

DISPOSITIONALLY SPEAKING, WHAT YOU SEE IS WHAT YOU GET

by

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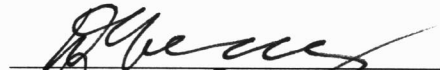
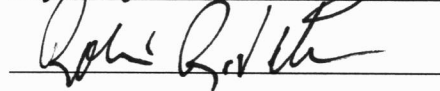
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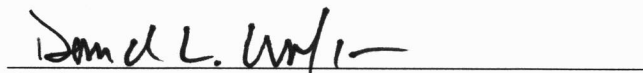
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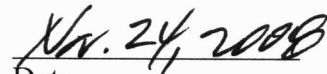

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ABSTRACT

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Many studies have been devoted to investigating the process by which individuals make dispositional attributions about the people that they encounter. Typically, individuals are more likely to seek future interactions with target individuals if those target individuals have a positive or rewarding disposition. Interactions with target individuals possessing negative or punishing dispositions reduce the likelihood that target individual will be selected for future interactions. An initial false positive trait ascription will be self-correcting with future interactions. An initial false negative trait label will likely remain stable if future interactions are not forced. The importance of quick accurate disposition identification carries important evolutionary implications as well as normal-life implications. Results from an experiment support the ability of subjects to accurately identify the true trait of target individuals with limited dispositional information.

TABLE OF CONTENTS

LIST OF TABLES	viii
LIST OF FIGURES	ix
INTRODUCTION	1
The Attribution Pendulum	4
Errors and Biases in Attribution	11
Models of Behavior	18
The Radical Dispositionist Model of Behavior (RDMB)	18
The Radical Situationist Model of Behavior (RSMB)	20
The Moderate Dispositional Model of Behavior.....	23
The Hybrid Interaction Model of Behavior.....	25
The Behavior Averaging Principle of Behavior	30
Research in Support of an Alternative Model of Attribution	36
Multiple Choices.....	41
Attribution Through Self-Selection	48
Selective Exposure Attribution Theory	52
Being in the Driver's SEAT	59

PURPOSE	66
SIMULATION.....	72
METHOD	75
Participants.....	75
Materials	75
Procedure	75
Hypotheses.....	77
RESULTS	78
DISCUSSION	97
Limitations	100
Future Research	101
APPENDICES	103
Appendix A – Systat program command for data generation	103
Appendix B – Consent Form	104
Appendix C: Instructions – Part I	106
Appendix D – Instructions – Part II.....	108
Appendix E: Sample Questionnaire – Ratings Based on Self-Selection	109
Appendix F: Sample Questionnaire – Ratings Based on All Data	110
Appendix G - Defriefing Statement.....	111

REFERENCES.....	113
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LIST OF TABLES

Table 1. Means for Current Attribution Models	33
Table 2. Variances for Current Attribution Models.....	34
Table 3. Correlations of Behaviors 1 – 8	74
Table 4. ANOVA of Outcome Choice (Selected vs. Non-Selected) x Trials	79
Table 5. Means of Outcomes Experienced with Chosen and Non-Chosen Target Individuals.....	83
Table 6. Mean Outcome Experienced for Each Trial	85
Table 7. ANOVA of True Score of Targets (Chosen vs. Non-Chosen x Trials).....	87
Table 8. Mean of True-Score Chosen and Non-Chosen Target Individuals.....	91
Table 9. Combined Means for Each True-Score Trial.....	93
Table 10. Correlations of Target’s True Score with Choice Over Trials	95

LIST OF FIGURES

Figure 1. Radical Dispositionist Model of Behavior	22
Figure 2. Radical Situationist Model of Behavior	24
Figure 3. Moderate Dispositionist Model of Behavior	26
Figure 4. Hybrid Interactionist Model of Behavior (Part I: Interactionist Perspective with No Self-Selection of Persons to Situations	28
Figure 5. Hybrid Interactionist Model of Behavior (Part II: Interactionist Perspective with Self-Selection of Persons to Situations.....	29
Figure 6. Selective Exposure Attribution Theory Model.....	58
Figure 7. Hypothesized Long-Term Frequencies of Agreeable and Disagreeable Behaviors.....	65
Figure 8. The Sequence of Events That Occur When an Attribution is Made.....	69
Figure 9. Marginal Means of Outcome Choice x Trials (Choice 1 = Chosen, Choice 2 = Non-Chosen).....	80
Figure 10. Marginal Means of True Score of Targets as a Function of Choice (Choice 1 = Selected, Choice 2 = Non-Selected).....	88

INTRODUCTION

What you see is what you get (WYSIWYG)!¹ How many times have you found yourself making this statement or how many times have you heard other people making this statement to you or to someone else? When you hear this statement, what comes to your mind? Sometimes you might hear this statement being made to you by someone you are making an arrangement with to acquire something, and the seller says to you, “what you see is what you get.” The implication of this statement is that there is nothing missing, hidden, or yet to come. Also, this statement is a manner by which a hopeful seller can convey to a prospective buyer that everything is clearly visible, not misleading or deceptive, void of pitfalls, and nothing is being hidden from the prospective buyer. As this statement applies to inanimate material objects, each individual acquiring an inanimate material object can rely on their individual abilities to inspect and possibly test the object before they make a final commitment.

How often do you buy a book because of an appealing or intriguing cover? I think that most individuals would be hesitant about acquiring any inanimate material object without some sort of inspection to justify our outlay of resources. As we know, WYSIWYG can be made about many material items, but what about people making

¹ WYSIWYG, in computer science, is an acronym for “What you see is what you get.” A display method that shows documents and graphic characters on the screen as they will appear when printed. WYSIWYG attempts to duplicate print output as closely as possible but is not always exact. WYSIWYG is used in computing to describe a system in which content during editing appears very similar to the final product. It is commonly used for word processors, but has other applications, such as Web (HTML) authoring. The phrase was originally popularized by comedian Flip Wilson, whose character “Geraldine” would often say this to excuse her quirky behavior.

conjectures about other people? Do individuals use a method similar to WYSIWYG to form conjectures about other's dispositions?

In the early years of humankind, and today in some primitive regions or regions disrupted by war, the ability to understand, control, and predict other's behaviors could be critical to survival. Information has enormous adaptive significance; without information, survival would hardly be possible (Neisser, 1976). Because humans must adapt to their environment, they are capable of taking in a multitude of impressions from the outer world (Adler, 1927). Humans are decision-making beings who are responsible for their own behavior and are capable of changing their behavior (Adler, 1927). Humans also have the capacity to define who they are and to decide if they like or don't like who they are (McKay & Fanning, 1987).

As humans, we are the outcomes of natural selection because we inherited traits that allowed our ancestors to survive, find mates, and reproduce (Pinker, 2002). We must make sense of the outer world to survive by imputing causes to events and placing them in categories that allow us to make useful predictions. We categorize events, deduce cause and effect, and pursue goals that service motives such as hunger, fear, love, curiosity, and the pursuit of status and esteem (Pinker, 2002).

Since the need to categorize events can be paramount to our survival, could individuals be using a method similar to WYSIWYG? If humans are using this type of method, what decision rules govern their choices? Are internal factors such as dispositions and traits better predictors of behavior, or do external factors such as situations predict behavior better? Do individuals take behavior at face value and disregard, ignore, or minimize the influence of situations? Will individuals be correct

in their assessments of other's traits? Do individuals prefer interaction partners with positive rewarding dispositions rather than negative punishing dispositions? Before addressing these issues, let's take a brief journey down the attribution theory road.

Over the years in social psychology, the topic of how we make situational and dispositional attributions to ourselves versus those attributions we make with regard to the behaviors of others has generated a tremendous amount of research. In the early years of attribution literature, the potential adaptiveness of traits and other dispositional attributions was emphasized (cf. Heider, 1958). An observer could use a summary as an explanation of an actor's past behavior and ascribe trait attributions to an actor that could serve as a process for predicting the actor's future behavior. If an observer could assign trait attributions to an actor, the observer could influence his or her own potential outcomes by possibly selecting future interactions with actors who possess positive rewarding dispositions and choosing to avoid possible future interactions with actors possessing negative punishing dispositions (e.g., Berscheid, Graziano, Monson, & Dermer, 1976; Heider, 1958; Kelley, 1973). In other words, the observer is doing their best to predict, control, and understand behavior of others.

However, sometimes we find ourselves in situations where future interactions with others cannot always be selected or avoided. As examples, first consider the statement "we pick our friends, not our families," In our personal life, we can choose our friends, but we are born into our families without choice. Second, consider the various situations with potentially many different individuals you might encounter in your employment organization. In work environments, there are potentially many circumstances when you will not have the opportunity to select people, situations, or

specific interactions of people and situations. But in life, we will encounter many situations that involve choices. When given choices, some people would choose to interact with individuals or groups of individuals who possess positive rewarding dispositions or traits and avoid situations with individuals or groups of individuals they identified as having negative punishing dispositions or traits. On the other hand, some people may prefer the challenge of choosing individuals or groups of individuals possessing negative punishing dispositions or traits and the association of those situations. When choice is available, we rely on our ability to choose individuals we would want to decide to have future interactions (discussed in the section on *Multiple Choices*). Choices involving gains are often risk averse while choices involving losses are often considered risk taking (Tversky & Kahneman, 1981).

The Attribution Pendulum

Most people believe that others are as they act. Because the intellectual roots of this tendency are so deep in Western thought, any attempt to describe them without discussing Freud, Marx, Weber, and others cannot help but fall short (Gilbert & Malone, 1995). How did this idea begin and advance within this small pocket Western thought, known as experimental social psychology (Gilbert & Malone, 1995)? Gilbert and Malone (1995) suggest that the *correspondence bias* has been a problem in social psychology since its inception and considered the central problem of the field by some. They see certain events as defining moments in the progression of this trend that began with Kurt Lewin (Gilbert & Malone, 1995).

Over 75 years ago, Kurt Lewin (1931) published a remarkable essay relating the transition in physics to the evolution of all scientific thinking (Gilbert & Malone,

1995). Lewin (1931) used the transition in physics by comparing Aristotelian and Galileian dynamics. In Aristotelian concepts, the environment plays only a part insofar as it may give rise to forced modifications of the processes which follow from the nature of the object concerned. An object's movements do not depend upon the relation of the object to the environment (Lewin, 1931). In people speak; the characteristics of the individual will not change with the situation. When Galileo came along, he did not investigate the object, but instead the process. That is, Galileo investigated the process of a heavy object free falling or its movement on an inclined plane (Lewin, 1931). Galileo's process was an investigation of the situational factors, that is, how the proportion of height to weight of the inclined plane is defined (Lewin, 1931). Following the Galileian approach, the dynamics of the process rely, not only on the object, but primarily upon the situation (Lewin, 1931). Relating this to psychology, the importance of the situation is as important as the characteristics of the individual, or a person by situation interaction.

Following the death of Kurt Lewin, Allport (1968) wrote a tribute to Lewin that was presented at a memorial meeting shortly after Lewin's death. Of Lewin, Allport (1968) wrote: "History may judge Kurt Lewin to be the most original thinker in psychology during the present century" (p. 360). In his tribute, Allport (1968) refers to Lewin's insistence of the situational factor as a chief determinant of behavior and wrote of Lewin's conviction, "Behavior, verily, is a function of the environment *and* the person" (p. 370).

One of the most fundamental problems facing social and clinical psychology is attempting to understand how individuals construct inferences about the traits of

others from observations of their behavior in various circumstances (Jones, 1979). Heider (1944) noted that when changes occur in the environment it is almost always the result of acts by individuals in combination with other factors and when this happens, there is an inclination to attribute those changes in the environment entirely to the individual.

Following World War II, the common theme was that human affairs are governed more often by mishap than by purpose and that people are more often the captive of their times than the captains of their destinies (Gilbert & Malone, 1995). The Third Reich demonstrated this social-blindness theme by creating social situations that were extremely powerful determinants of behavior (Gilbert & Malone, 1995). The psychologically naïve were “unaware certain misinterpretative mechanisms are at work within himself, distorting and falsifying his perception of other people, beginning even on the level of immediate observations” (Ichheiser, 1949, p. 6)

Almost a decade before Heider planted the seed for attribution theory in 1958, Gustav Ichheiser provided a thoughtful, clear, and detailed psychological analysis of the absurdity between the Western standard of the day that in a land of boundless opportunity, the only constraints on one’s achievements were one’s own talents, persistence, and hard reality (Gilbert & Malone, 1995). In 1949, Ichheiser wrote:

We all have in everyday life the tendency to interpret and to evaluate the behavior of other people in terms of specific personality characteristics rather than in terms of specific social situations in which those people are placed...Again and again, instead of saying that Dan or Tom or Sam behaved (or did not behave) in a specific way because he was placed in a specific

situation, we are prone to believe that he behaved (or did not behave) in a certain way because he possesses (or does not possess) certain specific personal characteristics. (p. 47)

As mentioned above, the planting of the seed for attribution theory began with Fritz Heider's (1958) attempt to formulate the processes by which the "naïve psychologist" makes sense of the physical and social world (Manstead & Hewstone, 1995). According to Heider (1958), the "naïve psychologists" of the world believe traits can be used to predict others' behaviors. Heider proposed that invariant dispositional properties were needed by the perceiver to explain the behavior of others and to render the perceiver's world stable, predictable, and controllable (Manstead & Hewstone, 1995).

Ross and Fletcher (1985) have argued that there are four central ideas in Heider's naïve psychology. The first central idea focuses on Heider's proposal that invariant dispositional properties were needed to explain the behavior of others and to render the perceiver's world stable, controllable, and predictable. The second central idea that Heider introduced is a focal distinction between personal and situational causes and referred to the attributional bias whereby perceivers tend to underemphasize situational factors and overemphasize personal factors when explaining behavior (the *fundamental attribution error* is discussed later in the section labeled *Biases and Errors in Attribution*). The third central idea credited to Heider is Heider's refining of the person-situation dichotomy suggesting that personal dispositions were more readily inferred for intentional actions than for unintentional actions. The fourth central idea Ross and Fletcher (1985) attribute to Heider's naïve

psychologist is a tenet for the untrained observer making a causal attribution using multiple attributional data (the *covariation principle* is discussed later in the section labeled *Biases and Errors in Attribution*). These concepts were the building blocks for the attribution theories that were developed later (Manstead & Hewstone, 1995).

Following Heider, the decade of the 1960s was certainly a time of change; change brought about because of television, the Vietnam War, and political assassinations being brought into our living rooms. Ordinary people surely questioned how much they could shape their own destinies in the face of strong social forces (Gilbert & Malone, 1995). The situationist insight of Lewin and Ichheiser continued to go through the common American experience as mass phenomena of the day, such as Black Power and feminists movements argued that inhibitory situational forces could stagger entire classes of able people (Gilbert & Malone, 1995).

During the times of change in the 1960s, Ned Jones and Keith Davis published the first systematic model of dispositional inference in 1965. Two years later, in a now-classic experiment (discussed in more detail in the *Errors and Biases in Attribution* section) of subjects being shown essays either supporting or opposing Cuba's president, Fidel Castro, Jones and Harris' observer bias came about when observers made inferences about essayists who were ordered to defend their stated position (Gilbert & Malone, 1995).

While the study of how people explain human behavior, that is, their causal attributions or rational explanations, exploded during the 1970s and 1980s (Manstead & Hewstone, 1995), Ross (1977) realized that both social psychologist and the social psychologist's subjects had the tendency to underestimate the power of situations,

which he labeled the fundamental attribution error (FAE) (Gilbert & Malone, 1995). What Ross (1977) demonstrated was the tendency for people to make unfounded dispositional inferences (Gilbert & Malone, 1995). As examples, consider the subjects in Jones and Harris' (1967) experiment who failed to realize how motivated a debate coach could be when ordering a debater to defend an unpopular position or when subjects in Festinger and Carlsmith's (1959) classic dissonance study failed to realize how much pressure an experimenter could exert by nicely asking subjects to tell a little white lie (Gilbert & Malone, 1995). However, the major conceptual theories, some of which were developed much earlier (noted above), laid the foundation for the major advances in attribution theory (Manstead & Hewstone, 1995).

Perspectives on the attribution process have emphasized the common goals of both professional psychologists and the average persons-on-the-street, a.k.a. naïve psychologists. As mentioned above, the common goals of both professional psychologists and naïve psychologists are prediction, control, and understanding behavior. Even though changes in the environment are almost always caused by acts of persons in combination with other factors, there is a tendency to attribute those changes to the person (Heider, 1944). It was believed that dispositional attributions could provide perceivers with an explanation of people's past behaviors and a means of forecasting the future behavior of those individuals (Monson & Graziano, 1982). Current situations, which in part, may determine a person's behavior, are disregarded and the person's behavior is taken as an expression of personal characteristics (Heider, 1944).

Attribution theory plays a significant role in describing motivation in others and ourselves and involves the processes by which observers infer another person's motivations from his actions (Gilbert & Malone, 1995; Kelly, 1967). In 1967, Kelly wrote, "attribution refers to the process of inferring or perceiving the dispositional properties of entities in the environment" (p. 193). The importance of the attribution process is to label a disposition or trait to a target, which provides the attributor with a summary and explanation of the target's past behaviors and a means of predicting the target's future behaviors. Additionally, it is assumed that an attributor can exercise some control over his or her outcomes by choosing to interact with targets possessing positive and rewarding dispositions and/or by choosing to avoid interactions with targets possessing negative and punishing dispositions.

