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Does Familiarity with an Interviewee's White Lying Make It Easier to Detect the Interviewee's Deceptions?

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Interviewing may be a useful forensic-type procedure for acquiring indications of deception to conceal material financial statement fraud (Buckhoff and Hansen 2002). According to deception-detection research (see Feeley and Young 1998), people behave differently when lying because of the cognitive demands required to concoct coherent fabrications to answer interview questions (e.g., Vrij 2001) and because of the stressfulness of lying (e.g., Zuckerman et al. 1981). The fraud examiners manual (ACFE 2006, pp. 3.234-3.238) calls for interviewers (i.e., forensic accountants) to be vigilant for those verbal and nonverbal behaviors that may indicate lying. Professional accounting organizations have issued pronouncements (e.g., AICPA 1997, 2002; IAASB 2004) and reports (CICA 2000) that make a similar recommendation. Such recommendations rest on the presumption that interviewers can perceive predictive deception indicators and act on them appropriately. Two studies, both by Lee and Welker (2007, 2008), experimentally assessed the ability to detect deception in interviews. Neither found encouraging results. In the 2007 study, they evaluated whether accounting students (surrogates for entry-level accountants) could detect deception and found poor deception detection accuracy rates. In the 2008 study, they evaluated how experienced auditors go about making deception-detection judgments and found that, while there was evidence that auditors had some deception-detection ability, their accuracy rate was poor and not significantly different than the rates for accounting students. Lee and Welker's findings fuel doubt as to whether interviewers should be using communicative behaviors for deception detection in interviews. However, the laboratory may provide an unsuitable venue for assessing deception-detection ability. It is possible that

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interviewers can perform considerably better at deception detection in their work environment than in experimental studies.

One important aspect of the job that cannot be modeled easily in a laboratory is the communicative interactions that an interviewer has had with an interviewee prior to the interview. In most prior studies of deception-detection accuracy, including the accounting studies by Lee and Welker (2007, 2008), detectors were assessing the veracity of strangers. Detectors possess no information about a stranger's communicative style and therefore have no other alternative but to apply stereotypical profiles of truth tellers and deceivers to detect a stranger's deception (Buller et al. 1991). Deception detection is poor, because no one set of deception indicators works for all people in all settings (DePaulo et al. 2003). In many interview situations, interviewers are not interviewing strangers but are interviewing a person with whom they have had prior job-related discussions and casual conversations. In public accounting, for instance, auditors often have interacted with interviewees in past audits of the client. Prior Communicative interactions with an interviewee provide opportunities to acquire information about that person's communicative style (e.g., Feeley et al. 1995). Behavioral expectations formed from familiarity with communicative style establish a baseline from which to identify anomalistic behaviors (e.g., Feeley and deTurck 1995), such as those that might manifest when that person deceives (e.g., Zuckerman et al. 1981). The result is improved deception detection of that person's lies (e.g., Brandt et al. 1980, 1982).

The present investigation examines whether familiarity with an interviewee's communicative style enhances deception-detection accuracy in interviews. In the literature, familiarity has been conceptualized in terms of relational development (e.g., McCornack and Parks 1986), such as friendships (e.g., Millar and Millar 1995), romantic involvements, (e.g., McCornack and Parks 1986), and marriages (e.g., Comadena 1982), and in terms of frequency of exposure to a person's truthful communication (e.g., Brandt et al. 1980, 1982). In this study, we broaden Brandt et al.'s (1980) conceptualization of familiarity to include not only exposure to truthful communication but also exposure to white lies, which constitute falsehoods that the teller considers to be relatively harmless to conversational parties and possibly even favorable to recipients of the lie (DePaulo et al. 1996). White-lies occur frequently in everyday casual conversation (DePaulo et al. 1996; Kashy and DePaulo 1996), and thus would be expected to exist in casual conversation between an interviewer (e.g., a professional accountant) and an

interviewee (e.g., an employee of the client). Familiarity as we conceptualize the term may enhance an interviewer's deception detections in two ways. Familiarity with the interviewee's truth-telling style may provide information about communicative idiosyncrasies that improve the ability to distinguish that person's truth behaviors from deception behaviors, and familiarity with the interviewee's white-lying style may provide information about specific behaviors that manifest when the interviewee lies.

The remainder of the paper is organized as follows. Hypotheses are developed in the next section. The method employed to test the hypotheses is described in section three, and the study's results and interpretation are presented in section four. Conclusions and suggested research are presented in the last section.

HYPOTHESES

The study examines four hypotheses. The first two hypotheses relate to whether familiarity with the interviewee's communicative style improves the interviewer's deception-detection accuracy. Studies by Brandt et al. (1980, 1982) and by Feeley et al. (1995) suggest that familiarity increases deception-detection accuracy. They examined the relationship between the frequency of exposure to a stranger's truthful behaviors and the accuracy of detecting that person's deceptions. In these studies, detectors viewed videotaped presentation of a stranger telling truths. Viewing time was limited to 20-40 seconds in Brandt et al. (1980; as reported in Feeley et al. 1995) and three-to-five minutes in the Feeley et al. study. Familiarity was measured as the frequency with which detectors viewed the videotape, ranging from none to a maximum of six times in Brandt et al. (1980), two times in Brandt et al. (1982), and four times in Feeley et al. The prediction was that detectors would be better able to detect deception after repeated exposures to the stranger's truthful behaviors, because exposures to truthful behaviors would provide baseline behavioral information for determining whether suspicious behavior was actually normal truth behavior. Each study found that additional exposures increased deception-detection accuracy. In the Feeley et al. study, accuracy increased from 56 percent (no exposure) to 72 percent (four exposures), and in Brandt et al. (1982), accuracy increased from 31 percent (no exposures) to 56 percent (two exposures). Brandt et al. (1980) found an inverted U-shaped relationship. Accuracy increased from 38 percent (no exposure) to 59 percent (three exposures)

but then declined to 44 percent (four exposures). They attributed the decline to fatigue or information overload. The results of the preceding studies suggest that interviewers should be better able to detect an interviewee's deceptions when they have been exposed to the interviewee's truthful behaviors.

In our study, interviewers' acquired familiarity with an interviewee's communicative style by observing behaviors the interviewee exhibited during both truth telling and white lying (with feedback). The studies cited in the preceding paragraph included only truth behaviors in their conceptualization of familiarity, whereas we conceptualize familiarity as information about communicative style acquired from observing both truth and white-lie behaviors. Zuckerman et al. (1984) studied the effects of familiarity with a person's truth-telling and lying style on deception-detection accuracy. In their experiment, every participant observed videotaped message senders as the senders presented both deceptive and truthful messages. They manipulated familiarity by informing detectors, immediately before or immediately after being exposed to each episode of truth telling and lying, whether the stranger was telling truths or lies. The control group did not know whether truths or lies were being told. The deception-detection accuracy rate was 70 percent for detectors who had received feedback about the veracity of the stranger's statements and 62 percent for detectors who had not received veracity feedback. These results suggested that familiarity with truth-telling and lying style enhanced deception-detection accuracy. Zuckerman et al. (1984) also found that the improvement in deception-detection accuracy did not generalize to the detection of lies told by other deceivers. This result suggested that information about the veracity of the stranger's statements improved deception-detection accuracy because it facilitated the acquisition of individual-specific behavioral information as opposed to behavioral information applicable to deceivers in general.

