

Detection of Deception: An Analysis of the Behavioral Analysis Interview Technique

John P. Blair, MA
John Reid and Associates, Inc.
William P. McCamey, PhD
Western Illinois University

There is little disagreement about the importance of effective detection of deception skills for police officers; however, laboratory research has not produced results that indicate subjects can detect deception. In fact, some have concluded that the accuracy of lay people in detecting deception falls slightly above chance with accuracy rarely exceeding 60% (deTurck, Harszladk, Bodhorn, & Texter, 1990; Knapp & Comadena, 1979; Vrij, 1994; Zuckerman, DeFrank, Hall, Larrance, & Rosenthal, 1979).

Horvath (1973) investigated whether truthful subjects exhibit different behaviors from deceptive subjects during the structured pretest interview portions of a polygraph examination. He concluded that 94% of the truthful subjects and 82% of the deceptive subjects were correctly classified. This initial research eventually led to the development of the Behavioral Analysis Interview (BAI). The BAI is a structured nonaccusatory conversation in which both investigative and behavior provoking questions are posed to criminal suspects (John E. Reid and Associates, 1999). The BAI evaluates verbal, nonverbal, and paralinguistic behaviors. Horvath and Jayne (1990) developed a methodology to study verbal, nonverbal, and paralinguistic cues associated with deception. They found statistically significant differences in the scoring of truthful and deceptive subjects. In another study involving the BAI, Horvath, Jayne, and Buckley (1994) found the mean correct classification was 78% for truthful subjects and 66% for deceptive subjects (with inconclusive eliminated, 91% of the truthful and 80% of the deceptive subjects were correctly classified). Kassin and Fong (1999) used a limited version of the Reid Technique and concluded that training in the use of verbal and nonverbal cues did not improve judgment accuracy and in some cases, impaired performance.

The Method

The purpose of this experiment was to explore the ability of subjects to detect deception. The study applied the BAI developed by John Reid and Associates, Inc. The subjects consisted of 52 student volunteers who were enrolled in law enforcement classes at a midwestern university. Twenty-seven students were in the experimental group, and 25 participated in the control group. The control group was randomly selected by flipping a coin and selecting odd and even numbers of students from the sign-in sheet.

Data Collection

In order to examine the student's ability to classify subjects as truthful or deceptive, ten videotapes were selected. The videotapes were previously used in a similar study by Horvath, Jayne, and Buckley (1994). The ten videotapes were selected from tapes correctly classified by all evaluators in the 1990 experiment. The subjects portrayed in the ten tapes were suspected of committing a theft. The tapes were classified as truthful or deceptive based on a confession and additional factual evidence that supported the suspect's statement.

Instrumentation

The research was conducted using a classical experimental design. The experimental group and control group were pretested at the same time. The experimental group received six hours of Behavioral Analysis Interview Training from John E. Reid and Associates, Inc. The control group was post-tested the day after the pretest. The six hours of training was conducted one week later. Immediately after the training, the experimental group was post-tested.

A fixed alternative survey was constructed, consisting of a single global assessment question and confidence assessment for each of the ten BAI subjects viewed on the tapes. The alternatives for the global assessment question were truthful or deceptive. The confidence assessment asked the students to rate their confidence in their global assessment of each BAI subject on the tape. The choices were presented on a Likert scale and varied from 1 to 5 with a 1 indicating no confidence and a 5 indicating complete confidence. Survey sheets were issued to the students for the pretest and the post-test. The definitions of *truthful* and *deceptive* were read aloud. *Truthful* was defined as being completely honest with the interviewer (not withholding any relevant information). *Deceptive* was defined as being less than completely honest with the interviewer (withholding any relevant information). The students were instructed to watch each tape and then score the BAI subjects on the survey sheet.

Results

Table 1 indicates the mean of the correctly classified tapes on the pretest for the control group was 6.6 out of 10 tapes with a standard deviation of 1.6. The mean of correctly classified tapes on the pretest for the experimental group was 7.1 out of 10 tapes with a standard deviation of 1.5. In the post-test, the mean for the control group was 6.9 with a standard deviation of 1.9. The mean of the correctly classified tapes on the post-test was 8.2 for the experimental group with a standard deviation of 1.5.

