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SELF-ESTEEM AS A MEDIATING VARIABLE OF ATTRIBUTIONS

by

WENDY C. STERNBERG

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Abstract

SELF-ESTEEM AS A MEDIATING VARIABLE OF ATTRIBUTIONS

by

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A study is presented which by behavioral measures as well as the traditional questionnaire method supports the proposition that self-esteem mediates the types of attributions an individual makes. Through an experimental manipulation, paired subjects believed themselves to be either intellectually similar or dissimilar from each other. One subject (the actor) performed an anagram task while the other subject (the observer) watched. The actor either succeeded or failed, depending on the set of anagrams given him. As predicted actors and similar observers made more dispositional attributions after success and more situational attributions after failure. Dissimilar observers responded in a very different manner, tending to make more dispositional attributions after both success and failure. As an attribution, effort was always seen positively and was used as a self-esteem enhancer. Behavioral measures of choosing a level of difficulty for a second task and deciding whether or not to continue to

participate in the experiment with the same partner were also mediated by the persons desire to maintain self-esteem. It was found that the more "involved" the observer had to be with the actor, the more the observer's behavior was determined by the actor's success or failure. Interpersonal attraction to the actor in terms of behavior and self report was greater for similar observers following success and dissimilar observers following failure. In all, the findings reflect an individual's need to maintain his self-image, i.e., attributions and behavior were in the direction which best enhanced that self-esteem.

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Attribution theory is concerned with the individual's attempt to understand his environment and with his search to give meaning to events and make the world more predictable and therefore controllable. The focus of attribution theory has been on an individual's search for causal explanations for his own behavior and the behavior of those around him. It is the main purpose of the research proposed in this paper to demonstrate that maintenance of self-esteem is a major mediating variable in determining what attributions people use to explain the world around them. Psychologists, especially personality theorists such as Rogers, Murphy, Horney and Adler, have noted the significance of self-esteem for the satisfactory functioning of the individual.

Self-esteem has been defined by Coopersmith (1967) as the "evaluation which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful and worthy." It is his contention that conditions which threaten to expose a person's inadequacies are a major cause of anxiety. In this paper, the author proposes that in order to minimize anxiety caused by specific situations which produce temporary shifts in self-esteem an individual will explain positive or negative occurrences which reflect upon his self-image in a manner which will enhance his self-esteem. He will attribute the causes of a particular event to those factors which will maximize his self worth. Therefore, when an action results in an undesirable (negative) outcome, the subsequent reduction in self-esteem is avoided if the person

performing the action minimizes his role and stresses outside factors as a cause. On the other hand, when an action results in a desirable (positive) outcome, the person will take credit for it and in so doing enhance his self-esteem.

To date there is no all encompassing theory of attribution. Its roots lie in Heider's concept of "naive psychology" (1958), according to which the individual stabilizes his environment by assigning cause-effect relationships to the cues around him. The most comprehensive recent conceptualization of attribution theory comes from Kelley (1967). According to Kelley, attributions are derived from three types of information: (a) distinctiveness (whether or not the same behavior occurs in the presence of many stimuli), (b) consistency (whether or not a behavior is always present with a particular stimuli), (c) consensus (whether or not the same behavior is present in other people confronted with the same stimulus). He predicts that external (situational) attributions will be made when distinctiveness, consistency and consensus are high and person (dispositional) attributions will be made when consensus and distinctiveness are low and consistency is high.

Weiner, Frieze, Kukla, Reed, Rest and Rosenbaum (1971) developed an expanded model for classifying attributions about the causes of success and failure in achievement situations. It postulates four basic types of attribution (ability, task difficulty, effort and luck), which vary along two dimensions, locus of control and stability. The locus of control dimension breaks down attributions in the same manner as did Kelley's scheme i.e. internal (ability and effort) and external (task difficulty and luck). However, Weiner, et al., also added a second dimension, stability, which divided attributions into stable

(ability and task difficulty) and unstable (effort and luck) factors.

### Actor-Observer Differences

Jones and Nisbett's proposition (1971) of divergent attributional processes for the actor and the observer is an extension of Kelley's information based attributional process. They believe that the actor attributes his own behavior to situational factors while he is likely to attribute the same behavior to dispositional factors when it is performed by someone else. This actor-observer dichotomy results, according to Jones and Nisbett, from information and perspective or processing differences between actor and observer. The actor is likely to be aware of more information particulars pertaining to an event he is involved in than is the observer. Although both the actor and the observer can be aware of the cause and effect of an event (what triggered the incident, the nature of the act and its outcome) it is impossible for the observer to have complete knowledge of how the actor was feeling, and what his intentions were. (The observer often lacks the motivation to obtain this information which is never directly observable.) An observer inferring these inner states can at times be very accurate, as is frequently the case between mother and child, or can be very inaccurate, as is often the case in interactions between two individuals barely acquainted.

The greatest difference in the knowledge possessed by the actor and the observer is in the "historical data." The observer views the event as a point in time and is not usually aware of those events leading up to the present. In contrast, the actor has more complete knowledge of past events that have resulted in a particular act. In

Kelley's (1967) terms the actor possesses more "distinctiveness" information and "consistency" information. Thus, the actor knows if he behaves in the same or different manner to many other stimuli (distinctiveness) and if he does or does not always behave in a particular way to a particular stimulus (consistency). If the observer knows the actor well he may have some of this information. However, he rarely has complete knowledge of the actor's past. Thus, Jones and Nisbett suggest that the actor is often diverted from making dispositional attributions because of personal and past information he possesses, while at the same time the observer, lacking information about consistency and distinctiveness, attributes the behavior to stable personality dispositions of the actor in an attempt to analyse the event with a minimum amount of effort by assuming high consistency. Thus, the difference in information available is the first factor that is likely to lead to attributional differences between actors and observers.

The second factor contributing to actor-observer differences is how the information is processed. Jones and Nisbett state that different aspects of the available information are salient for actors and observers and this differential salience affects the course and outcome of the attribution process. The focus for both the actor and the observer is their environment. The environment for the actor is of prime importance, due to the physical location of his sensory receptors and his attention to external variables in an effort to control the situation. The observer on the other hand attends more to the actor's behavior, which after all is part of the observer's environment. In fact, the salience of the actor's behavior is strong enough to obscure the particular situation and lead the observer to attribute the causes

of the actor's behavior to dispositional qualities.

Jones and Nisbett interpret a number of studies as providing evidence in support of their proposition about actor-observer differences in attributions. A study by Jones and Harris (1967) lending support to the proposition, demonstrated that whether a debater was expressing his own opinion (choice) or was merely debating the assigned side of an issue (no choice), the observer believed that the debater in fact held the position he espoused. The observer, ignoring the situational constraints, attributed the behavior to dispositional factors. It can be noted that practically the same phenomenon occurred in Milgram's study on obedience to authority (1974). Psychologically trained professionals believed that only an extremely small percentage of individuals would administer high intensity shocks to another person during a psychological experiment. The situational constraints of obedience to authority during "scientific" research were overlooked. And in fact, a much larger percentage of subjects administered what they believed to be painful shocks precisely because of the situation.

Jones and Nisbett cite another study (Jones, Rock, Shaver, Goethals & Ward, 1968) in support of their proposition regarding actor and observer differences. In this study, subjects made ability (dispositional) attributions when they observed a confederate doing both progressively better and progressively worse on an I.Q. test, "designed to discriminate at the very highest levels of intelligence". However, when the subjects themselves took the I.Q. test and received information that they had done progressively worse, they believed that the items became progressively more difficult. On the other hand, subjects who received information that they had done progressively

better believed that the items became progressively easier. This was despite the experimenter's claim to the subjects that the items were of uniform difficulty. Thus, subjects made stimulus (situational) attributions for themselves and dispositional attributions for others.

The most direct evidence thus far for the Jones and Nisbett hypothesis is provided in a series of studies by Nisbett, Caputo, Legant, and Maracek (1973). In one of these studies, observers viewed actors agreeing or not agreeing to volunteer their time for a future university project. Observers thought that the actors who volunteered would be likely to volunteer again at a future date for another worthy activity such as canvassing for the United Fund. On the other hand the actors themselves did not predict their future volunteer behavior on the basis of whether or not they had volunteered for the first activity. It was concluded that observers made dispositional and actors made situational attributions. In a second study, male subjects who were asked to describe the reasons for their choices of a college major and a girl friend gave approximately the same number of dispositional and situational explanations. But when the subjects were required to explain their best friend's choices of a major and a girl friend, they were likely to use more personal than stimulus attributions. Here again, it was concluded that an individual makes situational attributions in regard to their own behavior and dispositional attributions to the behavior of others.

A study by McArthur (1972) is also noted by Jones and Nisbett as lending support to the actor-observer attributional dichotomy. When presented with a simple sentence, such as "Ralph trips over Jane's feet while dancing" and asked to make person, stimulus and/or situation

attributions, subjects were more likely to make person attributions (44% of the total) than any other type. When the statement was an emotional one, such as "Sue is afraid of the dog", the most frequent attribution was a person-stimulus combination. The data presented in McArthur's study were from the observer's perspective only. Jones and Nisbett (1971) attempt to make an intuitional case by merely stating their "assumption" that an actor in the same situation would be much more likely to give stimulus and situational attributions, but later it will be argued that this is not necessarily true.

McArthur believes that people are "black-box theorists" looking to the person rather than to external stimuli for the causes of behavior. She includes herself among this type of theorist by discounting the effect of her items on the responses of her subjects, that is, she overlooks the fact that different wordings may occasion different attributions. An alternate explanation would be that people tend to make the attribution requiring the least amount of effort (attributing causality to the subject of the sentence). McArthur phrases her items so that the person (not the stimulus or the situation) is the subject of each sentence. Thus, sentences such as "Sue is frightened of the dog" and "George translates the sentence incorrectly" may lead to different attributions than sentences such as "The dog frightened Sue" and "The sentence was difficult for George to translate." According to the present author's intuition, it would seem that in the latter cases stimulus (dog and sentence) attributions would more likely be made.

One of McArthur's items produced contrary and interesting results. When confronted with the sentence "Mary is angered by the psychology experiment" subjects gave a high proportion of stimulus attributions

(52% as opposed to 19% for other sentences with emotional content.)

When reading this item the observer was similar to the actor (Mary) in that they were both participating in a psychology experiment. In this case, unlike the others, the subject may have had a personal stake in the situation and thus should be expected to have behaved differently from an uninvolved disinterested observer. Personal involvement may alter a person's inclination to choose the attribution requiring the least amount of effort, i.e., to attribute causality to the subject of the sentence. It is the contention of this author that when an observer is placed in a similar circumstance to the actor he would not make the traditionally expected dispositional attribution. When the outcome is ego involving the observer would instead, make an attribution mediated by self-esteem enhancement. An observer in this situation, contrary to Jones and Nisbett's proposition, may make attributions of the same type as the actor. If a person engages in a negative action (as in the case of Mary's being angry) and an observer is like that other person (is also in a psychology experiment) the behavior may be attributed to the situation rather than the individual so that the person does not have to think that he or someone like him would behave in a negative fashion. It should be mentioned that a second study by McArthur which eliminated the observer's personal involvement did show the typical actor-observer findings. This experiment compared attributions made by actor subjects with the later attributions made by observer subjects. McArthur asked her subjects to participate in a survey. When asked why they agreed to participate they made situational attributions, such as the importance of the survey. Observers attributed the participation to the disposition of the subject.

Jones and Nisbett state that their analysis of actor-observer attributions is "generally true" while at the same time acknowledging that there are "many exceptions." The discovery of when this actor-observer model of attribution does not make accurate predictions, appears to be the next logical step (after admission of exceptions to a general rule.) When in fact do people take into account situational factors in judgements of other people? And do these instances suggest another model which can handle both the exceptions and the present actor-observer rule?

#### Self-Esteem and Attribution

In their 1971 statement, Jones and Nisbett briefly mention the possible effects of motivational variables on the tendency for actors and observers to make divergent attributions. They note the possibility of the importance of the motive to maintain or enhance self-esteem but do not indicate how this might change the actor-observer attributional model they propose. If it is the case that an individual wishes to enhance his self-esteem by taking credit for good acts and denying responsibility for bad acts, the self-esteem model and the Jones and Nisbett actor-observer model of attribution will not always predict the same types of attributions. In the case of a negative outcome both models predict that an actor will make a situational attribution. However in the case of a positive outcome the actor-observer model continues to predict that the actor will make situational attributions while the self-esteem model predicts that an actor will make dispositional attributions.

