EFFECTS OF SELF-MONITORING AND FAMILIARITY ON DECEPTION DETECTION[1]

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This study investigated the effects of familiarity and self-monitoring on observer accuracy in deception detection. Observers varying in self-reported self-monitoring made judgments of truthfulness or lying after either exposure or no exposure to segments of a communicator's truthful behavior. Results indicated that observers familiar with a communicator's truthful behavior were significantly more accurate than those who were not; that accuracy increased significantly as self-reported self-monitoring increased; and that there was no significant interaction between self-monitoring and familiarity.

A substantial body of research has explored the process of detecting deceptive behavior (Bauchner, Brandt, & Miller, 1977; Bauchner, Kaplan, & Miller, 1980; Brandt, Miller, & Hocking, 1980; DePaulo & Rosenthal, 1979; Ekman & Friesen, 1969, 1974; Geis & Leventhal, cited in Macperson, 1970; Geizer, Rarick, & Soldow, 1977; Gustafson & Orne, 1963, 1964, 1965; Krauss, Geller, & Olson, 1976; Kraut, 1978; Littlepage & Pineault, 1978, 1979; Maier, 1966; Maier & Janzen, 1967; Maier & Thurber, 1968; Shulman, 1973; Thackery & Orne, 1968; Zuckerman, DeFrank, Hall, Larrance, & Rosenthal, 1979).[2] These studies have examined the ability of observers to detect deception in various settings, employing diverse procedures for inducing and monitoring deceptive behavior. Attempts have been made to predict accuracy in detecting deception from a number of sources, including selected characteristics of the observers and the type and availability of verbal and nonverbal cues upon which judgments are based.

Results of these studies warrant at least four tentative generalizations: (1) though humans are far from infallible as lie detectors, they can accurately identify deceivers and truthtellers at a level greater (though often only slightly greater) than would result merely from chance; (2) the availability of various verbal and nonverbal information channels affects judgmental accuracy, though there are conflicting findings regarding the facilitative or inhibitive impact of each modality; (3) access to comparison information regarding a communicator's normal, truthful expressive behavior seems to enhance an observer's ability to identify accurately that communicator's deceitful behavior; and (4) certain personality characteristics differentiate observers with regard to judgmental accuracy; in particular, persons who are characteristically high in *self-monitoring* (Snyder, 1974) appear to be better judges of deceitful versus truthful performances than their low self-monitoring counterparts.

This research focuses on implications of the third and fourth generalizations: specifically, the results of a study dealing with the effects of self-monitoring and familiarity on the ability to detect deception are reported.

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Familiarity and Deception Detection

If a communicator's behavior deviates from his/her normal style, the difference may be correctly attributed to lying. Recent research suggests that familiarity with a com-

municator's normal truthful expressive style of behavior enhances an observer's accuracy in detecting deception. For example, in seeking support for their "leakage hypothesis," Ekman and Friesen (1974) allowed some observers to view deceivers' heads and faces only, while others viewed the same communicators in a "body-only" condition. In addition, some observers viewed a sample of each communicator's honest behavior (obtained from a nondeceptive interview) prior to viewing and judging the "test segment" for each, whereas other observers were given no such opportunity. The results partially supported the leakage hypothesis: observers in the body-only condition, which should highlight behaviors minimally monitored and controlled by a deceiver, were significantly more accurate in their judgments than observers in the face-and-head condition, which should highlight behaviors maximally monitored and controlled by a deceiver. This finding, however, *applied only to observers who viewed a baseline sample of each communicator's honest behavior prior to making a judgment*. Even with only a restricted amount of comparison information at their disposal, judgmental accuracy for observers in the body-only, baseline condition (63.5%) was significantly increased.

In a more recent study (Brandt, Miller, & Hocking, 1980) the effects of variations in controlled exposure to comparison information on judgmental accuracy were examined. Observers made judgments of truthfulness and deceit under conditions of no exposure to comparison information (i.e., no familiarity), low exposure (comparison segment viewed once), moderate exposure (comparison segment viewed three times), and high exposure (comparison segment viewed six times). Results indicated that accuracy increased with exposure, except in the high exposure condition, where accuracy decreased significantly. Considering the possibility that both observer fatigue and/or information overload may have existed in the high exposure condition, the authors indicate that the results are conditionally supportive of the familiarity hypothesis.

