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Cheater Detection and the Fundamental Attribution Error: A Test of Social Exchange Theory

Brandy N. Burkett
College of William & Mary - Arts & Sciences

CHEATER DETECTION AND THE FUNDAMENTAL ATTRIBUTION ERROR: A TEST OF SOCIAL EXCHANGE THEORY

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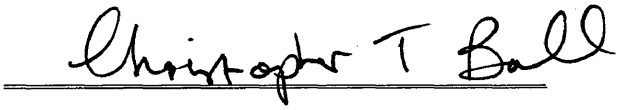

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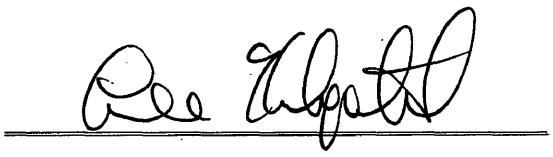

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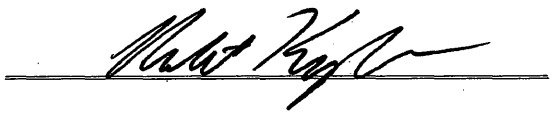

Robert O. Kurzban

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Abstract

The *fundamental attribution error* (FAE) suggests that people attribute others' behavior, more than their own behavior, to dispositional rather than situational factors. The FAE is assumed to be domain general, applying equally to the attribution of all kinds of attitudes and personality traits. Based on *social exchange theory* (Cosmides, 1989), I reasoned that people should be particularly vigilant about detecting dispositional traits associated with dishonesty because they possess specialized mechanisms dedicated to cheater-detection. I hypothesized that dispositions associated with dishonesty would more readily enhance the FAE than other traits.

This hypothesis was tested in four experiments using two different methodologies adapted from previous FAE research. Studies 1 and 2 used self-reports regarding trait attributions about the self and other people. Studies 3 and 4 used a memory task to examine the role of dispositional inferences in memory encoding. Results from Studies 1 and 2 were largely in line with my hypotheses but Studies 3 and 4 failed to demonstrate the predicted results.

CHEATER DETECTION AND THE FUNDAMENTAL ATTRIBUTION ERROR: A TEST OF SOCIAL EXCHANGE THEORY

INTRODUCTION

There has been a great deal of research in psychology focusing on inferential biases in judgment and decision-making. Traditional approaches have suggested that individuals often make systematic cognitive errors when making judgments and decisions. Some research has suggested that we use a limited number of heuristics to arrive at approximate predictions. It has been suggested that using these heuristics reduce the complexity of the task and allow individuals to quickly make decisions (Kahneman & Tversky, 1973, 1996). These heuristics are sometimes accurate but often lead to errors, particularly when there are limitations in cognitive capacities (Stanovich & West, 2000).

To illustrate, Kahneman and Tversky (1973) suggest that one heuristic people use in inference prediction is representativeness. That is, they select outcomes that best represent the evidence they are given. For example, given a personality sketch of a graduate student stating that he is high in intelligence though lacks creativity, has little sympathy for others and does not like to interact with others, participants were more likely to predict that the graduate student was a computer scientist rather than a doctor, educator, etc (Kahneman & Tversky, 1973). More specifically, they found that although participants were aware that the humanities or education field encompassed many more graduate students than computer science, 95% of subjects judged the graduate student to study computer sciences rather than education or humanities. Using the representativeness heuristic allowed participants to make a quick judgment by ignoring base rates, leading to systematic biases in decisions. However, most of the literature on

judgment and decision-making under uncertainty has focused on asking individuals to judge the probabilities of single events, but given little if any content about the situation. Human cognitive mechanisms were not designed to focus on single events or abstractions but rather to take into account cyclical patterns or observable frequencies of events, such as rainfall or the frequency of successful hunts in a particular location (Cosmides & Tooby, 1996; DeKay, Haselton, & Kirkpatrick, 2000). Thus, it is not surprising that individuals make errors when performing abstract reasoning problems.

According to evolutionary psychologists, we do not have a few general content-independent cognitive systems designed to operate according to rational mathematical procedures to produce valid answers in all domains. This type of system is inadequate compared to a system with many different content-dependent mechanisms where the system is able to better solve specific problems more rapidly. For example, Mineka (1992) suggests that primates and humans are biologically predisposed to easily associate certain kinds of objects or situations with aversive events. Results of several studies using laboratory-reared monkeys suggest that there is an evolved predisposition to acquire fear of objects and/or situations that once posed a threat to early ancestors. Laboratory-reared monkeys quickly acquired a strong fearful reaction to snakes after watching wild-reared monkeys react fearfully around snakes. This type of phobic reaction did not occur after watching wild-reared monkeys react fearfully to other objects such as flowers.

To take a second example, using the same cognitive machinery for discriminating potential mates and potential threats would have been ineffective and often detrimental. These problems are distinct problems repeatedly faced throughout evolutionary history.

Therefore, specialized cognitive machinery evolved to solve these separate adaptive problems: a system for discerning potential mates and a system for discerning potential threats in the environment. Having different, specialized mechanisms to solve these problems allows each to be solved more effectively (Tooby & Cosmides, 1992).

One reason, according to evolutionary psychologists, that systematic reasoning errors occur is because cognitive mechanisms are designed with inherent biases. Error Management Theory (EMT; Haselton & Buss, 2000) suggests that relative costs and benefits of false positive and false negative decisions were often asymmetric throughout evolutionary history. Thus, natural selection favored psychological mechanisms that were biased to make the least costly kind of error. Natural selection will not select decision rules that are strictly based on what is likely to be true, but rather based on whether the decision rules lead to a higher rate of survival and reproductive success. Thus, selecting a decision rule that always seeks the truth may be more dangerous than a rule that is less accurate in truth detection. For example, squirrels hear sounds and run away, even though more often than not, the sound was not caused by a predator. Squirrels in the ancestral environment that did not behave this way more than likely would have been eaten. Thus, this strategy potentially decreases their survival and reproductive success. However, squirrels with cognitive mechanisms that bias them to overestimate the presence of a snake in the grass, and therefore avoid it, decrease their chances of being bitten and dying from a snake bite. This bias to avoid unfamiliar objects in the grass may lead to a greater chance of survival and more reproductive opportunities, thereby potentially aiding in reproductive success.

Social cognitive mechanisms in humans may be biased by design in a similar manner. For example, Haselton and Buss (2000) found that when presented with ambiguous cues men tend to overestimate women's sexual intent whereas women tended to underestimate men's willingness to commit to a relationship. In ancestral environments, the cost of men falsely inferring women's sexual intent was miniscule compared to underestimating women's sexual intent. Men who falsely inferred that women were interested would have lost only a small amount of time and energy, but men who underestimated women's sexual intent would have lost potentially valuable sexual opportunities. For women, the costs of deciding the commitment intent of a potential mate were also asymmetrical. Women who underestimated men's intent to commit to a relationship were more likely to avoid men who were unwilling to commit, thereby avoiding the potential consequences associated with such a relationship (e.g. lost resources and unwanted pregnancy). Thus, this research suggests that humans have evolved social cognitive mechanisms biased to make decisions that resulted on average in lower survival and reproductive costs.

Social Exchange Theory and the Wason Task

Social exchange is the "cooperation between two or more individuals for mutual benefit" (Cosmides, 1989). By living in small social groups where individuals had repeated interaction with others within the group, it was advantageous for our hunter-gatherer ancestors to exchange resources for mutual benefit (Trivers, 1971). However, exchange of resources between individuals (or groups) also allowed for the possibility of cheating by failing to reciprocate in the exchange. Thus, it would have been beneficial to be able to recognize cheating in exchange relationships. This is in line with the

evolutionary theory of reciprocal altruism, according to which reciprocity could not develop as a stable strategy unless there was also some way to recognize and punish cheaters (Axelrod, 1984; Trivers, 1971).

Cosmides (1989; Cosmides & Tooby, 1992, 1997) used the Wason card selection task to test the hypothesis that the human mind has specialized mechanisms to operate in social exchange relationships, specifically social contracts, i.e. "a situation in which an individual is obligated to satisfy a requirement of some kind, usually at some cost to him- or herself, in order to be entitled to receive a benefit from another individual (or group)" (Cosmides & Tooby, 1992, p.180). Cheating, by taking a benefit without satisfying the requirement, is a violation of a social contract.

The Wason selection task has traditionally been used to examine human reasoning mechanisms with regard to abstract reasoning problems. Participants are asked to look for violations of a conditional rule in the form of "if P then Q". In studies using the Wason card selection task (Wason, 1966) participants are typically presented with a vignette describing a situation and a particular conditional rule that must be followed. Below the vignette are four cards and participants are asked to identify the card(s) that need to be turned over to see if the conditional rule had been violated. Fewer than 25% of participants answer these types of logical reasoning questions correctly, even when the content of the rules are familiar (Cosmides & Tooby, 1997). Cosmides (1989) suggests that individuals are not good at reasoning about conditional rule violations in the form of logical reasoning tasks because abstract reasoning was not a selection pressure faced by our ancestors.

Cosmides (1985, cited in Cosmides & Tooby, 1992) put social contracts in the form of a Wason selection task to examine whether people would accurately detect when violations (cheating) occurred. In other words, this is a situation in which "one is entitled to a benefit only if one has fulfilled a requirement" (Cosmides & Tooby, 1997). They found that performance on the task improves when reasoning problems are put in the form of detecting violations of social contracts. Thus, Cosmides (1989, Cosmides & Tooby, 1992, 1997) suggest that humans possess mechanisms that were designed to detect cheating (i.e. violations of social contract obligations) in social-exchange situations.

Most of the literature supporting social exchange theory has used the Wason card selection task (Wason, 1966) or variations of it. Using the Wason task limits the ability to fully test social exchange theory. The Wason task limits the focus to detecting instances of *cheating* and not *cheaters* per se, because it cannot determine whether individuals are detecting a specific act of cheating in a specific context or whether the individuals are thinking about or remembering the particular individual who cheated. Psychological mechanisms designed to detect cheating were not designed to detect instances of cheating, but were designed to detect and remember cheaters. By remembering individuals who had cheated them in the past, individuals would be able to avoid interacting with them on future occasions. Whereas past research has focused on people's ability to detect instances of cheating on social contracts, I hypothesize that people will also notice and deeply encode the identity of the persons who have engaged in cheating behavior. The purpose of this research is to test this aspect of social exchange

theory in an entirely new way, using methodology from social psychology literature examining dispositional biases.

Cheater detection can be thought of as an example of attributing dispositional characteristics or traits to other people. One area in particular is the *correspondence bias*.

Correspondence Bias and the Fundamental Attribution Error

A vast amount of research in social cognition shows that observers tend to readily attribute the cause of a target person's behavior in terms of dispositional factors and underestimate the influence of situational characteristics. This effect is known as the *fundamental attribution error* (FAE; Ross, 1977) or the *correspondence bias* (Jones & Harris, 1967). For example, an observer watches an individual speed down a highway, passing others whenever opportunities arise. If the observer was asked about the individual speeding, he or she might give a dispositional inference stating, "He is a jerk" or "He is careless." This explanation ignores the possibility that the individual's situation played any factor in the observed driving behavior. For example, the individual could have had a family emergency and was trying to rush home out of concern for a family member.

In a classic study, Jones & Harris (1967) had participants read an essay either favoring or opposing Fidel Castro communist regime. Some of the participants were informed that the writer freely chose the position he or she wrote about. Participants in this condition assumed that the writer's position corresponded to the writer's true attitude. Other participants were informed that the writer had no choice and was assigned the position he or she had written about. Participants in this condition also inferred that the writer's position corresponded to the writer's true attitude even though the writer was

unable to freely choose his or her position. In other words, participants overestimated the weight of dispositional characteristics and gave insufficient weight to situational constraints.

Ross et al (1977) showed that the FAE occurred even when the participants were explicitly aware of the situational constraints. Individuals were randomly assigned to play the role of a quiz show host or a contestant while spectators watched. In front of the spectators, the experimenter instructed the quiz show host to create ten challenging questions to ask the contestants. Thus, the questions referred to a multitude of topics in the host's store of general knowledge. The contestants answered only about 40 percent of the questions correctly. At the conclusion of the game, the spectators rated the general intelligence level of both the contestant and the host. The spectators rated the host as having a higher level of general knowledge than the contestant. Moreover, the contestants, who were fully aware of the situational constraints, rated themselves as inferior to their respective partners (i.e. host). Thus, both the contestants and the spectators underestimated the constraints of the situation and overestimated the influence of dispositional characteristics.

Much of the research involving the FAE has instructed participants to rate the true attitude of a target person after reading an essay in which he or she favored or opposed a specific issue. These issues included such topics as attitudes toward the Fidel Castro communist regime, segregation (Jones & Harris, 1967), the legalization of marijuana (Jones, Worchel, Goethas, & Grumet, 1971) and attitudes pertaining to homosexuality (Alicke, Zerbst, & LoSchiavo, 1996). These studies have consistently shown that

individuals overestimate the influence of dispositional characteristics and underestimate situational constraints when observing another person's behavior.

Two Previous Studies of the FAE

Two previous studies have examined the FAE using different methods. Nisbett, Caputo, Legant, and Marecek (1973) hypothesized that individuals interpret the behavior of others in dispositional terms (and more in situational terms when interpreting their own behavior) because individuals may view others as having more personality traits than themselves. They suggested that if individuals consistently perceived their own behavior as determined by the situation, but viewed others as having more stable personality traits, than individuals should view the behavior of others as more trait-determined than their own behavior. The results were consistent with their hypothesis: Individuals assigned fewer personality traits to themselves than to other people. Neither familiarity with the stimulus person nor age of the person influenced individuals' tendency to assign personality traits.

