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A STUDY OF THE COMMUNICATION OF DECEPTION  
AND ITS EFFECTS ON THE KINESIC AND PARALINGUISTIC  
ASPECTS OF NONVERBAL COMMUNICATION

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A Study of the Communication of Deception  
and Its Effects on the Kinesic and Paralinguistic  
Aspects of Nonverbal Communication

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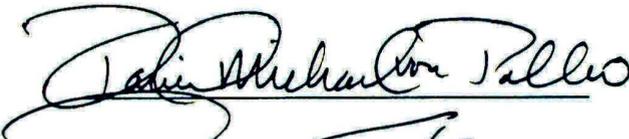
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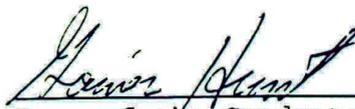


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## Abstract

A group of 25 male subjects was examined. Twelve were placed in a condition to complete a videotaped interview in a truthful manner. Thirteen students were placed in a condition to complete the same videotaped interview in a deceptive manner. The tapes were analyzed for certain kinesic and paralinguistic cues set forth in Walters' (1995) Practical Kinesic Interview and Interrogation, which were proposed as indicators of deception. An analysis of variance was used to compare the groups in total cues given and in the specific categories of kinesic cues and paralinguistic cues. The analysis revealed a significant relationship between the proposed cues and deception.

## CHAPTER ONE

### INTRODUCTION

#### Scope and purpose:

He does not answer questions, or they are evasive answers; he speaks nonsense, rubs the great toe across the ground, and shivers; his face is discolored; he rubs the roots of his hair with his fingers.

--Trovillo (1939)

Most theorists and practitioners in psychology, social psychology, and communications have become increasingly interested in the study of nonverbal communications. Such study has broad implications: from recommendations to job seekers on dress and demeanor, to psychological studies into the nature of memory (Arthur, 1995; Kendon, 1986).

The fact is that we cannot stop communicating nonverbally. From smiles and frowns to the way we dress and decorate our homes, we send messages about ourselves, our emotions, our attitudes, and our beliefs. The interpretation of such nonverbal channels has important implications because of what it says about us and because of what, at times, it may not say. There is a constant danger of misinterpretation and misrepresentation.

Nowhere is this danger of misinterpretation more evident, and potentially more dangerous, than in the area of deception. We are bombarded with information telling us that it is possible to determine motive and meaning from

nonverbal communication. Freud said, "He that has eyes to see and ears to hear may convince himself that no mortal can keep a secret. If his lips are silent, he chatters with his fingertips; betrayal oozes out of him at every pore" (Bull, 1987). While the study of the nonverbal indicators of deception is important, a review of literature on the subject reveals little recent research on the topic.

Society routinely places its members in the position of attempting to determine whether one person believes another. When the issue is whether or not to believe a coworker's account of a vacation exploit the stakes are relatively low. At other times, such as testimony in criminal or civil investigations or proceedings, lives and fortunes hang in the balance. We routinely expect police officers, judges, psychologists and other professionals and paraprofessionals to make such determinations. We also, however, often expect laypersons to serve on juries, company disciplinary boards, and in similar functions where we expect a reasonable and fair determinations of veracity.

Conventional wisdom has taught us that such determinations are possible. In fact, most people consider themselves to be accurate judges of deception (deTurck & Miller, 1990). Research confirms, however, that people are generally able to ferret out deception at a rate equal to, or only slightly above, chance (Zuckerman, dePaulo, &

Rosenthal, 1981). Alarminglly, people frequently attribute deception to truthful communication (Stiff & Miller, 1986).

This study will put to the test some of the conventional wisdom in this area. Specifically, a portion of the police training manual Practical Kinesic Interview and Interrogation (Walters, 1985) will be tested. The book purports to give clues to the nonverbal behavior of deceivers. The authors propose a number of methods, some of which seem to have a basis in those facts uncovered in research. The goal is to locate an accurate and workable method of lie detection for practical application, something that academic research has, thus far, failed to do.

This project involves three research questions:

1. Do the paralinguistic cues described in Walters' (1995) Practical Kinesic Interview and Interrogation provide an accurate method for determining deception?
2. Do the kinesic cues described in Walters' (1995) Practical Kinesic Interview and Interrogation provide an accurate method for determining deception?
3. Do the paralinguistic and kinesic cues in Walters' (1995) Practical Kinesic Interview and Interrogation, when considered together, provide an accurate method for determining deception?

There are a number of definitions necessary to the understanding of nonverbal communication.

Definitions:

Kinesics is what, to most people, is termed "body language". It includes body position (or orientation), body movement, facial expression, and eye behavior. (Boise State University, 1983)

Paralanguage includes what are sometimes termed "vocal gymnastics" such as vocal mechanism, breath control, resonating quality pitch, loudness, rate, articulation, pronunciation, and vocal characteristics (Boise State University, 1983).

Proxemics is the study of the use of personal space and territory (Boise State University, 1983).

Haptics is the study of the communicative effects of interpersonal touch (Boise State University, 1983).

Chronemics is the study of time use and the communicative effects of how we use our time (Boise State University, 1983).

Personal presentation is a broad category which studies personal smell, body decoration, clothing, hair styles, and the like (Boise State University, 1983).

