Facilitative and Ameliorative Effects of Teacher Characteristics on Attributionally Defined Helplessness in the College Classroom

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Abstract

Although several learned helplessness studies have investigated elementary school classroom achievement behavior and attributional rating, little is known about helplessness in college settings. Particularly, no research has considered the role of teacher characteristics in the creation of helplessness. Also, few known studies have systematically manipulated helplessness inducing variables on a number of subjects simultaneously. Congruent with recent cognitive definitions of learned helplessness it was felt that differential achievement feedback contingencies would result in different attributional ratings.

The present study manipulated achievement test feedback (contingent, noncontingent, and control) in order to create cognitive attributional deficits considered to illustrate learned helplessness. All subjects completed a preexperimental rating of their expectations of success as well as achievement attributions. Post experimentally, subjects who had scored highly on the preexperimental expectations of success measure were compared to subjects with low expectations to determine whether helplessness ratings differed. After completing the preexperimental attributional ratings the subjects were split into contingent and noncontingent feedback groups and each wrote a 40 item analogies test, which was designed such that the noncontingent subjects received 20 correct feedback responses and subjects in the contingent group averaged 20 items correct. Subjects then completed another set of attributions and rated their future achievement expectations. They next viewed a videotaped lecture presented with either high or low expressiveness and with either high or low content. Control subjects started the experiment by rating their expectations and attributions,

did not complete the analogies test and immediately viewed one of the four different lecture conditions. Following the lecture, all subjects rated the instructor and rerated their achievement expectations, completed a 26 item multiple-choice test based on the lecture content, and finally completed another attributional questionnaire. Results indicated that a cognitive state of helplessness had been produced in the noncontingent feedback group after the analogies test and further that teacher variables could influence this state of helplessness, both to alleviate the helplessness and under different conditions to increase it. The results were considered in relation to the learned helplessness-reactance integrative model and possible methods of enhancing student achievement and attributions of internal responsibility were discussed.

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Overview

The present study examined teacher, student, and performance feedback variables that partially determine student academic outcomes in the classroom. The teacher variables manipulated were expressiveness (low, high), and amount of lecture content (low, high). The student variable examined was academic performance expectation (high, low). Performance feedback had three levels: contingent reinforcement; noncontingent reinforcement; and a no feedback control group which did not receive the treatment. This resulted in the examination of a 2x2x2x3 complete factorial design. Attributional ratings of achievement responsibility, achievement test results and measures of emotional motivational states associated with the achievement test comprised the dependent variables.

Procedurally, the experiment involved two phases. In the first or feedback phase, students were told the format of the upcoming experiment, asked to rate their expectations and attributions of achievement responsibility, and given an analogies test with immediate performance feedback (contingent or noncontingent). The control group did not receive an analogies test, but started

immediately with the second phase, a videotaped lecture and achievement test based upon the lecture.

Following the analogies test, students were asked to make attributional ratings for their performance on the test, and to make expectation ratings for their performance on the upcoming lecture achievement test. To start the lecture test phase, a videotaped lecture (high or low expressive lecturer presenting a high or low content lecture) was given. Further attribution and expectation ratings were made, a multiple choice test based on the lecture content was taken, and finally, students completed an attributions questionnaire pertaining to their lecture test performance.

It was hypothesized that the initial or feedback phase would create cognitively different states such that noncontingent subjects would make more external and less internal attributions than the contingent group, demonstrating cognitive evidence of learned helplessness. Lecture test phase hypotheses revolved around the expectation that the further manipulation of teacher characteristics could influence helplessness in either an ameliorative or facilitative fashion.

The results were compared to the integrative model of learned helplessness and reactance theory (Wortman & Brehm, 1975), which accounts for both deficits and improvements in behavioral and cognitive performance as either helplessness or reactance respectively. It was felt that this model accounted for the data more fully and was a more parsimonious explanation of the findings than the original helplessness only model (Overmier & Seligman,

1967). Interpretations based on this model pointed to manipulations of teacher, student, and classroom variables that could enhance academic achievement concomitant with increasing internal attributions and decreasing external attributions.

Introduction

The theoretical rationale for learned helplessness is rooted in infrahuman learning experiments. The infrahuman studies have also provided the methodological background for the human research that has been done. The present report, therefore, begins with a discussion of the animal literature. It then discusses the human helplessness studies, both in the laboratory and the field. This is followed by a presentation of the integrative model, relevant attribution research, and finally, the research on classroom and teacher characteristics as it pertains to the present studies.

Learned Helplessness: Animal Research

In 1967, Overmier and Seligman found that inescapable aversive stimulation in one situation interfered with escape-avoidance learning in a different situation. One group of cage-raised dogs was electrically shocked in a Pavlovian harness in which they were unable to terminate the shock. This group of dogs was subsequently much slower in acquiring escape-avoidance responses to signalled shock in a two-way shuttlebox than were dogs that could terminate shock in the harness by pressing a panel with their heads. This shuttlebox performance debilitation could not be attributed to amount of shock per se, because the debilitated experimental group was yoked to the escapable control group such that they received the same amount of

shock as the control group in the harness phase. Nor could it be attributed to place learning, since training and testing were carried out in different locations.

Overmier and Seligman thus speculated that the group of dogs which had no control over termination of the shock learned that they could not control their reinforcement outcomes in the harness. They further speculated that this learning transferred across situations to interfere proactively with learning that shock in the shuttlebox was terminable, thus producing escape-avoidance response deficits. This interference effect was termed "learned helplessness." Some of the debilitated subjects actually jumped the barrier on the fourth or fifth trial of the shuttlebox phase and thus escaped or avoided the shock. But on subsequent trials these same dogs reverted to lying in a corner of the shuttlebox, whimpering, whining, urinating, and defecating when the shock came on. Only two-thirds of the dogs that received inescapable pretreatment exhibited the learned helplessness effect in the shuttlebox test phase. The other third responded normally, illustrating the differential effectiveness of aversive stimulation on performance which has become a common finding of both human and infrahuman helplessness studies.

Seligman and Groves (1970) further demonstrated the differential effectiveness of helplessness training. They found that cage-raised beagles were more susceptible to learned helplessness than were mongrels of unknown history but that with a single session of training, all subjects responded normally within

48 hours. Since Overmier and Seligman's (1967) dogs were all mongrels this may partially account for their results as well. The one-third that responded normally despite helplessness training in the Overmier and Seligman study may simply have had more experience with gaining control over their reinforcements than the rest. Seligman and Groves (1970) also found that more than one session of exposure to helplessness training resulted in less transient effects,suggesting a cumulative, extinction-like learning curve.

Seligman and Maier (1967) presented two important findings. Firstly, they demonstrated that the performance differences between the experimental and control groups during the shuttlebox test phase were due to response decrements for the helplessness group, rather than simply lack of response facilitation. This fact was elucidated by the addition of a no pretreatment control group along with the usual escapable pretreatment control. The no pretreatment control subjects received no harness training, but simply were tested in the shuttlebox apparatus, where they performed with the shortest response latency of all three groups. The escapable subjects took only slightly longer to respond than the no pretreatment group, while the yoked experimental group was significantly slower than either of the two control groups. This finding reveals that inescapable pretreatment debilitated subjects so as to interfere with such escape-avoidance response acquisition.

Secondly, Seligman and Maier showed that prior exposure to escapable shock in the shuttlebox test apparatus acted to immunize

subjects against helplessness, such that when they were later exposed to inescapable harness training followed by shuttlebox testing, escape-avoidance response acquisition was not debilitated. The immunization group performed similarly to a control group that received the harness phase of the experiment, but received no shock in the harness. Both of these groups outperformed the other control and experimental groups and the no pretreatment control group and the helplessness training group. It should be noted at this point that Church (1964) has argued against the use of yoked control group designs on the basis of a logical arguement to the effect that individual differences arising within such a design may produce a constant error that cannot be reduced by increasing the number of observations. Seligman(1975 p.191), however, explains that this arguement is not relevant to experiments where the yoked group acts as the experimental group and the other groups are the controls, which is the case in most helplessness studies. Thus, for purposes of the present research, yoked designs will be considered valid.