Social psychologists have termed the *attribution process* as the process by which a single behavior or a pattern of behavior exhibited by an actor can be used by an observer to infer the existence of some disposition or trait (e.g., a personality trait, an attitude, an emotion, or ability). Research trait theorists, such as Block (1977) and Epstein (1979), argued that personality traits and dispositions are the best way to explain and predict behavior. Research situation theorists, such as Michel and Peake (1982) and Nisbett and Ross (1980), maintain that situations are the primary determinant of behavior. Kenrick and Funder (1988) suggest that the inconsistency between the naïve psychologists' perception regarding the association between traits and behavior and the strong evidence in opposition to traits predicting behavior remains unsettled. There have been over 75 years of discussion regarding dispositions,

situations, and the interaction of the person and the situation. The attribution pendulum continues to swing.

Errors and Biases in Attribution

In literature, there are many, varied, and sometimes controversial definitions of biases. Most biases refer to influences that lead to erroneous or suboptimal judgments or decisions based on some objective criterion or that violate some normative criterion (Pronin, Gilovich, & Ross, 2004). The literature in this area is voluminous. I will offer a brief and selective history of the study of errors and biases in attribution.

An early source of error in the attribution process comes from research that suggested that there exists a large *primacy effect*, such that attributional information that is acquired first has much more influence than information acquired later (Asch, 1946). The primacy effect occurs when we become somewhat less focused to subsequent behavioral stimuli and once we have already formed an impression. Thus, when subjects in one study read a series of statements about an individual, the amount of time they spent reading each statement declined steadily as they proceeded through the list (Belmore, 1987). However, ignoring new information is not the only consequence of the primacy effect. In addition, attention for new information can continue to occur, but it may wane. Webster, Richter, and Kruglanski (1996) found that a fatigued state affected the way subjects formed their impression of others. In their experiment, subjects with induced fatigue (a lengthy college examination) demonstrated greater primacy effects in their impressions of others than did subjects with less fatigue.

The correspondence bias can be considered a misleading notion inasmuch as more than a few different psychological mechanisms can give rise to the same general effect (Gilbert & Malone, 1995). The correspondence bias is the tendency to attribute behavior to a person's trait more than is justified (Kenrick, Neuberg, & Cialdini, 2005). Ross (1977) labeled the frequently occurring correspondence bias the fundamental attribution error (Kenrick et al.).

The FAE is the tendency of observers to down play the importance of situational factors in causing behavior but instead attribute dispositions to a target (Ross, 1977). Almost all of the discussions of the FAE have emphasized the tendencies of attributors to fail to disregard dispositions when they observe behaviors performed in the presence of strong facilitative situational cues. For example, when you don't receive the kind and type of assistance you expect from someone in a position to offer that assistance, you in turn label that individual with a negative disposition, when in fact, it could be that individual's job and the fact that they only deal with customer complaints and not their individual personality, which makes them act this way (Ross, 2001). The significant insight that Ross (1977) offered for the FAE was that both social psychologists and the social psychologist's subjects shared the same tendency to underestimate the power of situations and that this was the key to understanding their behavior in a wide range of seemingly unrelated experiments (Gilbert & Malone, 1995).

As mentioned above, Jones and Harris published the classic demonstration of the observer bias in 1967. Jones and Harris (1967) demonstrated the observer bias quite creatively by asking students to read essays presumably written by comrades on

the school debate team either in support of or opposing Cuba's president, Fidel Castro. Some participants were told that the student author had freely chosen to present their viewpoint, while others were told that the student was forced by the debate coach to defend their position. When participants were told that the essays were freely written, participants reasonably assumed that the essay reflected the writer's actual attitudes, that the writer of the pro-Castro essay was certainly robustly pro-Castro and that the writer of the anti-Castro essay was strongly anti-Castro. Surprisingly, however, participants made this dispositional inference even when they knew the authors had no choice as to which side of the debate to take. To a considerable extent, participants ignored the influence that the situation (in this situation, the debate coach's instructions) had on the author's behavior. Thus, not only do we have a healthy tendency to see others' behavior as stemming from their personality, but also this tendency sometimes leads us to under appreciate the role of situational influences.

In 1971, Jones and Nisbett offered the best-known account of systematic divergence in assessing actors and observers (Pronin et al., 2004). Jones and Nisbett's (1971) actor-observer hypothesis has been a focal point of literature for the different perspectives we have as actors and observers. The underlying postulation of their theory is that observers typically offer more dispositional and less situational attributions when accounting for actors' responses than actors offer themselves (Pronin et al., 2004). But, when actors and observers change positions, Jones and Nisbett (1971) hypothesize that observers will be more likely to attribute the behaviors of the actor to some underlying disposition or trait than would the actor label himself or herself. Jones and Nisbett suggest that the actor's attention is appropriately focused

on their currently involved situation whereas the observer's attention is focused on the actor's behavior (Pronin, et al.).

Building upon Jones and Nisbett's (1971) actor-observer hypothesis, Nisbett, Caputo, Legant, and Marecek (1973), hypothesized that actors attach causality to the situation while observers ascribe causality to the dispositions of the actor. The more individuals can predict the behavior of others, the more individuals can perceive social environments to be stable, understandable, and controllable (Nisbett et al.).

Researchers investigating the attribution process have used two major categories of dependent variables, causal attributions and dispositional inferences. Causal attributions are explanations for a specific behavior, generally measured by asking the attributor to consider the relative importance of dispositional and situational factors in causing the specific behavior (e.g., Rate the importance of dispositional and situational factors in causing the behavior on separate 9-point scales ranging from 1 (not at all important) to 9 (extremely important)). Dispositional inferences are assessments of the extent to which a specific personality trait or other disposition can be used to describe and summarize the behavioral tendencies of the target. These behavioral tendencies can be measured by using single, mutually exclusive options (e.g., extroverted, introverted, or depends on the situation), by using discrete, bipolar scales (e.g., -10 (extremely introverted) to +10 (extremely extroverted)), or by using discrete unipolar scales (e.g., 1 (not at all extroverted) to 9 (extremely extroverted)).

Attribution theorists and researchers want to be able to explain how the person on-the-street came to his or her attributional judgments. One of the most fundamental assumptions associated with a majority of the early perspectives on the attribution

process were based on an assumption of the existence of an inverse relationship between situational attributions and dispositional attributions (cf. Heider, 1958). When the evidence was clear that situational factors were influential in determining a behavior or a pattern of behavior, making a dispositional attribution was likely to be diminished. The probability of making a dispositional attribution is presumably high when situational forces are perceived to be relatively weak or unconstrained causing the behavior or behavior pattern.

Harold Kelley (1967, 1972, 1973) proposed that it was important to distinguish between when an attributor has access to only a single observation of behavior versus when the attributor has access to multiple observations of behavior. When the perceiver (attributor) has access to only a single observation of behavior, Kelley hypothesized that it was much more important for him or her to pay attention to the situational framework in which the behavior is performed and to make use of a principle that he termed the *discounting principle*; “The role of a given cause in producing a given effect is discounted if other plausible causes are also present” (Kelley, 1973, p. 113) or as the number of possible causes increases, we become more unsure that any specific cause is the one true cause (Kenrick et al., 2005). When the perceiver (attributor) has access to multiple observations of behavior, Kelley suggests that he or she would use what Kelley terms the covariation principle; “An effect is attributed to the one of its possible causes with which, over time, it covaries” (Kelley, 1973, p. 108). This theory proposes that individuals choose among various possible causes by weighting most heavily the potential cause that best covaries or correlates with the event (Kenrick et al., 2005). When using the covariation model, individuals

determine the cause of an actor's behavior by considering whether other individuals act in similar ways (*consensus*), whether the actor behaves similarly in similar situations (*distinctiveness*), or whether the actor behaves similarly in the same situation (*consistency*) (Kenrick et al.).

In general, theory (e.g., Kelley, 1967, 1972, 1973) and research (e.g., McArthur, 1972) have indicated that observers are most likely to interpret behavior in a situational manner when consensus, distinctiveness, and consistency are all high. By contrast, this same theory and research have suggested that observers are most likely to interpret behavior in a dispositional manner when consensus and distinctiveness are low, but consistency is high. According to Kelley's covariation principle, consensus and distinctiveness are the two sources of information which most distinguish between dispositional and situational interpretations of behavior. Kelley suggests that high consistency only serves to polarize the tendency of *high distinctiveness* and *high consensus* to produce situational explanations of behavior and the tendency of *low distinctiveness* and *low consensus* to produce dispositional interpretations of behavior.

Once an initial impression is made of someone, individuals often engage in various processes that enable them to maintain their initial attribution. Human nature appears to be that we will attempt to validate a true positive attribution of others rather than correct a false negative attribution of others. For example, if in our view, an individual exhibits a positive behavior consistent with our initial positive attribution label, we will not change the attribution label of that individual from our initial attribution label. If that same individual exhibits behavior that is inconsistent with our initial positive attribution, we are likely to ascribe a situational attribution for that

specific behavior. We are likely to continue our association with that individual, until or unless, there are sufficient observations of variation in their behavior that warrants a change of our initial attribution label. However, if our initial attribution label of another individual is negative and we have the ability to select whether or not to have future interactions with this individual, we are not likely to choose to interact with that individual. As a result of selecting not to have future interactions with this particular individual, we are not likely to change our initial negative attribution label of that individual. In either case, there is a strong possibility that our original impression will be maintained regardless of whether an individual demonstrates behavior consistent or inconsistent with their behavior that initially produced a dispositional attribution, (cf. Monson & Hesley, 1982).

Perceivers, whether they have one observation of a target's behavior or a number of observations of a target's behavior, have a durable propensity to attribute a disposition to the target. It is the salience of the target's behavior that draws the perceiver's attention. The more salient the target's behavior, the more readily a trait is attributed to the target by the perceiver.

Using traditional social models, there are many patterns of social behavior that are difficult to explain and that make more sense when viewed from an evolutionary perspective (Kenrick & Simpson, 1997). Evolutionary theory offers explanations of why the human brain evolved that induces individuals to process information about themselves one way and to process information about others in a different manner (Krebs & Denton, 1997). It is not the intent of this study to investigate processes that

enable us to maintain our initial attribution labels or examine how evolutionary theory explains the human brain.

Models of Behavior

As discussed in *The Attribution Pendulum* section, early suggestions from previous research in personality demonstrated two basic approaches. The first premise, from personality research, established a general movement towards professional psychologists using measures of personality traits and other dispositions to predict an individual's behavior across a broad range of situations and persons. The second premise, from attribution processes research, documented how naïve psychologists utilize information about an individual's behavior to predict or infer personality traits to describe that individual. These two perspectives may be considered reciprocal (Reeder & Brewer, 1979).

Monson and his colleagues suggest that an examination of the *trait vs. situation* debate can provide valuable insights for the attribution process. Earlier implications focused on the *actor-observer* in attributions (e.g. Monson, 1983; Monson & Hesley, 1982; Monson & Synder, 1977; Monson, Tanke, & Lund, 1980), whereas more recent implications focused on the covariation principle (e.g. Jackson, Monson, Etheridge, & Beer, 1998; Janowsky, Monson, & Jackson, 2001; Monson & Pederson, 1988; Saigal, Monson, & Janowsky, 2002) and on the discounting principle (e.g. Monson, 1982; Saigal & Monson, 2002; Wilson, 1993).

The Radical Dispositionist Model of Behavior (RDMB)

In the extreme dispositionist approach, situations virtually have no effect on behavior (Figure 1). For example, regardless of the situation, whether in a library,

attending a funeral, or going on spring break, introverts will be modest and extroverts will be effervescent. The RDMB assumes high cross-situational consistency in behavior within persons. Two assumptions characterize the radical dispositionist approach. The first assumption is that there will be variability between the behaviors of different individuals in the same situation. Simply put, given the same situation, everyone will act differently according to their dispositions. Second, the assumption that people will act time and again across situations according to their fundamental dispositions.

Examining the RDMB in Figure 1, the high cross-situational consistency in behavior is illustrated by Person 1 exhibiting highly unsociable (e.g. introversion) behaviors in all five situations, by Person 3 exhibiting neither very sociable nor very unsociable (e.g. ambiversion) behaviors in all five situations, and by Person 5 exhibiting highly sociable (e.g. extraversion) behaviors in all five situations. In Kelley's (1967) covariation principle of attribution, he termed this high cross-situational consistency in behavior within persons as low distinctiveness. With individuals exhibiting low distinctiveness in their behavior, Kelley's covariation principle would predict that Person 1, whose mean behavior across all five situations was a -4.0, would be attributed a disposition of introversion. According, Person 3, whose mean behavior across all five situations was 0.0, would be attributed a disposition of ambiversion and Person 5, whose mean behavior across all five situations was +4.0, would be attributed a disposition of extraversion.

The RDMB also assumes low cross-person consistency within situations. That means that all five persons in Figure 1 act according to their dispositions in each of the

five different situations. Kelley (1967) termed this low cross-person consistency in behavior within situations low consensus in his covariation principle of attribution. According to Kelley's covariation principle of attribution, disposition attributions would be likely to be offered when consensus is low.

The Radical Situationist Model of Behavior (RSMB)

At the opposite end of the model spectrum is the RDMB is the radical situationist approach. The radical situationist approach states that individuals will act consistently within situations regardless of their dispositions. Plainly stated, dispositions will have no influence on behavior, regardless of the situations or how dissimilar the situations may be (Figure 2). Everyone will act the same given the same situation. Using the examples cited in the RDMB paragraph above, both introverts and extroverts will be quiet in a library, they will all be solemn while attending a funeral, and everyone will be full of life while on spring break. In the RSMB, there will be minimal variability between behaviors of the different individuals within a single situation. Stated another way, the RSMB assumes low cross-situational consistency in behavior within persons. By extending this principle, behaviors will be highly variable across an assortment of situations.

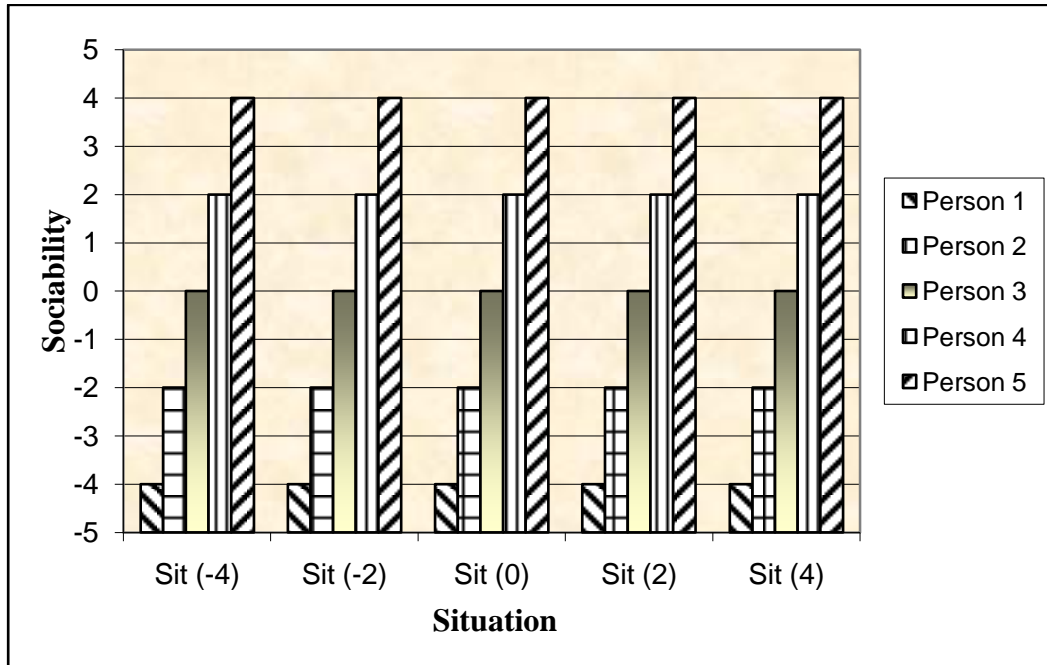
Looking at the radical situationist approach in Figure 2, the low cross-situational consistency in behavior is displayed by the fact that each of the five individuals (Person 1 through Person 5) exhibit highly unsociable (e.g. introversion) behavior in one situation (Situation -4), exhibit neither very sociable nor very unsociable (e.g. ambiversion) in one situation (Situation 0), and exhibit highly sociable (e.g. extraversion) behavior in one

situation (Situation +4). In Kelley's (1967) covariation principle of attribution, he termed this low cross-situational consistency in behavior within persons high distinctiveness.

Kelley's covariation principle would predict that all five individuals (Person 1 through Person 5) in Figure 2 exhibiting high distinctiveness in their behavior would be attributed neither the disposition of introversion nor the disposition of extraversion. In other words, none of the persons in Figure 2 would be labeled with any trait.

The RSMB also assumes high cross-person consistency within situations. Again, this means that all five individuals (Person 1 through Person 5) in Figure 2 will all act the same way in each of the five given situations. Kelley (1967) termed this high cross-person consistency in behavior within situations high consensus in his covariation principle of attribution. According to Kelley's covariation principle of attribution, disposition attributions would not likely to be offered when consensus is high.

