

## Detecting Lies Told by Friends and Strangers

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*The research investigated the hypothesis that having a personal relationship with someone improves one's ability to detect lies in verbal statements. In Study 1, we found that people reported higher levels of confidence in their ability to detect lies told by someone close to them versus a stranger. In Study 2, we conducted a lie detection experiment with additional participants. The results indicated that having a personal relationship with the storyteller did not lead to significantly higher accuracy. However, additional analyses showed that accuracy was significantly predicted by how often the storyteller reported lying in everyday life and the amount of time the storyteller and story judge spent together each week. The results are consistent with the view that behavioral cues are produced during lying, and success in lie detection can occur when one becomes skilled at perceiving those cues; however, individuals can vary in their skill level.*

Over the last two decades, there have been numerous studies investigating accuracy in the detection of lies in verbal statements (See Vrij, 2000). This research has implications for individuals involved in law enforcement and the justice system, but also has implications for ordinary people who are likely to be on the receiving end of deception everyday (See Feldman, Forrest, & Happ, 2002; DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). Interpersonal deception may lead to financial losses as well as emotional distress. The majority of scientific studies investigating the accuracy of college students or other laypersons have shown that performance above chance is rare (See Vrij, 2000). The purpose of the present research was to investigate the hypothesis that people are better detecting lies in verbal statements told by people they know well versus strangers.

Our research was initiated in response to media coverage in high-profile criminal investigations. Journalists appear to seek out family and friends of suspects or defendants in order to ascertain the extent to which the family and friends believe statements made by the accused. For example in 2001, when Gary Condit was suspected of knowing something about the disappearance of the intern Chandra Levy, jour-

nalists doggedly pursued Condit's wife for comment. Relatively late in the investigation, she made the statement that she was "behind Gary 100 %" (Associated Press, 2001). The statement had no impact on the concrete details of the investigation; however, it may have influenced the public perceptions as well as perception of those involved in the investigation. In 2003, there was a similar interest in the beliefs of Lacy Peterson's family about Scott Peterson's possible involvement into Lacy's disappearance. Soon after the disappearance, members of Lacy's family made public statements that they believe Scott Peterson's accounts (Associated Press, 2003a). A month later, upon discovering that he had been involved in an extra-mari-

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tal affair during the weeks leading up to his wife's disappearance, the family retracted their support of Scott's statements (Associated Press, 2003b). The family's initial belief in Scott's statements and then subsequent disbelief greatly influenced public opinion. These cases and others suggested to us that there appears to be an implicit assumption in our culture that those closest to an individual know the person best and would be able to determine when/if the person was lying.

Although journalists and the general public may tend to believe that family members and friends are better judges of a person's honesty than are others, the empirical literature on lie detection has yielded no evidence for this view thus far. In fact, the literature on lie detection has shown that most people are generally poor lie detectors. In most studies with individuals who are not directly involved in law enforcement, performance on lie detection tasks is rarely above chance (See Vrij, 2000). Studies with individuals who work in law enforcement have yielded similar results; Vrij (1993) tested a group of detectives in a lie detection task and observed an accuracy rate was at chance level (i.e., only 49%), and Elaad (2003) tested a group of police officers and found their performance was below chance. Elaad also found that participants generally believed that they were good lie detectors and were confident in their lie-detecting judgments. The author pointed out that inaccuracy coupled with over confidence is a dangerous combination as it can turn "suspicion into certainty" and increase the possibility of obtaining false confessions.

The low accuracy rates in lie-detection studies may be evidence that when evaluating statements of others, listeners believe statements of true more often than they believe they are lies. Stiff, Kim, & Ramesh (1992) argued that most lies are not detected because people are seen as typically honest and lying is viewed as not prevalent. He referred to this tendency as truth bias. A truth bias is consistent with the views of Grice (1989) who proposed that there are conversational norms which guide the delivery of information from speaker to listener. One of the four norms is the Maxim of Quality, which states that speakers avoid making statements that are known to be false. Because as speakers we follow the norm to be truthful (as much as it is relevant), we may also implicitly assume others follow the same conversational norm when they are speaking to us. The intriguing implication is that those speakers who routinely violate the norm may demonstrate the truth bias less often. Those who frequently lie might perceive lying as more prevalent than those who lie less often. We will address this issue further in the Discussion.