On the basis of studies in the preceding paragraphs, we advance the following hypotheses:

H1: Familiarity with an interviewee's truth-telling and white-lying style increases the accuracy of detecting the interviewee's *white-lies*.

H2: Familiarity with an interviewee's truth-telling and white-lying style increases the accuracy of detecting the interviewee's *deceptions in interviews*.

In the previously reviewed studies, people acquired behavioral information about each stranger from observing the stranger's truth-telling and lying behaviors. Detectors were told

whether the stranger was telling truths or lies in order to enable their acquisition of information about the stranger's normal truthful behavior (e.g., Brandt et al. 1980, 1982; Feeley et al. 1995) or the stranger's normal deception behavior (e.g., Zuckerman et al. 1984). To accomplish a similar objective, our study provided interviewers with different levels of feedback about the veracity of the interviewee's statements. The next two hypotheses relate to whether level of feedback – varied at two levels, inferentially strong and inferentially weak – affects deception-detection accuracy. Inferentially weak feedback represents a situation in which a person becomes suspicious of a person's verbal statements, such as from the person's behavior, but never receives solid information confirming or disconfirming their belief. As opposed to inferentially weak feedback, inferentially strong feedback provides a clear indication of whether truths or lies had been told. Interviewers should be able to learn the interviewee's communicative idiosyncrasies more quickly when they receive inferentially strong feedback (e.g., Hirst et al. 1999). Accordingly, we hypothesize the following:

H3: Familiarity with truth-telling and white-lying style acquired on the basis of inferentially strong feedback leads to *higher rates of accuracy in detecting white lies* than familiarity acquired on the basis of inferentially weak feedback.

H4: Familiarity with truth-telling and white-lying style acquired on the basis of inferentially strong feedback leads to *higher deception-detection accuracy in interviews* than familiarity acquired on the basis of inferentially weak feedback.

METHOD

A laboratory experiment was employed to assess the hypotheses of the study. As an overview, Figure 1 contains a time line of the experiment in weeks. In week one, participants were paired to form dyads. In week two, which involved a pretest, one-half of the dyads participated in interviews. The purpose of the pretest was to assess deception-detection accuracy in interviews before dyadic partners acquired familiarity of one another. In weeks three through twelve, which involved the experimental treatment, each participant conveyed personal experiences or opinions either truthfully or falsely to the dyadic partner. The purpose of the experimental treatment was to provide information about the dyadic partner's communicative style through repeated exposures to the person's communication. Each dyad participated in the

experimental treatment. In week thirteen, which involved a posttest, each dyad participated in interviews. The purpose of the posttest was to assess deception-detection accuracy in interviews after participants had acquired familiarity of their dyadic partner's communicative style. The effect of familiarity on deception-detection accuracy in interviews was assessed by comparing the detection accuracy in the posttest with detection accuracy in the pretest (repeated measure). The experiment also included a sample of dyads that participated in the posttest but not in the pretest. This sample of dyads was included in the experiment to assess whether the pretest had a confounding effect on detection accuracy in the posttest.[1]

Participants and Dyads

Participants were 96 students enrolled in a junior-level accounting class required for an accounting major. Their average age was 21.67 years (sd = 3.24, range from 19 years to 36 years), and approximately 45 percent were female. College-age students have well-developed deception and deception-detection strategies (Lewis 1993) and therefore should be able to manage the task of deception and deception detection. Participants were randomly paired to form 48 dyads and randomly identified as either dyadic partner "a" or dyadic partner "b." Partners in one dyad indicated that they were friends; therefore, we substituted partner "a" in the dyad with partner "a" from another dyad. Two rounds of interviewing were conducted in each dyad. Partner "a" served as the interviewer and partner "b" as the interviewee in the first round of interviewing; partner "b" served as the interviewer and partner "a" as the interviewee in the second round of interviewing.

Experimental Treatment (Observing Truth-Telling and White-Lying)

In the experimental treatment, dyadic participants presented 30 verbal descriptions to their dyadic partner. Thus, 60 descriptions were presented in each dyad, 30 by partner "a" to partner "b" and 30 by partner "b" to partner "a." Descriptions were presented over the course of 10 weeks (3 descriptions per participant per week). Topics of the 60 descriptions are listed in the Appendix. Each description related to either personal experiences or personal opinions about people, situations, or events. Topics were randomly assigned to participants, such that dyadic

partners were presented with different topics and each dyadic partner presented individual descriptions relating to 15 personal opinions and 15 personal experiences. Each dyadic partner presented one-half of the descriptions truthfully and presented the other one-half falsely (randomized). After each verbal description, listening partners made a decision about whether their dyadic partner had been truthful. Listening partners received either inferentially strong or inferentially weak feedback about the accuracy of their decisions.

Dependent Variables

The primary dependent variable of the study is deception-detection accuracy. After the experimental treatment, dyadic members conducted an interview of their dyadic partner. After completion of the interview, the interviewer made a decision as to whether the interviewee had told truths or lies. A secondary dependent variable is confidence in the detection decision. After rendering a decision, each interviewer indicated his or her confidence in the decision on a scale that ranged from 50 (I am purely guessing) to 100 (I am absolutely positive I made the correct decision) in five-point increments.

The purpose of each interview was verification of the job qualifications of a key client employee in connection with an assessment of the client's hiring practices. The interviewee, role-playing a personnel director of the client company, answered the interviewer's questions about the key employee's job qualifications from information contained in the employee's personnel file. Each personnel file contained: (a) a standard job application, (b) a résumé, (c) a job interview evaluation form, (d) the results of a six-month, end-of-probationary-period performance review, (e) interoffice correspondence containing results of reference checks, and (f) correspondence containing either complaints or praises of the employee.

Information in the file was manipulated to induce either a perception of superior job qualifications, suggesting that the employee was well suited for the position, or a perception of inferior job qualifications, suggesting that the employee was unfit for the position. We included two levels of job qualifications in order to manipulate the interviewee's veracity in the experiment. One-half of the interviewees (randomly selected) answered questions about an employee who possessed superior job qualifications, and the other one-half answered questions about an employee who possessed inferior job qualifications. When the file contained indications

of superior job qualifications, interviewees could merely tell the truth about the employee's suitability for the position; when the file contained indications of inferior job qualifications, interviewees had to lie about the employee's suitability for the position. To ensure the efficacy of the veracity manipulation, interviewees were instructed to tell the truth if they received a personnel file containing superior job qualifications and to lie to the interviewer if they received a personnel file containing inferior job qualifications.

