Female deception detection as a function of commitment and self-awareness

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Abstract

It was been hypothesized that evolutionary factors including self-awareness and commitment are related to deception detection. In this study, 34 female undergraduates were tested for their ability to detect deception via a video paradigm. Females that were not in a committed relationship were significantly better at detecting males "faking good" as compared to committed females. Further, self-awareness was correlated with the ability to detect deception. These data are consistent with the hypothesis that deception may be related to self-awareness and that such a relationship is related to reproductive advantages secured by the ability to deceive.
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1. Introduction

The ability to deceive is a valuable strategy, and humans can be considered expert deceivers (DePaulo et al., 2003). Fiedler and Walka (1993) concluded that most people have become so experienced at deception that they have mastered the skill. Even when people are not confident in their lies, they still manage to deceive others (Vrij, Edward, & Bull, 2001).

It is not known why some people excel at deception detection and others do not. Most people are not above chance in detecting deception (see DePaulo et al., 2003). Poor deception detection

ability is not surprising, however, given that there are few cues to indicate that a person is lying. It has been speculated that non-verbal cues, such as facial expressions, can aid in deception detection; however, these cues are not always present and vary from person to person (Ekman, Friesen, & O'Sullivan, 1988). When asked to identify liars using only non-verbal cues, most people are not successful (Bond et al., 1992).

Deception may be related to an individual's ability to "mind read," or possess a Theory of Mind (TOM; Keenan, Gallup, & Falk, 2003). In order to mind read, one must possess self-awareness (Gallup, 1998). Gallup (1982) and Keenan et al. (2003) have speculated that self-awareness is related to TOM and that these abilities should be tied to deception. Deficits of these abilities appear to correlate with each other in patients following brain trauma (Keenan, Wheeler, Gallup, & Pascual-Leone, 2001; Stuss, Gallup, & Alexander, 2001).

The present research also examines the role of relationship status in deception detection. Drawing from an evolutionary psychological perspective (see, e.g., Buss, 2004; Trivers, 1972), we predict that females will excel at detection of male deception when there are reproductive consequences to the female (Dimoulas, Wender, Keenan, Gallup, & Goulet, 1998). We predict that females who are not in a committed romantic relationship will be superior at deception detection than females in a committed relationship. Because non-mated women might suffer greater reproductive consequences for failing to detect male deception, it would follow that these women should be superior at deception detection. While deception plays a significant role in evolutionary theory (Byrne & Whiten, 2002), few have examined the role of deception (and detection) in these terms (e.g. Buss, 1994). We have found that lies typically are told along gender specific lines to enhance one's own characteristics. By dividing lies into those that are told in this manner (Faking Good) and those that would not normally be told (Faking bad; e.g. telling a person that you make less money than you do), one can examine the evolutionary consequences of deception.

Finally, the present study examines the relationship between self-awareness and deception detection. Because self-awareness gives us insight into our own mind (Wheeler, Stuss, & Tulving, 1997), self-awareness should provide a better idea of what is going on in someone else's mind. Self-awareness, an inherently difficult construct to measure, can be divided into a number of components including 'private' (similar to Jung's introversion) and 'public' (related to Mead's concept of self-consciousness) self-awareness.

We predict, therefore, that a heightened sense of self-awareness will lead to greater accuracy at detecting deception. Thus, self-awareness and deception detection should correlate with each other such that greater self-awareness should predict increased accuracy in deception detection. Further, females that are not in a committed relationship should be superior at deception detection than females in a committed relationship, for the reasons outlined above.

2. Method

2.1. Participants

Participants were 34 Montclair State University undergraduate female students. They were recruited from psychology courses, and were given extra credit for their participation. Participants

were asked to sign a consent form before they participated in the experiment. All participants were treated according to the ethical guidelines of the American Psychological Association.