Apart from design issues it could be argued that because of the minimal control they have over their environment, the cage-raised dogs may be more prone to helplessness than more active organisms. Learned helplessness has been demonstrated, however, across a wide range of animal species, including man. Under a variety of test conditions and contingencies, it has been found in cats (e.g., Thomas & Balter, 1975), goldfish (e.g. Padilla, Padilla, Kotterin & Diacolone, 1970; Padilla, 1973), rats (e.g., Seligman & Beagley 1975;

Seligman, Rosellini & Kozak, 1975), and humans (see Hiroto & Seligman, 1975; Seligman 1975; and Maier & Seligman 1976 for reviews). Similar response deficits following uncontrollable aversive outcomes have been found in mice, birds, primates, and cockroaches (Seligman 1975 p. 28).

Seligman, Maier, and Solomon (1971), and learned helplessness researchers in general, now speculate that it is the subject's perception of lack of control over reinforcements that causes learned helplessness, rather than the aversive stimulation per se. Thus, learned helplessness is now considered to have three components: (1) motivational, (2) emotional, and (3) cognitive, with the latter of these being of pivotal importance. According to this analysis, subjects become cognitively aware that their responses and reinforcements are independent. This causes emotional upset, followed by resignation and loss of motivation to respond. The resultant attitiude is one of "Why respond; there is nothing that I can do to gain control over my environment". Learned helplessness has thus been given a cognitive explanation which is to be considered to be an analaogue to human depression, particularly exogenous (externally and nonphysiologically generated) depression (Seligman 1973).

Learned Helplessness: Human Research

Over the past several years the focus of learned helplessness research has shifted from the infrahuman to the human laboratory (Seligman & Maier 1976), and occasionally to the field (e.g., Dweck & Repucci 1973). For the most part this research has utilized

the three group or triadic design employed in the infrahuman studies and portrayed in Table I. As illustrated in Table I the triadic design involves three groups. Two are experimental groups (contingent, noncontingent) which experience two phases of the experiment, a pretreatment phase and a test phase, and a third group is a control group which experiences only the test phase. The pretreatment phase, which is sometimes also called the treatment phase, is the period during which the helplessness manipulation is given. The test phase is the period during which the effects of the treatment are examined to ascertain whether or not helplessness has occurred. Since the yoked group (noncontingent) is the group expected to demonstrate helplessness, the other experimental group (contingent) is sometimes considered as a control group as well. Generally, this group is predicted to respond in facilitative fashion with respect to both the yoked and no treatment control groups during the test phase due to prior exposure with a controllable situation. The no pretreatment control group is expected to respond facilitatively as well, but not to the extent of the group receiving escapable pretreatment. Finally, the yoked group with inescapable pretreatment is expected to be debilitated during the test phase and thus perform the most poorly.

There are, however, two major differences between the model as it is presented in Table 1 and the way helplessness is generally studied in human research. Firstly, the terms escapable and inescapable are usually replaced by contingent and noncontingent feedback respectively. Secondly, yoked groups are not commonly employed in human studies. Also, in both the human and infrahuman

Table 1

The Triadic Learned Helplessness Model

Group	Phase	
	Pretreatment	Test
Experimental or Comparison Control (contingent)	Escapable	Escapable
Yoked Experimental (noncontingent)	Inescapable	Escapable
No Pretreatment Control		Escapable

research, a fourth group is often added. This is generally an immunization group which receives escapable or contingent feedback before the uncontrollable phase. This immunization training usually occurs in the same setting as the test phase, while the pretreatment or uncontrollable phase is carried out in a different setting.

Of the human studies addressing learned helplessness, that of Hiroto and Seligman (1975) has been one of the most widely cited and represents a prototype for later research. Hiroto and Seligman (1975) adopted and modified Glass and Singer's (1972) paradigm for studying the effects of urban stress by employing loud noise as an aversive stimulus. The Hiroto and Seligman (1975) study actually consisted of four experiments run simultaneously. In these experiments subjects were presented with either: (1) pretreatment with inescapable, escapable or control (no pretreatment) aversive tone, followed by shuttlebox excape testing; (2) pretreatment with insoluble, soluble, or control discrimination problems followed by anagram solution testing; (3) pretreatment with inescapable, escapable, or control aversive tone followed by anagram solution testing; or (4) pretreatment with insoluble, soluble, or control discrimination problems followed by shuttlebox escape testing. In other words, subjects were treated and tested either on cognitive tasks or on instrumental tasks, or they were treated with one type and tested on the other. This procedure was utilized to test the generality of human learned helplessness across instrumental and cognitive tasks. All four conditions produced learned helplessness

and the authors concluded that inescapable and insoluble tasks both engender the expectancy that responding will be independent of reinforcement. Other studies have also concluded that inescapable aversive events presented to humans produce interference with subsequent instrumental learning (e.g., Hiroto 1974, Krantz, Glass & Snyder 1974, Rackinas 1972, Thornton & Jacobs 1971).

Seligman (1975, p. 31) has stated, "Helplessness is a general characteristic of several species, including man, but if we are to take helplessness seriously as an explanatory principle for real-life depressions, anxiety, and sudden death, it must not be peculiar to shock, shuttleboxes, or even just trauma." Despite the much heralded generality and transference of learned helplessness across tasks and situations , a paucity of field research has been conducted. The following studies represent a major proportion of this limited fund of applied research.

O'Brien (1967) gave one group of kindergarten students solvable series of junk-object problems. Another group was given random reinforcement for different, more difficult problems (helplessness group). A final control group received no problems. All groups were presented with solvable learning-set problems as the test phase. The helplessness trained group was the slowest to learn; the no experience group was next; and the solvable group was the fastest to learn. This finding supports the contention that previous experience with control or at least the perception of control over reinforcement is important to avoid learned helplessness or at least the response deficit incurred by having

no previous experience with control.

Further support for this latter contention comes from a study by Dweck (1975). She attempted to alleviate already existing helplessness in ten to thirteen year old adolescents who had severe arithmetic problems. While she did not have a no-experience-with-reinforcement group, she did have a group that she trained in opposite fashion, with success or reinforcement only. Her procedure was analogous to Terrace's (1963) errorless discrimination training and the results she obtained illustrated the limitations of this approach. In comparision with an attribution retraining group (i.e. retraining to emphasize that failure was due to insufficient effort rather than task difficulty or student ability), there was a marked difference in the test phase. The success only subjects once again became helpless after failing at a single task. The attribution retraining subjects showed improved performance following a failure, as well as reduced anxiety.

Thus, it would appear that subjects need to experience both control over reinforcement and failure to control some reinforcements in order to cope successfully with everyday problems. It seems reasonable to postulate that some balance point exists between success and failure, which is most efficacious for learning and perseverance, and indeed it is this sort of postulation upon which the model of helplessness (i.e., the integrative model) employed in the present study is based. This matter will be discussed furhter in the section devoted to the integrative model.

This motion of an optimal balance between success and failure was tested in a restricted sense in a field study by Chapin and Dyck (1976). They studied five groups of grade 5, 6, and 7 children with reading problems, two of which were in conditions directly relevant to the optimal balance issue. These groups received differential amounts of partial reinforcement for problems presented in discrete trials. The study also employed a success only group, a group with attributional retraining, and a control group without attributional retraining. They found that with attributional retraining, amount of partial reinforcement was not a discriminating variable. Thus, while subjects who received attributional retraining and programmed partial reinforcement performed the best on posttests, the different amounts of partial reinforcement produced identical results. The success only group again illustrated the importance of experience with failure, as they showed no improvement from the pretreatment to test phase.

Another classroom field study was that of Dweck and Repucci (1973) who demonstrated discriminative helplessness in the elementary school classroom. Fifth grade students received solvable visual problems from one teacher and unsolvable ones from another. When the teacher who had initially given insoluble problems presented solvable ones, the students failed the problems, even if they were identical to the ones that they had done correctly with the "solvable" teacher. Dweck (1976) also found that students who had extreme reactions to failure improved their academic performance when they were led to believe that their failure was due to lack of effort

(i.e., that they had personal responsibility for the failure), an internal attribution, rather than to an external source. These students eventually performed better than students who had learned by errorless discrimination training (i,e., success only tasks). This further supports the contention that exposure to and dealing with failure is a necessary precursor for responding appropriately in a lack of control situation. Additionally, the attributionally retrained subjects attributed success or failure more to motivation than ability. This indicates the success of the manipulation, for subjects had come to attribute their poor performance to an unstable, internal factor. Such a factor has the greatest potential for change. As scarce as field studies are then, they are encouraging . Not only does learned helplessness appear to apply to real-life situations, but in certain situations, it may also be eliminated in a manner that is beneficial to those debilitated by its influence.

