A dual process model of detecting deception.

James A. Forrest

University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/theses
A DUAL PROCESS MODEL OF DETECTING DECEPTION

A Thesis Presented

by

JAMES A. FORREST

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of

MASTERS OF SCIENCE

February 1999

Department of Psychology
A DUAL PROCESS MODEL OF DETECTING DECEPTION

A Thesis Presented
by
JAMES A. FORREST

Approved as to style and content by:

[Signatures]

Robert S. Feldman, Chair
Icek Aizen, Member
Paula Pietromonaco, Member

[Signatures]

Melinda Novak, Department Head
Department of Psychology
ABSTRACT

A DUAL PROCESS MODEL OF DETECTING DECEPTION

FEBRUARY 1999

JAMES A. FORREST, B.A., FAIRFIELD UNIVERSITY
M.S., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Robert S. Feldman

This study tests a proposed dual processing model that suggests that cognitive processing style affects people's accuracy in detecting deception. A videotaped sample of target individuals, in which each target makes honest and dishonest statements, was shown to ninety-one participants, who judged each target's truthfulness. Participants' distraction was manipulated in order to promote effortful and uneffortful processing. It was expected that participants exposed to low levels of distraction would engage in effortful processing, while those participants exposed to high levels of distraction would engage in uneffortful processing. It was also hypothesized that highly distracted people, who are presumably engaging in uneffortful processing, would attend more to nonverbal behaviors, while people in the low distraction condition, who engage in more effortful processing, would attend to the central (verbal) arguments.
of a message. Because nonverbal behaviors are most revealing of deception, participants in the high distraction condition were expected to show more accuracy in distinguishing between honest and dishonest messages compared to participants in the low distraction condition. The results of the study did not support this hypothesis, possibly because the distraction manipulation for high distraction participants may have been excessively distracting. It was found that participants' recall of the arguments presented to them in the video was significantly related to their accuracy at detecting deception. Specifically, a curvilinear relationship was found, where people who had poor recollection of the arguments, and those with high recall, were not as accurate at detecting deception, compared to people with average recall of arguments.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Nonverbal Cues as Indicators of Deception</td>
<td>2</td>
</tr>
<tr>
<td>Cognitive Processing and Attention to Nonverbal Cues</td>
<td>3</td>
</tr>
<tr>
<td>The Dual Processing Model</td>
<td>5</td>
</tr>
<tr>
<td>Current Study</td>
<td>7</td>
</tr>
<tr>
<td>2. METHOD</td>
<td>9</td>
</tr>
<tr>
<td>Overview</td>
<td>9</td>
</tr>
<tr>
<td>Targets</td>
<td>9</td>
</tr>
<tr>
<td>Stimulus Material</td>
<td>10</td>
</tr>
<tr>
<td>Participants</td>
<td>12</td>
</tr>
<tr>
<td>Procedure</td>
<td>12</td>
</tr>
<tr>
<td>3. RESULTS</td>
<td>15</td>
</tr>
<tr>
<td>Manipulation Checks</td>
<td>15</td>
</tr>
<tr>
<td>Design and General Results</td>
<td>16</td>
</tr>
<tr>
<td>Effects of Distraction on the Detection of Deception</td>
<td>17</td>
</tr>
<tr>
<td>Gender Differences</td>
<td>20</td>
</tr>
<tr>
<td>4. DISCUSSION</td>
<td>25</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>31</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mean truthfulness rating (and standard deviations) for the interaction between distraction and type of message</td>
<td>18</td>
</tr>
<tr>
<td>2. Truthfulness ratings (and standard Deviations) for judge sex x target sex x type of message interaction</td>
<td>22</td>
</tr>
<tr>
<td>3. Truthfulness ratings (with standard deviations) for judge sex x target sex x distraction condition x type of message analysis</td>
<td>24</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>1.</td>
<td>Curvilinear relationship between detection accuracy and the proportion of arguments recalled</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

Research has found that detecting deceit is not an easy task. For example, when attempting to distinguish between people being honest and dishonest, judges' accuracy is usually only slightly above chance levels (Kraut, 1980). On the other hand, nonverbal behaviors are fairly good indicators of deceit (Ekman and O'Sullivan, 1991). Facial expressions such as smiling (Ekman, Friesen, & O'Sullivan, 1988), body movements and voice pitch (Ekman, Friesen, & Scherer, 1976) have been empirically studied, and each has been shown to be a predictor of actual deception.