Figure 1. Radical Dispositionist Model of Behavior

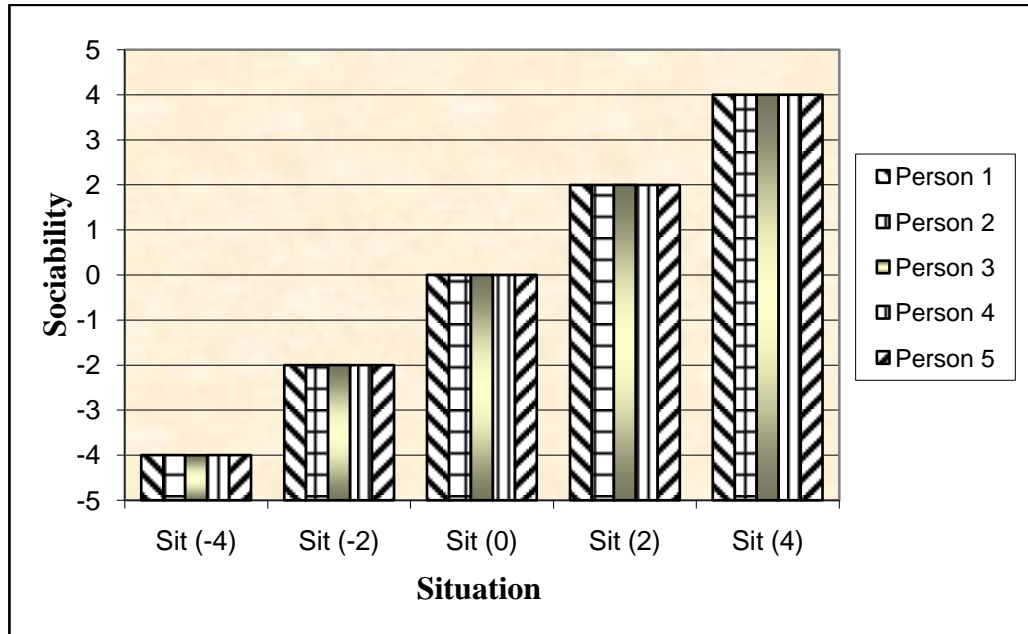


The Moderate Dispositional Model of Behavior

The question becomes then, how reasonable are these radical models of behavior? If the RSMB was always factual, everyone would behave the same ways in the same situations and no one should be in prison. Using the same logic for the RDMB, if everyone held fast to their individual dispositions regardless of the situations, how would you imagine a grieving family would feel if an extrovert attending a funeral did not modify their bubbly personality? Clearly, a more realistic model to portray variations in behaviors and in situations could be used (Figure 3). This model is labeled the Moderate Dispositional Model of Behavior (MDMB). Since this model assumes that both the situation and the person have an additive effect on the exhibited behaviors, it could also be labeled the *Moderate Situationist Model of Behavior* (MSMB). This model assumes that each situation produces a different intensity of behavior with each individual acting within the bounds of the implied situation, yet still displaying relative levels of behavior consistent with their dispositions. Rank order within each situation is retained by each individual. That is to say, introverts will act more languid relative to extroverts within each situation and conversely extroverts will act more vivacious relative to introverts within each situation. The MDMB proposes that the situations will affect the mean behaviors exhibited with no difference in the range of behaviors displayed.

The MDMB assumes high cross-situational consistency in behavior within persons; however, here the cross-situational consistency is defined in terms of relative

Figure 2. Radical Situationist Model of Behavior



order consistency rather than absolute consistency. Assessment of absolute consistency is normally assessed by calculating the variance of behavior using a statistical formula, the assessment of relative consistency is normally assessed by average cross-situational correlation coefficients. The comparison of measurements of different scales in correlation is accomplished by z-score transformation.

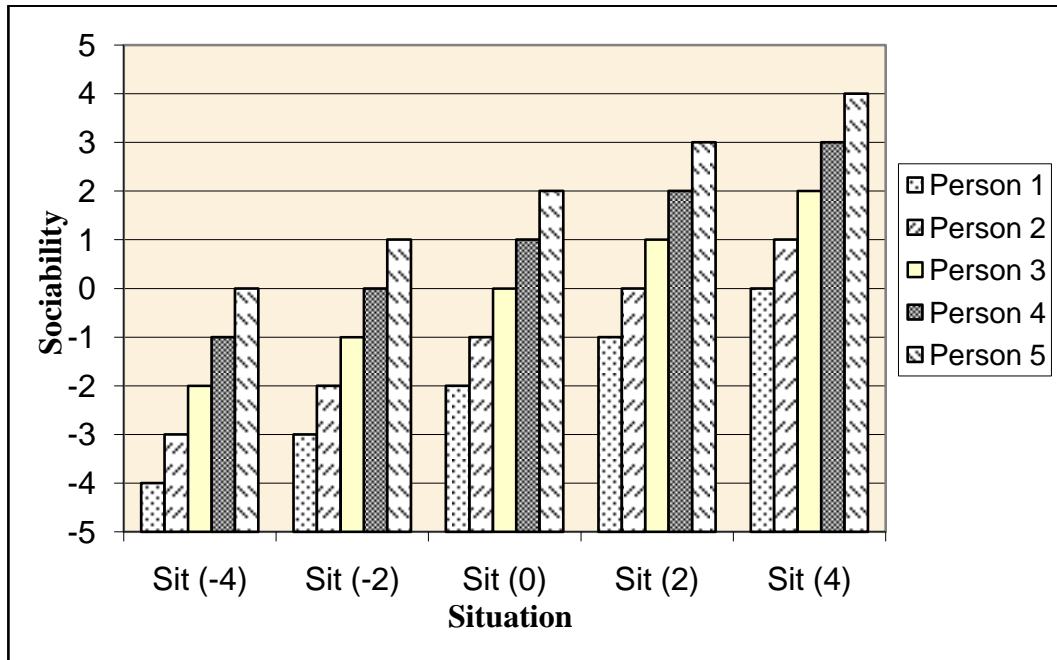
Standardization of scores results in distributions with a mean of zero and a standard deviation of one. Use of correlational coefficients does not allow for distinction between the moderate and radical dispositional models of behavior (cf. Monson, 1982).

The Hybrid Interaction Model of Behavior

Monson's (e.g. Monson, 1982; Monson & Pederson, 1988) Hybrid Interaction Model of Behavior (HIMB) (Figure 4) incorporates features of the RSMB, the RDMB, and the MDMB. Examining Figure 4, two situations (-4, 4) are drawn from the RSMB. Situations labeled -4 (situations strongly encouraging introversion) and 4 (situations strongly encouraging extraversion) are high in situational constraint encouraging everyone to act the same way making prediction of behavior from personality dispositions mostly useless.

The situation labeled 0, which is drawn from the RDMB, represents an ambiguous situation weak in constraint which allows an expression of individual differences in behavior and makes that behavior predictable by measures of personality disposition. Taken from the MDMB, are the situations labeled -2 and 2. These situations reflect some influence from both the target's personality disposition and the existing situational influences. This section of the HIMB is built upon research

Figure 3. Moderate Dispositionist Model of Behavior



and theory which suggests that when situational constraints are weak, dispositions may be more useful in predicting behavior, but when situational constraints are strong, dispositions may be of little use in predicting behavior (cf. Monson, Hesley, & Chernick, 1982).

Another section of the HIMB (Figure 5) draws on the assumption that, when given an opportunity, individuals will decide to self-select situations which allow them to act consistently with their dispositions and will choose to avoid situations which will cause them to act inconsistently with their dispositions (e.g. Snyder, 1983; Wachtel, 1973). In studying Figure 5, you will notice that all five individuals did not participate in all five situations. Extroverts (e.g. Persons 4 and 5) preferred situations which allowed them to behave according to their dispositions and avoided the one situation which restricted their favored behavioral dispositions (extraversion). By the same token, introverts (e.g. Persons 1 and 2) also preferred situations which allowed them to behave according to their dispositions and avoided the one situation which restricted their favored behavioral dispositions (introversion). By contrast, varying numbers of individuals, either extroverted or introverted (ambiversion), self-selected into all levels of situations. In 1982, Monson presented research to support this conclusion. Monson suggests that individuals, when given a choice, will self-select into situations that allow them to demonstrate behaviors consistent with their dispositions or self-select into situations with little or no situational constraints, again allowing them to behave consistent with their dispositions. Monson also suggests that individuals will actively avoid situations which strongly influence them to demonstrate behaviors inconsistent with their dispositions.

Figure 4. Hybrid Interaction Model of Behavior Part I: Interactionist

Perspective with No Self-Selection of Persons to Situations

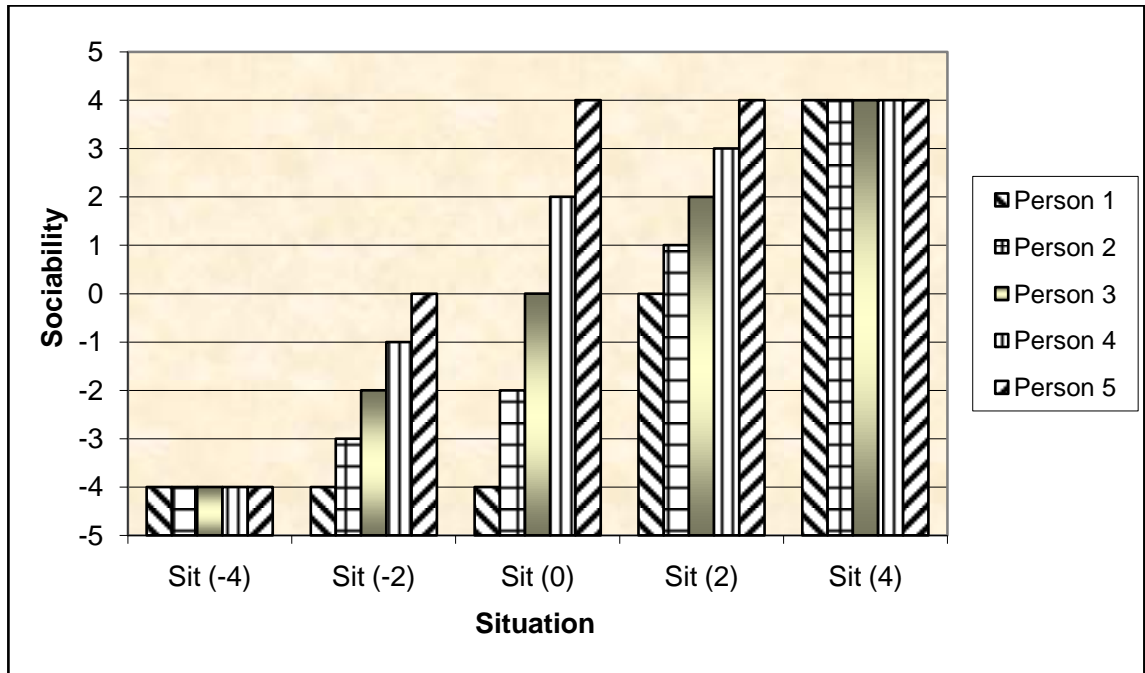
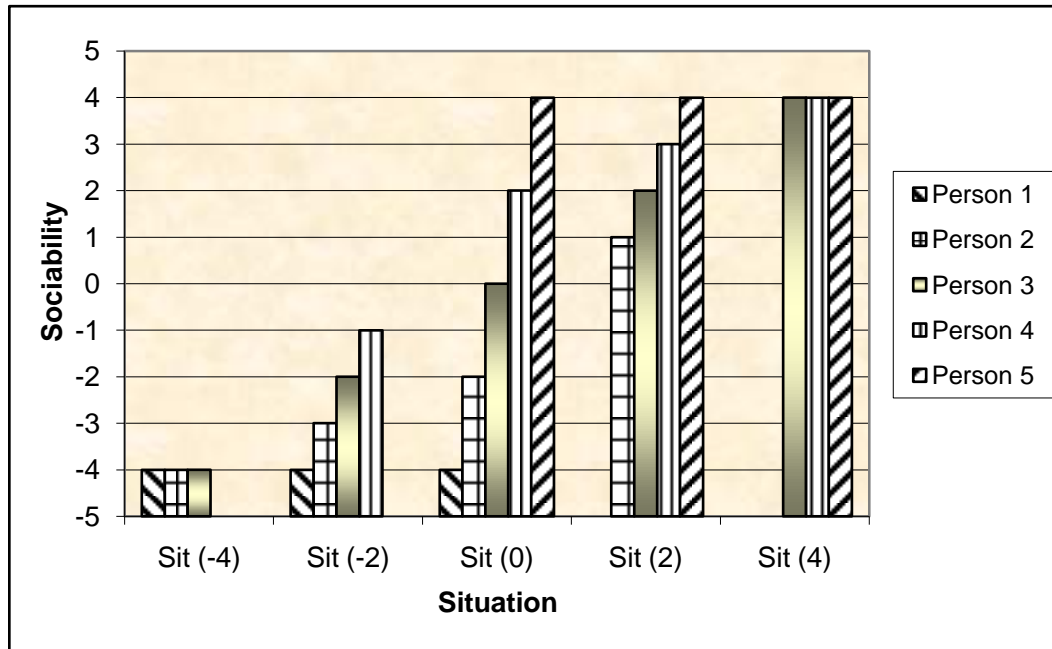


Figure 5. Hybrid Interaction Model of Behavior Part II: Interactionist Perspective with
Self-Selection of Persons to Situations



The Behavior Averaging Principle of Behavior

The extensive literature on the FAE suggests that perceivers of only one observation of a target's behavior often will attribute a trait to that target even though that target was not observed in any other contexts other than in the presence of what could have been a facilitative situational cue. Monson (in preparation) suggests that person perceivers have a strong tendency to take behavior at face value and that those person perceivers will often attribute dispositions to a target whether they have seen only one observation of the target's behavior or multiple observations, with or without cross-situational variability.

Using WYSIWYG for one observed behavior is a matter of making a correspondent inference by using a description of the behavior to describe the person performing the behavior (cf. Jones & Davis, 1965). Monson (in preparation) suggests that using WYSIWYG for multiple observations of behavior involves merely averaging the description of the observed actor's behavior. If an individual's actions resemble extraversion 70% of the time, resemble ambiversion 20% of the time, and resemble introversion 10% of the time, it makes sense to describe that person as an extrovert. By contrast, if an individual's actions resemble introversion 70% of the time, resemble ambiversion 20% of the time, and resemble extraversion 10% of the time, it makes sense to describe that person as an introvert. If an individual's actions resemble introversion 30% of the time, resemble ambiversion 40% of the time, and resemble extraversion 30% of the time, it would not make sense to describe that person as either an extrovert or an introvert.

Monson (in preparation) proposes that the *Behavior Averaging Principle of Attribution* (BAPA) approach can provide a basis for making dispositional inferences which does not have some of the liabilities of using consistency in behavior as a preliminary basis for deciding whether or not to attribute dispositions². What are the average behaviors that the targets exhibit across the situations found in Figures 1 and 2? Looking first at the RDMB (Figure 1), notice that Person 1 has an average behavior of -4, (which could be construed as being extremely introverted) and Person 2 has an average behavior of -2 (which could be construed as being moderately introverted). Similarly, we can see that Person 5 has an average behavior of +4, (which could be construed as being extremely extroverted), and Person 4 has an average behavior of +2 (which could be construed as being moderately extroverted). Since Person 3 has an average behavior of 0, there is no reason to attribute a trait of extraversion or introversion to him or her (See Figure 1 for all behavior averages in detail). By comparison, an examination of the RSMB (Figure 2) indicates that the average behavior of each of the five target actors is 0. Since the average behavior for all five target actors is 0, it would not make sense to describe any of the target actors as either an extrovert or an introvert.

² Monson's Behavior Averaging Principle of Attribution (BAPA) is based upon averaging behaviors relevant to only a specific trait or dispositional dimension. This approach is similar, but not the same as, Anderson's (cf. Anderson, 1965) use of an averaging approach to come to a single likeability score based on the average of the likeability scores derived from a number of different dispositions. Others have suggested that inferences are formed on the basis of additive principles (Steiner, 1972). It holds that people integrate separate pieces of information by adding scale values rather than averaging them. The major difference occurs when the person is confronted with two pieces of information on the same side of zero, one more extreme than the other.

If we re-examine traditional attributional approaches, how much does a behavior averaging approach really differ when one pays attention to cross-situational consistency and when one does not? If exhibiting high cross-situational consistency in behavior means that a person can be described with a disposition, the attributor still has to decide what disposition to attribute. Clearly, one of the most reasonable bases for deciding what disposition to attribute to the target is to assess the average behavior of the target. If exhibiting low cross-situational consistency in behavior means that a person cannot be described with a disposition, then there is no need to look at the average behavior. However, what would be the harm in averaging behavior if it results in the same conclusion?

When one examines the RDMB and the RSMB, it appears that it does not matter whether one takes a behavior averaging approach or a consistency appraisal approach because the same conclusions are reached. Would cross-situational consistency approaches and behavior averaging approaches reach the same conclusions when evaluating the HIMB (Figure 4)? The answer is apparently not. The average variance in behavior within persons across the five situations in the HIMB (Figure 4) is actually greater than it is across the five situations in the RSMB (See Table 2). However, whereas the average behaviors (Table 1) across the five situations for all the persons in the RSMB are 0 and no trait attributions are appropriate, the respective average behaviors in the HIMB (Table 1, Part I) for Person 1 (-1.6), Person 2 (-0.8), Person 3 (0), Person 4 (0.8), and Person 5 (1.6) indicate that trait attributions would be reasonable for four of the five individuals.

Table 1: Means for Current Attribution Models

	Person 1	Person 2	Person 3	Person 4	Person 5	Variance of the Means ³
Radical Dispositionist Model of Behavior	-4	-2	0	2	4	8.00
Radical Situationist Model of Behavior	0	0	0	0	0	0.00
Moderate Dispositionist Model of Behavior	-2	-1	0	1	2	2.00
Hybrid Interaction Model (Part I)	-1.6	-0.8	0.0	0.8	1.6	1.28
Hybrid Interaction Model (Part II)	-4	-2	0	2	4	8.00
Hybrid Interaction Part I & Part II Combined)	-2.50	-1.33	0.00	1.33	2.50	3.21

³ For the purposes of Table 1 and Table 2, variances are calculated using n (sample variance), rather than n-1 (estimated population variance).

