NEED FOR COGNITION AND DETECTION OF TRUTH AND LIES

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Phuong T. Pham, daughter of Tinh H. Pham and Bethi (Nguyen) Pham, was born on October 16, 1972 in Saigon, Vietnam. She graduated from George C. Marshall High School in Falls Church, Virginia in 1990. She attended Virginia Polytechnic Institute and State University in Blacksburg, Virginia for two years. She then entered Auburn University in Montgomery, Alabama in September, 1992.

THESIS ABSTRACT

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Research by Ekman and O'Sullivan (1991) suggests there may be certain individual differences at play related to being an accurate lie detector. One individual difference relevant in this area is the need for cognition (Petty & Cacioppo, 1981). Individuals high in the need for cognition differ in many ways from individuals low in the need for cognition when it comes to information processing. Compared to individuals low in the need for cognition, those high in need for cognition absorb more information and also remember more when it comes to making decisions about others' behavior (Srull et al., 1985; Mueller & Grove, 1991; Lassiter et al., 1991). Thus need for cognition seems to be a likely candidate for an individual difference that may contribute to accurate lie detection. With this in mind, the hypotheses for this study are that individuals with high need for

cognition tend to detect lies more accurately and are more confident in their decisions compared to low need for cognition individuals. The results of this study, however, did not support these hypotheses. Furthermore, the results directly contradicted the hypotheses, indicating that high need for cognition was more related to an ability to detect truths rather than lies. However, while confidence was significantly related to accuracy, no significant relationship between need for cognition and confidence was obtained.

Table of Contents

List of Table(s) and Figure(s)

I. Introduction

Lies are a very central characteristic of life. They are so ubiquitous that hardly a person would be able to claim he or she has never lied or been lied to. According to Ekman (1985), lying is when a person has the choice to and actively deceives another person. That is, the liar deliberately intends to misinform the victim. This is different from unwittingly telling an untruth where there is not a deliberate decision to misinform. Thus, according to the above definition, this is not lying.

As a clue in detecting lies, Ekman (1985) formulated the leakage hypothesis. Ekman (1985) claims that there are emotional aspects in lying. Emotional arousal may be shown in the face or in the voice when a person lies. Such emotional arousal may arise out of fear of being caught. Similarly, guilt or shame over deceiving may produce an emotional response. In this view, unwitting liars would not know that they are lying, and therefore will not experience emotional arousal when espousing an untruthful idea. Thus, leakage should occur only when lying is intentional.

Factors Affecting Leakage

An example of leakage when intentionally lying is seen in a study by Ekman & Friesen (1976). Subjects instructed to lie showed different types of smiles than when they were telling the truth. There were more masking smiles when subjects lied and more enjoyment smiles when they were truthful. This suggests that a slight discrepancy in the face can be seen when someone intentionally lies.

Other studies also support the leakage hypothesis. Scherer, Feldstein, Bond, and Rosenthal (1985) found that vocal cues carried leakage information as differences reflected in the various conditions of masking the voice (electronic filtering, random splicing, and pitch inversion) reduced detection of lying.

Consistent with this are findings by Zuckerman, Amidon, Bishop, and Pomerantz (1982). This research indicated that when both facial and oral cues were available, tone of voice was more indicative of deception. These results suggest that leakage is most likely in areas that are more difficult to control.

Controllability of leakage was examined by Zuckerman, DeFrank, Richards, and Spiegel (1982) who looked at the relationship of masculinity (or instrumentality) and femininity (or expressiveness) to the accuracy of encoding (sending) nonverbal cues. Auditory leakage was found to be positively correlated with femininity (expressiveness) and negatively correlated with masculinity (instrumentality). On the other hand, facial leakage was not correlated with the masculinity-femininity measures. Zuckerman et. al (1982) explains this by suggesting the face is a highly

controlled channel and is therefore insensitive to the individual difference tapped by the masculinity-femininity measure.

Following on the controllability awareness notion, Cody and O'Hair (1983) hypothesized that individuals who are more likely to exhibit a controllable behavior that is judged as stereotypical of liars during truth-telling would be more likely to suppress such behavior when lying. Male liars suppressed leg/foot movement and the use of illustrators when lying and increased facial adapting when lying.

