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SOCIAL PERCEPTION IN DEPRESSION: SENSITIVITY TO ATTRIBUTIONAL NORMS AND THE INFLUENCE OF THOUGHT ON INTERPERSONAL EVALUATIONS

The Ohio State University

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SOCIAL PERCEPTION IN DEPRESSION:
SENSITIVITY TO ATTRIBUTIONAL NORMS AND THE INFLUENCE
OF THOUGHT ON INTERPERSONAL EVALUATIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

by
Martha Gregory Hill, B.A., M.A.

****
The Ohio State University
1985

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**Presentations**


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Introduction

Although there is general agreement about the observable symptoms of depression -- sadness, guilt, passivity, indecisiveness -- there are many different theoretical explanations for the causes of and relationships among the cognitive, affective, and motivational manifestations of depression. Freud (1957) argued that it was the result of aggression turned inward, of an imbalance between aggressive drives and libidinal impulses. Theorists in the medical model tradition have emphasized the role of physiological/biochemical factors (see Akiskal & McKinney, 1973). Behavioral theorists have identified such factors as lack of response contingent positive reinforcement (Lewinsohn, 1974), inadequate or insufficient reinforcing (Lazarus, 1972), and a reduction of reinforcer effectiveness (Costello, 1972). Some attention has been given to the social and interpersonal factors (Coates & Wortman, 1980; Coyne, 1976) that may influence the development and expression of depressive symptoms.

Recently, the cognitive processes of depressed individuals have received increasing attention from theorists and researchers. Investigators interested in such processes have proposed that depressive cognitions may be a cause (e.g., Shaw & Dobson, 1981), a symptom (e.g., Schrieber, 1978) or a consequence (e.g., Lewinsohn, 1974) of depression. However, the two cognitive theories which have received most attention in the empirical literature are the
theories of Beck (1967) and Seligman (1975). These theories propose that individuals' cognitions precede and cause depression. In particular, both of these theories emphasize individuals' appraisals of and causal inferences regarding their experiences as important etiological factors in depression.

The purpose of this study is to evaluate social perception processes of depressed individuals. More specifically, it examines the reactions of depressed and non depressed observers to an attributor's causal explanation for his performance on an achievement-related task. It seems particularly important to investigate the social perception processes of depressed individuals given the increasing interest in depressives' dysfunctional cognitive processes and the recent emphasis on the role of social comparisons and attributions in development and maintenance of depression (Abramson et al., 1978; Tabachnick, Crocker, & Alloy, 1983).

In the next section, a brief discussion of the cognitive theories of depression (Abramson et al., 1978; Beck, 1967; Seligman, 1975) will be presented. These theories suggest that the depressed person's perception is characterized by distortion and insensitivity to environmental information. This discussion will be followed by a review of some of the recent evidence of depressed individuals' apparent sensitivity to the contingencies
surrounding their own and others' behaviors. Next, possible mediators of depressives' sensitivity will be discussed. Finally, a study will be presented that examined depressive sensitivity to attributional norms.

Cognitive Theories of Depression

The cognitive models of depression (Abramson et al., 1978; Beck, 1967) have postulated that dysfunctional cognitive processes are important antecedents of depressive affect. In this section an overview of each model will be presented. A complete review and comparison of these theories is beyond the scope of this paper; however, analyses are offered elsewhere (see Blaney, 1977; Coyne & Gotlib, 1983).

Depressive Cognitions

The cognitive model of depression proposed by Beck (1967) characterizes the thinking of depressives as illogical and distorted. According to Beck's model, the depressive cognitive triad -- a negative and distorted view of the world, the self, and the future -- precipitates the emotional and motivational changes that are recognized generally as components of depression. The thoughts of the depressed center on a theme of loss; the depressed dwells on "hypothetical losses" and "pseudo-losses". Beck described the depressed person's pessimism as absolute and global. Depressed persons, according to Beck, tend to overinterpret daily events in terms of loss while remaining oblivious to more positive interpretations.
... he is hypersensitive to stimuli suggestive of loss and is blind to stimuli representing gain...

He is facile in recalling unpleasant experiences but "draws a blank" when questioned about positive experiences. (Beck, 1975, p. 14)

Beck's model emphasized that it was individuals' appraisals of life events rather than the events themselves that are precipitants of depression. The negative affect associated with depression is, then, secondary to negative cognitions. The emotional manifestations include dejected mood, self-reproach, and self-criticism; the depressed individual seems preoccupied with his or her deficiencies. Negative expectations are manifested in motivational changes; the depressed individual may engage in less demanding activities, exert less effort, or avoid activity altogether.

**Learned Helplessness**

The learned helplessness model of depression (Seligman, 1975) suggests that through exposure to uncontrollable stress or trauma, individuals learn that responses and outcomes are independent or non-contingent.

The depressed patient has learned or believes that he cannot control those elements of his life that relieve suffering or bring him gratification (Seligman, 1974, p. 98).

Helpless individuals come to believe that active coping efforts are futile. Learned helplessness is manifested in motivational, cognitive, and emotional changes.
Motivational changes are inferred from the depressed individual's general passivity and from slow response initiation in experimental settings. Negative expectations are presumed to reflect cognitive changes. The emotional consequences of learned helplessness is a depressed mood.

The helplessness model of depression has been reformulated and elaborated (Abramson, Seligman, & Teasdale, 1978) as a model for a subset of depression, "hopelessness depression". According to this model, individuals' expectations of hopelessness accompanied by lowered self-esteem have been identified as sufficient causes of depressive symptoms. Although the reformulated model allows for a variety of causes of "hopelessness", it focuses on individuals' causal attributions for negative events as important contributory causes of hopelessness and the subsequent depression. This is, experiencing an uncontrollable negative event may not result in depression; the depressed response is mediated by individual's attributions regarding the experience.

According to the reformulated model, individuals who experience negative events presumably attempt to evaluate and understand the causes of their experience. Three attributional dimensions are especially relevant to the learned helplessness model of depression -- internality, stability, and globality. The internality dimension determines the impact of an event on self-esteem. For
example, an attribution to a personal characteristic (internal) is more likely to have an impact on self-esteem than an attribution to an environmental cause (external). The stability dimension presumably relates to an individual's ability to predict future experiences; a stable cause (e.g., ability) is likely to remain unchanged and is, therefore, a better predictor of future experiences than an unstable cause (e.g., luck). The globality dimension is important in determining the generalizability of the experience. That is, a global cause is one that is likely to affect many areas of experience. According to the reformulated learned helplessness model, depression is most likely to occur with an internal, stable, global attribution for a negative event and least likely to occur with an external, unstable, specific attribution for the event. The depressogenic attributional style (internal - stable - global) presumably leads to a generalized expectation of hopelessness, and consequently, to depression.

**Similarities between the Cognitive Models**

Although the theories of Beck, (1967) and Seligman (1975; Abramson et al., 1978) differ in important ways, they have many similarities. Indeed, Coyne and Gotlib (1983) have argued that many of the apparent differences in the two cognitive models reflect differences in emphasis rather than substantive conceptual issues. For example, Beck's (1967), 1976) model emphasizes the depressed individual's organization of prior information and the subsequent
distortion in the processing of incoming information. The learned helplessness model (Abramson et al., 1978; Seligman, 1975), on the other hand, emphasizes the depressed individual's explanations of incoming information and the influence of those explanations on subsequent cognitions, affect, and behavior.

Similarities between the two models can be seen in the shared emphasis on individual's perception and interpretations of life experiences as significant factors in the etiology and maintenance of depression. That is, both Beck (1967) and Abramson et al. (1978) argue that depressives perceive themselves to be responsible for negative experiences (e.g., self-blame). In addition, both models suggest that depressed individuals tend to perceive their experiences in a distorted way and are relatively insensitive to environmental feedback. Beck (1979) described the thinking of an individual in a state of depression --

... thinking may become completely dominated by the idiosyncratic schema: he (the patient) is completely preoccupied with perseverative repetitive negative thoughts and may find it enormously difficult to concentrate on external stimuli ... The depressive cognitive organization may become so independent of external stimulation that the individual is unresponsive to changes in his immediate environment (p. 13).