Although DePaulo, Zuckerman, and Rosenthal (1980) argued that the ability to detect lies is strongly contingent on situational factors, Frank and Ekman (1997) showed that good lie detectors are able to detect lies across different high-stakes situations. In the Frank and Ekman study, the same judges participated in two experiments, viewing scenarios and judging deception in those scenarios. It was found that judges' accuracy at detecting deception in the first experiment predicted their accuracy in the second experiment. The results of this study suggest that there are strategies that people use
across situations that help in detecting deception accurately.

Nonverbal Cues as Indicators of Deception

Nonverbal behaviors are readily perceived. For example, an increase or decrease in voice pitch, body movement, and smiling are all very easily noticed by a casual observer. Furthermore, nonverbal behaviors are not only easily detectable, but also happen to be the behaviors that are most highly correlated with deception. DePaulo and colleagues and Ekman and colleagues have investigated behaviors such as smiling (Ekman et al, 1988) and voice pitch (Ekman et al., 1976), and they have established that these nonverbal behaviors typically are more predictive of deception than verbal behavior (DePaulo, Stone, & Lassiter, 1985). Therefore, when attending to certain nonverbal cues, judges' accuracy is likely to rise.

On the other hand, paying attention to the arguments, thinking of counter-arguments, and verifying the logic of an argument are all fairly complex tasks that require considerable cognitive effort. It stands to reason then, that judges who engage in this effortful processing are less apt to attend to nonverbal cues that accompany a message, and consequently are less likely to correctly identify deception.
Cognitive Processing and Attention to Nonverbal Cues

Surprisingly, little research has been done on how people who are judging for deceptiveness process the verbal message. However, the attitude change literature can provide some clues as to the processes involved. Persuasion research shows that people who are motivated and able to scrutinize a message are likely to engage in effortful processing and pay attention to the central arguments of that message, while people who are not motivated or not able to scrutinize a message will resort to peripheral processing (Petty & Cacioppo, 1986). In peripheral or uneffortful processing, people use cues inherent in the context of the message to make attributions and judgments about that message. Such peripheral cues are likely to encompass nonverbal cues, which predict deception (Stiff, Miller, Sleight, Mongeau, Garlick, and Rogan, 1989).

Furthermore, the processing style people engage in predicts the type of cues people attend to when judging for deceptiveness. Stiff et al. (1989) proposed the situational familiarity hypothesis. This hypothesis states that people in unfamiliar situations engage in uneffortful processing because they have "little basis for evaluating the validity of verbal content" (p. 560). Therefore, people shift their attention to more readily accessible nonverbal cues. People
in familiar situations are said to be engaged in effortful processing because they are able to “visualize” the situation and therefore assess the plausibility and validity of the verbal message.

In support of this reasoning, Stiff et al. (1989) found that people judging for deceptiveness in familiar situations (i.e., effortful processing) paid attention to the verbal aspects of a message while ignoring the visual components. On the other hand, when the situation was not familiar (i.e., uneffortful processing), people paid attention to both the visual and, to some degree, the verbal aspects of the message when judging for deceptiveness. On the basis of these results, it seems possible that in effortful processing, people rely more on the verbal component of a message to arrive at a judgment about deceptiveness, while in uneffortful processing, people rely more on the nonverbal cues. Therefore, when making judgements about deceptiveness, people engaging in uneffortful processing may have an advantage over those engaging in effortful processing because during uneffortful processing they attend more to the range of behaviors indicative of deception. In short, people engaging in uneffortful processing should be better at detecting deception than people engaging in effortful processing.
The Dual Processing Model

Priester and Petty (1995) found that people who are suspicious of deception are more likely to engage in effortful processing than people who are not suspicious. Because the task of detecting deception in the context of an experiment inherently involves suspicion of the person being judged, it would seem reasonable that judges will employ an effortful processing style and pay particular attention to the verbal aspect of a message. Furthermore, when the task is personally relevant, central processing tends to become stronger (Petty and Cacioppo, 1986). Consequently, people will pay even closer attention to central arguments of a message, which actually have little or no predictive value. In short, the suspiciousness involved in deception detection and the relevance of the task would make judges engage in more effortful processing, and as a result, people engaging in effortful processing should show relatively poorer accuracy in distinguishing between truthful and untruthful messages.