Individual Control of Leakage

The extent to which liars may or may not show leakage (i.e. clues from words, face or body) appears to depend on how well liars can control their demeanor. Thus, lies can be successful or unsuccessful contingent upon the extraneous information that is presented. Riggio, Tucker, and Widaman (1987) did a study that suggested certain people were more believable, regardless of whether they were telling the truth or lying. This may be due to the fact that they are socially skilled, more at ease and less nervous when lying, thus making it very difficult to tell if they were lying. This social skill seems to be positively correlated with the individual difference of self-monitoring.

Riggio and Friedman (1982) and Snyder (1979) suggest that self-monitoring measures knowledge of social rules and social sensitivity. That is, self-monitors are aware of their environment, sensitive to social cues and are more responsive to interpersonal and situational specifications of behavioral appropriateness. Thus, high

self-monitors are more convincing when lying as they are more likely to control leakage and express appropriate demeanor.

Accuracy in Lie Detection

If the ability to effectively lie can be controlled, it could be possible that some individuals are more aware of and sensitive to cues about lying. Kraut and Poe (1980) examined occupation (i.e. professional lie catcher) as a determinant of who would be better in lie detection. While customs officials were found to be no more accurate than college students , there was variability among individuals in each group. These findings suggest that merely having experience with liars in itself is not sufficient to be an accurate lie detector.

A study done by Ekman and O'Sullivan (1991) suggests that accurate lie detectors use different information than inaccurate lie detectors. For example, those who were more accurate used both nonverbal and verbal behavioral clues in making their decisions of veracity, whereas those who were inaccurate tended to rely primarily on verbal cues. This suggests that individual differences in information processing play a role in lie detection.

NC as a Factor in Information Processing and Accuracy

As stated earlier, people become physiologically aroused when lying. Similarly, DeTurck and Miller (1990) argue that people may also experience a heightened state of arousal when detecting deception. For example, people may feel anger or fear when they suspect that someone may be lying to them.

These emotional states increase arousal and, as a result, direct a person to focus on a narrow range of behavioral cues -- some of which may be unreliable, irrelevant or inaccurate indices of deception. Thus, for some people, searching for cues about lying may actually limit information processing and impair judgment.

A number of studies have shown there are differences between high and low need for cognition individuals in regard to information processing and judgment. Need for cognition is the tendency of an individual to engage in and enjoy thinking (Cacioppo and Petty, 1982). In their Elaboration Likelihood Model of persuasion, Petty and Cacioppo (1981) proposed that central and peripheral routes of information processing are used in making judgments. The central route involves attention to information about the issue under consideration, such as how logical or consistent the argument is. The peripheral route, however, involves different factors in information processing. When a person uses the peripheral route, active thinking is not used to weigh information relevant to the judgment. Rather, extraneous and/or irrelevant cues direct conclusions. Need for cognition is suggested to be a motivator for central processing as those high in need for cognition enjoy thinking and would focus on relevant information rather than irrelevant distal cues as that of the peripheral route (Petty and Cacioppo, 1981).

In other aspects of information processing, Srull, Lichtenstein, and Rothbart (1985) found that recall of information varies with need for cognition. High need for cognition subjects recalled more items regarding observed behavior than low need for cognition subjects. Consistent with this, Mueller and Grove (1991)

found that need for cognition has a positive effect on retention of trait adjectives. Furthermore, according to Lassiter, Briggs, and Bowman (1991), need for cognition acts as a systematic individual difference in the perception of ongoing behavior that contributes to the superior memory performance. Those high in need for cognition acquire a greater amount of information from an event and thus remember more than those low in need for cognition.

Information Search and Confidence in Judgments

A study by Verplanken, Hazenberg, and Palenewen (1992) found that high need for cognition individuals seek out more information and expend greater amounts of cognitive effort than low need for cognition individuals before making decisions. Similar findings regarding electing candidates also have been shown (Ahlering & Parker, 1989; Cacioppo & Petty, 1982).