One possible exception can be found in a study by Littlepage and Pineault (1979), who interpret their results as indicating that prior exposure to a person's truthful behavior may be unnecessary for effective utilization of bodily cues to deception. Even in their study, however, observers saw a facial shot of the stimulus person honestly stating his name. Although this is a small sample of truthful behavior, it may have provided some comparison information for observers. Moreover, the familiarity variable was not manipulated, and observers might have been even more accurate had they received a larger sample of comparison information.

Self-monitoring and Deception Detection

Does providing observers with comparison information ensure that each will process and utilize it similarly? The available data suggest not. Snyder's (1974, 1979) work on self-monitoring processes indicates that some persons are more attentive than others to external cues and social comparison information. Snyder (1974) identifies the prototypical high self-monitor as an individual who, "out of a concern for social appropriateness, is particularly sensitive to the expression and self-presentation of others in social situations, and uses these cues as guidelines for monitoring his own self-presentation" (p. 528). By contrast, the prototypical low self-monitor is considerably less attentive to social comparison information, and his/her self-presentation is determined more by internal norms, attitudes, and emotional states than by situational cues. Snyder (1979) argues that, based on their increased sensitivity to the expressive behavior of others, "high self-monitoring individuals ought to be particularly skilled at 'reading' others to correctly infer their affective experience and emotional states" (p. 92). Elliot (1979, p. 1283) extends Snyder's line of reasoning to situations involving the enactment and detection of deceptive performances.

Snyder (1979, p. 92) cites two studies which support this "sensitivity hypothesis" in deception situations (Krauss et al. 1976; Geizer et al. 1977). In the Geizer et al. (1977) study, high self-monitoring observers were found to be more accurate in detecting intentional deception than low self-monitoring observers, suggesting that increased sensitivity to the expressive performances of deceitful and truthful communicators aided high self-monitoring individuals in correctly distinguishing between the two.

The Present Study

The results of a number of studies of deception detection indicate that both familiarity and self-monitoring facilitate judgmental accuracy. To date, no study has examined both variables simultaneously in a deception detection framework. The present study hypothesized facilitative main effects for both familiarity and self-monitoring on judgmental accuracy. Considering that familiarity (in the restricted sense in which we employ the term) is essentially an increase in the available comparison information pertaining to a particular communicator's normal, truthful expressive style, and that high self-monitors are generally more vigilant toward and sensitive to such information, the possibility of an ordinal interaction (Lubin, 1961) between the two factors was also explored.

METHOD

Deception Situation

The procedure for inducing deceptive behavior used here was similar to the approach devised by Ekman and Friesen (1974). The videotaped stimulus interviews employed were used in two earlier studies (Hocking, Bauchner, Miller & Kaminski, 1979; Brandt et al. 1980). These tapes were used for several reasons: their use permitted a closer, more precise replication of previous studies, and thus more meaningful comparisons among these studies; from a practical standpoint, they were readily available; and the setting reflects conditions identified by Ekman and Friesen (1969) under which deception should be salient for both deceiver and detector.

Interviewees

Nineteen male and four female students majoring in criminal justice at a large midwestern university, all of whom planned careers in law enforcement, received letters from the director of the School of Criminal Justice, asking them to participate in the study, which was allegedly designed to identify personal characteristics which contribute to the success of law enforcement officers.

Inducing Deception and Recording the Interviews

Upon arriving, all interviewees were told by an experimenter and a police detective (who served as the interviewer) that police officers frequently have to mask their true impressions and beliefs in an interrogation situation (e.g., in order to "bluff" a suspect or conceal secret information). The interviewees were told that the research was designed as an alternative screening procedure to paper-and-pencil tests used in hiring law enforcement officers. They were also informed that the School of Criminal Justice would receive information concerning the performances of its seniors on the test. This information was intended to heighten the salience of the situation for the interviewees.

The interviewees were told that they would be viewing two sets of slides and answering the interviewer's questions regarding their reactions to what they saw. One set of slides showed scenes of pleasant, attractive landscapes, while the other showed unpleasant, explicit close-ups of third-degree burn victims. The interviewees were informed that, immediately before each sequence of slides began, the word "lie" or the word "true" would appear. If "true" appeared, they were to report their feelings truthfully; if "lie" appeared, they were to give answers which were inconsistent with their true feelings. Actually, the word "true" always prefaced the pleasant slide sequence, and the word "lie" always prefaced the unpleasant sequence. Thus, the interviewees always reported they were experiencing pleasant feelings or reactions, regardless of which set of slides was actually observed. The police interrogator never knew which set was being shown, and the order of the individual slides was randomized across interviewees.