Few studies have dealt with self-esteem as a motivational

influence on causal attributions. However, one study by Harvey, Arkin, Gleason, and Johnston (1974) has viewed the issue of situational vs. dispositional attributions in terms of mediating factors and thus merits some description. Harvey et al. were concerned primarily with how the actor's and observer's outcome expectancy (positive or negative) and the actual outcome (positive or negative) affected their attributions of responsibility for outcome. The subjects served as either therapists (actors) or observers in an experiment supposedly testing an untrained person's ability to give therapy for a minor phobia. They were led to believe that the particular therapy they were to deliver was found to be either successful or unsuccessful. The therapists were given feedback indicating whether or not the therapy was actually successful. Based on the assumption that individuals want to maintain positive self-concepts, they hypothesized that (1) actors will show a greater tendency to make dispositional attributions for a positive than for a negative outcome regardless of expected outcome, and (2) observers will show a greater tendency to make actor (dispositional) attributions when there is a discrepancy between expected outcome and actual outcome. The first hypothesis was marginally supported but only when the expected outcome was positive. Although Harvey et al. assert that the second hypothesis was supported, the evidence was scant.

The study by Harvey et al., although attempting to deal with the problem of attribution mediators, failed to do so convincingly because of a number of methodological weaknesses. Attributions were tapped through questions of an extremely general nature (e.g., "Circumstances beyond the control of the therapist were responsible for the outcome.") and therefore were not sensitive enough to pick up the differences

between the numerous and subtle possible types of attributions.

However, the most crucial flaw in their study was the particular way in which they chose to manipulate self-esteem. Although apparently sharing the present author's belief in the importance of this variable, they nevertheless failed to make this factor salient in all conditions, thus making actor-observer comparisons impossible. Not only was self-esteem not an issue for the observers but in only one condition was it important for the actor. That was the case when the expected outcome was positive and the actual outcome was negative. Thus, for all intents and purposes the importance of self-esteem in this context is as yet untested.

In order for a self-esteem model of attribution to be tested it is necessary for both the actor and the observer to feel that their self-esteem is at stake. If the expected outcome is always a positive one, the actor will expect to succeed. Failure at the task should then affect his self-esteem and in turn cause the actor to make the appropriate enhancing attribution (situational for negative outcomes, dispositional for positive outcomes). In order to make the motive to enhance self-esteem prominent for an observer, there must be a connection between the actor's performance and the observer's evaluation of self worth. If the actor's performance is in some way a reflection on the observer's abilities or competence then the motive to enhance self-esteem would be salient for the observer as well as the actor.

#### Attribution Under Conditions of Success and Failure

There is already some experimental support for the motive to enhance self-esteem for an actor. A number of studies have shown that

an individual will take credit for a good outcome more readily than a bad outcome (Harvey, Harris & Barnes, in press; Johnson, Feigenbaum, & Wilby, 1964; Langer, 1975; Lugenbuhl & Crowe, 1975; Medow & Zander, 1965; Streufert & Streufert, 1969; Fitch, 1970). Weiner and Kukla (1970) and Frieze and Weiner (1971) found that uninvolved observers also make stronger internal attributions for an actor's success than for his failure. Weiner, Frieze, Kukla, Reed, Rest and Rosenbaum (1972) explain an actor's and observer's tendency to make dispositional attributions for success and situational attributions for failure, as a general tendency common to all people. If however, differences between actor's and observer's attribution are found to result, not simply on the basis of success or failure but also on the basis of how it reflects on the observer's own abilities, the motive to enhance self-esteem rather than this general tendency described by Weiner et al. would be a more encompassing explanation for an actor's internal attribution for success and external attribution for failure, explaining a broader spectrum of event outcomes.

#### Variables Related to Attributions

If indeed self-esteem mediates the attributional process, a simple divergent attribution model must be replaced by one encompassing a broader range of behavior. All individuals, actors and observers may rely in some way on the people around them to maintain a favorable self-concept. By appropriately selecting one's attributions this self-esteem enhancement may proceed unhampered.

It is proposed that an attribution will be made, whether situational or dispositional, not just to explain environmental events, but

primarily to enhance or bolster self-esteem. To this end, it is believed that the following factors play an important role in determining the kind of attributions that are made: (1) similarity between the actor and observer in terms of the particular behavior, skill or ability being assessed, (2) valence of outcome, i.e., whether the consequences are positive or negative and, as Jones and Nisbett suggest, (3) the perspective of the person making the attribution, i.e., whether he is the actor or the observer.

#### Similarity

If observers believe that they (the observers) and the persons they are viewing (the actors), have the same capabilities, then the success or failure of the other (the actor) will be a reflection on how they (the observer) would perform. Thus observers in this situation are likely to make attributions in the direction of self-esteem enhancement. The actor's motive to enhance self-esteem should be accentuated in the presence of a person who has similar capabilities since this similarity makes the observer an appropriate judge of the actor's behavior.

#### Event Outcome

As stated before, dispositional self attributions will be made by the actor if the event outcome is a positive one. Under these circumstances, an individual will acknowledge with pride an achievement primarily his own and will not look to the situation for an explanation. However, if the result of the action is negative it seems that an individual will, in this case, not wish to take responsibility for the outcome and will assign to it situational causes (Feather, 1969; Kelley, 1967; Langer, 1975; Weiner, Frieze, Kukla, Reed, Rest &

Rosenbaum, 1971). In this way an individual maximizes his self-esteem, taking credit when things go well while assigning blame externally when the results are negative.

One may use information obtained by viewing others to maximize his own self-esteem. If you view another person who is like yourself on variables relevant to the situation (for example, has the same intellectual ability in an achievement situation) and that person behaves in a negative fashion or a negative outcome occurs, it would seem likely that you would attribute the behavior to situational factors since to do otherwise might decrease your own self-esteem. If however, the outcome of an action by a similar other person was positive you would be likely to make dispositional attributions in order to bolster your self-esteem. On the other hand, if another person is different from you on relevant dimensions, whether an event outcome is positive or negative will not affect your self-esteem and you will primarily make dispositional attributions, resulting purely from the information and perspective of an observer as suggested by Jones and Nisbett.

### Hypotheses

Thus, it is hypothesized that (1) an actor will make attributions that are more dispositional when there is a positive event outcome and more situational when there is a negative event outcome, (2) an observer who is similar to the actor will make attributions that are more dispositional when there is a positive event outcome and more situational when there is a negative event outcome, (3) attributions made by an observer who is dissimilar to the actor will not be affected by

by the event outcome valence and will tend to be more dispositional whether there is a positive or negative outcome.

## METHOD

### Overview

Subjects served as either actors or observers in a study they believed to be concerned with intellectual ability and interpersonal relations. Run in pairs, they were given a test of intelligence and received bogus feedback leading them to believe they were similar to or dissimilar from each other in the particular abilities being tapped by the test. They were then randomly assigned the role of actor or observer with the latter observing a similar or dissimilar other either fail or succeed on an anagram task. Subjects therefore participated in one of four experimental conditions: Success-Similar, Success-Dissimilar, Failure-Similar, Failure-Dissimilar. Measures concerning attributions of causality and self-esteem were obtained from both actors and observers. Thus, the study utilized a three way factorial design, Actor-Observer  $\times$  Similar-Dissimilar  $\times$  Success-Failure.

### Subjects

One hundred and eighty one males, recruited through newspaper advertisements, participated in the study and were paid \$4.00. One hundred and sixty subjects were run in pairs, 20 pairs in each of the four experimental conditions (Success-Similar, Success-Dissimilar, Failure-Similar, Failure-Dissimilar). When one member of the scheduled pair did not show up for the appointment, the other subject was run singly in the actor role. Nineteen subjects were run singly.

Because of the small number of subjects these data were not analyzed. Two subjects were discarded due to the actor's inability to solve the problems during the success condition.

#### Procedure

Two experimenters, one female and one male conducted the study. The male experimenter was blind to the experimental hypothesis. Each experimenter ran half of the subjects in each of the four experimental conditions. Upon entering the room, the subjects were seated. The experimenter stood in front of a table and faced the subjects. The experimenter addressed both subjects by name. In all experimental sessions the study was explained as one concerning "the effects of interfering environmental stimuli on human functioning" and "how certain environmental factors affect one's perception of themselves, of other people and of the environment." Subjects were told that the experimenter would "be observing people under conditions of no interference, slight interference, a moderate amount of interference or extreme interference. You will be participating in one of these four conditions." Subjects were asked to take a test measuring different types of intellectual ability. They were told that the results would be discussed briefly but that any further questions would be answered at the end of the experiment.

#### Similarity-Dissimilarity

Subjects were asked to turn their chairs toward a desk used for writing surface with their backs to each other. An intelligence test, a partial WRIT (see appendix A), consisting of four sub-tests was administered. The subjects were given one minute to work on each sub-

test or if under one minute, the time it took for the subject who worked more quickly to complete all but one answer. The sub-test was terminated before any subject could complete it to facilitate the acceptance of the subsequent standardized feedback. While the tests were "scored" the subjects were given a brief description of the test and the way in which they would receive feedback. The handout indicated that the test measured "four distinctive types of intellectual ability: reasoning ability (cognitive skills), spatial analysis (synthesizing spatial relationships), conceptual ability (category association), and perceptual-analytic skills." After the tests were "scored" the subjects were told that:

The WRIT has been standardized to various population groups. Your scores will be given as a percentage for each of the four areas. The percentage compares you to one of these standardized groups. For example, if your score is 25% you have performed better than 25% of the population; if your score is 50% you have performed better than half of the population; and at the 75% level you have performed better than 75% of the population.

The subjects were told that the comparison group was equal to the educational level of the subject (of each particular pair) with the greater number of years in school. For example, if one subject was a college graduate and the other had one year of undergraduate education, they were told that their "scores" were compared to college graduates. In addition, they were shown graphs of their "scores" illustrating their similarity or dissimilarity. In both conditions, similar and dissimilar, the subjects were told that it was very interesting that two subjects did so similarly (or so differently) on their "pattern of abilities." To further emphasize the similarity they were shown each other's graph, which showed either a similar or distinct profile. Subjects were given only a few seconds to look at the graphs. During this short period their attention was drawn exclusively to their similarity or dissimilarity.

Actor-Observer/Success-Failure

The role of the subjects (actor or observer) was determined by lots, each subject choosing a slip of paper marked either task taker or observer. The observer was instructed to watch what occurred during the next few minutes and to think about the variables affecting the task taker's performance. It was pointed out that the performance could be due to many factors, including ability, the environment, and the nature of the task. The observer was also asked to record the number of correct and incorrect responses so that the experimenter would be free to administer the task. The purpose of this procedure was to insure that the number of correct responses would be salient to the observer. The observer was seated in a position giving him a clear view of the task taker, the task and the experimenter. The actor was seated at the narrow end of the table; the observer was seated approximately three feet from the table and diagonally to the left of the actor. The task consisted of 10 anagrams which were each to be solved in 20 seconds. Half of the actor subjects were randomly assigned to the success condition while the other half were placed in the failure condition. The subjects in the success condition were presented with eight anagrams simple enough for most subjects to get seven or eight correct, and two anagrams which were insoluble. In the failure condition subjects were presented with three easy anagrams and seven insoluble ones. Five insoluble and five easy anagrams previously used by Feather (1966) were employed. The additional five anagrams employed were pretested for their simplicity or insolubility. During the task performance an "interfering" noise was introduced. It consisted of low level static ranging from 55 to 70 decibels, a volume which although obvious was not intrusive. The noise

was held constant for all conditions.

### Behavioral Dependent Measures

Immediately following the completion of 10 trials on the anagram task the experimenter asked the observer to pull his chair up to the table. The distance between the observer's chair and the actor's was noted using an inconspicuously marked tape as a gauge. This behavioral measure of the observer's evaluation of the actor has been employed in previous research (Dorsey & Musels, 1969; Langer & Roth, 1975

; Rosenfeld, 1969; Weitz, 1975). The observer subject was then asked to state the number of successful and unsuccessful trials in order to maximize the salience of the outcome manipulation.

The following measure was also used to determine the observer's evaluation of the actor. The observer was instructed to:

choose a second task for the task taker to perform, one which is difficult enough to present a challenge to his abilities, yet one which he can do. As an incentive to choose a task difficult enough for the task taker, each level of difficulty will be paired with a different monetary value. So if you choose level one, the easiest task, and the task taker gets four out of five problems correct you will each receive \$1.00. At level two you will each receive \$2.00 if the task taker gets 4 out of 5 correct, and up to level ten, at which you could each receive \$10.00 if he gets 4 out of 5 correct.