Since high need for cognition individuals acquire more information than low need for cognition individuals, they are also more confident in their decisions. Mueller, Keller, and Dandoy (1989) found a positive correlation between need for cognition and confidence. Similarly, Mueller, Haupt, and Grove (1988), in a study using response latencies, found that high need for cognition individuals respond quicker, indicative of greater confidence. With regard to self description, Kernis, Grannemann, and Barclay (1992) found that high need for cognition individuals are more confident in their judgments of their self-esteem than low need

for cognition individuals. Also, Wolfe and Grosch (1990) suggest that confidence mediates accuracy (e.g. high need for cognition individuals are more accurate because they are more confident).

Thus, the research summarized shows that need for cognition is a factor in information processing that differentiates individuals in regard to making judgments. Since high need for cognition individuals seek out and acquire more information from their environment, they tend to have greater confidence in their decisions as they are more attentive to the information. From this, they tend to recall more information and are thus more accurate.

Statement of Problem

Ekman (1985) proposed that leakage occurs when people lie. Some people are more likely to attend to leakage than others. The review of the literature suggests that need for cognition is a variable that would differentiate such individuals. Consistent with this notion, people with high need for cognition acquire more information from their environment and tend to be more accurate in their judgments. Based on these ideas, a number of hypotheses are offered.

Hypotheses

Hypothesis 1: High need for cognition individuals make more accurate judgments than low need for cognition individuals as the former pay more attention to relevant information and acquire more information from their environment. Thus, those high in need for cognition should be significantly better at detecting lies than those low in need for cognition.

Hypothesis 2: Being more attentive, high need for cognition individuals should pick up more on leakage than low need for cognition individuals. But if, as Ekman (1985) suggests, leakage occurs when people lie, there should be no difference between high NFC individuals and low NFC individuals in accurately detecting people who are telling the truth.

Hypothesis 3: As compared to those low in need for cognition, individuals high in need for cognition take in more information, and thus are more confident in their ratings of liars and truth tellers.

II. Method

Overview

Prior to the experimental task, subjects completed a measure of need for cognition. Following this, the subjects were brought into the experimental situation and were asked to decide whether each of ten videotaped communicators was lying or telling the truth. Subjects actually watched one of two videotapes. On one tape, subjects saw the communicators make true statements and on the other tape, subjects saw the same communicators make false statements. The subjects then paused after each communicator to record their judgments of veracity and confidence in regard to their judgment.

Participants

There were 64 volunteers from five different psychology courses. The classes were: General Psychology, Personal and Social Adjustment, Behavior Analysis , Psychology of Personality, and Psychology of Women. Subjects were categorized based on gender, NFC score, and which tape (truth or lie) they watched. The sample was reduced to 56 (36 females and 20 males) so there could be the same median Need for Cognition Scale (NFCS) score of 18.50 in both the truth condition and the lying condition and also so there would be the same

number of males and females above and below the NFCS median in the truth condition and lie condition. Volunteers were given extra credit points for their participation and were treated in accordance with the "Ethical Principal of Psychologists" (American Psychological Association, 1981).

Materials

Need for Cognition Scale. The 18-item Need for Cognition Scale developed by Cacioppo, Petty and Kao (1984) taps into individual tendencies to organize, abstract, and evaluate information. The scale consists of 18 statements, with half of the statements worded positively and half worded negatively. Respondents indicate agreement or disagreement on 9-point Likert-type scales ranging from very strong disagreement (-4) to very strong agreement (+4). Higher scores indicate greater need for cognition. A copy of the scale is presented in Appendix B.

Video Equipment. A VCR (video cassette recorder/player) and a 48.26 cm diagonal color monitor were used in this experiment to play pre-made video tapes. The monitor sat 140.34 cm above the ground on a monitor shelf and was 203.20 cm from the desk where subjects sat facing the monitor.

Veracity Manipulation. Two videotapes were used in the experiment. In making the videotapes, ten people were asked to read two true and two false statements from four different 3x5 cards. The truth statements on two cards read "There is an orange sticker with the letter 'S' on this card" (which actually had an orange sticker with the letter 'S'), and "There is a red sticker with the letter 'D' on this card" (which actually had the red sticker with the letter 'D'). The first false

statement read "There is a red sticker with the letter 'D' on this card" (which actually contained an orange sticker with the letter 'S'); the second false statement read "There is an orange sticker with the letter 'S' on this card" (which actually contained the red sticker with the letter 'D'). On the truth tape all the communicators presented the true statements and on the lie tape all the communicators presented the false statements. The same five white males and five white females were shown in both the truth and the lie tapes. They were shown in the same alternating order of male-female in both tapes.