It is important to recognize some of the basic reformulations that have occurred in the original model as a result of its empirical development from a largely descriptive animal model to a more inferential and explanatory human paradigm. The changes that have resulted in the current cognitive model have consisted of theoretical additions such as the notion that cognitive perceptions determine helplessness as well as procedural and methodological changes that have tightened the model, such as the measurement of attributions and the addition of various comparison and control groups. As the field studies presented in this section illustrate, the cognitive recognition or perception of helplessness is of primary importance for the operational definition of

helplessness. Furthermore, common learning principles seem to apply, in that certain unreinforcing contingencies can produce perceptions of helplessness and specific retraining(especially of attributions of responsibility) can reverse these perceptions and their concomitant behavioral manifestations. Very importantly, helplessness has been demonstrated in a natural setting which has a major impact on learning, namely the elementary school system. Also important is the fact that not only can helplessness occur within this setting, but the agents of reinforcement (teachers) within the school can both generate an alleviate helplessness. It seems realistic to assume that there are specific attributes of a teacher which make the difference for many students as to whether they feel encouraged to work hard and succeed, or to give up and concede feeling helpless.

Learned Helplessness: The Integrative Model

Drawing on Brehm's reactance theory explanation of cognitive dissonance (1966, 1972), Wortman and Brehm (1975) have developed a comprehensive explanation of the human and infrahuman helplessness data. Brehm maintains that if a person's behavioral freedom is threatened, he becomes motivationally aroused and attempts to restore this freedom. This attempt is defined as reactance. The Wortman and Brehm model includes a time course explanation, accounts for task importance and posits the existence of a curvilinear relationship between reactance and helplessness. Wortman and Brehm have designed a model which attempts to identify the antecedents, as

well as the cognitive behavioral sequence of events, which lead up to learned helplessness. This approach attempts to account for research supporting both helplessness and reactance, which is the behavioral opposite of helplessness. At the same time, it incorporates attributional data in an attempt to delineate mediators of helplessness. The result, labelled the "Integrative Model" is illustrated in Figure 1.

The Learned Helplessness-Reactance Integrative Model states that the first reaction when a person's behavioral freedom is threatened is motivational arousal, which leads to vigorous attempts to restore the freedom. The amount of reactance demonstrated is thought to be a direct function of: (1) the degree of expectation of freedom the person has to start with, (2) the strength of the threat to this freedom, (3) the importance of the freedom threatened, and (4) the implication of the threat for his other freedoms. In other words, reactance is stronger when the freedom is perceived to exist, the stimulus poses a strong threat to an important freedom, and also threatens other freedoms. In this model freedom is synonymous with control in Seligman's model. Reactance occurs to the extent that subjects expect control over outcomes in the upcoming situation and consider these outcomes to be important.

Helplessness is conceived of as the phenomenon that occurs when reactance fails. If the importance of the outcome is trivial to the subjects, however, helplessness will not occur. Originally, when the subject encounters an uncontrollable outcome, his/her

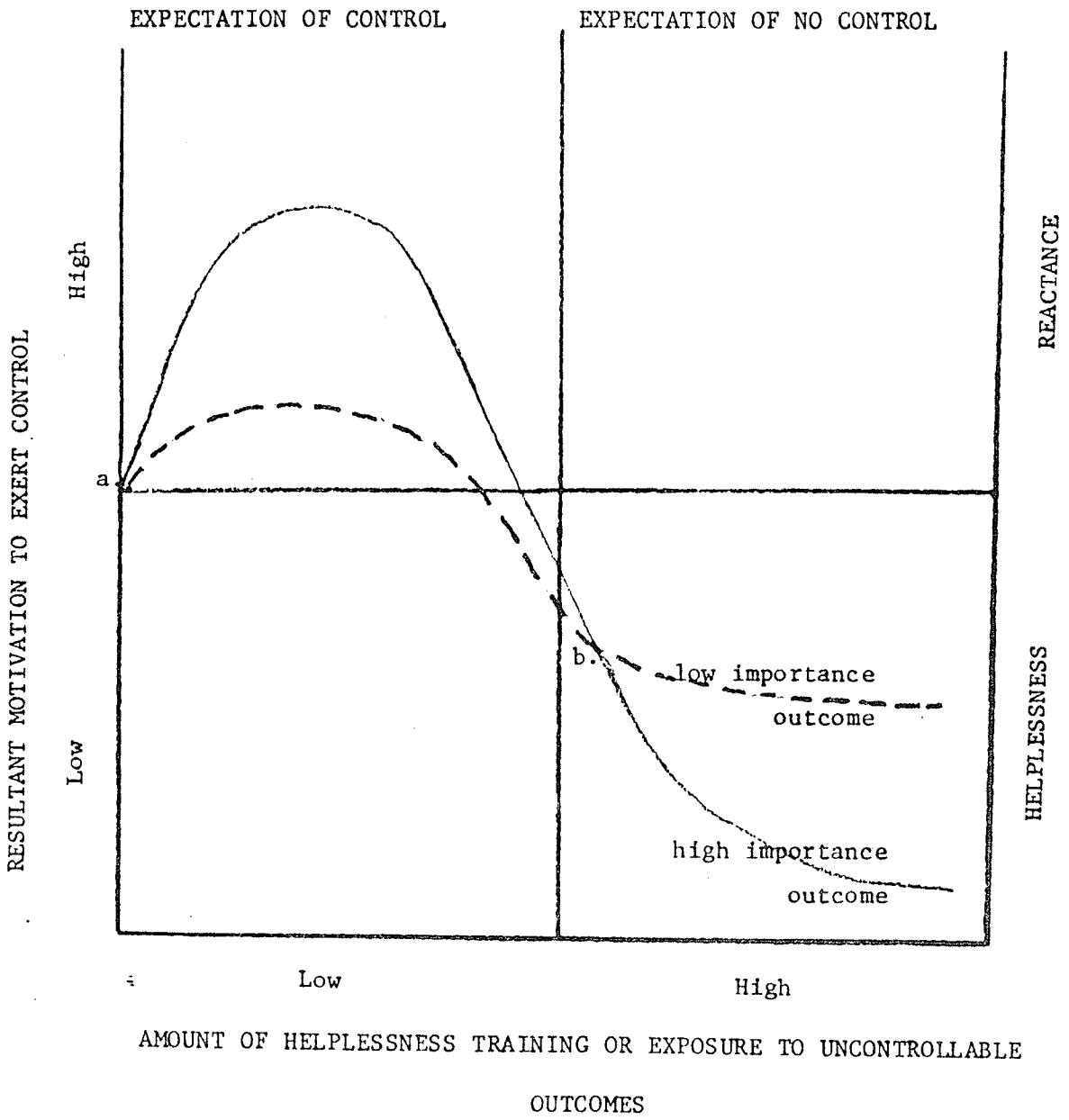

Figure 1. The integrative model

desire to perform any behavior that will control that outcome is enhanced. The behavior itself becomes more desirable than usual and the person makes stronger attempts than usual to engage in it. This is especially true if the behavior was highly desirable in the first place and the costs of performing it were not prohibitively great. If the costs were too great, the person might attempt a similar but alternative behavior in order to demonstrate that s/he could engage in the desired behavior, "if s/he wanted to." When all instrumental responses fail, learned helplessness occurs and the subject ceases to emit either motor responses or the cognitive responses required in the motor situation. The present research contends that such a model may apply to student behavior in certain classroom settings. This contention will be expanded upon later in this introduction.