Although the language is specific to Beck's formulation (e.g., "idiosyncratic schema"), the theme of negativity and insensitivity is consistent with both Beck's and the learned
helplessness formulations of depression. For example, Seligman's model postulates that once "helpless" individuals come to believe active coping efforts are futile, they will exhibit cognitive deficits in learning new response-outcome contingencies. This suggests, at least implicitly, that "helpless" depressed individuals may not attend to (i.e., are insensitive to) changes in their environment.

Although depressives' distortion of and misinterpretation of the social environment has been supported by considerable research (see Blaney, 1977; Coyne & Gotlib, 1983), there is emerging empirical evidence to the contrary. Indeed, depressed individuals appear to be quite sensitive to information regarding the contingencies surrounding their own and others behaviors (Alloy & Abramson, 1979; Weary, Jordon, Hill, in press; Lewinson, Mischel, Chaplin, & Barton, 1980). For example, Alloy and Abramson (1979) asked college students to judge the degree of contingency between their problem-solving attempts and their performance outcomes on a task in which the two were unrelated. The results showed that, while nondepressed subjects had an "illusion of control", the depressed subjects accurately reported that they had no control over the task.

Additional evidence of depressives' sensitivity to environmental information has been provided by a recent study which evaluated depressed and nondepressed subjects' reactions to another's expressed causal analyses for his
performance on an achievement-related task (Weary, Jordon, & Hill, in press), Weary et al. reasoned that, in an achievement-related context, observers' reactions were likely to be guided by a social norm favoring internal attributions (Jellison & Green, 1981). That is, observers would respond with more social approval to an individual who accepted a high as compared to a low degree of personal responsibility for his or her outcome on an ability task. In addition, Weary et al. argued that, since a lack of control motivates information processing in an attributional context (Pittman & Pittman, 1981), depressed subjects, who presumably experience a chronic lack of control, would be motivated to make more use of the attributional information than would nondepressed subjects (McCaul, 1983). Depressed observers in this study, then, were expected to be more sensitive to another's violation of the attributional norm of internality and to respond with more social disapproval than nondepressed observers. In summary, Weary et al. proposed that observers would evaluate an individual more positively when he or she accepted a high as compared to a low degree of responsibility for his or her performance on an ability task, and that the effect would be more pronounced for depressed as compared to nondepressed observers.

In this study (Weary et al., in press), depressed and nondepressed college students were asked to watch the
videotaped performance of a male student on an "analytical ability task" (e.g., anagrams) in which the student performed poorly and subsequently accepted a high or low degree of responsibility for his outcome. Subjects then evaluated the actor on a measure of favorability. Results indicated that depressed observers' evaluations of the student-actor were significantly more negative when he made a low as compared to a high self-attribution of responsibility for his poor performance on the ability task. However, nondepressed observers' evaluation of the actors were relatively favorable, regardless of the level of his self-attribution.

Weary et al. interpreted the results as providing evidence of depressive sensitivity to social information, more specifically, to attributional norms. The depressed observers' apparent sensitivity to the contingencies surrounding the attributor's causal analyses was consistent with the experimental hypothesis that depressives would be more motivated than nondepressives to engage in "attributional information processing".

Mediators of Depressive Sensitivity

There are several factors that might mediate depressives' increased sensitivity to social information. One such factor is differential memory. Depressed and nondepressed subjects, for instance, may have differed in the availability of relevant information in memory. For example, Reyes (1980) has argued that
information which is disproportionately available in memory will have a correspondingly disproportionate impact on evaluative judgements (p.1).

Since people often draw social inferences and make social judgements based upon relevant information they recall, social judgements may be biased by information that is highly available. However, all relevant information presumably is immediately available in memory (Reyes, 1980); consequently, this bias is less likely to influence judgements made immediately after the presentation of information than judgements made after a period of time.

Availability (of relevant information) should have its major impact on summary judgements that are constructed retrospectively by retrieving, evaluating, and integrating relevant information (Reyes, 1980, p. 11).

It is important to note that in the Weary study, evaluations were elicited from observers immediately following presentation of the stimulus situation. Moreover, Weary provided evidence that both depressed and nondepressed observers encoded and recalled correctly that actor's high or low self-attribution.

Another variable that may mediate depressive sensitivity is, increased thought. That is, depressed subjects, perhaps because of chronic uncertainty, may simply have thought more about the information and their evaluations of the actor than did nondepressed subjects. This increased level of thinking by depressed observers may have made the actor's violation of the attributional norm
more salient to them and also may have led to the depressed-
nondepressed differences in evaluations (of the actor) found
in the Weary et al. study.

**Polarization of Feelings**

In this context, it is important to recognize that
thought is more than a passive review of information; it
might be considered as a dynamic process in which salient
cognitions about an object may be altered. It is possible
that thinking about an idea or a person intensifies one's
feelings about the idea or person --

...a sensation attended to becomes stronger than
it otherwise would be (James, 1970m p. 425).

Indeed, Tesser (1978) has argued and provided evidence
that schema-directed thought leads to polarization of
attitudes and feelings. He reasoned that a schema makes
salient selected cognitions, beliefs, and feelings about a
person, an idea, or an object (see Abelson, 1976; Jones &
deCharms, 1958). In addition, he proposed that thought
changes cognitions about an object, making them more like an
individual's relevant schema (e.g., Spiro, 1975; Ebbeson,
Cohen, & Lane, 1975) and making beliefs about the object
more evaluatively consistent. Tesser concluded that "if
affect is related to beliefs, then thought should tend to
polarize feelings" (p. 297).

Tesser and his colleagues have provided evidence that
thinking about an "attitude object" alters one's beliefs and
feelings. In one study ostensibly concerned with how people
form impressions of one another in the absence of visual cues, Sadler & Tesser (1973) asked subjects to interact via intercom with another individual. Subjects spoke for two minutes on specific topics, then heard another person speak. The second person was actually a recording of a confederate enacting a positive role (friendly and complementary) or negative role (unfriendly and criticizing). Following the interaction subjects were instructed to think about the person with whom they had interacted (thought condition) or were distracted from thinking about him (distraction condition). Subjects then rated the other person on a variety of attraction measures (e.g., Byrne & Nelson, 1965; Osgood et al., 1957) and listed their thoughts about the other (Greenwald, 1968), indicating whether each thought was positive, negative, or neutral.

Results indicated that subjects evaluated the "likeable" partner positively and the "dislikeable" partner negatively. In addition, the evaluations were more extreme in the thought as compared to the distraction condition. The thought listing measure yielded more positive thoughts in the positive condition and more negative thoughts in the negative condition. Sadler and Tesser interpreted these results as consistent with the notion that thought leads to polarization of attitudes. They suggested that the generation of affect consistent cognitions during thought mediated the polarization of evaluative judgements.
Tesser and Cowan (1977) suggested that the thought polarization effect might also result from the reinterpretation of inconsistent cognitions to make them more schema-consistent. They included neutral "tracer" adjectives in groups of positive and negative trait adjectives reasoning that if individuals reinterpret inconsistent cognitions (i.e., neutral trait adjectives), the neutral "tracers" would be evaluated more positively when associated with a likeable description of another as compared to a negative description. In addition, they suggested that it would be easier to reinterpret an ambiguous as opposed to an unambiguous cognition. Subjects in the study rated their feelings about hypothetical persons described by sets of positive and negative trait adjectives which included neutral "tracer" adjectives that were ambiguous or unambiguous (Wyer, 1974). Subjects were instructed to think about or were distracted from thinking about the described person. Subsequently, all subjects rerated their feelings toward the other person and evaluated the meaning of the neutral "tracer" adjectives on semantic differential scales. Results indicated that thought produced more polarization of feelings than did distraction. Moreover, the effect was more pronounced with the ambiguous "tracers" than with the unambiguous "tracer".

Taken together, the results of these studies (Sadler & Tesser, 1973; Tesser & Cowan, 1977) provided evidence consistent with the notion that schema-directed thinking
about a person or object may result in attitude polarization. Moreover, the thought-polarization effect appears to be the result of added schema-consistent cognitions and reinterpreted inconsistent cognitions.