Table 2: Variances for Current Attribution Models

	Person 1	Person 2	Person 3	Person 4	Person 5	Mean of the Variances
Radical Dispositionist Model of Behavior	0	0	0	0	0	0.00
Radical Situationist Model of Behavior	8	8	8	8	8	8.00
Moderate Dispositionist Model of Behavior						
Hybrid Interaction Model (Part I)	10.24	8.56	8.00	8.56	10.24	9.12
Hybrid Interaction Model (Part II)	0	3.5	8	3.5	0	3.00
Hybrid Interaction (Part I & Part II Combined)	7.75	6.67	8.00	6.67	7.75	7.37

The second part of the HIMB (See Figure 5), takes us one step further by incorporating self-selection of persons to situations. In Figure 5, notice that not all five individuals participated in the situation labeled -4. The reason for this is because this situation strongly encourages introversion and is a situation most extroverts (e.g., Persons 4 and 5) would prefer to avoid. Likewise, not all five persons would likely participate in the situation labeled +4. The same logic applies here, except in reverse; this situation strongly encourages extraversion and is a situation most introverts (e.g., Persons 1 and 2) would prefer to avoid. In the situation labeled 0, everyone could be expected to participate because the situation was considered to be an unbiased one; one which would allow extroverts and introverts to act according to their dispositions. If we take the behavior averages of each person in the HIMB (Figure 5) from the situations those persons self-selected, we can see a pattern emerges similar to that of the RDMB (e.g., all mean are the same for Person 1 through Person 5).

To fully appreciate the behaviors from both parts of the HIMB (e.g., Figures 4 and 5), we should combine the behaviors from both parts of the HIMB. Once we have the combined averages of all the behaviors from Persons 1-5 for both models (i.e. remember not every person will have the same number of situation behaviors because of self-selection), we see an emerging pattern much like the MDMB and the RDMB (e.g., In the HIMB Part 2, Person 1 now has an average of -2.5, versus -2 in the MDMB, and -4 in the RDMB. See Table 1 for a full list of behavior averages.). After combining the two parts of the HIMB, the new behavior averages demonstrate that targets displaying behavior patterns approximately as variable across situations as

found in the RSMB can still demonstrate behavior patterns which may be meaningfully described as extraversion and introversion.

Research in Support of an Alternative Model of Attribution

Generally, the BAPA appears to provide a useful means for attributing dispositions to targets even when the targets do not exhibit the cross-situational consistency in behavior (either in terms of absolute situational variability or in terms of relative consistency as defined by cross-situational correlation coefficients) that has traditionally been used as a preliminary prerequisite for attributing traits. However, just because the assessment of situational variability theoretically does not appear to be a necessary prerequisite to the decision of whether or not to attribute dispositions to targets based upon multiple observations of behavior, it does not mean that the average person perceiver does not actually make use of it that way. Recently, a number of investigations by Monson and his colleagues have supported the suggestion that the under-utilization of situational information by observers typically observed in circumstances where they would be expected to employ the discounting principle can also be extended to circumstances when observers would be expected to employ the covariation principle. In research presented by Jackson, Monson, Etheridge, and Beer (1998), there were suggestions that attributors ignored the degree of cross-situational consistency exhibited by targets when they decided whether or not to attribute dispositions to those targets. In fact, the attributors often attributed dispositions to targets even when targets exhibited high cross-situational variability in their behaviors. As a consequence, the authors concluded that evidence for the existence of the FAE was not limited to only circumstances when attributors had access to only a single

observation of behavior. Thus, the FAE does not appear to be just a failure to discount as it has sometimes been described.

Additionally, Monson and his colleagues (e.g., Monson & Pederson, 1988; Janowsky, 2001; Saigal, 2001) have conducted various studies which provide evidence that people use an averaging approach for behaviors to decide whether or not to attribute traits to a target. Despite the fact that some attribution researchers have suggested that individuals cannot detect correlations that are below 0.6 (cf. Nisbett & Ross, 1980), Monson and his colleagues' research suggests that people can use a behavior averaging approach to accurately identify the dispositions of targets even when the targets they are attributing with traits exhibit cross-situational correlations that are less than .15.

Another area of research has indicated that even if person perceivers were inclined to use their perceptions of situational variability as a basis of whether or not to attribute dispositions, they would face a major dilemma. It turns out that naïve psychologists do not perceive variability in the same way that professional psychologists suggest that they should. When $(n-1)$ is used in the denominator for estimating the variance in a population, the estimate is unbiased. When (n) is used in the denominator to describe the variance in a sample, that value is biased and typically underestimates the population variance. Recent research has indicated that most people's perceptions of situational variability are even more biased to underestimate population variances than is the typical formula for describing sample variance (Janowsky, 2001; Janowsky, Monson, & Jackson, 2001). Since this bias is more pronounced with a smaller number of observations than with a larger number of

observations, this produces an artifactual positive relationship between the number of observations of behavior and perceptions of situational variability. Janowsky (2001) conducted a review of literature which provided compelling evidence that the actor-observer effect, which indicates that actors typically perceive that they have fewer traits than are attributed to them by outside observers, is probably a methodological artifact based upon the difference in the number of observations of behavior typically possessed by actors and observers. When studies utilize the most common response format based upon mutually exclusive situational and trait responses, the traditional actor-observer effect is found. When a format is used allowing for the assessment of disposition responses and situational responses independently, the reverse of the traditional actor-observer effect is found. In fact, actors perceive that they can be described by more dispositions than are typically attributed to them by observers (e.g., Janowsky, 2001; Janowsky, Monson, & D'Souza, 2002; Janowsky, Monson, & Jackson, 2001). Thus, the mistaken assumption that people use their perception of situational variability as a basis for whether or not they attribute dispositions has produced a totally erroneous conclusion accepted as fact in virtually every social psychology textbook

Monson (in preparation), not only suggests that the HIMB has implications for re-evaluating the assumption that perceptions of situational variability across multiple observations of behavior are related to attributions of traits, he also suggests that the HIMB and BAPA have important implications for re-evaluating the FAE and whether the failure to discount when an attributor has access to only one observation of behavior should be viewed as an indication of an attribution error at all, let alone one

that would be called fundamental. Monson also notes that if the attributor has access to only one observation of behavior, it is highly unlikely that the attributor would normally know whether or not the target had self-selected into that situation. Thus, even if the attributor might notice some strong facilitative cues which could have constrained the target's behavior in this situation, the target's behavior may well match his or her trait because of the target's desire to exhibit behavior consistent with his or her disposition and may have caused a decision to self-select into that particular situation. Thus, the HIMB, which includes the self-selection of persons to situations and which strongly encourages behaviors consistent with the actor's dispositions, helps to explain how the failure to discount can actually be viewed as a helpful clue to identifying the actor's dispositions rather than a maladaptive attributional bias.

Further, Monson (in preparation) suggests that the need to have two separate principles was made necessary by the fact that variances and correlations cannot be calculated on the basis of only a single observation of behavior. However, since research by Monson and his colleagues suggests that attributors can calculate averages of behaviors for one or more observations of behavior without paying any attention to variances or correlations, there is no need to have two separate principles. When the attributor has access to only one observation of behavior, the average for the behavior is the behavior itself. This is what attributors typically attribute when they fail to discount. Thus, in most circumstances when the attributor is interested in assessing what dispositions can be used to describe a target, Monson's BAPA can be used to replace both the covariation principle and the discounting principle. Using WYSIWYG in a single situation, regardless of whether or not the situation encouraged

that behavior, will often be correct. If using WYSIWYG initially results in an incorrect behavioral label and the initial behavioral label to the actor was positive, there will likely be opportunities for that behavioral label to self correct as additional observations of behaviors are averaged into the composite dispositional attribution for that actor. By contrast, if using WYSIWYG initially results in an incorrect behavioral label to the actor and the initial behavioral label for that actor was negative, there will not likely be additional observations of behavior averaged into the composite dispositional attribution for that actor.

Monson (in preparation) suggests that the HIMB provides some additional insights into the attribution process. As discussed earlier, when attributors often explain behaviors of others consistent with their initial dispositions they are often correct because the HIMB suggests that people are likely to exhibit behaviors consistent with their dispositions most of the time. If individuals are in situations which strongly encourage their behaviors (facilitative situational cues) or individuals are in situations which neither encourage nor discourage their behaviors (neutral situational cues), people are likely to exhibit behaviors consistent with their dispositions. However, in situations which strongly discourage specific behaviors, people are likely to exhibit behaviors inconsistent with the attributor's initial disposition label (Monson, in preparation). Although early perspectives on the attribution process have assumed that attributors are constantly asking the why question and answering it with either situational or dispositional causal attributions, research has not provided unqualified support for this assumption (cf. Kanazawa, 1992).

Monson (in preparation) proposes that the vast literature documenting the failure to discount (e.g., the FAE) suggests that the discounting principle is used much more infrequently than commonly assumed. Furthermore, Monson suggests that the discounting principle can be better utilized to describe how attributors detect changes in dispositions for multiple observations of behavior than for providing a basis to make attributions for single observations of behavior. Monson based these suggestions on some of the implications that he suggests can be drawn by an examination of a model of behavior that he has called the HIMB (cf. Monson, 1988).

Multiple Choices

Humans have a persistent belief in personality traits, a stubborn supposition that there are pervasive cross-situational consistencies in an individual's behavior that is one of our most ancient convictions, yet that conviction is still with us today (Bem & Allen, 1974). In everyday life as well as in the social sciences, predictions and explanations of people's choices are time and again established on the assumption of human rationality (Tversky & Kahneman, 1981). There is general agreement that with *decision problems*⁴ rational choices should satisfy some basic requirements of consistency and coherence (Tversky & Kahneman, 1981). Conceivably relating to evolutionary history, decision making operates between automatic operations of perception to deliberate operations of reasoning (Kahneman, 2003). Within this range of operations is intuition, which is thoughts and preferences that come to mind in the blink of an eye without much deliberation (Kahneman, 2003). Intuitive judgments are

⁴ Tversky and Kahneman (1981) define decision problems as "the acts or options among which one must choose the possible consequences or outcomes of these acts, and the contingencies or conditional probabilities that relate outcomes to acts" (p. 453).

characteristically automatic, effortless, fast, associative, governed by habit, often emotionally charged, not available to introspection, and difficult to control or modify. Intuitive processes are effortless and neither triggers nor goes through much interference when shared with other responsibilities. Intuitive thinking can be related with substandard performance, but it can also be powerful and accurate (Kahneman, 2003).

At the other end of the spectrum to intuitive judgments, decision-making is typically slower, effortful, sequential, more likely consciously monitored and deliberately controlled, relatively flexible, and potentially governed by rules. Because decision making is an effortful process and the overall capacity for mental effort is limited, these effortful processes tend to disrupt each other (Kahneman, 2003).

Higher levels of skill can be acquired by extended practice. By selectively acquiring skills, the ease with which useful thoughts and productive means to organize information comes to mind increases, such as an experienced nurse who detects the slightest signs of looming heart failure (Kahneman, 2003). Individuals skilled in decision-making often do better when they trust their intuitions rather than their detailed analysis (Kahneman, 2003). Under suitable circumstances, and similar to precepts, intuitive thoughts come to mind spontaneously and without effort (Kahneman, 2003). The ease with which particular thoughts come to mind is determined by the characteristics of the stimuli and the events that call it to mind and by the characteristics of the cognitive mechanisms that produce it. The question of why particular thoughts come to mind at particular times was a question the British empiricists wanted to answer with laws of association and the behaviorists wanted to

explain by integrating multiple determinants in the history and in the current circumstances of the organism (Kahneman, 2003).

In any particular situation, the true properties of the object of judgment determine what easily comes to mind. Salient physical properties, such as size, distance, and loudness, and salient abstract properties, such as similarity, causal propensity, elements of surprise, affective valence, and moods are habitually and automatically registered by the perceptual system without effort or intention (Kahneman, 2003). Tversky and Kahneman (1983) labeled these types of attributes *natural assessments*. The perceptual system registers natural assessments routinely and automatically (Tversky & Kahneman, 1983). Of particular importance in natural assessment is the evaluation of stimuli as positive or negative. Judgments of whether objects are positive and continued interaction is warranted or objects are negative and continued interaction should be avoided are carried out swiftly and efficiently by specialized neural circuitry (Kahneman, 2003). Emotionally arousing and motivationally germane stimuli spontaneously create a center of attention. Features of an arousing stimulus easily come to mind, including features that do not have emotional or motivational significance (Kahneman, 2003). To see this form of arousing stimulus at work, all one would have to do is look at most forms of advertising and the manner in which advertising targets specific market segments.

From a biological perspective, Scarr and McCartney (1983) proposed the theory that correlations of genotype → environment suggest that genes drive experience and genetic variations prompt differences in which environments are experienced and what effects they may have. They also state that development is the

result of nature and nurture, but opportunities for experience are required for development to occur (Scarr & McCartney, 1983). Our parents and our environment provide these early opportunities for experience. Within each environment, there are constraints and differences in the manner parents interact with each child. Scarr and McCartney (1983) state that differences among people originate from genetically determined differences in the experiences to which they are attracted and which they extract from their environment.

Scarr and McCartney (1983) believe that the genotype determines the organism's responsiveness to environmental opportunities. It is the combination of genotypes and environments across development that makes us human and unique. Scarr and McCartney (1983) propose that as individuals gain increased self-sufficiency from the necessary setting of early childhood, that dispositionally guided selection and creation of environments becomes increasingly more important and influential. Individuals begin to make choices and display preferences with the formation of friendships and in vocational decisions (Caspi & Herbener, 1990).

One of our early opportunities to seek out our own environment is when we set out to experience the world on our own, which, in our society, is generally after finishing high school with our entrance into college or the work force. College students and young adults entering the work force are confronted with varying situations that require selection. These situations are either imposed; situations they tend to perceive as work situations, such as studying, being in a classroom, cleaning, or employment. Other situations are freely chosen; situations students tend to view as leisure activities and employed young adults tend to view as off-work social activities

(Emmons & Diener, 1986). Yet, individuals driven by achievement feel more productive in work situations they rated as chosen while individuals high in need for play felt more enjoyment in recreation situations they rated as chosen (Emmons & Diener, 1986). Regardless of how the situations are defined, that is chosen or imposed; we can select a number of those situations. For example, even though a work situation may be imposed, we can choose where to work while not being able to select the individuals we work with in that job, yet having the ability to freely choose who we wish to interact with after work hours. Emmons and Diener (1986) suggest we use our personal goals, our expression of relevant personality attributes, the anticipated affect of achieving those goals, and selection of situations compatible with self-aspects to help us make situational selections. Along similar lines, Emmons, Diener, and Larsen (1986) proposed that the process of choosing situations reflect basic features of one's personal identity, beliefs, attitudes, and one's dispositions. With age, independence increases and individuals are apt to choose situations that are more in line with their dispositions.

Emmons and Diener (1986) found that choice moderates response consistency within affective and behavior domains. They also found that behavior demonstrated greater consistency within imposed situations while affect was more consistent within self-selected situations (Emmons & Diener, 1986). Imposed situations are generally more highly constrained and self-selected situations allow for relative levels of behavior consistent with an individual's disposition. An individual's responses are influenced through a mutual interaction between situational and personalogical

characteristics (Emmons et al., 1986). It is clear that there is an interaction between the person and the situation (Emmons & Diener, 1986).

According to Emmons et al. (1986), interactionism means that situations are as much a function of the person as the person's behavior is a function of the situation. Given that statement, why do people select certain situations and avoid other situations? The answer is not clear. In their everyday environments, individuals choose to spend time in situations or avoid other situations based on their personality traits (Emmons et al., 1986). In an earlier study, Diener, Larsen, and Emmons (1984) found similar results. However, positive or negative affect is not a good predictor of selected situations for all individuals (Emmons & Diener, 1986). In their study of goal affect analysis, Emmons and Diener (1986) found that goal importance; goal attainment, positive affect, and the experience of satisfying outcomes were generally all good predictors of choosing to spend time in situations. But, just because we choose to spend time in a certain situation, making that choice does not predict the amount of time we will spend in that situation. Emmons and Diener (1986) found that negative affect emerged as a significant predictor for time spend in imposed situations, whereas neither the presence nor attainment of goals or the amount of positive affect felt were related to time spend in imposed situations. In that same study, Emmons and Diener (1986) did find that subjects spent more time in situations in which they experienced positive affect and less time in situations in which they felt more negative affect. However, in an earlier study, Diener, Larsen, and Emmons (1984), found that people did not seem to place themselves in situations in which they would experience more positive and less negative affect. It appears that people do not select situations based

on positive or negative affect but affect, positive or negative, will determine the time they spend in those situations. Therefore, in terms of affect, broad everyday settings influence affect, but that influence is often relatively small (Diener et al., 1984).

In our lives, we are affected by situations and we continuously influence situations (Mischel, 1977). These interactions reflect our reactions to conditions as well as our selection and alteration of conditions through our choices, actions, and cognitions (Wachtel, 1973). Some researchers (e.g. Mischel, 1977; Monson, Hesley, & Chernick, 1982) suggest that powerful situations persuade individuals in those situations to act the same way, making it improbable to discern any differences in dispositions among those individuals. Because of the restricted range of those behaviors in those highly constrained situations, correlations between behavioral measures and dispositional measures will be low. By contrast, when situational pressures are weak, a broader range of behaviors is permitted allowing individual's differences in dispositions to be detected (Mischel & Peake, 1982). An example of a powerful stimulus would be a traffic signal. When given the cue the traffic signal is red, all drivers should stop and when given the cue the traffic signal is green, all drivers should go. The yellow traffic signal is a weaker stimulus and may tempt some drivers to accelerate through the yellow traffic signal or induce others to stop in anticipation of a red traffic signal. This weaker stimulus provides more of an opportunity for expression of individual dispositions. Powerful stimulus situations can predict and influence behavior, but the psychology of personality cannot ignore the person (Mischel, 1968).