The observer was shown a sample of the type of problem the actor would be asked to solve (a block design task). He was told there would be no interference during the second set of problems. He was asked to make the selection on a sheet of paper checking off one of the levels, from one to ten, without consulting the other subject.

### Questionnaire Measures

Both subjects were asked to fill out a questionnaire about the actor's performance on the anagram task before moving on to the second task. The questionnaire had the subjects attribute task performance to ability, effort, task difficulty and luck. The subjects were asked to read all four questions before rating the effect of each of these factors on a six point scale, ranging from one (no effect at all) to six (a great deal of effect). The subjects were also asked whether the performance was due to dispositional or situational factors. The term dispositional was explained as anything within the person, including his ability on the particular type of test or his state of nervousness. The term situational was explained as anything outside the person such as how difficult the task was or the time pressure placed on the task taker. The subjects again answered using a six point scale, one being totally dispositional, six being totally situational. Subjects also filled out an evaluation questionnaire for the other subject (as a measure of attraction) and for themselves (as a measure of self-esteem). It consisted of 14 bi-polar adjectives as well as a rating for how similar or dissimilar they were to the other subject (cf. Geller, Goodstein, Silver & Sternberg, 1974).

### Additional Behavioral Dependent Measure

Subjects were then told that there would not be enough time to complete the second half of the study since the first half had taken longer than expected. Then they were asked to sign up for a second session choosing whether to participate with the same or a different partner. They did so by adding their name to a list of names headed

same or different. This was used as a measure of interpersonal attraction. The experiment was then terminated. Both subjects were paid and thoroughly debriefed.

## RESULTS

### Experimenter Comparison

A four way analysis of variance on all dependent measures revealed no significant main effects for Experimenter 1 vs Experimenter 2. Of the possible 104 interactions involving the experimenters only one was found to be significant (Similarity x Experimenter,  $p < .02$ , for the general measure of dispositional vs. situational attributions) and this was believed to have occurred by chance. Therefore the data were pooled for the remaining analyses.

### Manipulation Check

Both actors and observers reported actors in the success condition as having performed significantly better than did actors in the failure condition ( $F(1,152) = 154.32, p < .001$ ). It was also the case that subjects in the similar group saw themselves as being significantly more similar to each other than subjects in the dissimilar group ( $F(1,152) = 34.23, p < .001$ ).

### Attributions and Performance Outcome

The attributions subjects (actors and observers) made were significantly affected by the actors' success or failure. As shown in Table 1, on the six point scale measuring dispositional vs. situational attributions a main effect was found for performance outcome. Subjects made more dispositional attributions for success and more situational attributions for failure ( $F(1,152) = 17.39, p < .001$ ). In addition,

Table 1 presents data describing stable attributional factors, ability and task difficulty. These attributions were also determined by performance outcome. Subjects in the success condition made significantly more extreme ability attributions than subjects in the failure condition ( $F(1,152)=38.88, p < .001$ ) while subjects in the failure condition made significantly more extreme attributions to task difficulty than the subjects in the success condition ( $F(1,152) = 33.04, p < .001$ ). A correlation matrix produced no significant correlation among the five attributional scales (dispositional-situational, ability, task difficulty, effort, and luck).

#### Attributions of Actors

As predicted, the attributions made by the actors were largely determined by their performance on the anagram task. The means presented in Table 1a show that the actors made more dispositional attributions when they succeeded (the mean for the similar actors equaled 3.05 and for the dissimilar actors, 2.60) than when they failed (the mean for the similar actors equaled 3.85 and for the dissimilar actors, 3.50). The difference between the means was greater than the Least Significant Difference of .756 (Fisher, 1949, 56-58). Table 1b and c present mean stable attributions of ability and task difficulty. Actors made significantly more extreme ability attributions when they succeeded than when they failed (with the mean difference larger than the Least Significant Difference needed of 1.10) and actors made significantly more extreme task difficulty attributions when they failed than when they succeeded (with the mean difference larger than the Least Significant Difference needed of .745).

Thus, in terms of overall and stable attributions actors made significantly more dispositional attributions (ability) when they

succeeded and situational attributions (task difficulty) when they failed. However, for the unstable attributions of effort and luck, the pattern is not as clear. As shown in Table 2, luck was rarely used as an explanation for the event outcome ( $\bar{X} = 2.17$ ). The prediction that the actors would attribute their failure to luck, a situational factor, was not supported; no significant difference was found between success and failure conditions.

When subjects were asked to judge how much effort was involved in the actors' performances a complex picture also emerged. The data in Table 2 show a significant interaction for Performance Outcome  $\times$  Similarity  $\times$  Role ( $F(1,152) = 12.598, p < .001$ ). No significant difference was found in the amount of effort reported by actors in the similar condition whether they had succeeded or failed. However, the actors in the dissimilar condition reported that more effort was involved when they had failed ( $\bar{X} = 5.20$ ) than when they succeeded ( $\bar{X} = 3.80$ ). Here, the difference between the means was greater than the mean difference of 1.124 obtained from the test for Least Significant Difference. This finding is counter to the expectation that actors would make the dispositional attribution of effort after success but not after failure.

#### Attributions of Similar Observers

As predicted, similar observers made more dispositional attributions following success and more situational attributions following failure. These differences were more extreme than for the actors with differences between the means greater than Tukey's test for Least Significant Difference. Presented in Table 1, are the means for the overall score for dispositional and situational attributions and for stable

attributions of ability and task difficulty. Similar observers made significantly more dispositional attributions and attributions to ability when the actors succeeded and situational attributions and attributions to task difficulty when the actors failed. The mean difference on the dispositional-situational measure was greater than 1.38 the minimum difference needed with Tukey's test for Least Significant Difference. Similar observers made significantly more extreme ability attributions after the actors' success than after failure (mean difference greater than 1.56) and significantly more extreme attributions to task difficulty after the actors' failure than after success (mean difference greater than 1.16).

Table 2, presenting the mean unstable attributions of effort and luck, shows that the similar observers reported that the actors' failure was more significantly due to luck than was their success. This difference was greater than 1.32, the mean needed to demonstrate significance with Tukey's test for Least Significant Difference. Like the finding for the similar actors, similar observers reported that the actors' effort on the anagram task was high whether they had failed ( $\bar{X} = 5.05$ ) or succeeded ( $\bar{X} = 5.05$ ). Thus, similar observers reported that they believed the actors' success to be dispositional, a result of the actors' ability, and the actors' failure to be situational, a result of the actors' bad luck and the difficulty of the task. The actor was always perceived by the similar observers as having tried to do well, i.e. high level of effort.

#### Attributions of Dissimilar Observers

Of all experimental groups, the dissimilar observers stood out as

being distinctly different. As predicted, attributions were not made on the basis of the actors' success or failure. As shown in Tables 1 and 2, no significant differences were found between the success and failure conditions for the overall dispositional-situational measure nor for the measures of ability, task difficulty and luck. Again only attributions to the effort level of the actor were contrary to the experimental hypothesis. Dissimilar observers rated the actors' effort level significantly higher after success ( $\bar{X} = 4.90$ ) than after failure ( $\bar{X} = 3.90$ ).

It was also hypothesized that the dissimilar observers would tend to make dispositional attributions whether the performance outcome had been positive or negative. In general, this was true. When compared with the similar observers, dissimilar observers made consistently more dispositional attributions. Referring again to Table 1, it can be seen that all subjects made more dispositional attributions when the actors succeeded. In the failure condition dissimilar observers were more likely to make dispositional attributions ( $\bar{X} = 3.60$ ) than were similar observers ( $\bar{X} = 4.35$ ). There was a tendency in this direction on the ability measure with dissimilar observers making slightly more attributions to the actors' ability ( $\bar{X} = 3.70$ ) than did similar observers ( $\bar{X} = 3.25$ ). Dissimilar observers also were less likely to attribute the actors' failure on the anagram task to the situational factors of the task difficulty ( $\bar{X} = 4.05$ ) and luck ( $\bar{X} = 2.15$ ) than were similar observers (task difficulty,  $\bar{X} = 4.85$ , luck,  $\bar{X} = 3.35$ ). However, dissimilar observers did not always report that the actor tried harder (made more effort) as they would have had they consistently made dispositional attributions.

### Performance Evaluation and Predictions

As previously stated, subjects in the success condition saw the performance of the actor as significantly better than did subjects in the failure condition ( $p < .001$ ). A first order interaction of Similarity  $\times$  Role was also found. Similar actors reported their performance, whether or not they had succeeded, as significantly worse than did any other group ( $p < .02$ ). When asked how an average person would have done on the anagram task, successful subjects as opposed to unsuccessful subjects ( $F(1,152) = 32.86, p < .001$ ) and dissimilar subjects as opposed to similar subjects ( $F(1,152) = 8.64, p < .01$ ) said that an average person would do well on the task. This was particularly true when the actor failed, in which case dissimilar actors thought an average person would do better than did any other group (Performance Outcome  $\times$  Similarity  $\times$  Role,  $F(1,152) = 8.64, p < .01$ ). All subjects used the actors' first performance as a basis for predictions of a second. Realistically, all subjects predicted that actors who had succeeded would do better on a second, equally difficult task than would actors who had failed ( $F(1,152) = 136.22, p < .001$ ). A second order interaction resulted from the dissimilar actors who had failed predicting that they would do better on a second task than did any other failure group (Performance Outcome  $\times$  Similarity  $\times$  Role,  $F(1,152) = 3.70, p < .05$ ). (Table 3)

When observers were asked to predict how they would do on an equally difficult task, observers who had viewed actors succeed thought that they would do better than did observers who had viewed actors fail ( $F(1,76) = 48.76, p < .001$ ). Dissimilar observers also thought that they would do better than did similar observers ( $F(1,76) = 3.98,$

$p < .05$ ). However, as shown by the Performance Outcome x Similarity interaction ( $F(1,76) = 3.05$ ,  $p < .08$ ), there was a trend toward dissimilar subjects observing failure stating that they would do better than did similar subjects observing failure.

### Self and Other Evaluations

The evaluation scale was comprised of 14 bi-polar adjectives with a score of 1 indicating a poor evaluation and 7 a good evaluation. Subjects rated themselves significantly better on the evaluation scale when in the success rather than the failure condition ( $F(1,152) = 6.39$ ,  $p < .02$ ). However, this effect was strong only for the actors (Performance Outcome x Role,  $F(1,152) = 5.522$ ,  $p < .02$ ). If successful, actors rated themselves highly,  $\bar{X} = 77.525$ , and if unsuccessful, they did not,  $\bar{X} = 67.95$ . The observers, whether viewing the actor succeed ( $\bar{X} = 74.95$ ) or fail ( $\bar{X} = 74.60$ ) and whether similar ( $\bar{X} = 74.80$ ) or dissimilar ( $\bar{X} = 74.60$ ) did not significantly alter their reported self-evaluation. However, on a measure of general confidence similar observers were significantly affected by the actors' success or failure, while dissimilar observers were not. Similar success observers were significantly more confident,  $\bar{X} = 4.65$ , than were similar failure observers,  $\bar{X} = 3.90$ , with the difference between the two means greater than the Least Significant Difference needed of .692.

When the 14 adjectives were analyzed individually, subjects in the success condition saw themselves as significantly more unselfish ( $p < .01$ ), warm ( $p < .01$ ), considerate ( $p < .05$ ), and friendly ( $p < .05$ ). A first order interaction (Performance Outcome x Role) was found for

the adjectives trustworthy, genuine, accepting sympathetic, and concerned with others. Actors who had failed considered themselves more untrustworthy ( $p < .01$ ), deceitful ( $p < .05$ ), rejecting ( $p < .01$ ), unsympathetic ( $p < .05$ ) and self-centered ( $p < .02$ ). A second order interaction was found for intelligence, the trait on which the subjects actually had been compared ( $F = 5.07$ ),  $p < .02$ ). Dissimilar observers in the failure condition described themselves as being the most intelligent ( $\bar{X} = 6.25$ ) while dissimilar actors who failed described themselves as the least intelligent ( $\bar{X} = 5.05$ ). All other subjects described themselves as being between these two extreme points. Although significant differences were found on these adjectives it should be noted that the means were all in the positive end of the scale; not one mean fell below the midpoint of 3.5. No significant differences were found for the adjectives cooperative, interesting, modest, and likeable.