We reasoned that more familiarity with a person would lead to more opportunity to observe and to learn the person-specific behavioral cues that produced during lying. In the increasingly familiar world of poker-playing, such behavioral cues would be called tells. When bluffing, a person might adjust his or her stack of chips or twist a ring or some other innocuous behavior. Learning what behaviors are commonly produced when one lies requires ample experience with the person, both when they have produced truthful and deceptive verbal statement. In the lie detection literature, there is ample evidence that individuals may produce different verbal and nonverbal behaviors during lying versus truth-telling. Ekman, O'Sullivan, Friesen, and Scherer (1991) analyzed verbal and nonverbal cues for those providing truthful and dishonest verbal statements. Analyses of smiling behaviors and pitch of the voice could distinguish lies from truths in 86 % of the cases. Frank and Ekman (1997) found that the analysis of very small (micro) facial expressions could distinguish 80 % of lies from truths.

A small, but growing area of research suggested that some individuals may be able to learn to spot specific behavioral cues associated with lying (Ekman & O'Sullivan, 1991; Ekman, O'Sullivan, Friesen, & Scherer, 1991; Ekman, O'Sullivan, & Frank, 1999). In the most recent demonstration, Ekman et al. (1999) investigated whether three professional groups (i.e., two law enforcement groups and a group of psychologists) with special interest or skill in deception had high accuracy at detecting lies based on demeanor. Participants viewed brief video segments in which a person described a personal opinion. The highest accuracy rates (i.e., 77%) were observed for federal agents working with the Central Intelligence Agency. Other groups' accuracy rates were between 50 and 67 %. Ekman et al. (1999) showed that all groups were significantly more accurate judging lies than judging truths, a pattern that the authors stated had not been observed in prior research involving less accurate groups.

We also reasoned that the content of an individual's verbal statements may vary when the statement is true versus contains false facts. Familiarity with an individual may provide one with experience detecting cues of deception in the content. Recent research has shown that the verbal content of true and false statements may differ systematically. Newman, Pennebaker, Berry, and Richards (2003) collected true and false verbal statements from college students. Statements either did or did not reflected the students' true opinion on a controversial topic, such as abortion. They found that false statements generally contained fewer first-person singular pronouns, more

words that reflect negative emotion, more motion verbs and fewer exclusive words (e.g., *but* and *except*). False statements were also found to be less cognitively complex, in that they contained more concrete verbs and shorter sentences. Using a computerized text-based analysis program, they were able to classify false and true statements 67 % of the time when the topic was invariant. Overall, the computer program was accurate on 61 % of statements.

In the present research, we set out to determine whether there is a general tendency for people to believe that they are better at detecting lies in the verbal statements of those they know well versus those that they do not know well and whether having a personal relationship with a person resulted in a general higher accuracy in detecting lies as compared to detecting lies told by a stranger. We recognized that several outcomes were possible. People may be better at detecting lies told by friends than lies told by strangers and because of life experience with actual lying friends, they have developed a belief their ability to detect lies told by friends. Second, people may believe they are better at detecting lies told by friends, but perform no differently in lie detection tasks involving friends and strangers. As Elaad (2003) showed with law enforcement individuals, confidence does not ensure accuracy. Third, people may be worse at detecting lies told by friends than lies told by strangers, because there may be a psychological need to believe the statements of friends. There may be anxiety related to being involved in close friendships in which lies could occur without detection. People can generally convince themselves that they would be able to spot a lie if told to them by a close friend, because not believing this might lead to psychological distress.

In the present paper, we reported the results of two studies. In Study 1, we surveyed college students about their lying behaviors, beliefs about lying, and their ability to tell lies and to detect lies told by people they know well versus people they do not know well. The results of this study confirmed our observation that there is a general bias to believe that it is easier to detect lies told by someone you know well than to detect lies told by a stranger. In Study 2, we conducted a lie detection experiment in which we compared accuracy in detecting lies told by a friend and lies told by a stranger. The results of this experiment demonstrated that for most people, knowing a person well did not lead to better overall performance. However, there were significant correlations observed between accuracy and (a) how often the storyteller tells lies in everyday life, (b) the closeness of the relationship between the storyteller and story judge, and (c) the amount of time the storyteller and

story judge spent together each week. Implications for real world lie detection are discussed.

## Study 1

The purpose of Study 1 was to determine whether there is a general belief or bias that one is better able to detect lies in the verbal statements of someone they know well versus the statements of a stranger. Each participant completed a short questionnaire.