Attribution Through Self-Selection

The ability of observers to attempt to attribute dispositions to actors as a means of exerting some control over the rewards or punishments they receive from their interaction partners is an important aspect of early perspectives of the attribution process (e.g., Berscheid, Graziano, Monson, & Dermer, 1976; Heider, 1958; Kelley, 1973). If individuals could identify positive and negative dispositions of potential interaction partners, they would have a foundation for deciding with whom they would or would not choose to interact. It is presumed that observers would seek to increase the rewards they receive by selecting interactions with individuals possessing positive dispositions and decrease the punishments they receive by choosing to avoid or limit interactions with individuals having negative dispositions. This special case of *self-selection of persons to situations* could be viewed as a case of *self-selection of persons to persons* (Monson, in preparation). This general type of type of self-selection is not restricted by any trait of the self-selector. For example, where extroverts may attempt to vigorously self-select into situations encouraging extraversion, almost everyone would attempt to self-select interactions with other individuals who provide them with rewards rather than punishments and attempt to avoid or limit self-selecting interactions with individuals who provide them with punishments rather than rewards.

Early perspectives on the attribution process (e.g., Heider, 1958; Ichheiser, 1949; Kelley, 1967, 1973) suggested that attributers should be relatively good at identifying traits of others while later analyses of the attribution process were much more doubting of the attributers abilities to correctly identify dispositions of others (e.g., Nisbett & Ross, 1980; Ross, 1977). Kelley's (1967, 1973) covariation

theory suggested that attributers consider cross-situational correlations coefficients in their heads and use those correlational coefficients as a basis for attributing traits to others, while other researchers (e.g. Mischel, 1968; Nisbett & Ross, 1980) suggest that cross-situational correlations of actual behaviors seldom exceed a correlation of .30, which more frequently fall in the .10 to .20 range. Research by Chapman and Chapman (1967) suggests that individuals cannot detect a relationship between two variables unless the observed correlation exceeds .60. These results lead psychologists to reason that dispositions lie not in the actions of those being perceived, but rather in the head of the perceiver (cf. Nisbett, 1980). It is believed that perceivers attribute traits to the perceived because by doing it directs perceivers to have a comforting perception of control over their outcomes while not actually increasing the perceiver's control over their outcomes (Jones, 1979).

In stressing the importance of situational constraints in identifying behavior, Monson (1992) emphasizes the significance of distinguishing between two categories of situations. In the first category, as shown in HIMB, Part I (Figure 4), individuals are randomly exposed, either by force or by chance, into situations. For example, if students (comprised of extroverts, introverts, and ambiverts) were required to perform a literary search in the library, it would be expected that all of the students working in the library would display relatively introverted behavior to complete their assignment. By contrast, employees (comprised of extroverts, introverts, and ambiverts) attending a company party that was strongly encouraged by their employer would probably all be exhibiting relatively extroverted behavior in order to avoid disapproval from their boss. In the HIMB, Part I there is no correlation between an individual's appearance in

a situation and that individual's personality trait. In other words, there is no systematic self-selection to situations.

The second category of situations is represented by Monson's (1992) HIMB, Part II (Figure 5). This figure represents situations in which individuals have an opportunity to self-select which situations they wish to engage in or not. Here individuals are more likely to choose situations which allow them to act consistently with their dispositions. For example, consider extroverts (Persons 4 and 5). Extroverts are likely to self-select into situations which strongly encourage extroverted behavior (Situations 4), situations which moderately encourage extroversion (Situation 2), and situations which neither encourage extroverted nor introverted behavior (Situation 0). These are also situations introverts are likely to avoid in self-selecting situations. Conversely, consider introverts (Persons 1 and 2). Introverts are likely to self-select into situations which strongly encourage introverted behavior (Situations -4), situations which moderately encourage introversion (Situation -2), and situations which neither encourage extroverted nor introverted behavior (Situation 0). Also, these situations are situations extroverts are likely to avoid in self-selecting situations. As shown in the HIMB, Part II (Figure 5), individuals are more likely to self-select into situations that allow them to more frequently behave consistently with their dispositions and avoid situations which encourage behavior inconsistent with their behavior.

What the HIMB, Part II implies, is that in most circumstances that allow self-selection, you would expect to find more extroverts than introverts in situations that encourage extraversion (e.g. parties), more introverts than extroverts in situations that

encourage introversion (e.g. libraries), and equal numbers of extroverts and introverts in situations that encourage ambiversion (e.g. parks and beaches). This means that, in self-selected situations, individuals are more likely to exhibit behaviors consistent with their dispositions more frequently and exhibit behaviors inconsistent with their dispositions less frequently (Monson, 1992). As a comparison, consider Person 5 (extrovert) in the HIMB, Part I and the HIMB, Part II. In the HIMB, Part I (Figure 4), Person 5 is shown displaying extroverted behavior 60% of the time (three out of five situations) and in the HIMB, Part II, Person 5 is shown displaying extroverted behavior 100% of the time (three out of three self-selected situations). By contrast, consider Person 1 (introvert) in the HIMB, Part I and the HIMB, Part II. In the HIMB, Part I (Figure 4), Person 1 is shown displaying introverted behavior 60% of the time (three out of five situations) and in the HIMB, Part II, Person 1 is shown displaying introverted behavior 100% of the time (three out of three self-selected situations).

Correlations between trait measures and behaviors in self-selected situations are unlikely to be higher than those same measures in non self-selected situations despite the fact that individuals display more trait-consistent behavior in self-selected situations than in non self-selected situations (Monson, 1992). The reason, restriction of range on behaviors in highly-constrained situations is just as likely to reduce the size of correlations in self-selected situations as much as non self-selected situations. One implication of the HIMB is that average cross-situational correlation coefficients may be quite low at the same time that individuals exhibit relatively high proportions of consistent trait behaviors (Monson, 1992).

Selective Exposure Attribution Theory

Because different people select different situation for themselves, the situations that people select to be in may provide clues about their personal characteristics (Mischel, 1977). People are not only assumed to seek out environments consistent with their dispositions, people are also thought to attempt to create environments consistent with their traits (Scarr & McCartney, 1983). By studying social interactions, we can see how each individual continuously selects, alters, and generates conditions just as much as that individual is affected by them (Mischel, 1977). To understand the interaction of persons and situations, we must consider person variables as well as situational variables. When relevant situational data is absent or negligible, when situational constraints are weak, and when predictions are necessary about individual differences in response to the same conditions, information about person variables becomes crucial (Mischel, 1977).

Personal attributes or characteristics, such as attitudes, traits, emotional states, and motives, are reflective of how individuals self-select situations (Emmons & Diener, 1986). In a study of personality variables and recreational activities, it was found that everyday situational choices were related to personality traits in a predictable manner (Emmons & Diener, 1986). Focusing on differences in choices of situations by high and low self-monitors, Snyder (1983) proposed that choosing situations reflected one's conception of dispositions, beliefs, and self. For example, low self-monitors were inclined to choose situations low in constraint (e.g. unstructured situations) allowing them to act consistently with their dispositions. By contrast, high self-monitors tended to choose highly constrained situations (e.g.

politics) which dictated behavior to them. To ensure lifelong harmony, individuals employ specific selection processes searching for the perfect spouse (Buss, 1984). An ability to act freely and consistently with one's dispositions in the presence of one's spouse is beneficial for harmony within a relationship. People tend to choose marriage partners who are akin to themselves in a number of manners (Caspi & Herbener, 1990). Given these findings, in terms of dispositional stability, when situations were freely chosen, individuals were provided positive reinforcement.

The Selective Exposure Attribution Theory (SEAT) (Figure 6) is founded on the assumptions that, in everyday life, individuals generally make decisions to self-select interaction partners or situations which average behavioral determinations can be made in assessing individuals or situations which will reward or punish one's self (Kovalik, 1996; Monson, in preparation). SEAT clarifies the asymmetries that result when an individual possessing a negative trait is assessed positively (false positive attribution error) and when an individual possessing a positive trait is assessed negatively (false negative attribution error). For example, Persons A and B in Figure 6 are individuals possessing negative true trait scores in terms of agreeableness, that is their scores fall on the negative side (-) as opposed to the positive side (+) of the agreeableness dimension (e.g. both persons displayed predominantly disagreeable behaviors). According to the HIMB, Part I, it is not unreasonable to expect that these persons would display agreeable behaviors in the situations where those situations are highly constrained to encourage agreeable behavior.

An intriguing feature of SEAT involves Persons A and B, who both possess a negative true score. Looking at Figure 6, you can see that there are two initial

behaviors observed. Perceiver A is perceived to be experience an agreeable behavior (+) with Person A and Perceiver B is perceived to experience a disagreeable behavior (-) with Person B. Consequently, Perceiver A's initial attribution for Person A will likely be positive and Perceiver B's initial attribution for Person B will likely be negative. Since Perceiver B's initial negative attribution is consistent with Person B's true trait score, this attribution would be termed a *valid negative attribution*. By contrast, since Perceiver A's initial positive attribution for Person A is inconsistent with Person A's true trait score; this attribution is considered a *false positive attribution error*. Assuming that perceivers would make use of their initial attributions as a basis for deciding whether to attempt to continue or discontinue their interactions, Perceiver A's initial observed behavior would be expected to engage in future interactions with Person A whereas Perceiver B would be expected to avoid future interactions with Person B (Kovalik, 1996; Monson, in preparation).

Since Perceiver B's initial negative attribution for Person B would probably rule out additional interaction experiences with Person B, Perceiver B's final attribution for Person B would likely be no different than their initial attribution for Person B. By comparison, as a result of additional interaction situations, Perceiver A's initially incorrect belief that Person A possesses a positive disposition would likely be corrected as more negative behaviors are likely to be experienced and averaged into Perceiver A's overall impression of Person A. As a result, the selective exposure of perceivers to persons under these circumstances suggests that a false positive attribution error will self-correct and should eventually result in a valid negative attribution. After Perceiver A's attribution for Person A has become negative,

Perceiver A is likely to choose to stop interacting with Person A and there will not be any further change in the negative attribution.

Another intriguing feature of SEAT involves Persons C and D, who both possess a positive true score. Both Persons C and D (Figure 6) are individuals who possess a positive true trait score in terms of agreeableness, which means that their scores fall on the positive side (+) as opposed to the side negative (-) of the agreeableness dimension (e.g. both persons displayed predominantly agreeable behaviors). Although their positive true trait score is reflected in the fact that both Persons C and D display predominantly agreeable behaviors, it would not be reasonable to expect that they would not occasionally display disagreeable behaviors. According to the HIMB, Part I, it is not unreasonable to expect that these persons would display disagreeable behaviors in the situations where those situations are highly constrained to encourage disagreeable behavior.

In Figure 6, what differentiates Person C from Person D is that the initial behavior observed by Perceiver A is an agreeable behavior (+) and the initial behavior observed by Perceiver B is a disagreeable behavior (-). Consequently, Perceiver A's initial attribution for Person C should be positive and Perceiver B's initial attribution for Person D should be negative. Since Perceiver A's initial positive attribution for Person C is consistent with Person C's true trait score, this attribution could be termed a *valid positive attribution*. By contrast, since Perceiver B's initial negative attribution for Person D is inconsistent with Person D's true trait score, this attribution is labeled a *false negative attribution*. Again, assuming that Perceivers A and B would use their initial attributions as a basis for

deciding whether to choose to continue or avoid interactions with either Persons A or B, Perceiver A would be expected to continue additional interactions with Person C whereas Perceiver B would be expected to avoid future interactions with Person D (Kovalik, 1996; Monson, in preparation).

To summarize, the experiences of Perceivers A and B appear to suggest some interesting reasoning. Targets individuals with negative true trait scores (e.g., Persons A and B) are likely to be perceived relatively accurately within a relatively short number of interactions. Either the initially valid negative attribution would be made that is unlikely to change due to a lack of future interactions that would not likely change that initial label (e.g., Person B), or an initially false positive attribution would be made which is likely to change in the face of disconfirming evidence to a final valid negative attribution (e.g., Person A). By comparison, a number of targets individuals with positive true trait scores are likely to never be perceived accurately and will continue to fall victim to the false negative attribution error (e.g., Person D). Only target individuals with positive true trait scores who elicited an initial valid positive attribution (e.g., Person C) are likely to have a positive impression of them preserve (Kovalik, 1996; Monson, in preparation).

The final attribution labels for three out of the four target individuals (i.e., Persons A, B, and D) are expected to be negative and the final attribution label for only one out of the four target individuals (i.e., Person C) is expected to be positive. Because 75% of the target individuals will receive a final attribution label of negative, the implication is that there exists of an overall bias for attributions based

upon selective exposure to be negative. This bias could be called the *Selective Exposure Attribution Bias* (SEAB). Additionally, SEAB is proposed to be a direct consequence of the fact that selective exposure of perceivers to persons results in self-correction of the false positive attribution errors but does not result in the self-correction of false negative attribution errors (Denrell, 2005; Kovalik, 1996; Monson, in preparation).

Figure 6. Selective Exposure Attribution Theory Model

		True Trait Score (-)	True Trait Score (+)
Initial Behaviors:		PERSON A	PERSON C
		Initial attribution = POSITIVE <i>(False Positive Attribution Error)</i>	Initial attribution = POSITIVE <i>(Valid Positive Attribution)</i>
Perceiver A (+)		Moderate term interaction	Long term interaction
		Final Attribution = NEGATIVE <i>(Valid negative attribution)</i>	Final attribution = POSITIVE <i>(Valid positive attribution)</i>
		PERSON B	PERSON D
		Initial attribution = NEGATIVE <i>(Valid Negative Attribution)</i>	Initial attribution = NEGATIVE <i>(False Negative Attribution Error)</i>
Perceiver B (-)		Short term interaction	No future interaction
		Final attribution = NEGATIVE <i>(Valid negative attribution)</i>	Final attribution = NEGATIVE <i>(False Negative attribution)</i>

Being in the Driver's SEAT

As stated earlier, as humans, we are decision-making beings who are responsible for our own behavior and we are capable of changing our behavior (Adler, 1927). Those capacities include being capable of defining who we are and if we like or don't like who we are (McKay & Fanning, 1987). The key expressions about humans are that we are decision making, responsible, capable, and changing. These expressions are important defining characteristics of humans. In the early years of mankind, and today in primitive or aggressive regions of the world, individuals need to be vigilant of the choices they make so as not to make a fatally incorrect choice. In more civilized nations or regions of the world, the consequences of an incorrect *person* decision are not severe as being fatally incorrect, yet the consequences could result in a fatal business decision, a loss of personal property, or result in personal injury.

Actions have consequences, always! The severities of those consequences depend on the situations. The situations, especially self-selected situations, provide opportunities for individuals to hone their selection skills. In many situations in life, individuals predict another's behavior with consistency and success (Neisser, 1976). In familiar situations, individuals can anticipate other's compliance with societal norms (e.g., in the United States of America, driving on the right side of the road or wearing clothes), recognizing that individuals are happy, sad, angry, or afraid, and anticipating other's actions to physical objects (e.g., ringing cellular telephones, doors, or chairs) (Neisser, 1976).

Everyone's experiences are different and schemas are developed by experience; therefore individuals must be different from one another. The individual differences of each individual's unique perceptual history are accumulated and these differences can only increase as we age, in essence making us more individualized as we go through life (Neisser, 1976). As an example, consider the game of chess. Individuals all perceive the same entire environment (i.e., the set-up chessboard), yet, depending on chess-playing experience, disagree on the mating⁵ combinations. By seeing the chessboard, it provides us information based on its physical properties; we began life with representations roughly tuned to properties of this sort; and our vast experience with objects developed these schemas to a point where this information can be picked up quickly and accurately. Our schemas equip us to notice some of the same things, meaning, in reality that, our worlds are not so different (Neisser, 1976).

To the extent we share a consistent social order, we share physical environments, and we encounter, more or less, a homogeneous set of societal experiences (Neisser, 1976). As examples, consider that most of us eat three meals a day when we can, most of us sleep at night, and most of us try to make sense when we talk. We develop anticipations of common behavior much the same way we develop expectations of other events, and we perceive them in the same cyclic manner. The established societal norms act as a go-between our perception of other's behavior and

⁵ The word "checkmate" (often abbreviated to "mate") comes from the ancient Persian *shah mat*, meaning "the king is helpless (defeated)." If no moves are available, the king is checkmated. Checkmate ends the game at once—the king is never actually captured—and the player who gives the checkmate wins (Microsoft Encarta Premium, 2007).

underlie that behavior itself (Neisser, 1976). Culture creates and insists on this level of predictability; not to predict the future, but to get us through the day (Neisser, 1976).

There is growing literature in behavioral decision making. This “literature in behavioral decision making has revealed that people often make predictive judgments that are biased comparative to normative standards” (Hogarth, 1981, p. 197). Decision making and choice are continuous processes that require that attention be paid to the individual, to the environment, and to the responses between the individual and the environment. Continuous processing is not only consistent with the characteristics of the human information-processing system; it is useful for the organism to treat everyday tasks in this way (Hogarth, 1981).

Judgments are exercised to smooth the progress of actions (Hogarth, 1981). In essence, “judgments made in social interaction also involve judgment-action-outcome feedback loops” (Hogarth, 1981, p. 199). For individuals to move on successfully in life, the choices they make hinge on their ability to correctly understand, control, and predict people and situations. All behavior involves strong feedback and feedback is a fundamental aspect of behavior; we know nothing of our own behavior but the feedback outcomes of our own results (Powers, 1973).

