or deceptive. Conversely, actors rated the extent to which they felt their observer partner believed them. By comparing these two sets of ratings the author assessed whether actors systematically over- or underestimated the success of their deceptive attempts. When the results for men and women were considered together, the type of deception had no overall effect. When the sex of the pair was entered into the analysis, however, a significant two-way interaction revealed that women underestimated the success of their deceptive attempt in the emotional condition but not in the nonemotional condition; there was no such effect for men. From these results, Briggs (1995) speculated that female actors overestimated the transparency of their emotions during deception.

An alternative explanation for the findings of Briggs (1995) is that feelings of distraction and involvement in the emotional film might have hindered female participants' ability to sense that their deception attempt was successful; men may have felt less distracted by the emotional film and therefore felt more successful. Goldenberg (1996) used a paradigm similar to that used by Briggs (1995) to test this account of the results via the inclusion of a truth condition. Using two new stimulus films, the experimenter instructed half of the actors to truthfully relate to a same-sex observer the content of an emotional or nonemotional film and instructed had the other half to be deceptive about the film they were watching. If female actors' feelings of deception success stemmed from feeling distracted and involved then they should also feel less successful when they are actually telling the truth about the emotional film. However, if the phenomenon does instead involve perceiving one's emotions as "transparent," female actors should overestimate the transparency of their emotions; they should indicate greater feelings of success with respect to emotion-truthful communications and lower feelings of success with respect to emotion-deceptive communications. As such and in direct comparison with observer ratings, female actors were expected to overestimate how successful they were during emotion-truthful communications and underestimate how successful

they were during emotion-deception communications.

Consistent with the transparency hypothesis, in the truth condition, women overestimated how successful they were in convincing observers that they were telling the truth about an emotional (but not non-emotional) film. In the deception condition, however, even though women felt less successful when the topic was emotional than when it was nonemotional (thus supporting the view that women feel emotionally transparent), they actually were less successful (as indicated by observers' ratings of deception success). No effects for the emotion manipulation were found for men, nor did men exhibit any significant actor/observer discrepancies. Goldenberg (1996) concluded that the results support the speculation that women feel particularly transparent when experiencing emotion.

Sex Differences in Emotional Transparency: The Role of Stereotypes

Why is it that women, but not men, overestimate their transparency during emotional communications? This is a difficult question to answer using the data from the two studies in emotional deception since same-sex pairs were used. The effects for female pairs could reflect the influence of actors and/or the influence of observers. That is, misperceptions between actors' and observers' deception success ratings could have been due to the fact that actors were women or it could have been due to the fact that female

actors were cognizant that they were being rated by other women.

It is my intention in the present research to explore differences in actors' and observers' perceptions and how they contribute towards actors' underestimation of deception success (i.e., their overestimation of emotional transparency). An experiment similar to Briggs's (1995) was designed that included mixed-sex pairs along with same-sex pairs. Male actors were paired with female observers, and female actors were paired with male observers; male-male and female-female pairs were included as well. These four types of interaction dyads allow a differentiation of the effects of actors' and observers' have upon actors' overestimated feelings of emotional transparency.

I specifically examine whether gender stereotypes might explain the transparency overestimation effects demonstrated in the Briggs (1995) and Goldenberg (1996) studies. It is possible that one or both of the expressiveness and perceptiveness stereotypes were influential. That is, actors' misperceptions (i.e., their exaggeration of their transparency) could have been due to the fact that actors were women or it could have been due to the fact that the actors were cognizant that they are being rated by women. The first stereotype, that women are emotionally expressive, may have been over-applied by female actors. They may have perceived themselves in terms of the stereotype - more so

than was actually warranted. As such, female actors' deception success ratings may have proved to be lower than their observer partners' ratings, whereas the ratings between male actors and their observer partners were congruent. For the present experiment, this interpretation predicts systematic misperceptions between female actors and their observer partners and not between male actors and their observer partners (i.e., an actor sex by actor/observer interaction). Female actors' perceptions of deception success should be systematically lower than their observer partners' actual belief ratings, whereas male actors' perception of deception success should parallel somewhat their observer partners' actual belief ratings.

Similarly, the second stereotype, that women are perceptive of the emotions of others, may have been over-applied by female actors in Briggs (1995) and Goldenberg (1996). Their exaggerated beliefs about the perceptiveness of their female interaction partner may have led them to overestimate the transparency of their emotions. As such, actors' deception success ratings may have proved to be lower than their female observer partners' ratings, whereas the ratings between actors and their male observer partners were congruent. In the present experiment, this interpretation predicts systematic misperceptions between actors and their female observer partners (i.e., an observer sex by actor/observer interaction). Actors' perceptions of

deception success should be systematically lower than their female observer partners' actual belief ratings, whereas actors' perception of deception success should parallel somewhat their male observer partners' actual belief ratings.

Although these predictions centred on the connection between gender stereotypes and feelings of transparency, there were other factors potentially associated with actor or observer gender that might also account for actors' and observers' ratings. Participants' level of motivation and affective state were assessed so that alternative influences on perceived and actual transparency could be explored.

Method

Participants

One hundred and forty University of Manitoba Introductory Psychology participants were randomly assigned to one of the following four conditions: (i) male actor - male observer ($N = 16$); (ii) male actor - female observer ($N = 18$); (iii) female actor - female observer ($N = 18$); and (iv) female actor - male observer ($N = 18$). All participants received an experimental credit for their participation.

Procedure

Participants met in a waiting room where it was ascertained that they were unacquainted. The experimenter informed the participants that one of them (the actor) would watch a film and would then be either truthful or deceptive

about the content of the film to the other person (the observer). They were both told that half of the actors would be telling the truth about the content of the film and half of the actors would be deceptive. The experimenter conveyed that the condition of truth/deception would be random. Since this research was not concerned with the comparison of deceptive and truthful communications, actors were always deceptive. Participants then signed a consent form (see Appendix A).

The experimenter explained to the two participants that the actor would be escorted to the viewing room first. He/she would then be told whether he/she would be telling the truth or being deceptive. The observer would wait in the meeting room until the experimenter came back to retrieve her/him.