The purpose of this study is to evaluate whether increased thought may be an important process underlying the depressed-nondepressed differences in social perception found in the Weary et al. study described previously. The reader will recall that depressed but not nondepressed subjects in the study responded more negatively to the student-actor when he violated the attributional norm of internality (i.e., when he made a low self-attribution for his poor performance). Presumably, in an achievement-related context, the "norm of internality" provides a salient schema for interpreting casual explanation for performance and for evaluating the performer/attributor. In accord with that schema, observers would be expected to respond with social disapproval when an actor violates the norm (i.e., makes a low self-attribution for his performance outcome). An observer's initial evaluative impression presumably will polarize or become more extreme if the observer continues to think about the actor (e.g., Sadler & Tesser, 1973).

It is the thesis of this paper that depressed observers, presumably because of a chronic lack of control and uncertainty, think more about behavioral events and
individuals involved in them than do nondepressed observers. When that thought is schema-directed (e.g., by the norm of internality), depressed observers' evaluations of an actor tend to polarize (cf. Tesser, 1978). Consequently, depressed observers respond with more pronounced evaluations of an actor (e.g., more social disapproval when the norm is violated) than do non-depressed observers. This reasoning suggests two things. First, non-depressed observers who are instructed to think about the situation and the actor involved, should respond with more extreme evaluations of the actor than non-depressed observers who are given no such instructions. Second, depressed subjects who are distracted from thinking should respond with less extreme evaluations of the actor than depressed observers who are not distracted.

This study replicated the methodology of the Weary et al. (in press) study with the addition of a thought/distraction manipulation. More specifically, depressed and nondepressed observers observed a videotape of a student-actor's unsuccessful performance on an ostensibly widely used aptitude test and his subsequent acceptance of a high or low degree of personal responsibility for his poor performance. Subjects subsequently rated the actor on a number of positively -, negatively -, and neutrally-toned personality trait words (Anderson, 1978). Prior to rating the actor, one-half of the depressed subjects were distracted from thinking about the actor, and one-half of the
nondepressed subjects were instructed to think about the actor. It was predicted that observers would evaluate the actor more positively when he accepted a high as compared to low degree of responsibility for his unsuccessful performance. Moreover, it was expected that this effect would be particularly pronounced for nondepressed-thought observers and for depressed observers who presumably engage naturally in more thought about the actor.

To provide a baseline measure of observers' evaluations and to assess depressed and nondepressed observers' attributions for the actor's poor performance, four control conditions were included in which depressed and nondepressed observers received no information regarding the actor's level of self-attribution. One-half of the depressed and nondepressed observers in the control conditions viewed the videotape, subsequently made attributions for the actor's outcome and completed the evaluation questionnaire. Recent evidence suggests that while depressed and nondepressed individuals may differ in their self-attributions, they make similar casual judgements for another's outcomes (Sweeney, Shaefer, & Golin, 1982). Accordingly, I expected that similar actor attributions would be made by depressed and nondepressed observers in the present study (cf. Weary et al., in press).

The remaining one-half of the depressed and nondepressed observers in the control conditions viewed the...
videotape and, following the thought or distraction manipulation, completed the actor attribution and evaluation measures. No predictions are made regarding the influence of thought/distraction manipulations on the dependent variables in these control conditions.

In summary, the study employed a 3 (High, Low, or No actor self-attribution) x 4 (Condition: depressed, depressed-distraction, non-depressed, non-depressed-thought) between subjects design. It was predicted that observers would evaluate the actor more positively when he accepted a high as compared to a low degree of responsibility for his unsuccessful performance on the "aptitude test". This effect was expected to be more pronounced for depressed observers who presumably engage naturally in more thought and for nondepressed observers who were encouraged via the experimental manipulation to think about the videotaped event and the actor.

Method

Subjects

Under the guise of a study seeking normative information on several recently developed psychological scales, 400 undergraduates enrolled in introductory psychology at the Ohio State University were administered the Beck Depression Inventory (BDI: Beck, 1967). From this pool, groups of depressed (BDI ≥ 10) and nondepressed (BDI ≤ 3) subjects were selected. These subjects then were contacted to arrange for their participation in a follow-up
study. From 1 to 3 weeks ensued before subjects reported for the experimental procedure. To eliminate subjects who may have been experiencing only a transient depressed mood, the BDI was readministered (cf. Sacco, 1981) at the beginning of the experimental session. If the BDI score fell below 10 for the depressed subjects or exceeded 3 for the nondepressed subjects, those subjects were excluded from the final sample. 23 subjects fell into this transient category. The final sample included 60 depressed (23 male and 37 female) and 60 nondepressed (35 male and 25 female) subjects. Of the 60 depressed subjects in the experiment, 41 were mildly depressed, 12 were moderately depressed, and 17 were severely depressed. For the depressed subjects, the mean BDI scores for the first and second administration were 17.18 and 15.20, respectively. For nondepressed subjects, the mean BDI scores for the first and second administration were 1.57 and 1.12, respectively.

**Procedure**

Upon arrival at the laboratory, subjects were told that the study was an extension of the psychological scale validation study in which they had participated previously. They were told that this phase was concerned with evaluating various ways of collecting personality data. The experimenter explained further that one reliable way of obtaining personality information about another is to observe carefully his or her manner of approaching and
solving problems. Accordingly, they would be asked to watch the videotaped performance of a student on the Spatial Analysis Aptitude Test and, on the basis of their observations, to form an impression of the student's personality.

Following this explanation, all subjects viewed the same 20-minute videotape depicting a student's (confederate) performance on three performance subtests of the SPAAT, loosely patterned after the block design, object assembly, and digitsymbol subtests of the WAIS. Subjects then saw the student-actor receive performance feedback indicating that he had scored in the 20th percentile of people who had taken the test previously. After giving the student-actor a brief explanation of the nature of personal responsibility for an outcome, the test administrator was seen asking directly and via a written questionnaire, "To what degree do you feel personally responsible for your test results?" For subjects in the control conditions, the videotape ended at this point. For subjects in the experimental conditions, the videotape included a short segment in which the student-actor made verbally and on a questionnaire either a high or low rating of personal responsibility, corresponding to a rating on a 9-point scale of 8 or 2, respectively.

After the videotape, half of the depressed and nondepressed subjects completed questionnaires on which they were asked to indicate their impressions of the student-actor. On the first form, subjects completed several 9-
point scales designed to serve as checks on the manipulation of the level of the student-actor's performance and self-attribution, as well as measures of the student-actor's belief that his rating of responsibility for his performance outcome would be evaluated by the test administrator. Control subjects were asked to indicate on a 9-point scale their causal judgements regarding the student-actor's performance. The second form asked subjects to rate on a 9-point scale how accurately each of 26 personality trait words described the student they observed. These trait-words were chosen from Anderson's (1968) list of 555 personality trait words after consideration of the "likeableness" ratings associated with each. The trait words chosen were 10 positive (e.g., honest, friendly, warm, earnest, reasonable, sincere, pleasant, truthful, likeable), six neutral (e.g., normal, inoffensive), and 10 negative (e.g., incompetent, dishonest, self-centered, superficial, bragging, phony, immodest, immature, untruthful, boring) words with mean favorability ratings of 5.25, 3.29, and .98 respectively. On the final questionnaire, subjects indicated on 9-point scales their (a) confidence in their evaluations of the student-actor; (b) confidence in their judgements generally; (c) feelings of personal control; (d) difficulty remembering relevant details from the videotape, and; (e) level of anxiety during the experiment.
The remaining half of the depressed and nondepressed subjects were exposed to the thought/distraction manipulations. The nondepressed subjects in both the experimental and control conditions were instructed to think for 90 seconds about the student-actor (thought condition). The depressed subjects in both the experimental and control conditions (distraction condition) were asked to read a standard passage aloud on the pretext of assisting the experimenter "check-out some equipment". After the thought/distraction manipulation, depressed and nondepressed subjects completed the questionnaires described above. Finally, all subjects were thoroughly debriefed and dismissed.
Results

Initial analyses on all measures revealed no significant main or interaction effects for subject sex. Consequently, all subsequent analyses excluded sex as a factor.