### Method

**Participants.** Sixty undergraduates enrolled in psychology courses at Oklahoma State University participated in exchange for course credit. The average age for participants was 22 years ( $SD = 3.08$ ).

**Materials and Procedure.** Participants completed a one-page questionnaire on which they indicated their ability to tell lies, their ability to detect lies, how often they lie, their opinion of lying, and if they thought they were better at lying and detecting lies from a friend or a stranger. Two versions of the questionnaire were used. Half of the participants received the questionnaire with the statement, "I am good at knowing when people I know well are lying (1 = *disagree*, 7 = *agree*)" appearing before the statement, "I am good at knowing when people I don't know well are lying (1 = *disagree*, 7 = *agree*)"; half of the participants received the questionnaire with the opposite order. A copy of these questions has been provided in Appendix A.

### Results

Mean responses were calculated for each question on the questionnaire. The results indicated that participants report greater confidence in detecting lies told by someone close to them than lies told by a stranger (5.17 vs. 3.80, respectively),  $t(59) = 6.83, p < .01$ . In contrast, participants judged their ability to lie to someone close to them as comparable to their ability to lie to a stranger (3.40 vs. 3.48, respectively),  $t(59) = .32, p > .05$ . Table 1 displays these results.

We also found evidence that there were relationships among attitudes about deception. Table 2 summarizes the results from correlational analyses. The most noteworthy results are those involving participants' self-reported lying ability and how often they lied. Participants' self-reported lying ability was positively correlated with how often they lied,  $r = .51, p < .01$ . Lying frequency and lying ability were positively correlated with responses to the statements, "People lie all the time,"  $r = .34, p < .01$  and  $r = .30, p < .01$ , respectively; and "Lying is okay as long as if you don't get caught,"  $r = .41, p < .01$ , and  $r = .32, p < .01$ , respectively. These results were consistent with two interpretations: (a) individuals who viewed themselves as

skilled liars were likely to engage in lying more often, or (b) the more a person lied, the more confident he or she becomes about their lying ability. Individuals who lied frequently may have (a) viewed others were similar to themselves and lied frequently or (b) viewed others as lying frequently and decided to lie frequently themselves. We were particularly intrigued by the fact that there was no significant relationship between individuals' view that lying was wrong and how often they lied,  $r = -.10$ ,  $p > .05$ . One might have expected a stronger negative correlation indicating that stronger beliefs that lying was wrong was associated with less lying.

### Discussion

The results provided support for the hypothesis that individuals believed themselves to be better able

to detect lies told by someone close to them than lies told by someone that they do not know well. The purpose of Study 2 was to determine whether having a personal relationship with someone results in better accuracy in judging the truthfulness of one's verbal statements versus judging the truthfulness of a stranger's verbal statements.

### Study 2

The purpose of Study 2 was to determine whether one's ability to detect lies in verbal statement is influenced by having a personal relationship with the person making the statement. Additional participants were recruited to participate in a lie detection task in which verbal statements were judged as true or false. Pairs of same-gender friends were recruited for the experiment. One member of each pair was assigned

**TABLE 1**

**Summary of Ratings About Ability to Detect Lies and to Tell Lies From Study 1.**

	<i>M</i>	<i>SD</i>
I am good at knowing when people I know well are lying.	5.17	1.50
I am good at knowing when people I don't know well are lying.	3.80	1.67
I am good at lying to people I know well.	3.40	1.50
I am good at lying to people I don't know well.	3.48	1.84

Note: Participants ratings involved a scale from 1 to 7 (1 = disagree, 7 = agree).

**TABLE 2**

**Summary of Results of Correlational Analyses From Study 1.**

	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
1. I am a good liar.	.51	-.06	.23	.32	.25	.09	.12	.20	.27
6. How often do you lie?		-.10	.47	.41	.60	-.07	-.19	.44	.34
7. Lying is wrong and should never happen.			-.37	-.13	-.27	-.18	.12	.25	.14
8. Lying is okay if it doesn't hurt anyone.				.53	.46	.22	.09	-.15	.09
9. Lying is okay as long as if you don't get caught.					.57	.08	.20	-.10	-.11
10. I don't have any problem with lying.						-.12	-.14	+.21	.06
11. I believe people lie only in special circumstances.							.46	-.36	-.23
12. I believe people lie on rare occasions.								-.44	-.21
13. I believe people lie somewhat frequently.									.56
14. I believe people lie all the time.									