Environmental communication is, likewise, a broad category. It includes the study of the communicative effects of population density of a communication circumstance, physical environment, lighting, personal artifacts, decorations, and similar items or circumstances (Boise State University, 1983).

## CHAPTER TWO

### REVIEW OF LITERATURE

Nonverbal communication may be seen as serving a number of functions in relation to verbal communication. It may complement or contradict the verbal, and it may regulate, accent, or even substitute for verbal communication (Boise State University, 1983; Kendon, 1986).

While nonverbal communications is a broad field encompassing a large number of communication channels, this study will concern itself with kinesics and paralanguage only. All references herein to nonverbal communications should be considered as references to one of these two channels.

In the broadest sense, there are two general categories, into which, all kinesic cues fall. Posture is defined as the positioning of the body (Bull, 1987). Gestures are the movements of the body (Bull, 1987).

We understand that anything which is verbalized and directed toward another is communication. The definition of what makes gestures and movements relevant as communication is somewhat more problematic. The late 1960s saw two very different theories emerge as to what constitutes nonverbal communication. Ekman and Friesen (1969) proposed that only nonverbal behaviors which are intended as communicative can properly be considered communication. They proposed that kinesic communication falls into one of three types:

emblems, illustrators, and regulators. Emblems are acts which have a direct, widely accepted interpretation, such as nodding the head to mean "yes."

Illustrators are acts which are contextually tied to speech and serve to amplify or elaborate on the verbal message. Regulators guide the taking of turns in speech and the content of the discussion. Other theorists include adaptors and affect-displays as categories of body language (Boise State University, 1983). Adaptors may be seen as actions such as doodling and some self touching, which are used to increase personal comfort or adaptation to a situation (Boise State University, 1983). Affect-displays are things such as facial expressions, glares, and muscle tension, which communicate feelings or feeling intensity (Boise State University, 1983).

Watzlawick, Beavin, and Jackson (1968) argue that all nonverbal communication is encoded with meaning, therefore, all nonverbal behavior is communicative. Wiener, Devoe, Rubinow, and Geller (1972) challenged these earlier theories. They claimed that nonverbal behavior falls into two categories: signs and communication. Signs are those behaviors to which the decoders assign meaning but, into which, the sender has encoded no meaning. Communication is that behavior which is systematically encoded and decoded with meaning on a consistent basis in society. Therefore,

for nonverbal behavior to properly be considered communication, it must be both encoded and decoded properly.

Bull (1987) has proposed that neither intention to communicate nor the intentional encoding of meaning into nonverbal behavior is necessary for nonverbal behavior to be communication. It is his contention that we sometimes display nonverbal communication purposefully and sometimes without conscious thought to the message which is being encoded.

Bull's theory falls into line with another school of thought on the nature of nonverbal behavior. Caccioppo and Petty (1981) theorized that mental processes provoke muscular activity in certain zones of the body based on the thoughts expressed. This theory is based in part on earlier work by Rime (1983). He demonstrated that, when people communicate without being able to see each other, their body movement is virtually unchanged from the circumstance where they can see their conversational partner.

Rime, Schiaratura, Hupet, and Ghysseleinckx (1984) conducted an experiment involving the participation of subjects in dialogue. During one phase of the experiment the subjects were seated and unrestrained. During the other phase the subjects' movement of certain parts of the body was restrained. The experiment revealed three interesting findings: first, while unrestrained, speech was accompanied

by movement in nearly every zone of the body; second, when partially restrained, the subject's movement increased in the unrestrained parts of the body, and; third, while restrained, the subjects made less use of verbal imagery.

Rime et al (1984) proposed that motor activity constitutes a necessary condition for verbal expression, therefore, when movement is restrained in one part of the body, it increases in another. The decrease in the use of verbal imagery was believed to be a result of interference with the representational process of language formation.

In order to determine if people attend to nonverbal cues, Langton, O'Malley, and Bruce (1996) applied principles of the Stroop effect to the study of verbal and nonverbal message processing. The Stroop effect is based in the concept that receiving conflicting information from different sources, such as differing verbal and gestural messages, causes difficulty in message processing. In five experiments they found that inconsistent verbal and gestural cues caused interference in message processing, indicating that decoders were attuned to both messages.

Research also suggests that, not only do people attune to nonverbal messages, these messages are an important part of communication. Graham and Argyle (1975) asked speakers to describe a drawing with their arms folded across their chests. The speakers were then allowed to use gestures to

aid in their descriptions. There was no loss of fluidity of speech between the two descriptions. Those receivers to whom the drawing was described with the aid of gestures were able to more accurately draw what was described, indicating that the gestures aided their understanding and ability to visualize what was being described.

It has been demonstrated that people even tend to repeat the gestures they have observed another use when recalling a story or incident involving the other (von Raffler-Engel, 1986). This phenomenon, termed metakinesics, was shown to occur in interpreters, who sometimes interpret culturally specific gestures into the analogous cultural specific gesture of the language into which they are interpreting (von Raffler-Engel, 1986). This result points not only to the attention people pay to gestures, but also to the important communicative function they serve.

Riseborough (1981) demonstrated that gestures aid the recall of stories. In similar research, Woodall and Folger (1981) demonstrated that gestures aid in the recall of conversations.