Subjects responded on an answer sheet divided into 10 parts (one for each communicator on the videotape). Each section contained two questions: a) "Was this person lying or was this person telling the truth?" and b) "How confident are you about your decision?" The answer choices for the first question were "Telling the truth" or "Lying." The second question had an answer set of a listing of numbers from 1 to 7, with 1 being "Not at all confident", and 7 being "Totally confident." A copy of the response sheet appears in Appendix C.

Procedure

Participants were scheduled for individual sessions. First, the 18-item Need for Cognition scale was administered. The study was then explained to the subjects. Instructions informed the subject that he or she would see ten people read two statements both of which would be truths, or both of which would be lies. It was further explained that the job of the subject was to decide if each communicator was lying or telling the truth and to rate his or her confidence in each decision.

Subjects were told that they would have 15 seconds between each communicator to record their decisions. Judgments were recorded by marking the appropriate answers on the answer sheet. After watching all ten communicators and making judgments of veracity and confidence, the subjects were debriefed.

III. Results

Need for Cognition. The subjects responded with disagreement or agreement on a nine-point scale (-4 to +4) to each statement on the 18-item Need for Cognition Scale (Cacioppo, Petty & Kao, 1984). Thus across 18 items, the scores could range from -72 to +72 with higher scores indicating a higher need for cognition. The actual scores ranged from -21 to 69 with a mean of 20.00 and standard deviation of 20.13. The sample was divided at a common median of 18.50. There were nine women and five men above and below the median Need for Cognition Scale score in both tape (truth versus lie) conditions.

Classes. Subjects were recruited from five different classes. To test if there were biases in selection into each condition by class a chi-square test was done. The chi square shows that any bias was no different from chance, X^2 (12, N = 56) = 11.44, p > .05. As subjects from each different class had an equal chance to be in each condition.

Accuracy. Accuracy was determined by the number of correct decisions. The mean accuracy scores by condition are presented in Table 1.