In Figure 1, point "a" illustrates an individual who expects to have control over the outcome. Moderate amounts of helplessness training lead to psychological reactance and increased attempts to gain control as seen in the initial upswing of the response curve. Subjects with high expectations who receive moderate amounts of helplessness training are expected to respond more vigorously in achievement situations than those with no helplessness training, in an attempt to regain control. Reactance becomes more intense as outcome importance and/or expectations of control increase. With continued or intensified helplessness training, expectation of control declines and at point "b" the subject no longer has any expectation of control. Beyond this point, neither high nor low importance outcomes affect the subject's expectations of control. Neither type of subject illustrated will exhibit any reactance, regardless of the importance of the outcome. Experience with

further lack of control simply results in behavioral manifestations of helplessness.

Wortman and Brehm have noted that Hiroto and Seligman's (1975) distinction between cognitive and instrumental tasks is arbitrary, since both types employed in human helplessness experiments involve a minimum of motor activity, but probably considerable cognitive activity. The integrative model thus differs from the Seligman helplessness model in that it treats both types of tasks as cognitive and postulates that helplessness exists as the low endpoint of a curvilinear function. In a typical, important, no-control situation, where the subject initially expects control, s/he responds increasingly intensely or frequently, in an attempt to gain the expected control (reactance). When s/he becomes convinced that s/he has no control, helplessness results and the consequent impaired learning and performance are witnessed. More stimulation at this point simply results in a further decrease in intensity or frequency of responding, as the subject has learned that there is nothing s/he can do which will change his/her outcomes. The stronger the prior expectation of control, the longer it will take for helplessness to replace reactance, or the stronger the aversive stimulation needed to create this change in expectations and behavior, or the more important the noncontingent outcomes have to be. An initial low expectation of control should not create reactance to unexpected outcomes, but should simply result in the early onset of helplessness when uncontrollable outcomes are presented. As already noted, the importance of an outcome, in conjunction with expectation of control, is considered capable of determining the degree of reactance exhibited by a subject in the face of uncontrollability.

Furthermore, when a person becomes convinced that s/he connot control an outcome, the degree of helplessness experienced is postulated to be directly proportional to the importance of the outcome that s/he was trying to influence. While importance of success is not a variable in the Seligman (1974, 1975) model, it has been investigated in several helplessness studies. Roth and Kubal (1974) for example found that important task generated enhanced responding (reactance) up to a point, followed by a sharp decrease in responding (helplessness). From this finding they generated a model similar to but less comprehensive than Wortman and Brehm's.

Krantz, Glass and Snyder (1974), however, did not find the manipulation of task importance to produce the expected results when averaged over a large group of subjects. They manipulated outcome importance by varying the intensity of a noise stimulus and hypothesized that it would be more important to shut off louder, more intense noises than moderate to low level ones. They found that subjects exposed to loud noises were no more helpless at the end of the experiment than other subjects. Their results may be interpreted in several ways. It is possible, for example, that the subjects did not find the noise important enough (i.e. no more important than the noise of lower intensity) to have to terminate it as the authors had intended. There was no questionnaire to this effect, so such a possibility is purely speculation and since the intensity of the noise stimulus they employed was high, this possibility seems rather unlikely. It is also possible that subjects did not have a high prior expectation of control over noise or that when the measure was taken reactance was still occurring (i.e., the subjects wanted badly to terminate

the stimulus and had not yet perceived themselves as having no control). Because of the equivocal results from this and other similar studies manipulating the task importance factor, the current study employed only high importance tasks. This caution was also taken because a study manipulating task outcome-importance alone is unlikely to be easily interpreted within the integrative framework of Wortman and Brehm, since outcome-importance interacts with amount of helplessness training.

Roth and Kubal (1974) manipulated both importance and amount of exposure to helplessness inducing materials and obtained results which support the integrative model. They tested the hypothesis that small amounts of helplessness training would produce increased attempts to do well, while greater amounts of training would produce giving up and passivity. They led two different groups (low and high importance tasks) of college students to believe that they were being asked to complete one of two kinds of concept formation tasks. The low importance group was told that they were to try and solve the concept formation problem presented to them. The high importance group was told that the concept formation task was a good indicator of college success (this is similar to the manipulation to be employed in the present study).

On each trial, subjects were to select one of two possible stimulus figures illustrating the operation of the concept. The helplessness manipulation was accomplished by giving one-third of both the high and low importance groups noncontingent feedback, thereby making it impossible to solve the concept formation problem. This was the low helplessness training group. Another one-third of each group received contingent feedback, making it possible to figure out the correct

concepts after a few trials. The last third of the subjects also received noncontingent feedback, but when they failed, they were asked to work on two "easier" problems, for which they also received noncontingent feedback. This was the high helplessness training group.

Subjects were then told to go to a second experiment in which they were all treated alike. In actuality, this was the test phase of the experiment. Their task here was to discover the patterns in a series of playing cards by trial-and-error. Subjects who had been in the high importance conditions of the first phase and had received low amounts of helplessness training, solved significantly more problems and made fewer requests for new problems (i.e. were more persistent) than subjects in the no training or standard no treatment control group. In contrast, high importance subjects who got large amounts of helplessness training performed significantly more poorly than did the no training group.

The interaction of high and low amounts of training and importance of the task failed to reach significance. In addition, Roth and Kubal's experiment contained a design flaw common in the human helplessness literature. They confounded helplessness training with actual amount of reinforcement and aversive stimulation given to the subjects. In other words, the helplessness training groups were not yoked to the facilitation groups. Rather than merely manipulating contingency of reinforcement, they were also manipulating quantity of reinforcement that the subject received. Furthermore, Tennen and Eller (1977) voiced the concern that Roth and Kubal (1974) may not have generated learned helplessness at all. Roth and Kubal (1974)

led subjects who received high amounts of helplessness training to believe that they were working on easier problems as they went along. Tennen and Eller (1977) argued that this would lead subjects to attribute their performance internally, that is to their own lack of ability and/or effort, rather than externally (eg., to luck and /or task difficulty) as is required if subjects are to perceive themselves as helpless.

The results that Roth and Kubal obtained on their postexperimental questionnaire, however, did demonstrate the value of attributional information and questions regarding expectancies and perceptions. They found that the subjects did not perceive differences between high and low amounts of helplessness training or between high and low importance outcomes as was intended by the experimenters. The fact that questions concerning perceived importance of the task and felt helplessness failed to differentiate between these respective manipulations raises an issue regarding Seligman's model. The model states that the person's perceptions of lack of control are the most important determinants of helplessness. Roth and Kubal, however, demonstrated differential helplessness as behaviorally measured, yet found no difference in helplessness attributionally. According to a dualistic interpretation of the model (i.e., one claiming the necessity of both behavioral and cognitive deficits), their data either would not or would only tentatively be accepted as illustrative of helplessness. According to Seligman's presentation of the model, their data should not be interpreted as supportive of the model, since no cognitive deficits were found. Since helplessness has been operationalized differently from one study to the next, no unequivocal statement as to whether or not the Roth and Kubal study demonstrates helplessness

can be made. Seligman's model would seem to indicate that helplessness is a cognitive state, which is often measured attributionally, and that behavioral demonstrations are a manifestation of this state. Utilizing this conceptualization it becomes possible to state that the methodological flaws in Roth and Kubal's study could have inhibited or eliminated the cognitive state of helplessness while still creating behaviour that would occur under helpless conditions. By changing subjects' attributional state, as was done by Tennen and Eller (1977) this methodological dilemma can be eliminated.

Questions about the test phase showed that all attributions and perceptions did not contravene the helplessness model, as high importance-high helplessness subjects did report feeling more helpless than either those who received low helplessness training or those in a no training control group. While this is in keeping with initial expectations, it is contrary to findings after the treatment phase. Thus, it seems possible that under certain conditions, such as in a study with specific methodological weaknesses, the cognitive attributional effects of helplessness training in humans may not manifest themselves until a second or later task is attempted.