Similar subjects rated the other paired subject more positively during the success condition,  $\bar{X} = 74.70$ , than during the failure condition,  $\bar{X} = 66.50$ . On the other hand, dissimilar subjects rated the other paired subject more positively during the failure condition,  $\bar{X} = 71.28$ , than during the success condition,  $\bar{X} = 65.38$  (Performance Outcome x Similarity,  $F(1,152) = 11.60$ ,  $p < .001$ ). (Table 4)

When looked at individually only the adjectives trustworthy, genuine and intelligent showed significant differences. Similar subjects saw the other person as more trustworthy ( $p < .01$ ) and genuine ( $p < .02$ ). Again, intelligence was the most discriminating adjective. A first order interaction (Performance Outcome x Similarity,  $F = 11.43$ ,  $p < .001$ ) illustrates similar successful subjects

viewing the other subject as more intelligent ( $\bar{X} = 6.05$ ) than did the similar subjects in the failure condition ( $\bar{X} = 4.91$ ). Dissimilar subjects rated the other subject in between these two points (successful,  $\bar{X} = 5.26$ , failure,  $\bar{X} = 5.38$ ).

When each subject was asked how similar to or dissimilar from the other subject they were, as previously stated subjects in the similar condition saw themselves as more similar than subjects in the dissimilar condition ( $p < .001$ ). In addition, subjects in the success condition saw themselves as far more similar than did subjects in the failure condition ( $F(1,152) = 7.17, p < .01$ ).

#### Behavioral Measures

When given an opportunity to choose the same or a different partner for the second part of the experiment a significant interaction between success and similarity resulted ( $F(1,152) = 5.63, p < .02$ ). Successful similar subjects (72.5%) and failure dissimilar subjects (65%) more often wanted to remain with the same partner, while failure similar subjects (55%) and successful dissimilar subjects (47.5%) were equally likely to choose to be with the same or a different partner. (Table 5)

Observers, when asked to choose a level of difficulty for the actor's second task, chose a higher level for successful than for unsuccessful actors ( $F(1,76) = 17.79, p < .001$ ). However, this effect as modified by a first order interaction was significant only for similar observers (Performance Outcome x Similarity,  $F(1,76) = 15.53, p < .001$ ). Similar observers chose a high level of difficulty for

successful actors ( $\bar{X} = 6.40$ ) and a low level of difficulty for unsuccessful actors ( $\bar{X} = 3.45$ ). Dissimilar observers always chose a moderate level of difficulty, whether in the success condition ( $\bar{X} = 4.7$ ) or failure condition ( $\bar{X} = 4.6$ ). Thus, as shown in Table 6, the critical difference between the means as compared by Tukey's Significant Difference Test was significant only for similar subjects (greater than 1.58).

Observers in the similar condition pulled their chairs closer to the actors than did subjects in the dissimilar condition, ( $F(1,76) = 8.93, p < .01$ ). Table 7 illustrates that significant difference between the means (greater than the LSD of 2.57) was found only in the success condition with similar observers sitting closest of all groups and the dissimilar observer sitting farthest of all groups.

### Summary

Attributions made by all subjects were significantly affected by the actors' success or failure, with subjects in general making more dispositional attributions for success and situational attributions for failure. Actors (similar and dissimilar) made more extreme dispositional attributions to success than failure in terms of the general situation-dispositional scale, ability, and task difficulty scales. Like the actors, similar observers also made more extreme dispositional attributions following success than following failure on the general scale, the ability scale and the task difficulty scale. In addition, they more often attributed failure than success to luck. There were no significant differences on these three variables for the dissimilar observers. All of these attributions tended to be dispositional.

Effort attributions present a different picture from the other types. Similar actors and observers always made effort attributions, whether they were in the success or failure condition. Dissimilar actors made effort attributions only when they failed and dissimilar observers only when the actor succeeded.

Performance evaluation and predictions of future performance were by and large based on how the actor had performed on the anagram task. Subjects evaluated themselves more positively after success than after failure. Dissimilar observers however rated themselves more intelligent when the actor failed than when the actor succeeded. Similar subjects rated the other subject more positively after success while dissimilar subjects rated the other subject more positively after failure.

When given the opportunity to choose the same or a different partner for the second part of the experiment, successful similar and failure dissimilar subjects chose the same partner while failure similar and successful dissimilar did not seem to care whether their partner remained the same or changed. On choosing a level of difficulty for the second task, similar observers chose a hard task if the actor had succeeded and an easy task if the actor had failed. Dissimilar observers always chose a task of moderate difficulty. And on the final behavioral measure, it was found that similar observers sat closer to the actor than did dissimilar observers.

Table 1. Mean general and stable attributional ratings in the success and failure condition for similar and dissimilar actors and observers.

1a) Dispositional-Situational<sup>1</sup> (1=totally dispositional, 6=totally situational)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success	3.05 <sup>abc</sup>	2.80 <sup>ab</sup>	2.60 <sup>a</sup>	3.10 <sup>abc</sup>
Outcome				
Failure	3.85 <sup>de</sup>	4.35 <sup>e</sup>	3.50 <sup>bcd</sup>	3.60 <sup>cd</sup>

1b) Ability<sup>1</sup> (1=no ability effect, 6=strongest ability effect)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success	4.75 <sup>cd</sup>	4.80 <sup>d</sup>	4.40 <sup>bcd</sup>	4.75 <sup>cd</sup>
Outcome				
Failure	3.50 <sup>ab</sup>	3.25 <sup>a</sup>	2.85 <sup>a</sup>	3.70 <sup>ac</sup>

1c) Task Difficulty<sup>1</sup> (1=no task difficulty effect, 6=strongest task difficulty effect)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success	3.25 <sup>a</sup>	3.55 <sup>ab</sup>	3.45 <sup>ab</sup>	3.45 <sup>ab</sup>
Outcome				
Failure	4.75 <sup>cd</sup>	4.85 <sup>d</sup>	4.30 <sup>cd</sup>	4.05 <sup>bc</sup>

N=160

<sup>1</sup>Main effect of outcome,  $p < .001$

abcde different letters indicate significant difference between cell; cells with same letter indicate no significant difference.

Table 2. Mean unstable attributional ratings in the success and failure condition for similar and dissimilar actors and observers.

2a) Effort<sup>1</sup> (1=no effort effect, 6=strongest effort effect)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success	4.80 <sup>c</sup>	5.05 <sup>c</sup>	3.80 <sup>a</sup>	4.90 <sup>c</sup>
Outcome				
Failure	4.60 <sup>bc</sup>	5.05 <sup>c</sup>	5.20 <sup>c</sup>	3.90 <sup>ab</sup>

2b) Luck<sup>2</sup> (1=no luck effect, 6=strongest luck effect)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success	2.00 <sup>ab</sup>	1.65 <sup>a</sup>	1.65 <sup>a</sup>	1.75 <sup>a</sup>
Outcome				
Failure	2.70 <sup>bc</sup>	3.35 <sup>c</sup>	2.00 <sup>ab</sup>	2.15 <sup>ab</sup>

N=160

<sup>1</sup>Main effect of similarity,  $p < .02$   
 Interaction between outcome & role,  $p < .003$   
 Interaction between outcome, similarity & role,  $p < .001$

<sup>2</sup>Main effect of outcome,  $p < .001$   
 Main effect of similarity,  $p < .02$   
 Interaction between outcome & similarity,  $p < .054$

<sup>abc</sup>Different letters indicate significant difference between cells; cells with same letter indicate no significant difference.

Table 3. Mean predictions of actor's performance on a second task in success and failure conditions for similar and dissimilar actors and observers. (N = 20 subjects/cell)  
 (1 = poorest performance on second task,  
 6 = best performance on second task)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success <sup>1</sup>	4.45	5.05	4.25	4.95
Outcome				
Failure	2.40	2.45	3.55	2.40

<sup>1</sup>Main effect of outcome  $p < .001$   
 Interaction between outcome, similarity and role,  $p < .05$

Table 4. Mean evaluation of other paired subject in the success and failure conditions for similar and dissimilar actors and observers. (N = 20 subjects/cell)  
 (14 = lowest possible evaluation,  
 98 = highest possible evaluation)

	Similar		Dissimilar	
	Actor	Observer	Actor	Observer
Success <sup>1</sup>	75.25	74.25	66.10	64.65
Outcome				
Failure	67.95	65.05	70.20	72.35

<sup>1</sup>Interaction between outcome and similarity  $p < .001$

Table 5. Percentage of subjects choosing to participate with same partner for second half of the experiment.  
(N = 20 subjects/cell)

	Similar		Dissimilar	
	Actor %	Observer %	Actor %	Observer %
Success <sup>1</sup>	70	75	55	40
Outcome				
Failure	45	65	65	65

<sup>1</sup>Interaction between outcome and similarity,  $p < .018$

Table 6. Mean task difficulty level in success and failure conditions chosen by similar and dissimilar observers. (N = 20 subjects/cell)  
(1 = easiest task, 10 = most difficult task)

	Similar	Dissimilar
Success <sup>1</sup>	6.40	4.70
Outcome		
Failure	3.45	4.60

<sup>1</sup>Main effect of outcome,  $p < .001$

Interaction between outcome and similarity,  $p < .001$

Table 7. Mean chair distance in inches for success and failure conditions by similar and dissimilar observers (N = 20 subjects/cell)

	Similar	Dissimilar
Success	24.60	28.10
Outcome		
Failure	26.40	27.43

## Discussion

The experiment was designed to demonstrate that people will make attributions for both positive and negative event outcomes in the direction which will maintain or enhance their self-esteem. Self-esteem was found to be an important motivating variable in making causal attributions. It was not the case, as Jones and Nisbett suggest, that the type of attributions made resulted primarily from the perspective of the individual. Simple actor-observer differences were not found. Instead, attributions were made on a much more complex basis than the simple divergent model proposed by Jones and Nisbett would predict. The most powerful determining force in the present study was found to be success or failure on the task. In general, success led to more dispositional attributions and failure to more situational attributions. This was found to be particularly true for the actors and similar observers. The dissimilar observers, unlike the other subjects did not make as distinctive attributions on the basis of success or failure, but were always more likely to make dispositional attributions. They made either dispositional attributions or a combination of dispositional and situational attributions, but never pure situational attributions. The similar observer, however, made dispositional attributions when the actor succeeded and situational attributions when the actor failed.

The hypothesis that an actor will make dispositional attributions

when there is a positive event outcome and situational attributions when there is a negative event outcome was strongly supported. Successful actors indeed made more dispositional attributions when they succeeded at the anagram task and more situational attributions when they failed at the anagram task. In particular, they attributed success to ability and failure to task difficulty. In addition, similar actors also attributed failure to poor luck. It had also been expected that the tendency to make dispositional attributions for success and situational attributions for failure would be more extreme for the actor performing in the presence of a similar observer than for the actor who was in the presence of a dissimilar observer. Although not significantly so, there was a trend in this direction. Similar actors tended to make more dispositional attributions for success than did the dissimilar actors (in terms of ability, effort and task difficulty factors). They also tended to make more situational attributions for failure than did the dissimilar actors (in terms of effort, task difficulty, and luck factors).

The second hypothesis, that an observer similar to the actor will make attributions similar to the actor, i.e. make dispositional attributions when there is a positive event outcome and situational attributions when there is a negative even outcome, was also supported. Similar observers, to an even greater extent than actors attributed a good performance to ability and a poor performance to the difficulty of the task and to poor luck.

The third hypothesis stating that attributions made by a dissimilar observer will not be greatly affected by the valence of the event outcome but will always be dispositional was largely supported. Unlike the three other experimental groups dissimilar observers did not make

attributions on the basis of the actors' success or failure. Whether or not the actor succeeded did not result in differences in their attributions to ability, task difficulty, luck or their general rating of dispositional vs. situational causes. As in the case of the other experimental groups, dispositional attributions were made for success. In addition, dissimilar observers also made more dispositional attributions for failure than did the similar observers. This was the case on the general dispositional-situational measure and for luck attributions, with a strong trend in this direction for ability and task difficulty. Only effort attributions were contrary to this general finding. Of all four experimental groups, the dissimilar observers' self-esteem was the least threatened. They themselves did not perform as did the actors, nor as in the case of the similar observers did the actors' performance directly reflect their own.