Winter and Uleman (1984) proposed that individuals make trait inferences at the encoding stage of processing behavioral information without instructions or intention to do so. To test this hypothesis, Winter and Uleman adapted the encoding specificity paradigm developed by Tulving and his colleagues (Thomson & Tulving, 1970; Tulving & Thompson, 1973). The basic premise is that what is recalled depends on the similarity between the context in which the items were encoded and the context in which the items are to be retrieved (Leahey and Harris, 1997; Winter & Uleman, 1984). Thus, Winter and Uleman suggest, "an effective retrieval cue for any input will be another piece of information that was encoded at the same time" (p. 238). Consequently, Winter and

Uleman proposed that if people make trait inferences when encoding observed behavior, then these trait inferences should be stored with the memory of the behavior. Thus, they hypothesized that dispositional cues would facilitate recall for sentences about behaviors because of the inference made by the participants and that dispositional cues would be as effective as semantic cues. It was found that dispositional-cued and semantic-cued recall were both greater than noncued recall, but not significantly different from each other. In other words, this study suggests that consistent with the FAE, individuals do formulate trait inferences when processing behavioral information at the encoding stage.

These two studies illustrate very different methodologies for assessing the FAE. One is about making trait inferences about the self and others, whereas the other examines the unintentional encoding of trait inferences at the time of processing observed behavioral information. Yet, these two studies converge on the same basic finding: Individuals attribute dispositional traits to others to describe their personality as well as their behavior.

The Present Studies

Consistent with other FAE research, these studies examined how people make inferences about dispositions and traits in general. It appears that there has been an assumption that traits are interchangeable with regard to eliciting the FAE. That is, the FAE occurs with respect to traits and attitudes of all kinds. Previous researchers seem to assume that the FAE is content-independent and highly general, and equally applicable to attitudes, personality traits, and dispositions. An evolutionary view raises questions about this assumption. Human psychological mechanisms were designed to solve adaptive problems faced by our ancestors throughout human evolutionary history. The

mind did not develop a general-purpose design where a few mechanisms operate the same regardless of the content of the problem (Tooby & Cosmides, 1992; Cosmides & Tooby, 1997). Thus, the mind developed a number of specialized mechanisms designed to solve specific adaptive problems faced by our ancestors.

Cheating in social exchange, as discussed previously, is one such problem faced by our hunter-gatherer ancestors. It would have been very costly, in inclusive-fitness terms, for our hunter-gatherer ancestors not to detect and remember individuals who cheat. If our ancestors had repeatedly participated in exchange relationships with cheaters, they would have continually lost valuable resources. Therefore, as suggested by social exchange theory, humans developed psychological mechanisms designed specifically to detect and remember cheaters. As research based on social exchange theory has shown, individuals are good at detecting violations of social contracts.

Moreover, individuals should not only detect and remember cheaters, but they should also assign dishonest dispositional traits to cheaters to help them avoid future interactions with those individuals. This suggests that social exchange theory can fit into a FAE framework. The dishonest dispositional quality of a cheater is more relevant than a particular situation involving cheating because social exchange theory focuses on psychological processes that are necessary for reciprocal altruism. In order for reciprocal altruism to occur, one needs partners that will reliably reciprocate, and by assigning dishonest dispositions to individuals that cheat, one is able to discriminate potential reciprocators from potential nonreciprocators.

Thus, I suggest that the FAE is not content-independent and that not all dispositions equally activate the FAE. In line with social exchange theory, I hypothesize

that cheating behavior on the part of a target will more readily activate the FAE than other dispositional characteristics because of evolved psychological mechanisms to detect cheaters. Consequently, I predict that people will more readily infer a dishonest disposition in individuals who display dishonest behavior than they infer other dispositions from other kinds of behaviors.

In this thesis, I describe four studies adapted from the two aforementioned studies. Study 1 and Study 2 are adapted from Nisbett et al. (1973) and used self-reports regarding trait attributions about the self and other persons. These studies incorporate traits that are associated with dishonesty and honesty to examine whether the effects of the FAE are stronger for cheating-related traits than other traits.

Study 3 and Study 4 are adapted from Winter and Uleman (1984) using the memory task to examine the role of dispositional inferences in memory encoding. In Study 3, sentences implying dishonest, mean, and obnoxious dispositions were created to examine whether sentences implying dishonesty on the part of the actor in the sentence were remembered better relative to the other implied negative dispositions. In Study 4, the "dishonest" category was further subdivided into behaviors more versus less directly reflective of social-contract violations.

CHAPTER I:

STUDY 1

Study 1 was designed to be as similar to Nisbett et al (1973) as possible, but modified to measure the attributions of dishonesty-related traits separately from other kinds of traits. Nisbett et al. (1973) had participants fill out a questionnaire with respect to themselves and other persons, indicating which of three terms best fit the person in question. The participants were to choose between two trait terms that were polar opposites such as, "unassuming – self asserting" or a third phrase "depends on the situation." They chose trait adjectives that were equal in social desirability to eliminate the possibility of participants choosing one trait over its polar opposite because it was more socially desirable. In accordance with the FAE literature, participants attributed fewer traits to themselves than to other people and applied the "depends on the situation" option to themselves more than to other people. Nisbett et al. (1973) did not examine whether there were differences in the types of trait adjectives that participants applied to themselves and others. I suggest that there will be differences in the types of traits applied to the self versus another person. I predict that participants will apply traits associated with dishonesty more to others (than the self) and more than other negative traits. In addition, I predict that participants will apply traits associated with honesty more to the self (than to others) and more than other positive traits.

Method

Participants. Forty-seven Introductory Psychology students (26 men and 21 women, mean age 19.57) from the College of William & Mary participated for course credit.

Materials. Materials were adapted from Nisbett et. al.'s (1973) Trait Attribution Questionnaire (See Appendix A for complete questionnaire). Each item required participants to judge themselves with respect to a particular trait, classifying themselves as either like the trait or "it depends on the situation," and then to make the same judgment about a *friend* and an *acquaintance*. This format was different than Nisbett et al. format of the questionnaire on which participants judged themselves with respect to bipolar pairs of traits. Nisbett et al. designed their bipolar pairs to be equal in social desirability to avoid participants assigning traits because they were more or less desirable than their bipolar counterparts. This would not have been the case with some of my bipolar pairs since traits pertaining to dishonesty would be less socially desirable than traits pertaining to honesty. For this study, I added six positive traits associated with the opposite of cheating (e.g. trustworthy, sincere), six positive traits not associated with cheating (e.g. friendly, cheerful), six negative traits associated with cheating (e.g. fraudulent, deceitful), and six negative traits not associated with cheating (e.g. unskilled, lazy). I also used six of the traits from the original study that I am calling neutral traits (e.g. lenient, easygoing). To avoid the possibility of individuals simply assigning the more socially desirable trait to themselves and undesirable traits to others, I decided to have participants choose between "trait A" or "depends on the situation." Participants

also completed the same questionnaire for a friend and an acquaintance. The order of the questionnaires was counterbalanced to eliminate the possibility of order effects.

Procedure. Upon arrival, participants were told that the study examined how individuals describe themselves and others. Participants were told that their participation was completely anonymous and voluntary and that they could choose to stop at anytime without losing their research credit. Participants then read and signed the informed consent form. After completion of the informed consent form, the Trait Attribution Questionnaire was handed out. The participants were instructed that there were three forms, one pertaining to them, one pertaining to a friend and one pertaining to an acquaintance. The participants were instructed to complete the questionnaire by checking the blank that best describes them for each number. For the questionnaire pertaining to a friend, participants were instructed to think of a close friend. For the questionnaire pertaining to the "other" person, participants were instructed to think of a person they know who was not a close friend or enemy. The participants were then asked to think of an acquaintance with whom they do not necessarily interact on a day-to-day basis. The participants were given a moment to think of people for these categories. Once the participants had thought of the individuals, they were asked if there were any questions. The participants had instructed to begin the questionnaire. Once all the participants were finished the questionnaire, they were debriefed. Participants interested in the results of the study gave their name an email address in order to receive a copy of the abstract.

Results and Discussion

There were a total of 30 traits with traits being broken down into five categories--dishonest, negative, honest, positive, and neutral--with six traits in each category.

Scoring for each trait was dichotomous: The question received a 1 if the trait was checked and received a zero if "depends on the situation" was checked. Scores for each trait were constructed by summing across the six items per trait. Separate analyses were conducted for positive and negative traits. (For present purposes, data for the neutral traits were not analyzed) Each of these was a 2 (Sex) X 2 (Trait) X 3 (People) mixed model ANOVA, followed by contrasts. In each analysis, the crucial theoretical test involved the Trait X People interaction (see Tables 1 and 2 for descriptive statistics).

Dishonesty versus Other Negative Traits

A 2 (Sex) X 2 (Trait) X 3 (People) ANOVA revealed a marginally significant Sex X Trait X People interaction, $F(2, 44) = 2.585$, $p = .087$.[1] No other effects were significant. Due to the marginally significant 3-way interaction, I then conducted separate 2 (Trait) X 3 (People) ANOVA for each sex.

Men. A 2 (Trait) X 3 (People) ANOVA revealed no significant effects. Most importantly, the Trait X People interaction was not significant, $F(2, 24) = .431$, $p = .655$. The 2-way ANOVA was then repeated using a contrast of Self versus Friend for the people effect. This analysis also produced no significant results, $F(1, 25) = .684$, $p = .416$. The 2-way ANOVA was again repeated using a contrast of Self versus Other for the people effect. This analysis also produced no significant results, $F(1, 25) = .375$, $p = .546$.

Women. A 2 (Trait) X 3 (People) ANOVA produced a marginally significant interaction, $F(2,19) = 3.182$, $p = .064$. As predicted (see Figure 1), women attributed fewer dishonest traits to self than other negative traits (.05 and .24 respectively) but for friend and other the pattern reverses: Women attributed slightly more dishonest traits than

other negative traits to friend, (.38 and .29 respectively) but attributed a much higher number of dishonest trait than other negative traits to other (.71 and .38 respectively). A 2 (Trait) X (Self Versus Other) contrast revealed a marginally significant main effect for self versus other, F (1, 20) = 3.155, p = .091, with participants attributing more traits to other than to self (.55 and .14 respectively). There was also a marginally significant interaction, F (1, 20) = 3.689, p = .069. Participants attributed more other negative traits to the self than dishonest traits (.24 and .05 respectively) but attributed more dishonest traits to the other than other negative traits (.71 and .38 respectively). However, the interaction for Self versus Friend was not significant, F (1, 20) = 1.538, p = .229.

Honesty versus Other Positive Traits

A 2 (Sex) X 2 (Trait) X 3 (People) ANOVA revealed a significant main effect for people, F (2, 44), $p < .001$, with participants attributing more traits to friend (4.76) followed by self (4.32) and other (3.36). As predicted, there was a significant Trait X People interaction, F (2, 44) = 5.060, p =.011. As Figure 2 illustrates, participants attributed more honest traits to self than other positive traits (4.70 and 3.95 respectively) and attributed slightly fewer honest traits to friend as other positive traits (4.71 and 4.81 respectively). In contrast, participants attributed slightly fewer honest traits to acquaintance than other positive traits (3.19 and 3.53 respectively). A 2 (Trait) X 2 (Self versus Friend) contrast yielded a significant interaction, F (1, 45) = 7.167, p = .010. Participants attributed more honest traits to self than other positive traits (4.70 and 3.95 respectively) but attributed slightly fewer honest traits to friend than other positive traits (4.71 and 4.81 respectively). In addition, a 2 (Trait) X 2 (Self versus Other) contrast produced a significant interaction, F (1, 45) = 7.797, p = .008. Participants attributed

more honest traits to self than other positive traits (4.70 and 3.95 respectively) but attributed slightly less honest traits to acquaintance than other positive traits (3.19 and 3.53 respectively).

In addition, there was a marginally significant Sex X Trait X People interaction, F (2, 44), p =. 071, suggesting that the 2-way interaction maybe different for men and women. Therefore, I conducted separate 2 (Trait) X 3 (People) ANOVAS for each sex.

Men. A 2 (Trait) X (People) ANOVA yielded a significant main effect for people, F (2, 24) = 9.855, p = .001, with men overall attributing more traits to friend (4.69) followed by self (4.28) and other (3.28). The Trait X People interaction was not significant, F (2, 24) = .208, p = .814. Analyses using contrasts produced no significant interactions.

Women. A 2 (Trait) X 3 (People) ANOVA yielded a significant main effect for people, F (2, 19) = 13.451, p < .001, with women overall attributing more traits to friend (4.83) followed by self (4.36) and other (3.43). As predicted, there was also a significant Trait X Person interaction, F (2, 19) = 7.304, p = .004, with women attributing more honest attributes than other positive attributes to the self (4.86 and 3.86 respectively) but for friend and other, women attribute more other positive traits than honest traits (friend: 5.05 and 4.62, other: 3.91 and 2.95 respectively). A 2 (Trait) X 2 (Self versus Friend) contrast produced a significant interaction, F (1, 20) = 9.009, p = .007, with women attributing more honest traits than other positive traits to self (4.86 and 3.86 respectively) but attributing more other positive traits to the other than honest traits (3.91 and 2.95 respectively). A 2 (Trait) X 2 (Self versus Other) contrast also produced a significant interaction, F (1, 20) = 13.236, p = .002, with women attributing more honest traits to the

self than other positive traits (4.86 and 3.86 respectively) but attributing more other positive traits to the other than honest traits (3.91 and 2.95 respectively).