Closely related to the idea of the accuracy of decoding nonverbal behavior is the idea of what causes the behavior. There is evidence that some nonverbal communication is innate. Ekman and Friesen (1972) found that both literate and pre-literate cultures decode facial expressions related

to happiness, sadness, fear, anger, surprise, and disgust in the same manner. Eibl-Eibesfeldt (1972) found that children who were born deaf and blind displayed the same facial expressions, in similar circumstances, as did children who were not physically impaired.

The question of when we are able to accurately decode nonverbal messages becomes important. DePaulo (1992) points to a number of differences between nonverbal and verbal behavior which may inhibit the ability to accurately perceive nonverbal messages. First, the recipient of the message may not attune to the nonverbal communication. Second, there is no standard definition for most nonverbal communication. The message may be misinterpreted or not understood. Third, it is customary in our society to seek clarification for verbal messages, but not for nonverbal messages. Therefore, even if the recipient attunes to a nonverbal message, the likelihood of misinterpreting that message is increased because of the low likelihood that the receiver will seek clarification concerning an ambiguous nonverbal message.

Despite the difficulties associated with the interpretation of nonverbal messages, research has shown that some nonverbal behavior is accurately and consistently interpreted. Abramovitch (1976), and later Abramovitch and Daly (1979), discovered that, from the observation of a

person's nonverbal behavior, children are able to determine the relationship between conversational partners. Benjiman and Creider (1975) have shown that observers were able to accurately determine the age, sex, and acquaintanceship of a conversational partner by observing the nonverbal behavior of one of the participants. DeMeijer (1989) identified 20 body movements which are consistently and accurately interpreted for emotional meaning. He also identified 21 movements which are interpreted in several ways depending on the context and the decoder.

Emotions may accurately be determined based on nonverbal communication. Allen and Atkinson (1978) demonstrated that it is possible to accurately gauge a child's understanding of a lesson by observing the child's facial expressions. Edelman and Hampson (1981) demonstrated that it is also possible to detect amusement by observation of a person's facial expression. Further, they proved that it is possible to determine embarrassment by observation of a person's face and body language (Edelman & Hampson, 1981).

There are specific postural and gestural behaviors which have been shown to be associated with particular messages or attitudes. Leaning forward has been found to be associated with a positive attitude about a conversational partner (Mehrabian, 1968; Mehrabian & Friar, 1969) and an

increase in persuasive attempt (Mehrabian & Williams, 1969). Freed (1972) found that conversations between intimates were characterized by direct orientation, forward lean, and constant gaze. Conversations between those who were not intimate were characterized by increased backward lean and decreased eye contact.

The study of the nonverbal cues to deception has proven to be particularly problematic. Davis and Hadiks (1995) point to five problems involved in the study of nonverbal communications and deception. First, it is possible that, in traditional research methods, stress sufficient to cause arousal is not created. If the level of stress is not equivalent to that experienced in real life situations, the level and types of nonverbal indicators of deception may not be evident in the experimental condition. Second, nonverbal cues may be studied in general terms, without enough attention paid to small movements. Third, the researchers often view only a small portion of a subject's behavior, that is, no baseline for the subject's behavior is established. Fourth, researchers may have ignored evidence about where they need to look for cues to deception. Some research has shown that more cues are evident in the head and face when lying about facts and in the body when lying about emotions. Fifth, very little attention has been paid to the sender's perception of deception. That is, the

sender's perception about whether or not he or she is being deceptive, and the level of that deception, is an important factor which has often been ignored.

Goodwin (1986) adds two more important points to those made by Davis and Hadiks (1995). First, many movements unrelated to deception, such as those due to personal habits or needs for comfort, may be misinterpreted. Second, gestures are spatially and time oriented. It is not enough to study gesture, it must be studied in relationship to its occurrence to time and space to be relevant.

A large body of evidence has examined the ability of people to accurately determine deception from the observation of verbal and nonverbal cues. It is generally held that "leakage" of deception occurs into a person's body language when he or she attempts to be deceptive (DePaulo & Rosenthal, 1979). The prevailing belief is that deception cues are leaked into body language due to the increased arousal brought about by deceptive attempts (Knapp, Hart, & Dennis, 1974). This line of thought is supported by findings that high self-monitors are more successful at deception than are low self-monitors (Miller, deTurck & Kalbfleisch, 1983). Additionally, high self-monitors benefit in their deceptive attempts from a period of rehearsal, that is, people more attuned to their self presentations are better able to control leakage (Miller et al., 1983).

Three theories have been proposed to explain why this leakage may occur into nonverbal channels. The first is that many nonverbal responses appear to occur spontaneously and without conscious thought or control (Ekman, 1981, p. 271). The automatic facial and bodily responses to fear or surprise are examples of this phenomenon. A second reason is the greater range of expressiveness of the verbal channel may cause a sender to place his or her efforts at control into this channel (DePaulo, Stone, & Lassiter, 1985a). The final reason is that the verbal channel is a particularly salient channel. Because of our reliance and dependence on verbal messages, we are held more accountable for, and therefore, are more practiced at controlling, the verbal channel (Ekman, 1981).

