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## **Managerial Beliefs about the Behavioral Cues of Deception**

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**ABSTRACT** - Lies and deception occur regularly in the workplace during the application and interview process, as excuses for failures and missed deadlines, or as excuses for absenteeism. Undoubtedly, this workplace deception results in tremendous financial losses for companies. Generally, people believe that they can use behavioral cues to detect when others are lying to them. This study examined the behavioral cues that managers use to detect when others are lying. Managers ( $N = 120$ ) completed a survey in which they indicated the degree to which ten separate behavioral cues increase, decrease, or stay the same when people lie to them. For the most part, managers held incorrect beliefs about the behavioral changes that typically accompany lying. The managers' beliefs about lying behavior were compared to the beliefs held by non-managerial employees. The results of this comparison indicated that managers and non-managers hold similar incorrect beliefs about the behavioral changes that occur when people lie, although managers are more confident in their ability to detect lies.

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Lying and other forms of deception occur quite often in most social contexts. Previous research indicates that when individuals track and tabulate their own lying behavior as it occurs in the natural environment, they report lying in approximately 25% of their social interactions (DePaulo & Bell, 1996; DePaulo & Kashy, 1998; Kashy & DePaulo, 1996). The workplace is one social context

in which lying appears to be quite common (Robinson, Shepherd, & Heywood, 1998). Lies and deception occur regularly in the workplace during the application and interview, as a mechanism to advance one's standing within an organization, as excuses for failures and missed deadlines, or as excuses for absenteeism.

Vrij (2000) delineated several reasons why people, including employees, lie. An employee might lie in order to create a more positive impression or in order to obtain an advantage over someone else. Alternatively, employees may lie in order to avoid or escape criticism, embarrassment, or punishment. In addition to these obviously hedonistic lies, it has also been observed that many lies serve simply to facilitate normal social intercourse (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). That is, many "white lies" simply reduce interpersonal friction or awkwardness and ease social interactions between people. Thus, it appears that lying occurs in the workplace because it often results in access to reinforcers or avoidance of aversive situations and conditions.

While some workplace lies might be relatively benign, other lies by employees can lead to significant negative consequences for the organization. One need only look at recent events within companies such as TYCO, Enron, and WorldCom to see that lies and deception by employees can cost businesses billions of dollars and lead to the complete collapse of previously sound organizations. Therefore, it is important for managers to successfully detect deception by their employees that might harm the organization. Unfortunately, a large body of research suggests that most people are not very skilled lie detectors (see Vrij, 2004 for a review). These previous studies examining the ability of individuals to detect lies indicate that, on average, people perform only slightly better than chance levels when trying to determine whether or not another person is lying. People may have trouble detecting lies because they have poor knowledge of the cues that indicate when one is lying (Vrij, 2004). It may also be difficult to detect a lie because liars are often quite skilled at concealing any behavioral or verbal indications that would reveal their deception (Vrij, 2004). Understanding the indications of lying would certainly benefit any manager wishing to detect lying and deception in his or her employees.

Given the ubiquity of lies, it seems natural that people would attempt to develop strategies for the detection of lies in others' communications. People have described cues of deception for centuries. For instance, in 900 B.C. the Vedas books of Hindu holy knowledge described that a liar "rubs his big toe on the ground, shivers, his face is discolored, he rubs the roots of his hairs with his fingers, and he tries by every means to leave the house." (Seager & Wiseman, 2001). Both in basic research and in applied situations, researchers have deciphered behavioral, verbal, and physiological cues associated with lying. However, these cues, while associated with lying, are not certain indications of lying. There do not appear to be any indicators that, when present, necessarily inform us of a person's deceptive behavior.

There are several theoretically-grounded, scientifically-based approaches to lie detection. One such approach is to examine changes in a number of physiological variables as a person lies or tells the truth. Since the early decades of experimental psychology, practitioners and researchers have used variations of the modern polygraph instrument to detect lying (Larson, 1927; Marston, 1917). While used as a lie-detecting device, the polygraph is, in fact, a tool that only measures physiological arousal through indices such as electrodermal, respiratory, and cardiovascular activity. Although lying is often associated with increased physiological arousal, so too are a number of other emotional and cognitive experiences. The polygraph simply measures whether or not physiological variables change while an individual is being questioned. The assumption is that if a person is lying, he will be more nervous, and this anxiety will lead to increased physiological arousal. Thus, the polygraph results are, at best, indirect measures of lying. Given that many liars do not exhibit physiological arousal and many truth-tellers do, there are still questions and concerns regarding the validity of the polygraph as a measure of deception (Honts, 1994; National Research Council, 2002).