In a repeated-measure design, deception-detection accuracy was measured both before (pretest) and after (posttest) the experimental treatment. Measurement at two points in time, in conjunction with both dyadic partners acting as interviewees and the need for two levels of job qualifications, required the construction of eight personnel files. Four personnel files contained information about a purchasing agent of a chemical company, with two files containing information suggesting superior job qualifications and the other two containing information suggesting inferior job qualifications. The other four personnel files contained information about a senior loan officer of a bank, with two suggesting superior job qualifications and two suggesting inferior job qualifications. The dyadic partner who received a purchasing agent's personnel file in the pretest also received a purchasing agent's personnel file in the posttest (same for the senior loan office's personnel file). The pretest personnel file and the posttest personnel file had similar structures and contained similar information for file items that had no obvious relationship with the person's suitability for the position.

Experimental Design and Independent Variables

The experiment involved one within-subjects factor and three between-subjects factors in a 2 × 2 × 2 × 2 design. Table 1 presents a representation of the design. The factorial experiment included the following four factors (please see Table 1).

"Personnel File" factor. Each dyad participated in two interviews, one relating to the personnel file of a purchasing agent of a chemical company and the other relating to the personnel file of a senior loan officer of a bank. The "Personnel File" factor pertains to whether the focus of the interview was on the job qualifications of the purchasing agent or the senior loan officer.

"Inferential Strength of Feedback" factor. Interviewers made a deception-detection decision after each exposure to truth telling or white-lying in the experimental treatment. Each interviewer received feedback concerning whether correct decisions had been made. The "Inferential Strength of Feedback" factor pertains to whether interviewers received inferentially strong feedback or inferentially weak feedback. Participants who received the inferentially strong feedback were informed of the accuracy of the detection decision immediately following the decision. This factor condition maximized the chance of fixing familiarity of communicative style in the interviewer's mind. Participants who received the inferentially weak feedback were told the frequency of correct decisions made in the previous week's detections; they were not told the accuracy of individual detection decisions. In this factor condition, interviewers never knew for sure whether their suspicions about lying were well founded. The condition was intended to capture a situation in which a person becomes suspicious of a person's verbal statements based on uncertain information.

"Pretest Participation" factor (within-subjects). Each dyad participated in the experimental treatment and in the posttest. One-half of the dyads also participated in a pretest. The "Pretest Participation" factor pertains to whether or not the interviewer participated in the pretest. The pretest enabled a within-subjects comparison of deception-detection accuracy between the pretest and posttest to determine whether the experimental treatment improved deception detection (i.e., to test H2).

Veracity factor. In the pretest and posttest, the interviewer conducted an interview and afterwards, made a decision concerning the interviewee's veracity. For one-half of the interviews, the interviewee was truth telling, that is, the personnel file contained superior job qualifications, enabling the interviewee to tell the truth. For the other one-half, the interviewee was deceiving, that is, the personnel file contained inferior job qualifications, forcing the interviewee to fabricate facts. The Veracity factor pertains to whether the interviewee was truth telling or deceiving in the interview.

Procedures

The experiment constituted a required class assignment and spanned fourteen weeks of the fifteen-week semester. In the first week, participants were paired into dyads and reseated in

class so that they were adjacent to one another. Each participant was instructed to let experimenters know if they knew their dyadic partner. Next, they were given a verbal overview of the upcoming experiment and a description of incentive rewards, which were points toward course grade (at the conclusion of the experiment, all students received maximum points). In the second week, one-half of the dyads participated in the pretest. Dyadic partners arrived one dyad at a time at a designated room at an appointed time. Both partners were given written instructions that explained their role as interviewer or interviewee. Interviewers role-played an auditor who was assessing whether the client company's hiring practices agree with the company's policy, which stated that the company hires qualified, competent, and honest people. Interviewees role-played a personnel director who had access to personnel files. Instructions to both interviewers and interviewees included a list of the contents of the personnel file. Interviewers knew that the personnel file contained either inferior job qualifications, forcing the interviewee to lie, or superior qualifications, permitting the interviewee to tell truths, and they were informed that the interviewee would be given five minutes to review information in the personnel file.

Next, the interviewee was given an envelope containing the personnel file of the purchasing agent, and the interviewer was given an envelope containing a decision form on which to make a deception-detection decision and confidence judgment. The interviewee was given five minutes to look over the contents of the personnel file and to prepare for the interview. The interview process began with the interviewer asking the following prepared question: From what you see in the personnel file, does the file contain any information that may question the employee's qualifications or competence to handle his position or that may question his honesty? After the interviewees answered "no" to the question, the interviewer was free to ask any questions, as long as they related to facts contained in the personnel file. When the interviewer felt that they had asked enough questions, they made a deception-detection decision and confidence judgment on the supplied decision form. The interviewer did not receive feedback as to whether he or she made a correct decision. The preceding procedures, including instructions, were repeated for the second interview, except that roles were reversed (e.g., interviewers became interviewees) and the personnel file was changed to the senior loan officer of a bank.

In each week of the experimental treatment, dyadic partners verbally presented descriptions of personal opinions or personal experiences, three apiece, to one another. Each description topic was sealed in an envelope until the designated time of its presentation. Each

partner presented three descriptions in succession, and each partner went first in five of the ten weeks (randomly dispersed over the ten weeks). Once the presenting partner had presented a description, the receiving partner made a decision as to its truthfulness. Each receiving partner received feedback as to the accuracy of the decisions. In the "inferentially strong feedback" condition, the presenting partner revealed the truthfulness of the statement to the receiving partner immediately after the decision. In the "inferentially weak feedback" condition, feedback concerning accuracy of the three detections was delayed one week. It was presented at the beginning of the following week's session. The feedback was also in aggregated form, containing a composite accuracy score for the prior week's three detections but not containing the accuracy of individual decisions.

In week thirteen, dyads participated in the posttest. The procedures were identical to those previously described for the pretest (week two). Post-experimental questions were administered at the conclusion of the posttest. In week fourteen, we debriefed participants and distributed performance rewards.

RESULTS

Checks

We conducted tests to verify the effectiveness of randomization among the "Inferential Strength of Feedback," "Pretest Participation," and Veracity factors. Test results indicated effective randomization. There were no significant main or interaction effects among the factors with regard to age or years of working experience (lowest multivariate $p = .337$; lowest univariate $p = .139$) or with respect to sex (Chi-square testing, lowest $p = .538$).