One theory of how we make determinations of suspected veracity or deception is based on an expectancy-violation theory proposed by Bond, et al. (1992). They argue against the stereotypical model of lie detection which holds that certain behaviors are, through conventional wisdom, associated with, and are cues to, deceptive communication. They propose instead that in any given social and conversational situation certain nonverbal behavior is expected. Any violation of these expectancies, according to their theory, will be viewed as deceptive. To test their theory they had the participants display nonverbal behaviors

which are not considered stereotypical of deception but which violated the expected contextual behaviors. They confirmed their theory in three experiments involving people who were literate and people who were illiterate, those who were accomplished at lie detection and those who were not, and people of both Western and non-Western descent. The results demonstrated a tendency of all the groups to infer deception from unusual body movements. The participants made their determinations based on video tape alone, without the benefit of the audio portion of the tape.

The question of what is expected is somewhat problematic. The specific nonverbal behavior expected in a given situation may be controlled by three schemata: (1) person schemata-based on general personality traits; (2) role schemata-based on social role stereotypes and occupation; and (3) event schemata-based situational variables (Taylor & Crocker, 1981). These expectancy schemata are valenced by the interpretation given the behavior and the reward value of that interpretation (Burgoon & Walther, 1990).

Knapp et al. (1974) have identified four manifestations of deception: (1) anxiety responses, (2) excessive responses, (3) incongruous responses, and (4) indirect responses. Anxiety responses, resulting from the fear of detection or from guilt, are seen in face touching, speech

errors, perspiring, shaking, blushing, and like behaviors. Excessive responses are those which are incongruent with the situation because of an increase or decrease in frequency or intensity. Examples are too much or too little laughter, body movement, eye contact, or similar responses.

Incongruous responses may be verbal, such as statements inconsistent with known facts, or nonverbal, such as decreased use of illustrators. Indirect responses may also take the form of verbal or nonverbal behavior. Examples of verbal indirectness would be not answering a question, changing the subject, or answering a question with a question. Nonverbal indirectness might take the form of less direct body orientation, increased conversational distance, or avoidance of eye contact.

Research has demonstrated that there are differences in people's abilities to deceive which are tied to gender. Men are more likely to use the strategy of hamming (i.e., the trait of overacting, of putting more into the display of emotions during deception than during truth telling) than are women (DePaulo & Rosenthal, 1979). DePaulo, Stone, and Lassiter (1985b) found that people are more likely to believe people who ham than they are to believe those who attempt to cover true affects by other means. We find then that, when attempting to create a good first impression through lying, women's lies are more detectable than are

men's (DePaulo & Kirkendol, 1989; DePaulo, Kirkendol, Tang, & O'Brien, 1988).

It seems that the successfulness of an attempted deception may decrease when a person attempts to take on too much, such as attempting to portray themselves as a personality type which is inconsistent with their true nature. Lippa (1976) found that introverts who attempted to display themselves as extroverts were seen as less extroverted than true extroverts. Likewise, extroverts who attempted to display themselves as introverted were perceived as less introverted than true introverts. DePaulo et al. (1985b) asked women to describe men they liked and men they disliked in a positive manner. They were perceived as having less intense positive feelings for the person they did not like.

The level of a liar's motivation has been shown to influence his or her nonverbal performance (Zuckerman, DePaulo, & Rosenthal, 1981). Highly motivated liars may appear more rigid and inhibited, and they tend to give shorter responses (Zuckerman et al.). They also gaze less, shift their heads less, move less, fidget less, and even blink less (Zuckerman et al., 1981). An increased level of motivation has been linked to a decreased level of success in attempts at deception when veracity judgments are based on nonverbal cues (DePaulo, Lanier, & Davis, 1983).

The question then arises as to what specific behaviors differentiate deceptive from truthful behavior. Knapp et al. (1974) discovered that deceptive attempts are characterized by a number of behaviors. They divided these behaviors into six categories: uncertainty, vagueness, nervousness, reticence, dependence, and negative effect. Under the aspect of nervousness, deceivers were found to use fewer absolute verbs, use fewer different words, be more likely to qualify their statements, and use more hypothetical references. In the realm of vagueness deceivers were less likely to use factual statements, made fewer references to the past, and made more sweeping generalities. In general deceivers were more likely to be vague and less factual. The nervousness measure revealed that deceivers were more likely to display nonverbal behaviors such as random self touching and fidgeting with their hands or foreign objects.

In relation to dependence, deceivers were likely to refer less often to themselves and to less frequently claim a motive of self-interest. Deceivers were more likely to talk about "them" and less likely to talk about themselves. The researchers attributed this aspect to a psychological need to distance themselves from their deceptive behavior. The unpleasantness, or negative effect, measure was intended to determine if deceivers would be more reticent and less

likely to respond to the needs of their communicative partners, i.e., less sociable. Deceivers used comparatively fewer group references and made more disparaging remarks. The increase in disparaging remarks may represent, according to the researchers, a defensive attitude.

Two meta-analyses of nonverbal communication revealed a number of behaviors indicative of deception (DePaulo et al., 1985b; Zuckerman et al., 1981). For example, liars hesitate more, make more speech errors, and blink more than those telling the truth. Liars' voices tend to have a higher pitch and their pupils tend to dilate. Deceivers also tend to have shorter response lengths. These findings were held by the authors to be attributable to the fact that lying is cognitively more arousing and demanding than telling the truth. Liars also tend to fidget more and speak less fluently. They are more likely than truth tellers to use negative and distancing statements.

Despite the conventional wisdom that liars avoid eye contact, Riggio and Friedman (1983) found that deceivers tend to engage in more eye contact. Also important is their finding of the tendency of deceivers to engage in more self-touching.

