INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

The Traits as Situational Sensitivities (TASS) Model: A More Accurate Way to Predict Behavior

Margaret A. Marshall

A dissertation submitted in partial fulfillment of the
requirements for the degree of

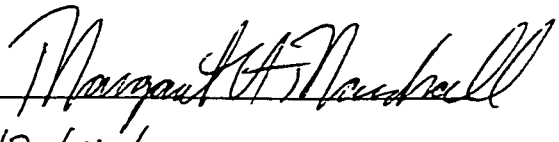
Doctor of Philosophy

University of Washington

2002

Program authorized to offer degree: Department of Psychology

In presenting this dissertation in partial fulfillment of the requirements for the Doctoral degree at the University of Washington, I agree that the Library shall make its copies freely available for inspection. I further agree that extensive copying of the dissertation is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for copying or reproduction of this dissertation may be referred to Proquest Information and Learning, 300 North Zeeb Road, Ann Arbor, MI 48106-1346, to whom the author has granted "the right to reproduce and sell (a) copies of the manuscript in microform and/or (b) printed copies of the manuscript made from microform."

Signature 

Date 12/4/02

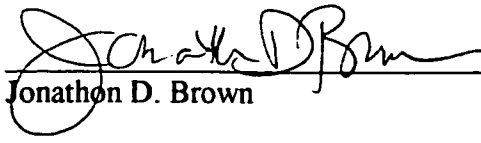
University of Washington
Graduate School

This is to certify that I have examined this copy of a doctoral dissertation by

Margaret A. Marshall

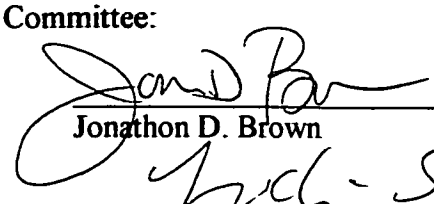
and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by the final
examining committee have been made.

Chair of Supervisory Committee:

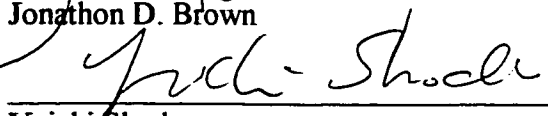


Jonathon D. Brown

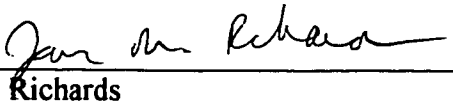
Reading Committee:



Jonathon D. Brown



Yuichi Shoda



Jane M. Richards

Date: 12/4/02

University of Washington

Abstract

The Traits as Situational Sensitivities (TASS) Model: A More Accurate Way to Predict Behavior

Margaret A. Marshall

Chair of Supervisory Committee:
Associate Professor Jonathon D. Brown
Department of Psychology

Interactionist models of human behavior assume that person and situation variables combine to produce behavior. This dissertation presents the traits as situational sensitivities (TASS) model, an interactionist model positing that traits function in a threshold-like manner, as sensitivities to situational strength or provocation. According to the TASS model, individuals high in a trait will manifest a relevant behavior at a lower level of situational strength than will those low in a trait. Weak and strong situations are hypothesized to elicit minimal trait differences, whereas situations of medium strength are hypothesized to elicit large trait differences in behavior. Four studies were conducted to test the TASS model. Study 1 examined the trait of social anxiety and confirmed the model's predictions. Scores on a trait measure correlated most highly with subsequent emotional responses in medium strength conditions. Study 2 generalized these findings to the trait of hostility, and used a behavioral dependent measure in addition to self-report of emotion. Once again, trait scores on hostility correlated highly with later behavior, but only under medium strength conditions. Study 3 examined the role of participants' subjective interpretations as a possible underlying mechanism for the observed trait differences in Study 2. Study 4 tested the TASS model using implicit and explicit measures of prejudicial attitudes. Participants' scores on an explicit measure of prejudice best predicted later discrimination against a racial minority when the participants were under conditions of medium strength. In sum, the TASS model elucidates when and why traits will manifest themselves in behavior.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Acknowledgements

The author wishes to express sincere appreciation to the National Science Foundation and the Department of Psychology for their support, and especially to Dr. Jonathon Brown for his exceptional mentorship.

Dedication

This dissertation is dedicated to my father, who is my greatest inspiration.

Introduction

"Man—the glory, jest, and riddle of the world." Alexander Pope, Essay on Man

"Not that one is the first to see something new, but that one sees as new what is old, long familiar, seen and overlooked by everybody..." Friedrich Nietzsche

Why do people behave as they do? This question has existed since time immemorial, and has intrigued novelists, philosophers, theologians, and scientists alike. Psychologists are the most recent group to grapple with this baffling problem, with varying degrees of success. Theories and methodologies have evolved over the decades, but no one has yet found the magic formula to understand and, by extension, predict behavior. The body of work presented in this document represents one attempt to provide new insight into an old question.

This research takes an interactionist approach to understanding and predicting behavior. That is, traits and situations are presumed to interact to produce behavior. The nature of this interaction is understood by viewing traits as sensitivities to situations (TASS). In the TASS model, a person's traits operate in a threshold-like manner, predisposing some people to be more vulnerable to situational stimuli than others. Consider a "hostile" person. This person will react aggressively to the slightest (perceived) insult, whereas an "easy-going" person requires a much stronger degree of insult before they will react.

One way of empirically differentiating hostile people from easy-going people is by placing them in situations that provoke the former but not the latter. In very weak situations, the situation is not provocative enough to elicit a reaction in those low *or* high

in a trait. In strong situations, the situation provokes similar reactions in both those high and low in a trait. A person's score on a trait measure will not correlate highly with behavior in weak or in strong situations. However, medium strength situations are not so weak (e.g., watching TV) or so strong (e.g., being slapped in the face) that they provoke identical reactions; rather, they are *just* provoking enough (e.g., a mild criticism) to elicit aggressive behavior from a hostile person but not from an easy-going person. If a person has a certain trait, in a sense it means that they are vulnerable to a lower level of situational strength than someone who does not have that trait. Traits will have predictive utility in medium strength situations, where the situation elicits a reaction in those high in a trait, but not in those low in a trait. In sum, the TASS model allows a more accurate prediction of behavior once a person's traits and the situation's strength have been assessed.

Four studies were conducted to substantiate this model. The first study considered the personality variable of social anxiety. Participants scoring high and low in social anxiety were randomly assigned to one of three levels of situational strength (low- listen to a speech, medium- write a speech, and high- deliver a speech) and were given a self-report measure of emotion as the dependent variable. To generalize the findings, the second study examined hostile personalities. Those scoring high and low in hostility were subjected to one of three levels of situational strength (operationalized as varying levels of insult from a partner). Self-reported emotion and retaliatory behavior against the partner served as the dependent measures. The third study investigated the role of construal in the TASS model. It was hypothesized that differences in participants'

interpretations of the insult in the medium strength situation would account for the behavioral differences seen in Study 2. This was tested by having participants imagine that they had been given the three different levels of insult, and then rate their thoughts and feelings about each one. The final study examined the influence of situational strength on participants scoring high and low in prejudice. Both implicit and explicit measures of prejudice were used in testing the TASS model. Self-reported emotion and discriminatory behavior were the dependent measures.

Before beginning a thorough description of the current research, a number of other approaches to understanding and predicting behavior will be reviewed to provide a context for the discussion. These approaches include the dispositionist perspective (Allport, 1937), the situationist perspective, (Ross & Nisbett, 1991), the interactionist perspective (Magnusson & Endler, 1977), the idiographic methods approach (Bem & Allen, 1974), the aggregation approach (Epstein, 1979), social cognitive theory (Bandura, 1977; Mischel, 1973), and the behavioral signatures approach (Shoda, 1999). All of these approaches have attempted to answer that age-old question...why do people behave as they do? In addition, a brief discussion of previous theoretical and empirical conceptions of traits will be provided. Finally, empirical research that is relevant to the TASS model will be reviewed (Mischel, Ebbeson, and Zeiss, 1973, 1976; Monson, Hesley, & Chernick, 1982).

Prior Theoretical Work

Dispositionist Perspective

If you asked the average person on the street why people behave the way they do, they would tell you that people do what they do because of the kind of people they are: "Helpful" people engage in acts of altruism; "selfish" people do not. This kind of belief system is consistent with the *dispositionist* perspective, which holds that people act in accordance with internal forces such as traits or dispositions. It is not difficult to see why the dispositionist position was a popular stance amongst early psychologists. It was common sense. Allport and Odbert (1936) found almost 18,000 available trait names in Webster's New International Dictionary. When asked to describe each other, people use traits more than twice as often as the next most frequent type of description (Park, 1986, 1989), and when asked to form an impression, people overwhelmingly seek information about a person's traits over other types of information (Ostrom, 1975). People interpret behavior in trait terms far more often than in situational terms (Miller, 1984; Ross & Penning, 1985), and they make these trait interpretations immediately and spontaneously (Winter & Uleman, 1984). The popularity and "common sense" appeal of traits made them the natural focus of early psychological research and theory (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Allport, 1937; Allport & Allport, 1921; Cattell, 1950; Hartshorne & May, 1928; Jung, 1933; Newcomb, 1929).

The origins of this perspective can be traced back to Ancient Greece. Great thinkers such as Hippocrates, Galen, and Theophrastus sought to categorize people based on the notion of individual differences or types. Hippocrates believed that people could

be categorized into four types: choleric, melancholic, phlegmatic, and sanguine. The first psychologists followed in this trait/typology tradition (Allport, 1937; Stern, 1935; Wundt, 1896, 1902). For example, Carl Jung's (1933) typology was a simple division between extraverted and introverted personalities. McDougall (1937) said that: "Tendencies are the indispensable postulates of all psychology."

This perspective was aided by the statistical technique of factor analysis. Thurstone (1934) was one of the first to summarize interrelations among sets of personality variables. His work was extended by Cattell (1943), Eysenck (1947), and Guilford (1959), in various attempts to discover the structure of personality. These researchers assumed that trait factors and their organization were responsible for the way people behaved. Cattell's lexical approach to determining the structure of personality involved a factor analysis of 4,500 trait names, eventually winnowing them down to 16 key factors. Eysenck took a more theoretical approach, deciding that there were two dimensions of personality (introversion/extraversion, emotionally stable/emotionally unstable) that combined to produce four categories of people. These categories echoed the typology posited by Hippocrates.

More recent research on the dimensions of personality has indicated that there are five superordinate factors in personality, referred to as the "big five" (Botwin & Buss, 1989; Digman & Inouye, 1986; McCrae & Costa, 1987). There is some debate as to the proper labels for these factors, but they are commonly identified as: extraversion, agreeableness, conscientiousness, emotionality, and intellect.

Although personality psychologists had some success discovering the structure of personality, their methods failed to show that traits could reliably predict behavior. In separate reviews of the existing empirical literature, Mischel (1968) and Peterson (1968) reported that people's behavior was typically inconsistent across situations. They found that there was little correlation between different behavioral measures designed to assess the same personality trait. Mischel's famous "personality coefficient" was coined to describe the modest .3 correlation that was the typical ceiling in the studies he reviewed. In most studies, the correlation fell far below this level, leading many researchers to question the validity and usefulness of the concept of traits.

Theodore Newcomb's (1929) study of extraversion amongst troubled adolescent boys was one famous example of the failure to find cross-situational consistency in behavior. Newcomb observed an average correlation of .14 between ratings of any two behaviors intended to measure extraversion. Hartshorne and May (1928) experienced a similar failure to predict behavior in their study of honesty amongst school children. They found an average .23 correlation between different types of honesty-related behaviors.

Personality psychologists attempting to correlate trait measures with behavior also fared poorly. They typically used simple, one-time self-report questionnaires to assess traits, and these measures tended to have low correlations with behavior. Research on the relationship of attitudes to behaviors also showed a weak correspondence between the two (LaPiere, 1934; Wicker, 1969). It was beginning to seem that perhaps people's behavior *wasn't* prompted by inner tendencies such as traits or attitudes. The

dispositionist perspective had failed to be proven empirically, despite its common-sense appeal.

Situationism

The situationist perspective was the immediate response to the dispositionists' quandary. Situationists were usually social psychologists who believed that the situation was the greatest determinant of behavior (Ross & Nisbett, 1991). There were many studies that demonstrated the power of the situation. Darley and Batson (1973) conducted an experiment in which Princeton seminary students were told that they would be giving a brief talk on the parable of the Good Samaritan, to be recorded in a nearby building. On their way to give the talk, they came upon a man slumped in a doorway, obviously in need of help. Surely, these helpful seminary students would stop to help a man in distress...or would they? When the seminarians had been led to believe that they were late to give the talk, only 10% stopped to help the man. In perhaps the most famous demonstration of situational power, Milgram (1963) brought participants into a lab and had them deliver shocks to a confederate. The shock machine had levers ranging from 15-450 volts. Despite the confederate's tortured screams and ultimate silence, 65% of the participants went on to deliver the highest level of shock.

Empirical demonstrations have shown the situation to be a powerful influence, but people don't seem to take the situation into account when explaining and predicting behavior. Ross (1977; Nisbett & Ross, 1980) called this tendency the Fundamental Attribution Error (FAE, see also Jones, 1979; Jones & Davis, 1965). The FAE describes "people's inflated belief in the importance of personality traits and dispositions, together

with their failure to recognize the importance of situational factors..." (Ross & Nisbett, 1991, p. 4). The source of this lay dispositionism has often been explained in perceptual terms. Gestalt psychologist Fritz Heider described behavior as having "such salient properties that it tends to engulf the field rather than be confined to its proper position as local stimulus whose interpretation requires the additional data of a surrounding field—the situation in social perception" (Heider, 1958, p. 54). Because the actor is salient or 'figural' in the perception of behavior, people focus on that to the exclusion of situational forces.

This explanation appeared to explain why people (psychologists included) didn't appreciate the power of situation. And studies such as Milgram's appeared to make a compelling case for the situationist perspective. However, it is possible that the methods used in these provocative studies overwhelmed the effects of personality, rather than demonstrated its lack of importance. The methods are analogous to putting people in the context of a funeral and then noting that everyone wears black and sits quietly. This would lead to the erroneous conclusion that individual differences do not matter.

Although some studies find that the situation strongly determines behavior, in most studies, the situation fails to account for any more variance than does the person (Bowers, 1973; Funder & Harris, 1986; Funder & Ozer, 1983; Sarason, Smith, & Deiner, 1975). For example, Bowers (1973) reviewed 11 studies conducted between 1959 and 1973 in which the relative magnitude of person and situation influences on behavior was evaluated. He found that an overall average of 13% of the variance was due to persons, and 10% was due to situations. In 11 of 19 comparisons, situations accounted for *less*

variance than did persons, and the interaction of persons and situations accounted for more variance in behavior than either main effect in 14 of 18 comparisons. In 8 of those 18 comparisons, the interaction term accounted for more variance than the sum of the main effects. Bowers' review sent a clear message to all psychologists: the interaction of persons and situations was a factor that deserved serious attention if one wanted to understand and predict behavior.

Interactionism

Kurt Lewin (1935), one of the founding fathers of social psychology, posited that behavior was a function of the person *and* their environment. The modern interactionist perspective is based on this idea: that behavior comes from the interaction of person and situation variables (Ekehammer, 1974; Endler & Magnusson, 1976; Magnusson & Endler, 1977). The failure of the dispositionist and situationist perspectives to fully explain and predict behavior led to the popularization of the interactionist approach.

Interactionism can be viewed in two ways: from a statistical "analysis of variance" approach or from a dynamic approach. In the former, the statistical interaction of personality and situational variables in an experiment accounts for a certain percentage of variance in behavior above and beyond the main effects of persons and situations. For example, failure at a task causes people low in self-esteem to feel worse about themselves than do high self-esteem people. High self-esteem people might always feel better in general (a main effect of self-esteem), and failing at a task might always feel worse than success (a main effect of situation), but the interaction of the two has its own distinct effect (Brown, 1998). The interaction of person and situation has often been shown to

account for more variance than either variable considered in isolation (Bowers, 1973; Endler & Magnusson, 1976; Sarason, Smith, & Diener, 1975).

More recently, it has become popular to view interactionism from a dynamic standpoint. From this standpoint, persons and situations interact in a continuous feedback loop, and people are seen as agentic in choosing, construing, and shaping the situations they encounter. This approach attempts to access the underlying processes in interactionism, rather than operating at the level of description. Endler, Hettema, and Magnusson are the major figures in this movement (Caprara & Cervone, 2000).

Endler (1984) has developed a multidimensional assessment of traits that allows for a finer-grained analysis and prediction of behavior. For example, his multidimensional anxiety scale measures self-reported anxiety in four different types of situations, presumed to represent situational triggers for four different dimensions of trait anxiety (Endler, Edwards, Vitelli, & Parker, 1989; Endler, Parker, Bagby, & Cox, 1991). Prediction from this kind of assessment is more specific and accurate than making a global prediction about behavior (e.g., those higher in trait anxiety will feel more anxious in general). Endler's work mirrors that of researchers investigating the attitude-behavior relationship. Using specific attitude measurement has provided better prediction of specific behaviors (Ajzen & Fishbein, 1977; Davidson & Jaccard, 1979; Kraus, 1995). Endler's assessment techniques demonstrate that the *specific dimensions* of trait anxiety (those most relevant to the individual in question) interact with situations to best predict state anxiety.

Hettema's (1979) *open-systems adaptation model* is another dynamic approach in the interactionist camp. According to the model, personality functions on three levels: a cognitive-symbolic level, a control level, and a sensorimotor-operational level. The model assumes that the control level operates to alter either the environment (at the sensorimotor-operational/behavioral level) or the way a person thinks about the world (at the cognitive-symbolic level). This is similar to Lazarus' distinction between problem vs. emotion focused coping (Lazarus & Folkman, 1984). The model describes the constant interplay between a person and the environment they are navigating. Hettema believes that people prefer certain strategies (such as taking time to reflect on a situation vs. persisting with current behavior) in their efforts to attain control.

Magnusson (1992, 1999) represents the third major contributor to the dynamic interactionist approach. He advocates research that is both longitudinal and multidimensional, in order to measure an individual's biological characteristics, psychological characteristics, and the characteristics of their social world. He believes that these three components have a reciprocal effect on one another, and that large populations should be used to identify subsets of people with common patterns of characteristics. Magnusson's work considers holistic patterns of personality, rather than traits and situations in isolation. This is in keeping with the dynamic approach to interactionism.

In a summation of the leading research on dynamic interactionism, Hettema and Kenrick (1992) identified six primary types of person-situation interactions. Behavior may be guided by 1) the fit between person and situation variables, 2) situations that are

"selective" in the type of individuals allowed to enter them, 3) personal choice of situations, 4) people's role in transforming the situations they enter, 5) situational transformation of people, and 6) a mutual transaction over time between people and situations where both undergo change (Emmons & Diener, 1986; Scarr & McCartney, 1983). Theory and research from an interactionist perspective have come a long way from Lewin's simple formula. Psychologists in this tradition continue to make promising strides in understanding and predicting human behavior.