On the other hand, when people are not motivated or able to attend closely to the verbal aspect of a message, they increase their attention to the nonverbal cues when making a judgement about deceptiveness. By increasing their reliance on nonverbal cues, people attend to the range of
behaviors that will increase their chances of making an accurate judgement of deceptiveness. Hence, people engaging in uneffortful processing should be better detectors of deception than people engaging in effortful processing.

In support of this reasoning, Forrest and Feldman (in press) asked judges, for whom the task was either personally relevant or not personally relevant, to watch videotaped samples consisting of people giving honest or dishonest messages. After viewing each sample, they judged the perceived sincerity of each target person's message.

The results of the study showed that, as predicted, people who were highly involved in the task (i.e., more motivated to scrutinize a message) where less accurate at distinguishing between honest and dishonest statements than people who were not as involved (low motivation to scrutinize a message). The results of the study are consistent with the idea that people engaging in uneffortful processing pay attention to a range of behaviors (i.e. nonverbal behaviors) that are highly predictive of deception (Stiff et al., 1989), and therefore show an increase in accuracy compared to those people that engage in effortful processing and pay attention to the verbal aspects of the message.
Current Study

To provide greater support for the notion that uneffortful processing leads to better lie detection than effortful processing derived from the dual processing model for detecting deception, the current study investigates an additional factor that would be expected to affect processing: distraction. Petty, Wells, and Brock (1976) investigated the effects of distraction on processing style, and had participants engage in two tasks at the same time. One task was a distraction task and the other task involved attending to a recorded persuasive message. It was found that at lower levels of distraction, messages that were difficult to counter-argue were more persuasive than easy-to-counter-argue messages. On the other hand, if distracted, people were persuaded by difficult and easy messages about the same, suggesting that people pay close attention to the central arguments of a message at low levels of distraction, while people experiencing higher levels of distraction paid less attention to the arguments relating to the issue. From this research, Petty and Cacioppo (1986) concluded that in order to engage in effortful processing, people must have the motivation and the ability to do so. Consequently, if uneffortful processing leads to better detection of deception, then
distractions that promote this type of processing should also lead to increases in lie detection accuracy.

The proposed study largely replicated the Forrest and Feldman (in press) study, except that distraction was used instead of involvement to produce effortful and uneffortful processing. A low distraction manipulation is expected to permit effortful processing, and a high distraction manipulation is expected to block the ability to attend to the central arguments, and hence, provoke uneffortful processing. If this happens, then, people in the high distraction condition will be more accurate at distinguishing between honest and dishonest statements compared to people in the low distraction condition.
CHAPTER 2
METHOD

Overview

Groups of 6 to 12 judges viewed a stimulus videotape prepared for a previous study (Forrest and Feldman, in press). The videotape consisted of 64 messages in which half the target persons were female and half male, and half the messages were honest statements and half were dishonest.¹

The judges rated the truthfulness of each target person's message. Furthermore, the judges were instructed to also pay attention to tones heard throughout the video, and remember their pitch (high or low) until the end of each clip. Distraction was manipulated by varying the number of tones presented for each video clip. The high distraction condition had 3 tones per clip, while the low distraction condition had 1 tone per clip.

Targets

A total of 24 undergraduates were recruited and recorded for the creation of the stimulus tapes, but two participants did not consent to the release of the

¹Target motivation was also manipulated by describing the ability to make impressions on others as very important (high motivation), or not the focus of the session (low motivation). This manipulation was devised for the Forrest and Feldman (submitted) study, and was not considered in the current study.
recordings, and six targets did not follow the instructions correctly. Attractiveness ratings were collected for the 16 remaining targets (half male, half female), because researchers have found that people assume that attractive targets are more honest than unattractive targets (Zebrowitz, Voinescu, & Collins, 1996). None of the remaining 16 target persons was rated above or below 2 standard deviations from the mean, therefore, all were employed to create the stimulus tapes. All target persons received experimental credit for their participation.