#### Effort Attributions

Of all the attributional measures, effort appears to be the one attribution which did not support the original experimental hypotheses. From the experimental findings it appears that effort can be seen as a positive (and perhaps self-esteem enhancing) attribution whether the actor succeeded or failed on the task. Similar subjects seemed to go by the adage, "it is not whether you win or lose but how you play the game." In this case, whether the actors succeeded or failed they were always thought to have tried their best. This dispositional attribution to failure did not mean that the actors were not good enough to do well. Failure was attributed to task difficulty not to lack of ability. Similar actors and observers thought the actors had tried

their best but because of the extreme difficulty of the task (not their ability) they were unable to succeed.

Dissimilar actors made more effort attributions when they failed while dissimilar observers made more effort attributions when the actor succeeded. This is also contrary to the hypotheses that an actor would make dispositional attributions for success and a dissimilar observer's attributions would not be affected by success or failure but tend to always be dispositional. Effort attributions appear to have been made on a different basis from other types of attributions. The dissimilar actors' effort attributions for failure could have resulted from their attempt to place themselves in a favorable light. They had stated that failure was due to task difficulty and not to ability. As with the similar subjects, effort attributions to failure might mean they had tried their best but despite this they were unable to succeed due to the difficulty of the task. And perhaps there was no need for the dissimilar actor to further enhance their self-esteem with effort attributions when they had succeeded, modesty keeping them from making effort attributions when in the presence of a dissimilar other. A number of other findings point to a tendency toward modesty on the part of the actor when they had an already enhanced self-esteem through success. For example, successful actors reported their performance as poorer than did the observer viewing it.

Dissimilar observers were the only subjects to respond in a manner consistent with previous findings. It has been found that subjects make more effort attributions after success than after failure (Weiner & Kukla, 1970; Beckman, 1970). Since effort, despite the consequences, can be viewed as a positive attribute,

it appears that the actors and similar observers were using this type of attribution to bolster a deflated self-esteem, while this was unnecessary for the unthreatened dissimilar observer.

### Subjects Predictions

The fact that the anagram task was much easier in the success condition than in the failure condition led in most cases, although not all, to realistic predictions that an individual would perform better on the success anagrams than on the failure anagrams. Thus, subjects based their predictions for a second task on how well the actor did on the first task, i.e., subjects in the success condition thought that the actors would do better than did subjects in the failure condition. Observers also based their predictions for how they themselves would do on the same type of task on the actors' performance, i.e., observers viewing success thought they would do better than did those viewing failure. This was not true however for the dissimilar observers, who tended to think they would do better than did similar observers when they viewed an actor fail. Thus, in the failure condition similar observers were more likely than dissimilar observers to predict that they would perform in the same way as did the actor. The dissimilar observers may be reasoning that if the other has failed they may succeed because of their dissimilarity. This would be the most self-esteem enhancing prediction a dissimilar observer could make.

Subjects were also asked to predict how an average person would perform on the anagram task. Realistically, subjects in the success condition predicted that an average person would do better than did subjects in the failure condition.

### Self-Evaluation

The actors' self-evaluations were significantly affected by their success or failure. Not surprisingly they had a high self-evaluation if they had succeeded and a low self-evaluation if they had failed. Although observers' self-evaluations as measured by the pooled scores of the 14 bipolar adjectives were not affected by the success or failure of the actor, as would be expected since it is the trait being manipulated, self-ratings of intelligence were affected. Similar observers rated themselves as more intelligent when the actor succeeded than when the actor failed, while dissimilar observers rated themselves as more intelligent when the actor failed than when the actor succeeded. In addition, similar observers reported a lower level of confidence when they viewed a similar other succeed. Dissimilar observers reported a high level of confidence after both success and failure since the actors failure in no way reflected upon their self-esteem.

An interesting finding resulted from the subjects self-rating of how similar or dissimilar they thought they were to each other. In addition to observers in the similar condition rating themselves as similar to the actor, observers in the success condition also viewed themselves as more similar than those in the failure condition. It is self-esteem enhancing to be like a successful person, thus observers saw themselves as more similar to a successful actor than to an unsuccessful actor.

### Behavioral Measures

Having an opportunity to select a level of difficulty for the actors' second task (block design) gave the observers the direct means to manipulate their environment. How would an observer behave in this situation in order to best enhance his self-esteem? Similar observers who were in the success condition chose a difficult level for the actor.

They assumed that the actor's good performance would be repeated, that they did not have to choose a safe, less difficult task level and in this way would earn a large additional sum of money if the actor succeeded. In addition, the selection of a high difficulty level reflected the observers' high regard for the actor. Similar observers viewing the actors fail chose a low level of difficulty for the block design task. In this way they could only win a small sum of money but they did not have to risk the possibility of the actor's second failure. Perhaps it was more important for the actors to succeed than to earn the additional money. The behavior of the dissimilar observers was very different from that of the similar observers. Whether the actor failed or succeeded, dissimilar observers chose a moderate level of difficulty for the second task. Why would dissimilar observers viewing a successful actor settle for less money than did the similar observers viewing a successful actor? As previously demonstrated, dissimilar observers did not view the actor's success in the same way as did similar observers since their self-esteem was not as tied to the actor's performance. Just as the dissimilar observer did not base attributions on the event outcome, neither did they base their selection of level of difficulty on it. Dissimilar observers simply chose a moderate level of difficulty.

#### Self-Esteem and Involvement

It has been demonstrated that dissimilar observers do not base attributions on the actors' success or failure. In addition the behavioral measure directly pertaining to task taking, i.e., choosing a level of difficulty for the second task, was not based on the outcome valence. This picture of the dissimilar observers changes when they are forced into involvement with the actor. When asked to directly evaluate or

interact with the actors, dissimilar observers begin to answer questions and behave in a way which will best maintain their self-esteem.

Only when the actors failed at what they were doing did the dissimilar observers evaluate them positively and want to participate with them in the second part of the study. The dissimilar observers evaluated the successful actors less positively, did not want to participate with the same partner in the second part of the experiment and sat far away from them. In this way the dissimilar observers, in an attempt to maintain their self-esteem, were choosing to avoid an experience where it may be in jeopardy. The dissimilar observers acted as if the actors' success implied that it was likely for them to fail.

The similar observers who were always involved with the actors' performance, also wanted to maintain their self-esteem. These observers evaluated the successful actors more positively than the ones who had failed. The positive evaluation after the actor succeeded coincided with their wanting to participate further with the same partner and sitting close to the successful actors. In this way the similar actors were also trying to avoid an experience where their self-esteem may have been shaken.

### Summary

Thus, self-esteem has been shown to affect both a person's behavior and the attribution he makes in regard to his or another's actions. It has been demonstrated that individuals will take credit for positive outcomes but not for negative ones. They behave in a way which will maintain their self-esteem, e.g., only when they do well on a task do actors similar to the observer want to continue participating in a study

with the same partner. In the same way, the observers behave and make attributions which will maintain their self-esteem. The dissimilar observers' self-esteem maintenance behavior seems to become stronger as his personal involvement with the actor becomes stronger. Self-esteem as a mediating variable appears to explain not only an individual's attributions but also the behavior it apparently motivates, particularly when the behavior of one person reflects in some way upon the other's. When this reflection or forced involvement between two people occurs self-esteem mediates what a person says and does. Since outside the psychological laboratory the uninvolved actor-observer is practically non-existent, the role of interpersonal involvement between individuals seems to be a crucial factor in governing the types of attributions made.

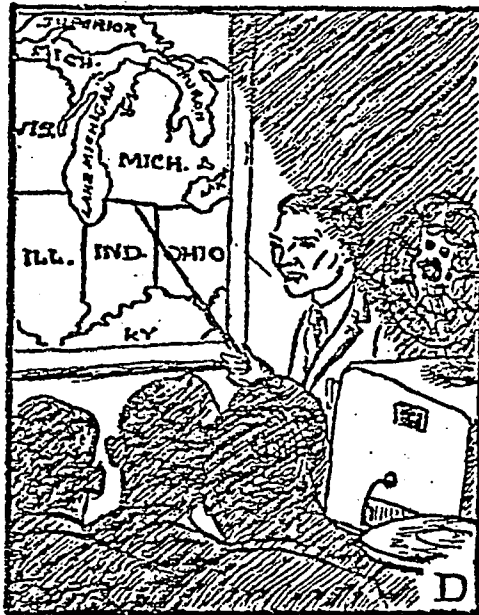
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A P P E N D I C E S



Samples:        map        \_\_\_\_\_

- 1. bird                    \_\_\_\_\_
- 2. passenger            \_\_\_\_\_
- 3. instruction            \_\_\_\_\_
- 4. lagoon                \_\_\_\_\_
- 5. lecture                \_\_\_\_\_
- 6. longitude             \_\_\_\_\_
- 7. symptoms             \_\_\_\_\_

- 8. conveyance            \_\_\_\_\_
- 9. herbivorous            \_\_\_\_\_
- 10. emporium            \_\_\_\_\_
- 11. peruse                \_\_\_\_\_
- 12. indolence            \_\_\_\_\_
- 13. remuneration        \_\_\_\_\_
- 14. heliacal             \_\_\_\_\_

Stop here!

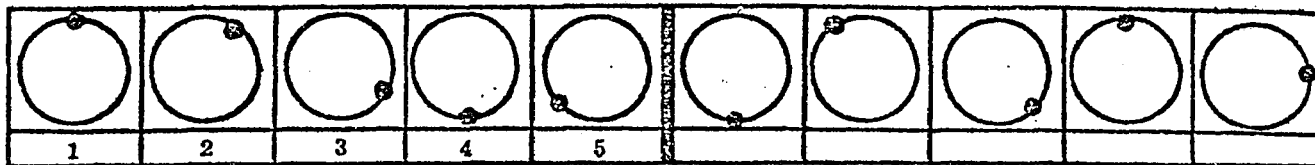
## Subtest 2 Number Series

Score.....