Control Condition: Actor Attribution

Control subjects' causal judgements regarding the actor's negative outcome on the experimental task were provided by subjects' ratings on a 9-point scale of the extent to which they felt that the actor was responsible for his performance outcome. Since predictions were not made regarding the influence of the thought/distraction manipulation on control subjects' ratings of actor responsibility, the analysis included only the ratings by subjects who were not exposed to that manipulation (n=20). A one-way analysis of variance with the four level (depressed, depressed-distraction, nondepressed, nondepressed-thought) condition variable revealed no significant effects ($F(1,17) = 0.96, p>.30$). Examination of the mean observer ratings on this measure revealed, as predicted, that depressed ($M = 7.5$) and nondepressed ($M = 6.9$) observers viewed the actor as equally responsible for his outcome.

Manipulation Check Measures

All subjects were asked to indicate on a 9-point scale how successful the student-actor that they had observed had
been on the experimental task. A 3 (High, Low, or No Actor Self-Attribution) x 4 (Condition: depressed, depressed-distra ction, nondepressed, nondepressed-thought) analysis of variance of subjects' ratings revealed no significant differences. That is, subjects in all conditions viewed the student-actor's performance as unsuccessful ($M = 3.3$, where a rating of 1 indicated that the student performed "very poorly").

As a check on the independent variable of actor self-attribution, depressed and nondepressed observers in the High and Low actor attribution conditions were asked to indicate on a 9-point scale the extent to which the actor believed he was personally responsible for his performance outcome. A 2 (High or Low Actor Self-Attribution) x 4 (Condition) analysis of variance of subjects' ratings yielded only a significant main effect for level of actor attribution ($F(1,72) = 113.13, p<.001$). Depressed and nondepressed observers indicated that the actor in the high actor self- attribution conditions ($M = 7.9$) believed he was more personally responsible for his performance than the actor in the low actor self- attribution conditions ($M = 2.08$). The results suggested that level of actor self- attribution was manipulated successfully. No other significant effects were obtained.

**Measure of Actor Evaluation**

Measures of actor evaluation were derived from the observer-subjects' ratings of the actor on a 10 positive and
10 negative trait words. Those ratings were evaluated using an interrated principal axis factor analysis in which squared multiple correlations served as the initial communality estimate. Two factors were extracted using the scree test and Kaiser-Harris criteria (eigen value > 1) and were rotated using the Promax oblique rotation based upon a varimax orthogonal solution. The two factors were correlated .38 and accounted for 85% of the variance. The first factor, which explained 65% of the variance accounted for, reflected the actor's authenticity or honesty (e.g., truthful, untruthful, phoney, dishonest, honest, sincere, conceited, immature, honorable, bragging, reasonable, superficial). The second factor, which explained 35% of the variance accounted for, reflected the actor's likeability (e.g., pleasant, warm, friendly, likeable).

Based upon the preliminary factor analysis, two measures of actor evaluation were computed by summing observer-subjects' ratings on the individual positive and negative trait words that loaded on each factor and, then, dividing by the number of items. For the "authenticity/honesty" score, subjects' ratings on the individual items were summed and divided by 13. For the "likeability" score, subjects' ratings on the individual items were summed and divided by four. These two derived scores formed the dependent variables for subsequent and separate 3 (High, Low, or No Actor Self-Attribution) x 4
(Condition) analyses of variance. It was predicted that observers would evaluate the actor more favorably when he accepted a low as compared to a high degree of personal responsibility for his poor performance. In addition, it was expected that this effect would be particularly pronounced for nondepressed-thought observers and for depressed observers who presumably engage in more thought about the actor.

The analysis of variance of the derived score for the actor likeability factor yielded no significant results. Pairwise comparison (Dunn's and Tukey's HSD) revealed no differences among experimental and control condition means. That is, depressed and nondepressed subjects in all conditions viewed the actor as equally and moderately likeable.

For the factor of actor authenticity/honesty, the analysis of variance yielded only a significant main effect for Actor Self-Attribution ($F(2,108) = 12.17, p < .001$). Pairwise comparisons revealed that observer subjects in the Low Actor Self-Attribution condition ($M = 5.84$) evaluated the actor significantly ($p < .01$) less positively than did observer-subjects in the High ($M = 7.11$) (Dunn's one-tailed) and No ($M = 6.80$) (Tukey's $p < .05$) actor self-attribution conditions.

Examination of the means for the derived score for actor authenticity/honesty and the results of priori comparisons involving experimental condition means are
presented in Table 2. In three of the four conditions, observer-subjects evaluated the actor significantly less positively in the Low as compared to the High Actor Self-Attribution condition. Consistent with previous research (Weary, et al., in press) the evaluations of the actor by nondepressed observers who were not instructed to think did not vary as a function of the actor's attribution level.

Baseline measures of observers' evaluations of the actor were provided by depressed and nondepressed subjects who observed the actor's poor performance, but received no information regarding his self-attribution. The means are presented in Table 2. Post hoc comparisons (Tukey's HSD) within conditions (i.e., depressed, depressed-distraction, nondepressed, nondepressed-thought) yielded no significant differences between experimental and control means.

**Measure of Subjective Sense of Control**

The predictions for the measure of actor evaluation were based on the notion that depressed observers, due to a chronic lack of control and resultant uncertainty (Weary, Jordan, & Hill, in press), would be more sensitive to or think more about the available attributional information. To provide a measure of subjective sense of control, subjects were asked to indicate on a 9-point scale the extent to which they experienced a feeling of personal control and power over the events in their lives. A 3 (High, Low, or No Actor Self-Attribution) x 4 (Condition)
unweighted means analysis of variance yielded a significant main effect for Condition ($F(3,104) = 9.53$, $p < .001$). Groups were collapsed across the "condition" variable such that all depressed subjects were included in one group and all nondepressed subjects in another. As predicted, comparisons (Dunn's multiple means comparison) confirmed that the depressed subjects indicated that they experienced less personal control than did the nondepressed subjects ($p < .01$).

Measure of Observer Confidence

Recent evidence suggests that depressed individuals not only have a lowered sense of control over their lives (Warren & McEachren, 1983), but also are more uncertain and attempt to cope by seeking more information from others than do nondepressed individuals (Coyne, Aldwin, & Lazarus, 1981). Judgements in this study were based upon limited information. Depressed subjects, due to their uncertainty and inability to seek additional information, might feel less confident in their judgements about the actor and, consequently, be more tentative or moderate in their evaluations of him. To provide a measure of observer confidence, subjects were asked to indicate on a 9-point scale the extent to which they felt confident, in general, about their opinions, judgements, and decisions. A 3 (high, low, or no actor self-attributeion) x 4 (Condition) unweighted means analysis of variance yielded no significant effects.
In addition, subjects were asked to indicate on a 9-point scale the extent to which they felt confident or certain of their evaluation of the student-actor. A 3 (High, Low, or No Actor Self-Attribution) x 4 (Condition) unweighted means analysis of variance yielded a significant main effect ($F(2,103) = 6.21, p < .01$) for level of actor attribution. Pairwise comparisons (Tukey HSD) indicated that subjects in the High Actor Self-Attribution condition ($M = 6.03$) were more confident in their judgements than were subjects in the No Actor Self-Attribution (control) condition ($M = 4.47$). No other significant effects were obtained.

**Anxiety**

Because depressed and non-depressed subjects in the four conditions were exposed to different experimental manipulations, it was important to determine whether different levels of anxiety among the groups contributed to the final results. Of particular interest was the group of depressed-distraction subjects, since that manipulation had the most potential for being anxiety provoking. That is, it was important to establish that differences between the two groups of depressed subjects were not due to different levels of anxiety created by the experimental manipulation. All subjects rated on a 9-point scale how anxious they felt during the experiment. A 3 (High, Low, or No Actor Self-Attribution) x 4 (Condition) unweighted means analysis of variance yielded no significant differences, suggesting that
the experimental manipulation did not differentially effect subjects' level of anxiety.