Once in the viewing room, the actor was informed that he/she would be attempting to deceive the other person about the content of the video, by trying to convince him/her that the film was about a camping expedition. The actor was handed a sheet of paper (see Appendix B) aimed at prompting him/her to form an image of a camping scene (e.g. what the weather conditions were, who the main characters were). The actor was given a few minutes to think of his/her comments while the experimenter retrieved the observer from the meeting room.

To guard against alternative processes that may have

produced the expected pattern of results (e.g., different facial feedback from female as compared to male observers), observers were seated in a room adjacent to the actor's viewing room and viewed actors through a one-way mirror. In relation to actors, observers viewed actors' body and face at a 30 degree angle (to the actor's left). The actor was then directed by the experimenter to don headphones and begin viewing the first of three videotape segments.

The film consisted of clips from the movie "Mississippi Burning" (a movie that depicts racial violence and intergroup conflict). This film was used because it had been proven to elicit negative affect in both men and women, as compared with baseline mood measures (Goldenberg, 1996). The observer could neither hear nor see the film since the actor was wearing cordless headphones and the monitor was angled such that the observer could not view it. A fifteen minute film segment was paused by the experimenter three times (each film segment was approximately five minutes in duration). After each pause, the observer asked the actor four questions (see Appendix C) which addressed both the actor's feelings about the film and the supposed content of the film (e.g., who are the main characters?). For all pairs, the questions were asked in the same order. The actor could not see the observer while responding to the questions since the interaction occurred while the actor and the observer were in their respective rooms. The observer,

however, could see the actor responding to his/her questions through the one-way mirror.

The questions gave actors a chance to improvise and be spontaneously deceptive about their negative emotional state by trying to convince the observer that they were viewing a film about a camping trip. The observer used the actor's answers to these questions to help make inferences about whether the actor was being truthful or deceptive about the video's content. This procedure was repeated for the second and third video segments. Tape recordings of the actor's answers were taken so that systematic variations in their actual behavior could be explored, if necessary, to understand the results obtained.

Once the actor had answered the last of the observer's questions the blind to the one-way mirror was closed and the participants were given questionnaires to fill out. The first set of questions (see Appendix D) assessed the perceived and actual success of an actor's deception attempt. The questions were designed to capture overall perceptions of the deception attempt as well as perceptions specific to the emotions, nonverbal behaviors and verbal behaviors of actors. Actors' questionnaires measured the extent to which they thought that their observer partner believed that they were telling the truth. For example, actors responded to, "Overall, the observer believed I was telling the truth" on a 9-point Likert scale where 1 =

Disagree Very Strongly and 9 = Agree Very Strongly. These questions served as an indicator of the perceived success of their deception attempt. Conversely, observers' questionnaires measured, also on 9-point scales, the extent to which they believed that their actor partner was telling the truth. These questions served as an indicator of the actual success of actors' deceptive attempt.

Questions relevant to participants' motivational state (e.g., how hard they tried), task enjoyment, and current affect (e.g., participants were asked to rate how anxious they were) were then answered on 9-point scales (see Appendixes E and F), as well. These measures were included in order to assess motivational and affective explanations of misperceptions between actors and observers.

Finally, participants' beliefs about the emotional expressiveness and emotional perceptiveness of women, men, and themselves were measured (see Appendix G) using 9-point Likert scales. For example, participants responded to the question, "How emotionally expressive are women?" on a scale where 1 = not at all expressive and 9 = extremely expressive.

After actors had completed their questionnaire they watched a mood enhancing video in order to eliminate any lingering negative affect induced by the experimental manipulation. Actors and observers were reunited and debriefed together. They were thanked for their

participation.

Results

An alpha level of .05 was used to determine statistical significance. Analyses will first focus on whether the two feminine stereotypes are acknowledged by the participants. Second, systematic differences between actors' perceived and actual deception success will be examined in order to determine whether the hypotheses are tenable. Third, results on the additional measures will be explored.

Probe for Stereotypes and Examination of Participants' Self-reports of Expressiveness and Perceptiveness

In order to ascertain the prevalence of the two feminine stereotypes within the present population, participants' beliefs about the emotional expressiveness and emotional perceptiveness of women and men (see Appendix G) were entered into 2 (sex of participant) X 2 (role of judge: actor vs. observer) X 2 (sex of target: women or men) repeated measures ANOVAs. Results for the expressiveness stereotype (see Table 1) revealed a main effect of target. Participants (both female and male) believed that women are more expressive ($M = 7.36$) than men ($M = 4.39$), $F(1, 134) = 436.70$, $p < .001$. This effect was found to be differentiated by whether the judges were actors or observers. A significant interaction between role of judge and sex of target revealed that the expressiveness stereotype was evident for both actors and observers but it was more

Table 1
ANOVA Results Concerning Expressiveness Stereotype

<u>Source</u>	<u>df</u>	<u>F</u>	
Between Subjects			
Sex	1	5.24	*
Judge	1	2.18	
Sex x Judge	1	1.18	
Error	134	(1.31)	
Within Subjects			
Target	1	436.70	***
Sex x Target	1	0.06	
Judge x Target	1	6.50	*
Sex x Judge x Target	1	0.00	
Error	134	(1.39)	

Note. Values enclosed in parentheses represent mean square errors. Sex = participant sex; Judge = actor or observer; Target = men or women.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2
ANOVA Results Concerning Perceptiveness Stereotype

<u>Source</u>	<u>df</u>	<u>F</u>	
Between Subjects			
Sex	1	0.37	
Judge	1	0.15	
Sex x Judge	1	0.57	
Error	134	(2.31)	
Within Subjects			
Target	1	141.37	***
Sex x Target	1	0.20	
Judge x Target	1	0.97	
Sex x Judge x Target	1	0.52	
Error	134	(1.90)	

Note. Values enclosed in parentheses represent mean square errors. Sex = participant sex; Judge = actor or observer; Target = men or women.

* $p < .05$, ** $p < .01$, *** $p < .001$.

strongly held by observers (Difference between mean ratings given to women and men = 3.29) than by actors (Difference = 2.57), $F(1, 134) = 6.50$, $p < .05$. A main actor effect revealed that female actors rated people (both men and women) as more expressive ($M = 6.20$) than male actors did ($M = 5.74$), $F(1, 134) = 5.24$, $p < .05$. Results for the perceptiveness stereotype (see Table 2) revealed a main effect for sex of target. Participants believed that women ($M = 6.84$) are more perceptive of emotions others are experiencing than men are ($M = 4.87$), $F(1, 134) = 141.37$, $p < .001$. There were no other effects. Thus, these data indicate that both stereotypes were prevalent among the participants.