In addition to physiological indications, researchers and practitioners have also used vocal cues to detect lying. Some of these vocal cues include speech interruptions, speech hesitations, pauses, the latency to respond to questions, the length of answers, and changes in vocal pitch (Vrij, 1995; Vrij, Edward, & Bull, 2001; Vrij, Edward, Roberts, & Bull, 2000). In addition to the physical characteristics of vocal responding, some of the contents of verbal responses reportedly change when a person lies. Some of these changes include descriptions of feelings, reproductions of speech, amount of detail, logical inconsistencies, plausible descriptions, and spontaneous corrections (Vrij, Edward, Roberts, & Bull, 2000). While the use of vocal or verbal analyses has been used to detect lies with some degree of success, such analyses are unfortunately time-consuming and require intensive training for analysis and scoring (Vrij, 2000; Vrij, Evans, Akehurst, & Mann, 2004). Therefore, while the analysis of verbal reports might be useful in some cases, real-time detection of liars is not feasible and the real-world application of such techniques will likely be limited to special circumstances such as criminal investigations. Like the physiological measures, these verbal cues are often associated with lying, but are not consistent indications of lying. Liars do not necessarily exhibit these verbal changes when lying, and people may exhibit these verbal changes when telling the truth.

The lie detection technique with the longest history is the analysis of non-verbal behavioral cues. These cues to deceptive responding can be detected when the specified non-verbal behaviors deviate significantly from levels generally seen during honest responding. In contrast to the many stereotypes about the behavior of liars, analyses of the research literature on this topic have revealed surprisingly few non-verbal behaviors that are consistently associated with lying

(DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Vrij, 2004). While a number of behavioral changes such as changes in eye contact, posture, or eye blink frequency have been noted to change during lying, research reports of changes in these variables are inconsistent and contradictory. The only behavioral differences between liars and non-liars that have been consistently observed are that liars exhibit fewer hand, arm, foot, and leg movements. As with the physiological and verbal cues, these non-verbal behavioral cues occur with significantly greater frequency when people lie, but they are not definitive indicators of lying.

Research examining individuals' beliefs about the appearance of deceptive behavioral patterns suggests that people tend to hold a number of incorrect beliefs about the actual behavioral cues associated with lying. For instance, Akehurst, Kohnken, Vrij, and Bull (1996) found that both police officers and lay persons tend to believe that changes in eye contact, blinking, fidgeting, smiles, postural adjustments, and self-manipulations are indications of lying. Although subjects correctly associated hand, arm, foot, and leg movements with lying, they incorrectly believed that these behaviors increase rather than decrease. Thus, while several behaviors do tend to reveal when a person is lying, subjects in previous research have held incorrect beliefs about these behavioral indicators.

This study focused on managers' beliefs about lying behavior. The aim of this study was to determine whether or not managers hold correct beliefs about the behaviors exhibited during deception. Specifically, we examined whether the non-verbal behavioral cues that managers reportedly use to detect deception are valid indications of deception, as identified by previous scientific studies. Our primary hypothesis was that managers would hold a number of false beliefs about the actual behavioral changes that occur when a person is lying. Furthermore, we were interested in whether the beliefs about behavioral cues of lying differed between managers and non-managerial employees. If managers have lie-detection as one of their inherent job tasks, then presumably they would be more practiced at detecting deception in others. Our hypothesis was that there would be significant differences in the beliefs about deceptive behavior between managers and non-managerial employees, with managers holding beliefs that were more accurate or correct than those of non-managerial employees. Furthermore it was expected that, because of their occupational experiences, managers would be more confident than non-managers in their ability to detect lies.

## **Method**

### ***Participants***

Participants in this study were 120 managers and 120 non-managerial employees from public and private companies and municipal institutions in Oklahoma. The managerial group consisted of 68 female and 52 male participants. Their average age was 43.15 ( $SD = 12.45$ ) years and, on average,

they had 12.04 ( $SD = 10.09$ ) years of managerial experience. The mean number of employees that the managers supervised was 14.7 ( $SD = 21.99$ ). Of the non-managerial employees, 30 were male and 90 were female. The mean age of the non-managerial employees was 34.71 ( $SD = 14.24$ ) years.

### Procedure

All subjects completed a questionnaire based on one used by Akehurst, Kohnken, Vrij, and Bull (1996) that consisted of demographic questions and questions about lying behavior. The questionnaire asked subjects to indicate whether they believed ten separate non-verbal behaviors increased, decreased, or remained stable when people lie. The questionnaire used a seven point rating scale where 1 indicated a significant decrease in behavior, 4 indicated no change in the behavior, and 7 indicated a significant increase in the behavior. Participants also provided ratings of confidence in their own ability to detect lies on a 7 point rating scale where 1 indicated "not confident at all" and 7 indicated "extremely confident."

## Results

One-sample t-tests were conducted for each of the ten non-verbal behavioral variables in order to determine if managers' ratings were significantly different from 4, indicating a belief that behaviors either increase or decrease during lying (see Table 1). Table 1 shows that, for every behavioral cue except smiling, the

**Table 1**  
**Managers' Beliefs About Lying-Related Changes in Behavior Compared to a "No Change" Rating of 4.00**

Deception Variable	Mean (SD)	t	Belief	Prior Research
Eye contact	2.42 (1.61)	10.796***	Decrease	No change
Eye blinks	4.91 (1.30)	7.637***	Increase	No change
Head movements	4.92 (1.08)	9.286***	Increase	No change
Hand and finger movements	5.00 (.93)	11.832***	Increase	Decrease
Arm movements	4.83 (.97)	9.382***	Increase	Decrease
Leg and foot movements	4.94 (1.10)	9.358***	Increase	Decrease
Smiles	3.96 (1.19)	0.383	No change	No change
Postural shifts	5.23 (1.00)	13.216***	Increase	No change
Shrugs	4.97 (1.04)	10.216***	Increase	No Change
Gestures	5.03 (1.03)	10.595***	Increase	No Change

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

managers' beliefs were inconsistent with actual lying behaviors consistently observed in previous research.