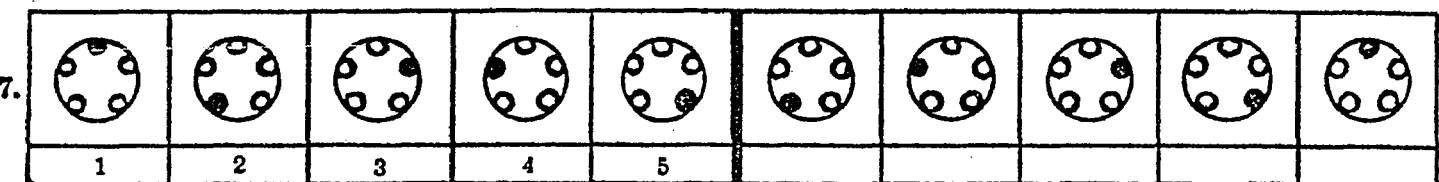
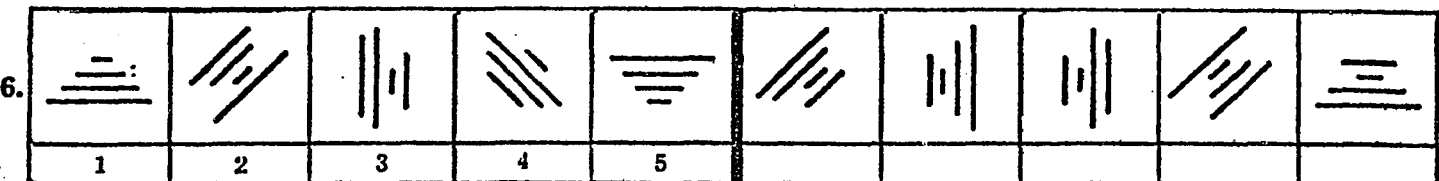
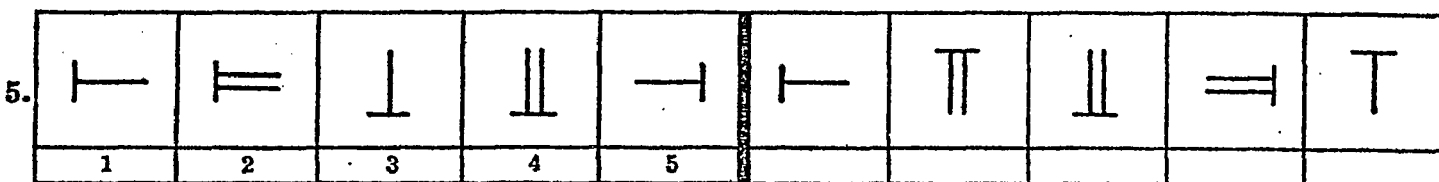
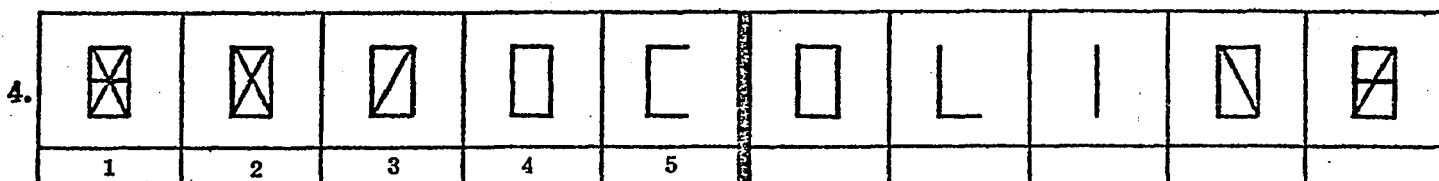
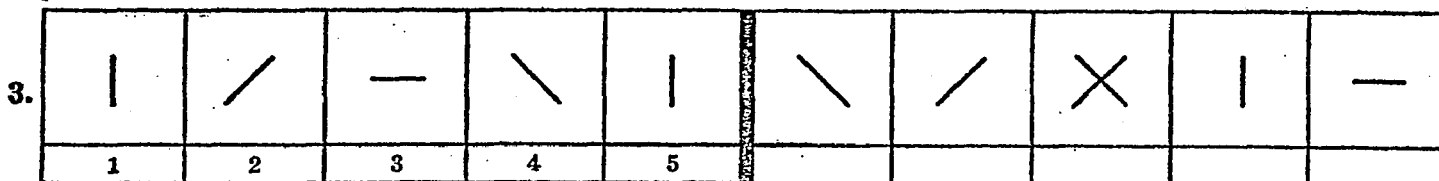
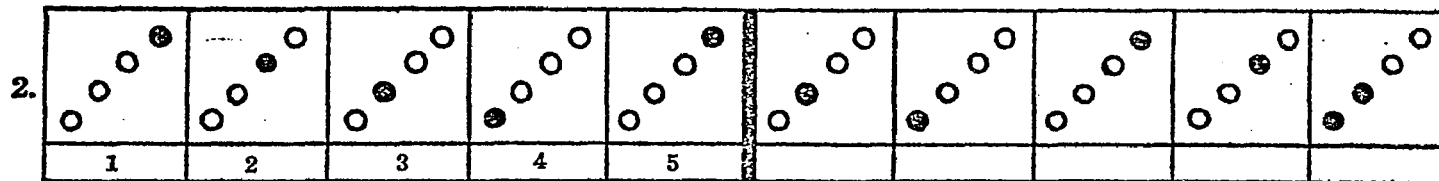
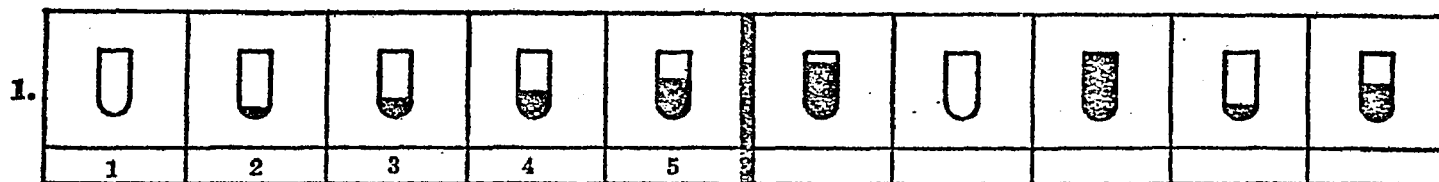
Sample:	1	2	3	4	.....	.....	
					A	B	
	2	4	6	8	.....	.....	1.
	10	20	30	40	.....	.....	2.
	2	2	3	3	.....	.....	3.
	25	20	15	10	.....	.....	4.
	17	14	11	8	.....	.....	5.
	0	5	0	9	.....	.....	6.
	7	2	6	1	.....	.....	7.
	15	14	7	6	.....	.....	8.
	16	15	13	10	.....	.....	9.
	8	5	2	-1	.....	.....	10.
	31	22	15	10	.....	.....	11.
	16	25	36	49	.....	.....	12.
	.75	.625	.5	.375	.....	.....	13.
	27	9	3	1	.....	.....	14.
	$\frac{1}{36}$	$\frac{1}{25}$	$\frac{1}{16}$	$\frac{1}{9}$	.....	.....	15.

Stop here!

Sample:

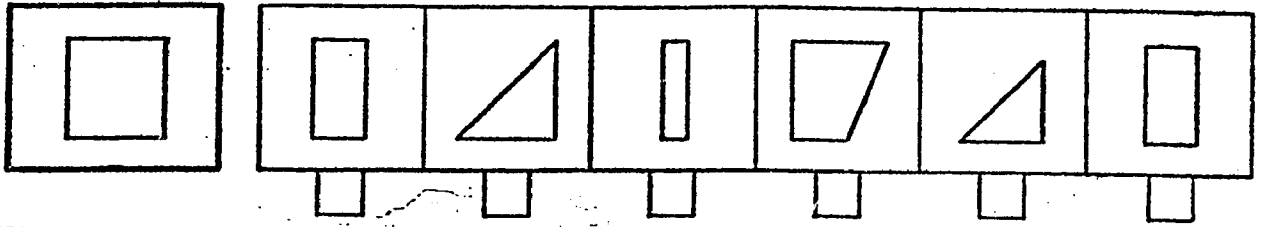


Score.....

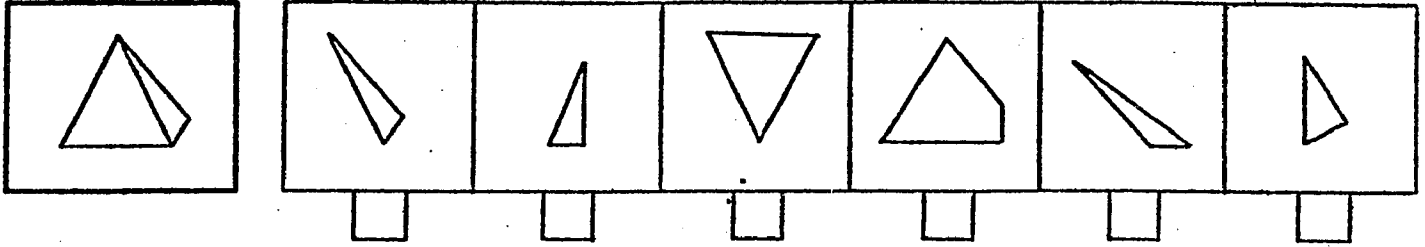


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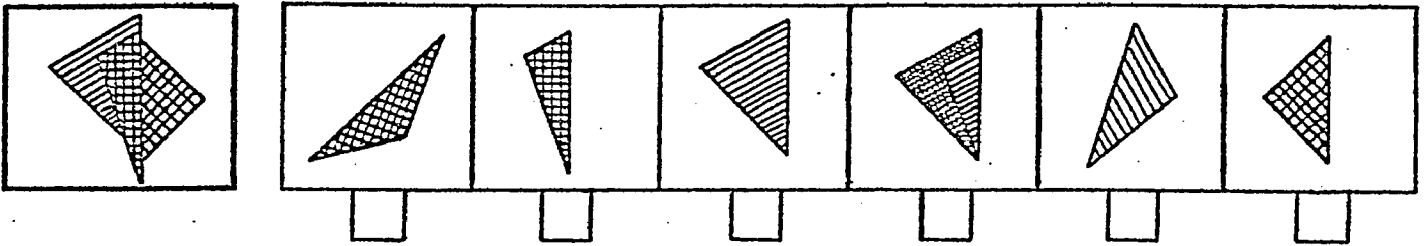
Samples: A



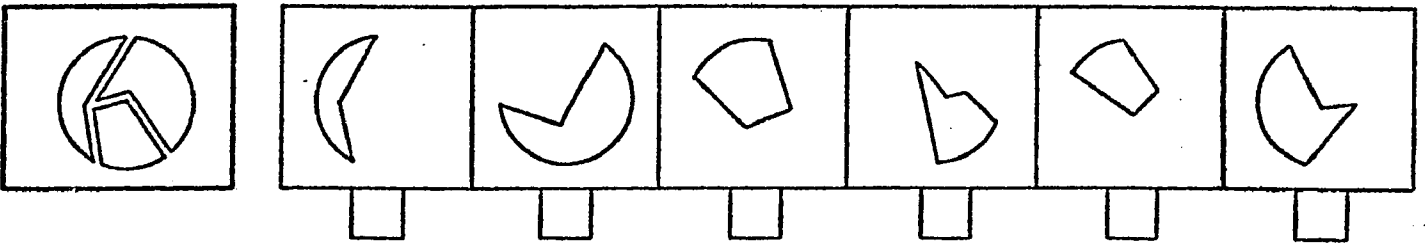
1.



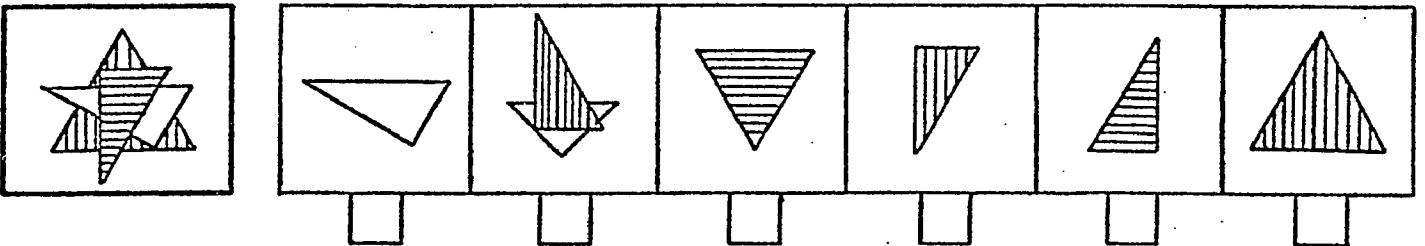
2.



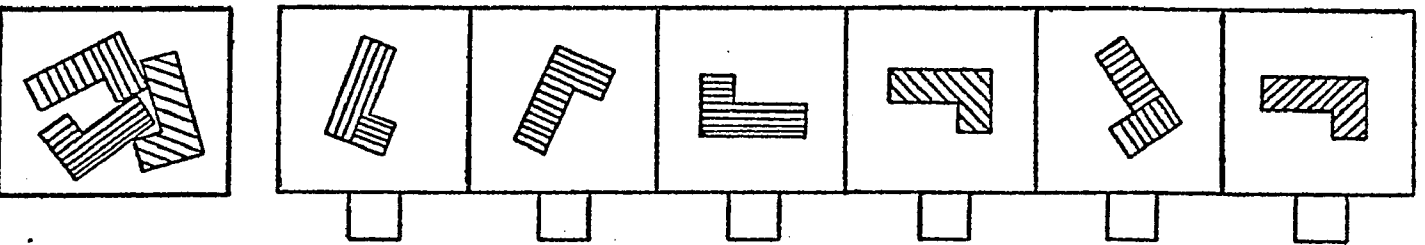
3.



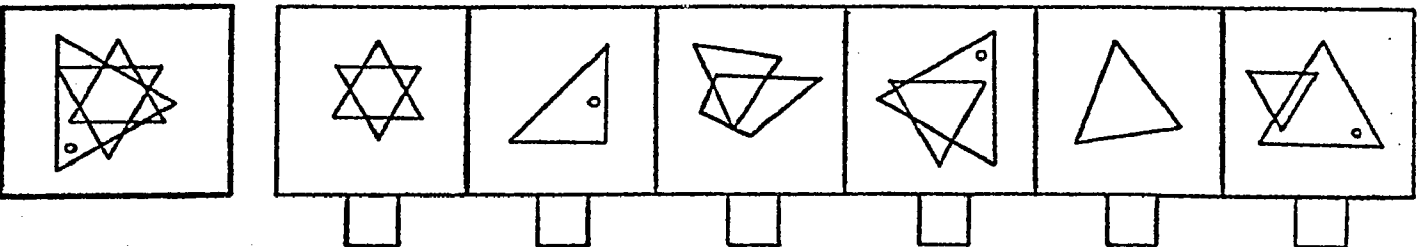
4.



5.



6.