2.2. Materials

Twelve people (six males, six females) were recruited from the general population to serve as actors. The actors were recruited from outside of Montclair State University to avoid familiarity with the participants. None of the actors were professional, and all reported only a minimum of acting experience (e.g., school play). Each actor prepared three segments, according to a script provided by the researchers: Truth, faking bad, or faking good. Each of the segments lasted approximately 30–45 s. The actors were filmed from the shoulders up under bright lighting conditions. Each actor practiced their script until they were comfortable and natural in their presentation.

For all of the segments, the actors were asked to introduce themselves and to give biographical information (see Appendix A). In the truth condition, the actors were asked to tell the truth. In both the fake bad and fake good conditions, the actors were asked to exaggerate their biographical information (e.g., a female wants two children instead of one). Faking good was defined as exaggerating information that a person of the opposite sex would be expected to desire; faking bad was defined as the reverse. This information was taken from Keenan, Gallup, Goulet, and Kulkarni (1997), and differences were defined along gender lines. For example, a male faking good would increase the number of children he desired, while a female faking good would decrease the number of desired children.

Several video segments were prepared for this experiment. Each video consisted of 12 actors, six males and six females. Each actor appeared only once in each video. The segments (truth, faking good, and faking bad) were randomized for each of the videos. Therefore, each participant saw only one video containing two males telling the truth, two males faking good, two males faking bad, two females telling the truth, two females faking good, and two females faking bad.

2.3. Procedure

Participants were tested in a series of classrooms, each containing a 25 in. monitor and a VCR. Before viewing the video segments, the participants were asked to complete a series of surveys including basic demographics, the private Self-Consciousness Scale (SCS: Fenigstein, Scheier, & Buss, 1975), and the Schizotypal Personality Questionnaire (SPQ)—full version (Raine, 1991). The private SCS contains questions such as "I reflect about myself a lot" and "I am alert to changes in my mood" while the SPQ contains questions such as "Some people think that I am a very bizarre person". All participants completed these surveys within 20 min. Once all of the surveys were completed, the video portion/deception detection experiment began.

The principal investigator played the 12 segments arranged on one video tape with 15 s pauses between each of the segments. Between each of the segments (i.e., for each of the actors), each participant indicated if they believed the actor was being truthful or deceitful. The videos were only played once.

3. Results

We first examined the correlation between the self-awareness scales and subscales employed. It was found that the private SCS correlated with the SPQ ($r(32) = 0.66$, $p < 0.001$) indicating that an increase in private self-awareness was related to fewer schizotypal traits. We then examined overall deception detection rate. Employing single-*df* *t*-tests (test value = 50%), it was found that only the Male Truth condition was significantly different than chance ($M = 64.7\%$, SE = 5.4, $t(33) = 2.73$, $p < 0.01$). No other condition differed significantly from chance (Fig. 1). These data are similar to those of previous studies (see DePaulo et al., 2003) in which deception detection rates are low. We performed a 2×3 Repeated Measures ANOVA on overall detection ability [Sex of Actor (2) × Video Condition (3): Fake Bad, Fake Good, Truth]. There was no significant overall interaction [$F(2, 66) = 0.81$, $p > 0.05$]. There was no significant main effect for Sex of Actor [$F(1, 33) = 0.84$, $p > 0.05$]. However, there was a significant main effect for Video Condition ($F(2, 66) = 5.25$, $p < 0.008$). A series of post-hoc Bonferroni tests revealed that the mean of the Fake Bad condition ($M = 42.6\%$, SE = 3.6) was significantly lower than the mean of the Fake Good ($M = 56.6\%$, SE = 4.4) and Truth conditions ($M = 59.6\%$, SE = 3.8; all p's < 0.05).