The Idiographic Approach

One very different response to Mischel's (1968) challenge was methodological. Bem and Allen (1974) posited that traits would predict behavior, but only if a researcher was to consider each subject as a unique individual. This methodology is known as *idiographic,* in comparison to typical psychological research which uses *nomothetic* methods. Idiographic methodologies focus on the unique aspects of an individual's personality configuration. Nomothetic methods make the assumption that all people can be assigned a score on each dimension of personality. They allow for easy comparison between groups of people, as people are assumed to differ only in the extent to which a trait is present.

Bem and Allen's emphasis on idiographic methods was not a new idea. Gordon Allport (1937) and George Kelly (1955) were both strong advocates of idiographic methods. Allport used personal documents, such as diaries, autobiographies, letters, and interviews in determining what was characteristic about an individual's personality. For example, he did an extensive scientific analysis of 301 letters written over the course of

11 years in his famous Letters from Jenny (1965) research. Kelly developed the Role Construct Repertory ("Rep") Test to assess the idiosyncratic set of constructs that characterize an individual. Both Kelly and Allport mixed idiographic and nomothetic methods in their study of personality.

With the revival of the idiographic/nomothetic distinction, Bem and Allen argued that the search for behavioral consistency must recognize that a) only a subset of trait dimensions can accurately describe any given person, and that b) only a subset of people can be accurately described in terms of a given trait dimension. Their research attempted to identify a subset of "consistent" subjects who were then assessed on two traits (friendliness and conscientiousness). For the trait of friendliness, the consistent subjects showed a high correlation between two behavioral measures of this trait ($\underline{r} = .73$). The inconsistent subjects showed a much lower correlation ($\underline{r} = .30$). The trait of conscientiousness did not show a difference between groups, but based on the friendliness data, there was at least some preliminary support for the use of idiographic assessment of traits in the prediction of behavior.

In sum, experimenters employing idiographic methods try to identify the qualities that are important for each participant (Baumeister & Tice, 1988; Britt & Shepperd, 1999; Higgins, King, & Mavin, 1982). Relatively popular idiographic methods include the case study (Ogilvie, Fleming, & Pennel, 1998) and diary methods (see Eckenroade & Bolger, 1995 for a review). Idiographic methods allow for better prediction, but are also time-consuming and prohibitive.

The Aggregation Approach

Epstein (1979, 1983) suggested a statistical solution to the consistency paradox by emphasizing the importance of aggregation. He hypothesized that the aggregation of multiple observations would allow for a more accurate prediction of behavior. Epstein believed that there was so much noise from situation to situation that behavior must be measured across multiple situations or occasions to make reliable future predictions about behavior.

Epstein demonstrated his idea theoretically and empirically. Theoretically, he used the Spearman-Brown "prophecy formula" to predict that if one were to take 25 independent behavioral measures of a trait, and then were to correlate the average score of a subject for these 25 measures with the average score for another 25 independent measures of the same trait, a correlation of .83 would be attained (given a initial correlation of .16 for 1 pair of measures). In fact, averaging only 9 measures would provide a correlation of .63. The aggregation method has received much empirical support (Epstein, 1986; Epstein & O' Brien, 1985; McGowan & Gormly, 1976; Schroeder & Pendleton, 1983; but see Allen & Potkay, 1983; Day, Marshall, Hamilton, & Christy, 1983, for an opposing view) in addition to theoretical demonstrations of the principle.

Social Cognitive Theory

Social-cognitive theories are a popular contemporary approach to understanding personality functioning. The focus of these theories is not on traits, but rather on the cognitive and affective processes that develop in, and are activated by, the social world.

These social-cognitive processes are relatively situation-specific, and are presumed to be a better predictor of behavior than the global conception of traits. Social cognitive theories have three main historical influences and two defining features.

Social-cognitive theory was most strongly affected by the work of Bandura (1977), Mischel (1968, 1973), and cognitive social psychologists (Cantor & Kihlstrom, 1987; Dweck & Leggett, 1988; Higgins, 1990; Kruglanski, 1996). Bandura's theory emphasizes the principle of *triadic reciprocal determinism*. This principle states that the person's cognitive-affective systems, their physical and social environment, and their behavior interact to create personality functioning. Bandura further specifies five capabilities that work in concert and are the basic mechanisms of human cognition: symbolizing capability, vicarious capability, forethought capability, self-regulatory capability, and self-reflective capability. The latter three form the self-system, which is the core of personality. According to Bandura, studying a person's perceived self-efficacy (the belief in the ability to execute some behavior or achieve some level of performance) is critical in understanding and predicting behavior.

Mischel's (1968, 1973) influence on social-cognitive theory is two-fold. His critique of personality theory and assessment in psychology was groundbreaking. He forced psychologists to reassess their conceptions of personality (particularly the idea of traits and their measurement). Secondly, Mischel introduced a set of social-cognitive variables (1973; Mischel & Shoda, 1995) to fill the "trait vacuum." These variables include competencies, encoding, categorization, expectancies, subjective values, self-regulatory systems, plans, goals, and affect. Mischel hypothesized that "the nature and

effects of these person variables depend on specific interactions between the individual and the psychological conditions of his life" (1973, p. 278). He went on to say that "Rather than talk about 'behavior,' it may be more useful to conceptualize *behavior-contingency units* that link specific patterns of behavior to the conditions in which they may be expected" (p. 278). This emphasis on the contextually-dependent nature of behavior is a key feature of Mischel's approach.

The third major contributor to social-cognitive theory came from cognitive social psychologists. The most relevant advance here was the progression of research on general social-cognitive processes to research on individual differences in the cognitive structuring of affect, motivation, judgment, intelligence, etc. (Cantor & Kihlstrom, 1987; Dweck & Leggett, 1988; Higgins, 1990; Kruglanski, 1996). These stable individual differences have proven to be useful in understanding and predicting behavior. For example, Higgins' (1990; Higgins, Bond, Klein, & Strauman, 1986) research on self-discrepancy theory has shown that self-discrepancy types predispose people to experience specific types of emotional distress. Subjects with actual-ideal discrepancies display feelings of dejection in response to a negative outcome, whereas those with actual-ought discrepancies display feelings of agitation. The groups do not differ in response to a positive outcome. The consistency of these individual difference variables does not rely on the global notion of traits.

Although it is a misnomer to speak of a unified social-cognitive theory, the various social-cognitive theories have two shared defining features: unit of analysis, and common language (Caprara & Cervone, 2000). As stated previously, social cognitive

theories do not rely on the conception of traits in explaining personality functioning. Rather, cognitive-affective processes are hypothesized to compose a system which underlies behavioral expressions of personality. The units of personality are variables such as goals, expectations, and appraisals. All of these are context-dependent, unlike the broader conception of traits.

The second defining feature of social cognitive theories is their emphasis on finding a common language to describe variability and consistency in behavior. This emphasis on the genotypic rather than phenotypic features of personality is reminiscent of one of the major goals of Kurt Lewin's (1935, 1951) field theory.

Behavioral Signatures Approach

An approach that has successfully integrated the consistency and variability in personality is Shoda's work on behavioral signatures (Shoda, 1999; Shoda & Mischel, 1998). Shoda has found consistency in personality, but it is a consistency that does not rely on the conception of traits. Instead, it is a coherence seen in systematic, temporally stable patterns of variability around a person's "mean" level of behavior. Epstein showed that aggregation could increase the predictive ability of traits by canceling out the noise of variability. However, it is possible that variability is meaningful, rather than noisy. Useful information about a person might be lost through aggregation.

Shoda dubs the unique patterns of variability in a person's behavior a "behavioral signature". Signatures consist of a bundle of If...Then contingencies, organized by an overarching cognitive-affective processing system. To illustrate, if I encounter a certain type of situation that is meaningful for me, then I will display a characteristic behavior.

In the social cognitive tradition, Shoda examines the effect of the interrelationships between goals, values, expectancies, and beliefs on behavior, rather than static trait constructs.

In the same vein, Moskowitz, Brown, and Cote (1997) have studied temporal patterns of behavior. Rather than examining fluctuation across situations, they observed variations over time. They found 'dynamic stability' in weekly cycles. For example, positive affect in their participants was higher on weekends than weekdays, and extraverted participants had faster cycles than did introverts.

Studying patterns of variability can give researchers a more complete, three-dimensional picture of an individual. People become more than just one data point on a scatterplot. One limitation of this idiographic approach is that many variables (and the complex interrelations of variables) are studied for each subject, with the result that money and time costs can rapidly become prohibitive. An inventive methodological solution to this drawback is the use of computer modeling of personality systems (Shoda & Mischel, 1998, 2000; Shoda, LeeTiernan, & Mischel, 2002).

Definitions of Traits

Despite the popularity of social cognitive theory in the explanation of personality, many researchers continue to focus on traits as the unit of analysis (as does the present research). A discussion of traits is therefore a useful introduction to this research. There is a general consensus that traits are stable across time and settings, but there is no singular trait theory.

Allport (1937) defined traits as "neuropsychic structures...with the capacity to render many stimuli functionally equivalent, and to initiate and guide consistent forms of adaptive and expressive behavior" (p.295). Funder (1991) described traits as "global tendencies to exhibit one versus another class of response," and Buss (1989) referred to them as "classes of single responses that involve differences among persons" (p.1383). Researchers have debated the ontological status of traits; some favor a view of traits as phenotypic, surface-level tendencies (Buss & Craik, 1983; Saucier & Goldberg, 1996), while others believe that traits are genotypic, causal systems that correspond directly to behavioral tendencies (McCrae, Costa, Ostendorf, Angleitner, Hrebickova, Avia, Sanz, Sanchez-Bernardos, Kusdil, Woodfield, Saunders, & Smith, 2000). Researchers have also disagreed on the role of biological mechanisms in determining traits. Cloninger (1987), Eysenck (1990), and Gray (1987, 1994) argued that traits derive from specific biological systems; others assume that traits are best viewed as hypothetical constructs (McCrae & Costa, 1996).

Relevant Empirical Research

The TASS model assumes that a minimum of three levels of situational strength is needed to see the full manifestation of individual differences. Very few researchers have considered the interaction of traits with more than two levels of situational strength. Three such investigations are discussed below that will segue into a discussion of the present research (Mischel et al., 1973, 1976; Monson et al., 1982). Mischel, Ebbeson, and Zeiss (1973, 1976) conducted two studies investigating the individual difference variable of repression-sensitization (Byrne, 1961) under three different situational

strength conditions: success, control, and failure. *Repressors* tend to use denial and avoidance in response to threat, whereas *sensitizers* respond to threat with approach and intellectualization. In this study, repressors and sensitizers first experienced success or failure on a test, or they were only shown the test in the control condition. Then they were left alone in a room containing information about their personality assets and liabilities. Behavior was operationalized as time spent examining the information about their assets and liabilities. Mischel et al. (1973) found that individual differences on the repression-sensitization scale were most predictive of behavior in the control condition. The highest correlation between trait and behavior was in the control condition, the next highest in the failure condition, and the lowest in the success condition.

In their second investigation, Mischel et al. (1976) again included three levels of situational strength: success, control, and failure. This time the behavior of interest was memory for personal assets and liabilities. Unfortunately, Mischel et al. did not include detailed results about how the repressors differed from the sensitizers. The authors report that scores on the repression-sensitization scale were not related to memory (collapsed across conditions). However, they never discuss if the participants' traits interacted with the experimental condition. They conclude by saying their findings were ambiguous, leading one to conclude that their original findings (1973) were not replicated. (It may seem strange that they did not include this in their description of the data, however, this particular person-situation analysis was not the focus in either of the papers. It was an ancillary analysis and that is probably why they did not discuss it thoroughly in the 1976 report.)

Monson, Hesley, and Chernick (1982) followed up on the Mischel et al. investigations in an attempt to clarify when individual differences will be most apparent in behavior. They note that a major weakness of Mischel et al.'s (1973) findings was the lack of a statistically significant interaction between trait and situation. And despite the fact that the correlations were highest in the control conditions, they were also quite high in the failure condition (contrary to the authors' predictions). Monson et al. chose to examine the trait dimension of introversion-extraversion, and had participants read scenarios describing 5 different types of situational strength (strong situational pressures to exhibit extraverted behavior, moderate situational pressures to exhibit extraverted behavior, weak situational pressure to exhibit either behavior, moderate situational pressures to exhibit introverted behavior, and strong situational pressure to exhibit introverted behavior). After reading these scenarios, participants were asked to rate the probability that they would display extraverted behavior in each of the scenarios.

Monson et al. (1982) found main effects of trait and situational strength, as well as a significant interaction between the two. A more careful examination showed that there was no significant difference in introverts' and extraverts' prediction of behavior in either of the two strong situation scenarios, but there was a significant difference in both moderate strength situation scenarios. However, introverts and extraverts showed the greatest difference in the weak situation scenario. Interestingly, the correlation between trait and behavior in the moderate situational strength condition encouraging extraverted behaviors ($\underline{r} = .48$) was almost identical to the correlation in the weak strength condition ($\underline{r} = .46$).

The conclusion the authors drew from their data was that people will show the greatest individual differences in weak situations. However, there are two problems with this. One of the moderate strength conditions showed just as substantial a response difference in introverts and extraverts as was seen in the weak situation. It is only when the authors collapsed across both moderate strength conditions that the weak condition became more predictive. The other problem is that the authors did not put their participants into actual conditions of different situational strength, they merely had them read scenarios describing these conditions. In addition, they did not measure actual behavior, only predicted behavior. It is believed that present research on the TASS model is more effective in tapping into people's true responses under varying levels of situational strength. The participants in the present research actually experienced different types of situations and their actual behavior was measured.

The Present Research

With this in mind, a discussion of the present research follows, which provides a new perspective on the person-situation debate. This interactionist model allows for more accurate behavioral prediction from a one-time trait measure without the use of aggregation or idiographic methods. The traits as sensitivities to situational strength (TASS) model conceives of personality variables in terms of susceptibilities, sensitivities, or vulnerabilities to situational variations. To illustrate, consider what it means to say someone lacks physical fitness. In one sense, it means that very little is needed to tire this person out. A walk up a flight of stairs, for example, may suffice to tire an unfit individual. In contrast, a physically fit individual requires a great deal of exertion before

she or he is tired out.

A similar analysis can be applied to personality variables. For example, it takes little in the way of a poor performance to make low self-esteem (LSE) people feel bad about themselves, whereas a substantial failure experience is needed to evoke such feelings among high self-esteem (HSE) people. Brown and Dutton (1995) found that LSE participants experienced lower feelings of self-worth after poor performance at a task than did HSE participants, and this effect remained significant even after controlling for their construal or appraisal of their performances. The authors explained this finding with a *differential sensitivity hypothesis*. Brown and Dutton state that: "According to this hypothesis, the self-esteem groups are distinguished not so much by how they perceive performance outcomes, but by how reactive or sensitive they are to these perceptions" (p. 715). Further tests revealed support for the hypothesis. Brown and Dutton's differential sensitivity concept is elaborated upon in the current TASS model.

To summarize, the very nature of personality variables may be revealed by observing their sensitivity to situational variations. In a large sense, a personality variable is a heightened sensitivity to situational variations. People who score high on a trait or dimension are those who exhibit a relevant behavior with little situational provocation; those who score low on a trait or dimension are those who exhibit the relevant behavior only after a great deal of situational provocation.

The preceding analysis has implications for research in personality and social psychology. Social psychologists typically construct situations that are so strong, they overwhelm the effects of personality variables; personality psychologists confront people

with relatively weak situations to ensure that individual differences manifest themselves in overt behavior (Ickes, 1982; Snyder & Ickes, 1985). The research reported here includes situations of varying strengths, in an attempt to pinpoint when personality variables will manifest themselves in behavior.

It was hypothesized that trait measures would best predict behavior at a medium level of situational strength. A truly weak situation would not provoke people enough to react differently, and a strong situation *would* provoke people, but not in characteristically distinct ways. In a medium strength situation, there should be a substantial correlation between traits and behaviors. This correlation should far exceed the .30 personality coefficient described by Mischel (1968). This hypothesis was tested in four studies that examined the interaction of different personality variables (social anxiety, hostility, and prejudice) with low, medium, and high levels of situational strength. The role of construal as an underlying mechanism was also investigated.

Chapter I: Overview and Methods

The first study examined the personality variable of social anxiety. Individuals pre-screened as being either high or low in social anxiety participated in a study of public speaking. Participants experienced one of three levels of situational strength: low threat, medium threat, or high threat. One third of the participants were told they would be listening to a speech; one third were told they would write a speech to be evaluated by the experimenter; and one third were told they would write and deliver a speech in front of their fellow participants. After receiving this information, the participants completed a mood measure. If, as hypothesized, traits represent differential sensitivity to situational strength, high anxiety participants should show an increase in state anxiety between the listen and write conditions, but low anxiety participants should show an increase in state anxiety between the write and deliver conditions. As a result, the highest correlation between trait and emotional reaction should be in the medium strength condition (write a speech to be evaluated by the experimenter).

Methods

Participants

The participants were 73 University of Washington undergraduates who participated in exchange for extra course credit. They were pre-screened as being either high ($\underline{M} = 101.41$, $\underline{SD} = 9.98$ $\underline{n} = 39$) or low ($\underline{M} = 57.21$, $\underline{SD} = 10.09$, $\underline{n} = 34$) in social anxiety using a tertile split on the Leary Interaction and Audience Anxiousness scale (1983). Participants indicated their agreement with 27 items (e.g., "When I speak in front of others, I worry about making a fool of myself"; "I often feel nervous even in casual get-togethers") using 5-point scales (1 = not at all true of me, 5 = extremely true of me). After reversing the scoring for 6 negatively worded items, a total anxiety score was found

by summing the 27 responses. Two additional participants failed to follow directions and their data were discarded.

Procedure and Materials

Participants were tested in groups of 4-6, and were seated at separate computers so that they could not see each other's computer screens. All instructions and experimental measures were presented on the computer. Participants were randomly assigned to one of three conditions. They were informed that they would have to a) listen to a speech by a fellow participant (low threat), b) write a speech to be evaluated by the experimenter (medium threat), or c) write and deliver a speech in front of their fellow participants (high threat).

After receiving this information, participants completed a questionnaire assessing their current emotional state, by indicating the extent to which they were presently experiencing each of four emotions (anxious, tense, nervous, upset) (1 = not at all; 7 = very much). The four items were averaged to derive a single emotion scale ($\alpha = .92$), indicative of how anxious they were feeling.

When they finished completing these items, participants were informed that the experiment was over. They were then debriefed, thanked, and excused.