Participants' self-reports of expressiveness and perceptiveness were explored for sex differences (see Appendix G). Consistent with the stereotypes, female participants were expected to report greater expressiveness and greater perceptiveness than male participants. For actors and observers, the two self-report measures were entered into separate 2 (sex of participant) X 2 (role of judge: actor or observer) ANOVAs. Results for participants' self-reported expressiveness revealed that female participants reported greater expressiveness ($M = 7.01$) than male participants ($M = 4.82$), $F(1, 134) = 40.54$, $p < .001$. Interestingly, a significant judge effect revealed that actors self-reported expressiveness proved greater ($M =$

6.27) than the ratings of observers ($M = 5.62$), $F = (1, 134) = 4.02$, $p < .05$. The interaction was not significant.

Contrary to expectations, the self-reported perceptiveness of female participants ($M = 6.59$) did not differ from those of male participants ($M = 6.48$), $F < 1$. Instead, a significant judge effect found that the self-reported perceptiveness of actors ($M = 6.86$) was greater than that of observers ($M = 6.22$), $F(1, 134) = 6.06$, $p < .05$. There were no other effects.

Analysis of Misperception: Perceived Versus Actual Success

For both actors and observers, an overall index was calculated from responses to the first five questions on their respective questionnaires (see Appendix D). Questions 2 and 4 were reverse-scored, and an overall mean was calculated. Actors' ratings (perceived success) indicated the extent to which they felt their observer partner believed them (the higher the number, the greater their perception of being believed by the observer). Observers' ratings (actors' actual success) indicated their impression of whether the actor was telling the truth (the higher the number, the more they believed the actor). Analyses revealed that the reliability of these indices were adequate, $\alpha(\text{actor}) = .76$ and $\alpha(\text{observer}) = .82$.

Correlations between actors' and observers' perceptions were examined to determine whether actors' feelings of success were related to their actual success. Interestingly,

the more successful actors perceived their deception attempt to be, the less likely they were to be believed by their observer partner, $r(70) = -.27$, $p = .02$ (see Table 3). This relationship seemed to be especially evident when the actors were male.

The rating of an observer is by definition the correct rating that an actor should have, given that it is what the actor was specifically asked to estimate. Congruence between actor and observer ratings would indicate accurate perceptions by actors about how observers were viewing their deception attempts. Thus, differences between the two ratings were utilized to identify actors' misperceptions of their deception success. While it is reasonable to expect minor discrepancies between actors' and observers' ratings, if actors' ratings are reliably lower than the ratings of their observer partners then the actors systematically underestimated their deception success. Analyses attempted to identify systematic misperceptions between actors and observers related to the sex of actors and/or the sex of observers.

Actor and observer ratings were entered into a 2 X 2 X 2 repeated measures ANOVA in which the factors were sex of actor, sex of observer, and role of judge (actor/observer). Pairs were the unit of analysis. The first two factors were between-pairs factors and the last factor was treated as a within-pairs (repeated measures) factor.

Table 3
Relationships Between Actors' Perceived and Actual Success

<u>Factor</u>	<u>r</u>	<u>p</u>
Overall	-.27	.02
Actor Sex		
Male (34)	-.44	.01
Female (36)	-.15	.37
Observer Sex		
Male (34)	-.32	.07
Female (36)	-.18	.30
Actor/Observer Sex		
Female/Female (18)	-.09	.73
Female/Male (18)	-.21	.39
Male/Female (18)	-.34	.17
Male/Male (16)	-.40	.13

Note: Numbers in parentheses indicate number of actor/observer pairs.

The expressiveness hypothesis predicts a significant actor sex X judge interaction. This effect was not evident, $F < 1$ (see Tables 4 and 5). Female actors, as compared to male actors, did not significantly underestimate the success of their deception attempts.

A significant observer sex X judge interaction was revealed, $F(1, 66) = 5.61, p < .05$. Simple effects analyses of this interaction indicated that the ratings of actors were lower ($M = 5.33$) than that of their female observer partners ($M = 6.29$), $F(1, 66) = 6.25, p < .05$, whereas there was no significant difference between actors' ratings and their male observer partners' ratings (respective M s = 5.81 and 5.50), $F < 1$. This finding is consistent with the perceptiveness hypothesis, which states that actors' beliefs about the exceptional perceptiveness of their female interaction partner would lead them to underestimate the success of their deception attempt.

An index of transparency was examined (see Table 6) in terms of the percentage of actors who overestimated their transparency as factored by actor and observer sex. The findings support the perceptiveness hypothesis in that 72.2% of actors overestimated their transparency when paired with a female observer and only 41.2% overestimated their transparency when paired with a male observer.

The perceptiveness hypothesis also predicts, however, that this interaction would be due to differences in actors'

Table 4

ANOVA Results Concerning Perceived Versus Actual Success

<u>Source</u>	<u>df</u>	<u>F</u>	
Between Subjects			
Asex	1	0.11	
Osex	1	0.48	
Asex x Osex	1	0.10	
Error	66	(1.74)	
Within Subjects			
Judge	1	1.11	
Asex x Judge	1	0.94	
Osex x Judge	1	5.61	*
Asex x Osex x Judge	1	1.03	
Error	66	(2.63)	

Note. Values enclosed in parentheses represent mean square errors. Asex = actor sex; Osex = observer sex; Target = men or women; Judge = actor or observer.

* $p < .05$.

Table 5
Mean Actor and Observer Ratings as a Function of Actor Sex,
 Observer Sex, and Actor Sex X Observer Sex

Condition	Mean Rating			
	Actor		Observer	
Overall	5.57	(1.15)	5.91	(1.78)
Actor Sex				
Female	5.40	(1.29)	5.99	(1.82)
Male	5.74	(0.98)	5.81	(1.75)
Observer Sex				
Female	5.33	(1.22)	6.29	(1.81)
Male	5.81	(1.04)	5.50	(1.67)
Pair Type (Actor/Observer)				
F/F	5.26	(1.46)	6.22	(1.87)
F/M	5.54	(1.11)	5.77	(1.79)
M/F	5.41	(0.95)	6.36	(1.79)
M/M	6.11	(0.90)	5.20	(1.53)

Note. Standard deviations are in parentheses. M = male actor/observer; F = female actor/observer.