A series of correlations were performed to determine if there was a significant relationship between self-awareness (SPQ) and deception detection. It was found that there was a significant correlation between SPQ and the Male Truth condition ($r(32) = 0.34$, $p < 0.05$). This indicated that the higher the self-awareness (indicated by lower SPQ), the better the participants were at detecting deception. There were no other significant correlations (all p's > 0.05). The private SCS correlated with the Male Fake Good condition ($r(32) = 0.29$, $p < 0.05$ one-tailed). These data supported the hypothesis that self-awareness does correlate with deception detection.
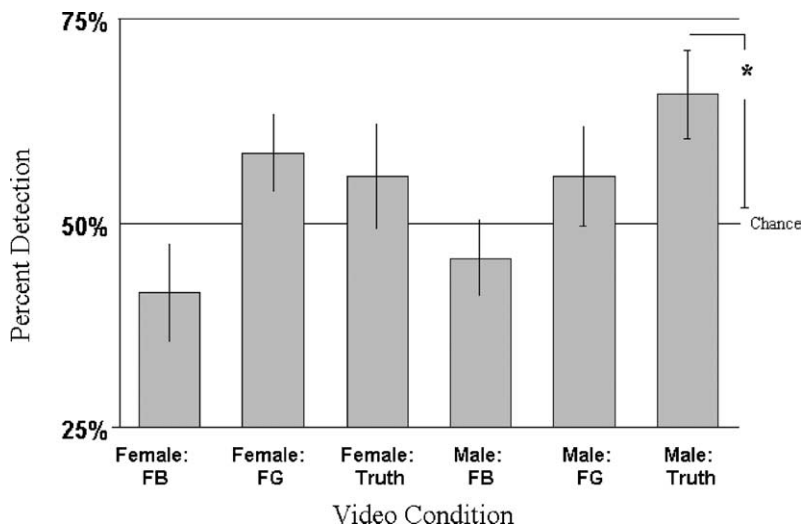

Fig. 1. Means of deception accuracy are presented. It was found that only the Males: Truth condition was significantly above chance.
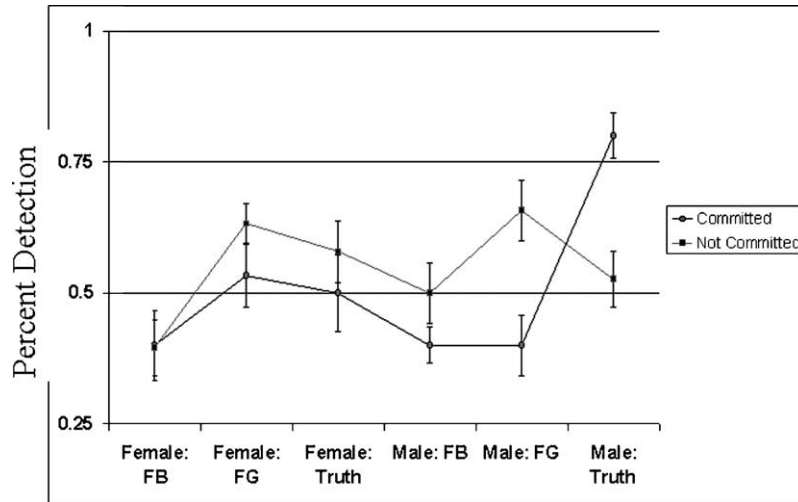
Fig. 2. Data are presented as a function of video condition and relationship status. Non-committed females were significantly better at detecting males faking good. Committed females, however, were significantly better at detecting males telling the truth.

The effects of relationship status were then examined. Fifteen participants reported being in a committed relationship and 19 participants reported not being in a committed relationship. Employing a series of *t*-tests across the six video conditions, it was found that participants not in a committed relationship (i.e., "single") were significantly better at detecting male actors in the Faking Good condition ($M = 65.8\%$, SE = 7.7) compared to those in a committed relationship ($M = 40.0\%$, SE = 8.7; $t(32) = -2.22$, $p < 0.03$). However, the participants not in a committed relationship were significantly worse at detecting male actors in the Truth condition ($M = 52.6\%$, SE = 6.6) compared to those in a committed relationship ($M = 80.0\%$, SE = 7.4; $t(32) = 2.76$, $p < 0.008$; Fig. 2). All other comparisons were non-significant.