Note: Boldface font indicates significant results,  $p < .05$ .

to be the storyteller. The other was assigned to be the story judge. Storytellers participated first. They provided eight verbal statements, each describing a life event that either did or did not happen to the speaker. In order to ensure facilitating to a storytelling phase, we provided participants with a list of 50 life events from which they could choose events that they had experienced and events that they had not experienced. The number of true stories among the eight was randomly determined as was the order of stories on the videotape. Each story was to last 2 or 3 min. In a separate session, the videotape was shown to 2 participants: 1 being a friend of the storyteller and 1 being a stranger to the storyteller. Judges viewed each story and indicated whether they believed if each story was true or a lie.

### Method

**Participants.** The participants were 44 (16 male, 28 female) additional undergraduates at Oklahoma State University. Participants were enrolled in the study as friends (same-gender, nonromantic friends). One participant in each pair was enrolled in a psychology course and received credit for their participation. All participants were native speakers of American English. The average age of the participants was 19 years ( $SD = 1.32$ ).

**Materials and Procedure.** All participants signed up for the study with a friend of the same gender. One was randomly assigned to be the storyteller, and the other to be the story judge. Storytellers and story judges were tested at different sessions.

Storytellers were informed that they would tell eight stories about previous personal experiences. They were given a list of 50 life events from which they selected 8 events that had happened to them and 8 events that had not happened to them. This list has been provided in Appendix B. The interviewer then randomly determined for that participant the number of stories out of eight that would be true for that participant's storytelling session. The numbers one through eight were written on slips of paper and placed in a bowl. The interviewer picked a number out for each participant. For example; if the interviewer drew out the number five, then the storyteller would describe five events that had happened to them and three events that had not happened to them. The storyteller would then go back to the list of life events and make final selections of the events that would be described. At this stage, storytellers were told to choose events for the true statements that their friend was unlikely to have heard about before. Before videotaping began, the interviewer created a random ordering of the stories that would be told. Each story topic labeled as

either true or false was put in a bowl. The interviewer drew out the topics one at a time. This ordering of topics was used for the sequence captured on videotape. The interviewer instructed storytellers to take two to three minutes to describe each event and to try to be as convincing as possible.

Following the videotaping, the storytellers completed questionnaires in which they rated their opinion of their own ability to tell lies, their ability to detect lies, how often they lie, their opinion of lying, and if they thought they were better at lying and detecting lies from a friend or a stranger. A copy of these questions has been provided in Appendix B. Participants also answered a demographics questionnaire, including questions about the closeness of their relationship to the friend. Participants rated the nature of their relationship on a scale from 1 to 7 (1 = *strangers*, 7 = *best friends*). Participants rated the closeness of their relationship (1 = *not close*, 7 = *very close*). Participants indicated how much time they spend with their friend outside of class each week. Participants indicated how long they had known their friend. Before storytellers left the session, the interviewer reminded them that it was important not to discuss the stories that they told with their friend. Participants typically seemed eager to comply with this instruction. Participants appeared to enjoy the possibility of making it as difficult as possible for their friend to judge the truthfulness of their stories.

For each story judge, the interviewer began the session by telling the judge that two sets of eight stories would be viewed. One set of stories would be told by a friend, and one set of stories would be told by a stranger. Half of the story judges judged stories told by a friend first and half judged stories told by a stranger first. Story judges were always the same gender as the storytellers. Each story judge was given a response sheet with 16 lines for responses. For each line, there was a space to write in a sentence describing the story topic. To the right, there were the words TRUTH and LIE. They were told to circle the appropriate word for each story. Story judges were also told that for each storyteller, the number of true stories was randomly determined. A storyteller could tell eight stories that were all true or eight stories that were all lies. They were instructed to judge each story without considering the stories that had come before. Following the judging, each judge completed the same questionnaires that storytellers had completed.

### Results and Discussion

Responses of story judges were scored for accuracy, and mean accuracy was computed for the friend and stranger conditions. Appendix C displays sam-

ples of stories from the experiment. Table 3 displays mean accuracy by condition. Our results indicated that friends were numerically slightly more accurate than strangers (61 % vs. 55 %, respectively); however, the difference in mean accuracy for the two conditions was not significant,  $t(21) = 1.29, p > .05$ .