It has been proposed that people are more cognizant of their facial behavior than their body movements. It is believed that they therefore attempt to exert more control

over their facial behavior during deceptive attempts (Ekman & Friesen, 1974). Research by Ekman and Friesen (1974) has substantiated this effect. They found that, when lie detectors were allowed to see a sample of a subject's honest behavior, they were then better able to determine deceptive attempts from observation of the subject's body movements than from other channels.

Cody and O'Hair (1983) demonstrated again that there are definable differences in the nonverbal behavior of those who attempt to deceive. They focused on communicator's behavior while being truthful and then observed their behavior during an attempt at deception. They found that male subjects suppressed the use of illustrators and leg and foot movements during periods of deception for which they were allowed rehearsal. For periods of spontaneous deception, the suppression of illustrators and leg and foot movements was not observed. Male subjects also significantly increased their frequency of leg and foot movements after a deceptive attempt. The female subjects only suppression or increase of leg and foot movements occurred during spontaneous deception, when the movements were suppressed. These findings are consistent with the findings of DePaulo (1992) and later Davis and Hadiks (1995), who found a link between deception and decreased hand, foot, and leg movements. Similarly, Vrij, Semin, and Bull (1996) noted a

decrease in subtle, nonfunctional movements of the hands, fingers, feet, and legs during deception.

Cody and O'Hair (1983) also examined the use of illustrators. Both male and female deceivers decreased greatly their use of illustrators during periods of rehearsed deception. During unrehearsed periods of deception, males greatly increased their use of illustrators. Females used more illustrators after deception than prior to deception.

Regarding facial adaptors, Cody and O'Hair (1983) found differences for male deceivers and truth tellers. Males were found to engage in increased use of facial adaptors during prepared deception.

The final area of concern for Cody and O'Hair (1983) in the present study was response latency differences for low and high dominance communicators during truthful and deceptive communications. The low dominant communicators' response latencies were shorter, prior to anticipated deception, than those of low dominants who anticipated being truthful. Both low and high dominant respondents had shorter response latencies during prepared deceptions and longer latencies during unprepared deceptions (as compared to latencies during truthful exchanges).

Despite a wealth of research which demonstrates the kinesic and paralinguistic indicators of deceptive attempts,

research has consistently demonstrated that untrained lie detectors are able to distinguish deception at a rate equal to chance or only slightly above chance (Kraut, 1980; Zuckerman et al., 1981). DeTurck and Miller (1990) demonstrated that it is possible to train observers to more accurately detect deceptive communication. Human lie detectors were trained to focus their evaluations on six behaviors which have been shown to be indicative of deceptive attempts: message duration, pauses, response latencies, adaptors, and hand gestures. The accuracy of the lie detectors increased for all categories studied: high self monitors with rehearsal, high self monitors without rehearsal, low self monitors with rehearsal, and low self monitors without rehearsal. It is interesting to note that the lie detectors received only thirty minutes of training.

## CHAPTER THREE

### METHODOLOGY

An analysis of Walters' (1995) Practical Kinesic Interview and Interrogation reveals a number of verbal and nonverbal cues to deception and other emotional states. Since the focus of this project is kinesic and paralinguistic cues, those factors were isolated from the text. From those cues certain factors were excluded either because they would not be expected during the present experiment or because they are indicators of emotions such as anger or acceptance, which may or may not be tied to deception. Also excluded were items which were said to be indicative of a prepared line of deceptive thought (a rehearsed lie) since, in the present experiment, the subjects had little opportunity to rehearse a lie. Also rejected for inclusion in the present study were items related to a suspect's behavior at a crime scene, items related to recognizing mentally disturbed people, items related to the analysis of written statements, and items related to behavior displayed during, or immediately preceding, confessions (since the present study did not involve, or anticipate, securing confessions). Finally, the slower speech rate expected of those engaged in unprepared deception was not included due to the fact that it did not fit into the coding method used.

Certain other cues were omitted or combined. "Halting

speech" and "no accompanied by a blank look" were omitted due to the difficulty in defining and coding these terms. Stuttering and stammering were combined into one cue. "Clipped words" and "incomplete words" were combined into one cue. "Ah," "er," "um," and "uh" were also combined into one cue. All cues related to perspiring were eliminated due to the difficulty of coding such behaviors. Cues related to blink rate, eye color change, and pupil dilation were omitted for the same reason.

The list of paralinguistic cues to deception used for this study fell into several categories. A number of cues were related to a subject's use of the word "no": (a) "no" with a change of pitch; (b) "no" preceded by a laugh; (c) "no" preceded by a long pause; (d) a "hair Trigger no"; (e) "no" after an accidental "yes"; (f) a hummed "no"; (g) "no" accompanied by a change in body language; (h) "no" accompanied by a change in eye contact; (i) a "no" that is too casual; (j) "no" accompanied by a head nod of yes; (k) "no" accompanied by a shaking of the whole body; (l) an exploding "no"; (m) a silent (or mouthed) "no"; (n) "no" which, due to inflection, sounds like a question; and (o) a "deep thought no." Also included in the paralinguistic cues were: (a) stuttering and stammering; (b) slurred speech; (c) pausing; (d) "ah", "er", "um", and "uh"; (e) "Whew"; (f) "tsk"; (g) grunts; (h) groans; (i) moans; (j) whistling; (k)

growling; (l) nervous laughing; (m) sighing; (n) omitting words; (o) slurring words; (p) clipped or incomplete words; (q) incomplete sentences; (r) repetition of thought (repeated words, thoughts, or phrases); (s) editing sentences (i.e., self-correcting); and (t) indirect ideas. The following, if occurring immediately prior to a response, were considered cues: (a) coughing; (b) clearing the throat; (c) taking a deep breath; (d) laughing; and (e) taking a long pause.