Results

The data were analyzed using a 2 (Social Anxiety) X 3 (Threat) ANOVA, with anxious mood rating as the dependent variable. The results of this preliminary analysis showed a significant main effect of social anxiety, $F(1, 67) = 26.81$, $p < .001$. This demonstrated the validity of the measure, as those scoring in the top third on the Leary scale had a higher anxious mood in general than did those scoring in the bottom third on the measure. In addition, there was a main effect of threat, $F(2, 67) = 4.01$, $p < .05$, which indicated that participants' anxious mood differed across threat levels. This was

helpful in establishing the effectiveness of the experimental manipulation. Finally, there was a non-significant interaction between social anxiety and threat level, $F(2, 67) = 1.21$, $p = .30$. This interaction was predicted to be significant, but a more detailed analysis of the data was needed in order to directly test the relevant hypotheses. See Figure 1 for the overall pattern of results.

The main analysis included a series of planned comparisons (see Table 1 for cell means). For high social anxiety participants, the hypothesized pattern of emotion was as predicted. Participants showed a significant increase in negative emotion between the low and medium threat conditions, and then their scores leveled off. Both medium and high threat conditions (write and deliver a speech) produced higher levels of distress than the low threat (listen to a speech) condition, $t(67) = 1.81$, $p = .08$, $t(67) = 2.30$, $p < .05$, respectively. Medium and high threat conditions did not differ, $t(67) = .52$, $p = .61$. A contrast testing the average of medium and high versus low was significant, $t(67) = 2.32$, $p < .05$. In sum, the high social anxiety participants were not anxious at the low level of threat, but became anxious at the medium level of threat and were equally anxious at the high level of threat.

The hypothesized pattern of emotion was also as predicted in low social-anxiety participants. It took a high level of threat to arouse distress in these participants. The low and medium conditions did not differ, $t(67) = .45$, $p = .65$. The high threat condition was marginally more distressing than either the medium or the low threat conditions, $t(67) = 1.95$, $p = .06$, $t(67) = 1.56$, $p = .12$, respectively. A contrast testing the average of low and medium versus high was significant, $t(67) = 2.14$, $p < .05$. Thus, for low social

anxiety participants, the low and medium threat conditions did not produce an anxious mood, but a high level of threat did provoke anxiety.

In an analysis of simple effects within the medium strength condition, there was a highly significant difference in the anxious mood of high and low social anxiety participants, $t(20) = 5.13$, $p < .001$. In this condition, participants' traits really 'mattered.' When told that they would write a speech to be evaluated by the experimenter, low social anxiety participants weren't bothered, but high social anxiety participants felt quite anxious. It is here that traits are most highly correlated with emotional response; the point-biserial correlation between participants' scores on the trait measure and their subsequent emotional reaction was substantial ($r = .75$).

In a simple effects analysis within the low threat condition, there was a non-significant difference in mood, $t(19) = 1.82$, $p = .08$. This effect did approach significance, possibly because the baseline level of low and high anxiety people is different from one another. This might be true in the absence of any situational threat. In addition, there was a significant difference in mood in the high threat condition, probably because the situation wasn't sufficiently "strong" enough to eliminate these differences, $t(28) = 2.80$, $p < .01$. If a situation were very strong (e.g., give an impromptu speech in front of the entire student body), it is likely that any trait differences would disappear. Despite these findings, both low and high threat conditions showed lower correlations between trait and behavior than did the medium threat condition ($r = .39$, $r = .47$, respectively). These initial findings demonstrate support for the TASS model. As predicted, trait differences were most manifest in the medium threat (medium strength)

condition.

Discussion- Study 1

High social anxiety participants showed an increase in anxious mood between the low and medium threat conditions. In contrast, the anxious mood of low social anxiety participants increased between the medium and high threat conditions. This gives initial support to the idea that traits can be viewed as sensitivities to situational strength. The trait is most highly evident in situations of medium strength, where those high in social anxiety become distressed with very little provocation, while those low in social anxiety remain sanguine. In the medium strength condition, the correlation between trait and behavior is highest ($r = .75$), and is substantially higher than the .3 ceiling described by Mischel (1968) in his assessment of personality research to that date. It is more similar to the kind of correlation seen with the use of aggregation techniques, or with a thorough idiographic approach. However, neither special statistical nor methodological procedures was needed to arrive at such a high correlation. An interactionist approach combining trait and situational strength variables was sufficient.

Table 1. Ratings of Anxious Mood on a 1-5 Scale

Social Anxiety	Threat	Mean	N	SD
Low	Low	1.70	10	.823
	Medium	1.41	8	.550
	High	2.56	16	1.349
High	Low	2.84	11	1.814
	Medium	3.84	14	1.266
	High	4.11	14	1.672

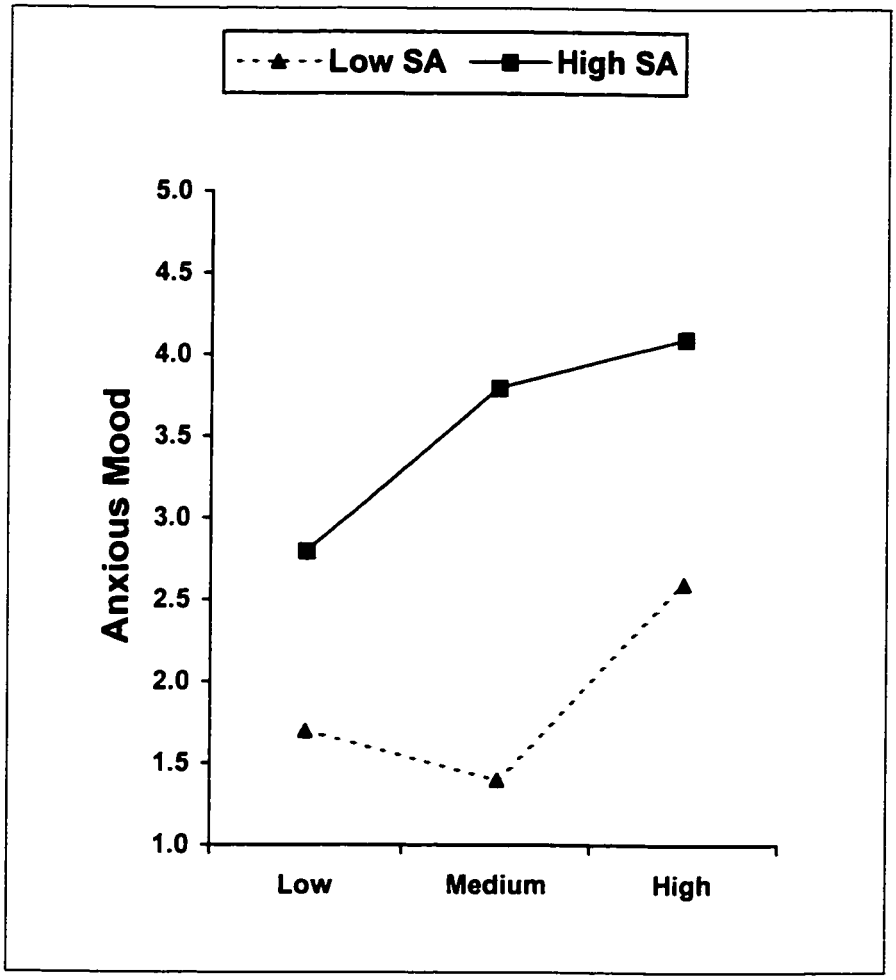


Figure 1. Anxious Reactions to Three Levels of Situational Threat on a 1-5 Scale

Chapter II: Overview and Methods

Study 2 used the same basic design as Study 1, but with hostility as the target personality variable instead of social anxiety. In addition, a behavioral dependent measure was included along with the mood measure, to demonstrate that the TASS model would predict actual behavior, not just the self-report of emotion. Hostility is the tendency for individuals to react quickly and easily with anger to a perceived insult. Individuals pre-screened as being either high or low in hostility served as participants. All of the participants wrote an essay that was ostensibly evaluated by an anonymous partner. Then they were exposed to one of three different levels of situational strength. One third of the participants were given non-insulting feedback (low provocation); one third were given mildly insulting feedback (medium provocation); and the final third were given strongly insulting feedback (strong provocation). After receiving this information, the participants were led to believe that they would compete against their anonymous partner in a computer task. This task would allow them to blast their partner with aversive bursts of noise. The participants completed a mood measure and then indicated how loud they would like the bursts of noise to be.

High hostility participants were expected to show an increase in anger and retaliation between the control and medium insult conditions, and low hostility participants were expected to show an increase in anger and retaliation between the medium insult and strong insult conditions. The medium strength condition was expected to yield the highest correlation between trait and behavior (and between trait and emotional response).

Methods

Participants

The participants were 101 female University of Washington undergraduates who participated in exchange for extra course credit. They were pre-screened as being either high (M = 37.26, SD = 7.53 n = 50) or low (M = 14.47, SD = 3.65, n = 51) in hostility using a tertile split on the Buss-Perry Aggression scale (1992). Participants indicated their agreement with 29 items (e.g., "When frustrated, I let my irritation show"; "I have trouble controlling my temper") using 4-point scales (0 = extremely uncharacteristic, 3 = extremely characteristic). After reversing the scoring for 2 negatively worded items, a total hostility score was found by summing the 29 responses. Three additional participants failed to fully complete the measures and their data were discarded.

Procedure and Materials

Participants were tested in groups of 4 or 6. At the start of the session, the participants learned that the experiment would be conducted in two phases. In the first phase, they would write essays to be evaluated by a fellow participant. In the second phase, they would compete against this same participant in a computerized reaction-time task. They were told they would not be informed of their "partner's" identity.

After receiving these brief instructions, the participants were led into separate rooms. They were given 10 minutes to write an essay about a usage fee for their university's athletic facility. When the allotted time had elapsed, the experimenter collected the essays and gave them their "partner's" essay to evaluate. In fact, these essays had been pre-prepared by the experimenter. After a few minutes, the experimenter collected their evaluations and gave them their "partner's" evaluation of the essay they had written. In fact, these evaluations had been pre-prepared by the experimenter.

The participants received one of three types of feedback: no insult, medium insult, or strong insult. In the no insult condition, the participants were told they had written a

good essay. In the medium insult condition, the participants were told the essay needed work and that it didn't seem like much effort was put into it. In the strong insult condition, the participants were told that it was the worst essay the partner had ever read.

After giving the participants time to read the false feedback, the experimenter handed out two questionnaires. The first questionnaire assessed their mood. Participants indicated the extent to which they were presently experiencing each of five emotions (hostile, aggressive, angry, irritated, upset) (1 = not at all; 7 = very much). The five items were averaged to derive a single emotion scale ($\alpha = .89$), indicative of how much anger they were feeling after receiving the feedback.

The second questionnaire began with a brief description of the computerized reaction time task. The participants were told that in the next phase of the experiment, they would compete against their partner in a task that assessed their reaction times. Whoever had the slowest time on each trial would receive a burst of noise via headphones attached to the computer (the participants were seated next to computers with headphones attached for experimental realism). The questionnaire asked the participant to rate how loud a burst of noise they wanted their partner to receive (0 = no noise, 1 = 60 decibels, 10 = 110 decibels). The decibel scale was in increments of 5 decibels, with descriptions of each level (e.g., 80 dB, moderately loud, vacuum cleaner; 110 dB, very loud, rock concert). They were informed that none of the choices exceeded the pain threshold.

When they had finished completing these items, participants were informed that the experiment was over. They were then debriefed, thanked, and excused.

Results

Emotion Data

An initial analysis of the data used a 2 (Hostility) X 3 (Insult) ANOVA, with

emotion as the dependent variable. There was a main effect of hostility, $F(1, 101) = 21.03$, $p < .001$, such that those scoring in the top third on the Buss-Perry scale showed a higher level of negative emotion overall than did those scoring low on the Buss-Perry. This was important in establishing the validity of the chosen personality measure. Second, the analysis demonstrated that the experimental conditions differed from one another, with a main effect of insult, $F(2, 101) = 15.42$, $p < .001$. This indicated that the experimental manipulation was effective. Finally there was a non-significant interaction, $F(2, 101) = 2.43$, $p = .09$. This interaction approached significance, and a significant interaction between hostility and insult level was expected. However, planned comparisons were needed to directly test the hypotheses (see Figure 2 for the overall pattern of results and Table 2 for cell means).

In this more detailed analysis, high hostility participants showed the expected increase in negative emotion between low and medium levels of insult. Both medium and strong insult produced significantly higher levels of anger than the low insult condition, $t(95) = 3.97$, $p < .001$, $t(95) = 4.87$, $p < .001$, respectively. The participants' negative emotion leveled off between medium and strong insult. These levels of insult did not differ significantly from one another, $t(95) = .87$, $p = .39$. A contrast testing the average of medium and strong versus low was significant, $t(95) = 5.04$, $p < .001$. High hostility participants did not feel negatively in the low insult condition, but they felt equally angered in the medium and high insult conditions.

The hypothesized pattern of emotion predicted by the TASS model was also confirmed with the low hostility participants. With these participants, the low and

medium conditions did not differ, $t(95) = .99$, $p = .33$. And as expected, strong insult produced higher levels of anger than either the medium or the low insult conditions, $t(95) = 1.73$, $p = .09$, $t(95) = 2.85$, $p < .01$, respectively. A contrast testing the average of low and medium versus high was significant, $t(95) = 2.65$, $p < .01$. In sum, the low hostility participants were "slow to anger." They did eventually show increasing negative emotion, but it took a high level of insult to bring it out of them.

Replicating the findings from Study 1, the simple effect analysis shows a highly significant difference in mood between high and low hostility participants in the medium insult (medium strength) condition, $t(30) = 3.49$, $p < .01$. When given feedback on their essay that was slightly insulting, the high hostility participants reacted with negative emotions, but the low hostility participants did not. In the simple effect analysis within the low insult condition, there was no significant difference in emotion, $t(31) = 1.42$, $p = .17$. Neither type of person felt angered under these conditions.

However, there was a significant difference in negative emotion in the high insult condition. Again, this is probably because the situation wasn't sufficiently "strong" enough to eliminate these differences, $t(34) = 2.75$, $p < .01$. If a stronger situation had been experienced (e.g., participants had been verbally assaulted with foul language as in the Nisbett and Cohen [1996] Culture of Honor research), it is likely that both groups would have become angered equally and that the trait difference seen here would have disappeared. The point-biserial correlation between scores on the Buss-Perry (high or low) and negative mood was higher in the medium insult condition ($r = .54$) than in the low insult ($r = .25$) or high insult ($r = .43$) condition. Once again, it is in the medium

strength condition that trait scores are most predictive of emotional response.

Decibel Data

The results of a second 2 (Hostility) X 3 (Insult) ANOVA for decibel ratings were similar to the findings for emotional response. Again there was a main effect of hostility, $F(1, 101) = 6.62$, $p < .01$, demonstrating that the trait measure was effective in differentiating high hostility participants from low hostility participants. There was a main effect of insult, $F(2, 101) = 7.20$, $p < .001$, showing that the experimental conditions differed from one another. With decibel ratings as the dependent variable, the interaction between hostility and insult reached significance, $F(2, 101) = 3.01$, $p < .05$ (see Figure 3).

Another series of planned comparisons were used (see Table 3 for cell means) to examine the specific pattern of data in decibel ratings. The findings for decibel ratings echoed the pattern seen with the emotion data. High hostility participants again showed a sharp increase in retaliatory behavior (increased decibel ratings) between low and medium insult conditions. Both medium and strong insult produced significantly higher decibel levels than the low insult condition, $t(95) = 2.29$, $p < .05$, $t(95) = 2.57$, $p < .01$, respectively. This retaliatory behavior then leveled off, with no significant difference between medium and strong insult conditions, $t(95) = .26$, $p = .80$. A contrast testing the average of medium and strong versus low was significant, $t(95) = 2.77$, $p < .01$.

The hypothesized pattern of decibels was also as predicted among low hostility participants. The low and medium conditions did not differ, $t(95) = -.70$, $p = .49$. The low hostility participants began to retaliate at a strong level of insult. Strong insult produced significantly higher decibel ratings than either the medium or the low insult

conditions, $t(95) = 3.24$, $p < .01$, $t(95) = 2.66$, $p < .01$, respectively. A contrast testing the average of low and medium versus high was significant, $t(95) = 3.44$, $p < .001$. The planned comparisons showed that high hostility participants showed an increased level of retaliation at the medium level of insult, whereas low hostility participants didn't retaliate until a strong level of insult is experienced.

In the analysis of the simple effects, the medium insult condition showed a highly significant difference in decibel ratings between high and low hostility participants, $t(30) = 3.44$, $p < .01$. As expected, the medium insult caused retaliation in the high hostility participants but not in the low hostility participants. In the simple effects analysis for both the low and high insult conditions, there were no significant differences in decibel ratings based on participants' hostility, $t(31) = .46$, $p = .65$, $t(34) = .49$, $p = .63$. This is consistent with the TASS model prediction that truly weak and truly strong conditions are not optimal for eliciting trait differences. The point-biserial correlation between trait and retaliatory behavior was highest in the medium insult condition ($r = .53$). This correlation was negligible in the low insult and high insult conditions ($r = .08$ in both conditions).

Mediational Analysis

Do hostile people react more aggressively simply because they are angrier? If so, emotion should fully mediate the relationship between insult and decibel ratings. The initial analyses showed that hostility and insult level interacted to predict participants' emotional reactions and their decibel ratings. A 2 (Hostility) by 3 (Insult) analysis of covariance (ANCOVA) using emotion as the covariate was conducted to determine if the effect of this interaction in predicting decibel ratings would be diminished after

controlling for the effect of emotions. The covariate was marginally significantly related to decibel ratings $\beta = .16$, $p = .09$. The interaction between hostility and insult remained marginally significant, $F(2, 94) = 2.49$, $p = .09$, after removing the variance accounted for by emotion, indicating that emotion does not fully mediate the effect on decibel ratings. It appears that the aggressive reactions in the hostile participants were not solely due to their negative emotions.

Discussion- Study 2

In Study 2, the basic findings of Study 1 were replicated. The findings were generalized to a different personality variable and to a behavioral dependent measure. As predicted by the TASS model, participants' hostility was most evident in emotional reactions and behavioral retaliation at a medium level of situational strength. High hostility participants showed an increase in negative emotions between the low and medium insult conditions. The negative emotions and retaliation of low hostility participants increased between the medium and strong insult conditions. The correlation between trait and behavior at a medium level of strength was again significantly higher than the .3 ceiling (emotional responses, $r = .54$; retaliatory behavior, $r = .53$). By replicating the findings with a different personality variable, there is some initial support for use of the TASS model as a general model of traits. It shows a higher predictive ability using a one-time trait measure than seen in prior research, and helps buttress the idea that traits indeed can serve as good predictors of behavior.