The only support for the view that knowing a person well influenced accuracy in lie detection was obtained in correlational analyses. Accuracy in the friend condition was found to be significantly correlated with how often the storyteller reported lying in everyday life,  $r = .54, p < .01, r^2 = .29$  and also with how much time the friends spent together each week,  $r = .57, p < .01, r^2 = .32$ . These correlations suggest that friends may become more skilled at detecting deception through time spent together if deception is occurring. It is interesting to note that storytellers' view of their lying ability was not significantly related to the accuracy rates of judges,  $r = .15, p > .05, r^2 = .02$ . The data was analyzed by multiple regression in which accuracy in the friend condition was predicted from how often the storyteller reported lying in everyday life and how much time the friends spent together each week. The regression produced indicated that

43 % of the variance in accuracy in the friend condition could be explained,  $R^2_{adj} = 43\%$ ; the overall relationship was significant,  $F(2,19) = 8.81, p < .01$ .

We also analyzed participants responses to the questionnaire used in Study 1. On average, all participants reported believing that they were better at detecting lies told by friends than lies told by strangers (5.25 and 3.70, respectively),  $t(86) = 5.26, p < .01$ . Participants who had been storytellers were more confident in their lie-detecting abilities than participants who had been story judges (5.09 and 3.86, respectively),  $t(42) = 4.31, p < .01$ . The size of the mean difference in the rated confidence judging lies told by friends and strangers did not differ significantly for participants who had been storytellers and story judges (1.82 and 1.27, respectively),  $t(42) = 1.13, p > .05$ . We observed that participants' role in the study (i.e., storyteller vs. story judge) significantly influenced the extent to which they reported "not having any problem with lying"; storytellers agreed more than story judges (3.41 vs. 2.18, respectively),  $t(42) = 2.44, p < .01$ . This result suggested that the act of telling lies may lead to developing less negative attitudes toward lying, even when the telling of lies was part of a controlled experiment (see Table 4).

Efforts were made to analyze the content of the stories produced in the study following the coding used by Newman et al. (2003). In our analyses, we found no significant differences in measures of content from true and false stories. There were no significant differences in the mean number of words in true and false statements. There were no significant differences in the number of times the speaker said "uhm" or paused during speaking. There were no significant differences in the number of first person personal pronouns used in true and false statements. There were no significant differences in the number of negative words (e.g., *no, not, never*, among others) used in true and false statements. Prior research had observed differences in word usage in true and false

TABLE 3

**Summary of Performance in Lie Detection Task From Lie Detection Study.**

	Storyteller was a Friend	Storyteller was a Stranger
Mean Accuracy	61%	55%
SD	.17%	.17%
Minimum	25%	13%
Maximum	100%	88%

TABLE 4

**Summary of Ratings About Ability to Detect Lies Told by Friends and by Strangers for Storytellers and Story Judges From Study 2.**

Participant's Role	Ability to Detect Lies Told by Friend	Ability to Detect Lies Told by Strangers
Storyteller	5.73 (1.16)	4.45 (1.26)
Story judge	4.77 (1.02)	2.95 (1.46)
Mean	5.25 (1.18)	3.70 (1.54)

Note: Participants ratings involved a scale from 1 to 7 (1 = disagree, 7 = agree). Standard deviation in parenthesis.

opinion statements. It is possible we did not observe these differences because our participants described everyday life events.

### Discussion

The present research demonstrated that people generally believe they are better at detecting lies in statements told by friends than strangers; however, in an experiment, we found that when participants attempted to judge verbal statements as truth or as lies, participants' accuracy was not significantly different when verbal statements were made by a friend or by a stranger. Nevertheless, we found some evidence that aspects of the personal relationship between the storyteller and the story judge was significantly related to accuracy. The strongest predictor of accuracy in the friend condition was the combination of how often the storyteller lied in everyday life and how much time per week the storyteller and story judge spent together. We viewed this relationship to be similar to a practice effect. For those judges who had the most opportunity to observe their friend lying and possibly being caught telling lies, they were the most accurate. In our study, we did not ask participants how often they had caught their friends in a lie. Had we obtained this information, it may have been possible to account for additional variance in accuracy rates. We would expect that judges with direct experience discovering a friend's lying would be better at lie detection than judges without direct experience discovering a friend's lying.