It also appears that amount of helplessness training was a more effective manipulation that the importance of outcomes in Roth and Kubal's experiment. High importance-low helplessness subjects tended to report that they were more motivated in the test phase than did the no training controls (which reactance theory and the integrative model would predict), while high importance-high helplessness subjects reported feeling more incompetent, less aroused, more fatigued, more bored, more angry, and less friendly towards the experimenter than low

helplessness subjects (as helplessness theory and the integrative model would predict). Overall, these findings can be explained only by the integrative model, since reactance theory would predict the former and not the latter, while helplessness theory would predict the latter and not the former. These findings also support the integrative model's prediction that subjects with low helplessness training, especially in high importance conditions, are highly motivated to do well. The fact that no significant interaction occurred between amount of helplessness training and task importance, however, is important here because such an interaction would be the primary indicator of support for the integrative model. The methodological flaws of the Roth and Kubal study may be responsible for this interaction's nonoccurrence. Although the integrative model explains most of Roth and Kubal's results, in terms of the theory, there are several important questions that either remain unanswered by the integrative model or for which the answers currently offered are highly equivocal and speculative. For example, what is the importance of the nature of the outcomes received? How does the assignment of causality for lack of control affect feelings of helplessness? To what extent are these effects generalizable? What happens to motivation after helplessness training and how important a variable is it in general? What kind of value judgements do we make about helpless behaviour and how and when are these judgements either reasonable or valid? These are global, esoteric, and philosophical questions, some of which have been and are presently being addressed experimentally. It is important to consider them, while realizing that most will probably never be definitively answered.

Learned Helplessness: Attributional Research and the Human Model

Detailed analysis of the attributional research on helplessness has been left to this point in the introduction largely for reasons of parsimony. Although some of the earlier human studies utilized attributional measures, few did so on a systematic basis or with reference to the source of the attributional items. Recently though, questionnaire items have been based on the findings of attributional research and thus represent a refinement in helplessness research methodology. This refinement particularly concerns the importance of a person's cognitive functioning before, during and after helplessness training or during the state hypothesized as an analogue of helplessness (i.e., depression). Klein, Fencil-Morse, and Seligman (1976), for example, compared depressed and nondepressed subjects (as measured by the Beck Depression Inventory, 1967) on differents tasks in different situations. The importance of attributions was illustrated by the author's demonstration that if depressed subjects learned to attribute their failure to the difficuly of the problem (i.e., externally as in helplessness) rather than to personal incompetence (i.e., internally) their performance improved considerably. They argued that the person's perception of his/her own capability and his/her perception of the extent of responsibility of external influences on his/her performance at these times - determine whether not subjects perceive themselves to be helpless. Even more specifically, Seligman (1974, 1975) argued that a person's perceptions of his/her control

per se in a situation determines helplessness. When one perceives her/himself to have no control s/he will respond in a helpless manner, which means either very infrequently, very passively, or not at all.

The majority of attribution research has been derived from a 2 x 2 matrix of attributional factors conceived by Heider (1958) and depicted in Figure 2. This matrix represents the four attribution measures generally taken in learned helplessness experiments, although the stability and locus of control of the factors are rarely examined in helplessness studies. Feather (1968), as well as Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971) have given comprehensive explanations for the postulated involvement of each of these factors in making causal attributions. The four factors of ability, effort, task difficulty, and luck have been considered to determine performance in achievement situations and the attributions made to these factors are considered to influence future performance. Simply put, expectations affect behaviour. A person's ability and effort are considered to be internal factors, while luck and task difficulty are considered external factors (i.e., factors external to the subject and over which s/he has no control). Ability and task difficulty are considered to be stable, relatively unchanging factors, while effort and luck are considered to be more capricious unstable factors.

Most human learned helplessness studies investigating subjects' cognitions have employed these items, and have measured them by having the subjects generate percentages of expectations or attributions for performance for the items such that the composite score (result of adding each of the four scores together) totals

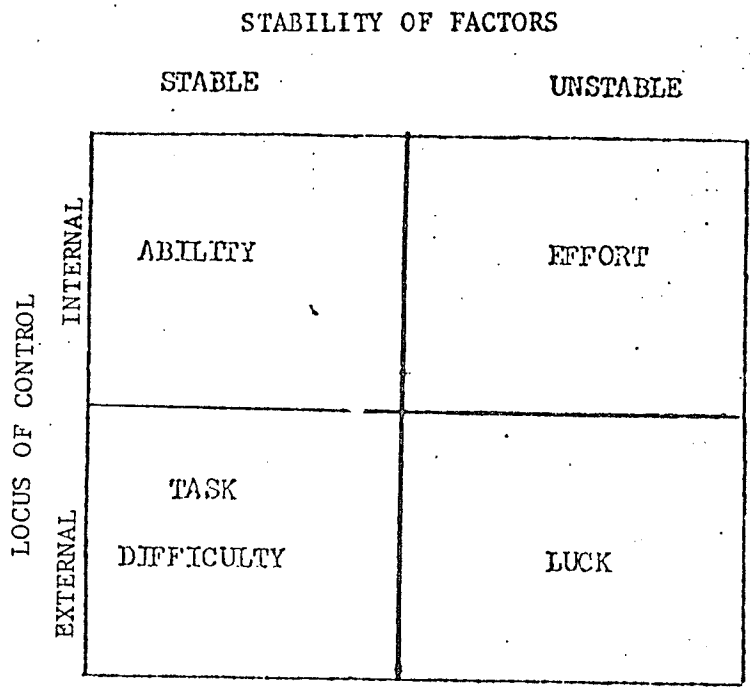

Figure 2. Heider's attributional matrix

100%. Such an approach requires that subjects conceive of these four factors as exhaustive of the list of possible explanations for performance. Recent research has deviated from this rigid model by adding additional attributional factors and by changing the rating scales so as to allow for the independent rating of each attribution (e.g., Benson & Kennelly, 1976; Tennen & Eller 1977). These changes have been instituted largely because the four commonly employed items are not considered to be exhaustive or to be completely interdependent behavioral determinants by most researchers.

Of major importance to the current research is the fact that attribution experiments have involved actual classroom behavior and performance, and have measured perceptions and expectations directly. While a few of the human learned helplessness projects have involved classroom behavior and attributional measures, only recently have subjects' perceptions of control or performance causality been regularly monitored. The findings have been multifaceted. For example, as already mentioned, Roth and Kubal (1974) found that subjects became more helpless when they perceived failure at a task as more significant, which is in keeping with what the integrative model would predict. Roth and Bootzin (1974) attempted to manipulate expectations of control by administering random reinforcements. Rather than reacting in a helpless fashion, their subjects initiated more solving situations, leading the researchers to postulate a curvilinear relation between amount of exposure to no control and response persistence (i.e., a precursor to the integrative model more formally and fully explicated by Wortman and Brehm, 1975).

More recently, Wortman, Panciera, Shusterman, and Hibscher (1976) tested the attributional hypothesis that the stress experienced by a person unable to control aversive stimulation is not a function of lack of control per se, but of attributions of causality of failure. This hypothesis, although not stated as such, appears to be a rewording of Seligman's helplessness postulation which merely incorporates the attributional model. Subjects were given false feedback for problem solving, either positively or negatively. Those given negative feedback were also led to attribute their poor performance either to lack of ability (an internal factor) or to task difficulty (an external factor). The former group of subjects were found to feel considerably more stress. The latter group experienced no more stress than subjects who were able to control their outcomes. Unexpectedly, the group that made self-attributions of incompetence performed the best in both new and old test situations. These results demonstrate the opposite side of the coin of the Roth and Kubal (1974) study. Whereas Roth and Kubal found helpless behavior without helpless attributions, the Wortman et al (1976) study demonstrated helpless attributions with reactive behavior. It thus appears not only that an integrative model is required to explain responses to noncontingent reinforcement situations, but also that an incomplete picture is obtained if both performance and attributional measures are not taken in these situations.

Douglas and Anisman (1975), whose results generally supported the integrative model, interpreted the effects of aversive stimulation that they found on subsequent performance as due to

attributional factors as well, namely expectation-outcome congruency and incongruency. They felt that the antecedent expectations of performance were more important than post hoc perceptions of control. Tennen and Eller (1977) also found attribtuional support for the existence of an integrative model or curvilinear relationship between experiences of no control and helpless behavior. They found, contrary to Roth and Kubal's (1974) conclusion that amount of helplessness training per se was important, that helplessness effects were a function of both the amount of helplessness training and the availability of attributional cues. In replication of Wortman et al (1976), Hanusa and Schulz (1977) found reactance rather than helplessness when importance of the task was not manipulated, but attributions of causality were.