**Impression Management**

Depressed individuals may be more sensitive to contingencies surrounding their own and others' behavior (e.g., Lewinsohn, et al., 1980; Tabachnik et al., 1983). Consequently, a measure was included to provide indirect evidence of the observers' awareness of situational constraints influencing the actor's attributional statements. Subjects in the experimental conditions (High or Low Actor Self-Attribution) indicated on a 9-point scale the extent to which they believed the actor felt his attribution of personal responsibility would be evaluated by the "psychologist" in the videotape. A 2 (High or Low Actor Self-Attribution) x 4 (Condition) analysis of variance yielded a significant main effect for level of actor attribution ($F(1,72), = 19.45, p < .001$) and a significant main effect for Condition ($F(1,72) = 3.54, p < .02$). However, the main effects were qualified by a significant 2-way interaction ($F(3,72) = 2.75, p < .05$). Pairwise comparisons (Tukey's HSD) are summarized in Table 5, and indicate that in the nondepressed-thought condition, subjects in the High Actor Self-Attribution condition ($M = 7.8$) believed that the actor was expecting to be evaluated more than did nondepressed-thought subjects in the Low Actor Self-Attribution condition ($M = 4.3$).
Memory

One factor that might mediate depressives' increased sensitivity to social information is memory. Evaluations in this study were elicited from observers immediately following presentation of the stimulus situation. Presumably, relevant information was equally available for depressed and nondepressed observers. To evaluate whether differential memory between groups was an important factor, subjects were asked to indicate on a 9-point scale the extent to which they had difficulty remembering "relevant information" from the videotape. A 3 (High, Low, or No Actor Self-Attribution) x 4 (Condition) unweighted means analysis of variance of subjects' ratings yielded a significant Level of Attribution x Condition Interaction (F(6,104) = 2.34, p < .04). The results of pairwise comparisons (Tukey's HSD) are summarized in Table 6. For nondepressed subjects who were not given thought instructions, observer-subjects in the High Actor Self-Attribution condition (M = 3.3) reported significantly (p < .01) more difficulty remembering "relevant information" than did observer-subjects in the No Actor Self-Attribution condition (M = 1.6). The opposite pattern of results was found for nondepressed observers who were instructed to think. That is, nondepressed observer-subjects in the High Actor Self-Attribution condition (M = 1.4) reported significantly (p < .01) less difficulty remembering relevant
information than did observer subjects in the No Actor Self-Attribution condition ($M = 3.11$). No other significant differences were found.
Discussion

The purpose of the present study was to evaluate whether depressive sensitivity to social information, specifically attributional norms, may be mediated by increased thought. It was argued that, in an achievement related context, observers' reactions were likely to be guided by a social norm favoring internal attributions (Jellison & Green, 1981). It was predicted that observer-subjects would respond with more social approval to an individual who accepted a high as compared to low degree of personal responsibility for his outcome on an ability task. Moreover, it was argued that increased "thought" (occurring naturally in depressed subjects and by instruction in non-depressed subjects) would lead to polarization of evaluations of the actor (cf. Tesser, 1978), or more "pronounced" evaluations.

Consistent with the predictions regarding the norm of internality, observer-subjects in the Low Actor Self-Attribution condition evaluated the actor significantly less favorably than did observer-subjects in both the High and No Actor Self-Attribution conditions. Presumably, the positive evaluations of the actor by the control condition subjects reflected their belief that he would conform to the norm of internality. According to manipulation check data, control condition subjects believed that the actor was responsible for his performance outcome. In the absence of contradictory information, they evaluated him as though he
had behaved in accordance with the norm (i.e., accepted a high degree of personal responsibility).

To what extent do the results provide support for the argument that increased "thought" would yield more pronounced effects or "polarized evaluations"? There are both a "weak" and a "strong" interpretation of the effects. The "strong" interpretation would be supported by differences among means within the High and within the Low Actor Self-Attribution conditions and will be discussed later. The "weak" interpretation of polarization would be supported by differences between means within conditions. That is, polarization of evaluations might be inferred from the presence or absence of significant effects on the dependent variable in conditions where "increased thought" is or is not a factor.

Consistent with the "weak" interpretation, depressed observers and nondepressed observers who were instructed to think responded to the actor's violation of the attributional norm of internality with social disapproval (i.e., negative evaluations), and they responded with social approval (i.e., positive evaluations) when the actor conformed to the norm. In addition, nondepressed observers (no thought instructions) responded with evaluations of the actor that were relatively favorable regardless of the level (i.e., high or low) of the actor's self-attribution. Manipulation check data confirmed that these nondepressed
subjects attended to the actor's violation of the norm of internality (i.e., his low self-attribution for his negative outcome). Consequently, the nondepressed observers' failure to respond with marked social disapproval suggests that they did not make use of the attributionally relevant information in their evaluations. Inconsistent with the "weak" interpretation, however, the depressed observers who presumably were distracted from thinking also responded to the actor's violation of the attributional norm with social disapproval. That is, depressed-distracted observers apparently were aware of and responsive to the actor's violation of the norm.

In summary, the results provided mixed support for polarization of evaluations in a weak sense. In those conditions where "increased thought" was a factor (e.g., depressed and nondepressed-thought), observers' evaluations of the actor differed significantly in relation to his high or low attribution of personal responsibility. However, the effect was absent in only one condition where "increased thought" was not a factor (e.g., nondepressed observers). The presence of significant high-low differences in the evaluation of the actor in the depressed-distraction condition is inconsistent with the weak interpretation. The pattern of results suggests that the thought but not the distraction manipulation was successful.

The "strong" interpretation would be supported by differences among means within the High and Low Actor Self-
Attribution conditions. That is, more extreme evaluations of the actor by depressed and nondepressed-thought observers as compared to the depressed-distracted and nondepressed observers would provide support for evaluation polarization in the strong sense. However, within the High and Low Actor Self-Attribution conditions, observers' evaluations of the actor did not differ significantly across conditions, with the exception of nondepressed observers. More specifically, within the High Actor Self-Attribution conditions, observers' evaluations of the actor were relatively positive and equal. Within the Low Actor Self-Attribution condition, observers' evaluations were relatively negative and equal, with the exception of non-depressed observers (no thought instruction). In summary, the results do not provide support for the polarization of evaluations in the strong sense.

Several issues must be considered in evaluating the pattern of results obtained in this study. First, it was argued that "increased" thought leads to polarization of evaluations. It appears that the thought manipulation increased the salience of the actor's violation of the norm of internality. The pattern of results obtained from the two groups of nondepressed observers provides some support for this argument. Examination of the means for the observers' evaluations of the actor suggests that the non-depressed-thought but not the nondepressed (no thought
instruction) observers responded with more social
disapproval when the actor violated the norm (i.e., Low
Actor Self-Attribution condition). Moreover, this
difference cannot be accounted for by differential
memory, since manipulation check data provided evidence that
all groups encoded and decoded (i.e., remembered) both the
actor's level of performance and his self-attribution.

One explanation suggested by the results is that
increased "thought", occurring naturally in depressed
observers and by instruction in nondepressed observers, has
its impact on the threshold for the use of the
attributionally relevant information. In this study,
depressed subjects and nondepressed subjects who were
instructed to think apparently made use of the
attributionally relevant information in their evaluation of
the actor while nondepressed observers (no thought
instructions) did not. Weary et al. (in press) proposed
just such a depressed-nondepressed difference in
"attributional processing" to account for the differences
found in their study.

How might "thought" influence observers' use of
attributionally relevant information? Bargh (1982) has
argued that accessibility of cognitive categories is an
important factor in determining not only what information
observers will attend to and remember, but also, how that
information will be interpreted. The accessibility of
categories influences interpretation of social information
by observers, and the more accessible a category is, the more likely it is to be used to process relevant information.

This argument raises the question of how and why depressed and nondepressed observers might differ in terms of the accessibility of the proposed "attributional" cognitive category. In addition, it becomes important to determine why "thought" (for nondepressed observers) but not "distraction" (for depressed observers) might have influenced category accessibility (i.e., use of attributionally relevant information).

One dimension of accessibility along which depressed and nondepressed observers might differ is that of "chronicity". More specifically, depressed observers, because of more frequent activation of an attributional category, may be characterized by more "chronic" accessibility. If lack of control motivates individuals to engage in more "attributional processing" (McCaul, 1983; Pittman & Pittman, 1980), depressed individuals who presumably have experienced a chronic lack of control, might use more frequently an "attributional" cognitive category. That frequent activation may lead to "chronic" accessibility", or a lower threshold for use of attributionally relevant information. That is, depressed individuals may be more "sensitive" (Weary et al., in press) to attributional information due to ease with which
environmental information can be interpreted in attributational terms. Nondepressed individuals, on the other hand, may be characterized by "acute" or temporary accessibility of an attributional category, which requires more "energy" for activation (King, 1981).