We acknowledge that the content of the verbal statements collected in the lie detection study can be viewed as neutral when compared to the types of verbal statements under scrutiny in criminal investigations. The neutrality of the stories was unlikely to evoke in story judges the type of psychological stress associated with considering the possibility that a friend may be lying. Outside of the laboratory, when we consider the possibility that a friend might be lying, we may be psychologically resistant to concluding that a lie has been told. One may view this as a form of truth bias arising from close relations. We may readily believe a lie, if the truth would be inconsistent with our view of the person close to us or require us to accept an unpleasant reality. In this way, the failure to detect the lie may be not only related to poor lie-detecting ability, but also be a form of ego-protection. Certainly, more research on the psychological processes involved in lie detection and lie-detecting ability is warranted. Because law enforcement personnel rely on information obtained from family and friends of criminal suspects, understanding how personal relationships

affect lie detection could ultimately lead to improvements in criminal investigations.

In sum, the present research clearly demonstrated that there is a general belief that one can detect lies told by someone close to them better than they can detect lies told by a stranger. We found some support for this view in correlational analyses involving accuracy, how often the storyteller lied in everyday life, and how much time the storyteller and story judge spent together each week; however, on average, story judges were not significantly more accurate judging stories told by friends than stories told by strangers. Future research investigating the extent to which personal relationships influence lie detection and perceptions of the veracity of verbal statements is warranted. In situations in which verbal statements contain content that the storyteller views as inconsistent with their perception of the storyteller's character, having a personal relationship with the storyteller may impede rather than facilitate lie detection.

### References

- Associated Press (2001). *Condit's wife breaks silence for first time*. Retrieved June 4, 2005, from [http://www.courttv.com/archive/news/2001/1026/condit\\_ap.html](http://www.courttv.com/archive/news/2001/1026/condit_ap.html).
- Associated Press (2003a). *Police in California town of missing woman seek public's help in case*. Retrieved June 4, 2005, from [http://www.courttv.com/news/2003/0103/missing\\_ap.html](http://www.courttv.com/news/2003/0103/missing_ap.html)
- Associated Press (2003b). *Relatives of missing pregnant woman say police told them husband having an affair*. Retrieved June 4, 2005, from [http://www.courttv.com/news/2003/0117/laci\\_cnn.html](http://www.courttv.com/news/2003/0117/laci_cnn.html)
- DePaulo, B. M., Kashy, D.A., Kirkendol, S. E., Wyer, M.M., & Epstein, J.A. (1996). Lying in everyday life. *Journal of Personality and Social Psychology*, 70, 979-995.
- Ekman, P., & O'Sullivan, M. (1991). A few can catch a liar? *American Psychologist*, 46, 913-920.
- Ekman, P., O'Sullivan, M., & Frank, M. G. (1999). A few can catch a liar. *Psychological Science*, 10, 263-266.
- Ekman, P., O'Sullivan, M., Friesen, W. V., & Scherer, K. (1991). Face, voice, and body in detecting deceit. *Journal of Nonverbal Behavior*, 15, 125-135.
- Elaad, E. (2003). Effects of feedback on the overestimated capacity to detect lies and the underestimated ability to tell lies. *Applied Cognitive Psychology*, 17, 349-363.
- Feldman, R. S., Forrest, J. A., & Happ, B. R. (2002). Self-presentation and verbal deception: Do self-presenters lie more? *Basic & Applied Social Psychology*, 24, 163-170.
- Frank, M.G., & Ekman, P. (1997). The ability to detect deceit generalizes across different types of high-stakes lies. *Journal of Personality and Social Psychology*, 72, 1429-1439.
- Grice, H. P. (1989). *Studies in the way of words*. Cambridge, MA: Harvard University Press.
- Newman, M. L., Pennebaker, J. W., Berry, D. S., & Richards, J. M. (2003). Lying words: Predicting deception from linguistic styles. *Personality and Social Psychology Bulletin*, 29, 665-675.
- Stiff, J. B., Kim, H. J., & Ramesh, C. N. (1992). Truth biases and aroused suspicion in relational deception. *Communication Research*, 19, 326-345.
- Vrij, A. (1993). Credibility judgments of detectives: The impact of nonverbal behavior, social skills, and physical characteristics on impression formation. *Journal of Social Psychology*, 133, 601-610.
- Vrij, A. (2000). *Detecting lies and deceit*. John Wiley: Chichester.