The following kinesic cues were considered: (a) chin tucked into the the chest; (b) crooked expressions (displayed on one side of the face); (c) facial tics; (d) stone faced (displaying no emotions); (e) pinching the nose; (f) pulling the nose; (g) rubbing the nose; (h) increased touching of the face and head; (i) smiling with the lower face only; (j) biting the lips; (k) pursing the lips; (l) licking the lips; (m) putting objects in the mouth; (n) clicking noise from the mouth; (o) gulping or swallowing; (p) foam or spittle around the mouth; (q) yawning; (r) grooming; (s) fidgeting with watch or jewelry; (t) playing with the hair; (u) flipping the hand away from the body when speaking; (v) crossing the legs; (w) uncrossing the legs; (x) legs stretched out in front of the body; (y) feet and legs in the chair; (z) legs apart, back off the chair, arms on thighs, hands flexed; (aa) legs crossed at the knee,

hands crossed and resting on the knees and back off chair; (bb) tapping feet; (cc) wiggling feet; (dd) wobbling or bouncing knees; (ee) hiding feet (behind chair legs); (ff) covering genitals (applies to males only); (gg) leaning toward the exit door; and (hh) a total lack of body movement.

Due to the differences shown to exist between male and female communicators, the decision was made to limit participants to male subjects. Additionally, because of expected differences in nonverbal behavior between seated and standing subjects, the decision was made to conduct all interviews with seated subjects.

Thirty-two male university students and visitors to the campus were chosen. They were informed that two \$50.00 awards would be granted the participants. Each subject was also paid \$5.00 for their participation.

For subjects in the experimental condition, the following procedure was observed. The subject and a confederate were taken into a room. They were both asked to read and sign a consent form (see Appendix A) and the forms were returned to the test administrator.

At this point another person involved in the administration of the test entered the room and informed the test administrator that he had a phone call waiting in another room. After the test administrator left the room,

the confederate started a short conversation with the subject. During this period, the confederate began to look through the paperwork which was left behind by the administrator. The confederate located the answer sheet which gave the correct responses for the experiment and showed it to the subject. The confederate then returned the answer sheet to its proper location.

The administrator returned to the room and asked if the participants had any questions. He then laid an answer sheet and the book of photographs on the table where the subject and confederate were seated and left the room. During the experiment, the confederate retrieved the answer sheet and attempted to get the subject to write the stolen answers on the answer sheet. This was done in order to increase the subject's involvement in the deception. If the subject would not write the answers, they were written by the confederate.

When the subjects were finished with the test, the administrator took the subject into a separate interview room for a video taped interview. The assistant pretended to take the confederate into a separate interview room for a similar interview. The subject was asked the following questions:

- (a) Did you have any difficulty completing the experiment?
- (b) How old are you?
- (c) What is your grade classification--freshman, sophomore,

junior, or senior?

(d) How would you rate your ability to communicate and work with others--below average, average, or above average?

(e) Would you describe yourself as introverted, extroverted, or somewhere in between?

(f) On a scale of one to five, with five being the most popular, how popular would you say you are?

(h) Would you classify yourself as open minded?

(i) Would you describe your partner as introverted or extroverted?

(j) Would you describe your partner's ability to communicate as below average, average, or above average?

(k) On a scale of one to five, how well would you say you and your partner interacted?

At this time the administrator stopped to review the answer sheet. After reviewing the answer sheet he complimented the subject on his excellent performance. The subject was then informed that he and his partner had correctly answered more questions than any other group.

The subject was then asked the following series of questions:

(m) What method did you use to get so many correct responses?

(n) What do you think contributed the most to your success?

(o) Out of the 20 pictures, on how many did you and your

partner disagree about the correct response?

(p) Can you describe briefly the methods you used to resolve conflicts when you and your partner did not agree on the correct response?

(q) Briefly tell me what you believe contributed most to your success or failure. Of course in your case it would be what contributed the most to your success.

(r) What specific aspects of your personality were most helpful to you during the experiment in resolving conflict and arriving at the correct responses?

(s) Which of your communication skills was most helpful to you during the experiment in resolving conflict and arriving at the correct responses?

(t) What aspects of your partner's personality were most helpful to you during the experiment in resolving conflict and arriving at the correct responses?

(u) Which of your partner's communication skills was most helpful to you during the experiment in resolving conflict and arriving at the correct responses?

(v) Is there anything about your performance in the experiment and your ability to complete the experiment so well that you feel you should tell me?

(w) Have you been completely honest and open with me during this interview?

(x) Are you sure?

(y) Have you been deceptive in any way during this interview?

At this point the experiment was concluded. After the experiment the subjects in the experimental group were debriefed on the specific nature of the experiment. At that time it was explained that they were intentionally placed into a situation where their acting in a deceptive manner was anticipated. At that time they were assured of their anonymity in the experiment and given the opportunity to withdraw from the experiment. The information sheet provided in Appendix D was provided to each participant.