**Stimulus Material**

Prior to the beginning of the recording session, each target person had been asked their opinions on four statements: (1) Nuclear power is not very safe; (2) The government should put further restrictions on immigration; (3) The death penalty should be instituted in all States; and (4) There is too much violence on T.V. The targets were instructed to communicate 4 messages to a person behind a one-way mirror, and their responses were videotaped. The targets were told that the study concerned people's ability to make good impressions on others and they were asked to give arguments supporting their opinion on two of the issues, and supporting a counter-attitudinal stance in the other two cases. Therefore, each target person communicated
two honest and two dishonest messages. The order in which targets communicated the honest and dishonest messages was random, as was the order of the issues.

From each of the target person's messages, the first argument espoused for each of the issues was selected as the stimulus message. The 64 resulting messages were edited into four stimulus tapes approximately 26 minutes long, consisting of 64 clips, each lasting approximately 15 seconds with a 10 second delay between each clip. All target persons appeared on each of the stimulus tapes four times, twice being honest, and twice being dishonest. Each of the clips was randomly assigned a number from 1 to 64, representing the position in the tape in which the clip would be shown. The clips were edited into four stimulus tapes, two of which showed the clips in the order of 1 to 64, and the others in the opposite order.

The distraction manipulation was edited into the tapes by adding high or low pitch tones into the audio portion of the videotapes. Two tapes (one with reversed ordering of the clips) contained 1 tone per clip, while the other two tapes (again, one of them having reversed order) contained 3 tones per clip. The pitch of the tones varied in random fashion within each clip, as did the time lapse between one tone and the next.
**Participants**

A total of 89 participants (42 male, 47 female), whose first language was English, acted as the judges of honest and dishonest messages in the stimulus tape. The participants received experimental credit in their introductory psychology classes for their participation in this experiment.

**Procedure**

Groups of 6 to 12 participants, who acted as judges, were given written instructions and response sheets. The instructions described the study as an investigation into the process of performing two tasks at the same time. There were two sets of written instructions, one for each of the distraction conditions. The written instructions stated that judges would watch a videotape of people communicating arguments about certain issues. The four issues presented in the tape were provided in the instruction sheet. The judges were also made aware that in the stimulus tape, the targets might, in some cases, try to give false impressions, and are therefore sometimes honest and sometimes dishonest.

In the first task, the judges were asked to rate each target's truthfulness on a 9-point scale anchored at (1) "very truthful" and (9) "very untruthful" after each clip.
Judges were then told that a second task would be performed at the same time as the videotape was being shown and truthfulness ratings were being recorded. Judges were instructed that the second task would consist of an auditory perception test. They were instructed to listen to the pitch (high or low) of either 1 tone (in the low distraction condition) or 3 tones (in the high distraction condition), remember the pitch of the tone(s), and record the pitch at the end of each clip. After the judges had read the instructions and the experimenter had answered any questions regarding the procedure, sample tones were played to the judges before the stimulus tape was started in order to familiarize them with the auditory task.

One of the four stimulus tapes was then played. The auditory distraction condition was chosen in advance but the experimenter was not aware of which distraction condition would be used until the moment the experimenter had to hand the written instructions to the participants, and the experiment was about to start. After the experiment started, the experimenter went to the back of the room, behind the participants.

After all 64 clips had been shown and judged, manipulation checks were administered, where open-ended questions and forced choice questions measured the effect of
the cognitive load on arguments recalled and overall
distraction. Specifically, participants were asked if "the
pitch of the tones was easy to remember", and if
"remembering the pitch of the tones made listening to the
arguments difficult." Furthermore, participants wrote down
the arguments they remembered hearing on the tapes for each
of the four different topics. They were given two minutes
for each of the four topics to recall the arguments given in
the tape.
CHAPTER 3
RESULTS

Manipulation Checks

Participants' ratings on the manipulation checks revealed that people in the low distraction condition found the tones easier to remember ($M = 3.14$) than participants in the high distraction condition ($M = 2.38$), $F(1, 87) = 6.64$, $p < .05$. Participants in the high distraction condition, compared to participants in the low distraction condition, felt that that remembering the tones made paying attention to the arguments more difficult ($M = 4.49$; $M = 3.41$ respectively), $F(1, 87) = 8.01$, $p < .01$.