Table 1. Pre- and Post-Test Accuracies

Measures	Mean Correct Pretest	Standard Deviation	Mean Correct Post-Test	Standard Deviation
Control (n = 25)	6.6	1.6	6.9	1.9
Experimental (n = 27)	7.1	1.5	8.2**	1.5

** Significant at the .01 level

T-tests were used to test for significant differences in the means of the correctly classified BAI subjects. No significant difference was found in terms of the pretest scores for the control and experimental groups ($t = 1.15$, $df = 50$, $p < .05$, $cv = 1.68$). No significant difference was found in terms of the control group score on the pretest and post-test ($t = -.781$, $df = 24$, $p < .05$, $cv = 1.71$).

A significant difference was found in terms of the experimental group score for the pretest and post-test ($t = -3.23$, $df = 26$, $p < .01$, $cv = 2.48$). In addition, a t-test was used to test for significant differences between the post-test scores of the control and experimental groups. A significant difference was found in terms of the post-test score of the experimental and control groups ($t = 2.74$, $df = 50$, $p < .01$, $cv = 2.42$).

The mean for the experimental group increased after the BAI training. On the post-test (after the BAI training), the experimental group correctly classified more subjects compared to the control group.

Table 2. Pre- and Post-Test Confidence Score

Measures	Mean Confidence Pretest	Standard Deviation	Mean Confidence Post-Test	Standard Deviation
Control (n=25)	38.4	4.5	38.3	4.4
Experimental (n=27)	37.8	4.5	42.1**	3.5

** Significant at the .01 level

Table 2 indicates the mean confidence scores on the pretest were 38.4 for the control group and 37.8 for the experimental group. The standard deviation was 4.5 for both groups. The highest possible value was 50, which is indicative of complete confidence. On the post-test, the mean confidence score for the control group was 38.3 with a standard deviation of 4.4. The mean confidence score for the experimental group was 42.1 with a standard deviation of 3.5.

T-tests were used to test for significant differences in the means of the confidence scores. No significant difference was found in terms of the pretest confidence means for the experimental and control groups ($t = -.485$, $df = 50$, $p < .05$, $cv = 1.68$). No significant difference was found in terms of the control group's confidence means for the pretests and post-tests ($t = 1.04$, $df = 23$, $p < .05$, $cv = 1.71$).

A significant difference was found in terms of the experimental group's confidence mean on the pretests and post-tests ($t = -3.23$, $df = 26$, $p < .01$, $cv = 2.47$). In addition, a t-test was used to test for a significant difference between the post-test confidence means of the control and experimental groups. A significant difference was found in terms of the post-test confidence means of the experimental and control groups ($t = 3.43$, $df = 50$, $p < .01$, $cv = 2.42$). The experimental group, which experienced the BAI training, had significantly more confidence in their assessments of the subjects compared to the control group.

Conclusion

The results of this study support the belief that truthful and deceptive suspects have discernible differences in behavior. Specifically, this study confirmed the research of Horvath and Jayne (1990) and Horvath, Jayne, and Buckley (1994) who found that trained participants correctly scored videotape interviews of suspects. Furthermore, Ekman, O'Sullivan, and Frank (1999) concluded that federal law enforcement officers with training, experience, and an interest in detecting deception were able to correctly classify experimental subjects as truthful or deceptive at levels significantly exceeding chance. The present study suggests that the BAI developed by John E. Reid and Associates, Inc., is an effective tool to differentiate behaviors associated with truth and deception. Furthermore, the BAI training increased the confidence of the subject's to correctly classify the theft suspects. Participants who received the BAI training correctly classified (with higher levels of confidence) more theft suspects than those who had not received the BAI training.

This study cannot be generalized beyond the sample selected for the experiment. Ideally, an experimental design should be utilized to control for the effects of pretesting the subjects. The pretesting process may have affected the ability to correctly classify subjects on the post-test. Additional research is needed to confirm and expand the findings of this study. The significant relationships identified with regard to classification ability and confidence levels are worthy of further investigation in order to acquire a better understanding of the dynamics and dimensions of the skills utilized to detect deception.

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John P. Blair, MA, earned a master's degree in Law Enforcement and Justice Administration from Western Illinois University. He was employed by John Reid and Associates and is currently a doctoral student in criminal justice at Michigan State University.

William P. McCamey, PhD, is a professor in the Department of Law Enforcement and Justice Administration at Western Illinois University. He was formerly a police officer and investigator for the Fulton County State's Attorney's Office.