Table 2. Ratings of Negative Emotion on a 1-7 Scale

Hostility	Insult	Mean	N	SD
Low	Low	1.27	18	.460
	Medium	1.67	15	.955
	Strong	2.37	18	1.423
High	Low	1.63	15	.953
	Medium	3.26	17	1.519
	Strong	3.60	18	1.267

Table 3. Decibel Retaliation on a 0-10 Scale

Hostility	Insult	Mean	N	SD
Low	Low	3.17	18	2.229
	Medium	2.60	15	1.121
	Strong	5.22	18	2.074
High	Low	3.53	15	2.295
	Medium	5.41	17	2.980
	Strong	5.61	18	2.638

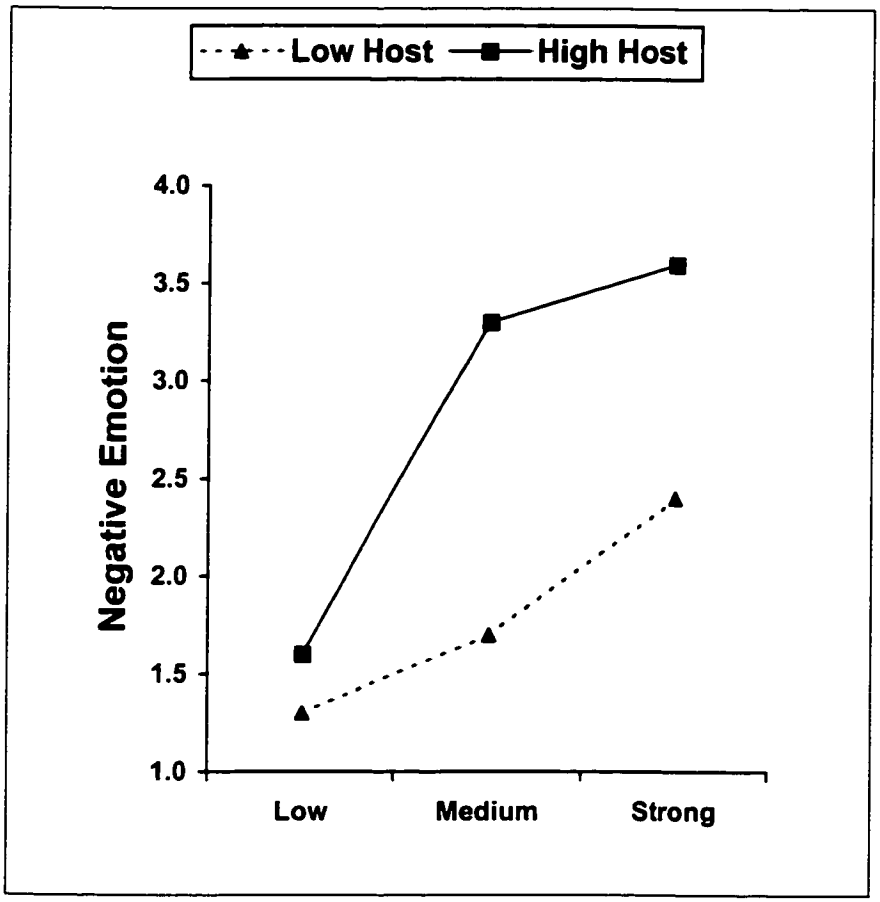


Figure 2. Emotional Reactions to Three Levels of Insult on a 1-7 Scale

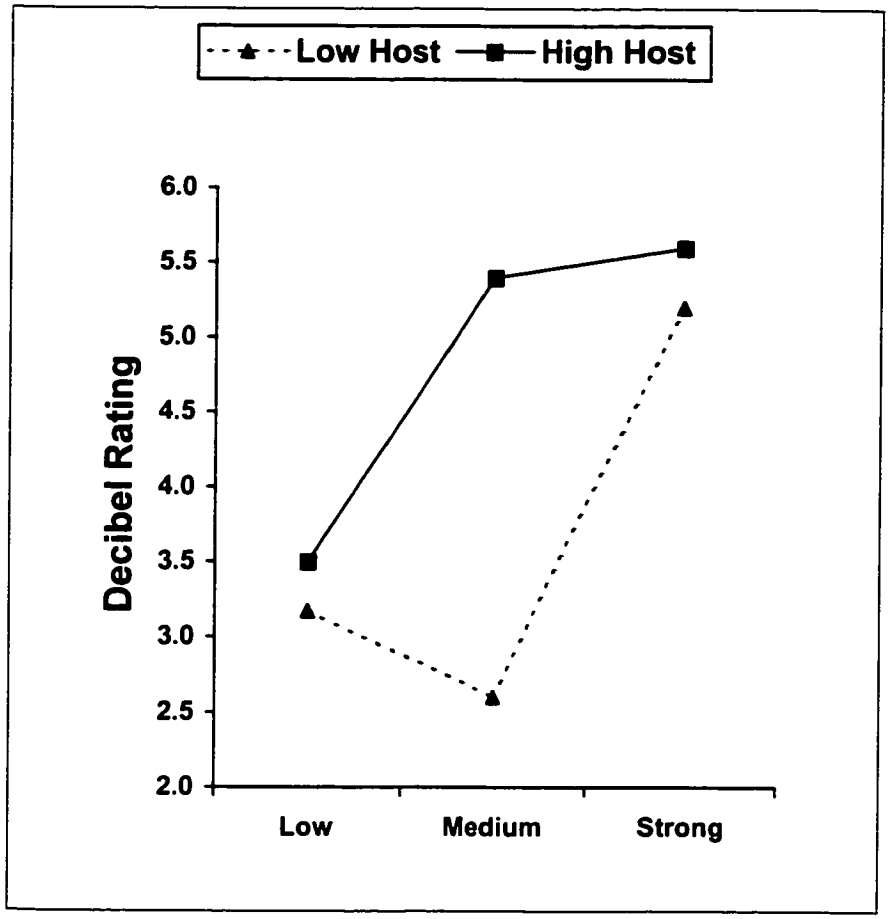


Figure 2. Decibel Retaliation Across Three Levels of Insult on a 0-10 Scale

Chapter III: Overview and Methods

The importance of the role of construal (a person's explanations or interpretations for an event) is one of the basic tenets of social psychology. Ross and Nisbett (1991) refer to it as one of the tripod legs on which the discipline rests. Study 3 extended the investigation of the TASS model to examine the role of construal. Why does the trait manifest itself at a medium level of situational provocation? Perhaps people high in hostility perceive that level of insult as highly insulting, whereas people low in hostility perceive it as less provoking. The same insult might mean something completely different depending on who hears it. Both the low and high insult conditions are unambiguous, but the medium level might be open to interpretation.

To test this hypothesis, a simulation study was conducted in which participants first completed a measure of hostility, then read three scenarios similar to the conditions used in the previous hostility study. They rated how insulting they found the comments to be, how positive or negative they were, how fair they were, and how accurate they were. It was hypothesized that those who scored low in hostility would interpret the medium-level insult as much less insulting, more fair, more positive, and more accurate than would those who scored high in hostility. In addition, their emotional reactions were assessed. Perhaps it is the case that low hostility participants see a medium-level insult as "constructive criticism," whereas those high in hostility see it as unduly critical.

Methods

Participants

The participants were 98 female University of Washington undergraduates who

participated in exchange for extra course credit. They were pre-screened as being either high (M = 70.73, SD = 8.89 n = 52) or low (M = 45.35, SD = 3.84, n = 46) in hostility using a tertile split on the Buss-Perry Aggression scale (1992). Participants indicated their agreement with 29 items (e.g., "When frustrated, I let my irritation show"; "I have trouble controlling my temper") using 5-point scales (1 = extremely uncharacteristic, 5 = extremely characteristic). After reversing the scoring for 2 negatively worded items, a total hostility score was found by summing the 29 responses. Two additional participants failed to fully complete the measures and their data were discarded.

Procedure and Materials

Participants were tested in groups of 4 to 6. At the start of the session, the participants learned that the experiment would consist of reading hypothetical situations and recording their thoughts and feelings in response to them. Participants then read three scenarios (follow by other scenarios that were administered as part of an unrelated experiment) similar to the actual scenarios encountered by subjects in the previous hostility experiment. In the first scenario they were told to imagine that they had written an essay and been given positive feedback ("Good job, nice work.") by a partner. In the second scenario they were told that their essay had received the feedback "Could have been clearer. Not much effort put into it.," and in the third scenario they were told that the feedback was "This is the worst essay I have ever read." The presentation order of these scenarios was counterbalanced.

After each scenario, the participants were asked to rate their mood and their thoughts about the partner's evaluation. For the mood measure, participants indicated how apt they were to be feeling each of seven emotions (aggressive, angry, happy, calm, irritated, glad, insulted) (1 = not at all; 7 = very much). The seven items were averaged to derive a single emotion scale, indicative of how much anger they thought they would be feeling after receiving the feedback. The positive items were reverse scored (low

insult $\alpha = .78$, medium insult $\alpha = .84$, strong insult $\alpha = .77$). After rating their mood, participants were asked to characterize the partner's evaluation with four single items ranging on 1-7 scales (negative/positive, inaccurate/accurate, fair/unfair, insulting/complimentary).

When they had finished completing these items, participants were informed that the experiment was over. They were then debriefed, thanked, and excused.

Results

Emotion Data

The data were analyzed using a 2 (Hostility) X 3 (Insult) ANOVA, with emotion as the dependent variable. As in the Study 2, there was a main effect of hostility, $F(1, 96) = 10.08$, $p < .001$, such that those scoring high on the Buss-Perry reported that they would feel more negative emotion in general than those scoring low on the Buss-Perry. There was also a main effect of insult, $F(2, 192) = 388.33$, $p < .001$, such that the experimental conditions provoked different levels of emotional reactions. However, there was no interaction between hostility and insult, $F(2, 192) = .325$, $p = .72$. The pattern of emotion seen in Study 2 was not replicated (see Figure 4). Instead, all participants showed a linear increase in negative emotions, and high hostility participants showed greater negative emotion at each level of insult (see Table 4 for cell means). The failure to replicate the pattern of emotion in Study 2 implies that participants either have inaccurate perceptions about how they would feel in that situation, or that the simulation was not involving enough to tap into the emotion they would truly feel.

Evaluation Data

The next analyses used a series of four 2 (Hostility) X 3 (Insult) ANOVAs, with

the four construal items as the dependent variables (see Figures 5-8). Again there were no significant interactions of hostility by insult, but in this analysis, there were also no main effects of hostility for any of the items (all ps > .20). This means that both those high and low in hostility did not differ in the evaluations of their partner's feedback. However, there were consistent main effects of insult level for each item: negative/positive $F(2, 192) = 342.54$, $p < .001$, inaccurate/accurate, $F(2, 192) = 149.78$, $p < .001$, fair/unfair, $F(2, 192) = 104.03$, $p < .001$, insulting/complimentary, $F(2, 192) = 219.93$, $p < .001$ (see Tables 5-8 for cell means). This means that construals were different across conditions. Traits didn't matter for construals, only level of insult mattered.

Discussion- Study 3

The importance of construal is a defining part of the social psychological approach. It was hypothesized that differences in construal might be an underlying mechanism behind the trait differences in the medium strength condition. Perhaps medium strength conditions are ambiguous, and those high in a trait interpret them differently than those low in a trait. This idea was tested using a replication of Study 2. However, to simplify the study, the participants were not actually subjected to varying levels of insult. Instead, they were asked to imagine being under those different levels of situational strength. The typical TASS pattern was not replicated in this study. Regardless of personality type (in this case, low or high hostility), all participants construed each situation (low, medium, and strong insult) the same way.

Because this study only simulated the conditions of Study 2, it is possible that

participants were not able to know how they would actually construe the feedback if they had experienced an insult rather than just imagining that they had. It is also possible that differences in construal *do not* underlie the trait differences seen in Studies 1 and 2. Perhaps everybody sees the situation in the same way, but only those high in the trait react in the medium strength condition. Unfortunately, the different methodology used in the study renders the data inconclusive, and further research will be needed to clarify this issue.

Table 4. Ratings of Negative Emotion on a 1-7 Scale

Hostility	Insult	Mean	N	SD
Low	Low	1.84	46	.648
	Medium	3.58	46	1.140
	High	5.32	46	1.00
High	Low	2.28	52	.961
	Medium	4.13	52	1.120
	High	5.67	52	.963

Table 5. Ratings of Positive/Negative Evaluation on a 1-7 Scale

Hostility	Insult	Mean	N	SD
Low	Low	5.35	46	1.100
	Medium	3.04	46	1.115
	High	1.30	46	.785
High	Low	5.12	52	1.114
	Medium	3.02	52	1.244
	High	1.17	52	.513

Table 6. Ratings of Accuracy Evaluation on a 1-7 Scale

Hostility	Insult	Mean	N	SD
Low	Low	4.43	46	1.241
	Medium	4.09	46	1.244
	High	2.20	46	1.147
High	Low	4.42	52	1.226
	Medium	4.00	52	1.252
	High	2.04	52	1.154

Table 7. Ratings of Fair/Unfair Evaluation on a 1-7 Scale

Hostility	Insult	Mean	N	SD
Low	Low	3.33	46	1.383
	Medium	3.85	46	1.316
	High	5.91	46	1.189
High	Low	3.42	52	1.460
	Medium	4.19	52	1.329
	High	5.98	52	1.111

Table 8. Ratings of Insulting/Complimentary Evaluation on a 1-7 Scale

Hostility	Insult	Mean	N	SD
Low	Low	4.96	46	1.333
	Medium	3.35	46	.875
	High	1.54	46	.912
High	Low	4.85	52	1.526
	Medium	3.23	52	1.165
	High	1.40	52	.721

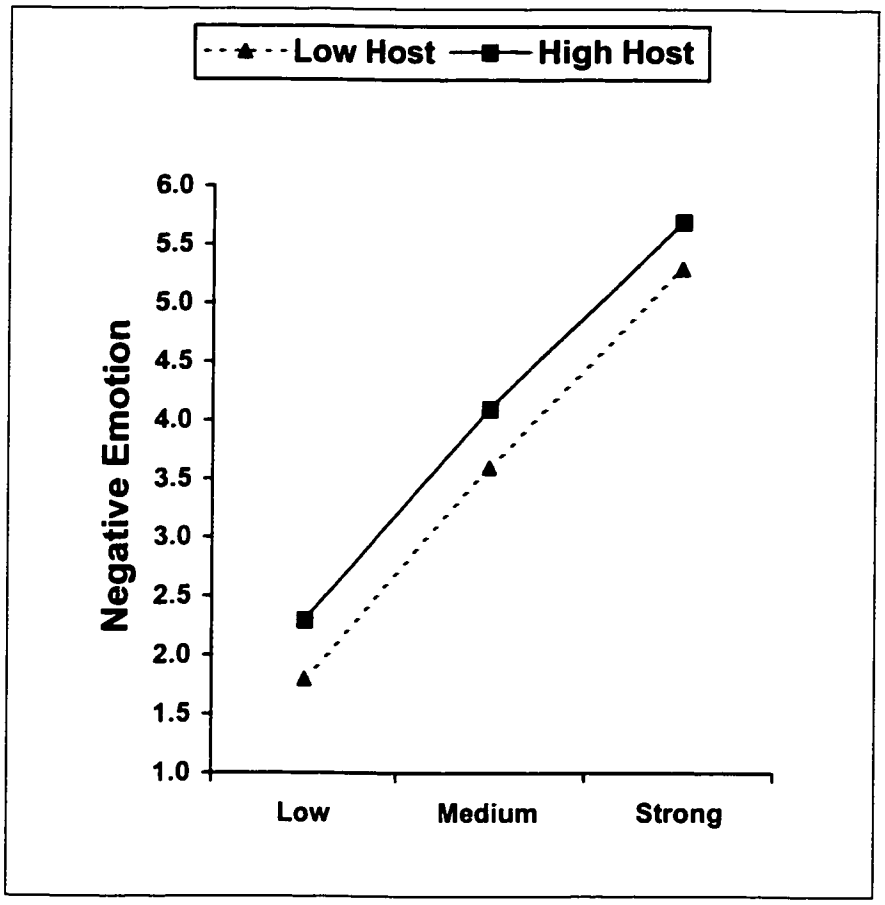


Figure 4. Emotional Reactions to Three Levels of Insult on a 1-7 Scale

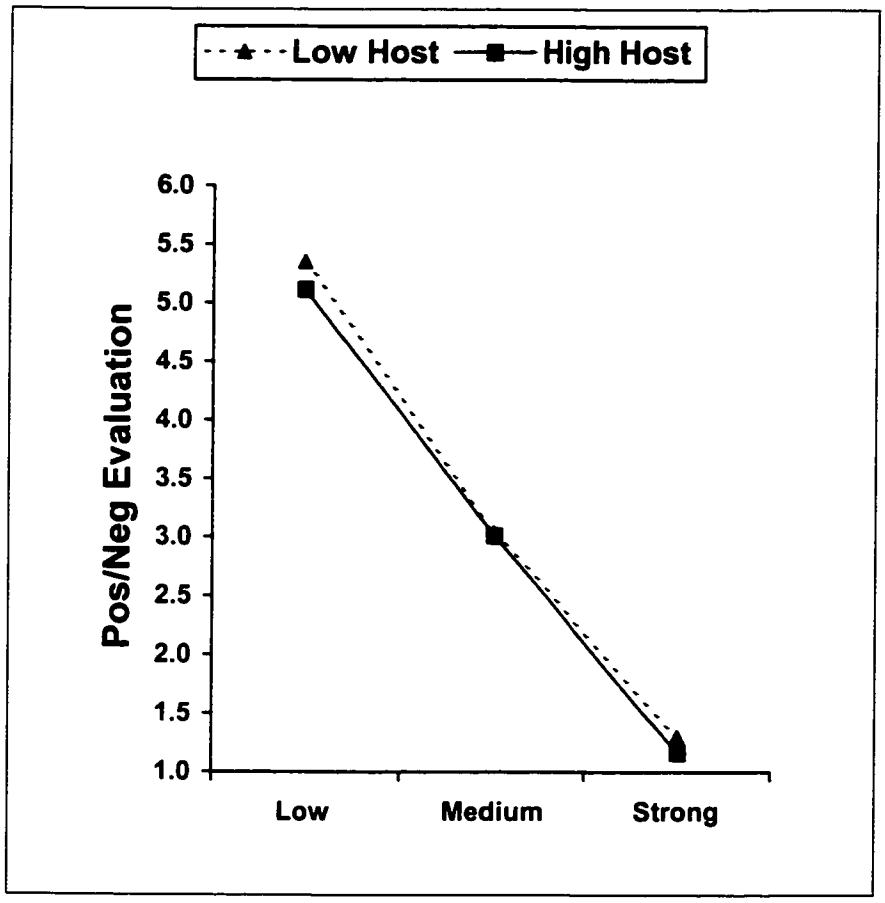


Figure 5. Positive/Negative Evaluations Across Three Levels of Insult on a 1-7 Scale