In Study 1, the predictions received mixed support. For dishonest versus other negative traits, the predicted trait x people interaction was nonsignficant when men and women were combined but was marginally significant for female participants when analyzed separately. However, predictions for honest versus other positive traits were supported. Participants were more likely to attribute positive traits to themselves than others but the effect was significantly stronger for honesty-related traits than other positive traits.

Several problems in the design of this study might have weakened the results. First, scoring the traits dichotomously restricts the variability. Therefore, a modification made in Study 2 was to have participants make attributions using a 10-point scale from 0 to 9 (0 being completely dependent on the situation and 9 being highly characteristic of the person [being described] in general) to produce more variability.

Another potential confound was that when thinking of a person for the friend and other categories, participants were given no specific guidelines as to age or sex of the persons whom they were to describe. For example, a participant thinking of his/her grandmother for the category other may make attributions about her much differently than a participant who was thinking of a person they might want to date in the future. Thus, these are qualitatively different individuals who may have very different attributes made about them. This variability is a source of error likely to weaken the results. Thus, an improvement in Study 2 was that for all categories individuals were asked to think of a specific same-sex individual from the College of William & Mary.

In addition, the comparisons of honest and dishonest to other positive and other negative traits involved comparing a group of six traits associated with honesty or dishonesty with a general and diverse group of six positive or negative traits. In other words, there was not a clustering theme for the other positive and negative traits as there was for honesty and dishonesty. Also, there were no a priori ratings of how negatively or how positively the attributes were viewed. Consequently, some adjectives may have been viewed more negatively or more positively than other traits. Study 2 was therefore modified to deal with this problem as well.

CHAPTER II:

STUDY 2

As previously stated, Study 2 was a modification of Study 1. Scoring for traits was modified from dichotomous to a 10-point scale. The term used for a person with whom the individual does not interact on a day-to-day basis was changed from *other* to *acquaintance* to help give the category a clearer meaning. In addition, participants were asked to think of specific same-sex individuals from the College of William and Mary for each person category. (A fourth category of *disliked other* was added for exploratory purposes and was not used in any subsequent analyses.) Finally, the traits used were modified from Study 1 to include the negative traits *mean* and *obnoxious*, the positive traits *kind* and *intelligent*, and the neutral traits *ordinary* and *passive*. As in Study 1, for the present purposes, data for the neutral traits were not analyzed.

Method

Participants. Fifty-nine Introductory Psychology students (27 men and 32 women, mean age 19.56) from the College of William & Mary participated in exchange for course credit.

Materials. Materials were adapted from the previous study's Trait Attribution Questionnaire. As in the previous study, participants judged themselves with respect to a particular trait. However, in this study, instead of having participants make a dichotomous decision (i.e., the trait or depends on the situation), individuals were asked

to rate themselves on a 10 point scale (0 completely dependent on the situation and 9 being highly characteristic of the person in general).

In Study 1, there was a diverse collection of negative traits compared to dishonesty. A more appropriate to comparison, however, would involve the specific trait of dishonesty with one or more specific negative trait(s). The same is true for honesty. In addition, it seems important that the other two negative traits be comparably negative or undesirable to dishonesty. Similarly, all three positive traits should be comparably desirable. Thus, I chose the specific trait categories, mean and obnoxious, and, kind and intelligent, based on Anderson's (1968) likableness ratings.

The total number of traits was expanded from 30 to 48. For the positive spectrum of adjectives this study, there were six traits associated with honesty, six traits associated with the positive trait understanding, six traits associated with the positive trait intelligent. For the negative spectrum of adjectives in this study, there were six traits associated with dishonesty, six negative traits associated with the adjective mean, and six traits associated with the adjective obnoxious. Two clusters of neutral traits were also used, a cluster of six traits associated with the adjective *ordinary* and six traits associated with the trait *passive*. These traits were also chosen from Anderson's (1968) likableness ratings. Participants also completed the same questionnaire for a friend, an acquaintance, and a disliked other. The order of the questionnaires was counterbalanced to eliminate the possibility of order effects (see Appendix B for complete questionnaires).

Procedure. Upon arrival to the study, participants were told that the study examined how individuals describe themselves and others. Participants were told that their participation was completely anonymous and voluntary and that they could choose

to stop at anytime without losing their research credit. Participants read and signed the informed consent form. After completion of the informed consent form, the Trait Attribution Questionnaire was handed out. The participants were instructed that there were four forms, one pertaining to them, one pertaining to a friend, one pertaining to an acquaintance, and one pertaining to a disliked other. For the questionnaire labeled *friend*, they were told to think of a specific, same-sex close friend from William & Mary. For the questionnaire labeled *acquaintance*, they were instructed to think of a specific, same-sex individual from William & Mary whom they neither strongly liked nor disliked. For the questionnaire labeled *disliked other*, participants were instructed to think of a specific, same-sex person from William & Mary whom they disliked. The participants were given a moment to think of specific people for each category. Participants were then asked if there were any questions, and then instructed to begin the questionnaires. Once all the participants finished the questionnaires, they were debriefed.

Results and Discussion

There were a total of 48 traits in eight categories—dishonest, mean obnoxious, honest, kind, intelligent, ordinary and passive—with six traits in each category. Scoring for each trait was on a 10-point scale, 0 being *completely dependent on the situation* and 9 being *highly characteristic of the person in general*. Scores for each trait were constructed taking the mean for the six items per trait. In addition, contrasts were created to form what I will call *other positive* and *other negative* traits. The traits *kind* and *intelligent* were averaged together to form other positive traits and the traits *mean* and *obnoxious* were averaged together to form other negative traits. This was done so that analyses would be comparable to those of Study 1 (i.e. honest traits being compared to

other positive traits and dishonest traits being compared to other negative traits). Separate analyses were done for positive and negative traits. Each of these was a 2 (Sex) X 2 (Trait) X 3 (People) mixed model ANOVA, followed by contrasts. As in Study 1, in each analysis, the crucial theoretical test involved the Trait X People interaction (see Tables 3 and 4 for descriptive statistics).

Dishonesty versus Other Negative Traits

A 2 (Sex) X 2 (Trait) X 3 (People) ANOVA revealed a significant main effect for trait, $F(1, 57) = 15.233, p = .001$[2], with other negative traits being attributed more than dishonest in general (1.89 and 1.46). There was also a significant main effect for people, $F(2, 56) = 5.998, p = 004$, with overall more traits being attributed to acquaintance (1.92) followed by self (1.71) and friend (1.38). There was also a significant main effect for sex, $F(1, 57) = 6.380, p = .014$, with men making more trait attributions than women (1.96 and 1.38 respectively).

As predicted, there was a significant Trait X People interaction, $F(2, 56) = 7.917$, $p = .001$. As Figure 3 illustrates, participants attributed fewer dishonest traits to self than other negative traits (1.35 and 2.08 respectively). This pattern is similar for friend, with dishonesty being attributed less than other negative traits (1.07 and 1.69 respectively). However, participants attributed slightly more dishonest traits to acquaintance than other negative traits (1.95 and 1.90 respectively). A 2 (Trait) X 2 (Self versus Acquaintance) contrast also yielded a significant interaction, $F(1, 57) = 12.242, p = .001$. Participants attributed more other negative traits to the self than dishonest traits (2.08 and 1.35 respectively) but attribute slightly more dishonest traits to acquaintance than other negative traits (1.95 and 1.90 respectively). However, the interaction contrast for Self

versus Friend was not significant, F (1, 57) = 2.60, p = .612. There was also a marginally significant Sex X Trait X People interaction, F (2, 56) = 2.595, p = .084, suggesting that the 2-way interaction may be different for men and women. Therefore, I conducted separate 2 (Trait) X 3 (People) ANOVAs for each sex.

Men. A 2 (Trait) X 3 (People) ANOVA revealed a marginally significant main effect for trait, F (1, 26) = 3.229, p = .084, with other negative traits being attributed more than dishonest traits by men in general (2.14 and 1.78). There was also a significant main effect for people, F (2, 25) = 3.154, p = .060, with men attributing more traits to acquaintance (2.32) followed by self (1.95) and friend (1.62). As predicted, there was a significant Trait X People interaction, F (2, 25) = 4.781, p = .017. Men attributed fewer dishonest traits to the self than other negative traits (1.47 and 2.43 respectively). Similarly, men attributed less dishonest traits to friend than other negative traits (1.44 and 1.80 respectively). However, men attributed more dishonest traits to acquaintance than other negative traits (2.44 and 2.19 respectively).

A 2 (Trait) X 2 (Self versus Friend) contrast produced a marginally significant main effect, F (1, 26) = 3.655, p = .067, with men overall attributing more traits to the self than friend (1.95 and 1.62 respectively). The main effect for Self versus Acquaintance contrast was not significant, F (1, 26) = 1.130, p = .298. A 2 (Trait) X 2 (Self versus Acquaintance) contrast produced a significant interaction, F (1, 26) = 9.799, p = .004, with men attributing less dishonest traits than other negative traits to acquaintance (2.44 and 2.19 respectively). However, the interaction for Self versus Friend contrast was not significant, F (1, 26) = 2.479, p = .127.

Women. A 2 (Trait) X 3 (People) ANOVA revealed a significant main effect for trait, $F(1, 31) = 19.421, p < .001$, with other negative traits being attributed more than dishonest traits by women in general (1.64 and 1.13). There was also a marginally significant main effect for people, $F(2, 30) = 2.680, p = .085$, with women overall attributing more traits to acquaintance (1.53) followed by self (1.48) and friend (1.14). As predicted, there was a significant Trait X People interaction, $F(2, 30) = 4.479, p = .020$. Women attributed fewer dishonest traits to the self than other negative traits (1.23 and 1.72 respectively). Similarly, women attributed fewer dishonest traits to friend than other negative traits (0.70 and 1.57 respectively). The same pattern was true for acquaintance, with dishonest traits being attributed less than other negative traits (1.45 and 1.62 respectively). A 2 (Trait) X 2 (Self versus Friend) contrast produced a marginally significant main effect, $F(1, 31) = 3.668, p = .065$, with women overall attributing more traits to self than friend (1.48 and 1.14 respectively). The Self versus Acquaintance main effect was not significant, $F(1, 31) = .065, p = .801$.

Honesty versus Other Positive Traits

A 2 (Sex) X 2 (Trait) X 3 (People) ANOVA revealed a significant main effect for people $F(2, 56) = 18.903, p < .001$, with overall more traits being attributed to friend (7.11) followed by self (6.85) and acquaintance (5.93). As predicted, there was a significant Trait X People interaction, $F(2, 56) = 4.489, p = .016$. As Figure 4 illustrates, participants attributed a similar amount of honest traits to self as other positive traits (6.84 and 6.86 respectively). Participants also attributed a similar amount of honest traits to friend as other positive traits (7.18 and 7.03 respectively). However, participants attribute slightly less honest traits to acquaintance than other positive traits (5.78 and 6.08 respectively). A 2 (Trait) X 2 (Self versus Acquaintance) contrast yielded a marginally

significant interaction, F (1, 57) = 3.178, p = .080. Participants attributed a similar amount of honest traits and other positive traits to self (6.84 and 6.86 respectively) but attributed slightly less honest traits to acquaintance than other positive traits (5.78 and 6.08 respectively). The Self versus Friend contrast did not produce a significant interaction, F (1, 57) = 1.052, p = .309. There was not a significant 3-way interaction so separate 2 (Trait) X 3 (People) ANOVAs for each sex were not conducted.

The results were consistent with my predictions. The trait by target interaction was significant with the magnitude of the FAE stronger for dishonesty-related traits than other negative traits. With respect to positive traits, the FAE was "reversed" in that people were more likely to attributed positive traits to themselves than to other and this effect was enhanced for honesty-related traits.

CHAPTER III:

STUDY 3

Winter and Uleman (1984) suggested that trait inferences are made automatically at the encoding stage of processing behavior information. They had participants read sentences describing individuals performing different actions that implied traits. Participants were later asked to recall the sentences under one of three types of cueing conditions: a dispositional cue, a non-dispositional semantic cue, or no cue. They found that recall for sentences was best for participants cued by dispositional words (though not significantly different from semantic cues), suggesting that participants made (though not deliberately) trait inferences during encoding.

Winter and Uleman (1984) examined whether dispositional cues elicited greater recall of sentences than either semantic cues or no cues. They did not examine whether there was a difference between different dispositions with respect to the number of sentences recalled. I hypothesized that specific trait dispositions would be encoded more readily than other dispositions and thereby increase recall for the corresponding sentences. Specifically, I suggest that dishonesty is one such disposition. It is predicted that when the behavior of the actor in the sentences implies dishonesty, the sentences will be remembered better than sentences implying other types of dispositions.

The method was adapted from Winter and Uleman's (1984) study.[3] There were 21 sentences, seven sentences implying a *dishonest* disposition, seven sentences implying

a *mean* disposition, and seven sentences implying an *obnoxious* disposition. These traits were selected to correspond to the negative traits in Study 2.

Method

Participants. Thirty-three Introductory Psychology students (16 men and 17 women, mean age 19.00) from the College of William & Mary participated in exchange for course credit.