The progression of actions involves receiving and acting on responses in a continuous manner that increase the number of cues and feedback available to the individual. The significance of environmental redundancy to performance implies that different sets of probabilistic hints can be used to predict the same conditions (Hogarth, 1981).

Many experiments of discrete judgment tasks take place in environments tarnished by the lack of redundancy and feedback. Redundancy and feedback are critical to achievement (Hogarth, 1981). Experimental psychologists have devised many clever techniques to simplify human functions, but the problem with them is that the observed specific functions do not add up to the basic human functions observed in man's normal environment (Toda, 1962). Toda (1962) goes on to say:

Man and rat are both incredibly stupid in an experimental room. On the other hand, psychology has paid little attention to the things they do in their normal habitats; man drives a car, plays complicated games, designs computers, and organizes society, and rat is troublesomely cunning in the kitchen. (p. 165)

The fact that man is more efficient in everyday life than in an experiment indicates that human efficiency resides in the coordination of various functions rather than in each separate function (Toda, 1962). This highlights several functions of feedback: (a) the level of predictive accuracy needed in dealing with a multifaceted environment, (b) the degree of commitment implied by choice, (c) the acquisition of judgmental expertise and the importance of learning, and (d) the nature of cue-criterion relations (Hogarth, 1981).

People will make mistakes. Being successful in life implies that the judgments they make, if initially incorrect, are correctable. When individuals first encounter another person in a self-selected situation, more than likely, the process of choosing whether to continue possible future interactions or avoid possible future interactions with that individual are based on the individual's initial perception of the target individual's disposition. Remember, the behavior trait initially observed may be a

negative true trait or a positive true trait and the situation that trait was observed may be constrained to that particular type of behavior. Also, remember that almost everyone acts both positive and negative at different times in their lives, regardless of their overall true trait rating for any particular behavior. For example, consider how people commonly avoid certain immoral, illegal, or fattening experiences that may be pleasurable, yet there are times when those choices cannot or will not be avoided. Choice can possibly conceal an individual's true preferences (Kahneman, 2000). Discrepancies in choice-judgment may arise if predictions of the consequences made by the decision maker are inaccurate, biased, or affected by one's mood or present state (Kahneman, 2000).

Given the above information, look at the example of the hypothetical long-term frequencies of agreeable and disagreeable behaviors shown in Figure 7. When you look at the row of positive behaviors (+), you can see that both negative true trait (-) and positive true trait (+) individuals can act positive. The positive true trait individual acts positive 80% of the time while the negative true trait individual acts positive only 20% of the time. Since both are perceived to be positive for the agreeable trait, it is likely that both individuals will be selected for at least one more future interaction. As the feedback loop continues and interactions with the negative true trait individual continue to result in negative reinforcement or punishments, the negative true trait individual will likely be avoided for future interactions. This will happen at some future point when the disagreeable trait is no longer tolerated. In other words, in self-selected situations, the negative reinforcement or punishment individual will be avoided for future interactions. The positive true trait individual is likely to be

selected for future interactions because positive reinforcements or rewards are provided from the interaction.

Now look at the negative (-) behavior row in Figure 7. Notice that negative behaviors are exhibited by the negative true trait (-) individuals 80% of the time and by the positive true trait (+) individuals 20% of the time. In these instances, both the negative true trait individuals and the positive true trait individuals are likely to be avoided for future interactions regardless of the fact that one of those individuals is a positive true trait individual. In these self-selected situations, the feedback that can be used to modify actions and/or predictions will not be used half of the time (Hogarth, 1981).

The continuous processing of outcome feedback can become corrective in that it allows adjustments to the direction of judgments, but it is only likely to be corrective when the initial behavior is considered positive. Feedback plays a vital part in the individual's ability to make adaptive reaction by reducing the commitment implied by any particular action (Hogarth, 1981). Corrective feedback allows the individual to give the impression that a comprehensive sequence of behavior had been planned when, in fact, only relatively simple actions need to be coordinated across time (Hogarth, 1981).

Figure 7. Hypothesized Long-Term Frequencies of Agreeable and Disagreeable Behaviors

	True Trait Score (-)	True Trait Score (+)
Behavior (+)	20%	80%
Behavior (-)	80%	20%

The continuous model applies to many tasks, both simple and complex, as well as to cognitive tasks that encourage feedback through actions.

Purpose

The objective of this research is to investigate whether specific behavioral cues will produce accurate predictions of the target's true disposition. When people judge other people based on what they see regardless of the situation, how accurate are the labels attributing disposition to the target individual?

Gilbert and Malone (1995) suggest a series of major events that occurs when an attribution is made (see Figure 8). The first event in Gilbert and Malone's (1995) sequence of events in the formation of an attribution is that the observer must recognize the situation in which the actor is operating. When observers recognize a specific situation, they have expectations for the behavior of a particular actor to be within a range of customary behavior of how individuals typically behave in that specific situation, although those expectations may not be conscious (Gilbert & Malone, 1995).

Following the expectation of an actor's behavior in a specific situation, the observer perceives and categorizes that particular actor's behavior before deciding whether the actor's behavior violates the range of expectations that is within the observer's knowledge of that specific situation (Gilbert & Malone, 1995). If the actor's behavior breaches the range of behavioral expectations for that situation, the observer will label the actor with a dispositional inference. If the actor's behavior does not violate the observer's general belief of how individuals typically behave in that

situation, the observer will withhold a dispositional inference of the actor (Gilbert & Malone, 1995).

In offering an explanation for questioning whether progress of mankind is possible, probable, impossible, or certain and the disagreement of the meaning of progress during his time, Adler (1982)⁶ wrote:

...people in general tend to overlook the larger contexts, and to regard all problems, including scientific ones, from their own, usually too narrow, personal perspective...Everyone subordinates all experiences and problems to his own conception. It is amusing, and sad at the same time, to see how even scientists – especially philosophers, sociologists and psychologists – are caught in this net. Individual Psychology⁷ is no exception, in that it also has its assumptions, its conception of life, and its style of life. But it differs in that it is well aware of this fact. (p. 13)

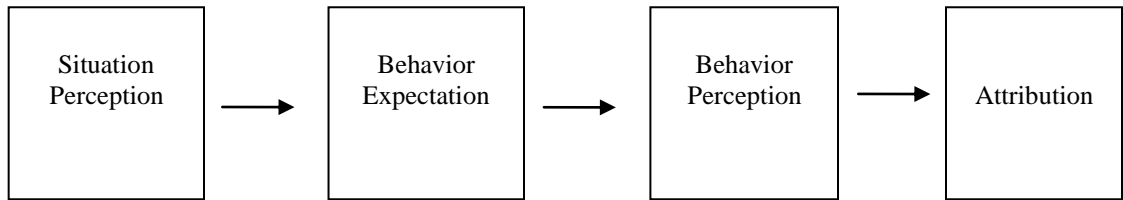
Ichheiser (1943, 1949) stated that hardly any intelligent observer of everyday life knows that we tend to judge and assess individuals according to the success or failure of their actions rather than according to their real personal qualities. Ichheiser (1949), in talking about how people often deceive themselves into believing that they interpret and evaluate other people according to the merits of their personal characteristics, wrote the following: "...we interpret and evaluate other people (and

⁶ This paper appeared originally in 1937, the year of Adler's death, in Germany, under the title "1st Fortschritt der Menschheit moeglich? Wahrscheinlich? Unmoeglich? Sicher?" (*International Zeitschrift fur Individualpsychologie*, 15, 1-4). The English translation is reprinted here as it appeared originally in *Journal of Individual Psychology*, 1957, 13(1), 9-13.

⁷ Adler developed the theory of individual psychology. Adler viewed the mind as an integrated whole working to help attain the future goals of the person. Adler believed individuals are unique, characterized by inner harmony, and striving to cooperate with fellow humans (Hergenhahn & Olson, 2003).

even ourselves), whether consciously or unconsciously, not according to their real characteristics but rather according to the consequences of their actions” (p. 31).

Figure 8. The Sequence of Events That Occurs When an Attribution is Made



Further, Ichheiser (1949) wrote: “The psychologically naïve, unreflective person lives and acts under the silent assumption that he perceives and observes other people in a correct, factual, unbiased way” (p. 6). The relationship between an act and a person can be one of varying degrees of similarity (Heider, 1944). By describing acts with trait names, the properties of the act may be similar or in contrast to those of the person (Heider, 1944). Much in the same way a person observed as originating a bad act is judged as a bad person himself (Heider, 1944). Adler (1929), when talking about observing movements and attitudes wrote:

The movements themselves are *expressed* or imbedded in attitudes, and the attitudes are an expression of that whole attitude to life which constitutes what we call the style of life.

...Everybody knows that we judge a person by his manner of standing, walking, moving, expressing himself, etc. We do not always consciously judge, but there is always a feeling of sympathy or antipathy created by these impressions. (pp. 135-136)

The other person (the observer) interprets and uses the outward forms of expression of a personality (the actor) as symbols, which somehow convey personal characteristics of that personality (Ichheiser, 1940). In 1955, Kelly postulated that a person’s processes are psychologically directed by the ways that individual anticipates events. The expectations individuals have play an important role in social learning and personality theories (Mischel, 1973). We believe outward forms of other’s expressions provide us with clues as to the dispositions of others. Both professional psychologists and naïve psychologists seek to be able to control, understand, and predict the

behaviors of others. The implications of understanding, controlling, and predicting the behaviors of others can be paramount. Decision rules can be vitally important factors in making *people* choices. But the decision rules are different for professional psychologists and for naïve psychologists. For professional psychologists, decision rules are based on principle of *innocent until proven guilty*, while for the naïve psychologists, decision rules are based on the starting point of *guilty until proven innocent* (Monson, in preparation).

Humans seek interactions with target individuals and situations that provide them with more rewarding outcomes rather than punishing events. Humans deal with an extensive range of complex, changing environments. To deal with these ever-fluctuating environments, humans use a process to judge the behavior of other people. This process of judging is continuous and adaptive in nature. I believe our tendencies are not to see things as they really are, but to see things as we are. As humans, we focus everything through the filters of our existing opinions, thoughts, beliefs, perceptions, and experiences. As a result, what exists may only be a shadow of reality, but it is the reality by which we make our decisions. In other words, *what you see is what they get*.

SIMULATION

A Systat program was written to generate the data in the experiment. The simulation generation (Appendix A) was conducted with 960 cases (target individuals), consisting of 20 groups of 48 target individuals with eight behaviors for each target individual. Each group of 48 target individuals was divided into four subgroups of 12 target individuals. The true dispositions, ranging from introverted to extroverted, were represented by -3, -2, -1, 0, 1, 2, and 3, had a mean of zero, and a variance of 2.5.

A true score of -3 represented an extremely negative person. True scores of -2 and -1 represented two versions of moderately negative persons. A true score of 0 represented a neutral person. True scores of 1 and 2 represented two versions of moderately positive persons. A true score of 3 represented an extremely positive person.

Error was added to introduce individual variation to the target individual's true behavior. A multiplier of four was used to generate a range of target behaviors. The combined dispositional effects gave rise to a behavior represented by numbers ranging from -25 to 25. The more negative the number is representing behavior, the greater the potential for a punishing interaction if the subject selects that target individual. The more positive the number is representing behavior, the greater the potential for a rewarding interaction if the subject selects that target individual.

The simulation was designed to have an average correlation of .30. As a manipulation check, the actual average correlation (Spearman-Brown prediction formula) for the data set turned out to be .31. Using Pearson product-moment correlations, a correlations matrix was generated and is presented in Table 3. Using Cronbach's Alpha, reliability of the eight behaviors is .786.

Table 3: Correlations of Behaviors 1 – 8

Inter-Item Correlation Matrix

	Beh #1	Beh #2	Beh #3	Beh #4	Beh #5	Beh #6	Beh #7	Beh #8
Behavior #1	1.000	.316	.362	.281	.328	.352	.325	.346
Behavior #2		1.000	.326	.258	.305	.299	.264	.345
Behavior #3			1.000	.310	.311	.332	.351	.364
Behavior #4				1.000	.250	.320	.269	.303
Behavior #5					1.000	.311	.313	.281
Behavior #6						1.000	.343	.302
Behavior #7							1.000	.323
Behavior #8								1.000

METHOD

Initially, subjects signed a consent form (Appendix B) and received instruction sheets (Appendices C & D). After the subjects finished their review of the instruction sheets, any clarification questions were answered. The data sheets requiring attributional input were distributed. Upon completion of the required attributions, the subjects were debriefed (Appendix G) and dismissed.

Participants

The current research consisted of 97 subjects (78 females and 19 males) recruited from Florida Atlantic University undergraduate psychology courses. For participation in this study, subjects were offered extra credit in their courses. All participants were treated in accordance with the ethical principles of the American Psychological Association (APA).

Materials

The materials used for this study were pen or pencil paper questionnaires for ratings based on self-selection (Appendix E) and ratings based on receiving all data (Appendix F). Each subject received a total of 48 target individuals divided into four sets of 12 target individuals with eight behaviors. Each group consists of 960 total target individuals or 20 subjects.

Procedure

Participants were provided with an the first instruction sheet (Appendix B), which was further explained with emphasis placed on how they would make their

selections of up to four target persons they would choose to have another interaction. Participants then received the self-selection questionnaire (Appendix D) and the experiment commenced with behavior one selections. For behavior one, the participants were shown the behavior ratings of all 12 target persons and they would use that information to select up to four target persons to interact with in behavior two. The experimenter would then give the participants the behavior rating for the target persons they selected for behavior two and the participant would write that behavior rating in behavior two next to the corresponding selected target person. Participants would then use the behavior rating information they had for behavior one and behavior two to select up to four target persons for behavior three. Again, the experimenter would give the participant the behavior ratings for the target persons they selected to interact with in behavior three. After receiving this behavior rating information, the participant would select up to four target persons to interact with in behavior four. This process was followed through behavior eight. There are four sets of 12 target persons and eight interaction behaviors. After following these procedures for all four sections, the participants were instructed to rate all 48 target persons based on the information they accumulated about each target person. To rate the target persons, participants were instructed to use a Likert Scale ranging from -10 (very unpleasant) to +10 (very pleasant). The subjects then indicated their answer by placing the appropriate number in the ratings column.

After completing the first questionnaire, participants were given the second instruction sheet (Appendix C) with emphasis on rating all 48 target persons with all the behavior information available. The participants were then given the questionnaire

of ratings based on receiving all data (Appendix E). On this questionnaire, the participants received behavior ratings for all of the target persons in all eight behaviors. These target persons were the same target persons from the first part of the experiment, but the order label of those target persons was random and their identification hidden.

After completing both questionnaires, the participants were given a debriefing statement (Appendix G), were asked to read the debriefing statement, and then any questions about the experiment were answered.

Hypotheses

The major focus of this research is to investigate whether people's choices will be related to the average outcome (i.e., rewards or punishments) at every interaction choice and if those interaction choices will be positively correlated to individuals they will choose to interact with in the future. It is hypothesized that those choices will actually predict greater reinforcement.

It is further hypothesized that individuals will find justification for their choices by the rewards they receive by selecting target individuals they believe will be more positive attributes. Individuals will seek out others who will reward their choice by providing rewarding outcomes as a result of an interaction. Subjects will avoid the punishing outcomes of negative target individuals by not selecting to interact with negative true score target individuals.

RESULTS

A 2 (Choice: Selected vs. Non-Selected) x 8 (Trials: Eight Observations) repeated measures analysis of variance (ANOVA) was conducted on the major dependent variable - outcome experiences with chosen vs. outcome experiences with non-chosen target individuals.⁸ An alpha level of .05 was used for all statistical tests. Table 4 summarizes the results of this 2 x 8 ANOVA. There are two highly significant results that appear in the ANOVA table displayed in Table 4. The means for the outcomes experienced as a function of choice and trials are depicted in Figure 9.