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**APPENDIX A**

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**The following questions were used in Study 1 and the lie detection experiment. All questions were answered using a 7-point scale, with two anchor labels. The anchor labels are provided for each question.**

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1. I am a good liar. (1 = *disagree*, 7 = *agree*)
2. I am good at knowing when people I know well are lying. (1 = *disagree*, 7 = *agree*)
3. I am good at lying to people I know well. (1 = *disagree*, 7 = *agree*)
4. I am good at knowing when people I don't know well are lying. (1 = *disagree*, 7 = *agree*)
5. I am good at lying to people I don't know well. (1 = *disagree*, 7 = *agree*)
6. How often do you lie? (1 = *very rarely*, 7 = *all the time*)
7. Lying is wrong and should never happen. (1 = *disagree*, 7 = *agree*)
8. Lying is okay if it doesn't hurt anyone. (1 = *disagree*, 7 = *agree*)
9. Lying is okay as long as if you don't get caught. (1 = *disagree*, 7 = *agree*)
10. I don't have any problem with lying (1 = *disagree*, 7 = *agree*)
11. I believe people lie only in special circumstances. (1 = *disagree*, 7 = *agree*)
12. I believe people lie on rare occasions. (1 = *disagree*, 7 = *agree*)
13. I believe people lie somewhat frequently. (1 = *disagree*, 7 = *agree*)
14. I believe people lie all the time. (1 = *disagree*, 7 = *agree*)

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**APPENDIX B**

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**The following list of topics were used in the lie detection experiment. Participants were instructed to choose eight events that they had experienced and eight events that they had not experienced.**

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Got in trouble for calling 911	Performed in a play
Ate an exotic food (snails, caviar)	Rode in a hot air balloon
Babysat kids	Rode in an airplane/helicopter
Baked a cake/pie	Rode in/drove a boat/jet ski
Bought something off an infomercial	Stole a candy bar/shoplifted
Broke a bone	Swallowed a goldfish
Cheated on a test	Visited the Grand Canyon/Eiffel Tower
Flew a kite	Was a camp counselor
Found money	Was a substitute teacher
Gave someone a haircut	Was stood up by a date
Got a massage	Went deep sea fishing
Got pulled from the water by a lifeguard	Went on a blind date
Got stuck at the top of a Ferris wheel	Went on a road trip
Had a stalker	Went to a black tie formal
Had acupuncture	Went to a Garth Brooks concert
Had an exotic or unusual pet (Lion, ferret, etc)	Went to a Halloween party dressed as a clown
Had to get braces	Went to a professional sports game
Had your palm read	Went to a rodeo
Had your wisdom teeth removed	Went to an oral surgeon
Jumped out of an airplane/gone bungee jumping	Went to Disney World/Land
Learned to play a new instrument	Were bitten by a snake
Lied on a resume	Were in a car accident caused by you
Lost a large sum of money	Won a stuffed animal at a carnival game
Participated in a parade	Worked as a janitor
Participated in a wedding	Worked as a lifeguard

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**APPENDIX C**

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**Sample stories from lie detection study.**

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“I was given a pet this year from my brother for Christmas. He gave me a pink toed tarantula. It was the cutest thing I ever had, and I named it Bubblegum. Well, the problem with that is that Bubblegum, when it molted, died. So, my dad decides he’s going to put it in a casing so that I can have it as a paperweight on my desk. Well, the whole time we’re trying to put it in this paperweight, it keeps floating back up to the surface, and it’s feet keep poking out of the top. So, we decided we’re going to make a stronger mixture of this stuff, so that he can stay inside of the casing. Well, when we do that, we also had some left over so we had to make some other paperweights. The problem with that was that the paperweight, it got ...uhh ...it got attached to the inside of the plastic molding, and it was the only one that got attached, and it got cracked so the spider is like half hanging out of the paperweight and half in it. But that was the most unusual pet I had, but then my brother bought me another one because he felt bad cause it died, so I have another pink toed tarantula now.”

“Well, before I lived in Oklahoma, I lived in California, and on our way out here, we decided we were going to make it into like a little family vacation type thing. So when we were driving to move out here we stopped at the Grand Canyon to go visit it. It was one of the most beautiful places I’ve ever been to. It was huge, but I really wanted to ride a donkey down to the bottom of it, so I could go on the white water rapid thing. You have to like ride the donkey down to the bottom, because if you don’t you have no way of getting down there. So, we rode it all the way down to the bottom and when we got to the bottom, my brother fell off the donkey. So we get into the white water raft, and they’re trying to teach us how to ride in the white water raft down this river. Well, my dad decides that it would be a good idea for him to paddle the boat, which was a really bad idea. so needless to say, he flipped it, and we ended up soaked.

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*Note:* The first column story is true. The second column story is a lie.