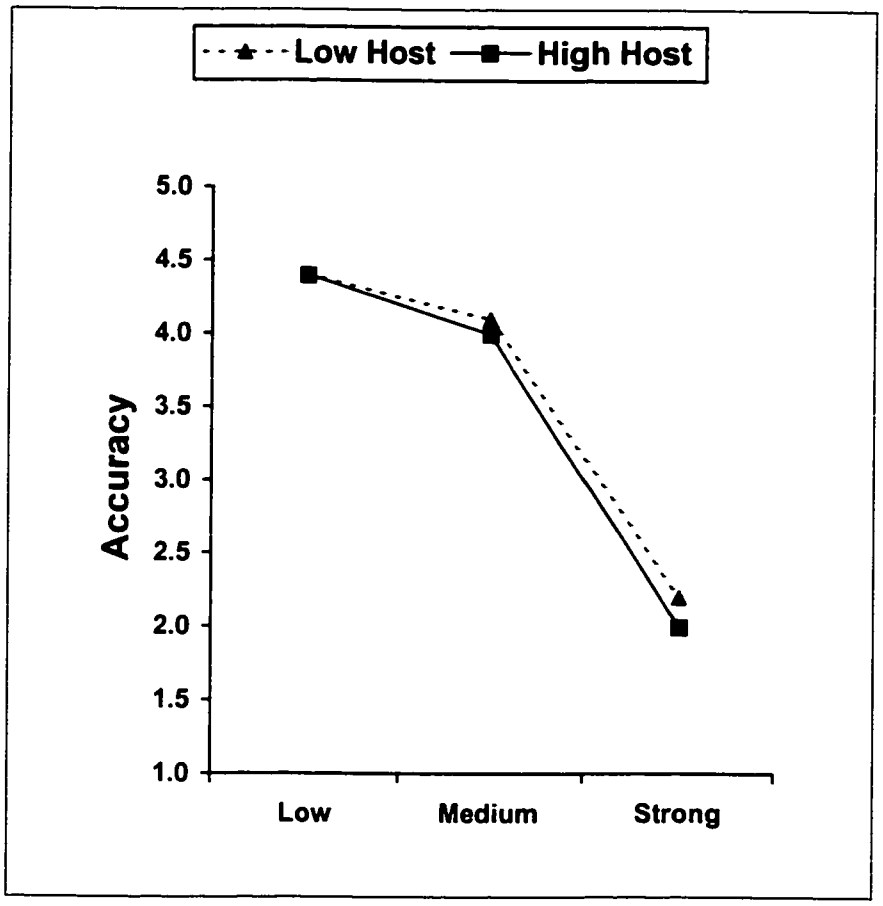


Figure 6. Accuracy Judgments Across Three Levels of Insult on a 1-7 Scale

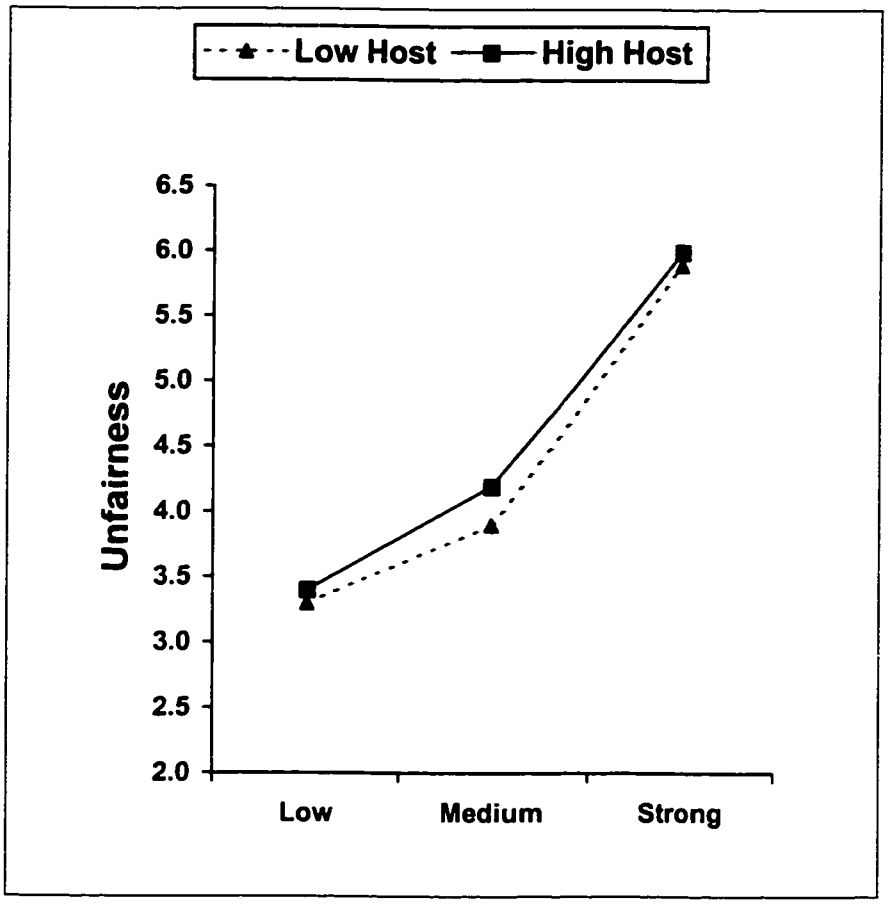


Figure 7. Unfairness Judgments Across Three Levels of Insult on a 1-7 Scale

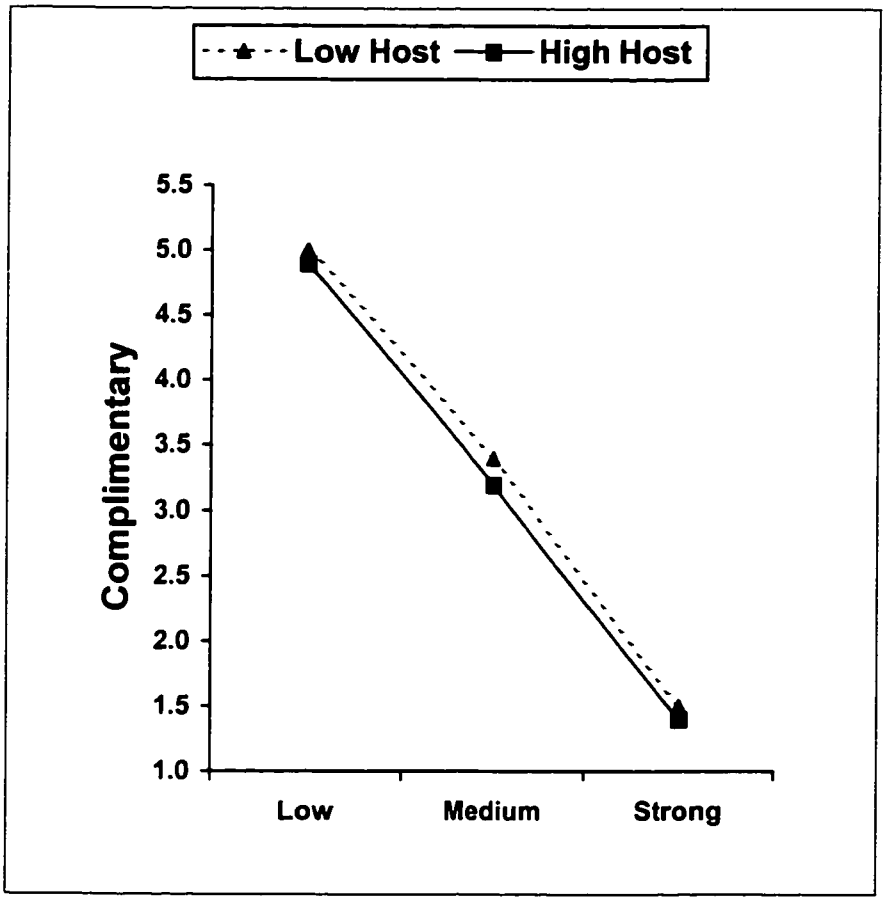


Figure 8. Complimentary Judgments Across Three Levels of Insult on a 1-7 Scale

Chapter IV: Overview and Methods

Study 4 examined a variant of the TASS model using prejudicial attitudes as the target personality variable. The TASS model predicts that those scoring high in prejudice will require a lower level of situational strength before manifesting a discriminatory response than will those scoring low in prejudice. High and low scorers on implicit and explicit measures of prejudice were subjected to low, medium, and high levels of situational provocation (operationalized as failure on a test/self threat), and discrimination was measured after the provocation. Participants were then given the opportunity to derogate a minority job candidate as they played the role of a personnel manager. It was predicted that participants who scored high on various measures of prejudice would show a sharp increase in discrimination at a medium level of situational provocation, whereas low prejudiced participants would not show an increase in discriminatory behavior unless subjected to high levels of provocation. Explicit and implicit measures of personality were both used in an attempt to discover whether the model's findings would generalize to implicit measures.

Methods

Participants

The participants were 139 University of Washington undergraduates who participated in exchange for extra course credit. There were 38 males and 101 females. Seventy six of the participants were White, 53 were Asian, and 10 were of other ethnic backgrounds. There were no Black participants. Three additional participants failed to fully complete the explicit measures and two participants experienced a computer failure.

The additional five participants' data were discarded.

Materials

All participants completed both explicit and implicit measures of prejudice. The explicit measures of prejudice were the Modern Racism Scale (MRS, McConahay, Hardee, & Batts, 1981) and the Motivation to Control Prejudiced Reactions Scale (MCPRS, Dunton & Fazio, 1997). Participants were deemed as high or low in prejudice on each scale using a tertile split (see Table 9 for descriptive statistics). On the MRS, participants indicated their agreement with 7 items (e.g., "Discrimination against Blacks is no longer a problem in the United States"; "Blacks should not push themselves where they are not wanted") using 5-point scales (1 = strongly disagree, 5 = strongly agree). On the MCPRS, participants indicated their agreement with 17 items (e.g., "It's important to me that other people not think I'm prejudiced"; "If I have a prejudiced thought or feeling, I keep it to myself") using 5-point scales (1 = strongly disagree, 5 = strongly agree). After reversing the scoring for the negatively worded items, a total prejudice score was found by summing the responses for each explicit scale.

The implicit measure was the Race Implicit Association Task (IAT, Greenwald, McGhee, & Schwarz, 1998). The IAT measures the differential association of two target concepts with an attribute. The concepts appear in a 2-choice task (e.g., flowers vs. insects), and the attribute appears in a second task (e.g., pleasant vs. unpleasant words). When highly associated categories (e.g., flower + pleasant) share a response key, performance is faster than when less associated categories (e.g., insect + pleasant) share a key. This performance difference implicitly measures the differential association of the

concepts with the attribute.

The Race IAT, which pairs Black and White faces with pleasant (e.g., peace, love) or unpleasant words (e.g., cancer, vomit) is designed to tap into prejudiced feelings that might not be expressed on self-report measures. The Race IAT effect is computed by calculating a reaction time difference score between participants' association of Black+Pleasant, White+Unpleasant – Black+Unpleasant, White+Pleasant. The typical Race IAT effect is approximately an 80 millisecond difference score (meaning that people are faster at associating white with pleasant and black with unpleasant than they are at the reverse). Once again, those scoring in the top and bottom thirds were classified as high or low in prejudice.

Procedure

Participants were tested in groups of 4 to 6 in two separate testing sessions. At the start of the first session, the participants were told that the experiment would consist of completing a battery of personality tests for a new University database. They were informed that they would take both implicit and explicit measures of personality, and that their answers would be completely anonymous and confidential. Experimenters then administered several measures of personality. The measures of interest were the prejudice measures, but several others were given to cloak the purpose of the study. When the participants were finished, they were asked to sign up for another study being conducted in the following week that related to judgment and decision-making abilities. The data for participants who did not sign up for the second session were discarded.

In the second session, participants completed a new consent form and were told

that this experiment was designed to assess their "integrative orientation" ability. This fictitious ability was described as a creative, problem-solving ability that taxed their judgment and decision-making skills. Participants first completed the Remote Associates Test (RAT; Mednick, 1962). With this task, participants are shown 3 words (e.g., car—swimming—cue) and asked to find a fourth word that relates to the other 3 (pool). Working interactively with the computer, participants completed 3 sample problems to ensure that they understood how the problems were solved.

They were informed that the test was made up of 10 problems and that they would have 5 minutes to solve these problems. The experimental task was then administered. Using random assignment to conditions, the participants received either a set of easy problems, medium problems, or difficult problems. Difficulty level was determined on the basis of prior testing with an independent sample and on published norms (McFarlin & Blascovich, 1984).

When the allotted time for working on the test had expired, the computer paused for a moment and informed participants how many problems they had correctly solved. After receiving this information, the participants did a second task that was also supposedly a measure of integrative orientation. In fact, it was designed to measure discrimination against a job candidate who was a racial minority (see Fein & Spencer, 1997 for a similar procedure). Participants were given a cover letter and resume describing a job candidate for a sales position. They were told to act as personnel managers and assess the candidate's qualification for the job. The resume was accompanied by a photo of a Black male in his early 20's. The candidate was

professionally dressed and smiling.

Three dependent variables were measured: personality judgments, overall evaluation, and a hiring decision. Participants were asked to integrate all the information they were given and describe the job candidate's personality (intelligent, arrogant, competent, motivated, cold, insincere, trustworthy) (1 = not at all; 7 = highly/completely). Positive items were reverse-scored, and the seven items were averaged to derive a single personality rating (α = .95), indicative of how they felt towards the candidate. After giving this assessment, participants were asked how much they agreed with six evaluative statements about the candidate (e.g., "I feel this person would make an excellent candidate for the position"; "I would invite this person for an interview") using the same seven point scale as above. These six items were averaged to derive a single overall evaluation of the candidate (α = .96). Finally, they were asked if they would give the candidate the job (yes or no).

When they had finished completing these items, participants were informed that the experiment was over. They were then debriefed, thanked, and excused.

Results

Preliminary Analyses

All three measures of prejudice were uncorrelated with one another. There were no significant main effects or interactions of participants' race or gender in any of the analyses, so these variables will not be mentioned further.

Main Analyses

Modern Racism Scale

The data were analyzed using a 2 (Prejudice) X 3 (Condition) ANOVA, with personality rating as the dependent variable. There was a main effect of prejudice, $F(1, 89) = 13.81$, $p < .001$. High scorers on the MRS gave more negative personality ratings to the minority candidate than did low scorers. There was also a main effect of condition, $F(2, 89) = 7.07$, $p < .001$, such that the personality ratings of the candidate varied across conditions. Finally, there was a significant interaction between prejudice and condition, $F(2, 89) = 3.54$, $p < .05$ (see Figure 9).

More focused analyses were needed to test the relevant hypotheses. A series of planned comparisons were used (see Table 10 for cell means). For high prejudice participants, the hypothesized pattern of personality rating was as predicted. Those in both the medium and high difficulty conditions rated the candidate's personality more negatively than did those in the easy task condition, $t(89) = 3.76$, $p < .001$, $t(89) = 3.29$, $p < .001$, respectively. Medium and high levels of difficulty did not differ, $t(89) = .29$, $p = .77$. A contrast testing the average of medium and high versus low was significant, $t(89) = 4.13$, $p < .001$.

The hypothesized pattern was also as predicted among low prejudice participants. The low and medium conditions did not differ, $t(89) = .33$, $p = .74$. The high level of difficulty evoked significantly more negative ratings in the low prejudiced participants than either the medium or the low difficulty conditions, $t(89) = 2.50$, $p < .05$, $t(89) = 2.13$, $p < .05$, respectively. A contrast testing the average of low and medium versus

high was significant, $t(89) = 2.77$, $p < .01$.

Another way of looking at these data is to examine the simple effects within each experimental condition. It is only in the medium problem condition that we see a ratings difference between high and low prejudice participants, $t(30) = 4.26$, $p < .001$. In both the easy and difficult problem conditions, there were non-significant differences in ratings of the candidate's personality based on participants' level of prejudice, $t(35) = 1.80$, $p = .08$, $t(35) = 1.29$, $p = .21$, respectively. The point-biserial correlation between prejudiced attitudes as indexed by the MRS and later discriminatory behavior was higher in the medium difficulty (medium strength) condition ($r = .60$) than in the other two conditions (low difficulty $r = .25$, high difficulty $r = .21$).

Next, the data were analyzed using a 2 (Prejudice) X 3 (Condition) ANOVA, with overall evaluation ratings as the dependent variable. There was a main effect of prejudice, $F(1, 89) = 8.76$, $p < .01$, a main effect of condition, $F(2, 89) = 6.17$, $p < .01$, and no interaction, $F(2, 89) = 1.37$, $p = .26$. Despite the non-significant interaction, the hypothesized pattern was replicated (see Figure 10). High scorers on the MRS showed an increase in negative evaluations at a medium level of situational strength, while low scorers required a high level of situational strength to show this increase (see Table 11 for cell means).

The final dependent variable considered was the participant's decision to give the candidate the job or not. There was a main effect of prejudice, $F(1, 89) = 8.63$, $p < .01$, a main effect of condition, $F(2, 89) = 7.52$, $p < .01$, and no interaction, $F(2, 89) = .89$, $p = .42$ (see Figure 11 and Table 12).

Motivation to Control Prejudiced Reactions Scale

The data were analyzed using a 2 (Prejudice) X 3 (Condition) ANOVA, with personality ratings as the dependent variable. There was a main effect of condition, $F(2, 90) = 3.80$, $p < .05$, but no effect of prejudice, $F(1, 90) = .51$, $p = .48$, and no interaction, $F(2, 90) = 1.12$, $p = .33$ (see Table 13 for cell means). Using the overall evaluation score or hiring decision as the dependent variable produced similar non-significant results. It appeared that using the MCPRS was not effective in producing the hypothesized pattern of results in the TASS model. The responses of low and high scorers on the measure were not distinguishable from one another statistically.

Race IAT

The data were analyzed using a 2 (Prejudice) X 3 (Condition) ANOVA, with personality ratings as the dependent variable. There was a main effect of condition, $F(2, 88) = 6.69$, $p < .01$, but no effect of prejudice, $F(1, 88) = .45$, $p = .50$, and no interaction, $F(2, 88) = 1.82$, $p = .19$ (see Table 14 for cell means). Using the overall evaluation score or hiring decision as the dependent variable produced similar non-significant results. As with the MCPRS, the Race IAT was not effective in predicting behavior in accordance with the TASS model's predictions. Low and high scorers on the measure were not significantly different from one another in their ratings and evaluations of the candidate.

Discussion- Study 4

Study 4 generalized the findings from Studies 1 and 2 to prejudicial attitudes. In addition, it examined both explicit and implicit measures of attitudes to see if implicit measures also show the predicted TASS model pattern. Those who scored high on the MRS showed the predicted increase in discriminatory behavior (lower job candidate

evaluations) after experiencing a medium level of situational provocation. Those who scored low on the MRS displayed an increase in discriminatory behavior only at a high level of situational provocation. The participants' scores on the MCPRS did not predict discriminatory behavior, nor did their scores on the Race IAT.