The WRIT (Wide Range Intelligence Test) measures four distinctive types of intellectual ability: reasoning ability (cognitive skills), spatial analysis (synthesizing spatial relationships), conceptual ability (category association), and perceptual analysis (perceptual-analytic skills). The four subtests provide a good measure of overall intellectual ability when viewed as a whole, and each one in itself represents an important component of intelligence.

The WRIT has been standardized to various population groups. Your scores will be given as a percentage for each of the four areas. The percentage compares you to one of these standardized groups. For example, if your score is 25% you have performed better than 25% of the population; if your score is 50% you have performed better than half of the population; and at the 75% level you have performed better than 75% of the population.

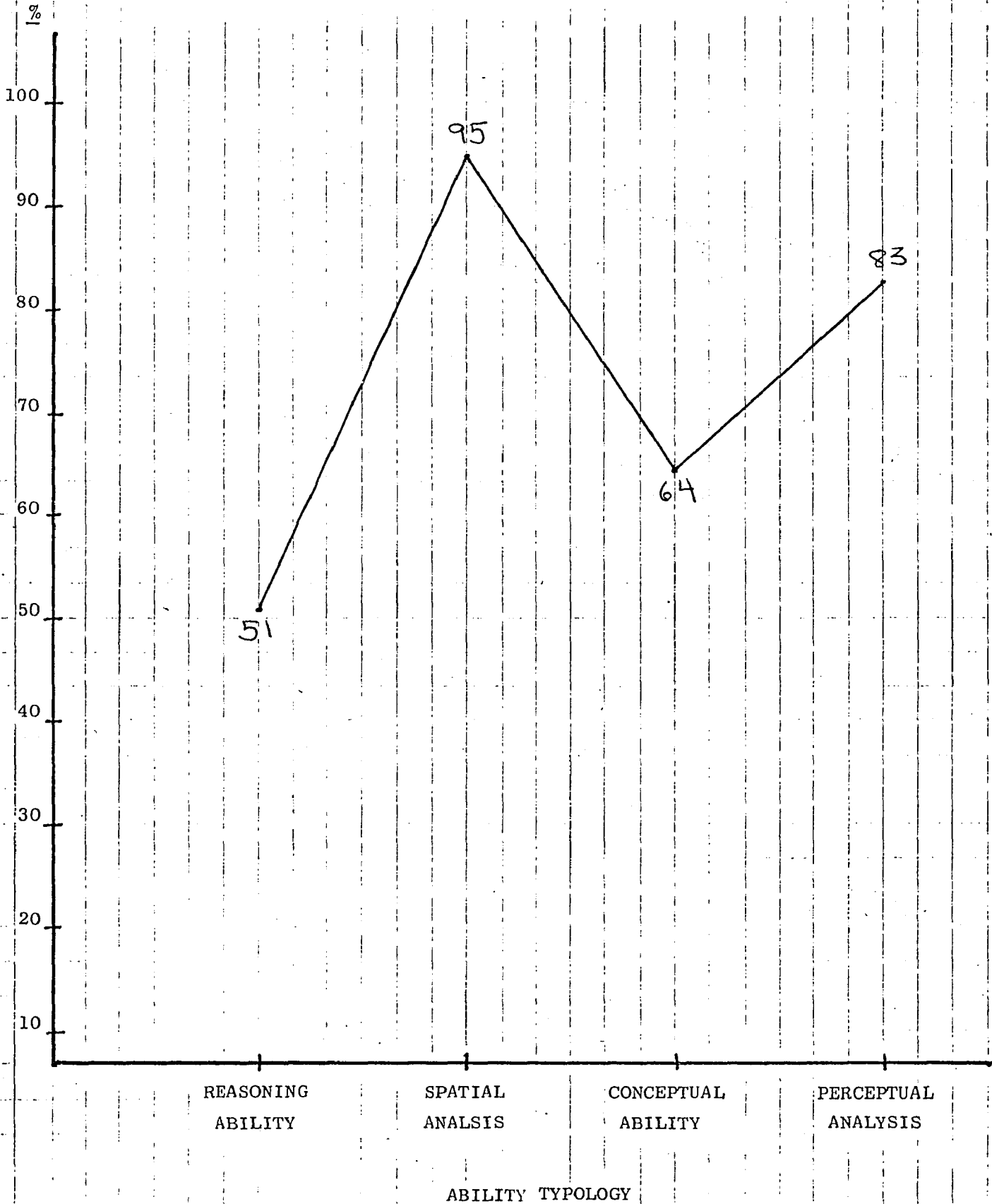
Your score will be presented by a graph that shows the percentile that you achieved by your performance on each subtest. Along the horizontal axis are the four subtests. You can determine your percentile in each area by looking along the vertical axis.

The graphs will be discussed briefly. Please hold any specific questions for the end of the experimental session. At that time I will discuss the details of your scores with you.

Name \_\_\_\_\_

Graph for Similar Condition

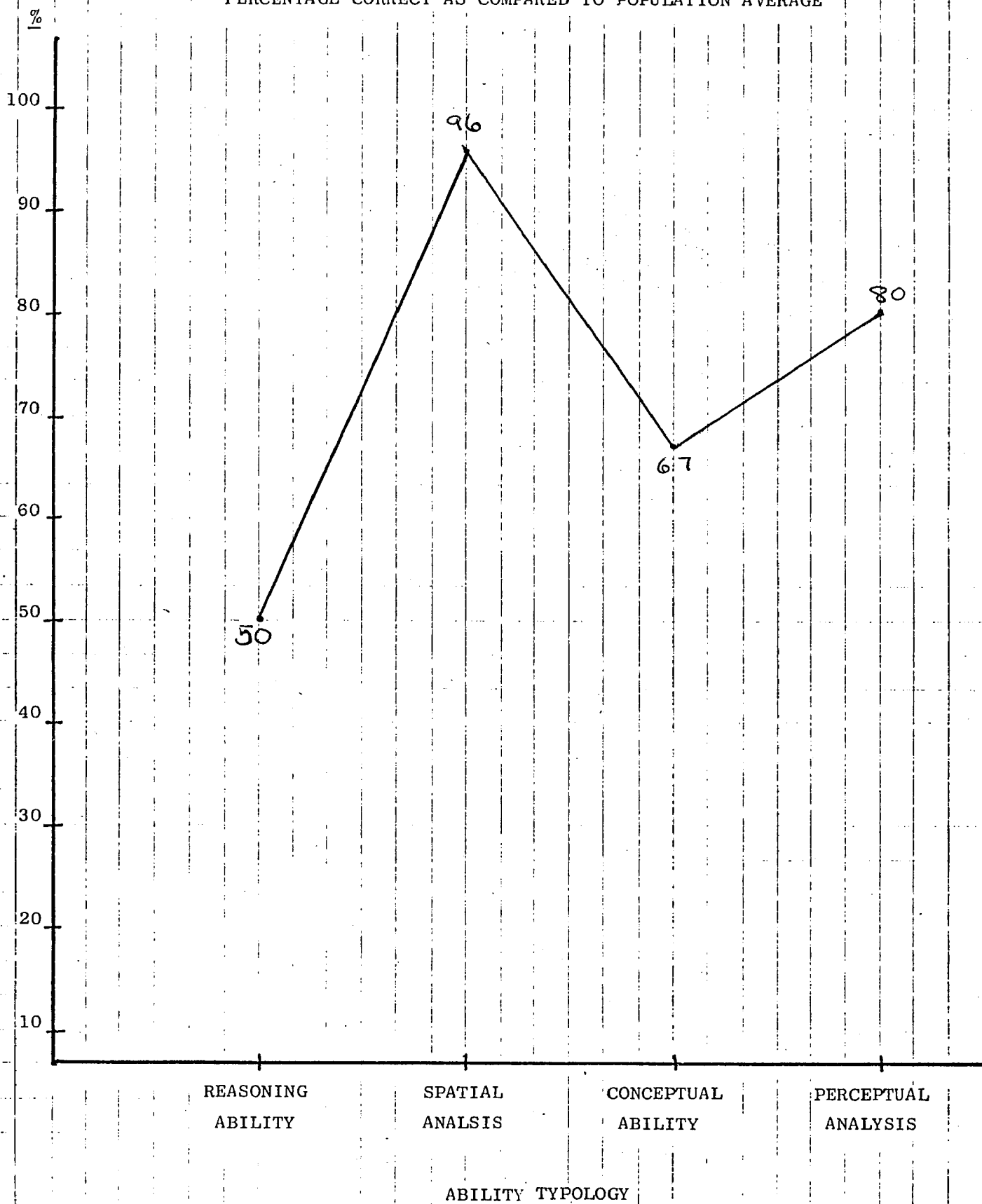
PERCENTAGE CORRECT AS COMPARED TO POPULATION AVERAGE



Name \_\_\_\_\_

### Graph for Similar and Dissimilar Condition

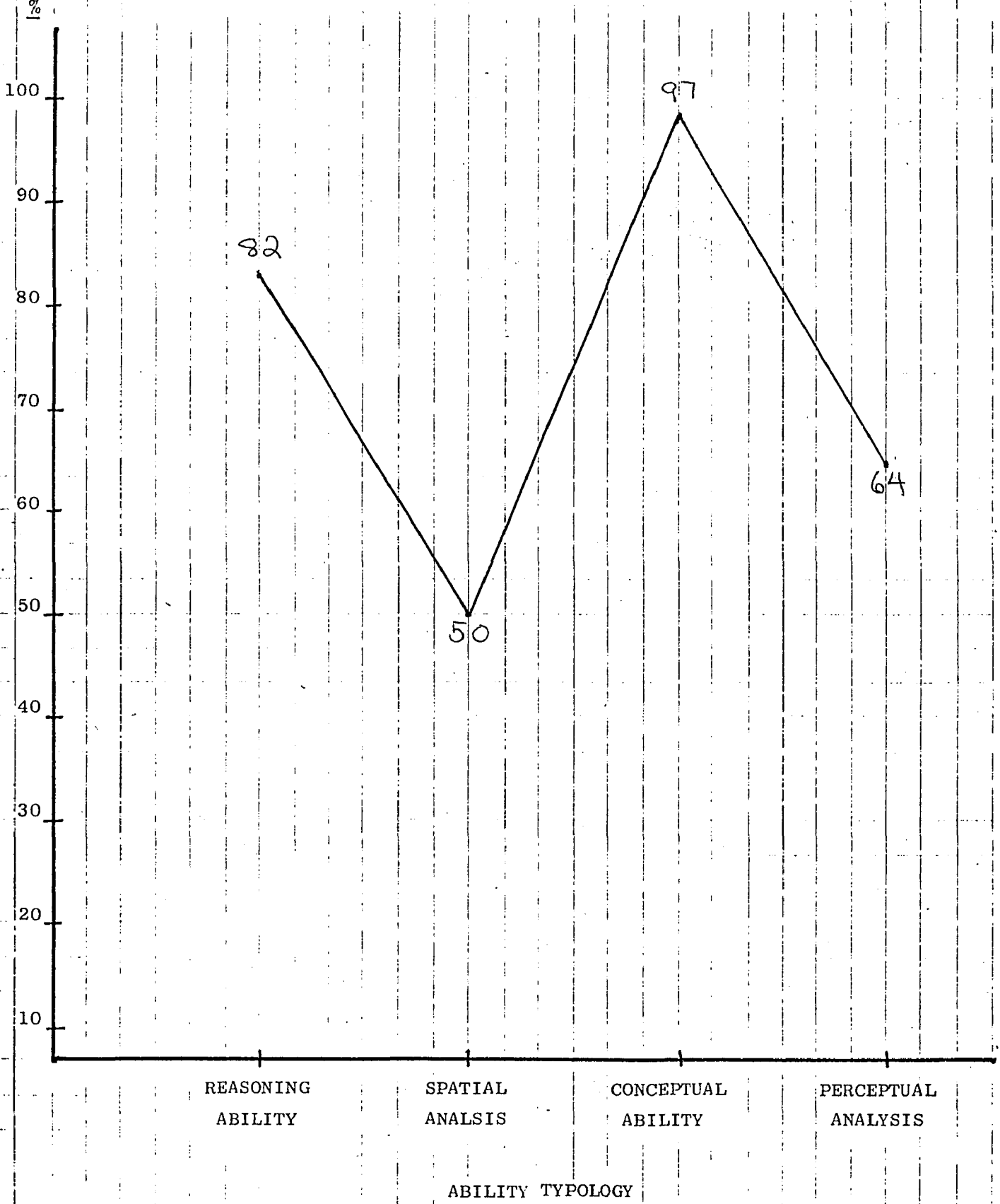
PERCENTAGE CORRECT AS COMPARED TO POPULATION AVERAGE



Name \_\_\_\_\_

Graph for Dissimilar Condition

PERCENTAGE CORRECT AS COMPARED TO POPULATION AVERAGE



ANAGRAM SCORE SHEET

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

Name \_\_\_\_\_

Please indicate whether you felt that the task taker's performance was due to dispositional factors (something about the person probably caused him to perform as he did on the task) or situational factors (something about the task or the particular circumstances probably caused the task taker to perform as he did on the task).