Table 6
Transparency Overestimation Percentage: Overall and Factored
 by Actor and Observer Sex

<u>Factor</u>	<u>%</u>
Overall	57.1
Actor Sex	
Male (34)	58.3
Female (36)	55.9
Observer Sex	
Male (34)	41.2
Female (36)	72.2
Actor/Observer Sex	
Female/Female (18)	66.7
Female/Male (18)	50.0
Male/Female (18)	77.8
Male/Male (16)	31.3

Note: Numbers in parenthesis represent the number of actor/observer pairs.

success ratings according to observer sex. Actors paired with female observers are expected to feel more emotionally transparent than actors paired with male observers. Although the mean success rating made by actors paired with female observers was lower ($M = 5.33$) than that made by actors paired with male observers ($M = 5.81$), the difference was not significant, $F(1, 127) = 1.83$, *ns*. Instead, a significant difference between the actual success ratings given by female and male observers was evident. Female observers believed actors more ($M = 6.29$) than their male counterparts did ($M = 5.50$), $F(1, 130) = 4.12$, $p < .05$. Thus, the difference in mean ratings of male and female observers accounted for the observer sex X judge interaction. There were no other significant effects.

Initial data analyses did not, then, clearly support either of the original hypotheses. There was no evidence of an effect of actor sex upon the deception success ratings of male and female actors. This suggests no role for the expressiveness stereotype in the present context. Misperceptions between actors and female observers did occur, but were driven by a difference in male and female observers' ratings rather than by differences in actors' ratings.

Sources of Misperception Between Actors and Female Observers

The heightened discrepancy between actors' and female

observers' perceptions centred around the tendency for female observers to believe actors more than male observers did. Why did female observers tend to believe actors more than male observers? One potential source of the sex difference in observers' ratings may originate within the observers themselves.

Motivation and Task Enjoyment of Observers

This possibility was explored utilizing observers' motivation and task enjoyment measures (see Appendixes E and F). It was speculated that female observers may have been less motivated than male observers in determining whether the actor was being deceptive. Being less motivated, they would be less scrutinizing of actors' behavior and may have missed deception cues. If true then female observers would be more likely than male observers to believe that actors were telling the truth.

Observers' motivation measures were examined using 2 (sex of actors) X 2 (sex of observer) ANOVAS. There were no significant results (see Table 7). Observers' motivation measures were found not to be dependent upon actor sex or observer sex. Thus, observers' motivation does not appear to account for the sex differences in their ratings.

Less task enjoyment could be an indicator of less motivation as well. Female observers may have felt uncomfortable about detecting deception in actors and may experience negative feelings because of this task. It could

Table 7

ANOVA Results Concerning Observers' Motivational State and Effort

<u>Source</u>	<u>df</u>	<u>F</u>
How hard observers tried to detect deception		
Asex	1	0.04
Osex	1	0.89
Asex x Osex	1	0.00
Error	65	(2.57)
How important it was to detect deception		
Asex	1	1.31
Osex	1	2.16
Asex x Osex	1	0.09
Error	65	(2.81)
How much deception detection enjoyment		
Asex	1	0.04
Osex	1	0.10
Asex x Osex	1	0.62
Error	65	(4.86)

Note. Values enclosed in parentheses represent mean square errors. Asex = actor sex; Osex = observer sex.

be the case that female observers reported believing their actor partner more than male observers in order to alleviate task dissonance. Hence, female observers might enjoy their task less than male observers and would experience more negative affect than male observers. Contrary to expectations, however, it was not the case that female observers enjoyed their task ($M = 6.26$) less than male observers ($M = 6.09$), $F < 1$, (note: higher scores are indicative of less task enjoyment). In addition, 2 (sex of actor) X 2 (sex of observer) ANOVAS conducted on all affect measures did not turn up any significant results relevant to this discussion. Female and male observers did not differ in their affect measures.

Thus, it does not appear that observers' affect and task enjoyment would account for the sex difference in their ratings. That is, according to the measures included in this study, the source of the sex difference in observers' ratings may not originate within the observers themselves. This leads us to the second possible source of the sex difference in observers' ratings - the behaviors of actors.

Motivation and Task Enjoyment of Actors

An alternative explanation for female observers' greater tendency to believe actors is that the actors were better deceivers when paired with a female observer. In particular, actors' beliefs of the exceptional perceptiveness of women may have led them to try harder to

Table 8

ANOVA Results Concerning Actors' Motivational State and Effort

<u>Source</u>	<u>df</u>	<u>F</u>	
How hard actors tried to deceive			
Asex	1	0.54	
Osex	1	4.51	*
Asex x Osex	1	1.11	
Error	66	(2.14)	
How important it was to be successful			
Asex	1	1.17	
Osex	1	0.41	
Asex x Osex	1	2.37	
Error	66	(4.11)	
How much deception enjoyment			
Asex	1	8.12	**
Osex	1	0.00	
Asex x Osex	1	0.29	
Error	66	(5.34)	

Note. Values enclosed in parentheses represent mean square errors. Asex = actor sex; Osex = observer sex.

* $p < .05$, ** $p < .01$.

Table 9
Mean Actor Motivation and Effort Ratings as a Function of Actor Sex and Observer Sex

Condition	Mean Rating			
	Female		Male	
How hard actors tried to deceive				
Actor sex	7.05	(1.77)	7.32	(1.15)
Observer sex	7.55	(1.18)	6.79	(1.70)
How important it was to be successful				
Actor sex	6.19	(2.30)	6.70	(1.71)
Observer sex	6.61	(1.82)	6.26	(2.26)
How much deception enjoyment				
Actor sex	4.67	(2.52)	6.23	(2.00)
Observer sex	5.47	(2.51)	5.38	(2.31)

Note: Standard deviations are enclosed in parentheses.

deceive female, as compared to male, observers. To investigate this possibility, a 2 (sex of actor) X 2 ANOVA (sex of observer) was conducted on actors' motivational and enjoyment measures (see Tables 8 and 9). A significant observer sex main effect indicated that actors tried harder to deceive female observers ($M = 7.55$) than male observers ($M = 6.79$), $F(1, 66) = 4.51, p < .05$. Did the greater efforts reported by actors with a female observer affect their success ratings or the ratings of their interaction partners? Correlation analyses revealed that actors' efforts were unrelated to both their perceived success [$r(70) = .21, ns$] and their actual success, [$r(36) = -.04, ns$]. There were no significant relationships when actors paired with female observers were considered alone.