Participants' scores on the MRS served as substantial predictors for discriminatory behavior ($\underline{r} = .60$) in the medium strength condition. In that condition, high scorers displayed the relevant behavior, but low scorers did not. In the low strength condition, the correlation between MRS score and behavior was comparatively low ($\underline{r} = .25$), and this was also true in the high strength condition ($\underline{r} = .21$). This was only true when using the MRS. The MCPRS and Race IAT did not show the same predictive utility in this experiment. It is probable that not all measures of personality or attitudes are as useful as others in the prediction of behavior.

These findings also raise the importance of the match between the personality measure used and the behavior assessed. For example, implicit measures have been shown to be better predictors of uncontrolled, automatic responses such as visual contact and eye blinking (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997). The MRS, on the other hand, is a better predictor of controlled judgments such as the hiring decision task used in this and other studies (McConahay, 1983). This raises the possibility that the implicit measure might have fared better if a different dependent measure had been used.

Table 9. Scores on Racism Measures

Measure	Level	Mean	SD	N
MRS	Low	11.51	1.397	67
	High	19.45	2.549	74
MCPR	Low	62.68	4.508	76
	High	47.20	5.260	70
IAT	Low	-10.90	53.138	74
	High	176.09	79.312	74

Table 10. MRS- Personality Ratings on 1-7 Scale

Prejudice	Condition	Mean	N	SD
Low	Easy	1.97	11	.782
	Medium	1.78	11	.665
	Hard	3.10	17	1.780
High	Easy	2.32	21	.599
	Medium	3.95	19	1.716
	Hard	3.81	16	1.730

Table 11. MRS- Overall Evaluation on 1-7 Scale

Prejudice	Condition	Mean	N	SD
Low	Easy	6.02	11	.835
	Medium	5.74	11	.681
	Hard	5.03	17	1.592
High	Easy	5.69	21	.835
	Medium	4.25	19	1.637
	Hard	4.30	16	1.813

Table 12. MRS- Hiring Decision (1 = Yes, 2 = No)

Prejudice	Condition	Mean	N	SD
Low	Easy	1.00	11	.000
	Medium	1.00	11	.000
	Hard	1.29	17	.470
High	Easy	1.10	21	.301
	Medium	1.37	19	.496
	Hard	1.56	16	.512

Table 13. MCPRS- Personality Rating on a 1-7 Scale

Prejudice	Condition	Mean	N	SD
Low	Easy	2.18	16	.787
	Medium	2.18	14	.824
	Hard	3.18	18	1.553
High	Easy	2.19	18	.811
	Medium	2.93	19	1.625
	Hard	3.00	11	1.727

Table 14. Race IAT- Personality Ratings on a 1-7 Scale

Prejudice	Condition	Mean	N	SD
Low	Easy	2.01	19	.795
	Medium	3.53	10	1.825
	Hard	3.43	17	1.810
High	Easy	2.43	17	.819
	Medium	2.54	14	1.214
	Hard	3.40	17	1.721

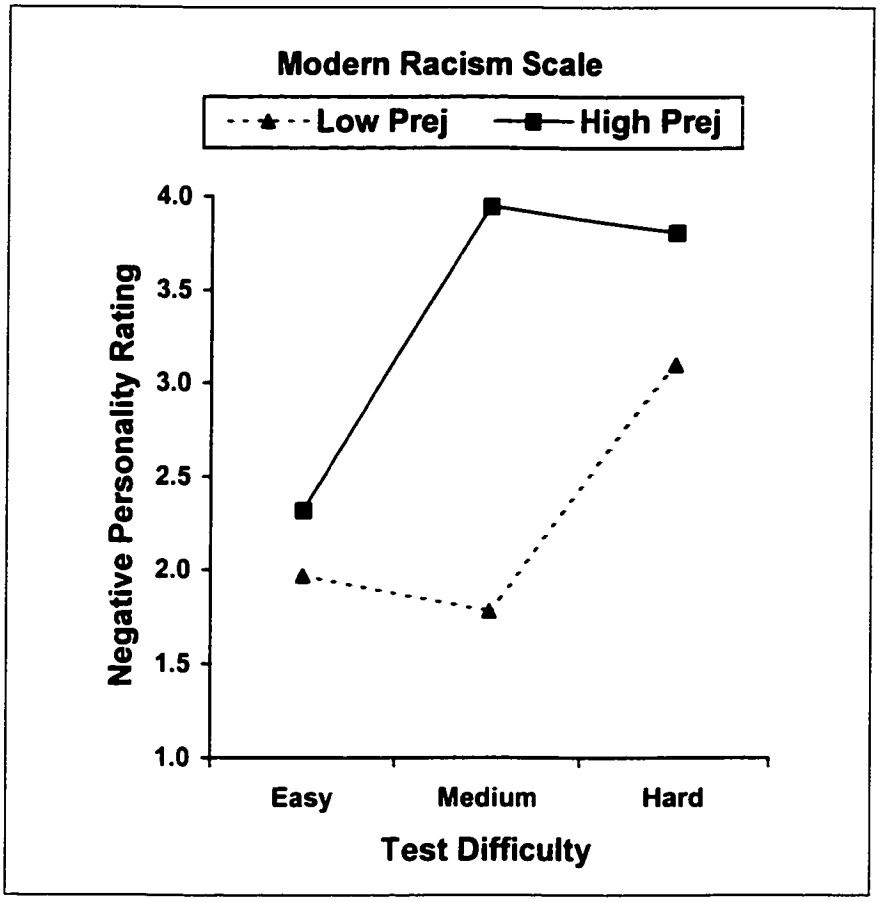


Figure 9. MRS- Personality Ratings Across Three Levels of Test Difficulty

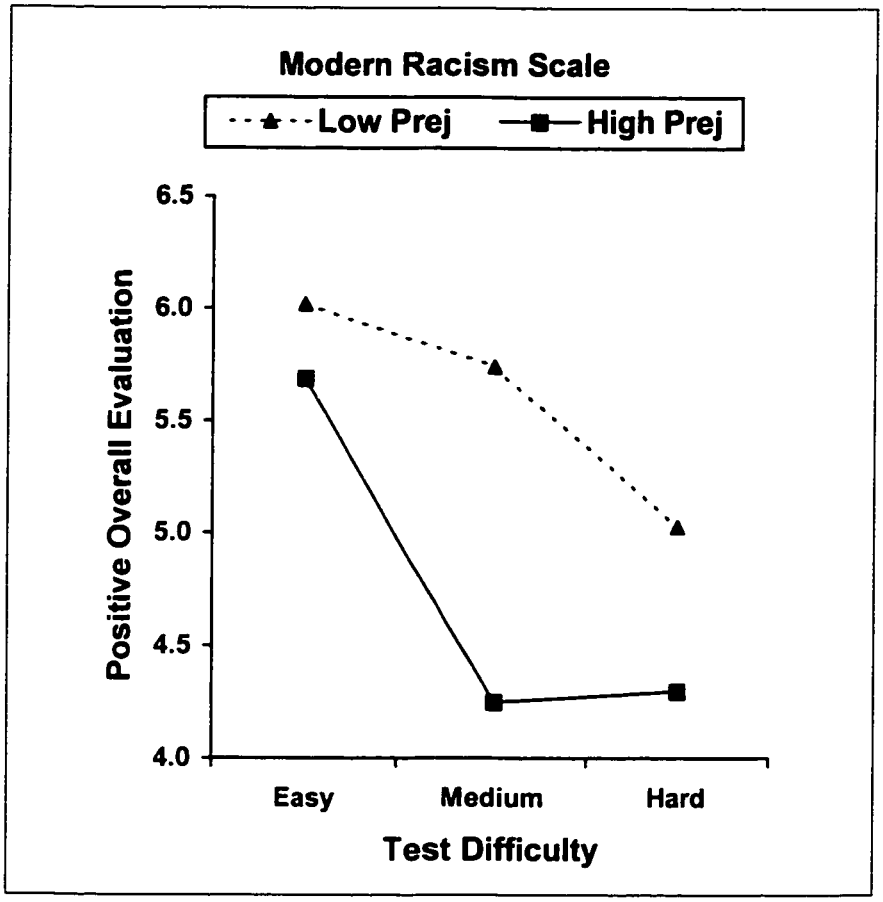


Figure 10. MRS- Overall Evaluations Across Three Levels of Test Difficulty

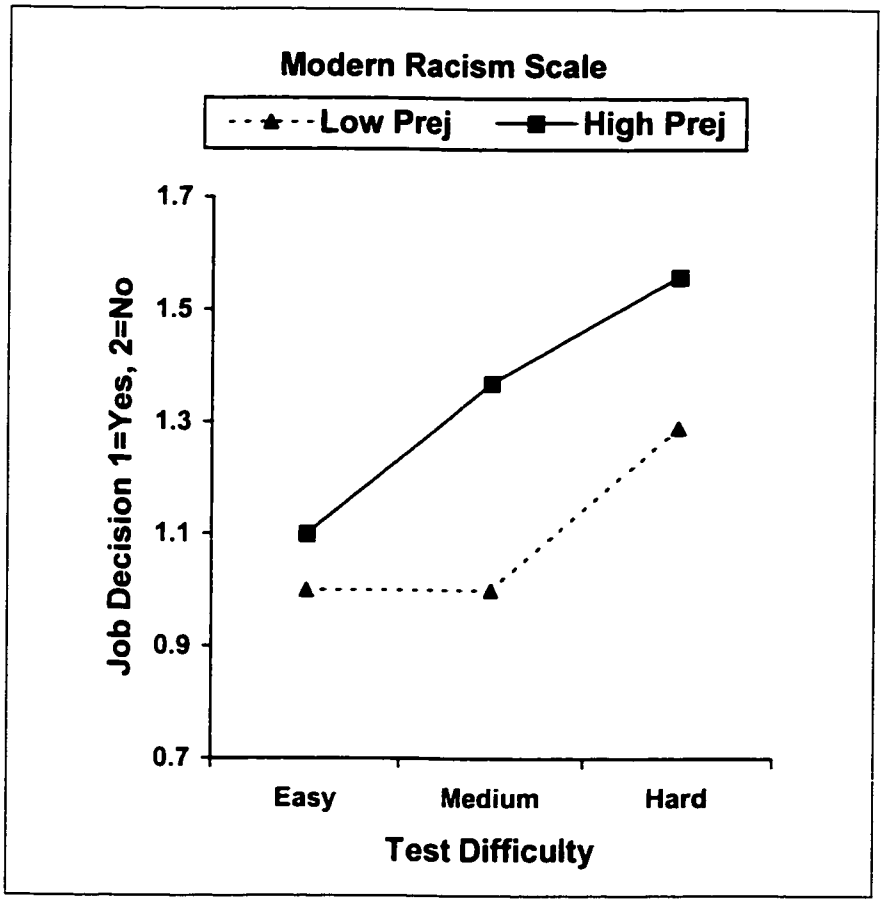


Figure 11. MRS- Hiring Decision Across Three Levels of Test Difficulty

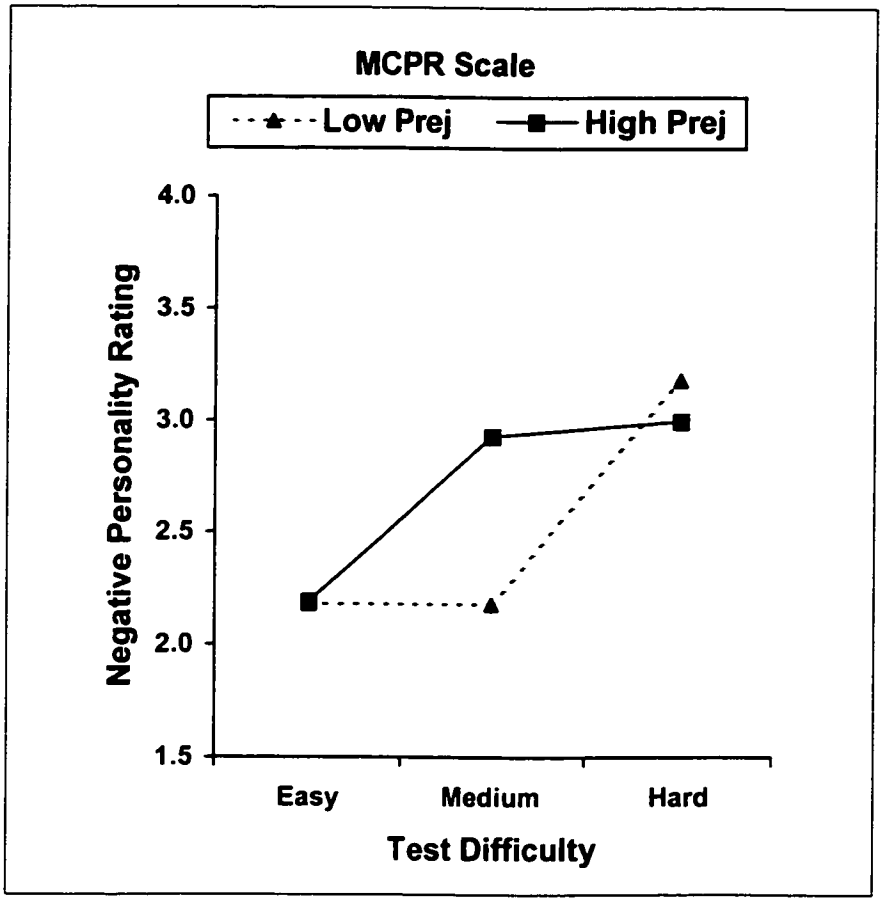


Figure 12. MCPRS- Personality Ratings Across Three Levels of Test Difficulty

General Discussion

Why do people do what they do? Psychologists have been striving to answer this question for decades. Unfortunately, it has been impossible to come up with a neat formula for understanding and predicting behavior. Theoreticians and researchers have produced multitudinous hypotheses, conducted innumerable investigations, engaged in countless scholarly debates, drifted into acrimonious arguments, and thrown up their

hands at various points in the attempt to definitively solve this puzzle. In surveying the current literature, the complexity and depth of theory and research have increased, but in some ways we are no closer to a tidy solution than we were 100 years ago.

The dominating viewpoint in the field has evolved from dispositionism to situationism to interactionism. Pervin (1990, p.14) said "although we are all pretty much interactionists at this point, there remains considerable disagreement about what in the person interacts how with what in the situation." In this dissertation, a new interactionist model of behavior was offered. In the TASS model, a definition of traits as sensitivities to situational strength was proposed. This investigation sought to determine how and when traits and situations interact to produce behavior. The findings of Studies 1, 2, and 4 supported the hypothesis that a medium level of situational strength is optimal for the manifestation of the greatest individual differences. Study 3 explored construal as a possible underlying mechanism of the model. These findings have important theoretical, empirical, and practical implications.

Theoretical Implications

Dynamic and Trait Interactionist Models

As in any discipline, psychology has gone through phases where different ideas are "in vogue." At the moment, a dynamical view of personality has begun to dominate. A recent special issue of the Personality and Social Psychology Review journal (2002, Vol. 6) is devoted entirely to this perspective, with topics as wide-ranging as stereotypes, bipolar depression, marriage systems theory, and evolutionary psychology. A dynamical view emphasizes "the interplay of multiple forces operating on various time scales to

promote constantly evolving patterns of thought, emotion, and action...the dynamical perspective is ideally suited to capture the emergence and maintenance of global properties in a psychological system" (Vallacher, Read, & Nowak, 2002, p. 264).

In terms of the present topic, social cognitive theories are a highly popular dynamical influence on current research. They are "the current favorite among academic personality psychologists," and, "proponents of alternative approaches acknowledge the need to reconcile their work with the social-cognitive tradition" (Caprara & Cervone, 2000, p.108; McCrae & Costa, 1996; Pervin & John, 1997). Social cognitive theories are defined in part by an emphasis on cognitive-affective units (e.g., goals, expectancies) that are context-specific, rather than the global conception of traits. Indeed, one gets the creeping feeling that traits are "passé" these days...that they are too static and stodgy to be of interest in the modern age.

Despite the current emphasis on more dynamic constructs, the conception of traits in personality refuses to die a natural death. Perhaps this is because they appeal to people's common-sensical, intuitive notions of how behavior works. Traits dominate the lexicon in our descriptions of people (Park, 1986), and despite their overuse and even *mis*use (Jones & Harris, 1967; Ross, 1977), their existence and importance cannot be denied. Allport said it most succinctly 65 years ago: "In everyday life, no one, *not even a psychologist*, doubts that underlying the conduct of a mature person there are characteristic dispositions or traits" (1937, p.339).

Theoretical and empirical definitions of traits have varied widely over the years. The TASS model contributes to the body of theoretical knowledge on the relationship of

traits to behavior. As this research has shown, traits can be conceptualized as susceptibilities or sensitivities to situational provocation. Allport (1966) foreshadowed this conception when he said: "I do not perspire except in the heat, nor shiver unless in the cold; but the outside temperature is not the mechanism of perspiring or shivering. My capacities and tendencies lie within" (p.2).

The TASS model relates not only to Allport's definition of traits, but also to Murray's (1938) concept of *press*. Murray theorized that presses were environmental forces that interacted with a person's *needs* to produce behavior. His notion of *thema* (the interaction of need and press) spawned modern person-situation interactionist models that recognize the role of situational strength in eliciting behavior.

The Role of Situational Strength

Snyder and Ickes (1985) provide a comprehensive discussion of situational strength as a moderating variable. They describe psychologically strong situations as highly structured, with clear behavioral cues. In contrast, weak situations are described as ambiguous, and lacking in structure and behavioral guidelines. Mischel (1977) originally made the distinction that: "Psychological situations are strong to the degree that they lead everyone to construe the particular events in the same way...situations are weak to the degree that they are not uniformly encoded, [and] do not generate uniform expectancies concerning the desired behavior" (p.347).

Social psychology experiments usually employ strong situations, but personality researchers are more likely to use the weak situation paradigm (Ickes, 1982). In a typical weak situation, experimenters might have participants sit together in a waiting area with

no instructions on how to interact. It is assumed that this type of situation will allow for the greatest manifestation of individual differences in behavior.

The present research suggests that a truly weak situation is *not* optimal for eliciting traits. Although weak situations are preferred over strong situations, our findings demonstrate that medium situational provocation is the best at "bringing out" people's traits. Surprisingly few studies have examined more than two levels of situational strength, and their findings are contradictory (Mischel, et al., 1973, 1976; Monson et al., 1981). As discussed in the introduction, Mischel et al. found in one study that weak situations were best at eliciting traits, but they failed to find this in a second study. Also, they did not examine situations of medium strength.

Monson et al. also concluded that weak situations were best, but their findings did not necessarily support this conclusion. In one of their moderate strength conditions, the trait-behavior correlation was the highest. Also, they didn't use actual behavior, only predicted behavior. Unlike the present research, they only simulated situational strength rather than placing their participants in real situations. The present research, then, provides a clearer demonstration of how traits and situational strength truly interact to produce behavior.