1	2	3	4	5	6
totally dispositional					totally situational

Name \_\_\_\_\_

If you want the task to be extremely easy (earning \$1 if answered correctly) check \$1. If you want the task to be very easy (earning \$2 if answered correctly) check \$2. And so on with the tasks getting increasingly more difficult, until \$10 which you would check if you want the task to be extremely difficult.

\$1 \_\_\_\_\_  
\$2 \_\_\_\_\_  
\$3 \_\_\_\_\_  
\$4 \_\_\_\_\_  
\$5 \_\_\_\_\_  
\$6 \_\_\_\_\_  
\$7 \_\_\_\_\_  
\$8 \_\_\_\_\_  
\$9 \_\_\_\_\_  
\$10 \_\_\_\_\_



6. How difficult was the task?
- |                |   |   |   |   |           |
|----------------|---|---|---|---|-----------|
| 1              | 2 | 3 | 4 | 5 | 6         |
| very difficult |   |   |   |   | very easy |
7. How much did luck affect your performance?
- |           |   |   |   |   |            |
|-----------|---|---|---|---|------------|
| 1         | 2 | 3 | 4 | 5 | 6          |
| very much |   |   |   |   | not at all |
8. How much did interfering conditions affect your performance?
- |           |   |   |   |   |            |
|-----------|---|---|---|---|------------|
| 1         | 2 | 3 | 4 | 5 | 6          |
| very much |   |   |   |   | not at all |
9. How well do you think a person of average ability would do on the task?
- |           |   |   |   |   |             |
|-----------|---|---|---|---|-------------|
| 1         | 2 | 3 | 4 | 5 | 6           |
| very well |   |   |   |   | very poorly |
10. In general, how confident do you feel about your abilities?
- |                |   |   |   |   |                      |
|----------------|---|---|---|---|----------------------|
| 1              | 2 | 3 | 4 | 5 | 6                    |
| very confident |   |   |   |   | not at all confident |

Name \_\_\_\_\_

Please answer each of the following questions. Circle the number which best expresses how you feel. For example, on item number one, if you think the other subject performed very well circle 1, very poorly circle 6, if somewhere in between these end points circle 2, 3, 4, or 5.

1. How well did the other subject perform on the task?

1	2	3	4	5	6
very well					very poorly

2. How well do you think you would do on the same series of tasks?

1	2	3	4	5	6
very well					very poorly

PLEASE READ QUESTIONS 3, 4, 5, AND 6 BEFORE CONTINUING, THEN GO BACK AND ANSWER EACH OF THEM.

3. How much did the other subject's ability affect his performance on the task?

1	2	3	4	5	6
very much					not at all

4. How much effort did the other subject put into his performance?

1	2	3	4	5	6
very much					none at all

5. How difficult was the task?

1	2	3	4	5	6
very difficult					very easy

GO TO NEXT PAGE

6. How much did luck affect the other subject's performance?
- |           |   |   |   |   |            |
|-----------|---|---|---|---|------------|
| 1         | 2 | 3 | 4 | 5 | 6          |
| very much |   |   |   |   | not at all |
7. How much did the interfering conditions affect the other subject's performance?
- |           |   |   |   |   |            |
|-----------|---|---|---|---|------------|
| 1         | 2 | 3 | 4 | 5 | 6          |
| very much |   |   |   |   | not at all |
8. How well would the other subject perform on a second equally difficult series of tasks?
- |           |   |   |   |   |             |
|-----------|---|---|---|---|-------------|
| 1         | 2 | 3 | 4 | 5 | 6           |
| very well |   |   |   |   | very poorly |
9. How well do you think a person of average ability would do on the task?
- |           |   |   |   |   |             |
|-----------|---|---|---|---|-------------|
| 1         | 2 | 3 | 4 | 5 | 6           |
| very well |   |   |   |   | very poorly |
10. In general, how confident do you feel about your abilities?
- |                |   |   |   |   |                      |
|----------------|---|---|---|---|----------------------|
| 1              | 2 | 3 | 4 | 5 | 6                    |
| very confident |   |   |   |   | not at all confident |

Name \_\_\_\_\_

We would like to find out your impression of the other subject. Please place a check in the box which best describes the person you are rating on the following items. For example, on item number one if you think the person is very deceitful check box 1, very trustworthy check box 7, somewhere in between these end points check box 2, 3, 4, 5, or 6. Please make a rating for each item and try to be as honest as you can. Remember, under no circumstances will these ratings be shown to the person you have rated, and your ratings will be used for research purposes only. It is extremely important that you express your true feelings.

	1	2	3	4	5	6	7	
1. deceitful								trustworthy
2. genuine								phony
3. unintelligent								intelligent
4. cooperative								uncooperative
5. unselfish								selfish
6. interesting								uninteresting
7. cold								warm
8. modest								conceited
9. rejecting								accepting
10. unsympathetic								sympathetic
11. considerate								inconsiderate
12. unlikeable								likeable
13. self-centered								concerned with others
14. unfriendly								friendly
15. similar to me								dissimilar from me

Introduction

Mr. \_\_\_\_\_ and Mr. \_\_\_\_\_, you will be participating in a study concerning the effects of interfering environmental stimuli on human functioning. The findings in this area to date have been very ambiguous, with some studies showing negative effects, some positive effects and others no effect at all. We are presently running a large scale study in order to clear up the controversy which exists. (As an aside) We are not sure in which direction our findings are going--even in our present study. We are looking at how such things as crowds, lighting and noise affect an individual's abilities. The study will analyse a wide range of human behavior, including intellectual functioning and interpersonal relations. We are interested particularly in seeing how certain environmental factors affect one's perceptions of other people, of themselves, and of the environment. This is a crucial experiment in the area of environmental effects, so please be as honest as possible in all of your answers.

We will be observing people under conditions of no interference, slight interference, moderate interference or extreme interference. You will be participating in one of these four conditions. Are there any questions at this point?

Before we begin with the part of the experiment involving potential environmental interference, I would like you both to take a test which measures different types of intellectual ability. After the test I will tell you how well you did as compared to a typical (name group subject with higher education belongs to, example, college graduate). We will discuss the results briefly, any further questions will be answered at the end of the experiment. Remember, the results of the

test will be used for research purposes only so just try to do your best. Then we will proceed. During the interference task one of you will play the role of the task taker and the other the observer.

(give out WRIT and pencil face-down)

### WRIT Instructions

On this test you will work on one page at a time, start when I tell you to start, stop when I tell you to stop. Do not turn the page until I tell you to do so. The questions get very difficult, and there are a large number of questions. You are not expected to necessarily know or complete all the problems in the time allowed. Once the test begins ask no questions. If you are not sure of an answer, choose the one you think is correct. Any questions? Please turn the test over. Write your name in the upper right hand corner.

Sub-test One-Vocabulary. On the top of the page are 6 pictures. Don't be concerned with the quality of the picture, just do your best. Below the picture is a list of words. If the word, for example was nurse, you would write the letter C next to it since there is a nurse in picture C. Now look at the sample word, map ... (pause) the answer is D, the picture with the map. Do you see that? When I tell you to begin, begin. Begin (give them one minute on each sub-test, or until the first subject has completed all but one item) Stop (use stop watch visibly).

Sub-test Two-Number Series. In this type of problem if I say 10, 9, 8, 7, to continue the series you would say 6, 5. So the number series is 10, 9, 8, 7, 6, 5. In the sample, 1, 2, 3, 4, the answer is ... (pause) 5, 6. Ready? Begin ... Stop.

Sub-test Three-Space Series. The figures on the left are in a logical sequence. You are to choose the figure to the right of the solid line that is next in the series. Look at the example, each circle has a dot on it that moves in a clockwise direction around the edge of the circle. You are to put a check under the circle which comes next in the series ... (pause) Here the correct answer is the second circle with the dot at about the 11 o'clock position. Ready? Begin ... Stop.

Sub-test Four-Space Completion. On this sub-test there is a figure on the left side of the page. This figure is inside the first box, with six figures to the right. As you can see the first figure is a square, you are to choose two or more figures that when put together in any way you wish will make up a square. You see here I have a square. When I put together these two rectangles, they make up a square. So in the sample problem the first and the last figure, the two rectangles when put together will make up a square. Place a check under the two rectangles. Ready? Begin ... Stop.

(Collect WRIT) It will take me a few minutes. While I score the test please read this paper describing the test and the explanation of the results you will receive.

DO NOT READ

Similar Condition

This is very interesting. I've never seen two people come out so similarly on abilities. As you can see the two of you are really similar on the pattern of abilities. (Make sure they look at each other's graphs and tell them the scores).

Dissimilar Condition

This is very interesting. I've never seen two people come out so differently. As you can see the two of you are really different on the pattern of abilities. (Make sure they look at each other's graphs and tell them the scores).

Task

One of you will serve as task taker and the other as observer. The roles will be chosen randomly, by means of lots. So if you'll choose a slip of paper we will see who is the task taker (Draw lots). All right will the task taker please sit here (indicate chair at the table). I will be with you in a moment.

That makes you the observer, will you please sit here (make sure the chair is at right and back position). Your role will be to watch what occurs during the next few minutes. You will be keeping track of the number of correct and incorrect responses the task taker makes. I will be administering the test and will state whether it is correct or not. Use this paper to record each answer. At the same time think about why he is performing the way he is. His performance could be due to many factors including his ability on the particular task he will be doing, the environment he is working in and the things that are happening around him such as interfering stimuli, my directions, the conditions of the room, the particular task he is working on and how hard or easy it is or any combination of these factors. Feel free to jot down any observations you make on the piece of paper where you'll be keeping score. Any questions?

(To task taker) You will be performing an anagram task. I will

place six letters in front of you and you will have 20 seconds to rearrange each group of letters so that they make a meaningful English word. If you solve the anagram within the 20 seconds, state the word out loud as well as having it in front of you. Any questions? (turn on tape) Ready? Begin. (Administer 10 trials, either success or failure condition)

(While standing at tape recorder) Will you please move your chair up to the table (observer---note where left leg is and mark it down on paper in lap) How many of the anagrams did Mr. \_\_\_\_\_ get correct, how many incorrect? (Mark it down on paper)

Now that you have some impression of Mr. \_\_\_\_\_'s ability on this type of task I would like you to choose a second task for Mr. \_\_\_\_\_, one which is difficult enough to present a challenge to his abilities and yet one that he can do. So, choose the most difficult set of tasks you think Mr. \_\_\_\_\_ will get correct. As an incentive to choose a task difficult enough for Mr. \_\_\_\_\_'s ability, each level of difficulty will be paired with another monetary value. I'll explain that in a minute. The task will be a block design task (show a card) I will give him 9 blocks and he will have to make this design out of them. So if you choose level one, the easiest task, and Mr. \_\_\_\_\_ gets 4 out of the 5 problems correct you will each receive \$1. At level 2 which is still easy but slightly more difficult you will each receive \$2. And up to level 10, at which you will receive \$10 each if 4 out of 5 problems are solved correctly. The difficulty of the anagram task was mixed, with no fixed level so use your own judgement. Will you please move your chair so Mr. \_\_\_\_\_ cannot see what level you are choosing. Choose carefully, you will receive no additional money if the level is

too difficult and he doesn't get the correct solution to 4 out of 5 of the problems. Mark your choice but do not say aloud which you have chosen (if they ask--no interference during task).

Before we move on to the second task I would like you to fill out some questionnaires. Do this quickly so we can get to the second study. (Administer 4 questionnaires) Please turn your chairs with your backs to each other.

We seem to be running late, I wonder if you would mind coming back another day. If so, please sign up on this sheet and indicate if you would like to participate with a new partner or keep the same partner. Turn the sheet over and leave it in front of you.

Okay can you please move your chairs up to the table so I can pay you and tell you a little bit about the experiment.