Figure 3 further examines an attributional approach to helplessness with the illustration of possible interactions of expectation and performance. When a subject expects to do poorly and does well, or vice versa, an unexpected outcome results. According to the balance hypothesis (Heider, 1958), upon which attributional research is based, the subject must relieve this imbalance. S/he may either (1) exercise a self-serving bias (i.e. attribute all positive outcomes to her/himself and all negative outcomes to chance or external, particularly external unstable factors), (2) attribute all discrepancies from his/her expectations to chance, or (3) change his/her expectations. Miller and Ross (1975) reviewed the attributional literature, and suggested that little evidence has been found to support the self-serving bias hypothesis. They stated that evidence supported a

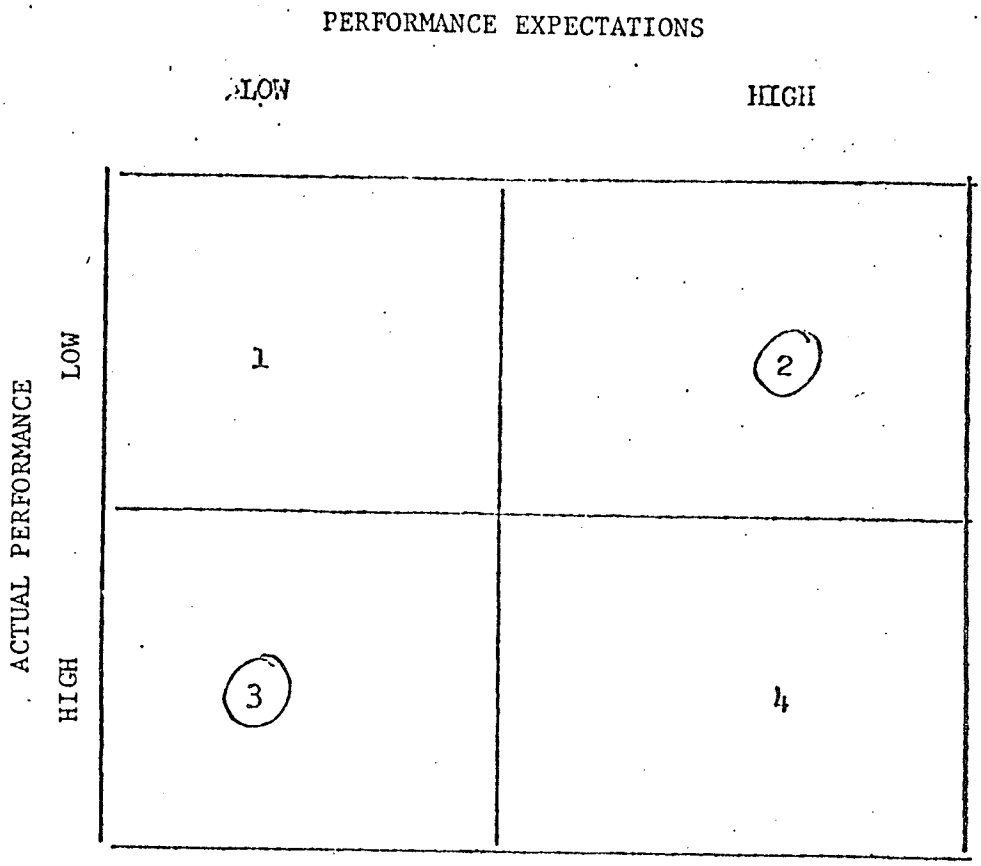

Figure 3. Expectation by performance matrix

fourth attributional possibility, that subjects take personal credit (versus attributing success to external factors) for success; but little evidence suggests that subjects protected themselves from failure. This attributional position appeared to receive the most experimental support.

It seems then that very noticeable advances have been made in the use of attributional questions to study learned helplessness. The number of attributional items employed has increased and the items themselves have diversified in content. The methods of measuring attributions have changed to allow for the fact that no set of several items is exhaustive of all possible attributions and no rationale or research has indicated that the four items initially employed are necessarily completely independent, as the initial percentage scoring format suggested. Furthermore, attributional research has helped to clarify and solidify Seligman's position that cognitive perceptions are of ultimate importance in determining helplessness. Attributions to external factors convey feelings of no control (e.g., Tennen & Eller, 1977), while attributions to internal factors suggest that subjects feel incompetent. Such research has also been applied in the field, and most importantly for current purposes, in academic settings, where it has helped to unravel classroom dynamics (e.g. Dweck, 1976; Dweck & Repucci, 1973; and attribution retraining). It has also shown how behaviors and perceptions may be quite different from each other and how this discrepancy can be important both for the definition of helplessness and for the prediction of the effects of various manipulations. In

essence it has made clear the fact that a much more complete picture of learning and cognitions can be gathered with the use of attributional items.

Student and Teacher Characteristics as they Relate to Academic Achievement and Learned Helplessness:

Summary and Description of Present Research

The few field studies that have examined learned helplessness (e.g., Chapin & Dyck 1976; Dweck & Repucci 1973; Dweck 1975, 1976), have supported the notion that it is more than a laboratory phenomenon and that it occurs in one of our most influential institutions, the school system. Given that helplessness occurs in the classroom, the present study proposed to examine whether or not certain student and/or teacher characteristics may enhance or ameliorate helplessness. Furthermore, it examined these variable at an academic level beyond that of most of the earlier studies, namely the college classroom. While numerous human learned helplessness experiments have involved college students, few have attended to naturalistic college classroom behaviour, the role that teacher characteristics may play in this process, or the effect that manipulations attempted upon an entire classroom at one time may have. This latter manipulation is particularly important for it is representative of everyday academic situations, but has almost never been examined experimentally, even in research which directly studied elementary classrooms.

Intuitively, it seems to the author that since many western cultural rewards are based upon achievement, failure in

achievement settings should be a prominent precursor of helplessness and depression. In keeping with the integrative model, the more intense this failure (i.e. the more culturally or personally important). or the more prolonged (e.g. years of poor classroom performance), the more helpless people should feel. Considering that many university students have professional aspirations and probably most have some notion of being above average intelligence, failure in academic achievement areas should be particularly debilitating to such people. Even a single or short-term intense failure (versus prolonged intensive lack of academic success) should be highly stress-inducing to most college students and should result in subsequent reactance or helplessness, depending upon the intensity of the failure and the student's prior expectations and attributions of performance responsibility.

Support for this contention that short term lack of positive reinforcement or intense failure may produce helplessness comes from a study by Dyck, Valentyne, and Breen (in press). They manipulated the duration of failure training and causal attributions, and found that (a) stress was greater for short term failure than for failure of a long duration, (b) when success conditions existed, stress was at its lowest, and (c) when subjects were led to believe that they were personally responsible for thier behavior, stress increased. They also found that if performance was attributed externally (i.e. difficult task), there was no difference between groups of subjects on the stress dimension. Personal responsibility for performance of subjects, combined with short term failure training, was associated with poor performance,

Current educational and psychological research suggests that student, teacher, and course characteristics are relevant to classroom achievement. Studies such as those of Centra and Creech (1977), employing 300,000 students in a variety of institutional settings and taught by 16,000 instructors have attempted to delineate factors affecting achievement that are attributable to each of the three mentioned sources. Review articles such as those by Feldman (1976), Follman (1975), and Costin, Greenough, and Menges (1971) attest to the effectiveness of this approach.

One major methodological flaw noted in this research, however, is that the lectures are often presented either to different sections of one course or to people in different courses. (e.g., Costin, Greenough, & Menges, 1971; Leventhal, Abrami, Perry, & Breen, 1975). Comparisons are then usually made between classes, which also means between professors in most instances. If it could be assumed that students were randomly assigned to classes, differences in student ability and personality should be equally distributed. As noted by Leventhal et al. (1975), however, most studies occur in the actual classroom and do not randomly assign students to classes or sections. Therefore, the current research avoided this problem by randomly assigning subjects to conditions and conditions to running times, while still attempting to approximate naturalistic classroom conditions.