Since actors' efforts were found to be unrelated to their perceived and actual success, an attempt was made to obtain a better index of actors' actual performance at the task. Seven volunteers (5 women and 2 men) listened to actors' audio-recorded deceptive attempts. Five actors were excluded from analysis due to experimenter error. After listening to each interaction, volunteers indicated on a 9-point scale their agreement with the statement, "The actor was convincing." Higher ratings were indicative of more agreement. This question was chosen after separate repeated measures analyses were conducted on all questions answered by the participants (see Appendix D). It was found that the

most influential question (as derived from observer sex X judge interaction significance values) was related to how convincing actors thought they were when answering the questions and how convincing observers thought actors were when answering the questions.

The ratings of the volunteers were combined to form an index of actor convincingness ($\alpha = .54$) and a 2 (sex of actor) X 2 ANOVA (sex of observer) was conducted on this measure. Although the mean convincingness of actors was higher when the observer was female ($M = 5.19$) as opposed to when the observer was male ($M = 4.72$), this difference was not significant, $F(1, 61) = 2.46$, $p = .12$. There were no other effects. In addition, the relationship between the convincingness index and observers' tendency to believe actors proved marginal, $r(65) = .21$, $p = .10$.

The Influence of Actors' Perceptiveness Stereotype Upon Their Efforts

Consistent with the possibility that actors behaved differently with female as compared to male observers, relationships between actors' beliefs about the perceptiveness of women (i.e., the perceptiveness stereotype) and their motivational state were examined next. It was expected that for those actors paired with female observers, the more that they subscribe to the perceptiveness stereotype, the harder they would try to deceive. Correlation analyses revealed no significant

relationships between these actors' beliefs about how perceptive women are and their motivation measures. It is interesting to note a few trends in the data, however. The more female actors believed women to be perceptive of the emotions others are experiencing, the harder they tried to deceive a female observer, $r(17) = .61, p < .01$, and the more importance they placed on being successful in deceiving a female observer, $r(17) = .52, p < .05$.

Although these data do not provide clear evidence that actors' beliefs about the perceptiveness of women and men affected their task motivation, it should be noted that the above correlational analyses may have been hampered by the strength of the stereotype (i.e., from the lack of variation across participants in these perceptions). Frequency analysis revealed that, on 9-point scales, actors consistently rated women as emotionally perceptive ($M = 6.80, SD = 1.17$). Additionally, most actors (79.3%) believed that women are more emotionally perceptive than men.

Expressiveness Stereotype Analyses

Although it was found that there is no basis to the expressiveness stereotype hypothesis (i.e., no actor sex X judge interaction), motivation differences between male and female actors were sought. The expressiveness hypothesis predicts that female actors would be more motivated than male observers. This was expected due to female actors trying to circumvent their feelings of emotional

transparency. That is, it could be the case that female actors felt more transparent than male actors but their extra efforts eliminated the transparency influence upon their ratings of deception success. Actors' reported effort, importance, and task enjoyment ratings were examined utilizing 2 (sex of actor) X 2 (sex of observer) ANOVA's. Referring to Table 8, male and female actors did not differ in how hard they tried to deceive, $F(1, 66) < 1$, and how much importance they placed on being successful, $F(1, 66) < 1$. Neither sex was more motivated than the other to deceive. With regard to task enjoyment, however, a 2 (sex of actor) X 2 (sex of observer) ANOVA revealed that female actors enjoyed their deceptive task less ($M = 4.67$) than male actors ($M = 6.23$), $F(1, 66) = 8.12$, $p < .05$.

Actors' affect measures were each examined using separate 2 (sex of actor) X 2 (sex of observer) ANOVAS. There were no interaction effects and no effects due to observer sex. Consistent with the task enjoyment finding, female actors felt more tense, bothered, uncomfortable, embarrassed, and uneasy than male actors (see Table 10). There was also some indication that female actors felt more guilty than male actors. Was this due to the task or was it due to the film's influence? Lack of gender effects in the film pretest suggests that female actors' increased negative affect may be due to the deception task itself.

Interestingly, correlation analyses revealed a

Table 10

Affect Measures: Means of Male and Female Actors

Condition	Mean Rating of Actors			
	Female		Male	
Tense	6.19	(1.92)	4.32	(2.10) ***
Bothered	5.13	(2.57)	2.55	(1.69) ***
Comfortable (r)	5.97	(2.02)	4.00	(1.69) ***
Anxious	4.91	(2.38)	4.67	(2.24)
Embarrassed	3.83	(2.63)	2.29	(1.88) **
At ease (r)	6.08	(2.27)	4.47	(2.12) **
Guilty	3.50	(2.57)	2.47	(2.02)

Note. Standard deviations are enclosed in parentheses. The two variables 'comfortable' and 'at ease' were reversed scored.

* $p < .05$, ** $p < .01$, *** $p < .001$.

significant overall relationship between actors' negative affect (as defined by the mean of all actors' affect measures) and perceived success. The more negative actors felt the less they felt believed, $r(70) = -.32$, $p < .01$. This finding was not differentiated by actor sex nor observer sex, however. As revealed earlier, as well, there were no significant misperceptions due to actor sex. Thus, sex differences in actors' negative affect were not accompanied by sex differences in actors' perceived deception success.

Effect of Previous Viewing of the Movie on Actors

Actors indicated whether or not they had seen the movie from which the video clips were sampled. It was speculated that if actors had previously seen the movie they may experience less emotional impact and, hence, less feelings of transparency. Twenty-two actors had indicated that they had seen the movie, forty-four had indicated that they had not, and 4 were unsure. Those actors who were unsure were excluded for this analysis. A one-way analysis of variance comparing actors' ratings of perceived success indicated no significant difference between those who had seen the movie ($M = 5.46$) and those who had not ($M = 5.61$), $F < 1$. Additionally, a one-way ANOVA comparing actors' affect index indicated no significant difference between those who had seen the movie ($M = 5.33$) and those who had not ($M = 4.67$), $F < 1$.