To achieve the purpose of the study, it was important that participants in each dyad did not know each other well. The post-experimental questionnaire included an item to verify that dyadic partners were not friends. Participants answered the following question on a response scale containing end-points of "not at all" (= 0) and "very much so" (= 10): Is your teammate a close friend? Eighty-five percent of the participants marked "not at all" as their answer. Four participants had answers above the midpoint of the 11-point scale, but in each case, the dyadic partner marked "not at all" as the answer.

We also tested to see if the "personnel file" factor (purchasing agent and senior loan officer cases) had a meaningful effect on results. Inclusion of the "personnel file" factor in

statistical models both as a main effect and as interactions with other factors were not relevant in explaining variation of dependent variables.[2] Consequently, we collapsed the results across the "personnel file" factor.

Hypotheses One and Three

Hypothesis 1 states that familiarity with a person's communicative style enhances the ability to detect that person's white lies. To induce familiarity, each week of the ten-week experimental treatment included three exposures to the dyadic partner's white-lying or truth-telling. A deception-detection decision was made after each exposure. Each week's three deception-detection decisions were used to compute a per-interviewer accuracy rate for the week, and then per-interviewer accuracy rates for each week were averaged across interviewers. This process produced a comprehensive accuracy rate for each week of the ten weeks. The comprehensive accuracy rates for the ten weeks are graphed in Figure 2. The graph indicates a general increase in comprehensive accuracy rates from the first week to the tenth week. The comprehensive accuracy rate in the first week was 61.8 percent, which fell within the range of accuracy rates found in deception-detection research (e.g., Feeley and Young 1998). In the last week, the comprehensive accuracy rate had grown to 81.6 percent (H_a: 81.6% > 61.8%, Z=2.15, two-tailed p<.05). To confirm the significance of the growth in accuracy rates, we averaged the first two weeks ([61.8% + 63.2%] / 2 = 62.5%) and the last two weeks ([75.3% + 81.6%] / 2 = 78.5%) and compared the two averages to see if a significant increase was still indicated. The difference was marginally significant (H_a: 78.5% > 62.5%, Z=1.72, two-tailed p<.085). In all, these results suggest that the experimental treatment improved participants' ability to detect white lying (please see Figure 2).

Repeated-measures ANOVA was used to assess whether interviewers' deception-detection accuracy rates for the 10 weeks varied as a result of the manipulated factors of the study. In the ANOVA, each week's per-interviewer accuracy rate was the dependent variable, and "Inferential Strength of Feedback," "Veracity", and "Pretest Participation" were between-subjects factors. "Weeks" (i.e., week one through week ten) was included in the ANOVA as a within-subjects factor. ANOVA results are reported in Table 2. The "Inferential Strength of Feedback" factor had a significant main effect ($F_{(1,86)}$ = 5.24, p=.024) and a marginally

significant interaction with "Weeks" ($F_{(1,86)} = 3.18$, p=.078). The effect is graphed in Figure 3. Participants who had inferentially strong feedback had higher deception-detection rates in the early weeks, but the difference disappeared in the latter weeks. Thus, inferentially strong feedback may have enhanced interviewers' deception detections primarily in the first few weekly exposures to their dyadic partners' communicative behavior. These results provided partial support of H3, which hypothesized higher accuracy rates for inferentially strong feedback (please see Table 2 and Figure 3).

There was also a marginally significant interaction between the Weeks and "Pretest Participation" factors ($F_{(1,86)} = 2.90$, p=.092). The relationship is graphed in Figure 4. Those who participated in the pretest interview had better accuracy rates in the early weeks but worse accuracy rates in the latter weeks. The marginality of the significance notwithstanding, it is possible that participants' communicative interactions with their dyadic partner in the pretest interview impeded their ability to acquire baseline behaviors in the experimental treatment. This may have occurred, for instance, because of situational differences between the pretest interview and the communicative interactions of the experimental treatment. Interviewers who participated in the pretest interview may have acquired enough information about communicative style to establish an initial baseline of the interviewee's truth and deception idiosyncrasies, but the initial baseline may not have been fully applicable to the more relaxed, one-directional communication of the experimental treatment. Anchoring (Tversky and Kahneman 1974) on a behavioral baseline that had applicability to interviews but not fully to the communicative context of the experimental treatment may have interfered with the development of an alternative behavioral baseline for distinguishing between truth and white lies (for an example of anchoring, see King et al. 1994; Also, please see Figure 4).

Since familiarity acquired in a given week should carry over to the subsequent week, participants who outperform others in white-lie detection in that given week should tend to outperform the others in the subsequent week. To assess whether this occurred, we correlated detection accuracy rates between adjacent weeks. The results are presented in Table 3. The correlations were computed separately for inferentially strong feedback and inferentially weak feedback, since the inferential strength of feedback can affect the rate at which information about truth and white-lie style is acquired. Out of the 45 pairwise correlations computed, there were 35 positive correlations (77.8%, Ha: < 50%, $t_{(44)} = 3.81$, p<.01) for participants receiving

inferentially strong feedback and 31 positive correlations (68.9%, Ha: < 50%, $t_{(44)} = 2.54$, $p<.05$) for participants receiving inferentially weak feedback. In addition, there were nine significant positive pairwise correlations (bolded, italicized table entries) for those who received inferentially strong feedback, with most located in week 3 through week 6. These results suggested that white-lie detectors were acquiring information about communicative style during the ten-week period of the experimental treatment. In other words, the results provided confirmatory evidence that familiarity was the reason for the general increase in accuracy rates over the ten-weeks (please see Table 3).

Hypotheses Two and Four

Participants' deception-detection accuracy rates in the interviews – computed by cross-tabulating the Veracity factor with the deception-detection decision – were well above the 50 percent level expected from pure chance. Participants in the pretest (n=48) had an accuracy rate of 72.9 percent (H_a: > .50, t = 3.57, $p<.01$; 75.0 percent for truths and 70.8 percent for lies), and subjects in the posttest (n=96) had an accuracy rate of 71.9 percent (H_a: > .50, t = 4.77, $p<.01$; 77.1 percent for truths and 66.7 percent for lies). These rates exceeded the accuracy rates found in the Lee and Welker (2007, 2008) studies, which reported rates below 60 percent. Our rates may have been higher because of dissimilar deception-detection contexts.