Materials. The 21 sentences were presented one at a time using Microsoft Power Point. Each sentence implied a dispositional characteristic about the individual in the sentence. The sentences were constructed so that the individual in the sentence was behaving in a dishonest, mean, or obnoxious manner toward the reader of the sentences (see Appendix C for a complete list of the sentences). Sample sentences are, "The butcher eavesdrops on your conversation" and "The waitress fails to give you gas money for a long trip." Following the sentences, there were three slides containing a distracter task. Instructions for the distracter task were on one slide and the other two slides each displayed three anagrams. After completion of the slide show, each subject received a recall sheet with one column to list the person/occupations of the sentences and one column to list the behaviors of the persons in the sentences. More instructions were given to also draw lines to as best they could, to match the people with the appropriate behaviors.

Procedure. Participants signed up for the study on the research pool sign up board. Upon arrival to the study, participants were told that they were participating in a memory experiment. Participants were told that their participation was completely anonymous and voluntary and that they could choose to stop at anytime without losing

their research credit. Participants then read and signed the informed consent form. They were told that they would be shown 21 sentences one at a time and were be asked to study them because they would be tested on them later. Participants then viewed each sentence one at a time for 5 seconds. The distracter task followed the presentation of the sentences. After the last sentence was displayed, the slide with the instructions to unscramble the six anagrams that followed was displayed for 20 seconds. The anagrams were shown on two slides, with three anagrams on each slide. Participants were allowed 1 minute for each slide. The recall sheets for the sentences were then handed out. Participants were allowed 10 minutes to recall as many sentences as they could. After the recall sheets were collected, the participants were debriefed. Participants interested in the results of the study gave their name an email address in order to receive a copy of the abstract. There were two sentence orders counterbalanced so the same sentences did not appear in the same order across the two sessions.

Results and Discussion

Each sentence consisted of a person/occupation directing some type of behavior toward the individual(s) reading the sentence. The types of behaviors fell into one of three categories: dishonest, mean, or obnoxious. Correct recall of the sentences was measured using four dependent measures. The first dependent measure was the number of *people/occupations* correctly remembered for each category (see Table 5). The second dependent measure was the number of *behaviors* correctly remembered for each category (see Table 6). The third dependent measure was a correct *category match* (see Table 7). This was when the people/occupations remembered were correctly matched with a behavior from the appropriate category, though not necessarily the exact behavior. For

example, suppose that in one sentence "the Sailor" had performed some dishonest behavior, such as split the cost of a lottery ticket and keeps all the winnings. Recall was scored as a correct category match if the participant listed "Sailor" and matched Sailor to any dishonest behavior, including but not necessarily "bought a lottery ticket with you and keeps all the money after the ticket wins." The fourth dependent measure was an exact match between the person/occupation and the specific behavior of the sentence (see Table 8). Thus, exact matches involve a more stringent criterion and represent a subset of category matches. These latter two measures were of primary interest because based on *social exchange theory,* individuals should detect and remember cheaters. But in order to remember that an individual had been dishonest or cheated, one should remember that the individual behaved dishonestly. However, retrieval of specific episodes (i.e., the specific dishonest behavior) is not necessary for making trait judgments (Cosmides, Klein, & Tooby, 2002). Thus, the primary analyses for this study involves correct category matches where recall of specific dishonest behaviors were not necessary. The exact category match analysis is important to discern whether participants are actually making exact matches or category matches.

There was some leniency used with respect to the scoring of participants wording for the persons/occupations and behaviors. For example, a participant listed the occupation "road guard" instead of using "crossing guard" and this was counted as a correct person/occupation remembered. However, one participant used the word "driver" and this was not counted as a correct person/occupation remembered. The closest correct person/occupation in the sentences was "chauffer" and it was difficult to discern whether

this was what the participant intended. Thus, if there was ambiguity as to what the participant meant, the response was not counted as a correct response.

The analysis for the number of persons/occupations remembered was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. The analysis revealed a marginally significant main effect for trait, $F(2, 28) = 2.96$, $p = .068$.[4] The pattern of unweighted means were not as predicted. Mean recall for the persons/occupations in *mean* sentences was highest (3.33) followed by recall for the persons/occupations in *obnoxious* sentences (2.85) and recall for the persons/occupations in *dishonest* sentences (2.53).

The analysis for the number of behaviors remembered was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. No significant results were found for any main effects or interactions. However, for the main effect for trait, a similar pattern to the persons/occupations remembered emerged. The mean recall for mean behaviors was highest (2.38) followed by recall for dishonest behaviors (1.96) and obnoxious behaviors (1.77).

The analysis for the number of persons/occupations matched with the correct category was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. Again, the main effect for trait was not significant. As with the previous two dependent measures, a similar pattern emerged with the mean recall for mean behaviors highest (1.65) followed by recall for obnoxious behaviors (1.25) and dishonest behaviors (1.11). There was also a significant order effect $F(1, 29) = 5.84$, $p = .022$, with participants viewing order 1 remembering more category matches than participants viewing order 2 (1.66 and 1.00 respectively).

The analysis for the number of persons/occupations matched with the exact behavior of the sentence was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. As with the previous three analyses, no significant results were found for the main effect for trait. However the same trend emerged for the trait main effect. The mean recall for mean behaviors was highest (1.57) followed by recall for obnoxious behaviors (1.22) and dishonest behaviors (1.04). There was again a significant order effect $F(1, 29) = 7.27$, $p = .012$, with participants viewing order 1 remembering more exact matches than participants viewing order 2 (1.63 and 0.92 respectively).

I had predicted that the recall for sentences implying dishonesty would be the highest. However, this was not the case across all four dependent measures. In fact, recall for sentences implying meanness were highest across all four dependent measures. It is unclear why this is the case. I will offer some speculations in the General Discussion. However, it is important to keep in mind that this was only a trend given that there was only one marginally significant main effect for trait (for the number of persons/occupations recalled) out of the four dependent measures.

To explore for possibilities as to why the predicted effect was not found, I conducted a sentence-by-sentence analysis just examining the dishonest sentences. Looking at category matches and exact matches, three of the dishonest sentences ("The salesperson makes an expensive long -distance call on your phone without telling you," The sailor bought a lottery ticket with you and keeps all the money after the ticket wins," and "The waitress fails to give you gas money for a long trip") were correctly recalled at a notably higher frequency than the other four sentences (See Table 9). In appears that there may be a social contract embedded in these three sentences. Recall that a social

contract is when one is entitled to a benefit only if one has fulfilled a requirement. Thus, in the lottery ticket sentences, it could be suggested that if an individual splits the cost of a lottery ticket with you then if the lottery ticket wins, that person must split the winnings with you. Consequently, when the individual does not share the lottery winnings, it raises the possibility that the individual has broken a social contract. The same logic can be applied to the other two sentences mentioned above. The other four dishonest sentences do not appear to have such clearly identifiable or salient social contract qualities.

This suggests the possibility that my hypotheses, based on *social exchange theory*, should be revised. The trait category "dishonesty" might have been defined to broadly in Study 3. Perhaps the memory advantage provided by a dedicated cheater-detection mechanism is observed in cases of fairly explicit social contract violations. This possibility was investigated in Study 4.

CHAPTER IV:

STUDY 4

This Study is designed to compare two different kinds of "dishonest" sentences. One kind is a general category of dishonest used in the previous study (e.g. lying, stealing etc.) The second kind is sentences involve social contract violations (SCV). These sentences were created using the format "if one takes a benefit the one must satisfy a requirement," where the individual in the sentences fails to satisfy the requirement. For example, in the sentences, "The editor shares an apartment with you and never pays rent," the editor is taking the benefit of living in the apartment without satisfying the requirement of helping to pay the rent.

The number of sentences in Study 4 was expanded from 21 to 29. Four sentences were added to the beginning and end to account for possible primacy and recency effects. These sentences were not included in any of the analyses. As mentioned above, another modification is that the meanness sentences were replaced with social contract violations. Thus, the sentence categories for Study 4 were SCV, dishonest, and obnoxious (see Appendix D for complete list of sentences).

It is important to consider that in both orders of Study 3, the same persons/occupations were paired with the same behaviors. Thus, it is unclear whether individuals are remembering the sentences based on the dispositional characteristics of the sentences or because the persons/occupations are particularly memorable. Thus, a modification made in Study 4 is that persons/occupations are never paired with the same behavior more than once across three orders.

Method

Participants. Sixty-one[5] Introductory Psychology students (33 men and 27 women, mean age 19.10) from the College of William & Mary participated in exchange for course credit.

Materials. The 29 sentences were presented one at a time using Microsoft Power Point. Four sentences were added to the beginning and end to eliminate primacy and recency effects. These sentences were not included in the analyses. The remaining sentences and the recall sheet were the same as in Study 3.

Procedure. Participants signed up for the study on the research pool sign up board. Upon arrival to the study, participants were told that they were participating in a memory experiment, that their participation was completely anonymous and voluntary, and that they could choose to stop at anytime without losing their research credit. Participants then read and signed the informed consent form. They were told that they would be shown 29 sentences one at a time and were be asked to study them because they would be tested on them later. Participants then viewed each sentence one at a time for 5 seconds. The distracter task followed the presentation of the sentences. After the last sentence was displayed, the slide with the instructions to unscramble the six anagrams that followed was displayed for 20 seconds. The anagrams were shown on two slides, with three anagrams on each slide. Participants were allowed 1 minute for each slide. The recall sheets for the sentences were then handed out. Participants were allowed 10 minutes to recall as many sentences as they could. After the recall sheets were collected, the participants were debriefed. Participants interested in the results of the study gave their name an email address in order to receive a copy of the abstract. The order of the

sentences was counterbalanced across three sessions to ensure that the same person/occupation never appeared with the same sentence more than once and that the sentences never appeared in the same order more than once.

Results and Discussion

As in Study 3, each sentence consisted of a person/occupation directing some type of behavior toward the individual(s) reading the sentence. However, the categories of behaviors were different from those in Study 3. The three categories of behaviors in Study 4 were social contract violations (SCV), dishonest, or obnoxious. Consistent with Study 3, correct recall of the sentences was measured using the same four dependent measures: the number of people/occupations correctly remembered, the number of behaviors correctly remembered, the number of correct category matches, and the number of exact matches between the person/occupation and the specific behavior of the sentence. Again, each of these dependent variables was measured separately for all three trait categories (see Tables 10-13 for descriptive statistics for each dependent measure).

The analysis for the number of persons/occupations remembered was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. The main effect for trait was not significant, and the pattern of means was contrary to prediction. The mean recall for the persons/occupations in *obnoxious* sentences was highest (2.62) followed by the recall for persons/occupations in *dishonest* sentences (2.48) and the recall for persons/occupations in *SCV* sentences (2.38). There was a marginally significant order effect, $F(2, 54) = 2.77$, $p = .071$, with participants viewing order 2 recalling more persons/occupations than participants viewing order 1 or order 2 (2.80, 2.36, and 2.32 respectively). In addition, there was a significant Trait X Order interaction, $F(4, 106) =$

2.79, $p = .031$.[6] The pattern of means for the trait effect was different for each different order: For example, the SCV sentences had the lowest mean in order 3 but the highest mean in order 1 (1.73 and 2.63 respectively). There was also a significant sex main effect, $F(1,54) = 6.97$, $p = .011$, with women remembering more persons/occupations than men (2.73 and 2.26 respectively).

The analysis for the number of behaviors remembered was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. The main effect for trait was not significant. The mean recall for the behaviors in obnoxious sentences was highest (1.71) followed by the recall for behaviors in SCV sentences (1.70) and the recall for behaviors in dishonest sentences (1.54). There was a significant sex effect, $F(1,54) = 4.82$, $p = .032$, with women remembering more behaviors than men (1.90 and 1.40 respectively).

The analysis for the number of persons/occupation category matches was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. As in the previous analysis, the main effect for trait was not significant. Contrary to prediction, the mean recall for the behaviors in obnoxious sentences was highest (1.37) followed by the recall for behaviors in dishonest sentences (1.13) and the recall for behaviors in SCV sentences (1.06). There was a significant order effect, $F(1,54) = 3.173$, $p = .05$, participants viewing order 2 recalling more correct category matches than participants viewing order 1 or order 3 (1.41, 1.31, and 0.85 respectively).

The analysis for the number of persons/occupations matches with the exact behavior of the sentence was a 2 (Sex) X 2 (Order) X 3 (Trait) ANOVA with repeated measures on the last factor. There were no significant main effects or interactions. For

the main effect for trait, a pattern similar to the previous analyses, emerged. The mean recall for the behaviors in obnoxious sentences was highest (1.29) followed by the recall for behaviors in dishonest sentences (1.05) and the recall for behaviors in SCV sentences (1.03).

I had predicted that the recall for sentences implying social contract violations would be the highest. However, across all four dependent measures recall for sentences implying obnoxiousness was highest. As in Study 3, in which sentences implying meanness had the highest recall, it is unclear why this is the case. Nevertheless, it is important to keep in mind that there were no significant results for the main effect for trait and that the pattern of means across the four dependent measures can only be viewed as an emerging trend.

CHAPTER V:

GERNERAL DISCUSSION

Across four studies my hypotheses received mixed support. Given that Studies 1 and 2 have similar methodologies and Studies 3 and 4 have similar methodologies, I will discuss each pair in the two following subsections.