Discussion

Previous studies have found that women overestimate how readily apparent their emotions are to a same-sex observer but it remained to be seen as to whether the sex of the deceiver or the sex of the deceiver's audience determines transparency overestimation. This study was aimed at determining the influence of actor sex and observer sex on transparency overestimation and, if these factors were influential, assessing the role played by feminine stereotypes.

The main result obtained in this study was that when people deceive others about their current emotional state, they underestimate how much they will be believed by a female audience but not by a male audience. There were no effects associated with actor sex. That is, women did not feel more transparent than men. A tentative conclusion would be, then, that it is the sex of one's audience that determines transparency overestimation. As further analyses reveal, however, this interpretation proves complex. There was no significant difference in actors' perceived success according to whether the observer was male or female. That is, transparency overestimation by actors with a female observer was not driven by differences in actors' feelings of emotional transparency. Instead, the effect was driven by a sex difference in the extent to which observers believed actors. Female observers tended to believe actors more than

male observers did. Thus, the main findings of this study do not clearly support my hypothesis that the feminine stereotypes of expressiveness and perceptiveness foster transparency overestimation. This is because my conceptualization of the role of stereotypes centred on effects for actors' feelings of transparency, not observers' willingness to believe. Although the main findings of this study did not support my speculations regarding the role of stereotypes, the uncontrolled nature of the design suggests caution in abandoning this idea on the basis of the present results.

This discussion will first examine the sex difference in observers' tendency to believe and how the feminine perceptiveness stereotype might have played a role in this effect. Next, the finding that actors paired with female observers underestimated the success of their deception will be examined in depth and the effect will be argued to be, in part, due to the feminine perceptiveness stereotype as well. Methodological improvements will be suggested throughout the discussion.

Female Observers' Ratings

In this experiment, female observers were more likely than male observers to believe actors. This finding is consistent with previous research indicating that women are more 'accommodating' than men in their perceptions of others (DePaulo, 1993).

Rosenthal & DePaulo (1979b) showed naive judges videotapes of participants dishonestly describing people they liked or disliked (e.g., a participant would describe someone they disliked as if they actually liked the person). The judges were asked to indicate how authentic actors' feelings were towards the people they were describing. Female judges, as compared to male judges, perceived the feigned liking as more genuine. In another study, DePaulo et al. (1993) found that when naive judges rated actors (who were being deceptive to artists about how much they liked their paintings) in terms of how much liking the actors genuinely felt, female judges perceived actors' expressed liking as more genuine than male judges. The findings of the present study are consistent with this pattern.

However, this pattern of "female accommodation" seems incompatible with other research in the area of nonverbal behavior. In a thorough review, Hall (1978) observed that women are more accurate than men at decoding the nonverbal behaviors of others. Ekman and Friesen (1974) contend that accurate detection of others' nonverbal behaviors usually helps a person determine when deception is occurring. Together, these findings suggest that women should have an advantage in determining when others are being deceptive.

This incongruity can be explained by first stating that facial gestures are the one nonverbal behavior best controlled by senders (Ekman & Friesen, 1969; Rosenthal et

al., 1979). During deception, an individual's body, more than the face, is a source of "deception clues" or "leakage." Women have been found to be more likely than men to particularly attend to the facial behaviors of others (DePaulo & Rosenthal, 1979a). In other words, women attend to the nonverbal behaviors that are most under the control of others. Consequently, in truthful communications, women prove to be more capable than men of accurately perceiving how others are feeling. In the context of deception, however, women are more likely than men to believe others' deceptive displays (Rosenthal & DePaulo, 1979b). In other words, in both circumstances (truthful and deceptive) women would believe others more than men would.

Although the pattern of female accommodation in deception is consistent with the research described above, it is not consistent with research conducted at the University of Manitoba using paradigms very similar to the one adapted for the present study. In Briggs' (1995) study, when actors were deceptive to same-sex observers about the content of an emotional film, female observers were not any more believing than male observers. Similarly, in Goldenberg's (1996) study, female observers were not any more believing during emotional deception and were found to be less believing when emotional actors were telling the truth. Thus it is questionable whether this pattern provides a suitable explanation for the present data. I next consider

an alternative possible explanation.

Ratings of Actors Paired With Female Observers

Conceivably, the ratings of observers in the present study were caused by differences in actors' behavior. There might have been changes in actors' deceptive attempts according to the sex of their observer partner.

When deceiving others about negative feelings, people have been found to increase pleasant facial expressions and decrease the amount of bodily movements (Mehrabian, 1971). Greater facial pleasantness in such difficult situations indicates greater efforts by deceivers to appease their audience. Additionally, reduced body movements may indicate increased efforts of deceivers to control their nonverbal cues. In this experiment, actors reported increasing their deception efforts when paired with a female observer, and volunteer ratings of actor's verbal convincingness revealed a trend whereby actors paired with female observers sounded more convincing than actors paired with male observers. Thus, female observers' ratings may have reflected differences in actors' actual behavior that occurred due to observer sex. Moreover, the apparent null results for actors' feelings of transparency may mask two opposing influences: Actors' knowledge of their intensified deception efforts versus the influence of the female perceptiveness stereotype.

The volunteer judges relied on actors' verbalisms to

rate actor convincingness. Thus, their ratings did not reflect the possible actor differences in nonverbal behavior described above. That is, differences in the impressions conveyed by actors with female as opposed to male observers may have gone undetected. Future research in this area must seriously consider videotaping actors in order to capture their complete deceptive efforts (both verbal and nonverbal).

Methodological Improvements in Emotional Deception Research

Since actors and observers met in a waiting room before the experiment started, there may have been sufficient time for actors to form idiosyncratic impressions of their observer partner. As such, their stereotypes may have had less influence upon their perceptions of deception success. In future research there should be no opportunity for participants to meet ahead of time. An even more desirable modification would be to keep actors unaware of the sex of the observer while they answer questions (asked by the experimenter) concerning the film's content. The sex of observers should be made known to actors just prior to completing questions measuring perceived deception success. This change in manipulation would serve to eliminate possible increases in actors' efforts due to observer sex.