Hypothesis 2 predicts that exposures to truth-telling and white-lying increase deception-detection accuracy in interviews. To support H2, interviewers in the posttest should have had a higher deception-detection accuracy rate than interviewers in the pretest. However, this was not the case. Participants who participated in both the pretest and posttest (n=48) had an accuracy rate of 72.9 percent in the pretest and an accuracy rate of 68.8 percent in the posttest (Fisher's exact, two-sided test of significance, p=.650). In accordance with H4, the inferential strength of feedback in the experimental treatment may have had an effect on accuracy rates. To evaluate this possibility, we applied correlated logit analysis[3] to a linear model that associated the accuracy (correct vs. incorrect) of the deception-detection decision in the pretest and the posttest with a within-subjects factor PrePost (pretest vs. posttest), the "Inferential Strength of Feedback" factor, and the interaction between the two factors. "Inferential Strength of Feedback" (Wald $\chi^2_{(df=1)} = 2.40$, p = .121) and its interaction with "PrePost" (Wald $\chi^2_{(df=1)} = 2.53$, p = .112) did not

achieve significance, suggesting that the insignificance of the difference in deception detection accuracy between the pretest and posttest pertain to both inferentially strong and inferentially weak feedback conditions. Hence, the results did not support either H2 or H4: Familiarity with an interviewee's truth telling and white-lying did not enhance the interviewer's deception-detection accuracy, irrespective of the inferential strength of the feedback.

Participants' lack of improved accuracy rates after observing truth telling and white lying may have been due to dissimilarities in the communicative format between the experimental treatment and the pretest and posttest. Pretest and posttest interviews involved question-and-answer interaction between interviewers and interviewees. This format required interviewees to remember what had been said in answers to earlier questions in order to maintain a cogent storyline over the course of the interview, to interpret individual questions, and to construct answers that meet the expectation of the interviewer (Buller and Burgoon 1996). In contrast, the communicative format of the experimental treatment was unidirectional, relater to listener, and thus not subject to challenge. The interviewee had only to cognitively attend to the verbal presentation of a personal opinion or personal experience, likely producing far less stress than in the interview. As a result of differences in stress levels, interviewees may have projected a different communicative style in the pretest and posttest interviews than in the experimental treatment.

In the pretest and posttest, interviewers rendered a deception-detection decision and then rated their confidence in the decision. The next analysis examined confidence judgments. Table 4 contains the results of ANOVA testing, which examined the effect of "Inferential Strength of Feedback," Veracity, and "Pretest Participation" factors on confidence ratings made in the posttest. The only significant effect was a "Pretest Participation" main effect ($F_{1,88}$ = 8.37, p=.005). Those who participated in both the pretest and posttest had a mean confidence level of 87.81, while those who did not participant in the pretest had a mean confidence level of 81.15. This result suggested that participation in the pretest increased interviewers' confidence in the deception-detection decision made in the posttest. To verify this interpretation of results, we reduced the sample down to only those who participated in both the pretest and posttest (n = 48), and then statistically compared participants' confidence judgments in the pretest and posttest (repeated measure). The mean confidence level in the posttest (87.81) exceeded the mean confidence level in the pretest (83.65; $F_{1,47}$ = 5.18, p=.028), therefore affirming the effect of the

pretest on the interviewers' confidence in the posttest deception-detection decision (please see Table 4).

While the preceding results suggested that participation in the pretest boosted deception-detection confidence in the posttest, we did not find that participation in the experimental treatment increased deception-detection confidence. In the pretest, interviewers (who had not yet participated in the experimental treatment) had a confidence level of 83.65; in contrast, interviewers who participated in the experimental treatment and in the posttest but not in the pretest had a confidence level of 81.15 in the posttest. Thus, the results did not support an increase in confidence from participation in the experimental treatment. The extent to which communicative interactions with interviewees influence deception-detection confidence in interviews may depend on the degree to which the prior communicative interactions have contextual similarity with interviews. The pretest and posttest were similar in communicative format and objective, suggesting that confidence acquired in the pretest would be relevant to the posttest deception-detection. On the other hand, the communicative interaction in the experimental treatment was contextually dissimilar with interviews, both in terms of communicative format (one-directional vs. two-way interaction) and objective (detection of personal-based white-lies vs. a more substantial deception). If perceived as different situations, confidence gained in the experimental treatment may not have been carried over to the deception-detection situation of the posttest interview.

CONCLUSIONS AND SUGGESTED RESEARCH

Deception-detection studies generally find deception-detection accuracy rates above 50 percent but at or below 60 percent, which researchers (e.g., Feeley and Young 1998) characterize as poor ability. In the vast majority of these studies, including those that studied the deception-detection ability of professionals (e.g., Ekman and O'Sullivan 1991; Vrij and Mann 1999), detectors had no more than a passing acquaintance with communicative partners. Many professions, such as law enforcement (e.g., DePaulo and Pfeifer 1986; Köhnken 1987), involve deception detection of individuals with whom the professional detectors have had little or no previous association. In these professions, detectors may be unable to acquire more than rudimentary familiarity with communicative style. However, in other professions, which include

public accounting, professionals frequently have longstanding associations with clients and therefore may have expanded capabilities to detect deceptions among their clientele. Researchers (e.g., Brandt et al. 1980, 1982; Feeley et al. 1995) report improvements in deception-detection accuracy as detectors acquire familiarity with communicative style. In concert with these studies, our findings suggest that familiarity enhances deception-detection ability. However, our findings additionally suggest that the enhanced deception-detection ability may be confined to the context in which the familiarity was acquired. Specifically, familiarity with an interviewee's communicative style, acquired from multiple exposures to interviewee's truth telling and white lying, enhances the detector's ability to detect the interviewee's white lies, but it does not enhance the detector's ability to detect the interviewee's deceptions in interviews.

Interviewers acquired familiarity with the interviewee's communicative style by observing truth telling and white lying in a benign communicative format where the interviewer passively listened to, but did not interact with, the interviewee. Interviewees should have experienced low anxiety, because they were reporting about well-known subject matter (e.g., personal experiences or opinions) and their statements could not be challenged. Therefore, this communicative format provided opportunities to observe the interviewee's idiosyncrasies in a communicative situation of low-stress, which likely typifies casual conversation between accountants and their clients' personnel. The interview presents a much more stressful communicative situation, as interviewees have to cope with answering questions that satisfy the interviewer. Stress may produce its own set of communicative idiosyncrasies (Vrij 2001, 41), such as more fidgeting (DePaulo et al. 2003). High-stress communicative idiosyncrasies may supersede low-stress communicative idiosyncrasies as the relevant behavioral baseline to use for distinguishing between truth and lies in interviews (e.g., CICA 2000, 4), thereby neutralizing the deception-detection advantage acquired from observing the interviewee's truth and lies in a low-stress communicative exchange.

Thus, our study did not find evidence to suggest that casual communicative interaction with an interviewee prior to the interview enhances deception detection. However, our results should be evaluated in light of the study's limitations.