When the actual interviews began, the interviewer, who was seated approximately 4.5m directly in front of the interviewee, asked the latter his/her name, home town, major area of study, and other demographic information. He then engaged the interviewee in a short conversation concerning life on campus, and the results of a recent athletic event. This portion of the interview furnished a sample of each interviewee's truthful behaviors which could later be used for the manipulation of familiarity. Follow-

ing these questions, the interviewee viewed the slide sequences while answering the interviewer's questions (e.g., "What kind of feelings are you having right now?" and "What other experiences have you had that convey the same feelings as these slides?"). Interviewees fabricated or told the truth depending on which word preceded the slide presentation.

The interviews were videotaped using a Sony color camera and Sony 8650 reel-to-reel video recorder. A full frontal view of each interviewee was obtained. At the completion of the interview, each interviewee was completely informed of the nature of the research, allowed to ask any questions, and thanked for his/her participation.[3]

Editing the Videotapes and Interviewee Selection

The 23 completed interviews were edited to one 30-minute tape of the interviews, eight truthful and eight deceitful. Lying and truthful interviews were determined randomly.

Only four of the original interviews were used in the present study. The results obtained by Brandt et al. (1980) indicated that some interviewees were accurately judged by as many as 85% of the observers in their study, whereas others were accurately judged by as few as 22%. Without denying the potential impact of individual differences in "detectability" on judgmental accuracy, it was desirable to control more precisely for such differences in order to better focus on the effects of familiarity and self-monitoring. Accordingly, the interviewees selected for use in this study fell near the middle of the accuracy range for Brandt et al's (1980) observers (46, 51, 52, and 59% accuracy, respectively).[4]

Observers

Observers were 100 undergraduates, enrolled at the same university attended by the interviewees, who volunteered to participate in a study of "interpersonal sensitivity." In return for their participation, the observers received extra credit toward their final grade in the communication course in which they were enrolled, in accordance with university and departmental policy.

Procedure

Observers were randomly assigned to one of two groups (n=50). One group viewed and judged the selected interviewees without prior exposure to baseline information, whereas the other group was allowed to view the baseline segment three times for each interviewee prior to observing and judging his/her test segment. This procedure constituted the familiarity manipulation in the present study.[5]

The two groups reported on separate consecutive evenings. For both sessions, the experimenter's instructions to the observers were essentially the same. The experimenter first introduced himself to the observers and briefly described the study. Each group of observers was told that previous studies had indicated that some persons are more "interpersonally sensitive" than others, i.e., they are able to perceive and respond to subtle messages and behaviors that often elude most people. The experimenter's instructions continued:

> One indication of how interpersonally sensitive a person is relates to his/her ability to tell when another person is lying or telling the truth. Some people are highly susceptible to the deceitful strategies of con artists and the like, while others can tell in a very short time if another is trying to deceive them. The purpose of this study is to help us determine how sensitive, in general, people are to attempts at deception. You may also want to know how interpersonally sensitive you are, individually.

The experimenter then distributed a questionnaire containing Snyder's 25-item Self-Monitoring Scale (labeled "Personal Reaction Inventory" after Snyder, 1974, p. 531) and four dichotomous items, one for each interviewee, by which the observers reported their judgments, e.g., "I think this person is LYING ___ TRUTHFUL ___." The questionnaire was prefaced by a description of the interview situation and instructions regarding how to respond to the items. The experimenter's oral instructions continued:

> Our session will consist of two phases. First, we would like to find out about some of your personal reactions to various communication situations and activities. To accomplish this, we would like you to respond to the 25 statements in the Personal Reaction Inventory. Please read

the instructions carefully and be sure to respond to each statement. When you complete this phase of the session, we will be ready to begin observing the tapes.