The proportion of arguments recalled by the participants was calculated by adding the number of arguments the participants recalled and dividing by the actual number of arguments in the tape. There were 41 different arguments throughout the tape; different target persons repeat some of the arguments. For example, in the immigration issue, four target persons argue that U.S. citizens might lose their jobs because of lower paid immigrants. Also, participants' answers were screened for their accuracy, and false recalls were not added to calculate the proportion. As predicted, participants in the low distraction condition remembered a greater proportion of
the arguments (.44), than those in the high distraction condition (.36), $F(1, 85) = 7.52$, $p < .01$.

**Design and General Results**

A 2 (distraction: high, low) $\times$ 2 (judge sex) $\times$ 2 (type of message: honest, dishonest) $\times$ 2 (target sex) ANOVA was used to analyze the data. Distraction and judge sex were between subjects factors, and type of message and target sex were within subjects factor. The truthfulness ratings on the 9-point scale were used as the dependent variable. The judges were the units of analysis because of our interest in the judges' processing style.

Some researcher have found that people, in general, are able to significantly differentiate between honest and dishonest messages (e.g., DePaulo & Rosenthal, 1979), and this study is congruent with those findings: There was a significant main effect for type of message, $F(1, 85) = 98.70$, $p < .001$. The observers judged honest statements as more truthful ($M = 5.58$) than dishonest statements ($M = 5.033$).

---

2A preliminary analysis was conducted to examine whether the order in which the clips were presented affected people's attribution of truthfulness. Although an order $\times$ type of message interaction was significant, $F(1, 81) = 5.51$, $p < .05$, inspection of the means involved in the interaction did not reveal a clear pattern and there is no theoretical explanation for the finding.
Effects of Distraction on the Detection of Deception

An interaction effect between distraction and type of message was expected, where the difference between judgements of honest and dishonest messages for undistracted judges should be smaller than the difference in judgements for distracted judges. However, the data did not reveal the expected pattern, $F(1, 85) = 3.68 \ p < \text{n.s.}$ In fact, inspection of the means revealed that the pattern of results was contrary to the one expected (see Table 1).

Because the pattern of results contradicted predictions, several exploratory analyses were conducted. It is possible that the high distraction manipulation was powerful enough to disrupt participants' ability to attend to certain aspects of the message. To investigate this possibility, an internal analysis was conducted across experimental conditions. Correlations were computed between the proportion of arguments recalled by participants and the participants' accuracy scores. A participant's accuracy score is the mean truthfulness rating for all the honest target clips minus the mean truthfulness rating for all the dishonest target clips. The higher the score, the more accurate a participant was in differentiating between honest and dishonest messages.
<table>
<thead>
<tr>
<th>Distraction Condition</th>
<th>Type of Message</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Honest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>5.72</td>
<td></td>
<td>5.08</td>
</tr>
<tr>
<td></td>
<td>(.65)</td>
<td></td>
<td>(.74)</td>
</tr>
<tr>
<td>High</td>
<td>5.47</td>
<td></td>
<td>5.02</td>
</tr>
<tr>
<td></td>
<td>(.94)</td>
<td></td>
<td>(.89)</td>
</tr>
</tbody>
</table>

Table 1. Mean truthfulness rating (and standard deviation) for the interaction between distraction and type of message.
Inspection of the scores revealed two outliers, both of whom had accuracy scores four standard deviations above the mean. Each also had high leverage, since one had recalled significantly more arguments than average, and the other had recalled a significantly lower number of arguments than average. These two outliers were removed from the analysis.

A linear regression between accuracy score and proportion of arguments recalled revealed no significant linear relationship with zero percent of the variance explained, $F(1, 82) = .02, \ p = n.s$. The possibility of a curvilinear relationship was then investigated. It may be argued that people with low recall and people with high recall would be the worst detectors of deception, while people with average recall would be the best detectors of deception. Specifically, people with high recall of the arguments presented might ignore nonverbal behaviors and peripheral cues in order to concentrate on the central aspect of the message. People with low argument recall may not have been paying attention to much at all, therefore, just as they neglected the arguments, they might also have neglected nonverbal behaviors. These predictions are in line with the suggestion that too much distraction may have led to lower levels of accuracy in detecting deception.
because levels of distraction that are too high should interfere with the attention process.