The subjects were told that the \$50.00 would be awarded by a random drawing which would be held at the end of the experiment. The subjects were asked to sign a second consent form (see Appendix B), asked to refrain from discussing the experiment, and then dismissed.

The tapes were coded for both groups beginning with question "m," since it was at that point that the known deception began in the experimental group. Each occurrence of a cue was scored as one point. The points for each individual and each group were totaled. A trained coder was employed to assist in the analysis of data and inter-coder reliability results were tabulated. The coder was trained by viewing random sections of the video tapes and reviewing random samples of the written transcripts of the interviews.

Each cue was explained to the coder and then they were allowed to view other random samples of the interviews.

The research will report only the values from the coded video tapes--no names will be reported. After being coded the tapes will be held for two years and then will be destroyed. The tapes will be available only to the researcher and the coder(s). The nature of the experiment was explained to the coder(s). Anyone who assisted in the coding was asked to sign the Coding Form (see Appendix C).

The control group was handled in exactly the same manner except that the participants were paired together without the confederate being present. They completed the test in the manner in which it was described. During the interview, they were asked the same questions, and in the same order, as the experimental group.

## CHAPTER FOUR

### RESULTS

Two of the truthful subject's (or 17%) and two of the deceptive subject's (or 15%) interviews were coded by a second trained coder. Inter-coder reliability was .93.

Table 1 shows the average cues per second, for both groups, for paralinguistic, kinesic, and total cues. The standard deviation was .0069 for truthful subjects and .1132 for deceptive subjects.

Table 1

Cues Per Second

N:25	Paralinguistic	Kinesic	Total Cues
Truthful:	.1478	.1433	.2909
Deceptive:	.2034	.2426	.4482

As indicated in Table 1, the deceptive subjects averaged more cues per second, for all three categories, than the truthful subjects. For total cues the truthful subjects averaged only 65% as many cues as the deceptive group.

An analysis of variance was performed on paralinguistic cues. The analysis revealed that  $F:3.004$ , which was not statistically significant at  $p<.025$ . The standard deviation was .0824014 for truthful subjects and .0778498 for

deceptive subjects.

Research question one was, "Do the paralinguistic cues described in Walters' (1995) Practical Kinesic Interview and Interrogation provide an accurate method for determining deception?" The results did not demonstrate a statistically significant result to support this method. Hence, the answer to Research question one is No.

Research question two was, "Do the kinesic cues described in Walters' (1995) Practical Kinesic Interview and Interrogation provide an accurate method for determining deception?"

An analysis of variance for kinesic cues revealed a F value of 9.819. This value is statistically significant at  $p < .025$ . Standard deviations were .0058 for truthful subjects and .0073 for deceptive subjects.

The evidence supports an affirmative response for research question two. There is a significant relationship between the frequency of kinesic cues and deception.

Research question three was, "Do the paralinguistic and kinesic cues in Walters' (1995) Practical Kinesic Interview and Interrogation, when considered together, provide an accurate method for determining deception?" An analysis of variance gave an F value of 17.20 which is statistically significant at  $p < .025$  ( $p < .025 = 5.75$ ). Research question three, then, demands an affirmative response. There does

exist an important relationship between total cues and deception.

In summary, research question one was not supported by the evidence. Question two and three were supported by statistically significant results.

## CHAPTER FIVE

### DISCUSSION

There is a positive correlation between the cues proposed in Walters' (1995) Practical Kinesic Interview and Interrogation and deceptive behavior. The methods proposed, however, present some difficulties for practical application. For those who attend training in these methods and continue to practice their application this is a practical method. For those who are not routinely involved in this type of observation, such a detailed method may be difficult to apply.

The paralinguistic cues, which did not prove statistically significant, may need to be reviewed. While a statistical analysis was not performed on each of these cues, it may very well be that certain cues, or groups of cues, may prove significantly related to deception. A review of the raw data reveals that a number of cues seem to be negatively correlated with deception. It is possible that, should each cue be individually reviewed, some cues, or groups of cues, could be isolated which would provide a statistically significant method of determining deception.

Future research should focus on individual cues. By isolating specific cues, a set of cues may be isolated that will have significance in determining deception. This would also give a smaller number of cues which would result in a method which is more easily learned and utilized.

The same approach could be taken with kinesic cues. While the cues in this study did prove determinative of deception, a review of specific cues should give an even more useful method by allowing the number of cues to be reduced.

The ability of the method described in Walters' (1995) Practical Kinesic Interview and Interrogation to be applied to practical situations is still limited. To code the paralinguistic cues, it was necessary to make a transcription of the interviews and conduct a lengthy review of the material. In most cases it was necessary to review the video tapes a number of times in order to notice all of the kinesic cues.

Future research may also need to focus on the difference between deceptive and truthful episodes for the same subjects. This is the method recommended in Walters' (1995) Practical Kinesic Interview and Interrogation; to conduct a pre-interview conversation with potential deceivers in order to establish a baseline for the individual. Reviewing a subject's behavior prior to a deceptive attempt and then during a deceptive attempt may reveal other factors not noted.

One possible cue not noted by the author of Practical Kinesic Interview and Interrogation is a subject's playing with, fidgeting with, or touching his own hands. While not

coded because it was outside the realm of the research questions, this behavior was consistently noticed in the deceptive subjects and rarely observed in the truthful subjects.