First, interviewers had moderately high deception-detection accuracy irrespective of familiarity. The deception situation, involving the suitability of an employee's credentials for position in a company, may have been cognitively easy for truth tellers and cognitively

challenging for deceivers, thereby producing distinguishable truth and lie behaviors that make it easier to detect deception. For instance, truth tellers may have delivered answers far too easily to be lying given that lying would have been difficult to do, and deceivers may have struggled too much to answer questions to be telling the truth given that they had just reviewed information in the personnel file. These conditions may have led to inflated detection accuracy rates in the interviews and mitigated the improvement in accuracy rates from familiarity. Future research may find that the cognitive complexity of the deception may moderate the relationship between familiarity and deception detection accuracy in interviews.

Second, interviewees and interviewers were seated next to each other during the semester-long class in order to facilitate the management of the experiment. This placement may have encouraged the development of close friendships. Research (e.g., Millar and Millar 1995) suggests that close friendship may impede deception-detection accuracy, because detectors have a predisposition to believe the partner. Third, interviewers acquired familiarity with an interviewee's communicative style from observing the interviewee in a casual communicative situation of telling truths and white-lies. Future research may find that familiarity with an interviewee's communicative style acquired from interviews, as opposed to casual communication, may enhance the ability to detect that interviewee's deceptions in interviews. Fourth, we did not monitor communication within dyads during the treatment phase. Thus, we do not know whether students followed instructions concerning their dyadic exchanges. Lastly, deceivers in the experiment were not coping with the detection risks that deceivers face in situations involving fraud. This limitation is common to deception studies that examine the detection accuracy of professionals (see Miller and Stiff 1993). It is possible that the stress associated with detection risks may alter the interviewee's behaviors and affect the ability of the interviewer to detect deception in interviews.

Footnotes

1. Every dyad participated in the experimental treatment. A control group that did not participate in the experimental treatment would have provided a stronger design, as it would have allowed use of a between-subjects comparison of deception-detection accuracy. However, we could not employ a between-subjects design because of fairness concerns relating to student participation in the study. The study was conducted as part of a class (with the approval of the university's human subjects committee). In a between-subjects design, one-half of the class would have participated in the experimental treatment (truth-telling, white-lying) for 10 weeks of a 15 week semester and earn class bonus points for their participation, whereas the other one-half of the class would not have participated in the experimental treatment. Those that did participate in the experimental treatment would have had to be sent home early from class on days in which the treatment was administered, and they would have missed out on the bonus points. To avoid this inequity, every student participated in the experimental treatment, requiring the use of a within-subject, test-retest format for assessing the effect of familiarity on deception-detection accuracy.
2. The amount of variation explained by a full factorial model that included the "personnel file" factor, as opposed to a reduced model that did not contain the factor, was insignificant for accuracy rates ($F_{(4,89)} = 1.94$, p=.110) and confidence judgments ($F_{(4,89)} = .84$, p=.504).
3. Correlated logit analysis was performed with SPSS© generalized estimating equations.

Appendix

List of Opinions and Experiences That Interviewees Described Either Truthfully or Falsely in the Experimental Treatment

Personal Experiences

- Your favorite teacher
- The teacher that you dislike the most
- A friend that you like
- A person that you dislike
- Your favorite family member (relative)
- What you did last night
- A car that you (or a member of your family) drive
- Something you purchased recently
- A house that you grew up in
- A teacher you liked in high school
- A teacher you disliked in high school
- A toy you particularly liked as a kid
- A food item that you particularly dislike
- A type of music that you particularly like
- A type of music that you dislike
- Your favorite restaurant
- The most enjoyable college class you have had
- The sport/game that you enjoy playing the most and explain why you enjoy it
- Your favorite beverage
- The town you grew up in
- An illness that someone in your family has or has had
- A particularly happy moment in your life
- The kind of beverage you would order if you went to a local bar with friends
- How well you have done in math classes in high school or college
- The kind of job you would like have after college

- A vacation trip that you have taken
- The kind of house, apartment, or dorm you are now living in
- What you consider to be an ideal date
- An actor or actress that you most admire and tell why you admire this person
- A maxim (adage, proverb) that you believe you should heed in your life

Personal Opinions

- Alcohol usage by high school students
- Sex before 17
- Hilary Clinton
- Marijuana usage
- Women having kids before marriage
- Marriage of homosexual
- The appropriate legal drinking age
- Smoking in bar, restaurant
- Raising tuition to reduce class size
- Physician-assisted suicide (euthanasia)
- The hunting of whales by Eskimos
- Oil exploration in the pristine regions of the Arctic
- Capital punishment
- The cloning of people
- George Bush
- Laws governing the sharing of MP3 music
- Chicago Cubs
- Reinstitution of the military draft
- Living together before marriage
- The appropriate age that a child should be allowed to possess a cell phone
- The required registration of people found guilty of sex crimes
- Increasing the gasoline tax by $2 per gallon to support road improvements and mass transit
- Immediate pullout of all troops in Iraq
- The quality of the educational experience
- The exposure of children to excessively violent material in video games
- Requiring high school math or science teachers to have degrees in the specific fields they are teaching (that is, mathematics or science)

- Doing away with tenure (permanency of one's position) for college professors
- Treating cigarettes as a drug and requiring a doctor's prescription for its use
- Legalization of certain drugs, such as marijuana
- Outlawing alcohol purchases and public consumption

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Table 1
Representation of the Research Design (n=96):
2 (Personnel File) × 2 (Inferential Strength of Feedback)
× 2 (Pretest Participation) × 2 (Veracity)

Purchasing Agent of a Chemical Co. (n=48)											
Inferentially Strong Feedback (n=12)		Inferentially Weak Feedback (n=12)		Inferentially Strong Feedback (n=12)				Inferentially Weak Feedback (n=12)			
(between-subjects)		(between-subjects)		(within-subjects)				(within-subjects)			
Posttest only (n=12)		Posttest only (n=12)		Pretest (n=12)		Posttest (n=12)		Pretest (n=12)		Posttest (n=12)	
Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)

Senior Loan Officer of a Bank (n=48)											
Inferentially Strong Feedback (n=12)		Inferentially Weak Feedback (n=12)		Inferentially Strong Feedback (n=12)				Inferentially Weak Feedback (n=12)			
(between-subjects)		(between-subjects)		(within-subjects)				(within-subjects)			
Posttest only (n=12)		Posttest only (n=12)		Pretest (n=12)		Posttest (n=12)		Pretest (n=12)		Posttest (n=12)	
Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)	Truth (n=6)	Lie (n=6)

Table 2

Repeated Measures Analysis of Deception-Detection Accuracy Over the Ten Weeks of the Experimental Treatment [a]