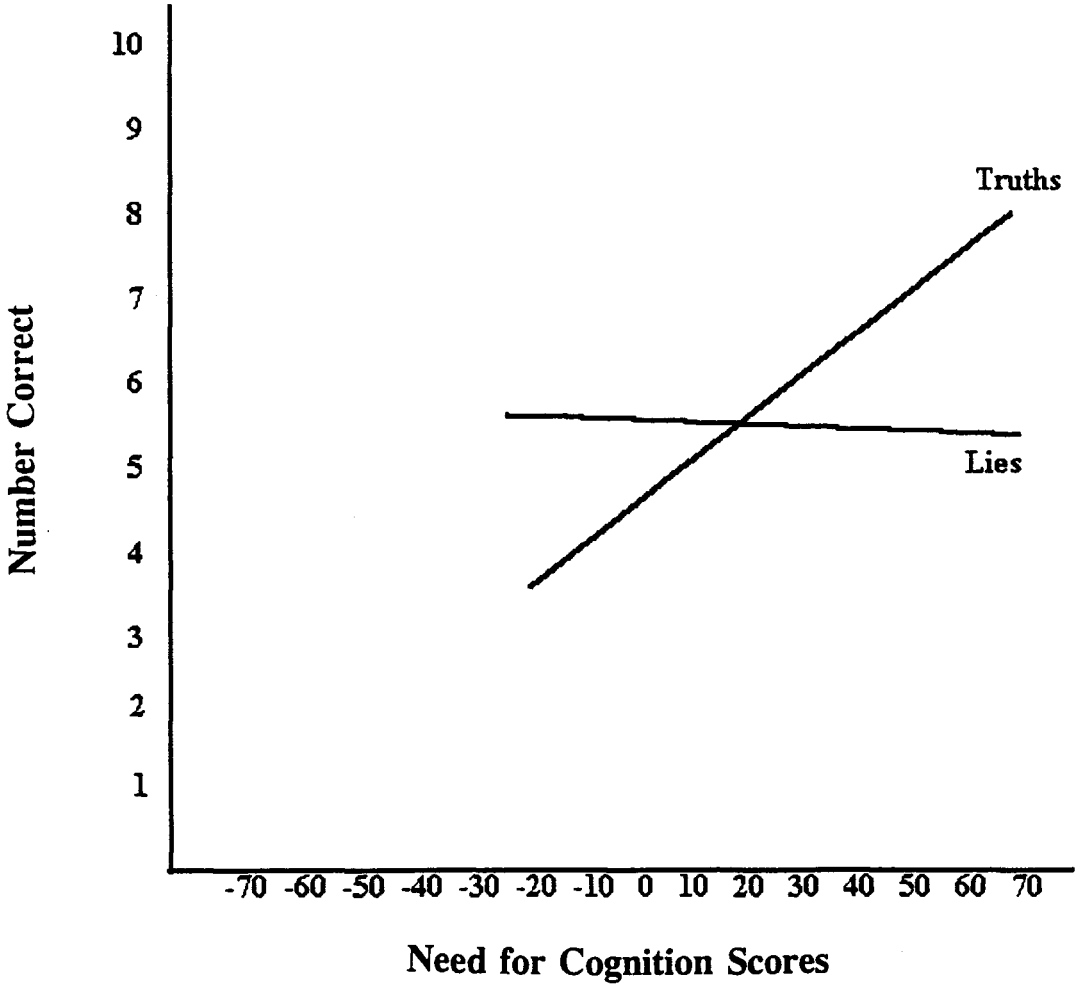
TABLE 1. Accuracy

	Tape	
	True	Lie
HNFC	5.78	5.14
LNFC	4.71	5.29

A 2(High vs. Low NFC) x 2(Truth-Lie) x 2(Sex) analysis of variance was computed on the accuracy scores. When sex differences were checked, there were no significant effects. Overall, the analysis of variance showed no significant effects.

The lack of any effects due to need for cognition was probably a result of the limited range in the Need for Cognition Scale scores. Therefore, a regression analysis was computed. Regression treats the need for cognition as a continuous variable rather than a dichotomous variable. There was no significant main effect for need for cognition F (1, 53) = 0.18, $p > .05$. Nor was there a significant main effect for truth or lie conditions $F(1, 53) = 0.86$, $p > .05$. The regression analysis indicated a significant interaction, $F(1, 52) = 6.52$, $p < .02$. This is presented in Figure 1.

FIGURE 1. Interaction



High need for cognition subjects were more accurate than low need for cognition subjects in detecting the truth , Beta = .48, $p < .01$. There was little difference between high need for cognition and low need for cognition subjects when it came to detecting lies, Beta = -.12, $p > .53$. Figure 1 suggests high need for cognition subjects would be better at detecting the truth than lies while low need for cognition subjects would be even more inaccurate in detecting the truth than lies. Thus, Hypotheses 1 and 2 were not supported.

Confidence. Overall, results showed a positive correlation between confidence and accuracy. The more confident a subject is, the more accurate he or she is across all conditions, $r (56) = .26$, $p < .05$. However, there was no significant correlation between confidence and need for cognition, $r (56) = .13$, $p > .35$. Thus, Hypothesis 3 was not supported.

IV. Discussion

The premise for this study was based on information processing differences between people due to their need for cognition. As indicated in other studies, need for cognition seems to be a factor that differentiates individuals when it comes to making judgments as need for cognition is related to differences in information processing. As compared to those low in need for cognition, high need for cognition individuals seek out, acquire more, and are more attentive to information from their environment. High need for cognition individuals tend to be more confident in their decisions as well. Therefore, they tend to recall more information and make more accurate judgments based on this information. Thus, with lie detection, when there are leakage cues in the environment that indicate lying, high need for cognition individuals may be more accurate than low need for cognition individuals as they are more likely to pick up these cues.

This study examined the relationship between need for cognition (NFC) and lie detection. Three hypotheses were made. First, high NFC subjects should be better at detecting lies than low NFC subjects. Second, there should be no difference between high and low NFC subjects when it comes to detecting the truth

as presumably no leakage cues are available to detect the truth. And third, high NFC subjects should be more confident than low NFC when making decisions of truth and lies.