Consistent with these arguments, it was found that a regression with a quadratic model significantly accounted for 7.7% of the variance, $F(2, 81) = 3.39, p < .05$. People with higher and lower recall of arguments were less accurate in detecting deception than people with average recall of arguments (see Figure 1).

**Gender Differences**

The original analysis of variance identified some gender differences in the detection of deception. A target sex by type of message interaction was found in which judges could distinguish between the honest and dishonest statements told by target females (honest $M = 5.91$; dishonest $M = 4.87$), but judges were unable to distinguish between the statements told by target males (honest $M = 5.28$; dishonest $M = 5.26$), $F(1, 85) = 71.35, p < .001$. This pattern was found for both men and women judges in a judge sex x target sex x type of message interaction. Male and female judges differentiated more easily between the honest and dishonest statements of female targets, compared to male target persons, $F(1, 85) = 14.35, p < .001$ (see Table 2).

Finally, a four-way judge sex x target sex x distraction condition x type of message interaction was
Figure 1. Curvilinear relationship between detection accuracy and the proportion of arguments recalled.
<table>
<thead>
<tr>
<th>Type of Message</th>
<th>Female Judge</th>
<th>Male Judge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female Target</td>
<td>Male Target</td>
</tr>
<tr>
<td>Honest</td>
<td>6.12 (1.00)</td>
<td>5.24 (.67)</td>
</tr>
<tr>
<td>Dishonest</td>
<td>4.813 (.95)</td>
<td>5.369 (.85)</td>
</tr>
</tbody>
</table>

Table 2. Truthfulness ratings (and standard deviations) for judge sex x target sex x type of message interaction.
found, $F(1, 85) = 5.32, p < .05$. Inspection of the means found that both male and female judges in the low distraction condition were better at detecting deception in female targets, than in male judges, but only female judges in the high distraction condition were able to detect deception accurately in female targets. When rating the truthfulness of male targets, female judges could not differentiate between the honest and dishonest message. In fact, in general, they rated dishonest messages told by male targets as more truthful than honest statements. On the other hand, male judges could, to some degree, detect deception in male targets (see Table 3).
<table>
<thead>
<tr>
<th>Distraction Condition</th>
<th>Type of Message</th>
<th>Female Target</th>
<th>Male Target</th>
<th>Female Target</th>
<th>Male Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low</strong></td>
<td>Honest</td>
<td>6.14 (.92)</td>
<td>5.33 (.58)</td>
<td>5.95 (.86)</td>
<td>5.46 (.69)</td>
</tr>
<tr>
<td></td>
<td>Dishonest</td>
<td>5.34 (.85)</td>
<td>5.26 (.83)</td>
<td>5.18 (1.04)</td>
<td>5.23 (.73)</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td>Honest</td>
<td>6.09 (1.08)</td>
<td>5.12 (.75)</td>
<td>5.42 (1.07)</td>
<td>5.21 (1.19)</td>
</tr>
<tr>
<td></td>
<td>Dishonest</td>
<td>5.17 (.90)</td>
<td>5.41 (.94)</td>
<td>5.17 (1.13)</td>
<td>5.04 (.99)</td>
</tr>
</tbody>
</table>

Table 3. Truthfulness ratings (with standard deviations) for judge sex x target sex x distraction condition x type of message analysis.
This study found, as some previous studies have (DePaulo and Rosenthal, 1979), that people in general can distinguish between honest and dishonest statements. However, while people could significantly distinguish between honest and dishonest statements, the difference of rated truthfulness for honest and dishonest statements was not very large.

The main point of the current study was to investigate how differences in processing styles might affect people's accuracy in detecting deception. It was predicted that people engaged in low elaboration processing would be more accurate in detecting deception than people engaged in high elaboration processing, because while engaged in low elaboration processing a person is more likely to attend to the nonverbal aspects of a message.

Unfortunately, the manipulations in this study did not have the intended effects on people's accuracy at detecting deception. Contrary to our predictions, people in the high distraction condition were not more accurate at detecting deception than people in the low distraction condition. Nevertheless, evidence from the supplemental regression analysis offers tentative support for the idea that amount
of argument recall affects people's detection of deception. Furthermore, some gender differences in the accuracy of detecting deception were found.