It is useful to think of medium situations as those in which only a "whisper" of pressure is needed. For example, in Study 1, only the faintest trace of evaluation was implied, and those high in social anxiety displayed increased anxiety. In Study 2, only the smallest insult was needed to raise the ire of high hostility participants. In Study 4, a mere hint of failure elicited discriminatory behavior in high-prejudiced individuals. In

sum, it is believed that medium situations are more effective than truly weak (or control) situations in eliciting traits, and that the meaning of the term "weak situation" should be reconsidered in light of this evidence.

Some psychologists have voiced concern over the potentially limitless number of moderator variables that could be considered in interactionist models. Cronbach (1975) noted that: "every second-order interaction is moderated by third-order interactions, which in turn are moderated by higher order interactions. Once we attend to interactions, we enter a hall of mirrors that extends to infinity" (p.119). Kenrick (Kenrick & Dantchik, 1983; Kenrick, Maner, Butner, Li, Becker, & Schaller, 2002) has also voiced this concern, raising the objection that interactionist models have arisen in an atheoretical fashion. He cites the proliferation of moderator variables as a hallmark of this troubling phenomenon. The focus of the current research on the moderating effect of situational strength, however, is firmly grounded in theory (Allport, 1937; Mischel, 1968, 1977; Murray, 1938; Snyder & Ickes, 1985).

Unlike many previous moderator variables that have been examined in interactionist research, situational strength appears to be a particularly powerful and important facet in understanding and predicting behavior. The fear that we might be entering a hall of mirrors does not seem to apply here. The TASS model is capable of accounting for a substantial amount of the variance in behavior, with the use of one single moderator variable. This is not to say that other variables do not play a role in producing behavior. Clearly, there is more variance to be accounted for. But the rarity of moderator variables with this kind of predictive power suggests the especial importance

of situational strength (see also Snyder, 1974, 1979).

Empirical Implications

Accuracy in Prediction Using One-Time Trait Measures

Mischel's (1968) critique of the dispositionist perspective led to creative methodological attempts to remedy the problem. Idiographic methods provided one solution to the consistency quandary. Researchers such as Bem & Allen (1974) pointed out that behavioral predictions could be fairly accurate, but only for *some* of the people, and only *some* of the time. Epstein (1977) suggested a statistical solution to Mischel's calculations. He showed that aggregation was a viable way to allow for more accurate behavioral predictions.

The present research provides one more option for psychologists seeking to accurately predict behaviors from trait measures. Monson et al. cite Block's (1977) research in their decision to use predicted behavior rather than actual behavior. Block suggested that observer ratings (R data) and self-ratings (S data) provide more evidence for personality consistency than do objective laboratory measurements (T data). He blames the lack of evidence seen in T data on insufficiencies in laboratory techniques rather than on insufficiencies in trait models.

However, the present research has demonstrated that an interactionist model combining traits and situational strength can predict both self-reported emotional reactions and objective behavior in laboratory settings very well. The TASS model is more parsimonious methodologically, as it does not require the time and effort called for in idiographic approaches. Also, it does not require multiple assessments and

aggregation. Only a one-time trait measure is needed. The simplicity and power of this model should be attractive to any researcher interested in predicting behavior.

Considering Multiple Levels of Strength

A second empirical implication of the TASS model is that it highlights the inadequacy of previous models using only two levels of strength. Buss (1989) summarizes the three possible outcomes of typical interactionist experiments. These generally examine two types of people (those high or low in a trait) and two types of situations (such as weak or strong).

The first possible outcome is to obtain two main effects and no interaction. Both the trait and the manipulation affect behavior, but they do not affect each other. In the second outcome, (sometimes called an "especially for" interaction), both people high and low in a trait are affected by an experimental manipulation, but the impact is stronger in one of the groups. For example, both people high and low in public self-consciousness feel discomfort when shunned socially, but people high in public self-consciousness are particularly disturbed by the experience (Fenigstein, 1979). The final outcome is sometimes referred to as an "only for" interaction. In this case, only those high *or* low in a trait are affected by the situation. Brockner (1979) demonstrated that the performance of low self-esteem participants worsened after a failure experience, but the performance of high self-esteem participants was unaffected.

The TASS model demonstrates that studies examining only two levels of situational strength may reach erroneous conclusions. To illustrate, imagine that Study 1 had been conducted using only the first two experimental conditions, low and medium

threat (see Figure 13). One would have concluded that high social-anxiety participants were emotionally affected by situational threat whereas low social-anxiety participants were not. On the other hand, if this study had been conducted using only the second and third experimental conditions, medium and high threat, one would have reached the opposite conclusion (see Figure 14). It would have appeared that low social-anxiety participants were affected emotionally by increasing threat, while the emotions of high social-anxiety remained stable. It was only by examining three levels of strength that the full range of emotional response could be seen in both groups of participants. In considering the effects of situational strength, it appears that a minimum of three levels is necessary.

Practical Implications

The importance of construal is one of the basic tenets of social psychology. Construal serves to resolve ambiguities in the social world, and researchers have found consistent individual differences in this interpretive endeavor (Cantor & Kihlstrom, 1987). In the TASS model, it seems that the medium level of situational strength might be tapping into individual differences in construal. For a person high in hostility, perhaps an ambiguous comment on their essay is construed as insulting. Yet for a person low in hostility, the same comment might be construed as constructive criticism and does not provoke a negative behavioral response.

Study 3 examined this possibility and failed to find support for it. Both the high and low hostility participants construed the feedback in similar ways. However, because a different, less involving simulation procedure was used in Study 3 than in Study 2, it

was impossible to definitively say that construal is not a powerful force behind the trait differences manifested in medium strength situations. There is substantial evidence in the literature that would support a construal mechanism, specifically relating to the target personality variable of hostility or aggression (reviewed in Dodge, 1994). Hostile people appear to have highly accessible schemas pertaining to aggression. For example, "reliance on an aggressive schema to interpret a rough-and tumble play situation with a peer may lead a child to ignore cues that reveal the situation calls for play fighting rather than retaliatory aggression" (Crick & Dodge, 1994, p.83). Despite the null findings of Study 3, it is still believed that construal might be an underlying mechanism responsible for the TASS model findings. A study that replicated Study 2 with the addition of items to assess construal would help answer this question.

The practical implications of construal differences are evident in clinical settings. One job of clinicians is to teach their clients to construe events in a more positive, productive light. The TASS model pinpoints where the ambiguous "hot spots" might be for a person with a given trait. To utilize the model, a clinician would administer a traditional battery of personality tests to a client. Given the results of the tests, the clinician would be able to predict that a person scoring high in a certain trait would construe relevant medium strength situations in a detrimental fashion. Awareness of the tendency to make negative construals is one of the first steps in facilitating behavioral change.

Hiring decisions are another practical arena in which the model would be useful, whether or not construal is found to be an underlying mechanism. Many jobs require that

people perform well under duress. Personality tests are common in the job application process, but the TASS model would provide personnel managers with the ability to more accurately predict when a potential employee might function poorly under particular job pressures. Even in the absence of knowledge about underlying mechanisms, an enhanced ability to predict human behavior has many real-world applications in clinical environments, the workplace, and perhaps even in military settings.

Future Directions

While Studies 1, 2, and 4 provide encouraging initial support for the TASS model, more research will be needed to flesh out the breadth of the model as well as its underlying mechanisms. One issue to consider is whether all traits are amenable to this model. As a starting place, it would be appropriate to explore whether big five traits can be viewed as sensitivities to situational strength, as these five dimensions are the core, fundamental traits in the structure of personality (McCrae & Costa, 1987, 1996).

A second key issue to explore is that of assessment tools. Study 4 found that the MRS was a useful predictor of discriminatory behavior, while the Race IAT was not. However, this may speak more to the issue of specificity in assessment than to the validity of that particular measure. As researchers in the attitude-behavior literature have repeatedly found, specific attitudes are the best predictors of specific behaviors (Ajzen & Fishbein, 1977). Matching levels of specificity is crucial in accurate prediction, and this principle generalizes to matching specific assessment tools to specific behaviors. As previously mentioned, it is possible that had Study 4 assessed a different type of behavior (such as uncontrolled or automatic responses), the Race IAT might have fit the model's

predictions better than the MRS. Future research should be designed with careful attention to the selection of assessment tools and their expected congruence with behaviors.

Thirdly, future research should explore the physiology of people's responses. Although some view traits as hypothetical constructs, many researchers focus on the biological basis of dispositional tendencies. Biological approaches to understanding human behavior are becoming increasingly complex and well-developed (Cloninger, 1987; Eysenck, 1990; Gray, 1987, 1994). It is possible that a biological mechanism is responsible for the differential trait responses seen in the TASS model. On the other hand, some researchers believe that "there is no reason for stable and consistent traits to be rooted in the genetic code...consistencies can inhere in cognitive structures, such as chronically accessible schemas..." (Goldsmith, 1994, p. 70). Measuring people's physiological responses might begin to elucidate the biological underpinnings of trait functioning.

A fourth important issue that future research should address is the relationship of the TASS model to more dynamical, social cognitive variables. Study 3 attempted to show the relationship between a cognitive variable like construal (which relates to encoding, schema accessibility, and expectancies) to observed trait differences. This relationship between traits and social cognitive variables could also go in the opposite causal direction. In the real world, it is likely that people's traits influence what expectancies they hold or what goals they choose. This particular issue is highly topical and complex, and could be approached from many different angles. Although some

researchers prefer to study either traits or social cognitive variables, both are important in understanding human behavior, and approaches that consider both are highly desirable.

For example, Read & Miller (2002) use a neural network model of personality to reconcile traits with dynamic systems. They propose a model of goal systems composed of the behavioral approach system (BAS), behavioral inhibition system (BIS), and inhibitory system (IS). Activation of the BAS system is proposed to underlie the expression of extroversion, activation of the BIS system is supposedly the basis of neuroticism, and activation of the IS system is assumed to map onto conscientiousness. Their research employs the computer modeling of personality to explore these linkages. More research using an integrative approach could yield quite fruitful and interesting results, and could eliminate needless bickering between the two camps about which unit of personality is "better."

A fifth point to consider in future research is at what specific level of situational strength do traits manifest? This research suggests that medium strength situations are best at eliciting traits, but what does "medium" mean? The levels chosen in the current studies were based on intuition alone. A more scientific approach to the scaling issue should be taken in the future. For example, researchers could have people rate hundreds of different situations on Likert scales for how much strength each one seems to have. After each situation has been given a strength rating, studies could then be conducted to assess the exact level of situational strength at which traits become manifest.

One final question that future research could address relates to lay predictions of behavior. Ross and Nisbett's (Ross, 1977; Ross & Nisbett, 1991) Fundamental

Attribution Error describes the tendency for people to overuse dispositional attributions in explaining behavior. However, it is possible that the average person is in fact acting as a good naïve scientist in his or her daily life. Perhaps people are intuitively perceptive to the idea of traits as sensitivities to situational strength. Individuals might take the interaction of these factors into account when deciding whether a person is likely to manifest a trait-relevant behavior. For example, they might only expect hostility to manifest itself in situations of medium strength. Researchers have taken great delight in demonstrating human error in cognition, but it is probable that people are not as inept as they are sometimes portrayed in the psychological literature.

Final Comments

As Alexander Pope noted in his Essay on Man, human behavior is a riddle that has intrigued many a philosopher, novelist, theologian, and psychologist over the centuries. The present research is one small piece of the puzzle that adds to our understanding of why people do what they do. It is a new look at an old question, and hopefully one that will provide a useful starting point for future research. "Not that one is the first to see something new, but that one sees as new what is old, long familiar, seen and overlooked by everybody..." Traits might be an old concept, but there's life in them yet.

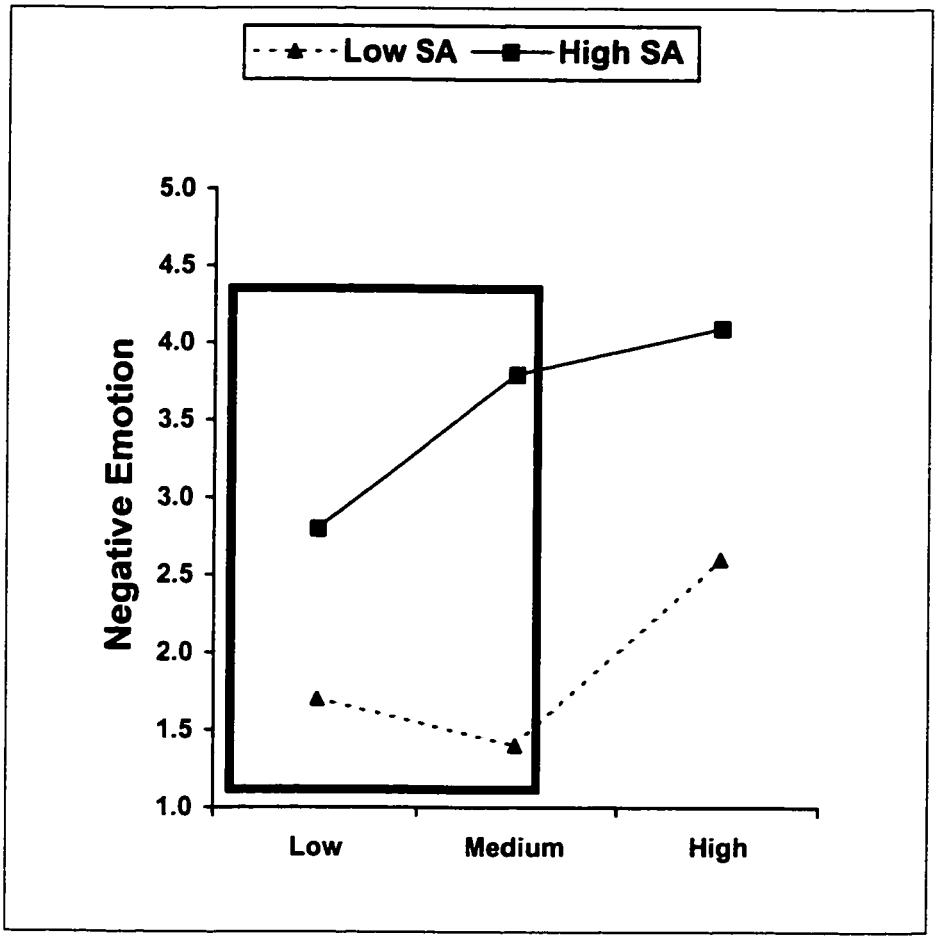


Figure 13. Low and Medium Strength Conditions

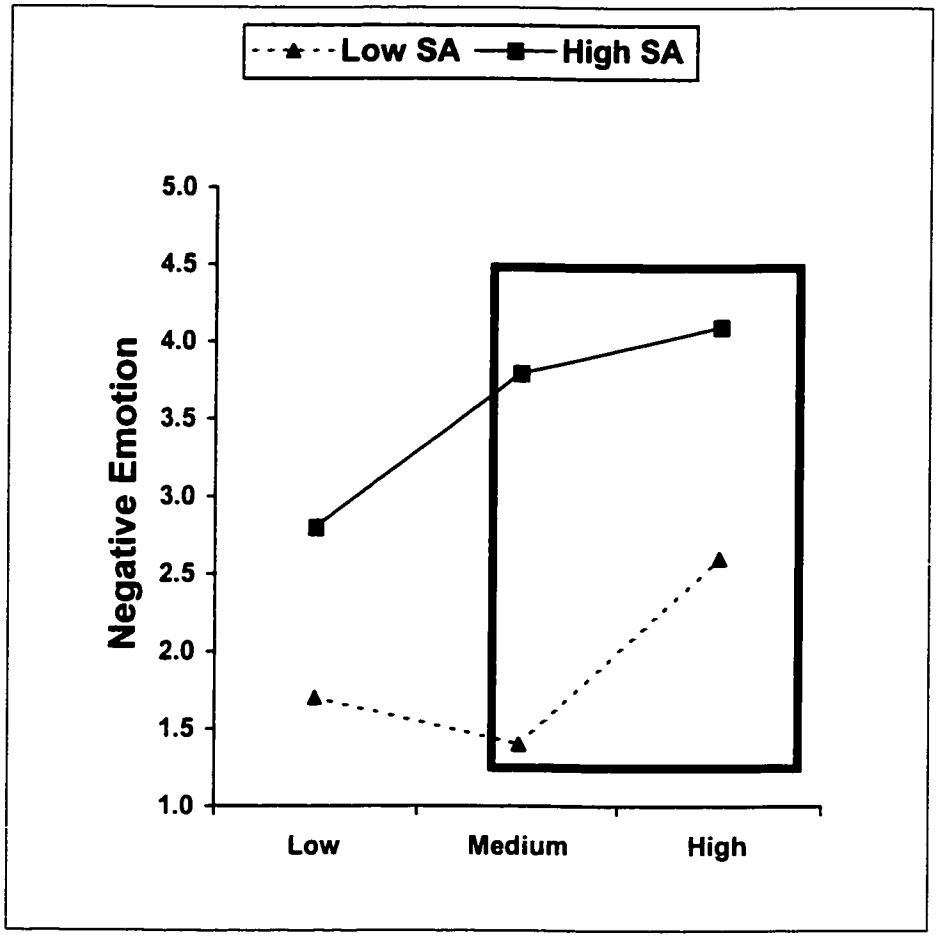


Figure 14. Medium and High Strength Conditions

References

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). The authoritarian personality. New York: Harper.

Ajzen, I, & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. Psychological Bulletin, 84, 888-918.

Allen, B. P., & Potkay, C. R. (1983). As arbitrary as ever: Comments on Zuckerman's rejoinder. Journal of Personality and Social Psychology, 44, 1087-1089.

Allport, G. W. (1937). Personality: A psychological interpretation. New York: Holt.

Allport, G. W. (1965). Letters from Jenny. New York: Harcourt Brace Jovanovich.

Allport, G. W. (1966). Traits revisited. American Psychologist, 21, 1-10.

Allport, G. W., & Allport, F. H. (1921). Personality traits: Their classification and measurement. Journal of Abnormal and Social Psychology, 16, 6-40.

Allport, G. W., & Odbert, H. S. (1936). Trait names: A psycho-lexical study. Psychological Monographs, 47 (1, Whole No. 211).

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall.

Baumeister, R. F., & Tice, D. M. (1988). Metatraits. Journal of Personality, 56, 571-598.

Bem, D. J., & Allen, A. (1974). On predicting some of the people some of the time: The search for cross-situational consistencies in behavior. Psychological Review, 85, 485-501.

Block, J. (1977). Advancing the psychology of personality: Paradigmatic shift or improving the quality of research. In D. Magnusson and N. S. Endler (Eds.), Personality at the crossroads: Current issues in interactional psychology. Hillsdale, N.J.: Erlbaum.