Upon completion of the Self-Monitoring Scale by all observers, the judgmental task began. The group was divided into two sections ($n=25$), each of which arranged its seats in a semicircle around one of two Sony color television monitors.[6] In no case was any observer seated more than 5m from the screen. The standard procedure for the judgmental task was as follows: For each interviewee, observers were shown the truthful baseline segment three times, followed by the test segment (wherein the interviewee was either lying or telling the truth), followed by a pause to allow the observers to record their judgments for that interviewee. For observers in the no-familiarity condition, this procedure was followed except, of course, that no truthful baseline segment was viewed. The order in which the interviewees were viewed was the same for both groups.

After a session was completed, the experimenter collected all questionnaires, explained the entire nature of the research, and thanked the observers for their participation.

RESULTS

Reliability of the Self-monitoring Measure

The internal reliability of the 25 "true-false" items comprising the Self-Monitoring Scale was estimated using the Kuder-Richardson formula (KR_{20}). A reliability coefficient of .752 was obtained, which is slightly higher than the KR_{20} coefficient of .70 reported by Snyder (1974, p. 530).

Homogeneity of Variance of Self-Monitoring

Prior to assessing the main and interactive effects of familiarity and self-monitoring on judgmental accuracy, it was important to establish homogeneity of variance in self-monitoring scores between familiarity and no-familiarity groups. Hartley's maximum F=ratio significance test for homogeneity of variances was not significant ($F_{max}=1.22$; $df=49$). Thus, variance in self-monitoring was homogeneous across the two groups.

Regression Analysis

To assess the main and interactive effects of familiarity and self-monitoring on judgmental accuracy, a hierarchical regression analysis was conducted, following the recommendations of Cohen and Cohen (1975) for designs in which the two main effect variables are a dichotomy and a continuous variable (pp. 301–310). For each observer, his/her score on the Self-Monitoring Scale was treated as the continuous variable, and membership in either the familiarity or no-familiarity group (the dichotomous variable) was treated as a dummy variable. The proportion of correct judgments to total judgments for each observer was used as the dependent measure of his/her judgmental accuracy.

Because there was neither theoretical nor empirical justification for ranking the order of entry of the two main effect variables into the analysis, familiarity and self-monitoring were entered simultaneously on the first step. The product of self-monitoring and familiarity (which carries any interaction between them) was entered on the second step of the analysis.

The results of the regression analysis are summarized in Table 1. A multiple R^2 of .467 was obtained ($F=38.88$; $df=3,96$; $p<.001$). The familiarity manipulation had a significant facilitative effect on judgmental accuracy (42% mean accuracy in the no-familiarity condition, compared with 65.6% mean accuracy in the familiarity condition), accounting for approximately 29% of the variance in judgmental accuracy ($F=18.74$; $df=1,98$; $p<.01$). Similarly, self-monitoring had a significant facilitative effect on judgmental accuracy, accounting for roughly 18% of the variance ($F=5.28$; $df=1,97$; $p<.05$). The interaction between familiarity and judgmental accuracy was not significant, accounting for less than 1% of the variance in judgmental accuracy. Thus, the results support the hypothesized significant main effects of self-monitoring and familiarity on judgmental accuracy in deception detection. Support for an ordinal interaction between the two, however, was not obtained.

DISCUSSION

This study investigated the effects of familiarity and self-monitoring on judgmental

TABLE 1
Hierarchical Regression Analysis: A Summary of the Results*

Variable	I†	B‡	F
Familiarity	.286	37.51	18.74§
Self-monitoring	.177	2.42	5.28§
Interaction	.004	.61	.66
$R = .683$	Constant = 5.77		
$R^2 = .467$	Dependent Variable = Judgmental Accuracy		

*F's are based on partial sums of squares.
†I denotes the incremental change in R^2 due to a given variable.
‡B denotes unstandardized regression coefficients.
§Significant at or beyond the .05 level of confidence.

accuracy in detecting deception. Both main effects and interaction effects were explored, and the results indicate that self-monitoring and familiarity are significantly related to accuracy in an apparently additive manner.

A portion of the rationale for this study suggested that inasmuch as prototypically high self-monitors are generally more vigilant toward and sensitive to comparison information regarding the expressive behavior of others, an ordinal interaction between self-monitoring and familiarity might be expected; i.e., there might be a nonadditive increase in accuracy for increasingly high self-monitoring individuals who receive baseline information regarding a potential deceiver's normal truthful communication behavior prior to observing and rendering a judgment of his/her veracity. No such interactive effect was detected among these data. Although none but tentative conclusions regarding an interaction between familiarity and self-monitoring can be offered until these findings are replicated, the additive impact of both variables on judgmental accuracy appears to be considerable.