The distraction condition assigned to the participants was not related to people's accuracy in distinguishing between honest and dishonest messages. Further analyses showed that the distraction condition predicted the proportion of arguments that a person recalled from the tapes, but the proportion of arguments recalled was not related in a linear fashion to people's accuracy at detecting deception. Instead, deception detection accuracy and the proportion of arguments recalled were related in a curvilinear fashion. The pattern of this relationship showed that people who paid more of attention to the arguments of a message (high recall) and those who paid little attention to arguments (low recall) were not as proficient in detecting deception than those people who gave a moderate amount of attention to the arguments of a message (average recall).

These results suggest that the amount of attention a person gives to the verbal component of a message (i.e. the arguments) may, to some extent, determine people's accuracy at detecting deception. In this case, if people recalled most of the arguments or not enough of the arguments
presented to them, their accuracy at detecting deception was impaired. Taken together with previous studies (Forrest and Feldman, in press; Stiff et al., 1989), this provides tentative evidence for a process model of detecting deception, in which a person's recall of the arguments presented determine how accurate that person is in detecting deception.

The results of the study suggest that at some high level of distraction, a person's interest and/or attention in verbal and nonverbal behaviors is low, and therefore, accuracy in detecting deception will also suffer. Although people in this high distraction condition may be attending to peripheral cues, as intended, they might be paying attention to peripheral cues that are extremely easy to perceive such as, for example, attractiveness. These peripheral cues are not necessarily related to the deceptiveness of the target person and therefore are of little use when attempting to detect deception.

Further studies should be conducted in order to understand the possible relationship between a person's processing style when detecting deception and that person's accuracy in making those judgements. High levels of distraction may have impaired people's ability to attend to the deceptive messages. Consequently, a study that
incorporates moderate levels of distraction should be carried out to further test the hypotheses investigated in this thesis. Because people in a moderate distraction condition would be able to pay attention to peripheral cues while also performing the distraction task, it would be expected that people in a moderate distraction condition will be more accurate in detecting deception than people in low and high distraction conditions. This result would give support to a dual-process model for detecting deception.

It might be argued that the differences found in Forrest and Feldman (in press) and in the regressions performed on the present study are due to differences in the persuasiveness of the target persons' messages. That is, when targets are being honest, they may be more or less persuasive than when they are dishonest. However, initial evidence contrary to this alternative explanation has been found in a pilot study (Forrest, 1997). In this pilot study, judges rated the persuasiveness of target messages, which were either honest or dishonest. Furthermore, different judges rated the truthfulness of each of the target messages. It was found that truthfulness ratings were related to the persuasiveness of a message, but persuasiveness did not vary as a function of the actual honesty or dishonesty of the message. Therefore, these
initial data suggest that although people base some of their judgements of deceptiveness of a message on the persuasiveness of that message, this portion of the variance does not explain the differences in deception detection accuracy.

The present study also found some gender differences. One of these effects was a replication from a previous study (Forrest & Feldman, in press) using the same target video. Lies told by male targets were significantly more difficult to detect compared to lies told by female targets. Although it has been found that males are not as good as females at communicating nonverbal facial expressions (Hall, 1984), the evidence for men being better liars is quite mixed. Although this finding is a replication from an earlier finding, both studies used the same stimulus video, therefore the finding lacks generalizability because the effect could be a function of the specific target persons on the video. Still, as suggested by DePaulo, Kirkendol, Tang, and O'Brien 1988, women, when placed in the task of being deceptive, may be naturally more motivated to make a good impression, and consequently worse at hiding their dishonesty.

In conclusion, this study provides tentative evidence in support of a dual-process model of detecting deception,
but research incorporating more levels of distraction is clearly needed in order to shed light on the processes at work. In addition, it is important to understand what cues people attend to when judging for deception in others. As suggested earlier, people may base their attributions of deception, at least in part, to the persuasiveness of the message, but this effect should be more pronounced for people engaged in high elaboration processing. People engaged in peripheral processing attend to other aspects of a message, and further research should investigate which aspects of a specific message people attend to when engaged in low elaboration processing.
REFERENCES