In the context of this study, it seems reasonable to argue that "increased thought" might have influenced the "acute" accessibility of the proposed "attributional cognitive category" for non-depressed subjects. However, the "distraction" manipulation appears to have been relatively ineffective in modifying the depressives' apparent propensity for interpreting events in attributional terms. Perhaps it is more difficult to "desensitize" individuals who chronically seek attributional information. This discussion is highly speculative and will require additional research to provide empirical evidence of depressed and nondepressed differences in accessibility of an "attributional cognitive category". Moreover, it is left for future research to clarify the process by which increased thought influenced the "acute" accessibility of the attributional category for nondepressed subjects (i.e., how increased "thought" provided the "energy" for activation).

A second important issue that warrants attention relates to the absence of support for the "strong" interpretation of the evaluation polarization effect. It is important to consider probable methodological factors that
may have moderated the predicted effects prior to concluding theoretical weakness. For example, the absence of "more pronounced" effects in the strong sense may reflect a relatively insensitive dependent measure. The measure had been used in previous research (e.g., Weary et al., in press) and was sensitive to changes in observers' evaluations as a function of an actor's high or low attribution of personal responsibility. However, the demonstration of "polarization" of evaluation may require a more sensitive measure.

A second methodological question relates to the particular qualities measured by the dependent variables. The reader will recall that the two derived dependent variables were measures of "likeability" and "honesty". Observers in all conditions evaluated the actor as moderately "likeable". Effects were found only on the "honesty" variable. Subjects may have been reluctant to characterize the actor as dishonest based upon such limited behavioral sample. That is, when the actor accepted a high level of responsibility for his performance outcome, he behaved in accordance with the attributional norm of internality. Such normative behavior is not particularly informative for observers. On the other hand, the actor's violation of the norm of internality could be due to a number of factors, dishonesty being only one. Cross-situational consistency may be required for estimating
extreme levels of honesty/dishonesty. It is important to note that subjects were aware that their own responses were being evaluated. If "thought" influences subjects "sensitivity" to social information or contingencies surrounding their behavior, it is quite possible that the absence of more pronounced evaluations reflects subjects' strategic attempts to demonstrate "tolerance" of another's counter-normative behavior and thereby avoid "disapproval" of the experimenter.

Although the results of this study provided only limited support for the idea that increased "thought" is an important process underlying depressed-nondepressed differences in social perception, the study is important as it represents a replication of Weary et al's. demonstration of depressives' sensitivity to attributional norms. As such, it contributes to the accumulating evidence of depressives' awareness of and sensitivity to information regarding the contingencies associated with their own and other's behaviors (e.g., Alloy & Abramson, 1979; Lewinson, Michel, Chaplin, & Barton, 1980). The evidence stands in opposition to the perspective offered by the cognitive theories of depression (Beck, 1967; Abramson, et al., 1978) which describe the cognitive processes of depressed individuals as characteristically distorted, illogical, and dysfunctional. To what extent this sensitivity is adaptive and how it may contribute to development and maintenance of depression must be determined by future research.
Limitations of the present research merit attention. First, this study evaluated social perception of mildly depressed college students. To what extent the "sensitivity" reflected in their responses would generalize to other populations, specifically to clinically depressed individuals, must be determined by further research. It may be that mildly depressed individuals are "sensitive" to or have a heightened awareness of various kinds of social information while more severely depressed individuals perceive their experiences in a distorted way and are relatively insensitive to their social environments.

A second issue relates to subjects' awareness of and sensitivity to self-presentational constraints of the experimental setting. Subjects were likely aware that their performance and judgements would be evaluated or scrutinized by the experimenter, much like the actor in the videotape they observed. They may have calculated and controlled their responses to avoid a negative evaluation of their own performance (Page 1981). That is, subjects in this study may have attempted to exhibit "tolerance" of another's counter-normative behavior. Such a strategy would serve to moderate evaluations and likely would mitigate the influence of thought induced evaluation polarization. The reactions of depressed and nondepressed observers to self-presentational constraints on their own behavior was not the focus of this research. However, the subject of depressed-
nondepressed similarities and differences in self-presentation strategies may be an important area for future research.
References


Footnote

1 Beck's (1967, 1972) depth of depression cut-off points for the BDI are: 0-9 = no depression, 10-15 = mild depression, 16-23 = moderate depression, 24+ = severe depression.
APPENDIX A

TABLES
**TABLE 1**

SECOND BDI SCORES

Means and Standard Deviations

<table>
<thead>
<tr>
<th>Level of Actor Self-Attribution</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>14.75(4)</td>
<td>18.00(6)</td>
</tr>
<tr>
<td>SD</td>
<td>5.12(4)</td>
<td>9.2(6)</td>
</tr>
<tr>
<td>Low</td>
<td>14.00(4)</td>
<td>16.33(6)</td>
</tr>
<tr>
<td>SD</td>
<td>2.16(4)</td>
<td>6.15(6)</td>
</tr>
<tr>
<td>No</td>
<td>12.50(4)</td>
<td>13.33(6)</td>
</tr>
<tr>
<td>SD</td>
<td>9.95(4)</td>
<td>2.25(6)</td>
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<tr>
<td>Depressed-Distraction</td>
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</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>15.33(3)</td>
<td>19.29(7)</td>
</tr>
<tr>
<td>SD</td>
<td>4.73(3)</td>
<td>7.8(7)</td>
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<tr>
<td>Low</td>
<td>12.00(5)</td>
<td>14.2(5)</td>
</tr>
<tr>
<td>SD</td>
<td>1.87(5)</td>
<td>5.54(5)</td>
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<tr>
<td>No</td>
<td>14.33(3)</td>
<td>15.14(7)</td>
</tr>
<tr>
<td>SD</td>
<td>3.05(3)</td>
<td>4.74(7)</td>
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<tr>
<td>Nondepressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1.67(6)</td>
<td>1.25(4)</td>
</tr>
<tr>
<td>SD</td>
<td>1.37(6)</td>
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<td>Low</td>
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<td>SD</td>
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</tr>
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</tr>
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<td>Male</td>
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<tr>
<td>High</td>
<td>1.00(5)</td>
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<tr>
<td>SD</td>
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### TABLE 2

**ACTOR EVALUATION**

Measures of Positivity of Actor Evaluation

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<thead>
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<th>Authenticity/Honesty</th>
<th>Level of Actor Self-Attribution</th>
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<tr>
<td>Depressed</td>
<td>6.82a</td>
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<td>Depressed-Distraction</td>
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<tr>
<td>Nondepressed</td>
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<td>Nondepressed-Thought</td>
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<table>
<thead>
<tr>
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<th>Low</th>
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<th>M</th>
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</thead>
<tbody>
<tr>
<td>Depressed</td>
<td>4.82a</td>
<td>4.50a</td>
<td>5.25a</td>
<td>4.86</td>
</tr>
<tr>
<td>Depressed-Distraction</td>
<td>4.50a</td>
<td>4.78a</td>
<td>5.3a</td>
<td>4.86</td>
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<td>5.10a</td>
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<td>5.23</td>
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<tr>
<td>Nondepressed-Thought</td>
<td>5.68a</td>
<td>5.5a</td>
<td>6.18a</td>
<td>5.78</td>
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</table>

The higher the mean, the more positive the evaluation. Means with common subscripts are not significantly different.
<table>
<thead>
<tr>
<th>Subjective Sense of Control</th>
<th>Level of Actor Self-Attribution</th>
<th>High</th>
<th>Low</th>
<th>No</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed</td>
<td></td>
<td>6.4</td>
<td>6.0</td>
<td>6.8</td>
<td>6.4</td>
</tr>
<tr>
<td>Depressed-Distraction</td>
<td></td>
<td>6.0</td>
<td>6.7</td>
<td>6.1</td>
<td>6.28</td>
</tr>
<tr>
<td>Nondepressed</td>
<td></td>
<td>7.7</td>
<td>7.2</td>
<td>8.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Nondepressed-Thought</td>
<td></td>
<td>8.0</td>
<td>7.1</td>
<td>8.1</td>
<td>7.26</td>
</tr>
</tbody>
</table>

The higher the mean, the more subjects experienced a feeling of personal control over the events in their lives.
### TABLE 4
**OBSERVER CONFIDENCE**