Effects	Mean Square	df	F	p =
Within-Subjects				
Weeks (weeks 1 through 10)	3.04	1	41.40	>.001
Weeks × Inferential Strength of Feedback	.23	1	3.18	.078
Weeks × Veracity	.03	1	.57	.451
Weeks × Pretest Participation	.21	1	2.90	.092
Weeks × Inferential Strength of Feedback × Veracity	.09	1	1.23	.270
Weeks × Inferential Strength of Feedback × Pretest Participation	.05	1	.69	.408
Weeks × Veracity × Pretest Participation	.09	1	1.22	.272
Weeks × Inferential Strength of Feedback × Veracity × Pretest Participation	.02	1	.57	.566
Error	.07	86		
Between-Subjects				
Inferential Strength of Feedback	.73	1	5.24	.024
Veracity	.35	1	2.50	.118
Pretest Participation	.01	1	.03	.855
Inferential Strength of Feedback × Veracity	.06	1	.43	.512
Inferential Strength of Feedback × Pretest Participation	.31	1	2.25	.138
Veracity × Pretest Participation	.13	1	.91	.344

Inferential Strength of Feedback × Veracity × Pretest Participation	.01	1	.10	.752
Error	.14	86		

[a] Each participant made three detections each week for ten weeks. The dependent variable (deception-detection accuracy) was the percentage of correct detections made in a week. "Inferential Strength of Feedback" had two levels, inferentially strong feedback and inferentially weak feedback. Veracity had two levels, truth telling and lying. "Pretest Participation" had two levels, those who participated in the pretest and those who did not.

Table 3

Pairwise Correlations Between Weekly Accuracy Rates for Inferentially Weak Feedback (top triangle, →) and Inferentially Strong Feedback (bottom triangle, ↓) [a]

	Weeks in the Experimental Treatment									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Week 1	→ ↓	.177	.209	–.322	–.041	–.049	–.185	.004	–.105	.067
Week 2	–.271	→ ↓	.016	.146	.036	.109	.064	.015	–.195	.084
Week 3	–.034	.073	→ ↓	–.212	–.145	–.046	–.277	–.026	.026	.048
Week 4	–.108	.007	***.303***	→ ↓	.163	.027	.165	.290	.039	.158
Week 5	–.003	.232	.270	***.322***	→ ↓	.180	–.130	–.106	–.090	.094
Week 6	.057	.283	***.302***	***.330***	***.354***	→ ↓	.236	–.049	.071	***.395***
Week 7	.182	–.181	.217	.237	.108	***.412***	→ ↓	.154	.049	.156
Week 8	–.145	.137	–.015	.127	–.096	***.444***	.129	→ ↓	.208	***.365***
Week 9	–.034	.353	.175	.157	.373	***.340***	–.101	.235	→ ↓	.135
Week 10	.064	.082	.195	***.284***	.146	***.405***	.217	.122	.058	

[a] Bolded, italicized table entries were significantly positive at $p<.05$. Each table entry is the correlation between the detection accuracies for the two specified weeks. For example, the .330 entry for week 6 (row) and week 4 (column) is the pairwise correlation between week 4's and week 6's detection accuracies for the "inferentially strong feedback" condition. Similarly, the .290 entry for week 4 (row) and week 8 (column) is the pairwise correlation between week 4's and week 8's detection accuracies for the "inferentially weak feedback" condition.

Table 4

ANVOVA Testing of Confidence Judgments Made in the Posttest [b]

Between-Subjects Effects[c]	Mean Square	df	F	p =
Inferential Strength of Feedback	1.13	1	.01	.922
Veracity	2.85	1	.02	.876
Pretest Participation[a]	974.51	1	8.37	.005
Inferential Strength of Feedback × Veracity	10.02	1	.09	.770
Inferential Strength of Feedback × Pretest Participation	15.45	1	.13	.717
Veracity × Pretest Participation	55.33	1	.48	.492
Inferential Strength of Feedback × Veracity × Pretest Participation	216.10	1	1.86	.177
Error	116.43	88		

[a] The mean confidence rating for those who participated in the pretest was 81.15, and the mean confidence rating for those who did not was 87.81.

[b] Confidence was measured on a scale that ranged from 50 (I am purely guessing) to 100 (I am absolutely positive I made the correct decision) in five-point increments.

[c] "Inferential Strength of Feedback" had two levels, inferentially strong feedback and inferentially weak feedback. Veracity had two levels, truth telling and lying. "Pretest Participation" had two levels, those who participated in the pretest and those who did not.

Figure 1

Experimental Time Line

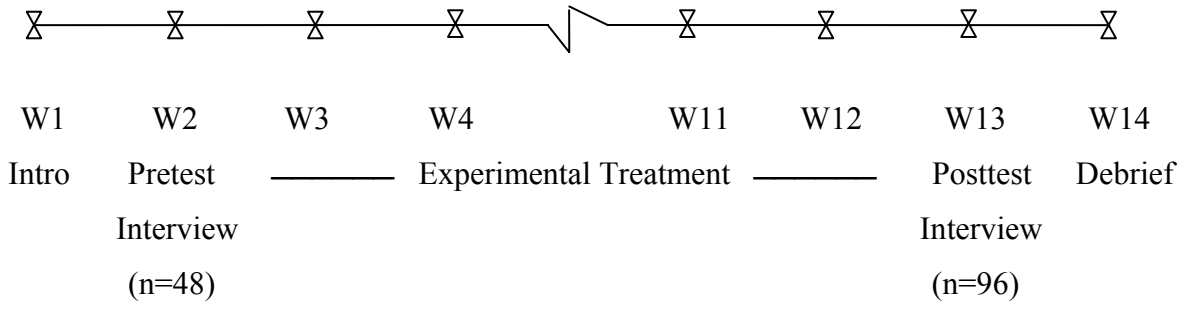

Figure 2. Deception-Detection Accuracy Rates for the Weeks of the Experimental Treatment, All Participants