Studies 1 and 2

Results for Studies 1 and 2 were, for the most part, consistent with my hypotheses. For negative traits, the FAE was stronger for dishonest traits than for other negative traits. Thus, this is consistent with predictions derived from *Social Exchange Theory*, suggesting that the human mind has psychological mechanisms that were designed to detect cheaters. In examining positive traits, the direction of the FAE was reversed, thereby creating the mirror image of the effect for negative traits. People were more likely to attribute positive traits to themselves than others. However, as predicted, this effect was stronger for honest traits than other positive traits.

Thus, perhaps the Fundamental Attribution Error is perhaps not so fundamental after all. If the traditional, domain general version of the FAE had held up, there would have been a main effect for people (individuals attributing less traits to the self than to others) with no interaction by trait. However, it appears that participants did make the predicted distinctions between dishonest traits and other negative traits and between honest traits and other positive traits. This suggests that within negative traits and within positive traits, individuals view certain categories of traits as qualitatively different than

other traits. For negative traits, it can be suggested that individuals view dishonesty-related traits qualitatively differently because we have evolved psychological mechanisms dedicated to cheater-detection.

Studies 3 and 4

The results of Studies 3 and 4 were not consistent with my hypothesis that sentences about person/occupations engaging in dishonest behavior would be remembered better than other sentences involving other negative behaviors. In Study 3, sentences implying a mean disposition, rather than a dishonest disposition, were remembered better than other sentences. A sample sentence is, "The accountant steers the car into the puddle to splash you." Upon further examination, it appears that in some of the mean sentences, the person/occupation is behaving aggressively toward the individual. Thus, it is possible that the mean sentences may be tapping into another domain (other than cheater-detection) that involves dominance and/or aggression—a domain in which different specialized mechanisms might be activated. Consequently, these sentences were replaced in Study 4 because this was not a domain on which I was focusing. Future research can examine the possibility of specialized mechanisms designed to remember dominant or aggressive individuals. In addition, there were particular sentences implying obnoxious dispositions that may have involved elements of dominance and/or aggression. Thus, as with the mean sentences, a few of the obnoxious sentences may have tapped into specialized domains other than cheater-detection. A sample sentence is, "The carpenter passes you using the emergency lane."

In Study 4 sentences implying a social contract replaced the mean sentences because I thought that remembering dishonest individuals may not be a specific enough

criterion. Based on examination of the dishonest sentences it appeared that people were remembering sentences that involved social contracts. Thus, in Study 4, I separated general dishonesty from social contract violations to examine whether individuals were better at remembering sentences that involved a social contract. However, the results were not consistent with this hypothesis.

One possibility for why the methodologies for Studies 1 and 2 produced predicted results but the methodologies for Studies 3 and 4 did not is that Studies 3 and 4 are really no longer about the FAE. My design of the studies started out focusing on the FAE but as the methodology went through more and more modifications, it moved farther away from testing the FAE. The original study by Winter & Uleman (1984) used dispositional cues to aid in sentence recall. Originally I was using this method to examine whether dishonest dispositional cues were better at eliciting sentence recall than other types of dispositional cues. However, in a pilot study it became clear that dispositional cues could not be used. Individuals were asked to read the sentences and write down what kind of person they thought the individual in the sentences was. For five of the *dishonest* sentences, the word dishonest was most frequently attributed to the person in the sentence. Thus, I would not have been able to use the same dispositional cue for five sentences. Once Studies 3 and 4 moved away from using dispositional cues, the studies were no longer testing the FAE, but testing memory for sentences.

It is also important to point out that the differences between the two pairs of studies is not just methodological but really different hypotheses being tested. Studies 1 and 2 tested the differences in how readily people attribute a disposition, but Studies 3

and 4 tested whether such attributions were remembered differently. It is possible that one could be true but not the other.

Limitations

In Studies 1 and 2, particular negative and positive traits were used to contrast with dishonesty and honesty. These traits were selected to control for valence. Thus, the particular traits selected were similar in likeability to dishonesty and honesty. However it is unclear whether the same results would be found using other traits.

Another potential problem with Studies 1 and 2 was that they used forced-choice paradigms. The participants were instructed to choose either the trait or "depends on the situation." Even in Study 2, when the measurement was a continuous scale, participants essentially had to choose between these two alternatives. There was no option given for the trait not applying to the individual being described. This was a potential problem because several participants asked what they should do if the trait did not apply to the person at all.

Small sample size may have been another potential problem, particularly in Studies 1 and 2. In Studies 1 and 2, the overall sample size was adequate but I was not anticipating a three-way interaction and separating the sexes for further analyses. Thus, breaking down the sample by sex decreased the N for subsequent analyses.

Future Directions

One future direction is, as in Study 4 in which I made a distinction between general dishonesty and social contract violations, to separate dishonesty itself into more specific clustering themes (i.e., social contract violations, stealing, etc) to examine if subsets of dishonesty are viewed differently by participants, using similar methodologies

as Studies 1 and 2. In particular it would be beneficial to examine possible sex differences with respect to different clusters of dishonest traits. For example, by having men and women make attributions about a person of the same sex versus a person of the opposite sex, with respect to dishonest traits associated with cheating in romantic relationships, it would be interesting to see if sex differences emerge. Based on the commitment bias (women tend to underinfer a man's willingness to commit to a committed romantic relationship) found by Haselton & Buss (2000), I would predict that women would rate an opposite sex acquaintance as more dishonest than a same sex other. Consistent with the commitment bias, women should infer that men are dishonest (with respect to promiscuity traits) until they prove otherwise. EMT would suggest that it is less costly for a woman to overinfer dishonesty to an opposite sex acquaintance thereby avoiding the possible repercussions (i.e. a cheating mate) if the man is truly dishonest.

In addition, an interesting study to examine men's differences in making attributions would be to have them make trait attributions about a same sex other and an opposite sex other with respect to dishonest traits associated with stealing resources. Based on Dominance Theory (Cummins, 1996), it could be suggested that men would rate same sex acquaintances as more dishonest than opposite sex others with respect to traits associated with stealing resources. Acquiring and maintaining resources is particularly important for men and men who have priority access to recourses also have priority access to reproductive opportunities (Cummins, 1996). Thus, there is intrasexual competition among males to gain and maintain priority access to resources. Therefore, men should attribute more dishonest traits (with respect to stealing resources) to same sex

acquaintances than opposite sex acquaintances because men are competing with men for priority access to resources and are not competing with women.

An evolutionary approach led to the prediction and discovery of limitations of the generalizability of a well-known social-cognitive phenomenon. Other such phenomena might be revisited using an evolutionary approach. For example, research focusing on risky decision-making and losses and gains, can offer insights into how individuals solve such problems by examining whether certain problems are answered differently based on their content and how they relate to adaptive problems faced in our ancestral environments (Ermer, 2002; Ketelaar, 2002).

APPENDIX A

TRAIT ADJECTIVE QUESTIONNAIRE STUDY 1

SELF

1.	____	Lenient	____ Depends on the situation
2.	____	Dishonest	____ Depends on the situation
3.	____	Supportive	____ Depends on the situation
4.	____	Lazy	____ Depends on the situation
5.	____	Genuine	____ Depends on the situation
6.	____	Unassuming	____ Depends on the situation
7.	____	Honorable	____ Depends on the situation
8.	____	Thoughtful	____ Depends on the situation
9.	____	Evasive	____ Depends on the situation
10.	____	Untalented	____ Depends on the situation
11.	____	Attractive	____ Depends on the situation
12.	____	Fraudulent	____ Depends on the situation
13.	____	Ill-Mannered	____ Depends on the situation
14.	____	Trustworthy	____ Depends on the situation
15.	____	Sociable	____ Depends on the situation
16.	____	Cheater	____ Depends on the situation
17.	____	Future-Oriented	____ Depends on the situation

18.	____	Unskilled	____ Depends on the situation
19.	____	Cheerful	____ Depends on the situation
20.	____	Straightforward	____ Depends on the situation
21.	____	Incompetent	____ Depends on the situation
22.	____	Sincere	____ Depends on the situation
23.	____	Imaginative	____ Depends on the situation
24.	____	Easygoing	____ Depends on the situation
25.	____	Liar	____ Depends on the situation
26.	____	Fair	____ Depends on the situation
27.	____	Talkative	____ Depends on the situation
28.	____	Mean	____ Depends on the situation
29.	____	Friendly	____ Depends on the situation
30.	____	Deceitful	____ Depends on the situation

Friend

1.	____	Lenient	____	Depends on the situation
2.	____	Dishonest	____	Depends on the situation
3.	____	Supportive	____	Depends on the situation
4.	____	Lazy	____	Depends on the situation
5.	____	Genuine	____	Depends on the situation
6.	____	Unassuming	____	Depends on the situation
7.	____	Honorable	____	Depends on the situation
8.	____	Thoughtful	____	Depends on the situation
9.	____	Evasive	____	Depends on the situation
10.	____	Untalented	____	Depends on the situation
11.	____	Attractive	____	Depends on the situation
12.	____	Fraudulent	____	Depends on the situation
13.	____	Ill-Mannered	____	Depends on the situation
14.	____	Trustworthy	____	Depends on the situation
15.	____	Sociable	____	Depends on the situation
16.	____	Cheater	____	Depends on the situation
17.	____	Future-Oriented	____	Depends on the situation
18.	____	Unskilled	____	Depends on the situation
19.	____	Cheerful	____	Depends on the situation
20.	____	Straightforward	____	Depends on the situation
21.	____	Incompetent	____	Depends on the situation

22.	____	Sincere	____	Depends on the situation
23.	____	Imaginative	____	Depends on the situation
24.	____	Easygoing	____	Depends on the situation
25.	____	Liar	____	Depends on the situation
26.	____	Fair	____	Depends on the situation
27.	____	Talkative	____	Depends on the situation
28.	____	Mean	____	Depends on the situation
29.	____	Friendly	____	Depends on the situation
30.	____	Deceitful	____	Depends on the situation

OTHER

1.	____	Lenient	____ Depends on the situation
2.	____	Dishonest	____ Depends on the situation
3.	____	Supportive	____ Depends on the situation
4.	____	Lazy	____ Depends on the situation
5.	____	Genuine	____ Depends on the situation
6.	____	Unassuming	____ Depends on the situation
7.	____	Honorable	____ Depends on the situation
8.	____	Thoughtful	____ Depends on the situation
9.	____	Evasive	____ Depends on the situation
10.	____	Untalented	____ Depends on the situation
11.	____	Attractive	____ Depends on the situation
12.	____	Fraudulent	____ Depends on the situation
13.	____	Ill-Mannered	____ Depends on the situation
14.	____	Trustworthy	____ Depends on the situation
15.	____	Sociable	____ Depends on the situation
16.	____	Cheater	____ Depends on the situation
17.	____	Future-Oriented	____ Depends on the situation
18.	____	Unskilled	____ Depends on the situation
19.	____	Cheerful	____ Depends on the situation
20.	____	Straightforward	____ Depends on the situation
21.	____	Incompetent	____ Depends on the situation

22.	____	Sincere	____	Depends on the situation
23.	____	Imaginative	____	Depends on the situation
24.	____	Easygoing	____	Depends on the situation
25.	____	Liar	____	Depends on the situation
26.	____	Fair	____	Depends on the situation
27.	____	Talkative	____	Depends on the situation
28.	____	Mean	____	Depends on the situation
29.	____	Friendly	____	Depends on the situation
30.	____	Deceitful	____	Depends on the situation

APPENDIX B

TRAIT ADJECTIVE QUESTIONNAIRE STUDY 2

On a scale from **0 to 9 (0 being completely dependent on the situation and 9 being highly characteristic of you in general)** please rate the degree to which each of the following characteristics describes you.

0-------1-------2-------3-------4-------5-------6-------7-------8-------9

completely dependent on situation — **highly characteristic of self in general**

SELF

1.	____	Kind	25.	____	Cheater
2.	____	Passive	26.	____	Modest
3.	____	Dishonest	27.	____	Cruel
4.	____	Traditional	28.	____	Unpleasant
5.	____	Understanding	29.	____	Competent
6.	____	Talented	30.	____	Straightforward
7.	____	Conservative	31.	____	Rude
8.	____	Mean	32.	____	Sincere
9.	____	Genuine	33.	____	Disagreeable
10.	____	Ordinary	34.	____	Warm
11.	____	Honorable	35.	____	Loud-mouthed
12.	____	Intelligent	36.	____	Knowledgeable
13.	____	Conventional	37.	____	Wise

14. ____ Inconsiderate
15. ____ Calm
16. ____ Untrustworthy
17. ____ Obnoxious
18. ____ Considerate
19. ____ Fraudulent
20. ____ Sympathetic
21. ____ Ill-Mannered
22. ____ Truthful
23. ____ Vulgar
24. ____ Average
38. ____ Quiet
39. ____ Normal
40. ____ Liar
41. ____ Fair
42. ____ Shy
43. ____ Malicious
44. ____ Friendly
45. ____ Deceitful
46. ____ Humble
47. ____ Spiteful
48. ____ Resourceful

Please think of specific person that is a close friend of yours. Please think of a person that is the same sex as you that is from William & Mary. On a scale from **1 to 9 (0 being completely dependent on the situation and 9 being highly characteristic of the friend in general)** please rate the degree to which each of the following characteristics describes your close friend.