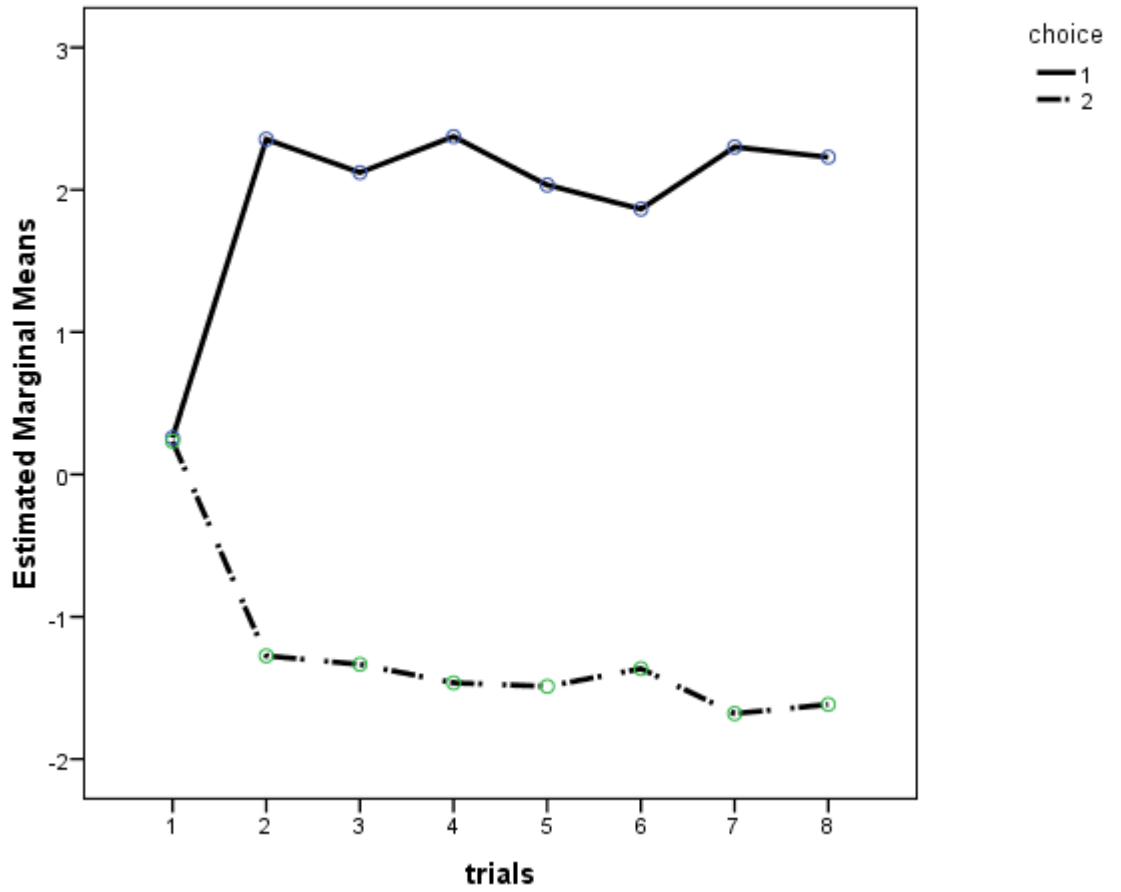
⁸ Initially a 2 (Choice: Selected vs. Non-Selected) x 8 (Trials: 1 – 8) mixed design analysis of variance was conducted with Group (A, B, C, D, and E) and Gender (Female, Male) as between subjects factors. All factors with Group were not significant (Choice x Group ($F(4, 87) = .90, p > .46$), Trial x Group ($F(28, 609) = .51, p > .98$), and Choice x Trial x Group ($F(28, 609) = .79, p > .77$). As a result, all subsequent analyses were performed without Group. Although the results for Gender were significant, Gender was also removed from further analyses because of the small number of male participants (Female = 80, Male = 17). Also, because Group E was not a complete group and there were no significant results between Groups, all subsequent analyses were conducted using Groups A through D.

Table 4: ANOVA of Outcome Choice (Selected vs. Non-Selected) x Trials

Source	Sum of Squares	df	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Choice: Selected vs. Non-Selected	3258.239	1	3258.239	160.457	.000	.670
Error: Choice	1604.171	79	20.306			
Trials	12.708	7	1.815	4.404	.000	.053
Error: Trials	227.944	553	.412			
Choice x Trials	474.856	7	67.837	48.216	.000	.379
Error: Choice x Trials	778.026	553	1.407			

Figure 9: Marginal Means of Outcome Choice x Trials

(Choice 1 = Chosen, Choice 2 = Non-Chosen)



As can be seen in Figure 9, there is a large main effect for choice, $F(1, 79) = 160.48, p = .000$. The average outcome experience with chosen target individuals ($M = 1.94$) is considerably higher than the average outcome experience with non-chosen target individuals ($M = -1.25$). Second, there is a substantial interaction for choice by trials, $F(7, 553) = 48.22, p = .000$. The form of this interaction is clear from an inspection of Figure 9. As the number of trials increases, the positivity of the outcomes experienced with the chosen target persons goes up sharply and then levels off at that higher level. By contrast, as the number of trials increases, the negativity of the outcomes that would have been experienced with the non-chosen target persons goes down sharply and then levels off at that lower level.

In order to further explore this interaction, separate one-way ANOVA's (one for chosen targets and one for non-chosen targets) were conducted on the outcomes experienced with potential targets as a function of the number of the trial. The overall F for the one-way ANOVA for chosen targets was statistically significant, $F(7, 553) = 27.52, p = .000$, as was the one for non-chosen targets, $F(7, 553) = 78.34, p = .000$. An alternative way of describing the interaction is to examine the differences in the means of the outcomes experienced with the chosen and non-chosen targets at each of the eight trials. Table 5 summarizes the chosen and non-chosen outcome means that were experienced at each of the eight trials. ANOVA's were conducted for each trial comparing outcome chosen vs. non-chosen trial means. Table 5 also presents the resulting F scores by each trial and their related p values. As displayed in Table 5, with the exception of Trial 1, $F(1, 79) = 2.77, p = .100$, all of the differences between outcomes experienced with chosen vs. non-chosen target individuals are significant. In

summary, an examination of Table 5 and Figure 9 respectively, clearly indicates that subjects were able to continually perceive who their friends might be and who their potential enemies might be by selecting targets that rewarded them and by not selecting targets that would have punished them.

Table 5: Means of Outcomes Experienced with Chosen and Non-Chosen Target Individuals

	<u>Trial 1</u>	<u>Trial 2</u>	<u>Trial 3</u>	<u>Trial 4</u>	<u>Trial 5</u>	<u>Trial 6</u>	<u>Trial 7</u>	<u>Trial 8</u>
Chosen	.258	2.356	2.121	2.374	2.033	1.865	2.300	2.229
Non-Chosen	.233	-1.275	-1.334	-1.465	-1.489	-1.364	-1.680	-1.617
<i>F</i> Score	2.77	102.48	63.62	127.63	95.31	60.17	104.32	112.77
<i>p</i> value	.100	.000	.000	.000	.000	.000	.000	.000

In addition to the highly significant main effect for choice and the highly significant interaction between choice and trials, there was a relatively small main effect for trials, $F(7, 553) = 4.40, p = .000$. The mean outcome averaged across both chosen and non-chosen targets are presented in Table 6. Since this effect is relatively small and not very meaningful, it will not be discussed further.

Table 6: Mean Outcome Experienced for Each Trial

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8
Mean	.246	.541	.394	.455	.272	.251	.310	.306

A 2 (Choice: Selected vs. Non-Selected) x 8 (Trials: Eight Observations)

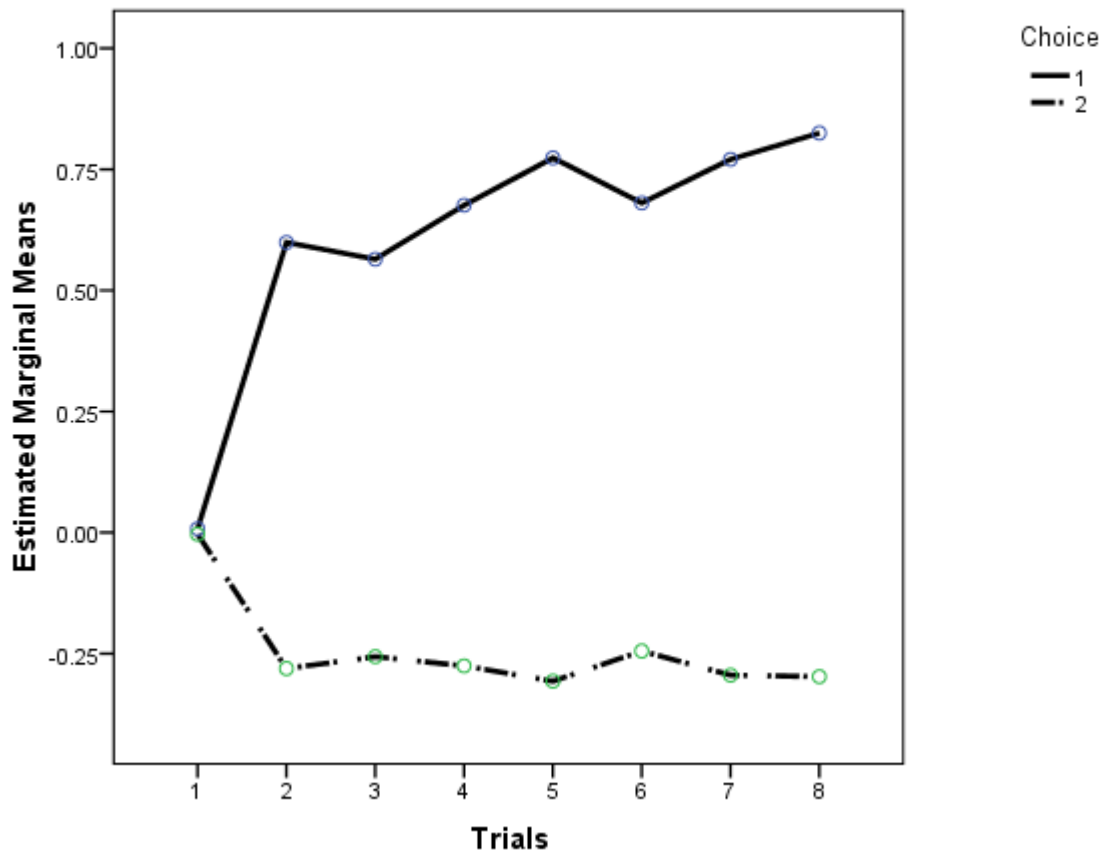
repeated measures ANOVA was conducted on the true-scores of the - chosen and non-chosen target individuals. Table 7 summarizes the results of this 2 x 8 ANOVA. There are three highly significant results that appear in the ANOVA table displayed in Table 7. The means for the true scores as a function of choice and trials are depicted in Figure 10.

Table 7: ANOVA of True Score of Targets (Chosen vs. Non-Chosen) x Trials (1-8)

Source	Sum of Squares	df	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Choice: Selected vs. Non-Selected	235.161	1	235.161	140.788	.000	.641
Error: Choice	131.955	79	1.670			
Trials	7.640	7	1.091	31.188	.000	.283
Error: Trials	19.353	553	.035			
Choice x Trials	35.766	7	5.109	37.776	.000	.323
Error: Choice x Trials	74.796	553	.135			

Figure 10: Marginal Means of True Scores of Targets as a Function of Choice

(Choice 1 = Selected, Choice 2 = Non-Selected) x Trials (1- 8)



As can be seen in Figure 10, there is a large main effect for choice on true-score of target, $F(1, 79) = 140.79, p = .000$. The average true trait score of target individuals who were chosen ($M = .61$) is considerably higher than the average true trait score of target individuals who were not chosen ($M = -.25$). Next, there is a substantial main effect for true-score trials, $F(7, 553) = 31.19, p = .000$. Lastly, there is an interaction for choice by trials, $F(7, 553) = 37.78, p = .000$. The form of this interaction is clear from an inspection of Figure 10. As the number of trials increases, the true trait score of target individuals who were chosen goes up sharply and then the rate of increase diminishes at that higher level. By contrast, as the number of trials increases, the true trait score of target individuals who were not chosen goes down sharply and then levels off at that lower level.

In order to further explore this interaction, separate one-way ANOVA's (one for chosen targets and one for non-chosen targets) were conducted on the true trait score of target individuals as a function of the number of the trial. The overall F for the one-way ANOVA for true-score of chosen targets was statistically significant, $F(7, 553) = 36.72, p = .000$, as was the one for true-score for non-chosen targets, $F(7, 553) = 34.53, p = .000$. An alternative way of describing the interaction is to examine the differences in the means of the true-score of chosen targets with the true-score of non-chosen targets at each of the eight trials. Table 8 summarizes the true-score of chosen targets and the true-score of non-chosen targets at each of the eight trials. ANOVA's were conducted for each trial comparing true-score for chosen target vs. true-score for non-chosen target means. Table 8 also presents the resulting F scores by each trial and their related p values. As displayed in Table 8, with the exception of

Trial 1, $F(1, 79) = 0.04$. $p = .849$, all of the differences between the true-score for chosen targets vs. the true-score for non-chosen target individuals are significant.

Table 8: Means of True-Score Chosen and Non-Chosen Target Individuals

	<u>Trial 1</u>	<u>Trial 2</u>	<u>Trial 3</u>	<u>Trial 4</u>	<u>Trial 5</u>	<u>Trial 6</u>	<u>Trial 7</u>	<u>Trial 8</u>
Chosen	.008	.599	.565	.676	.774	.681	.771	.825
Non-Chosen	-.004	-.281	-.256	-.275	-.307	-.245	-.295	-.298
<i>F</i> Score	.04	76.82	47.39	66.28	111.69	56.79	75.04	86.24
<i>p</i> value	.849	.000	.000	.000	.000	.000	.000	.000

As mentioned earlier, there was a significant main effect for trials on the true score averaged across both chosen and non-chosen targets; these means are presented in Table 9. As can be seen from an examination of the means, the means tend to increase across the trials. In fact, an F test for linear trend was highly significant, $F(1, 79) = 60.90, p = .000$. This main effect can be best interpreted by a reexamination of the interaction between choice and trials depicted in Figure 10. After trial 2, the average true score of targets chosen continues to increase at a slower rate after a rapid increase from trial 1 to trial 2. By contrast, after a rapid decrease in the average true score of targets not chosen, there is relatively little decrease from trial 2 to trial 8. These results can probably be explained by the fact that subjects could only choose up to four out of 12 targets on any given trial. As subjects became more accurate in choosing targets with positive dispositions across trials and avoiding targets with negative dispositions, the non-chosen category was constrained from moving lower due to the fact that it had to include some targets with positive dispositions because there were at least eight out of 12 target possibilities included in this category.

In summary, an examination of Table 8 and Figure 10 respectively, clearly indicates that subjects were able to become increasingly accurate in identifying who their friends might be and who their potential enemies might be by selecting true-score targets that rewarded them and by not selecting true-score targets that would have punished them.

Table 9: Combined Means for Each True-Score Trial

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8
Mean	.002	.159	.155	.201	.234	.218	.238	.264

An additional analysis provides some dramatic evidence of this increasing accuracy. Target's true scores were correlated with subject's choices over trials 2 through trial 8.⁹ The correlations are presented in Table 10. The correlations presented in Table 10 exhibit a striking increase with each subsequent interaction choice. This constant increase indicates that subjects clearly improve the accuracy of selecting friendly interaction partners as subjects accumulate interaction experiences, even when limited by the number of partners they can select in each subsequent interaction.

⁹ The correlations presented were averaged using Fisher's r to z transformation $\{z' = .5[\ln(1+r)-\ln(1-r)]\}$ and converted back to r after averaging the z scores.

Table 10: Correlations of Target's True Score with Choice Over Trials

	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Trial 7	Trial 8
<i>r</i>	.274	.364	.426	.482	.514	.544	.569

Further correlational analysis provides supporting evidence of the accuracy of subject's selection of WYSIWYG. For each subject, target's true scores were correlated with the subject's ratings of target individuals based on only the information limited information provided to the subjects by their choices. The correlation ($r = .540$) between target's true scores and how the subject's rated each target based on limited information indicates the effective accuracy of their choices. Following that, target's true scores were correlated with the subject's ratings of target individuals based on the target individual's complete interaction history. That correlation ($r = .439$), although slightly lower than the previous correlation, indicates that subjects only did a modest alteration of their initial limited-information rating in light of receiving substantially more interaction information. Finally, subject's ratings based on the limited information provided to the subjects by their choices was correlated to the subject's ratings of target individuals based on the target individual's complete interaction history. That correlation ($r = .640$) indicates a robust relationship substantiating the subject's accuracy of selecting friendly interaction partners regardless of the number of interactions.

DISCUSSION

Nisbett (1980) made a compelling argument that the dispositional attributions that observers offer about actors are likely to be ones that are unrelated to the actual behavior patterns that are exhibited by those actors. Based upon research that suggests that actual cross-situational consistencies in behavior are likely to be .30 or less (e.g., Mischel, 1968) and other research that observers are unlikely to be able to detect correlations under .60, Nisbett suggested that any trait attributions that they would make are likely to be figments of their imagination. In addition, he suggested that since these relationships are so small, even if they had any accuracy they would not be likely to be able to provide any real advantage in being able to maximize rewards or minimize punishments on the basis of their dispositional attributions.

The results of this research suggest that Nisbett is wrong on both counts. These research findings provide persuasive evidence that subjects could detect positive true score target individuals from a very limited amount numerical dispositional data (see also Saigal, 2001). More importantly, selecting positive true trait individuals in future interactions with such a limited source of information strongly suggests that those choices actually predict greater reinforcement (rewards). The data suggests that subjects choose to avoid subsequent interactions with more negative (punishing) target individuals or target individuals with less positive or negative true trait scores. In fact, the data suggests that even after one trial (before a

correlation could even be calculated), the subjects were able to show the largest increase in their outcomes by maximizing rewards and minimizing punishments.

The reasoning used in the present study was that subjects, when given the opportunity to select future interaction partners based only on a very limited amount of trait information, would seek subsequent interactions with those target individuals whose initial behavior or whose available limited behavioral outcome history would suggest that a possible future positive interaction is likely, that is a rewarding interaction. If subjects (observers) selected subsequent interactions with those who initially behaved in a positive rewarding manner and then subsequent interactions proved to be negative or punishing, then the negative true trait score of the target would be revealed and future interactions would likely be avoided. Since an initial behavior of a negative true trait target individual could be very positive, future interaction selections would likely reveal a less positive, neutral, or negative true trait score as negative (punishing) outcomes are received by the subjects. Using the same logic, if an initial interaction was negative, it is highly unlikely the subject would select that target individual for future interactions because punishing outcomes are assumed to be likely.

A self-correcting procedure is thought to occur when the behavior of a negative true trait target individual is initially positive. A negative true trait target individual, who exhibited an initial positive outcome, would more than likely be selected for subsequent interactions. As that negative true trait target individual continues to be selected, future interaction selections would more than likely reveal a less positive, neutral, or negative true trait score because of the negative outcomes and

self correction of the initial attribution would occur, resulting in a correction of a false positive attribution. A negative true trait target individual, who exhibited negative behaviors initially, would not likely be selected for future interaction because of the initial punishing interaction and a correct negative attribution would occur.