The present study attempted to integrate research from the areas of learned helplessness, attributional analysis, and teacher effectiveness, in order to ascertain how students, and teacher characteristics might act independently as well as how they

might interact with each other. That is, contingency of academic achievement feedback was manipulated to produce cognitive deficits (helplessness), then student and teacher characteristics were examined to ascertain what effect they might have both behaviorally and cognitively upon these deficits. Contingency of feedback is a much utilized helplessness manipulation, and is included to the effect of classroom achievement feedback on future achievement and attributions of achievement responsibility. The student variable was preexperimentally measured expectations, which were used to separate students into groups with high and low prior expectation of academic success. The teacher characteristics manipulated reflect the major departure from classic learned helplessness studies and require some explanation.

The two teacher characteristics systematically manipulated in the present study were expressiveness and amount of lecture content. High and low levels of each were examined. The variables themselves came from an area of teacher effectiveness research that is pertinent to the present study. Naftulin, Ware, and Donnelly (1973) identified these teacher characteristics as potential contributors to student ratings of the teacher as well as to academic performance. They felt that the students' ratings were invalid because an entertaining and charismatic teacher received high ratings when the instructional quality in actuality was poor. Achievement tests based upon the lectures, however, have tended to be poor between group discriminators (see Feldman 1976). Despite this trend, the present study relied on achievement test results, since the author considered them to be a direct measure of the

behavioral effects of manipulated teacher characteristics on helplessness.

Williams and Ware conducted follow-up studies to the Naftulin et al. (1973) studies (i.e. Ware & Williams, 1975; Williams & Ware, 1976, 1977) which factorially manipulated both instructor expressiveness (e.g., enthusiasm, humor) and amount of lecture content to determine their effects on student ratings and achievement. This series of studies basically found that an instructor who lectured charismatically was rated highly, regardless of the amount of the lecture content. Most importantly, he was rated highly when the amount of material presented was very low. This might indicate that an ineffective teacher could receive high ratings under certain conditions, or that a charismatic teacher might stimulate his class into learning and wanting to learn more on their own. This latter possibility has not been experimentally demonstrated to date.

The 1975 Ware and Williams study was one of the few that demonstrated the relevance of the achievement measure. It showed that students who viewed highly expressive lectures performed better on achievement tests than did students who viewed low expressive lectures. The fact that expressiveness could affect achievement was seen in the mean score out of 20 for subjects who received a high expressiveness but low content lecture, which turned out to be identical to that of subjects receiving a low expressiveness, high content lecture (both groups averaged 9.5 correct out of 20 questions). Teacher ratings were also higher for the high expressiveness lecturers.

Perry, Leventhal, Abrami, and Dickens (1978) verified this finding in a study that examined the effects of test performance feedback (contingent, noncontingent, control) and teacher expressiveness (low, high) on achievement in a simulated college classroom. They had students complete an analogies test and receive either contingent or noncontingent performance feedback, then view a videotaped lecture which conveyed either a high or low expressive lecturer. Finally, the students wrote a multiple-choice examination based upon the lecture content and completed an evaluation of the lecturer. They found that the high expressive instructor produced greater achievement than the low expressive instructor for both contingent and noncontingent feedback. Furthermore, high expressiveness had its strongest effects on the helpless group as cpmpared with the contingent group.

The Perry et. al. (1978) study was similar in many respects to the current study. As did the present experiment, it avoided the methodological problem commonly occurring in teacher effectiveness studies, that of random assignment of subjects. It also conducted the helplessness manipulation at a group level and in the college classroom, two major changes from most preceding helplessness research, especially that of an applied nature.

The present study, however, represented several changes from the Perry et. al. (1978) study. It employed different lecture videotapes, which had standardized and agreed upon parameters of expressiveness and content, and standardized tests for which the average attained scores were known. The present study also examined

student attributions in conjunction with the helplessness manipulation. It also explored a further dimension thought capable of influencing attributions and achievement, that of student expectations. Finally, it attempted to increase the perceived importance of the study by emphasizing the analogies test's similarities to numerous aptitude and intelligence tests.

Hypotheses

Phase I One assumption of the present research was that achievement feedback conditions vary in actual classrooms. To demonstrate the existence of helplessness during the feedback phase the critical comparison was between noncontingent and contingent feedback group attributional ratings taken after the test. It was hypothesized that preexperimental attributional ratings would be similar between groups, but that the initial or feedback phase would create cognitively different states such that noncontingent feedback subjects would make more external and less internal attributions than the contingent groups. Such a finding would be cognitive evidence of helplessness.

The importance of subject's expectations is stressed by both Seligman's helplessness model and the Wortman and Brehm integrative model. Seligman postulates that expectations determine perceptions, while the integrative model states that high versus low expectations of control determine whether reactance or helplessness occurs in the face of nonreinforcement. Thus, it was hypothesized that subjects with high preexperimental expectations of success would make more internal attributions throughout the experiment than subjects with low preexperimental expectations of success.

Phase II One assumption of the lecture test phase of the current study was that teacher characteristics vary from one instructor to another and that the manner in which these characteristics vary partially determines whether students are cognitively aroused or debilitated, which in turn partially affects how well they achieve academically. It was thus hypothesized that there would be a main effect of lecturer expressiveness on attributions to teaching ability. Subjects viewing the low expressiveness lecturer were predicted to rate teaching ability as more responsible for their achievement than subjects exposed to the high expressiveness lecturer. It was also hypothesized that subjects viewing the high expressiveness lecturer would score higher on the achievement test than subjects viewing the low expressiveness lecturer.

A main effect of content was hypothesized for both achievement and attributions. Low content lectures were predicted to generate more external and less internal ratings since subjects would be presented with little information in the lecture. Achievement differences were almost inevitable since the low content lectures omitted two-thirds of the information necessary to answer the test questions.

The effects of these latter two manipulations of expressiveness and content will be more clearly delineated by the addition of the no feedback control group. For example, it was hypothesized that there would be a main effect of content for the noncontingent group alone (compared to the contingent and control groups), and that high content would result in less external and more internal ratings at Time 3 than at Time 2. Further, this increase would

be considered alleviation of helplessness and if it was significantly higher than for the corresponding contingent feedback group it would be considered reactance. Also, if achievement scores were higher for this group than for the corresponding contingent feedback group, this could be interpreted as further evidence of reactance.

Overall Previous research (Perry et. al., 1978) created the expectation of a specific interaction between feedback and expressiveness. It should be noted that interactions did not need to be predicted in order to test the integrative model. Since the present study assumed that helplessness would be created after Phase I, the second phase was intended to illustrate how certain teacher characteristics could facilitate or ameliorate helplessness, thereby showing either more helpless or reactive responding. Nevertheless, it was hypothesized on the basis of the Perry et. al., (1978) study that high expressiveness would create greater academic achievement for the noncontingent group than it would for the contingent or control groups, thereby depicting reactance facilitated by teacher characteristics. No directional hypotheses were formulated for the other interactive conditions of feedback and expressiveness.

It was also felt that expectations would change over time during the experiment. Specifically, subjects who received contingent feedback during pretreatment were predicted to increase their expectations for success while subjects receiving noncontingent feedback were predicted to decrease their expectations. Expectations were predicted to change also with exposure to lecture expressiveness. Subjects who viewed the low expressiveness

lectures were predicted to decrease expectations, while those viewing high expressiveness lectures were predicted to increase their expectations of success.

Overview of Pilot Testing

Before presenting the current experiment, it is important that the results of the pilot studies be examined. It was from these pilot studies that most of the procedural decisions for the current research were drawn.