0-------1-------2-------3-------4-------5-------6-------7-------8-------9

completely dependent on situation — **highly characteristic of friend in general**

Close Friend

1.	____	Kind	25.	____	Cheater
2.	____	Passive	26.	____	Modest
3.	____	Dishonest	27.	____	Cruel
4.	____	Traditional	28.	____	Unpleasant
5.	____	Understanding	29.	____	Competent
6.	____	Talented	30.	____	Straightforward
7.	____	Conservative	31.	____	Rude
8.	____	Mean	32.	____	Sincere
9.	____	Genuine	33.	____	Disagreeable
10.	____	Ordinary	34.	____	Warm
11.	____	Honorable	35.	____	Loud-mouthed
12.	____	Intelligent	36.	____	Knowledgeable
13.	____	Conventional	37.	____	Wise
14.	____	Inconsiderate	38.	____	Quiet
15.	____	Calm	39.	____	Normal

16. ____ Untrustworthy
17. ____ Obnoxious
18. ____ Considerate
19. ____ Fraudulent
20. ____ Sympathetic
21. ____ Ill-Mannered
22. ____ Truthful
23. ____ Vulgar
24. ____ Average

40. ____ Liar
41. ____ Fair
42. ____ Shy
43. ____ Malicious
44. ____ Friendly
45. ____ Deceitful
46. ____ Humble
47. ____ Spiteful
48. ____ Resourceful

Please think of a specific person that is an acquaintance of yours, someone you neither strongly like nor dislike. Please think of a person that is the same sex as you that is from William & Mary. On a scale from **1 to 9 (0 being completely dependent on the situation and 9 being highly characteristic of the acquaintance in general)** please rate the degree to which each of the following characteristics describes an acquaintance of yours.

0-------1-------2-------3-------4-------5-------6-------7-------8-------9

completely dependent on situation — **highly characteristic of acquaintance in general**

Acquaintance

1.	____	Kind	25.	____	Cheater
2.	____	Passive	26.	____	Modest
3.	____	Dishonest	27.	____	Cruel
4.	____	Traditional	28.	____	Unpleasant
5.	____	Understanding	29.	____	Competent
6.	____	Talented	30.	____	Straightforward
7.	____	Conservative	31.	____	Rude
8.	____	Mean	32.	____	Sincere
9.	____	Genuine	33.	____	Disagreeable
10.	____	Ordinary	34.	____	Warm
11.	____	Honorable	35.	____	Loud-mouthed
12.	____	Intelligent	36.	____	Knowledgeable
13.	____	Conventional	37.	____	Wise
14.	____	Inconsiderate	38.	____	Quiet

15. ____ Calm
16. ____ Untrustworthy
17. ____ Obnoxious
18. ____ Considerate
19. ____ Fraudulent
20. ____ Sympathetic
21. ____ Ill-Mannered
22. ____ Truthful
23. ____ Vulgar
24. ____ Average
39. ____ Normal
40. ____ Liar
41. ____ Fair
42. ____ Shy
43. ____ Malicious
44. ____ Friendly
45. ____ Deceitful
46. ____ Humble
47. ____ Spiteful
48. ____ Resourceful

Please think of a specific person you know that you dislike. Please think of a person that is the same sex as you that is from William & Mary. On a scale from **1 to 9 (0 being completely dependent on the situation and 9 being highly characteristic of the disliked other in general)** please rate the degree to which each of the following characteristics describes a person that you dislike.

0-------1-------2-------3-------4-------5-------6-------7-------8-------9

completely dependent on situation — **highly characteristic of disliked other in general**

Disliked Other

1.	____	Kind	25.	____	Cheater
2.	____	Passive	26.	____	Modest
3.	____	Dishonest	27.	____	Cruel
4.	____	Traditional	28.	____	Unpleasant
5.	____	Understanding	29.	____	Competent
6.	____	Talented	30.	____	Straightforward
7.	____	Conservative	31.	____	Rude
8.	____	Mean	32.	____	Sincere
9.	____	Genuine	33.	____	Disagreeable
10.	____	Ordinary	34.	____	Warm
11.	____	Honorable	35.	____	Loud-mouthed
12.	____	Intelligent	36.	____	Knowledgeable
13.	____	Conventional	37.	____	Wise
14.	____	Inconsiderate	38.	____	Quiet
15.	____	Calm	39.	____	Normal

16. ____ Untrustworthy
17. ____ Obnoxious
18. ____ Considerate
19. ____ Fraudulent
20. ____ Sympathetic
21. ____ Ill-Mannered
22. ____ Truthful
23. ____ Vulgar
24. ____ Average
40. ____ Liar
41. ____ Fair
42. ____ Shy
43. ____ Malicious
44. ____ Friendly
45. ____ Deceitful
46. ____ Humble
47. ____ Spiteful
48. ____ Resourceful

APPENDIX C

MEMORY TASK STIMULI STUDY 3

ORDER 1

The accountant steers the car into the puddle to splash you.

The receptionist cuts in front of you in line.

The crossing guard borrows money from you with no intention of repaying it.

The butcher eavesdrops on your conversation.

The salesperson makes an expensive long-distance phone call on your phone without telling you.

The plumber insults you for no good reason.

The sailor splits the cost of a lottery ticket with you and keeps all the winnings.

The chauffer laughs at you when you fall and hurt yourself.

The carpenter passes you using the emergency lane.

The farmer refuses to help pick up the papers he knocked out of your hands.

The waitress fails to give you gas money for a long trip.

The architect talks on a cell phone during the entire movie you are attending.

The reporter cheats while playing cards with you.

The elevator-operator repeatedly tells you tasteless jokes.

The librarian spreads ugly rumors about you.

The tailor picks his teeth during dinner with you at a fancy restaurant.

The gardener belittles you in front of your friends.

The mechanic takes money from your bag.

The pianist pushes you out of the way to get to a cab.

The electrician fails to give you the credit you deserve for your work on a project.

The fisherman repeatedly interrupts you while you are talking.

ORDER 2

The carpenter passes you using the emergency lane.

The electrician fails to give you the credit you deserve for your work on a project.

The chauffer laughs at you when you fall and hurt yourself.

The tailor picks his teeth during dinner with you at a fancy restaurant.

The waitress fails to give you gas money for a long trip.

The pianist pushes you out of the way to get to a cab.

The butcher eavesdrops on your conversation.

The reporter cheats while playing cards with you.

The gardener belittles you in front of your friends.

The elevator-operator repeatedly tells you tasteless jokes.

The librarian spreads ugly rumors about you.

The salesperson makes an expensive long-distance phone call on your phone without telling you.

The accountant steers the car into the puddle to splash you.

The sailor splits the cost of a lottery ticket with you and keeps all the winnings.

The fisherman repeatedly interrupts you while you are talking.

The crossing guard borrows money from you with no intention of repaying it.

The farmer refuses to help pick up the papers he knocked out of your hands.

The architect talks on a cell phone during the entire movie you are attending.

The plumber insults you for no good reason.

The receptionist cuts in front of you in line.

The mechanic takes money from your bag.

INSTRUCTIONS FOR ANAGRAM TASK (DISTRACTOR TASK)

An Anagram is a word or phrase formed by rearranging the letters of another word or phrase. For exampe, *Elvis* to *Lives*.

On the next two slide you will see 6 anagrams, three on each slide.

For each word, rearrange the letters to form a new word or phrase. You will have 1 minute per slide.

Anagrams

Recede = Decree

Listen = Silent

Vowels = Wolves

Friend = Finder

Oceans = Canoes

Trains = Strains

Looped = Poodle

MEMORY TASK RECALL SHEET STUDIES 1 AND 2

1. From the sentences previously viewed, please list the all the people (i.e., occupations) you remember. It is okay if you cannot remember what they did.

2. From the sentences previously viewed, please list as many of the behaviors as you can. It is okay if you cannot remember who did the behavior.

3. Now, as best you can, please draw a line to match each person you listed with his or her corresponding behavior.

Person/Occupation	**Behavior**

APPENDIX D

MEMORY TASK STIMULI STUDY 4

ORDER 1

The teacher leaves your coat on the bus.
The architect steps on your feet while you dance.
The truck driver forgets to pass on a message to you.
The receptionist does not laugh at any of your jokes.
The chef borrows money from you and never pays it back.
The engineer cancels plans with you pretending to be sick and goes and plays golf.
The crossing guard repeatedly interrupts you while you are talking.
The reporter cuts in front of you in line.
The fisherman lies to you about a deadline so you miss it.
The plumber makes expensive long-distance phone calls on your phone without telling you.
The pianist scratches your car and says someone else did it.
The editor shares an apartment with you and never pays rent.
The electrician eavesdrops on your conversation.
The farmer takes money from your bag.
The carpenter picks his teeth during dinner with you at a fancy restaurant.
The gardener splits the cost of a lottery ticket with you and keeps all the winnings.
The flight attendant agrees to pay you for mowing the lawn and never does.
The accountant passes you using the emergency lane.
The coach takes your newspaper without asking.
The butcher repeatedly tells you tasteless jokes.
The librarian fails to give you gas money for a long trip.
The technician cheats while playing cards with you.
The tailor knowingly writes you a bad check for the CD player you sell.
The chauffer steals your idea and claims it as her own.
The mechanic talks on a cell phone during a movie you are attending.
The sailor buys you a cheap gift for your birthday.
The waitress is unenthusiastic about your project.
The salesperson watches TV instead of going out with you.
The elevator-operator breaks your computer because he does not know how to work it.

ORDER 2

The librarian leaves your coat on the bus.
The elevator-operator does not laugh at any of your jokes.
The receptionist steps on your feet while you dance.
The crossing guard forgets to pass on a message to you.
The mechanic repeatedly tells you tasteless jokes.
The carpenter agrees to pay you for mowing the lawn and never does.
The pianist takes money from your bag.
The butcher knowingly writes you a bad check for the CD player you sell.
The engineer cheats while playing cards with you.
The editor passes you using the emergency lane.
The salesperson takes your newspaper without asking.
The tailor repeatedly interrupts you while you are talking.
The architect fails to give you gas money for a long trip.
The chef talks on a cell phone during a movie you are attending.
The waitress steals your idea and claims it as her own.
The fisherman borrows money from you and never pays it back.
The farmer makes expensive long-distance phone calls on your phone without telling you.
The sailor cuts in front of you in line.
The gardener cancels plans with you pretending to be sick and goes and plays golf.
The plumber scratches your car and says someone else did it.
The chauffer shares an apartment with you and never pays rent.
The reporter picks his teeth during dinner with you at a fancy restaurant.
The electrician splits the cost of a lottery ticket with you and keeps all the winnings.
The truck driver lies to you about a deadline so you miss it.
The accountant eavesdrops on your conversation.
The teacher breaks your computer because he does not know how to work it.
The technician watches TV instead of going out with you.
The coach is unenthusiastic about your project.
The flight attendant buys you a cheap gift for your birthday.

ORDER 3

The chauffer leaves your coat on the bus.
The elevator-operator does not laugh at any of your jokes.
The receptionist steps on your feet while you dance.
The salesperson forgets to pass on a message to you.
The tailor fails to give you gas money for a long trip.
The gardener lies to you about a deadline so you miss it.
The sailor picks his teeth during dinner with you at a fancy restaurant.
The electrician steals your idea and claims it as her own.
The technician repeatedly tells you tasteless jokes.
The pianist splits the cost of a lottery ticket with you and keeps all the winnings.
The coach cuts in front of you in line.
The fisherman cheats while playing cards with you.
The librarian agrees to pay you for mowing the lawn and never does.
The accountant cancels plans with you pretending to be sick and goes and plays golf.
The reporter shares an apartment with you and never pays rent.
The engineer passes you using the emergency lane.
The architect knowingly writes you a bad check for the CD player you sell.
The plumber takes money from your bag.
The waitress talks on a cell phone during a movie you are attending.
The carpenter eavesdrops on your conversation.
The crossing guard takes your newspaper without asking.
The mechanic borrows money from you and never pays it back.
The editor scratches your car and says someone else did it.
The chef makes expensive long-distance phone calls on your phone without telling you.
The farmer repeatedly interrupts you while you are talking.
The teacher breaks your computer because he does not know how to work it.
The truck driver watches TV instead of going out with you.
The flight attendant is unenthusiastic about your project.
The butcher buys you a cheap gift for your birthday.

NOTES

1. Multivariate tests were used to test the within subjects effects. In these analyses, the multivariate tests were all in exact agreement and corresponded to the F-tests.

2. Multivariate tests were used to test the within subjects effects. In these analyses, the multivariate tests were all in exact agreement and corresponded to the F-tests.

3. Unlike the original study, no type of retrieval cue was used in the present study. Originally the study was to use dispositional traits to cue recall but a pretest asking individuals to use the word that best describes the person in the sentence, indicated that for the sentences implying dishonesty, the word dishonest was the trait that was most frequently used for a majority of the sentences. Thus, I was not able to use dispositional cues.

4. Multivariate tests were used to test the within subjects effects. In these analyses, the multivariate tests were all in exact agreement and corresponded to the F-tests.

5. One participant did not include his or her age.

6. Multivariate tests were used to test the within subjects effects. In these analyses, the multivariate tests were all in exact agreement and corresponded to the F-tests.