Botwin, M. D., & Buss, D. M. (1989). Structure of act-report data: Is the five-factor model of personality recaptured? Journal of Personality and Social Psychology, 56, 988-1001.

Bowers, K. S. (1973). Situationism in psychology: An analysis and a critique. Psychological Review, 80, 307-336.

Britt, T. W., & Shepperd, J. A. (1999). Trait relevance and trait assessment. Personality and Social Psychology Review, 3, 108-122.

Brown, J. D. (1998). The self. New York: McGraw-Hill.

Brown, J. D., & Dutton, K. A. (1995). The thrill of victory, the complexity of defeat: Self-esteem and people's emotional reactions to success and failure. Journal of Personality and Social Psychology, 68, 712-722.

Brockner, J. (1979). Self-esteem, self-consciousness, and task performance: Replications, extensions, and possible explanations. Journal of Personality and Social Psychology, 37, 447-461.

Buss, A. H. (1989). Personality as traits. American Psychologist, 44, 1378-1388.

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. Journal of Personality and Social Psychology, 63, 452-459.

Buss, D. M., & Craik, K. H. (1983). The act frequency approach to personality. Psychological Review, 90, 105-126.

Byrne, D. (1961). The repression-sensitization model: Rationale, reliability, and validity. Journal of Personality, 29, 334-349.

Cantor, N. & Kihlstrom, J. F. (1987). Personality and social intelligence. Englewood Cliffs, NJ: Prentice Hall.

Caprara, G. V., & Cervone, D. (2000). Personality: Determinants, dynamics, and potentials. Cambridge: Cambridge University Press.

Cattell, R. B. (1943). The description of personality II: Basic traits resolved into clusters. Journal of Abnormal and Social Psychology, 38, 476-507.

Cattell, R. B. (1950). Personality: A systematic, theoretical, and factual study. New York: McGraw Hill.

Cloninger, C. R. (1987). A systematic method for clinical description and classification of personality variants. Archives of General Psychiatry, 44, 573-588.

Crick N. R. & Dodge, K. A. (1994). A review and reformulation of social information processing mechanism in children's social adjustment. Psychological Bulletin, 115, 74-101.

Cronbach, L. J. (1975). Beyond the two disciplines of scientific psychology. American Psychologist, 30, 116-127.

Darley, J. M., & Batson, C. D. (1973). From Jerusalem to Jericho: A study of situational and dispositional variables in helping behavior. Journal of Personality and Social Psychology, 27, 100-119.

Davidson A. R., & Jaccard, J. J. (1979). Variables that moderate the attitude-behavior relation: Results of a longitudinal survey. Journal of Personality and Social Psychology, 37, 1364-1376.

Day, H., Marshall, D., Hamilton, B., & Christy, J. A. (1983). Some cautionary notes regarding the use of aggregated scores as a measure of behavioral stability. Journal of Research in Personality, 17, 97-109.

Digman, J. M., & Inouye, J. (1986). Further specification of the five robust factors of personality. Journal of Personality and Social Psychology, 50, 116-123.

Dodge, K. A. (1993). Social-cognitive mechanisms in the development of conduct disorder and depression. Annual Review of Psychology, 44, 559-584.

Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. Journal of Experimental Social Psychology, 33, 510-540.

Dunton, B. C., & Fazio, R. H. (1997). An individual difference measure of motivation to control prejudiced reactions. Personality and Social Psychology Bulletin, 23, 316-326.

Dweck, C. Leggett, E. (1988). A social-cognitive approach to motivation and personality. Psychological Review, 95, 256-273.

Eckenroade, J., & Bolger, N. (1995). Daily and within-day event measurement. In S. Cohen, R. C. Kessler, & L. U. Gordon (Eds.) Measuring stress: A guide for health and social sciences. New York: Oxford University Press.

Ekehammer, B. (1974). Interactionism in personality from a historical perspective. Psychological Bulletin, 81, 1026-1048.

Emmons, R. A., & Deiner, E. (1986). Situation selection as a moderator or response consistency and stability. Journal of Personality and Social Psychology, 51, 1013-1019.

Endler, N. S. (1984). Interactionism. In N. S. Endler & J. M. Hunt (Eds.), Personality and the behavioral disorders (pp. 183-217). New York: Wiley.

Endler, N.S., Edwards, J. M., Vitelli, R., & Parker, J. D. A. (1989). Assessment of state and trait anxiety: Endler multidimensional anxiety scales. Anxiety Research: An International Journal, 2, 1-14.

Endler, N. S., Parker, J. D. A., Bagby, R. M., & Cox, B. J. (1991). Multidimensionality of state and trait anxiety: Factor structure of the Endler multidimensional anxiety scales. Journal of Personality and Social Psychology, 60, 919-926.

Endler, N. S., & Magnusson, D. (1976). Toward an interactional psychology of personality. Psychological Bulletin, 83, 956-974.

Epstein, S. (1979). The stability of behavior: On predicting most of the people much of the time. Journal of Personality and Social Psychology, 37, 1097-1126.

Epstein, S. (1983). Aggregation and beyond: Some basic issues in the prediction of behavior. Journal of Personality, 51, 360-392.

Epstein, S. (1986). Does aggregation produce spuriously high estimates of behavioral stability? Journal of Personality and Social Psychology, 50, 1199-1210.

Epstein, S., & O'Brien, E. J. (1985). The person-situation debate in historical and current perspective. Psychological Bulletin, 98, 513-537.

Eysenck, H. J. (1947). Dimensions of personality. London: Routledge and Kegan Paul.

Eysenck, H. J. (1990). Biological dimensions of personality. In L. A. Pervin (Ed.), Handbook of personality: Theory and research (pp. 244-276). New York: Guilford.

Fenigstein, A. (1979). Self-consciousness, self-attention, and social interaction. Journal of Personality and Social Psychology, 37, 75-86.

Funder, D. C. (1991). Global traits: A neo-Allportian approach to personality. Psychological Science, 2, 31-39.

Funder, D. C., & Harris, M. J. (1986). Experimental effects and person effects in delay of gratification. American Psychologist, 41, 476-477.

Funder, D. C., & Ozer, D. J. (1983). Behavior as a function of the situation. Journal of Personality and Social Psychology, 44, 107-112.

Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.), Review of personality and social psychology (Vol. 2, pp. 141-165). Beverly Hills, CA: Sage.

Goldsmith, H. H. (1994). Parsing the emotional domain from a developmental perspective. In P. Ekman & R. J. Davidson (Eds.), The nature of emotion: Fundamental questions. Oxford: Oxford University Press.

Gray, J. A. (1987). The psychology of fear and stress. New York: Cambridge University Press.

Gray, J. A. (1994). Personality dimensions and emotion systems. In P. Ekman & R. J. Davidson (Eds.), The nature of emotion: Fundamental questions. Oxford: Oxford University Press.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. Journal of Personality and Social Psychology, 74, 1464-1480.

Guilford, J. P. (1959). Personality. New York: McGraw Hill.

Hartshorne, H., & May, M. A., (1928) Studies in the nature of character, I: Studies in deceit. New York: Macmillan.

Heider, F. (1958). The psychology of interpersonal relations. New York: Wiley.

Hettema, P. J. (1979). Personality and adaptation. Amsterdam: North-Holland.

Hettema, P. J., & Kenrick, D. (1992). Models of person-situation interactions. In G. V. Caprara & G. Van Heck (Eds). Modern personality psychology (pp. 393-417). London: Harvester-Weatsheaf.

Higgins, E. T. (1990). Personality, social psychology, and person-situation relations: Standards and knowledge activation as a common language. In L. A. Pervin (Ed.), Handbook of personality: Theory and research (pp.301-338). New York: Guilford.

Higgins, E. T., Bond, R. N., Klein, R., & Strauman, T. (1986). Self-discrepancies and emotional vulnerability: How magnitude, accessibility, and type of discrepancy influence affect. Journal of Personality and Social Psychology, 51, 5-15.

Higgins, E. T., King, G. A., Mavin, G. H. (1982). Individual construct accessibility and subjective impressions and recall. Journal of Personality and Social Psychology, 43, 35-47.

Ickes, W. (1982). A basic paradigm for the study of personality, roles and social behavior. In W. Ickes and E. S. Knowles (Eds.), Personality, roles and social behavior. New York: Springer-Verlag.

Jones, E. E. (1979). The rocky road from acts to dispositions. American Psychologist, 34, 107-117.

Jones, E. E., & Davis, K. E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 2). New York: Academic.

Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. Journal of Experimental Social Psychology, 3, 1-2.

Jung, C. J. (1933). Psychological types. New York: Harcourt, Brace, & World.

Kelly, G. A. (1955). The psychology of personal constructs (2 Vols.). New York: Norton.

Kenrick, D. T., & Dantchik, A. (1983). Interactionism, idiographics, and the social psychological invasion of personality. Journal of Personality, 51, 286-307.

Kenrick, D. T., & Funder, D. C. (1988). Lessons from the person-situation debate. American Psychologist, 43, 23-34.

Kenrick, D. T., Maner, J. K, Butner, J., Li, N. P., Becker, D. V., & Schaller, M. (2002). Dynamical evolutionary psychology: Mapping the domains of the new interactionist paradigm. Personality and Social Psychology Review, 6, 347-356.

Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. Personality and Social Psychology Bulletin, 21, 58-75.

Kruglanski, A. W. (1996). Goals as knowledge structures. In P. M. Gollwitzer & J. A. Bargh (Eds.), The psychology of action: Linking cognition and motivation to behavior (pp. 599-618). New York: Guilford.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

LaPiere, R. T. (1934). Attitudes vs. actions. Social Forces, 13, 230-237.

Leary, M. (1983). Social anxiousness: The construct and its measurement. Journal of Personality Assessment, 47, 66-75.

Lewin, K. (1935). Dynamic theory of personality. New York: McGraw Hill.

Lewin, K. (1951). Field theory in social science. (Edited by D. Cartwright.) New York: Harper.

Magnusson, D. (1992). Individual development: A longitudinal perspective. European Journal of Personality, 6, 119-138.

Magnusson, D. (1999). Holistic interactionism: A perspective for research on personality development. In L. A. Pervin & O. P. John (Eds.), Handbook of Personality: Theory and Research (2nd ed., pp. 219-247). New York: Guilford.

Magnusson, D., & Endler, N. S. (Eds.). (1977). Personality at the crossroads: Current issues in interactional psychology. Hillsdale, NJ: Erlbaum.

McConahay, J. B. (1983). Modern racism and modern discrimination: The effects of race, racial attitudes, and context on simulated hiring decisions. Personality and Social Psychology Bulletin, 9, 551-558.

McConahay, J. B., Hardee, B. B., & Batts, V. (1981). Has racism declined in America? It depends on who is asking and what is asked. Journal of Conflict Resolution, 25, 563-579.

McCrae, R. R., & Costa, P. T. Jr. (1987). Validation of the five-factor model of personality across instruments and observers. Journal of Personality and Social Psychology, 52, 81-90.

McCrae, R. R., & Costa, P. T. Jr. (1996). Toward a new generation of personality theories: Theoretical contexts for the five-factor model. In J. S. Wiggins (Ed.), The five-factor model of personality. Theoretical Perspectives (pp. 51-87). New York: Guilford.

McCrae, R. R., Costa, P. T. Jr., Ostendorf, F., Angleitner, A., Hrebickova, M., Avia, M. D., Sanz, J., Sanchez-Bernardos, M. L., Kusdil, M. E., Woodfield, R., Saunders, P. R., Smith, P. B. (2000). Nature over nurture: Temperament, personality, and lifespan development. Journal of Personality and Social Psychology, 78, 173-186.

McDougall, W. (1937). Tendencies as indispensable postulates of all psychology. In, Proceedings of the XI International Congress on Psychology. Paris: Alcan.

McFarlin, D. B., & Blascovich, J. (1984). On the Remote Associates Test (RAT) as an alternative to illusory performance feedback: A methodological note. Basic and Applied Social Psychology, 5, 223-229.

McGowan, J., & Gormly, J. (1976). Validity of personality traits: A multicriteria approach. Journal of Personality and Social Psychology, 34, 791-795.

Mednick, S. A. (1962). The associative basis of the creative process. Psychological Review, 26, 220-232.

Milgram, S. (1963). Behavioral study of obedience. Journal of Abnormal and Social Psychology, 67, 371-378.

Miller, J. (1984). Culture and the development of everyday social explanation. Journal of Personality and Social Psychology, 46, 961-978.

Mischel, W. (1968). Personality and assessment. New York: Wiley.

Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. Psychological Review, 80, 252-283.

Mischel, W. (1977). The interaction of person and situation. In D. Magnusson, and N. S. Endler (Eds.), Personality at the crossroads: Current issues in interactional psychology. Hillsdale, NJ: Erlbaum.

Mischel, W., Ebbeson, E. B., & Zeiss, A. R. (1973). Selective attention to the self: Situational and dispositional determinants. Journal of Personality and Social Psychology, 27, 129-142.

Mischel, W., Ebbeson, E. B., & Zeiss, A. R. (1976). Determinants of selective memory about the self. Journal of Consulting and Clinical Psychology, 44, 92-103.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. Psychological Review, 102, 246-268.

Monson, T. C., Hesley, J. W., & Chernick, L. (1981). Specifying when personality traits can and cannot predict behavior: An alternative to abandoning the attempt to predict single-act criteria. Journal of Personality and Social Psychology, 43, 385-399.

Moskowitz, D. S., Brown, K. W., & Cote, S. (1997). Reconceptualizing stability: Using time as a psychological dimension. Current Directions in Psychological Science, 6, 127-132.

Murray, H. A. (1938). Explorations in personality: a clinical and experimental study of fifty men of college age. Oxford: Oxford University Press.

Newcomb, T. M. (1929). The consistency of certain extrovert-introvert behavior patterns in 51 problem boys. New York: Columbia University, Teachers College, Bureau of Publications.

Nisbett, R. E., & Cohen, D. (1996). Culture of honor: The psychology of violence in the South. Boulder, CO: Westview.

Nisbett, R. E., & Ross, L. (1980). Human inference: Strategies and shortcomings of social judgment. Englewood Cliffs, NJ: Prentice-Hall.

Ogilvie, D. M., Fleming, C. J., & Pennell, G. E. (1998). Self-with-other representations. In D. F. Barone, M. Hersen, & V. B. Von Heselt (Eds.), Advanced Personality (pp.353-375). New York: Plenum Press.

Ostrom, T. M. (1975, August). Cognitive representation of impressions. Paper presented at the meeting of the American Psychological Association.

Park, B. (1986). A method for studying the development of impressions of real people. Journal of Personality and Social Psychology, 51, 907-917.

Park, B. (1989). Trait attributes as on-line organizers in person impressions. In J. N. Basille (Ed.), On-line cognition in person perceptions. Hillsdale, NJ: Erlbaum.

Pervin, L. A. (Ed.) (1990). Handbook of personality: Theory and research. New York: Guilford.

Pervin, L. A., & John, O. P. (Eds.) (1999). Handbook of personality: Theory and research (2nd ed.). New York: Guilford.

Peterson, D. R. (1968). The clinical study of social behavior. New York: Appleton.

Read, S. J. & Miller, L. C. (2002). Virtual personalities: A neural network model of personality. Personality and Social Psychology Review, 6, 357-369.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Ross, L. (1977). The intuitive psychologist and his shortcomings. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 10). New York: Academic.

Ross, L., & Nisbett, R. E. (1991). The person and the situation: Perspectives of social psychology. New York: McGraw-Hill, Inc.

Ross, L., & Penning, P. (1985). The dispositionist bias in accounting for behavioral disconfirmation. Unpublished manuscript, Stanford University.

Sarason, I. G., Smith, R. E., & Diener, E. (1975). Personality research: Components of variance attributable to the person and the situation. Journal of Personality and Social Psychology, 32, 199-204.

Saucier, G., & Goldberg, L. R. (1996). The language of personality: Lexical perspectives on the five-factor model. In J. Wiggins (Ed.), The five-factor model of personality (pp. 21-50). New York: Guildford.

Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of genotype-environmental effects. Child Development, 54, 424-435.

Schroeder, D. J., & Pendleton, M. G. (1983). The adjective generation technique: Consistency of self-description in psychiatric patients. Journal of Personality, 51, 631-639.

Shoda, Y. (1999). Behavioral expression of a personality system: Perception and generation of coherence. In D. Cervone & Y. Shoda (Eds.), The coherence of personality: Social-cognitive bases of personality consistency, variability, and organization (pp. 155-181). New York: Guilford.

Shoda, Y., LeeTiernan, S., & Mischel, W. (2002). Personality as a dynamical system: Emergence of stability and distinctiveness from intra- and interpersonal interactions. Personality and Social Psychology Review, 6, 316-325.

Shoda, Y, & Mischel, W. (1998). Personality as a stable cognitive-affective activation network: Characteristic patterns of behavior variation emerge from a stable personality structure. In S. J. Read & L. C. Miller (Eds.), Connectionist models of social reasoning and social behavior (pp. 175-208). Mahwah, NJ: Erlbaum.

Shoda, Y., & Mischel, W. (2000). Reconciling contextualism with the core assumptions of personality psychology. European Journal of Personality, 14, 407-428.

Snyder, M. (1974). The self-monitoring of expressive behavior. Journal of Personality and Social Psychology, 30, 526-537.

Snyder, M. (1979). Self-monitoring processes. In L. Berkowitz (Ed.) Advances in experimental social psychology (Vol. 12). New York: Academic Press.

Snyder, M. & Ickes, W. (1985). Personality and social behavior. In G. Lindsey, & E. Aronson (Eds.), Handbook of Social Psychology (pp. 883-947). New York: Erlbaum.

Stern, W. (1935). Allgemeine Psychologie auf personalisticher Grundlage. Dordrecht, the Netherlands: Nijhoff.

Thurstone, L. L. (1934). The vectors of mind. London: Macmillan.

Vallacher, R. R., Read, S. J., Nowak, A. (2002). The dynamical perspective in personality and social psychology. Personality and Social Psychology Review, 6, 264-273.

Wicker, A. W. (1969). Attitudes vs. actions: The relationship between verbal and overt behavioral responses to attitude objects. Journal of Social Issues, 25(4), 41-78.

Winter, L., & Uleman, J. S. (1984). When are social judgments made? Evidence for the spontaneousness of trait inferences. Journal of Personality and Social Psychology, 47, 237-252.

Wundt, W. (1896). Gundriss der Psychologie. Leipzig: Engelmann.

Wundt, W. (1902). Outlines of Psychology (Translated by C. H. Judd). Leipzig: Engelmann.

Vita

Margaret A. Marshall was born in Port Angeles, Washington. She earned her Bachelor of Science degree in Psychology, Master of Science degree in Psychology, and Doctor of Philosophy degree in Psychology at the University of Washington in Seattle, Washington. She is currently an assistant professor at Seattle Pacific University in Seattle, Washington.