The results did not support the hypotheses. In fact, the results directly contradict the first and second hypotheses. There was no difference between high and low NFC subjects when it came to detecting lies. When detecting the truth, high NFC subjects were significantly more accurate than low NFC subjects. Finally, regarding the third hypothesis, there was a significant correlation between accuracy and confidence. Those who were more accurate were also more confident. However, although there was a positive correlation between NFC and confidence, it was very small and nonsignificant. Several explanations may explain the reasons for these contradictory results.

Truth Bias. One possible reason for differences in accuracy in the truth telling condition may be due to a "truth bias" (McCornack & Parks, 1986). That is, there may be a tendency to judge communicators as truthful. When messages are ambiguous, the truth bias is used as a heuristic. The option of simply saying a statement is true is easier than thinking through a decision. As a heuristic, the truth bias does not involve much cognitive processing. Since low NFC individuals are more likely to use heuristics in decision making (Chaiken, 1987), they would be more likely than high NFC individuals to use the truth bias heuristic and attribute honesty to the communicators. However, if this were the case, low NFC subjects would be more accurate in the truth condition and less accurate in the lie condition.

This, of course, is inconsistent with the data. Thus truth bias is not a viable explanation for the differences in accuracy found in this study.

Truth Cues. Another explanation for the difference is "truth cues" (Cahn, 1985). Cahn (1985) claims that there are cues to detecting truthfulness such as fluency, spontaneity, and enthusiasm. Cahn's (1985) study showed that subjects were better at identifying truth tellers than they were at identifying opinion tellers and lie tellers. With regard to the present data, this would explain the differences in accuracy between high and low NFC subjects in the truth condition, as high NFC individuals would be more likely to detect cues and make an accurate decision.

The truth cues position also would suggest, however, that since high NFC subjects are better able to detect truth cues they should also be better able to detect lie cues. These data are not consistent with this notion, as there was no difference in accuracy between high and low NFC subjects in the lie condition. Thus the truth cues position provides an explanation as to why those high in need for cognition were more accurate in the truth condition, but leaves the question of why there were no differences in accuracy related to need for cognition in the lie condition. Some suggestions are given as to why this may be.

Emotional Stimulation. One explanation may be that there was not enough emotional stimulation to produce leakage (lie cues). There is controversy over whether or not the artificiality of experiments such as this would show behaviors typical of deception (Kraut & Poe, 1980; Ekman & O'Sullivan, 1991). Ekman (1985) asserts that emotional arousal is necessary to produce leakage as there must

be sufficient motivation for subjects to feel emotion from being deceitful. It might be speculated that in the present study there was not enough stimulation to produce leakage, and therefore made lie detection difficult. This would explain the results in the lie condition, where there was no difference in accuracy between high and low NFC subjects.

Increased Arousal. Another explanation for why need for cognition had no effect on accuracy in the lie condition may be due to an effect caused by increased arousal. DeTurck & Miller (1990) assert that people experience a heightened state of arousal when exposed to deception rather than truth. That is, people experience increased arousal when there are signs that someone is lying to them.

Many theories of motivation assume there is an optimal level of arousal where performance is at its peak and lower when arousal deviates from this optimal level (Landy & Trumbo, 1980). As those high in need for cognition enjoy cognitive effort, it is likely that high need for cognition individuals have a level of arousal close to the optimum for performing tasks such as detecting cues and making judgments. An increased amount of arousal (e.g. cues from deception) would thereby reduce the level of performance of high NFC individuals. Low NFC individuals, on the other hand, would have a lower level of arousal than high NFC, more below the optimal level of arousal for performing cognitive tasks effectively. Since they are at a lower level, any arousal (e.g. from cues of deception) would push them up to the more optimal level, thereby increasing their performance in accurate detection. The net result would be no difference between high and low

NFC subjects in the lie condition due to the added arousal. This would suggest that there were indeed lie cues available but due to the increased arousal, any differences between high and low NFC subjects in accuracy of detecting lies would be cancelled out.

In conclusion , the results of this study did not support the hypotheses. However, the results do suggest that the premises regarding differences in information processing between high and low NFC individuals are valid. The conjectures about sensitivity to and the effects of cues about deception are, of course, speculative, and further research would be necessary to determine if this speculation is valid.