The Deficiency of Relationships Between Actors' Stereotypes and Their Perceived Success

The results of this study suggested that male and

female actors' feelings of transparency were not significantly different. This finding implies that gender stereotypes regarding expressiveness, relevant to the actor's point of view, do not influence feelings of transparency in deceptive situations. However, this study may not have assessed the influence of stereotypes with sufficient precision.

Stereotype influence may be uncovered if the extent to which individuals identified with being male or female was considered. In congruence with Bem's gender schema theory, research has found that sex-typed individuals readily process information utilizing gender stereotypes. Sex-typed individuals are those who identify with traditional sex roles or standards of a society. Their self-images and perceptions of others are distorted to conform to their beliefs about sex roles and stereotypes. Spence, Helmreich, & Stapp (1975), for example, found that sex-typed individuals (i.e., those with traditional attitudes towards women's roles) tended to perceive greater differences in the actual characteristics of the two sexes than non-sex-typed individuals.

Thus, actors' sex-role identity may be more predictive of actors' feelings of transparency. Women who identify with traditional sex roles may feel more transparent than men who do. Interestingly, these individuals may also be more likely to perceive others in terms of gender stereotypes. They may

be more likely than non-sex-typed people to think that women are especially perceptive of the emotions others are experiencing.

In addition, differences in the difficulty of actors and observers task seemed to influence their responses on the stereotype measures. First, actors engaging in deception may have felt more expressive causing them to report greater self-expressiveness than observers. Second, observers engaging in the deception-perceiving task may have caused them to report less self-perceptiveness than actors. Observers may have realized, that is, that it is difficult to perceive emotions of others.

In future research, then, actors' stereotypes and sex role identity should be measured pre-experimentally. First, Bem's Sex-Role Inventory (Bem, 1974) should be utilized pre-experimentally to both measure participant's gender stereotypes and how sex typed they are; that is, whether they are masculine, feminine or androgynous. People who have high positive scores possess a 'feminine' sex role where they endorse feminine attributes and simultaneously reject masculine attributes. People who have high negative scores possess a 'masculine' sex role where they endorse masculine attributes and simultaneously reject feminine attributes. Androgynous individuals are those who endorse both masculine and feminine attributes equally. Classification of individuals in terms of their sex role identity might

provide a clearer test of the influence of gender stereotypes upon feelings of transparency in deceptive communications.

Alternative Influences

Transparency underestimation may also be worth investigating or controlling. In this study, the more confident actors were (as indicated by their perceived success) the less likely they were to be believed. This was especially evident when the actor/observer pair was male. In this study, overconfidence may have hindered actors' deceptive efforts if they placed less effort in deceiving and 'let their guard down'. As such, observers may have picked up deception cues and, hence, did not believe that they were telling the truth.

Another probable influence stems from the finding that female actors reported experiencing more discomfort after deceiving observers compared to male actors. That is, there may be sex differences apart from emotional transparency due to the deception task itself. This influence would affect transparency ratings in that women may alleviate their guilt by thinking and, hence, rating that they will not be believed by observers. Participants' feelings about being deceptive and their perceptions of gender stereotypes about deception should be measured pre-experimentally as well.

Conclusion

Results from this experiment suggest that individuals

tend to underestimate the success of their deception efforts when their audience is female. This pattern could simply reflect a lack of appreciation for the tendency of women to be believing of others, or it could be connected to gender stereotypes regarding the perceptiveness of women among. Regardless, future research on the deceiver's perceptions would complement our current understanding of deceptive situations, which to date is based primarily in the perceiver's point of view.

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Appendix A

Consent Form

Thank-you for your interest in our study. This study is being conducted by Gordon B. O'Connell, under the supervision of Dr. Jacquie Vorauer (Department of Psychology, University of Manitoba). This study has been approved by the Human Ethical Review Committee.

If you agree to participate in this study, you will be assigned to either the role of Actor or Observer. Actors will watch a video and will answer questions about the video as posed by the Observers. Actors will be either honest or deceptive when responding to these questions and their responses will be audio-taped. Observers will try to deduce whether the Actor is being honest or deceptive. At the end of the study, you will be fully debriefed as to the purpose of the study and the methods that were used.

Please note that your identity and responses will be kept confidential at all times and your participation in this study is voluntary. If at any time you do not wish to continue participating, you are free to do so. You will not be penalized for doing so.

The experimental session will take approximately 50 minutes.

Your signature indicates that you have read the above statement and have given your informed consent to participate in this study.

(Your signature)

(Date)

(Printed name)

Appendix B

Information to Assist the Deceiver in Conveying the Impression that the Film They are Viewing is About a Camping Trip

Conveying the impression that the film you are about to see is about a camping trip would be simpler if you attempt to imagine being there at this time. You might focus on a number of things:

Weather conditions,

Is it a nice day or is it a rainy day?

What time of year is it?

What are the surroundings:

Are the people at an isolated campsite or are there lots of other people around?

Who are the people that are camping?

What do the people look like?

What are people wearing?

What are the people doing?

Are they enjoying being at one with nature, taking hikes, walking through the woods? Do people seem to be playing lots of sports or are they merely taking advantage of the peacefulness and tranquility?

Appendix C

Observer's Questions to the Actor

AFTER FIRST PAUSE:

1. What is this film about?
2. How does this film make you feel?
3. What is the weather like?
4. Would you recommend this film to a friend?

AFTER THE SECOND PAUSE:

1. Would I enjoy this film?
2. Are the people getting along well?
3. Would you show this film to a young child?
4. Where is this film taking place?

AT THE END:

1. What are the people wearing?
2. Is this film disturbing in any way?
3. Who are the main characters?
4. Is there anything you find pleasant about this film?

Appendix D

Measures of Perceived and Actual Deception SuccessActor's questions.

1. Overall the observer believed I was telling the truth.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

2. The observer doubted that I was telling the truth about the emotions I was experiencing.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

3. My nonverbal behavior (e.g., facial expressions, tone of voice, body language) was consistent with what I was saying.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

4. I appeared able to relate details on the story I was telling without difficulty.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

5. I was unconvincing when I was answering the questions from the observer.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

Observer's questions.