4. Discussion

First, we found that there is a significant correlation between self-awareness and deception detection. Specifically, "inner" self-awareness (Fenigstein et al., 1975) as measured by the SPQ and the private SCS subscale correlated with measures of deception detection. Further, we found that females that are not in a committed relationship are significantly better at detecting purposeful deception (faking good) than females in a committed relationship.

It is consistent with evolutionary psychological theory that females are superior at detecting when males are deceiving than when females are being deceptive about self-attributes (Keenan et al., 1997). Females, who bear the greater reproductive cost of mating, would benefit from being able to detect when a male was being deceptive. Being duped into a reproductive situation bears great risks for females. In the current study, we found an indication that such a relationship is

possible. These data are strongly supported by the following. Females not in a committed relationship are significantly better at detecting males faking good. This is of high interest, as this may be precisely the deceptive tactic most likely to be employed by males seeking short-term mates (Keenan et al., 2003). That is, males would most often employ these (faking good) deceptive tactics for, at least in part, reproductive benefit. Rarely would males fake bad for reproductive gain, and in fact, they rarely do (Keenan et al., 1997). Therefore, females that are at the greatest reproductive risk (i.e., single females) are superior in detecting the deception (faking good) that is most often employed by males.

This is important as it was found that the opposite pattern exists in terms of males telling the truth. Here the significant advantage was for females in a relationship. In terms of evolutionary psychological theory, it would be predicted that non-committed females would not need to be as alert for male truths. Failing to detect a male truth does not result in the same consequence (negative) as failing to detect deception. Thus, females that are often encountering such deception are at an advantage in detecting deception rather than truths.

We have found that sex of the deceiver is a factor in terms of deception detection, a finding not always indicated in the literature (DePaulo et al., 2003). It is probable that the nature of the deception is a factor. In the present study, both males and females deceived about specific characteristics that should influence mate choices (Keenan et al., 1997). Deceptions of this type (i.e., deception about commitment, finances, and physicality) are found to vary dramatically between the sexes. For example, Tooke and Camire (1991) found that differences existed in the manner in which the genders deceived such that women deceived about physicality while males deceived about commitment and resource availability. Therefore, detection of such deception also should vary with the sex of the deceiver. Future research should test males as detectors. It would be predicted that males would either be superior only at detecting females deceiving about physical characteristics or they would not be superior at all. Given that males do not suffer great reproductive consequences in failing to detect deception, it would be predicted that males would not need to commit resources in terms of deception detection. Further studies should also examine the commitment variable further, perhaps by expanding and refining the definition of commitment.

Although these data support the hypothesis that there is a relationship between self-awareness and deception, the link to the prefrontal cortex or the right hemisphere was not examined in this research. Further research should specifically examine the link between these abilities and the brain in terms of localization and lateralization. Further research also should examine male participants. Finally, research focusing on naturally occurring deception also should be performed to determine the generalizability and ecological validity of the current results.

In conclusion, self-awareness correlates with levels of deception detection. Specifically, as self-awareness increases, deception detection abilities also increase. Females in non-committed relationships were better at detecting male deception.

Appendix A

Fake good:

Name: does not change
Age: Female (−5%) Male (+5%)
Height: Male and Female +1 in.
Weight: Female (−5%) Male (+5%)
Hometown: does not change
Gym: Male and Female +1 day
Occupation: does not vary
Future goal: Impressive occupation goal (e.g. Lawyer, Doctor)
Wants Family: Male (yes) Female (no)
Number of children: Male (+1) Female (0)
Salary: Male and Female (+5%)

Fake bad:

Name: does not change
Age: Female (+5%) Male (−5%)
Height: Male and Female −1 in.
Weight: Female (+5%) Male (−5%)
Hometown: does not change
Gym: Male and Female −1 day, if real is 0 leave at 0
Occupation: does not vary
Future goal: not so impressive occupation goal (e.g. waitress, bartender)
Wants Family: Male (no) Female (yes)
Number of children: Male (0) Female (+1)
Salary: Male and female (−5%)

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