A final note of caution is appropriate. This experiment was conducted with male subjects who were seated. While some or all of the results found may be applicable to other situations, caution should be used. This method proved useful for a very specific group and should not be used to interpret the behavior of other groups until adequately tested. Only further testing and study will tell if this method can be applied to other circumstances and types of subjects.

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## APPENDIXES

APPENDIX A

## CONSENT FORM ONE

You have been invited to participate in an experiment which will explore some of the aspects of interpersonal communication. This statement is being given to all participants to insure that all participants are given the same information and that the information is presented in the same manner. If you decide to participate, you will be paired with a partner. You and your partner will be left alone to view a series of 20 numbered photographs. The photographs depict scenes of manmade structures and natural settings. You and your partner will be asked to view the photographs at your own pace.

After viewing the photographs, you will attempt to determine, as closely as possible, the location of the object or scene depicted. You will note your answers on the sheet provided. You should remember that this is not a test of knowledge, we are studying the ways that people communicate. When you have completed the test, you will notify the administrator. You will then be taken to another room where you will be interviewed about certain aspects of the experiment. This interview will be video recorded for future analysis. It is expected that the interview will take about 5-10 minutes. As you are probably aware \$100.00 will be awarded to one of the teams (\$50.00 to each participant). After the interview, the interviewer will explain how the

recipient of the award will be determined.

The experiment in which you have volunteered to participate is intended to explore certain aspects of interpersonal communication. Your participation is strictly voluntary. You may decline to participate or withdraw from participation at any time without penalty or prejudice. Should you choose to participate, your participation and performance will be confidential. Nothing involving you will be discussed outside the research environment and you will not be identified in the experiment in any way. The research administrator, R. W. Knight, will be happy to answer any questions you may have.

I have read and understood this description and had my questions about the experiment answered satisfactorily. I voluntarily agree to participate in the experiment.

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Participant Name

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Date

---

Participant Signature

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Date

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Researcher Signature

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Date

APPENDIX B

## CONSENT FORM TWO

I have completed the experiment on interpersonal communication. It has been explained to me that the experiment was intended to place the experimental group, of which I was a part, in a situation designed to encourage deception. The purpose of the experiment is to analyze the nonverbal behavior displayed during deception. I understand that I am under no obligation to continue the experiment at this time. If I so choose, I may withdraw at this time and the video tape of my interview, as well as any records pertaining to my participation, will be destroyed. I choose to waive my right to withdraw. I give my consent to use the video tape to analyze these behaviors. I understand that the tapes will be viewed only by the researcher, Ronald W. Knight, and the individual(s) who assist him in coding the behaviors. The coder(s), with the exception of the researcher, will not have access to the identities of the people in the interviews. After the coding is complete, the tapes will be kept in a secure location and destroyed after

three years. I have carefully read this consent form and agree to the terms herein described.

---

Participant Name

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Date

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Participant Signature

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Date

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Researcher Signature

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Date

APPENDIX C

## CODING FORM

I have volunteered to assist in coding the research done by R. W. Knight as a part of his thesis research, which was conducted on \_\_\_\_\_ at Austin Peay State University. Both the nature of the experiment and the importance of the anonymity of the subjects has been explained to me. I agree to keep confidential all information concerning this experiment except that which may eventually be published in this thesis. I will not be informed of the identity of any of the participants. If I somehow become aware of the identity of any of the participants, I will keep all information about them confidential.

Coder name: \_\_\_\_\_

Coder Signature: \_\_\_\_\_

Researcher Signature: \_\_\_\_\_

Date: \_\_\_\_\_

APPENDIX D

## INFORMATION SHEET

Researchers in psychology, communications, police science, and the legal field have, for many years, been interested in the study of deception. The purpose of this experiment was to locate and test certain specific behaviors which have been proposed as possible indicators of deception. Specifically, to test the theories of a book titled Practical Kinesic Interview and Interrogation, a copy of which will be provided for your review while here, if you wish.

In order to study deception in a realistic manner, you were intentionally placed in a situation designed to cause you to act in a deceptive manner. Rest assured that it was the situation, not you, that caused the deception. The reaction to deceive was consistent for subjects throughout the experiment. Nothing that was done in this experiment was intended to embarrass you, and you should certainly should not have any negative feelings about yourself because of what has happened today.

Your participation will be kept confidential. The only people who will view the recording of your interview are the test administrator and the coder(s). The coder(s) will be

carefully chosen and sign an agreement stating that they understand the importance of confidentiality and agree to keep all information about the experiment confidential. After the experiment is coded, the tapes will be kept for a period of three years and then destroyed. No one, at any time, will be allowed access to the tapes except to the degree necessary for the experiment. Your name, and the names of all other participants will be kept separate from the tapes and be available only to the test administrator. The coder(s) will not have access to your name.

It is expected that you will not have any problems as the result of your participation in this experiment. If you do, however, feel it necessary to talk to someone about your participation, A.P.S.U. operates a Counseling and Testing Services office on the second floor of the Ellington Building and you may utilize those services if you find it helpful. You may also contact Dr. Paul Shaffer in the Department of Speech, Communications, and Theatre (at 648-7973), who is the faculty advisor for this project.

You may withdraw from the experiment at this time. If you choose to continue in the experiment and allow the data pertaining to your participation to be analyzed, you need to

read and sign a second consent form (Appendix B).