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Appendix A

Informed Consent Form

The purpose of this study is to examine the effectiveness in communication of ten particular individuals whom you will observe. They will either be telling the truth or lying; it is your job to decide. However, before you judge the ten individuals on their truthfulness, you will fill out a short survey with questions concerning your opinions about problem solving.

Feel free to ask any questions about the study and your participation. Participation in this project is completely voluntary. You may choose not to participate or you may terminate your participation at any time.

Thank you for your cooperation.

I agree to participate in the described study being conducted by researchers from Auburn University at Montgomery. I have been informed about the procedures to be followed and that I will be informed of the aims of this project.

_____
Name (Print)

_____
Signature

_____
Date

Appendix B

Need for Cognition Scale

Instructions: Please indicate the extent to which you agree or disagree with each statement. There are no "right" or "wrong" answers; each response indicates your personal opinion. Use the following options to indicate the extent to which you agree or disagree with each statement.

+4 Very Strong Agreement
+3 Strong Agreement
+2 Moderate Agreement
+1 Slight Agreement
0 Neither Agreement or Disagreement
-1 Slight Disagreement
-2 Moderate Disagreement
-3 Strong Disagreement
-4 Very Strong Disagreement

1. I would prefer complex to simple problems.

2. I like to have the responsibility of handling a situation that requires a lot of thinking.

3. Thinking is not my idea of fun.

4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.

6. I find satisfaction in deliberating hard and for long hours.

7. I only think as hard as I have to.

8. I prefer to think about small, daily projects to long-term ones.

9. I like tasks that require little thought once I've learned them.

10. The idea of relying on thought to make my way to the top appeals to me.

11. I really enjoy a task that involves coming up with new solutions to problems.

12. Learning new ways to think doesn't excite me very much.

13. I prefer my life to be filled with puzzles I must solve.

14. The notion of thinking abstractly is appealing to me.

15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

17. It's enough for me that something gets the job done; I don't care how or why it works.

18. I usually end up deliberating about issues even when they do not effect me personally.

Appendix C

Survey of Truth and Confidence

Directions: Please indicate whether each observed person is telling the truth or lying by marking the appropriate answer in item "a". In item "b" circle the answer that best describes your level of confidence in your judgement of the observed person. There will be ten people who will be observed. There will be a fifteen second pause between each person to let you record your answer. Do not take longer than the allotted time to mark your answer.

Person 1

a. Was this person telling the truth or was the person lying?
   __ Telling truth __ Lying

b. How confident are you about your decision?

   Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 2

a. Was this person telling the truth or was the person lying?
   __ Telling truth __ Lying

b. How confident are you about your decision?

   Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 3

a. Was this person telling the truth or was the person lying?
   __ Telling truth __ Lying

b. How confident are you about your decision?

   Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 4

a. Was this person telling the truth or was the person lying?

__ Telling truth __ Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 5

a. Was this person telling the truth or was the person lying?

__ Telling truth __ Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 6

a. Was this person telling the truth or was the person lying?

__ Telling truth __ Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 7

a. Was this person telling the truth or was the person lying?

__ Telling truth __ Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 8

a. Was this person telling the truth or was the person lying?

__ Telling truth __ Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 9

a. Was this person telling the truth or was the person lying?

__ Telling truth __ Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Person 10

a. Was this person telling the truth or was the person lying?

__ Telling truth __Lying

b. How confident are you about your decision?

Not at all confident 1 2 3 4 5 6 7 Totally confident

Appendix D

Debriefing Statement

The study that you have just participated in examines your ability to detect lies, and how this ability relates to your level of need for cognition. The two tools used in this project were a) The NFC Scale and b) a videotape of ten individuals. The first questionnaire you answered -- The NFC (Need for Cognition) Scale -- measures your tendency to elaborate and think abstractly. The videotape you watched is actually one of two videotapes where either all the individuals are lying or where all the individuals are telling the truth.

As mentioned earlier, your answers will be kept completely anonymous and your name will not be used to identify you in any way. Feel free to ask any questions during this time. However, please do not discuss this project with anyone else outside of this session. Thank you for your time and participation.