1. Overall I believed the actor was telling the truth.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

2. I doubted that the actor was telling the truth about the emotions s/he was experiencing.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

3. The actor's nonverbal behavior (e.g., facial expressions, tone of voice, body language) was consistent with what s/he was saying.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

4. The actor appeared able to relate details on the story s/he was telling without difficulty.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

5. The actor was unconvincing when s/he was answering the questions.

1	2	3	4	5	6	7	8	9
Disagree				Agree				
Very Strongly				Very Strongly				

Appendix F

Affect Measures

	does not								
applies	apply at								
much	all								
									very
1. tense	1	2	3	4	5	6	7	8	9
2. bothered	1	2	3	4	5	6	7	8	9
3. comfortable	1	2	3	4	5	6	7	8	9
4. anxious	1	2	3	4	5	6	7	8	9
5. embarrassed	1	2	3	4	5	6	7	8	9
6. at ease	1	2	3	4	5	6	7	8	9
7. guilty	1	2	3	4	5	6	7	8	9

Appendix G

Feminine Stereotype and Self-belief Measures

1. How emotionally expressive are women?

1	2	3	4	5	6	7	8	9
Not at all expressive								Extremely expressive

2. How emotionally expressive are men?

1	2	3	4	5	6	7	8	9
Not at all expressive								Extremely expressive

3. How good do you think women are at detecting the emotions other people are experiencing?

1	2	3	4	5	6	7	8	9
Not at all good								Extremely good

4. How good do you think men are at detecting the emotions other people are experiencing?

1	2	3	4	5	6	7	8	9
Not at all good								Extremely good

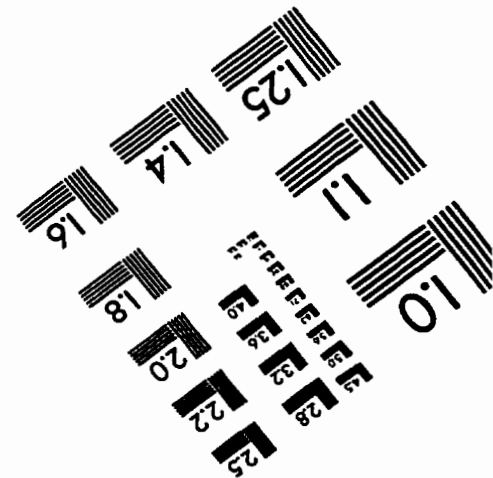
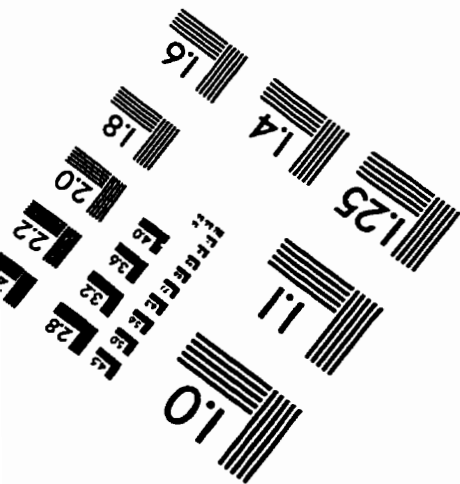
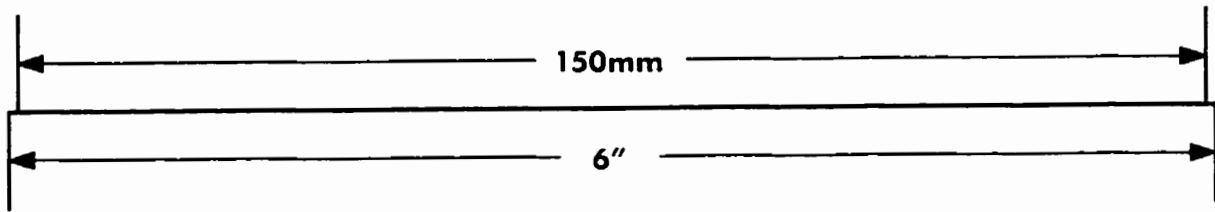
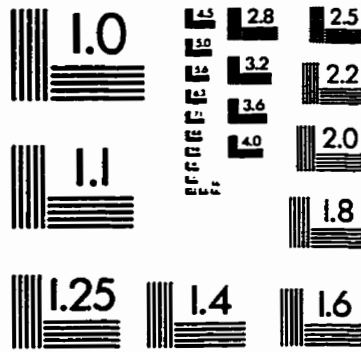
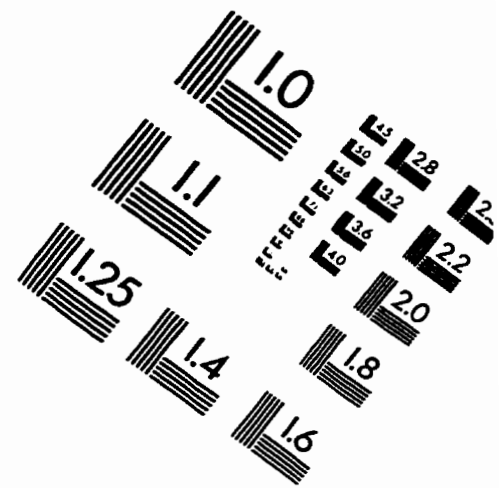
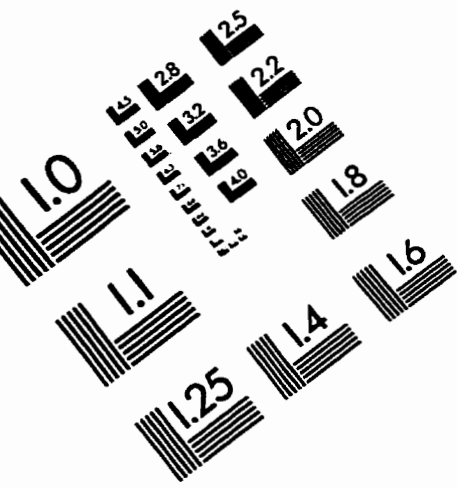
5. How emotionally expressive are you?

1	2	3	4	5	6	7	8	9
Not at all expressive								Extremely expressive

6. How good are you at detecting the emotions other people are experiencing?

1	2	3	4	5	6	7	8	9
Not at all good								Extremely good

IMAGE EVALUATION TEST TARGET (QA-3)



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