TABLE 1

MEAN NUMBER OF DISHONEST AND OTHER NEGATIVE TRAITS ATTRIBUTED TO SELF, FRIEND, AND OTHER IN STUDY 1

	Sex	Trait	Mean	Std. Dev	N
Self	Men	Dishonest	.42	.64	26
		Other Negative	.35	.56	26
	Women	Dishonest	.05	.22	21
		Other Negative	.24	.44	21
Friend	Men	Dishonest	.23	.65	26
		Other Negative	.30	.60	26
	Women	Dishonest	.38	1.12	21
		Other Negative	.29	.64	21
Other	Men	Dishonest	.50	1.27	26
		Other Negative	.62	1.33	26
	Women	Dishonest	.71	1.42	21
		Other Negative	.38	.80	21

TABLE 2

MEAN NUMBER OF HONEST AND OTHER POSITIVE TRAITS ATTRIBUTED TO SELF, FRIEND, AND OTHER IN STUDY 1

	Sex	Trait	Mean	Std. Dev	N
Self	Men	Honest	4.54	2.02	26
		Other Positive	4.04	1.51	26
	Women	Honest	4.86	1.62	21
		Other Positive	3.86	1.88	21
Friend	Men	Honest	4.81	1.52	26
		Other Positive	4.58	1.53	26
	Women	Honest	4.62	1.75	21
		Other Positive	5.05	1.28	21
Other	Men	Honest	3.42	2.14	26
		Other Positive	3.16	1.64	26
	Women	Honest	2.95	2.16	21
		Other Positive	3.90	1.41	21

TABLE 3

MEAN RATING OF DISHONEST AND OTHER NEGATIVE TRAITS ATTRIBUTED TO SELF, FRIEND, AND ACQUAINTANCE IN STUDY 2

	Sex	Trait	Mean	Std. Dev	N
Self	Men	Dishonest	1.47	1.01	27
		Other Negative	2.43	1.61	27
	Women	Dishonest	1.23	1.49	32
		Other Negative	1.72	1.10	32
Friend	Men	Dishonest	1.44	1.51	27
		Other Negative	1.80	1.21	27
	Women	Dishonest	.70	.66	32
		Other Negative	1.57	1.10	32
Acquaintance	Men	Dishonest	2.44	1.92	27
		Other Negative	2.19	1.54	27
	Women	Dishonest	1.45	1.44	32
		Other Negative	1.61	1.13	32

TABLE 4

MEAN RATING OF HONEST AND OTHER POSITIVE TRAITS ATTRIBUTED TO SELF, FRIEND, AND ACQUAINTANCE IN STUDY 2

	Sex	Trait	Mean	Std. Dev	N
Self	Men	Honest	6.74	.98	27
		Other Positive	6.76	.92	27
	Women	Honest	6.93	1.13	32
		Other Positive	6.96	1.07	32
Friend	Men	Honest	7.16	1.02	27
		Other Positive	7.00	.92	27
	Women	Honest	7.21	1.17	32
		Other Positive	7.05	.90	32
Acquaintance	Men	Honest	5.77	1.35	27
		Other Positive	6.12	.96	27
	Women	Honest	5.79	1.57	32
		Other Positive	6.04	1.49	32

TABLE 5

NUMBER OF PEOPLE/OCCUPATIONS REMEMBERED CORRECTLY FOR EACH CATEGORY IN STUDY 3

	Order	Sex	Mean	Std. Dev	N
Dishonest	1	Males	2.57	1.27	7
		Females	2.50	1.65	10
	2	Males	2.22	1.09	9
		Females	2.86	1.07	7
Mean	1	Males	3.00	1.29	7
		Females	3.90	0.99	10
	2	Males	3.00	0.87	9
		Females	3.43	1.51	7
Obnoxious	1	Males	2.43	1.72	7
		Females	3.30	1.16	10
	2	Males	3.11	1.83	9
		Females	2.57	1.27	7

TABLE 6

NUMBER OF BEHAVIORS REMEMBERED CORRECTLY FOR EACH CATEGORY IN STUDY 3

	Order	Sex	Mean	Std. Dev	N
Dishonest	1	Males	1.86	1.57	7
		Females	2.20	1.03	10
	2	Males	1.78	0.67	9
		Females	2.00	1.73	7
Mean	1	Males	2.29	0.76	7
		Females	3.00	1.41	10
	2	Males	2.67	1.50	9
		Females	1.57	0.98	7
Obnoxious	1	Males	1.43	1.72	7
		Females	2.40	1.78	10
	2	Males	1.67	1.50	9
		Females	1.57	0.98	7

TABLE 7

NUMBER OF PEOPLE/OCCUPATIONS REMEMBERED WITH THE CORRECT BEHAVIOR CATEGORY MATCH IN STUDY 3

	Order	Sex	Mean	Std. Dev	N
Dishonest	1	Males	1.29	1.11	7
		Females	1.50	1.18	10
	2	Males	0.78	0.83	9
		Females	0.86	0.90	7
Mean	1	Males	1.86	1.07	7
		Females	2.30	1.57	10
	2	Males	1.44	0.88	9
		Females	1.00	1.00	7
Obnoxious	1	Males	1.14	1.46	7
		Females	1.90	1.20	10
	2	Males	1.11	1.05	9
		Females	0.86	1.07	7

TABLE 8

NUMBER OF PEOPLE/OCCUPATIONS REMEMBERED CORRECTLY MATCHED WITH THE EXACT BEHAVIOR IN STUDY 3

	Order	Sex	Mean	Std. Dev	N
Dishonest	1	Males	1.29	1.11	7
		Females	1.50	1.18	10
	2	Males	0.67	0.71	9
		Females	0.71	0.95	7
Mean	1	Males	1.86	1.07	7
		Females	2.10	1.60	10
	2	Males	1.44	0.88	9
		Females	0.86	1.07	7
Obnoxious	1	Males	1.14	1.46	7
		Females	1.90	1.20	10
	2	Males	1.11	1.05	9
		Females	0.71	0.76	7

TABLE 9

FREQUENCIES FOR CATEGORY MATCHES AND EXACT MATCHES FOR SENTENCES IMPLYING A DISHONEST DISPOSITION

Dishonest Sentences	Order 1	Order 2	Total
The Crossing guard borrows money from you with not intention of repaying it.	2	3	5
The salesperson makes an expensive long-distance call on your phone without telling you.	5	4 (3)	9 (8)
The sailor bought a lottery ticket with you and keeps all the money after the ticket wins.	4	3 (2)	7 (6)
The waitress fails to give you gas money for a long trip.	4	3	7
The reporter cheats while playing cards with you.	2	0	2
The mechanic takes money from your bag.	4	0	4
The electrician fails to give you the credit you deserve for your work on a project.	3	0	3

Note. The number of exact matches is in parentheses if it is different from the number of category matches.

TABLE 10

NUMBER OF PEOPLE/OCCUPATIONS REMEMBERED CORRECTLY FOR EACH CATEGORY IN STUDY 4

	Order	Sex	Mean	Std. Dev	N
Cheaters	1	Males	2.25	1.42	12
		Females	3.00	1.51	8
	2	Males	2.88	0.99	8
		Females	2.67	1.00	9
	3	Males	1.46	1.45	13
		Females	2.00	1.63	10
Dishonest	1	Males	1.58	0.90	12
		Females	2.13	1.25	8
	2	Males	3.00	1.41	8
		Females	2.88	0.93	9
	3	Males	2.69	1.49	13
		Females	2.60	1.08	10
Obnoxious	1	Males	2.50	1.09	12
		Females	2.75	1.04	8
	2	Males	2.13	1.13	8
		Females	3.22	1.09	9
	3	Males	1.85	0.99	13
		Females	3.30	1.06	10

TABLE 11

NUMBER OF BEHAVIORS REMEMBERED CORRECTLY FOR EACH CATEGORY IN STUDY 4

	Order	Sex	Mean	Std. Dev	N
Cheaters	1	Males	1.83	1.53	12
		Females	2.25	0.89	8
	2	Males	1.38	1.51	8
		Females	2.11	1.45	9
	3	Males	0.85	1.14	13
		Females	1.80	1.40	10
Dishonest	1	Males	1.17	1.03	12
		Females	1.63	1.06	8
	2	Males	1.88	1.81	8
		Females	2.11	1.17	9
	3	Males	1.54	1.39	13
		Females	0.90	0.88	10
Obnoxious	1	Males	1.67	1.30	12
		Females	2.25	1.39	8
	2	Males	1.25	1.28	8
		Females	2.22	1.30	9
	3	Males	1.08	1.32	13
		Females	1.80	1.48	10

TABLE 12

NUMBER OF PEOPLE/OCCUPATIONS REMEMBERED WITH THE CORRECT BEHAVIOR CATEGORY MATCH IN STUDY 4

	Order	Sex	Mean	Std. Dev	N
Cheaters	1	Males	1.25	1.22	12
		Females	1.63	0.92	8
	2	Males	0.88	1.13	8
		Females	1.56	1.33	9
	3	Males	0.23	0.44	13
		Females	0.80	1.32	10
Dishonest	1	Males	0.75	0.87	12
		Females	1.13	1.36	8
	2	Males	1.75	1.83	8
		Females	1.44	1.13	9
	3	Males	1.23	1.30	13
		Females	0.50	0.53	10
Obnoxious	1	Males	1.33	1.07	12
		Females	1.75	1.17	8
	2	Males	1.25	1.29	8
		Females	1.56	1.42	9
	3	Males	0.85	1.07	13
		Females	1.50	1.18	10

TABLE 13

NUMBER OF PEOPLE/OCCUPATIONS REMEMBERED CORRECTLY MATCHED WITH THE EXACT BEHAVIOR IN STUDY 4

	Order	Sex	Mean	Std. Dev	N
Cheaters	1	Males	1.25	1.22	12
		Females	1.63	0.92	8
	2	Males	0.88	1.13	8
		Females	1.44	1.23	9
	3	Males	0.23	0.44	13
		Females	0.80	1.32	10
Dishonest	1	Males	0.67	0.78	12
		Females	1.13	1.36	8
	2	Males	1.75	1.83	8
		Females	1.22	1.09	9
	3	Males	1.15	1.21	13
		Females	0.40	0.52	10
Obnoxious	1	Males	1.08	1.16	12
		Females	1.75	1.17	8
	2	Males	1.13	1.36	8
		Females	1.56	1.42	9
	3	Males	0.85	1.07	13
		Females	1.40	1.17	10

FIGURE CAPTION

Figure 1. Trait x Target Interaction for Negative Traits, Study 1 (Women Only)

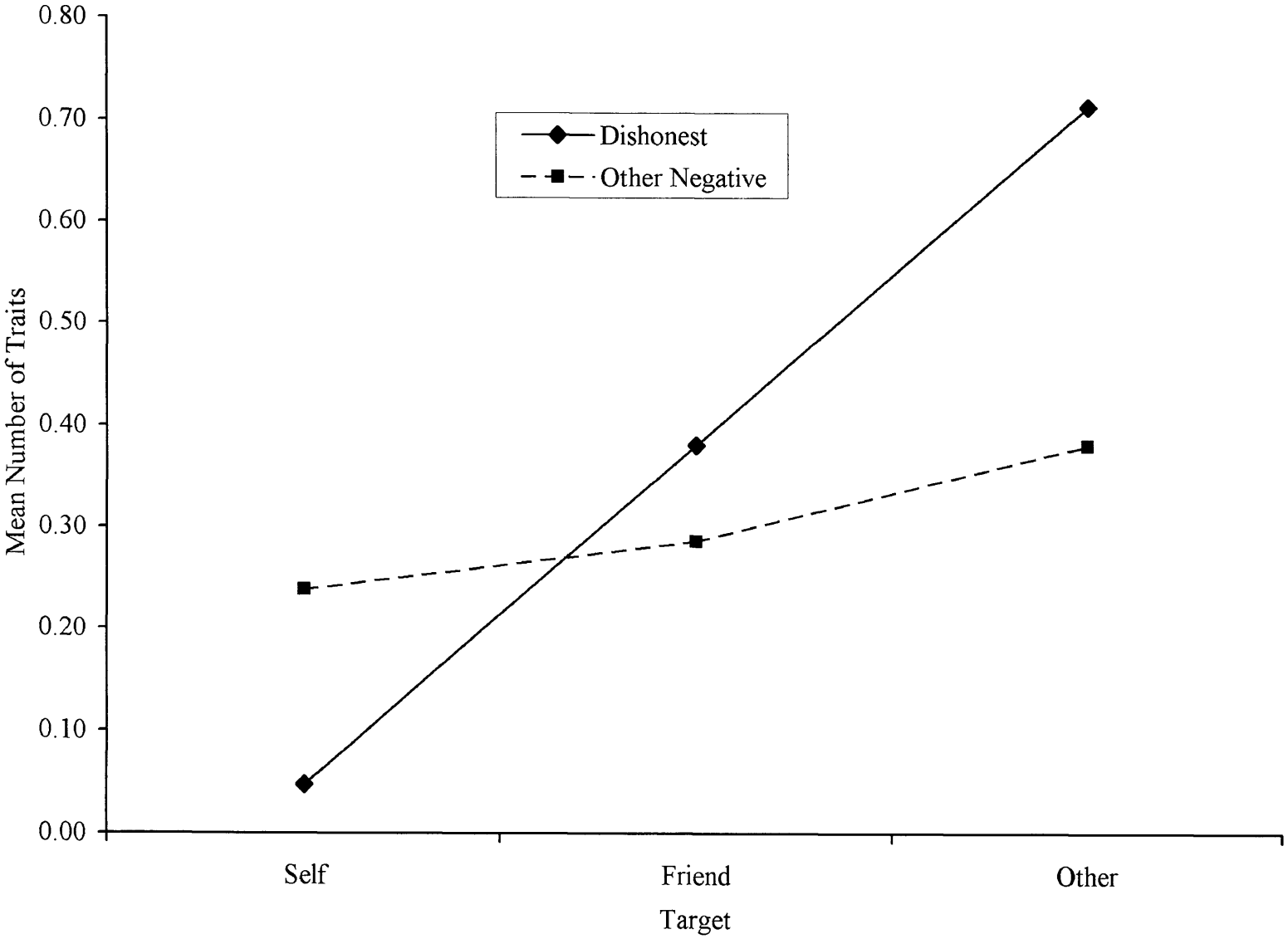

0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Mean Number of Traits
Dishonest
Other Negative
Self
Friend
Other
Target