A one-sample *t*-test was conducted in order to determine if managers and non-managers differed in confidence in their ability to detect lying. As was expected, managers were significantly more confident in their ability to detect lying among coworkers ( $t(1,238) = 2.32$   $p < .05$ ) with managers having a mean of 5.11 ( $SD = .93$ ) and non-managers having a mean of 4.78 ( $SD = 1.22$ ).

*t*-test comparisons were made between managers and non-managers for beliefs about lying behaviors (see Table 2). As shown in Table 2, there were no significant differences between managers and non-managers.

**Table 2**  
**Comparison of Managers' and Non-Managers' Beliefs**  
**About Lying Behaviors**

Deception Variable	Managers Mean (SD)	Non-Managers Mean (SD)	<i>t</i>
Eye contact	2.42 (1.61)	2.57 (1.71)	.701
Eye blinks	4.91 (1.30)	4.77 (1.55)	.767
Head movements	4.92 (1.08)	4.68 (1.36)	1.523
Hand and finger movements	5.00 (.93)	4.98 (1.22)	.119
Arm movements	4.83 (.97)	4.71 (1.14)	.913
Leg and foot movements	4.94 (1.10)	4.92 (1.14)	.173
Smiles	3.96 (1.19)	4.24 (1.52)	1.569
Postural shifts	5.23 (1.00)	4.93 (1.30)	2.001
Shrugs	4.97 (1.04)	4.73 (1.17)	1.705
Gestures	5.03 (1.03)	4.96 (1.24)	.454

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

## Discussion

It was determined that, with the exception of smiling, managers held incorrect beliefs about the behavioral indications of lying. As can be seen in Table 1, managers tended to believe that most of the ten behaviors increase during lying. However, reviews of the literature suggest that there is little conclusive evidence that behaviors change when people lie. While hand, arm, finger, foot, and leg movements do consistently decrease during lying, managers held the incorrect

belief that these behaviors increase. These results support the conclusion that managers are ignorant about the actual behavioral cues associated with lying.

While it was expected that managerial experience would confer some advantages in knowledge of lie detection, the managers and non-managers did not differ significantly in the cues they believed to be associated with lying. These results may indicate that the experiences managers have attempting to detect deception in their employees do not represent a learning opportunity in which managers develop explicit insights into the behaviors associated with lying and deception. This finding is not entirely surprising. While some research indicates that certain occupational experiences, such as working for the Secret Service, is associated with more accurate lie detection (Ekman & O'Sullivan, 1991), most research suggests no link between occupational experience and accuracy (DePaulo & Pfeifer, 1986). Interestingly, despite their similarity in the cues used to detect deception, managers were significantly more confident than non-managers in their ability to detect lying. As previous research has indicated, confidence in lie detection and accuracy in lie detection are often unrelated (DePaulo & Pfeifer, 1986).

The results of the present study are consistent with those of previous similar studies. Akehurst, Kohnken, Vrij, and Bull (1996) found that both police officers and lay persons held incorrect beliefs about the behavioral cues of lying. Participants in a study by Zuckerman, Koester, and Driver (1981) also reported beliefs about the appearance of lying behavior that do not correspond to actual lying behaviors reported in the research literature. Therefore, the current results support the previously reported finding that people hold inaccurate beliefs about the form of deceptive behavior.

Before concluding that managers are inept lie detectors, one should consider a couple of alternative explanations. First, it is possible that managers are capable of detecting lies, yet are not consciously aware of the cues that they use to detect lies. Second, it is possible that the "actual" lying behaviors gathered from previous research and reported in this study are not accurate representations of the lying behaviors that actually occur in the real world. Most of the studies on lying behavior have occurred in the laboratory where stakes are low and conditions are artificial. However, Mann, Vrij, and Bull (2002) were able to study the behavior of suspects lying in actual police interviews. They concluded that the lying behavior seen in that real-world context were similar to the lying behaviors observed in laboratory settings.

What should be made of the results of this study? Undetected lies no doubt have a tremendous negative effect on businesses nationwide. Lies by employees support lost productivity, conceal errors and wrongdoing, and help ensure that unqualified workers will be hired. If managers are poor lie detectors, they might benefit from training in the detection of deception among employees. Reviews of training studies lead one to the conclusion that training produces benefits in

lie detection, but the performance improvements that training yields tend to be quite modest (Frank & Feeley, 2003; Vrij, 2000).

In summary, managers have incorrect ideas about what lying looks like. The incorrect ideas held by managers are the same as those held by non-managers, suggesting that experience as a manager does not seem to change the non-verbal behavioral cues that they report using to detect deception. Finally, while managers hold many incorrect beliefs about deceptive behavior, they report a relatively high level of confidence in their ability to spot liars.

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