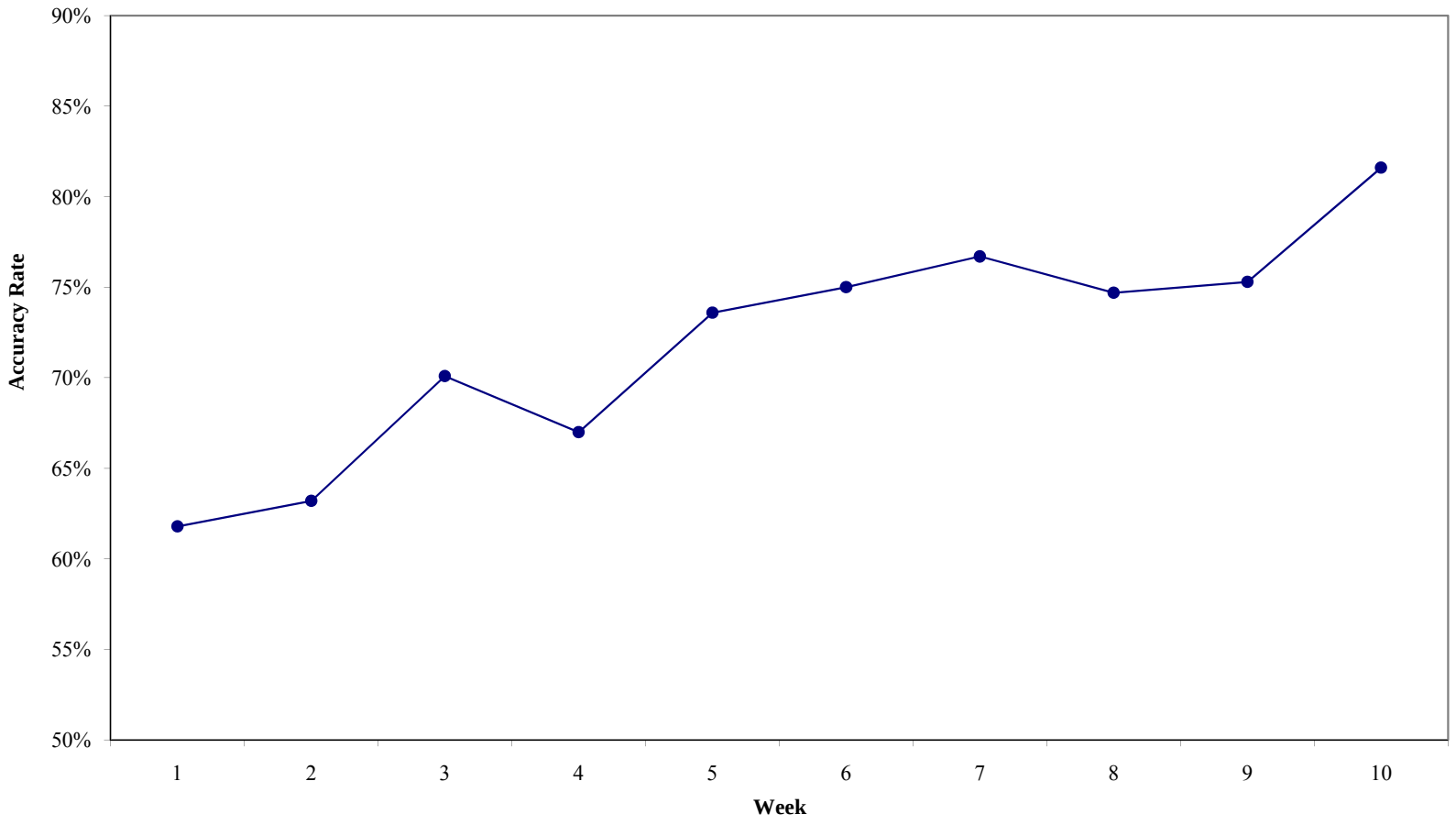

Figure 3. Deception-Detection Accuracy Rates for Weeks of the Experimental Treatment, by "Inferential Strength of Feedback"

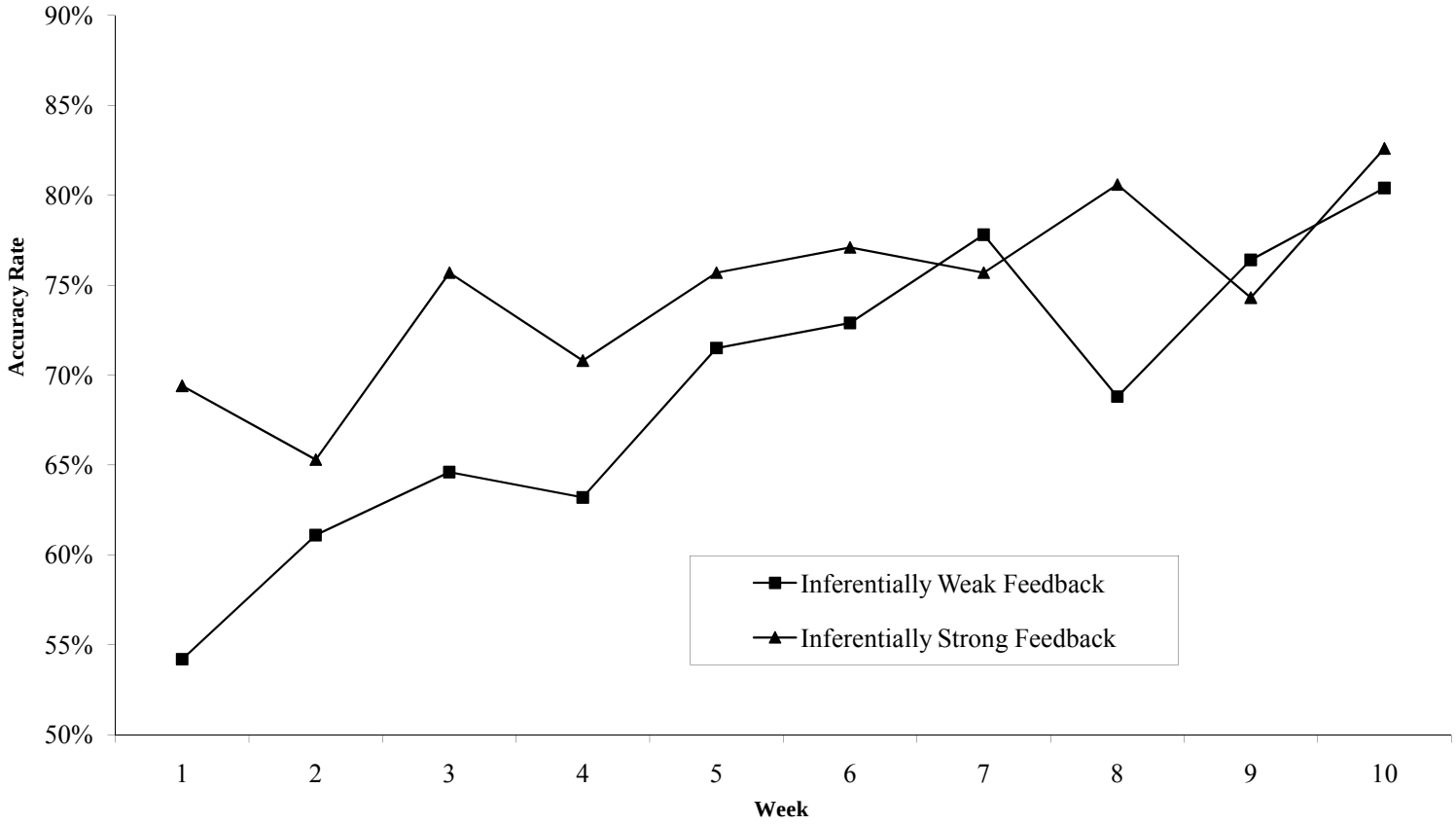

Figure 4. Deception-Detection Accuracy Rates for Weeks of the Experimental Treatment, for "PreTest Participation"