Measure of Subject Confidence in Their Evaluation of the Actor

<table>
<thead>
<tr>
<th>Level of Actor Self-Attribution</th>
<th>High</th>
<th>Low</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed</td>
<td>5.3(^{(10)})</td>
<td>4.1(^{(10)})</td>
<td>4.1(^{(10)})</td>
</tr>
<tr>
<td>Depressed-Distraction</td>
<td>5.7(^{(9)})</td>
<td>4.9(^{(10)})</td>
<td>4.8(^{(10)})</td>
</tr>
<tr>
<td>Nondepressed</td>
<td>5.7(^{(10)})</td>
<td>5.8(^{(9)})</td>
<td>4.2(^{(9)})</td>
</tr>
<tr>
<td>Nondepressed-Thought</td>
<td>7.4(^{(10)})</td>
<td>5.3(^{(9)})</td>
<td>4.8(^{(9)})</td>
</tr>
</tbody>
</table>

M 6.03\(^{a}\) 5.0\(^{ab}\) 4.47\(^{b}\)

**Note:** The higher the mean, the greater confidence in evaluation of the actor reported by subject.
### TABLE 5

**IMPRESSION MANAGEMENT**

Means for Perceived Impression Management

<table>
<thead>
<tr>
<th>Level of Actor Self-Attribution</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed</td>
<td>7.1bc</td>
<td>4.6bc</td>
</tr>
<tr>
<td>Depressed-Distraction</td>
<td>7.1bc</td>
<td>6.8bc</td>
</tr>
<tr>
<td>Nondepressed</td>
<td>5.6bc</td>
<td>4.4bc</td>
</tr>
<tr>
<td>Nondepressed-Thought</td>
<td>7.8ac</td>
<td>4.3b</td>
</tr>
</tbody>
</table>

Note: The higher the mean, the more observer subjects' felt that the actor anticipated that his attribution of person responsibility would be evaluated by the examiner.
<table>
<thead>
<tr>
<th></th>
<th>Level of Actor Self-Attribution</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Depressed</td>
<td>4.0a(10)</td>
<td>3.0a(10)</td>
<td>3.7a(10)</td>
<td></td>
</tr>
<tr>
<td>Depressed-Distraction</td>
<td>2.56a(9)</td>
<td>3.5a(10)</td>
<td>3.5a(10)</td>
<td></td>
</tr>
<tr>
<td>Nondepressed</td>
<td>3.3a(10)</td>
<td>2.89a(9)</td>
<td>1.6b(10)</td>
<td></td>
</tr>
<tr>
<td>Nondepressed-Thought</td>
<td>1.4b(10)</td>
<td>2.44a(9)</td>
<td>3.11a(9)</td>
<td></td>
</tr>
</tbody>
</table>

The higher the mean, the more difficulty remembering relevant information reported by subjects. Means with different sub scores are not significantly different.
APPENDIX B

EXPERIMENTAL SCRIPTS
**Videotape Script**

P = psychologist (Gordon Bush)
S = student (Dave Williams)

I. Introduction

P: Introduces self as clinical psych grad student part of psychology clinic staff
   we do a variety of special testing (e.g., aptitude)
   attempt to help individuals/students find the best interest –
   aptitude matching
   ask S what he knows about session or why here

S: Explains that he took Strong Campbell Interest Inventory which suggested
   Engineering, Graphic Design, or something similar. Was referred here
   for additional testing.

P: Explains Strong Campbell e.g. shows how interests match a variety of
   professions
   e.g. shows S's interests in life are like people who are architects
   industrial designers and engineers

Explains SPAAT test today to see if aptitude and skills also match those professions
small test = SPAAT = Spatial Analysis Aptitude Test involves a series
of test with blocks, figures, numbers and symbols in which we try
to see how well you can analyze spatial relationships. People who are successful architects, engineers and graphic designers also tend to be good at these kinds of skills.

Will help us get a better match of your interests and your skills
and aptitudes

II. Test Session

P: This is an aptitude test (standard WAIS intro)
a range of problems - some easy some extremely difficult
(note: encouragement may be given for effort made e.g.,
that was a hard one)

Tells S that at end of the session it will take a few minutes to
score the tests, but that you will be able to talk about the
results and interpret them for his benefit.

A. BLOCK DESIGN
   1. Standard instructions including trial item.
   2. Now make one like this. Try to work as quickly as you can.
      Tell me when you have finished.
   3. Now make one like this using 9 blocks (complete within 50-60 seconds)
   4. 1'15" ±
   5. last design 1'10" - 1'15" ± stop before finish E: "That was a hard one"
B. DIGIT SYMBOL

Standard intro - give 60"

C. FINAL SUBTEST

1. also involves blocks of different shapes - different approach
   "Here are a number of pieces of different shapes. I would like you
   to form a single square using all of the pieces. (1' - 1'30")

2. Next, form into a right triangle (you are familiar with a right triangle?)
   S nods/yes 60" - give heat - "Hard task" move pieces saying Consider
   this as the hypotenuse or long side. With this start, complete the
   right triangle.

E: This completes these three subtests. It will take about 10 minutes to score
   test and compare the norms. I'll go (getting up and sound fading) into
   the next room where there are reference materials.

* * *

III. RESULTS

P: Completed scoring the test
Show Profile Analysis Sheet
   as you can see - scores on all 3 subtest fall around the 20th percentile
   rank
   That means: you did better or about as well as 20% of the people who have
   taken this previously and performed less well than 80% of people who have
   taken it previously.
   The test results indicate that your spatial analysis skills are relatively
   weak compared to other skills that you have
   (Pause - S Nods)

IV. ATTRIBUTION EXPLANATION AND MANIPULATION

I'm interested in your reactions to your results on the test. Some people
feel that luck or their mood on a given day or other external factors have played
the major role in their outcome.

They don't feel very personally responsible for their outcome. Other
people feel that their effort or their skill has played a major role in their
test outcome. These people do feel very personally responsible for their outcome.

I would like you to respond to the question (hand him the form)

To what extent do you feel personally responsible for your test results?

(describe form) e.g. a 1 = entirely responsible
                  9 = not at all responsible
ask him to circle the number.

S: High: I circled an 8: I feel very personally responsible

Low: I circled a 2: I don't feel very personally responsible for the results.
I am Martha Hill. I'm a graduate student in psychology and will be running the experiment today. As was mentioned on the telephone, you were selected at random from among the Psych 100 students who completed questionnaires as part of a psychological scale validation study. This phase of the study is also concerned with the construction and validation of the scales, but, in addition, we are interested in examining various ways of collecting personality data. We think that one reliable way of obtaining personality information is observation - that is, by observing carefully a person's manner of approaching and solving problems. Today, after completing some psychological scales, I want you to watch a videotape of a student performing an aptitude test, the Spatial Analysis Aptitude Test. Then, based on your observations, I will ask you to form an impression of his personality. Later, I will ask you to fill out some questionnaires to give us your impression. Do you have any questions?

I have two forms for you to read and complete. First is a consent form. This is a standard consent form used in psychological research at OSU. It says that you are here voluntarily and that I have explained in advance what you will be doing today. It takes the place of a sign up sheet. If at any time you want to stop your participation, call me. We'll stop and give you credit. Next, I want you to fill out one of the forms you filled out before. I won't ask you to do all three because it takes too much time. So we've assigned the forms to different days and times to get a mix. The one I want you to complete is this one (pick up BDI). You've seen this before; it was in the original packet. Please read it carefully and answer it honestly (get eye contact) the way you've been feeling and thinking over the past week. Then put it in this envelope. Your answers are confidential. We are only interested in group averages.

Now I'll start the video tape. It's about 15 minutes long and shows a student completing three subtests of the Spatial Analysis Aptitude Test, the SPAAT. This test is widely used and is useful in evaluating a person's basic level of ability in analyzing spatial relationships. That kind of ability is important in fields like engineering, architecture, and industrial design. Remember, I want you to observe carefully the student's manner of approaching and solving the problems in order to form an impression of his personality.

Condition 1 (depressed subjects): Please complete the questionnaires in your booklet.