Before dismissing the possibility of an ordinal interaction between self-monitoring and familiarity, it should be noted that the manipulation of familiarity employed in this study relies on repeated exposures (three) to a limited amount of comparison information rather than ongoing exposure to ever-increasing amounts of such information. Because the latter situation is more common in everyday social interaction, and because it permits scrutiny of a wider range of verbal and nonverbal behaviors, the possibility remains that an interaction might be observed if familiarity were manipulated by providing increasing amounts of comparison information. Such an approach would also extend research on the effects of familiarity into more naturalistic settings, because it suggests the study of deception detection in established relationships involving casual acquaintances, friends, and intimates.

In this study, accuracy for observers in the no-familiarity condition was only 42%, compared with almost 66% accuracy for observers in the familiarity condition. The latter accuracy rate is generally high, as deception detection studies go, and might be subject to fluctuation depending on variations in the self-presentational skills of deceivers and truthtellers. Recalling that the "detectability" of deceitful and truthful communicators was controlled in this study, it remains to be seen how familiarity affects judgmental accuracy given communicators who are comparatively more skilled at deception and/or who possess greater control over their own expressive behavior. For example, research by Elliot (1979) suggests that high self-monitors are more skilled at controlling their deceptive performances than low-self-monitors. Thus the issue of detectability and self-presentational skill may provide an arena within which the effects of familiarity and self-monitoring on accuracy in detecting deception may be explored.

An additional issue for future inquiry,

which concerns both self-monitoring and familiarity, centers on the actual attention processes and scanning behaviors of observers in potential deception settings. Presumably, deviations from normality account for the effect of familiarity on judgmental accuracy. Presumably high self-monitors are more attentive and sensitive to such behavioral deviations. So what are these deviations? Which ones are monitored and utilized to infer the occurrence or likelihood of deception? Content-analytic studies (e.g., Knapp, Hart & Dennis, 1974; McClintock & Hunt, 1975) seem to indicate that both verbal and nonverbal behaviors are involved. Ekman and Friesen's (1969) "leakage hypothesis" points to nonverbal cues that originate from areas of the body that are minimally monitored and controlled by deceivers. Research described by Cronkhite (1976) suggests that the behaviors may be idiosyncratic rather than generalizable across individuals. In this study no attempt was made to determine the behaviors upon which comparatively low and high self-monitoring observers focused, nor was an attempt made to determine what behavioral discrepancies came to the surface as a result of the familiarity manipulation. Such attempts need to be made in future studies in order to establish more firmly the link between familiarity, self-monitoring, and judgmental accuracy in deception detection.

NOTES

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2. Detailed reviews of the literature on deception detection appear in the following articles: DePaulo, B.M., Zuckerman, M., & Rosenthal, R. Humans as lie detectors. *Journal of Communication*, 1980, 30, 129–139; Knapp, M.L. & Comadena, M.E. Telling it like it isn't: A review of theory and research on deceptive communications. *Human Communication Research*, 1979, 5 270–285.

3. For a more detailed description of the procedure for inducing and recording deceptive interviews, see Hocking, J.E., Bauchner, J.E., Miller, G.R., & Kaminski, E.P. Detecting deceptive communication from verbal, visual, and paralinguistic cues. *Human Communication Research*, 1979, 6, 33–46.

4. These accuracy rates represent the mean judgmental accuracy for each communicator across both no-familiarity and moderate-exposure conditions, which are the two conditions replicated in this study. Of the four communicators selected, two were truthful and two were deceitful.

5. Obtained effects sizes other than small or medium ones are rare in social research (Cohen & Cohen, 1975). Based on the results of Brandt, et al. (1980), the no-exposure and moderate-exposure conditions were replicated to ensure the successful manipulation of the familiarity variable.

6. The assignment *within each condition* of observers to one of two smaller groups was done to facilitate the ability of the observers to get a clear look at the video monitor; it was a logistic, procedural, and not an experimental move. Both monitors always displayed the same interviewee under the appropriate conditions *within* a group, for no-familiarity and familiarity samples, respectively.

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