That same self-correcting procedure is not likely to occur when the initial outcome of a positive true trait target individual is negative. If an individual possessing a positive true trait score initially displayed a negative outcome, future interactions would probably not occur, which would result in a false negative attribution error. A positive true trait target individual whose initial outcome is positive is likely to exhibit relatively positive outcomes in subsequent interactions and no attributional error occurs.

SEAT proposes that individuals generally make decisions to self-select interaction partners or situations which average behavioral determinations can be made in assessing an individual's traits or situations which will reward or punish the individual making the selection (Kovalik, 1996; Monson, in preparation).

SEAB suggests that a bias exists for most target individuals to receive a final attribution label of negative (Kovalik, 1996; Monson, in preparation). This overall bias is based upon selective exposure of attributions to be negative. Selective exposure conditions encourage the correction of false positive attribution errors while allowing false negative attribution errors.

From an evolutionary perspective or in a primitive environment where survival is a daily endeavor, having the ability to identify another individual's true trait from a very limited amount of information, even one interaction, could have an immense

impact on one's survival. It would be absolutely critical to be able to identify one's enemies or to identify the possibility of an enemy as quickly as possible. How important is it to make a correct attribution? A false negative attribution error may result in an observer missing a positive true trait individual and some resulting interaction rewards, but a false positive attribution error may result in a punishment as serious as one's demise.

Clearly, the implications of *dispositionally speaking, what you see is what you get* to accurately attribute a disposition from very limited data, often as little as one interaction, could have a significant impact in one's life whether survival or some other aspect of life is involved.

Limitations

An experiment performed in the safety of a lab setting diminishes the possibility of a severe or deadly consequence. Since the potential of negative consequences or punishment is removed in the lab setting, subjects might be inclined to select a behavior of a target individual they might not otherwise select as they walk their path in life's journey. A very negative number is not the same as a severe punishment.

Another obvious limitation of note is the implementation of a computer simulation to generate the traits for target individuals. Subjects were given the trait results of choosing a certain target individual. Their perception of that interaction or target individual is not taken into account. Also, attributes for the target individuals were generated without any consideration for situations. Most observations, if not all observations of target individuals, are made in the context of some type of situation,

be it constrained or unconstrained. In one's culture or society, a large number of situations in everyday life, either constrained or unconstrained, can be associated with expected behaviors in those situations. If a situation is novel to the observer, the observer will normally be able to observe some contextual cues as to expected behaviors of potential target individuals in those situations.

Future Research

Although gender was one of the collected variable data, the small number of male participants overall and in each group prohibited detailed analysis of potential gender differences. For future research, increasing the total number of participants and particularly increasing the number of male participants would be desirable. Also, there are a number of quasi-independent variables that would be of interest to test potential differences. Some quasi-independent variables of interest are socioeconomic background, age, ethnicity, culture, and race.

Since it is difficult to have subjects feel a real need to avoid negative or punishing target individuals in a lab setting, offering a financial reward to subjects for seeking positive rewarding target individuals might serve as a possible incentive. If funding is available, an offer of a financial reward for up to five subjects with the highest overall attribution rating of target individuals over all interactions could be offered.

There is an abundance of opportunity for the development of ideas in the area of attribution. Humans will always be involved in the self-selecting process in any environment. Their criteria will be to seek rewards and avoid punishments. The more

effective and efficient the process can be accomplished, the more the likelihood of success or survival.

APPENDIX A – SYSTAT PROGRAM COMMAND FOR DATA GENERATION

```
basic
new
save thesisG6
rseed = 7080
repeat = 960
10 let id1=case
20 let rn1=urn
25 let rn2=urn
30 let grp1=1+int((id1-1)/48)
31 let grp2=1+int((id1-1)/12)
32 let tgrp1=1+int((id1-1)/2)
33 let tgrp2=tgrp1-12*(grp2-1)
34 let sgrp2=id1-12*(grp2-1)
36 let xgrp1=2*tgrp1-id1
50 if sgrp2=1 then let true = 3
51 if sgrp2=2 then let true = 2
52 if sgrp2=3 then let true = 2
53 if sgrp2=4 then let true = 1
54 if sgrp2=5 then let true = 1
55 if sgrp2=6 then let true = 1
56 if sgrp2=7 then let true = 0
57 if sgrp2=8 then let true = 0
58 if sgrp2=9 then let true = 0
59 if sgrp2=10 then let true = 0
60 if sgrp2=11 then let true = -1
61 if sgrp2=12 then let true = -1
62 if sgrp2=13 then let true = -1
63 if sgrp2=14 then let true = -2
64 if sgrp2=15 then let true = -2
65 if sgrp2=16 then let true = -3
68 goto 95
95 dim behvr(8)
105 dim beh(8)
110 let truef=4*true
140 for n=1 to 8
164 let behvr(n)=truef+9.6609*zrn
580 if behvr(n)>0 then let beh(n)=int((behvr(n)+.5))
590 if behvr(n)<0 then let beh(n)=int((behvr(n)-.5))
595 next
run
```


APPENDIX B - CONSENT FORM

- 1) Title of Research Project: Self Selection and the Attribution Process
- 2) Investigator: Thomas Monson, Robert Shuhi, Alisha Janowsky, Elizabeth Saigal, & Sarah Bodin
- 3) Purposes: Attribution theory attempts to define how we both understand and explain the behaviors of ourselves and of others. The current study is particularly concerned with how we characterize others when we have limited access to information about their behaviors over time. By knowing how we make these trait inferences, we can determine what steps should be taken to change the way we view those whom we encounter during our daily lives.
- 4) Procedures: As a participant in this study, you will be given information about how a series of target individuals have behaved in anywhere from one (1) to eight (8) situations. You will then be asked to infer which personality traits could be used to describe these individuals. You may or may not also be asked how much situational variability the targets exhibit in their behaviors, i.e. to what extent the target's behavior changes from one situation to the next. These questions should take approximately 45 minutes to complete and this is the only session you will be asked to participate in for this project.
- 5) Risk: The risk involved in participating in this experiment is no greater than one would experience in normal daily activities.
- 6) Benefits: The benefits of this study are mostly to the researchers and society. Once we are able to determine how and why individuals attribute traits to others who they encounter during daily activities, researchers will know how to approach attribution difficulties or inconsistencies in other studies and clinical settings.
- 7) Data Collection and Storage: The information you provide in this study will be kept strictly confidential and any report concerning the findings will not identify you personally. Only the experimenters involved in this research will have access to the data and there will be no way of connecting the data sheets to the corresponding consent forms.
- 8) Contact Information: For related problems or questions regarding your rights as a subject, the Office of Sponsored Research of Florida Atlantic University can be contacted at (561) 297-2310. For other questions about the study, you should call the principal investigator, Dr. Thomas C. Monson at (561) 297-3373.
- 9) Consent Statement: I have read and I agree to participate in the study outlined above. My participation is completely voluntary. By agreeing to participate, I

am affirming that I am 18 years of age or older. I understand that I am free to withdraw from the study at any time without penalty. A copy of this consent form will be provided to me.

Signature of Subject: _____ Date: _____

Signature of Investigator: _____ Date: _____

APPENDIX C - INSTRUCTIONS – PART I

INSTRUCTIONS (Part I): This study is designed to examine the process by which we form impressions about people on the basis of limited data and how those impressions influence our decisions of whether or not to interact with those individuals in the future. If we believe that a specific person has a negative personality trait or disposition, we may attempt to decrease the frequency that we will find ourselves in situations in which we are likely to encounter that individual. In contrast, if we believe that a specific person has a positive personality trait or disposition, we may attempt to increase the frequency that we will find ourselves in situations in which we are likely to encounter that individual. If we have not formed any impression of whether a specific person has either a negative or a positive disposition, we may decide that it is not worth the effort to either avoid or approach situations in which we are likely to encounter that individual.

You will be asked to imagine that you have had initial interactions with four sets of 12 different hypothetical strangers. To represent the fact that we find the behaviors of some interaction partners to be positive and rewarding whereas we find the behaviors of other interaction partners to be negative and punishing, you will be given numbers representing what kind of experience you should imagine that you had in the initial interaction with each of the 48 strangers. Positive numbers represent positive and rewarding experiences (the larger the positive number the more pleasant the experience). Negative numbers represent negative and punishing experiences (the larger the negative number the more unpleasant the experience). A zero represents a neutral experience (neither a pleasant experience nor an unpleasant experience).

For each set of 12 strangers, you will be given the numbers representing their behaviors in their first hypothetical interaction with you. Although you will receive all the behaviors of 12 strangers in their first hypothetical interaction, do not assume that each of the target persons was encountered in the same situation. Since the situation for each behavioral score you receive is left unspecified, it could be that the behavior was directed at you in any of a number of different situations (e.g., classroom, library, party, beach, restaurant, blind date, church, store, etc). After receiving information about all 12 initial behavioral episodes, you will be asked to think about who you might want to avoid or approach for a possible second interaction. After having a brief opportunity to think about your options, you will be asked to report verbally to the experimenter the numbers of those target persons with whom you would like to interact during the second interaction opportunity. (Feel free to make this number as few as '0' or as many as '4'; the only request is that you try to make it represent what you would do in the "real world" if you had similar experiences during an initial interaction). After you have reported your choice or choices to the experimenter, the experimenter will provide you with behavioral outcomes for the second interaction for only those target persons you selected. You will be asked to write these behavioral outcome numbers down under the next behavior situation number on your recording sheet to assist you in your subsequent decisions. You will then be asked for the

numbers of those target persons with whom you would like to interact during the third interaction opportunity. After you have reported your choice or choices to the experimenter, the experimenter will provide you with behavioral outcomes for the third interaction for only those target persons. Again you will be asked to write these behavioral outcome numbers on your recording sheet under the next behavior situation to assist you in your later decisions. This process will continue until a total of eight possible interactions have been completed for each set of 12 target persons. This whole procedure will be followed for three additional sets of 12 target persons. If you have any questions, please ask the experimenter now.

APPENDIX D – INSTRUCTIONS – PART II

INSTRUCTIONS (PART II): This study is designed to examine the process by which we form impressions about people on the basis of all observations of behavior data.

You have already expressed your willingness or lack of willingness to interact with hypothetical strangers. We would like you to express your opinion about what kind of person you think each those 48 individuals are given all the behavior information about all 48 targets. Although in the first part of this experiment you probably had different amounts of information about each of the individuals (depending upon how many times you chose to interact with each one of them), we would like you to provide us with an attribution (e.g., guess) about what kind of person they are in general with all of the behavior ratings available to you. Do you think that they have a positive disposition (e.g., they can be described as a pleasant person) or do you think that they have a negative disposition (e.g., they can be described as an unpleasant person). Alternatively, do you think that they neither can be described as a pleasant person nor described as an unpleasant person?

Based upon your complete information about each of the hypothetical interaction partners, we would like you to use the scale found on the bottom of this page and place the number which best represents your impression of each of the target persons in the space in the column that your experimenter has labeled "RATING". Take your time and evaluate all of the data that you have been given about each of the 48 targets. If you have any questions at this point, please ask the experimenter.

In order to better evaluate the attributions that you provide us for the targets with whom you were given some choice of whether or not to interact, we would like you to provide us with attributions about targets with whom no such choices for interaction were given. In these cases, you will be provided with information about how different hypothetical strangers acted towards you in all eight behavioral episodes. You will be asked to use the same "RATING" scale found on the bottom of this page concerning your impression of each of the targets. If you have any questions at this point, please ask the experimenter.

MY IMPRESSION OF THE INDIVIDUAL IS THAT HE OR SHE IS:

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

AN EXTREMELY UNPLEASANT PERSON	NEITHER A PLEASANT NOR AN UNPLEASANT PERSON	AN EXTREMELY PLEASANT PERSON
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APPENDIX E - SAMPLE QUESTIONNAIRE – RATINGS BASED ON SELF-
SELECTION

<u>ID</u>	<u>BEHF</u> <u>1</u>	<u>BEHF</u> <u>2</u>	<u>BEHF</u> <u>3</u>	<u>BEH</u> <u>F4</u>	<u>BEHF</u> <u>5</u>	<u>BEHF</u> <u>6</u>	<u>BEHF</u> <u>7</u>	<u>BEHF</u> <u>8</u>	<u>Rating</u>
1	4								
2	7								
3	6								
4	5								
5	-2								
6	0								
7	4								
8	-6								
9	11								
10	-12								
11	-1								
12	-5								

<u>ID</u>	<u>BEHF</u> <u>1</u>	<u>BEHF</u> <u>2</u>	<u>BEHF</u> <u>3</u>	<u>BEH</u> <u>F4</u>	<u>BEHF</u> <u>5</u>	<u>BEHF</u> <u>6</u>	<u>BEHF</u> <u>7</u>	<u>BEHF</u> <u>8</u>	<u>Rating</u>
13	-3								
14	4								
15	-4								
16	13								
17	-11								
18	1								
19	3								
20	7								
21	1								
22	5								
23	-1								
24	-2								

APPENDIX F - SAMPLE QUESTIONNAIRE – RATINGS BASED ON ALL DATA

<u>ID</u>	<u>BEHF</u> <u>1</u>	<u>BEHF</u> <u>2</u>	<u>BEHF</u> <u>3</u>	<u>BEHF</u> <u>4</u>	<u>BEHF</u> <u>5</u>	<u>BEHF</u> <u>6</u>	<u>BEHF</u> <u>7</u>	<u>BEHF</u> <u>8</u>	<u>Rating</u>
1	4	6	11	8	-1	-1	1	-4	
2	7	-1	11	4	-2	2	1	8	
3	6	1	5	1	3	3	3	1	
4	5	3	2	1	10	3	6	-3	
5	-2	3	-8	6	0	1	1	-13	
6	0	3	5	10	4	-10	-5	-1	
7	4	4	10	0	-3	7	0	5	
8	-6	5	-5	5	5	14	0	3	
9	11	10	-1	-4	0	4	3	5	
10	-12	6	-2	4	6	-14	-2	-11	
11	-1	5	0	2	2	-2	2	5	
12	-5	2	9	-1	-3	-3	-9	-3	

<u>ID</u>	<u>BEHF</u> <u>1</u>	<u>BEHF</u> <u>2</u>	<u>BEHF</u> <u>3</u>	<u>BEHF</u> <u>4</u>	<u>BEHF</u> <u>5</u>	<u>BEHF</u> <u>6</u>	<u>BEHF</u> <u>7</u>	<u>BEHF</u> <u>8</u>	<u>Rating</u>
13	-3	3	-2	1	6	0	4	3	
14	4	-7	9	-1	-5	0	-3	0	
15	-4	-11	-4	-6	2	-8	-7	-2	
16	13	4	10	9	-3	3	2	0	
17	-11	2	5	-2	-2	-4	1	0	
18	1	-4	-5	1	-8	-5	-9	-12	
19	3	-2	3	2	1	1	-2	4	
20	7	3	-6	3	-1	-4	0	-2	
21	1	0	-1	1	12	12	0	5	
22	5	0	5	2	-2	-6	6	7	
23	-1	-5	-7	-1	0	-5	-4	-5	
24	-2	-9	-12	-4	-3	-9	-8	-7	

APPENDIX G - DEBRIEFING STATEMENT

Few topics in personality and social psychology have generated as much research as has the investigation of what is called the "attribution process". The attribution process refers to the process by which we infer the existence or non-existence of personality traits and other dispositions. One of the purposes of the current research is to compare the relative importance of two different types of information which may influence the attribution of traits: 1) the average tendency of individuals to exhibit trait related behaviors; and 2) the variability in the tendency of individuals to exhibit trait related behaviors. Although previous research has suggested the importance of the second type of information, it is hypothesized that this research will demonstrate the greater importance of the first type of information. It is hypothesized that people do not think that consistency in behavior is a necessary criterion for the attribution of traits. Attributing the disposition of "pleasantness" to another individual does not mean that he or she does not occasionally exhibit "unpleasant" behaviors. However, it is expected that the average of a person's behaviors will have to be pleasant before he or she is attributed a pleasant disposition.

Another purpose of the study is to explore the role that choosing (self-selection) to interact with some people but not others has on the attribution process. Not surprisingly, it is expected that people choose to interact with others with whom they have had pleasant experiences and choose to avoid interactions with others with whom they have had unpleasant experiences. One consequence is that we may mistakenly attribute negative dispositions to people on the basis of limited data when we should not. On the other hand if we mistakenly attribute positive dispositions to someone, we are likely to discover the error in our judgment when we continue to interact with him or her. Since positive attributions are self-corrective and negative attributions are not, it is hypothesized that people on the average tend to perceive others as more negative than they really are. However, if we do not have a choice of whether or not we interact with someone, then this tendency should not occur.

Investigations of the attribution process have a number of important implications. The attribution of personality traits has been hypothesized to serve a number of important functions to the attributor. It provides the attributor with a summary and an explanation of a target's past behaviors and a means of predicting his or her future behaviors. In addition, the attributor can influence his or her own outcomes by increasing the number of interactions with targets with positive traits and by decreasing the number of interactions with targets with negative traits. This research should help provide some insight into the processes by which the attributor is attempting to accomplish these goals. Furthermore, a better understanding of the process may provide a means of trying to educate the attributor to more effectively accomplish his or her goals.

If, for some reason, you do not wish to have your data used in the analysis of the results, we will immediately destroy it for you now without penalty and you will receive full experimental credit. Regardless, anonymity will be ensured.

We really appreciate your participation in this investigation. For this research to be meaningful, it is critical that participants do not have preconceived notions of the

hypothesis. For this reason, we would also appreciate it if you would not discuss the purposes of this study with other potential participants.

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