Condition 2 (nondepressed students): Please complete the questionnaires in your booklet.
Condition 3 (depressed-distraction): Here are some questionnaires for you.
Before you complete them, I wonder if you will help me with this
equipment for a minute. We're setting up for another experiment
later. This phone is connected to a recorder in the other room.
it has a voice activated switch that I need to check. Just read
this (give passage) into the phone. When I get it adjusted, I'll
just ring the phone again. Go ahead and hang-up. Then finish
the questionnaires.

Condition 4 (nondepressed-thought): Now I would like you to think about the
tape you watched and about the individual in it - what he would be
like. I'll set the timer for 90 seconds. When it goes off, go ahead
and fill out the questionnaires in your book.

E returns after 5 minutes

Now I would like you to talk to another member of our experimental team.
He/she will answer any questions you may have and will sign your card. Thank
you for your help.
Protocol Number: 0980169

TELEPHONE SCRIPT

(Introduce self). I'm working with Dr. Weary and Martha Hill in the Psychology Department on a research project. Your name was selected at random from those people who completed questionnaires in Psych 100. We would like to make an appointment for you to participate in the second phase of the study. It will take about half an hour, and you will receive another 1 hour credit for your participation.

During the experiment you will be asked to view a short video tape and to fill out a few questionnaires. Are you willing to participate? (Arrange appointment). Please make a note of some important information:

1. Experiment No. = PW-
   Experimenter: M. Hill
2. Location: 164 West 19th Avenue, Room 236
3. Telephone Number: 422-6649 if you need to cancel and reschedule

Thank you. We'll see you (day & time)
APPENDIX C

SCREENING INSTRUMENTS
Dear Psychology 100 Students:

Several members of the Psychology Department need your help in the development of three new psychological measures. We are asking a large number of Psych. 100 students to complete these measures so that we can learn about the typical range of scores for college students. In this study we are only interested in group data. All individual scores will be kept strictly confidential.

If you complete these three brief tests tonight and return them to your Psych. 100 T.A. in class tomorrow you can receive one experimental participation credit.

If you agree to fill out these three brief, confidential measures for one experimental credit, please sign your name (legibly) below:

__________________________________________
(Name)

__________________________________________
(Phone number)

This is the first study in a series of studies to be conducted this quarter. If you are selected for the next phase, you will be contacted within 10 days and will have an opportunity to earn one additional credit for a half hour of participation.

Please be certain to include FULL NAME and TELEPHONE NUMBER. Thank you.

Who is your Psych 100 teacher? ________________

T.A. Name
PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

P. 64-67 MFQ Inventory

P. 69 Screening Instrument
CONSENT FOR PARTICIPATION IN
SOCIAL AND BEHAVIORAL RESEARCH

I consent to participating in (or my child's participation in) research entitled:

PERSONALITY ASSESSMENT

Martha Hill/ Clifford Weary
(Principal Investigator)
or his/her authorized representative has

explained the purpose of the study, the procedures to be followed, and the expected duration of my (my child's) participation. Possible benefits of the study have been described as have alternative procedures, if such procedures are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Further, I understand that I am (my child is) free to withdraw consent at any time and to discontinue participation in the study without prejudice to me (my child). The information obtained from me (my child) will remain confidential unless I specifically agree otherwise by placing my initials here.

Finally, I acknowledge that I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: ___________________________ Signed: ___________________________

Signed: ___________________________
(Principal Investigator or his/her Authorized Representative)

Signed: ___________________________
(Person Authorized to Consent for Participant - If Required)

Witness: ___________________________

HS-027 (Rev. 12-81) -- To be used only in connection with social and behavioral research.
APPENDIX D

EXPERIMENTAL MEASUREMENT QUESTIONNAIRES
**IMPRESSION QUESTIONNAIRE**

**INSTRUCTIONS:** Please rate the student you observed on the characteristics listed below. Circle the number which you feel best indicates the degree to which the word describes the student.

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<th>Characteristic</th>
<th>1</th>
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<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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</thead>
<tbody>
<tr>
<td>Friendly</td>
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<tr>
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*Not at all* | *Entirely*
<p>| | | | | | |</p>
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<th></th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>Sincere</td>
<td>4</td>
<td>5</td>
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<td></td>
<td></td>
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<td>Honest</td>
<td></td>
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<td></td>
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<td>Pleasant</td>
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<td>Inoffensive</td>
<td>4</td>
<td>5</td>
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<td>Immodest</td>
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<td>Truthful</td>
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<td>Likeable</td>
<td></td>
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<td></td>
<td></td>
<td>Conservative</td>
<td>4</td>
<td>5</td>
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<td>Incompetent</td>
<td>4</td>
<td>5</td>
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<td></td>
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<td>Untruthful</td>
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<td>Hesitant</td>
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<td></td>
<td></td>
<td></td>
<td>Honorable</td>
<td>4</td>
<td>5</td>
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</table>

1 = Not at all
2 = Entirely
3 = Entirely
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
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<th>9</th>
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<tbody>
<tr>
<td>Dishonest</td>
<td>Entirely</td>
<td>Not at all</td>
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</tr>
<tr>
<td>Boring</td>
<td>Entirely</td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FINAL QUESTIONNAIRE

1. To what extent are you confident or certain of your evaluation of the student's personality?

   1 2 3 4 5 6 7 8 9
   extremely uncertain extremely certain

2. In general, how confident or certain are you about your opinions, judgements and decisions?

   1 2 3 4 5 6 7 8 9
   extremely uncertain extremely certain

3. To what extent do you have a feeling of personal control and power over the events in your life?

   1 2 3 4 5 6 7 8 9
   not at all entirely

4. To what extent do you agree with this statement: "I found it difficult to remember relevant information from the videotape"?

   1 2 3 4 5 6 7 8 9
   strongly disagree strongly agree

5. Since the way you feel may influence your perceptions or impressions of other people, please rate how anxious you felt during this experiment.

   1 2 3 4 5 6 7 8 9
   not at all extremely anxious
QUESTIONNAIRE 1

1. How well did the student you observed on the videotape perform on the analytical ability task?

1 2 3 4 5 6 7 8 9
very poorly very well

2. To what extent do you feel the student was responsible for his performance on the task? That is, to what extent was his performance due to his ability?

1 2 3 4 5 6 7 8 9
not at all entirely responsible responsible
QUESTIONNAIRE 1

1. How well did the student you observed on the videotape perform on the analytical ability task?

1 2 3 4 5 6 7 8 9
very poorly very well

2. To what degree did the student indicate that he felt personally responsible for his performance outcome? In other words, to what extent did he believe that his outcome was due to his ability?

1 2 3 4 5 6 7 8 9
hardly at all to a very great degree

3. To what extent do you believe that the student felt his ratings of personal responsibility for his outcome would be evaluated by the experimenter?

1 2 3 4 5 6 7 8 9
not at all entirely
Clocks for mind and body

Many people have a particular time of day at which they work most efficiently, and scientists have long suspected that this rhythm of human performance is under the control of a steadfast biological clock. Scientists have suspected furthermore that the clock controlling task performance is not the same clock dictating the sleep-wake cycle, but rather a second one controlling the rhythm of core body temperature. It may not be that simple: New research suggests that physical performance may indeed be controlled by the body temperature clock, but that thinking has a distinct rhythm that is tied to the natural cycle of sleep and waking.

Timothy H. Monk of the New York Hospital-Cornell Medical Center in White Plains, N.Y., conducted an experiment on a young male in which he intentionally desynchronized the two internal clocks. Isolated from all indicators of time, the subject was put on a rigid 25.8 hour day, one hour ahead of the natural 24.8 hour cycle of his core body temperature. Working with colleagues in New York and at Harvard University, Monk tested the man several times a day for 40 "days" for both manual dexterity and reasoning ability. As he reports in the Aug. 17 *Nature*, the peaks in physical performance corresponded with peaks in temperature; complex reasoning ability, in contrast, seemed to be under the control of both internal clocks and peaked fairly soon after waking. It may be, Monk speculates, that manual dexterity is controlled by some vigilance-motivation mechanism connected to the temperature cycle, but that thinking requires, in addition, information-processing mechanisms that must be reset during sleep. This finding, Monk notes, has practical implications for those designing industrial work schedules: Because the temperature clock is much more resistant to change, physical performance is most likely to be hurt by shift rotation; and jobs requiring dexterity would seem to be inappropriate for such shifts.