FIGURE CAPTION

Figure 2. Trait x Target Interaction for Positive Traits, Study 1 (Men and Women Combined)

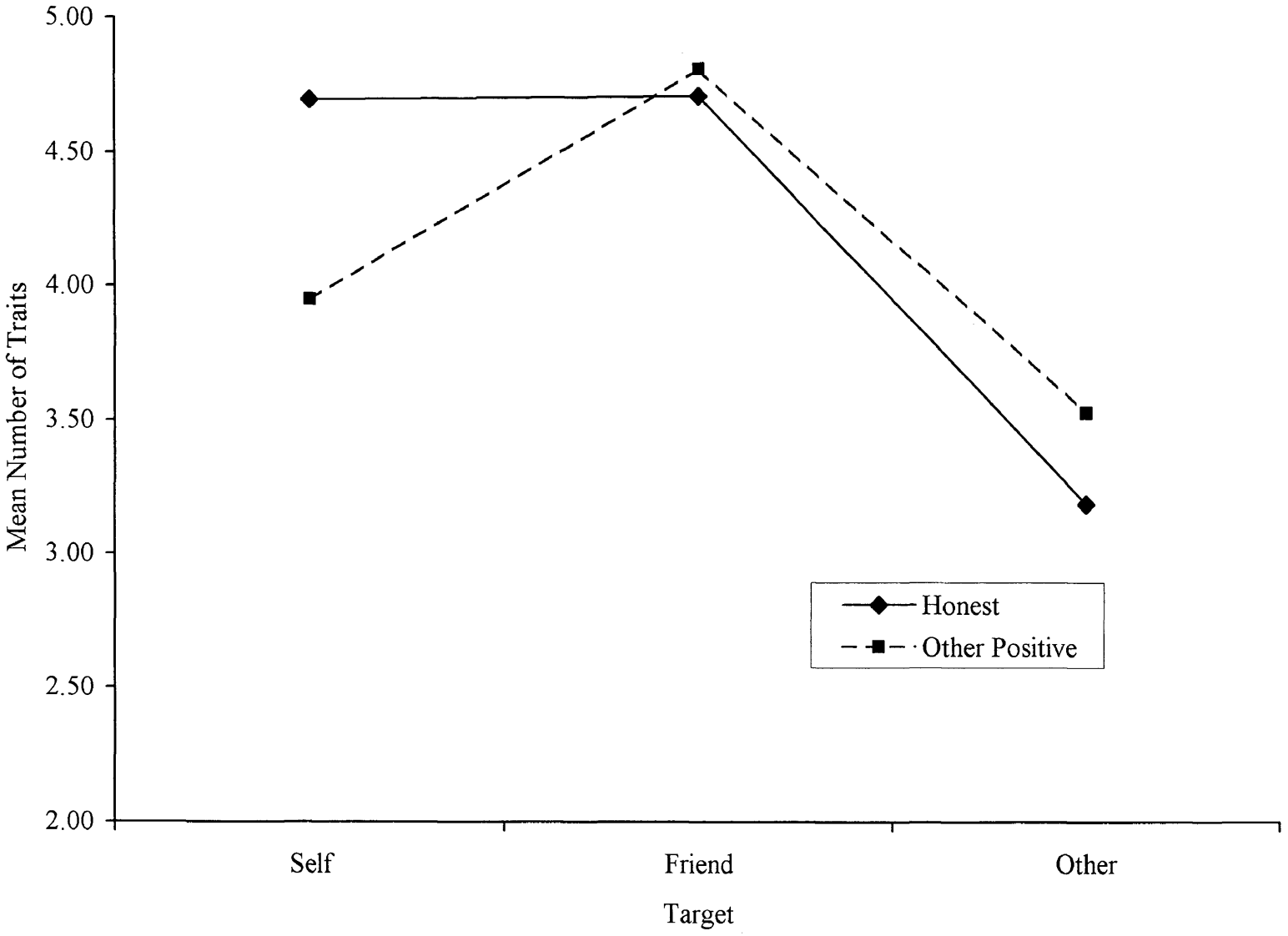

5.00
4.50
4.00
3.50
3.00
2.50
2.00
Mean Number of Traits
Honest
Other Positive
Self
Friend
Other
Target

FIGURE CAPTION

Figure 3. Trait x Target Interaction for Negative Traits, Study 2 (Men and Women Combined)

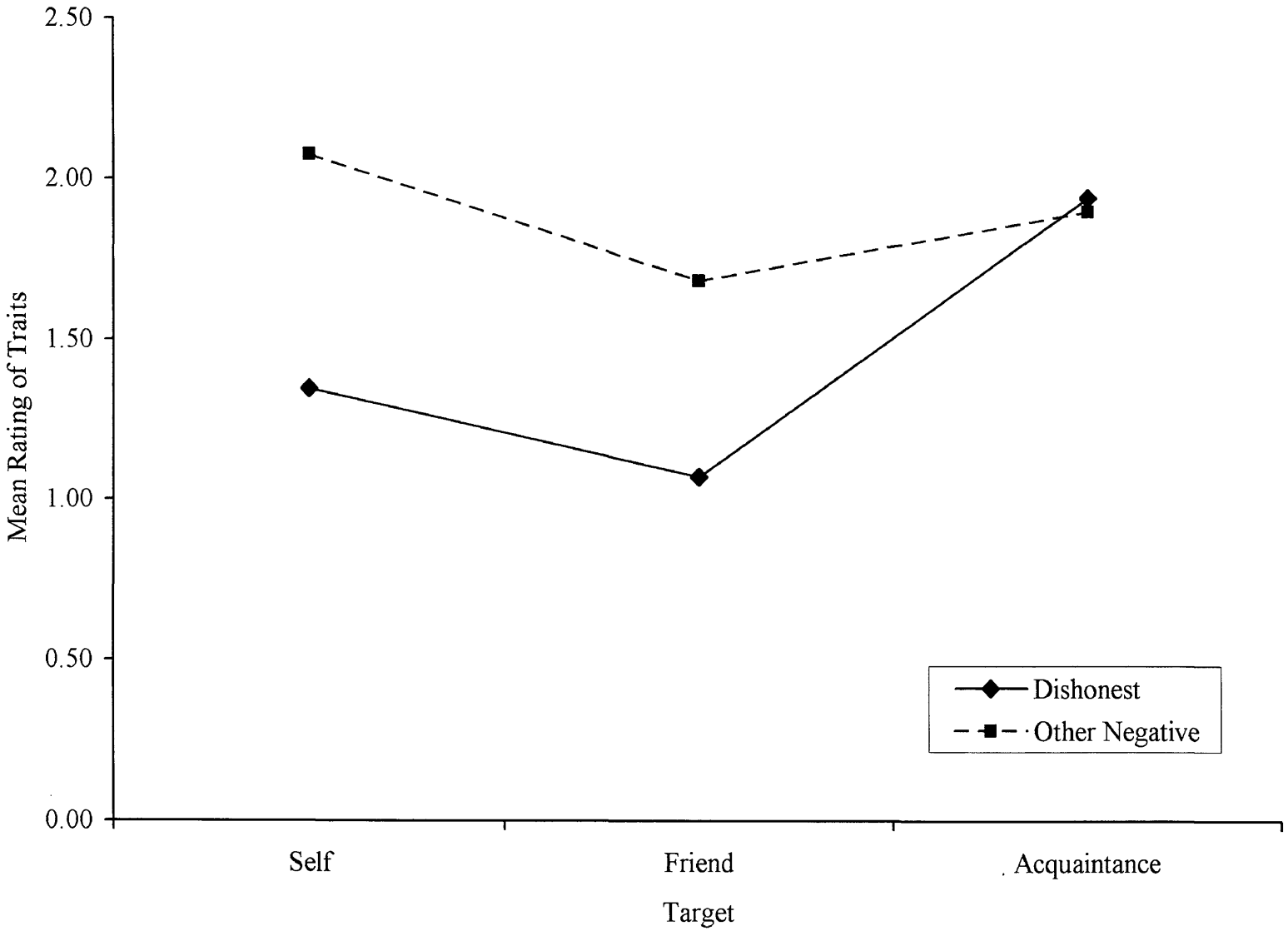
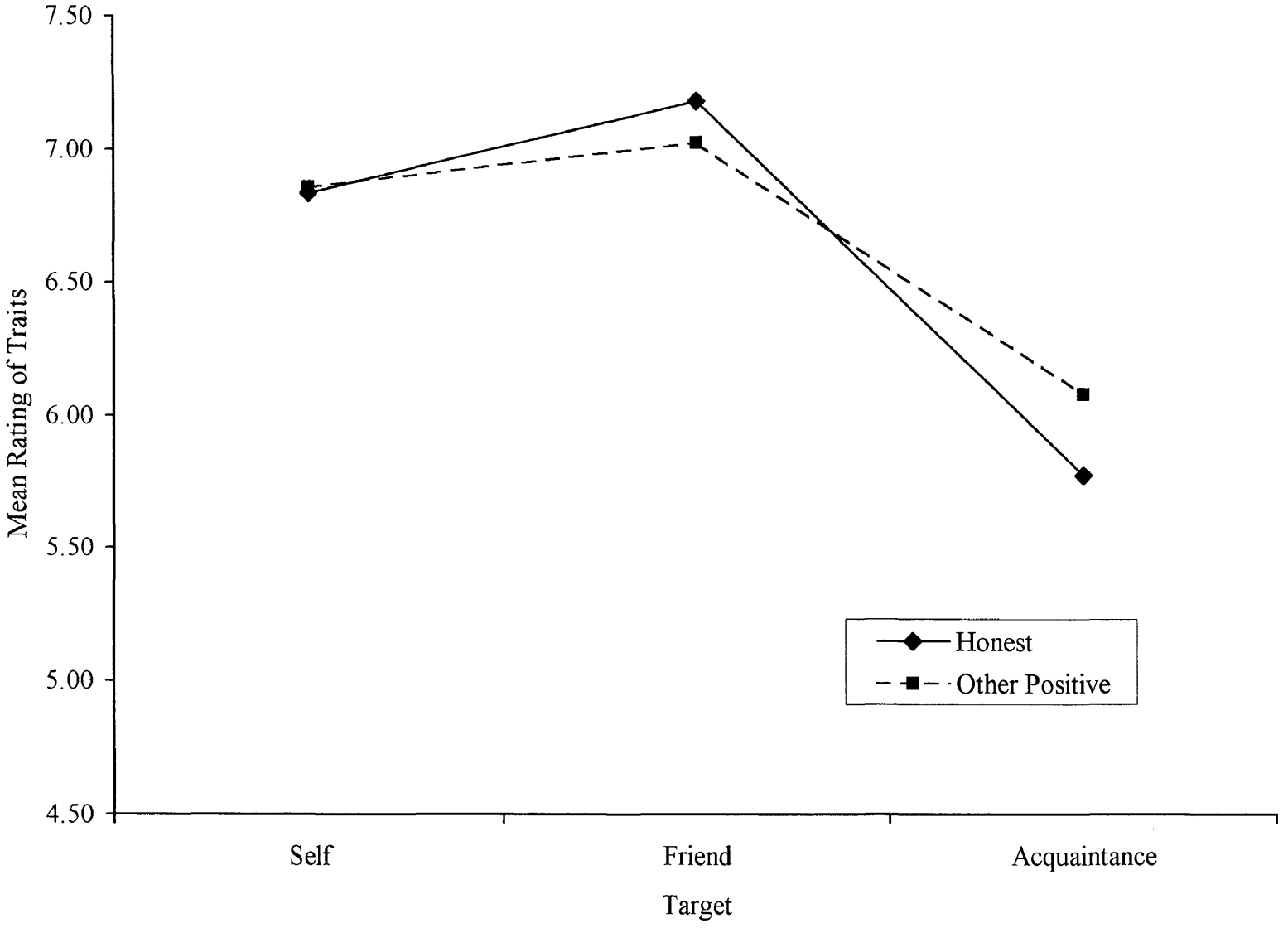

2.50
2.00
1.50
1.00
0.50
0.00
Mean Rating of Traits
Dishonest
Other Negative
Self
Friend
Acquaintance
Target

FIGURE CAPTION

Figure 4. Trait x Target Interaction for Positive Traits, Study 2 (Men and Women Combined)


7.50
7.00
6.50
6.00
5.50
5.00
4.50
Mean Rating of Traits
Honest
Other Positive
Self
Friend
Acquaintance
Target

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VITA

Brandy N. Burkett

Born in Baltimore, Maryland, January 7, 1978. Graduated from Kennard-Dale High School in Fawn Grove, Pennsylvania, June 1996. Graduated from Franklin & Marshall College in Lancaster, Pennsylvania, May 2000.

In August 2000, the author entered the College of William & Mary as a graduate student in the department of psychology.