Five pilot studies were conducted for three basic reasons. First, it was felt to be important to establish that learned helplessness could be produced in college students utilizing an analogies test as the independent variable. Most previous studies employed anagrams or some other cognitive or instrumental task with humans to induce helplessness. Analogies test have not been commonly employed as the manipulated variable. The present study, as well as the pilot studies, undertook to employ an analogies test as an independent variable for several reasons. Firstly, since analogies tests are very similar to a number of academic achievement tests (e.g., SAT, MCAT, DAT, MAT, LSAT, etc.) it was felt that it would be perceived by students as important and relevant to academic situations, and thus would be highly impactful. Secondly, it was felt that response-outcome independence in such a task (such as the noncontingent feedback group was to receive) would be highly stressful, since subjects would not be able to develop well-formed cognitive sets to deal with the problems presented to them. Thirdly, the present study was concerned with discovering whether or not certain types of academic manipulations (e.g., the

analogies test) could interfere with performance on other unrelated academic tasks. Thus, it was necessary first to construct analogies tests and then to test their value as factors. The first two pilot studies revolved around the development of these procedures. Three analogies tests were constructed, one attempting to employ easy analogies (i.e., more than 80% of subjects in a previous experiment had gotten them correct), one with difficult analogies (i.e., less than 20% of the subjects in the previous study had gotten these correct), and one that had roughly an equal mixture of easy and hard questions (i.e., the other two tests were combined such that subjects were expected to get about half of the questions correct). The test which contained the mixture was the one rated as most comparable to posttests that students had been exposed to as well as being the one that they made the most internal versus external attributions for (i.e., of the three groups, subjects in this group rated themselves versus external sources as being more responsible for their performance). Thus, this form of the analogies test became the cognitive manipulation of helplessness for the other pilot studies as well as for the current experiment. The major characteristics of the test are discussed in the Method section. (i.e., number of questions, overall number of hard and easy questions, etc.).

The decision to use the test in the present experiment came only after it had been established as an effective manipulation. Effectiveness was assessed via two methods, a cognitive test and an attributional questionnaire, both of which were retained for the current study. The attribution questionnaire tested the extent to which subjects perceived the test results to be either internally or externally determined. Internal control implies that

subjects feel responsible for and able tp control their outcomes. External control implies that the test is controlled by external factors such as luck and difficulty and subjects are helpless to control their outcomes.

The other check or assessment of helplessness was accomplished by a cognitive test presented following the learned helplessness manipulation. The cognitive test employed for the pilot studies was the one most commonly employed as a helplessness manipulation in human research, namely an anagrams test. Although the first two pilot studies attempted to use anagrams devised in our lab, procedural and mechanical problems resulted in the use of the same 20 anagrams as standardly employed in this type of research (e.g. Hiroto & Seligman, 1975) for the third and fourth pilot studies. These anagrams were involved in a manner that differed from classical learned helplessness studies in two ways. First, they were a dependent rather than independent variable. Second, they were administered to groups rather than individuals. Thus they served the additional purpose of providing information on the effects of a cognitive test that was group administred, such as the achievement test was to be in the final study.

Another purpose of the pilot studies was to determine the most effective (i.e., the format which most clearly discriminates between the attributional variables involved) method of having subjects assign attributions. Most attribution studies have utilized a percentage assignment to the four common variables of luck, effort, task difficulty, and ability (Miller and Ross, 1975). It has never been demonstrated that this forced choice approach

provides the most informative data or that these factors exhaust the targets of attributions. Therefore, the final pilot study compared the percentage format with Likert-type scales, which asked for ratings on a number of attributional items. The purpose of this comparison was to discern whether or not subjects make equivalent attributions using the two different rating formats. This was a within-groups comparison, requiring all subjects to complete both forms of the questionnaire. It was found that response patterns were not the same and could be interpreted differently when the two attribution formats were compared. The results were both clearer and more parsimonious with the Likert format and it was thus adopted for the present experiment. The final major reason for the pilot studies was to refine methodologically and procedurally our approximations of college classroom conditions. These refinements revolved around making the experimental milieu, including the academic test, as much like an actual classroom situation as possible.

Method

Subjects

The subjects were 266 University of Manitoba undergraduates taking introductory psychology. All subjects participated for course credit. Subjects were tested in groups and subjects in each group except controls were randomly assigned to either a noncontingent or contingent feedback condition, such that half of each group received the other condition. Lecturer expressivity and lecture content conditions were also randomly assigned to groups. Each testing session (or each group tested) was comprised

of anywhere from 12 to 16 subjects and sessions were run until each experimentsl and control cell had approximately 20 subjects.

Design

The experimental design was a 3 x 2 x 2 complete factorial matrix. This involved 3 levels of feedback for analogy test performance (contingent, noncontingent, and no feedback control), two levels of quantity of lecture material (high, low), and two levels of lecturer expressvity (high, low). The intended design for analysis was a 3 x 3 x 2 x 2 complete factorial matrix with a performance expectation factor (low, medium, high) assessed using a questionnaire. Analyses including this variable were determined by the orthogonality of responses to the preexperimental expectation item. Subjects did not divide evenly on this item as approximately two-thirds of all subjects had average preexperimental expectations. The low and high expectation split was much closer to being equivalent. Thus only a 2 x 3 x 2 x 2 analysis could be carried out, as inclusion of average level of expectation would have severely violated orthogonality assumptions.

Apparatus and Materials

The experimental questionnaires employed were Likert-type, and assessed performance expectations and the amount subjects felt their performance would be due to motivation, and the teacher's ability, as well as the four commonly utilized attributional items of ability, effort, luck, and task difficulty. The specific format of these questionnaires may be seen in Appendix A.

The analogies test was devised as a result of an item analysis so that it contained 40 analogies, 20 of which more than 50% of a test sample had gotten correct and 20 of which less than 50% had gotten correct. These items were than bound into a booklet made to appear standardized and "professional looking". A false copyright and other characteristics of psychological tests were included. See Appendix B for an example of the test.

Immediate feedback for analogies performance was in the form of an answer sheet developed by the Instructional Research Laboratory at the University of Manitoba. Chemical carbons, supplied by Effective Learning Incorporated, permitted the laying down of invisible answers to multiple-choice questions. Subjects were required to respond to these analogy items by stroking over their selected item alternative and thereby exposing the answer. In this way they received immediate feedback as to whether or not they had chosen the correct alternative. In order for the answers to be exposed, subjects had to respond with a special yellow ink marker, supplied by A. B. Dick Company. One group received contingent feedback. That is, when they chose a response, whether or not they got the correct answer depended entirely upon their own ability. The other group received non-contingent feedback. When they responded, whether or not they received an answer that was ostensibly correct depended entirely upon the placement of the correct and incorrect marks by the experimenter. For twenty of the fourty items, all response alternatives were labelled correct, such that no matter which alternative was selected, the subject received positive feedback.

For the other twenty items, all response alternatives were labelled incorrect, such that no matter which alternative was selected, the subject received negative feedback. In each case the purpose was to achieve response-outcome independence. Appendices Ca and Cb contain examples of contingent and noncontingent feedback respectively, with the answers fully exposed.

The four lectures (high expressiveness - high content, high expressiveness - low content, low expressiveness - high content, and low expressiveness - low content) and the tests based upon them were developed by Naftulin, Ware, and Donnelly (1973). The lectures were on a topic that few of the subjects had any knowledge of, namely the biochemistry of memory. All lectures covered the same material but the low content lectures only contained about one-third of the information that was in the high content lectures. They were videotaped in black and white with the help of a professional actor as the lecturer and were shown on a 23" Electrohome Television Monitor and played via a Sony reel-to-reel videotape player.

Procedure

A total of 266 subjects were tested in groups ranging in size from 12 to 16 subjects, and involving a total of 18 testing sessions. Each session was randomly assigned to one of 12 treatment conditions (8 experimental and 4 control groups). For the eight experimental conditions, half of the subjects in each experimental session were in the noncontingent feedback condition. This was assured by having persons in alternate seats receive the contrasting forms of the answer sheets. Thus a person in one seat would have the contingent feedback answer sheet, while his

neighbors on either side would have the noncontingent feedback sheet. Subjects entered the session and were asked to sit down where there were materials laid out. In the experimental conditions, the materials required up to the point of lecture presentation were laid out on the desks before subjects entered the session. Cheating or overlooking of a neighbor's material was prevented by having subjects sit only where there were handouts and having these spaced at least one desk apart. The laboratory was made classroom-like by using a row-after-row arrangement of desks, such that 30 seats were available in the room, all facing the front.

All subjects received instructions describing the general rationale for and procedures involved in the experiment (see Appendix D). In the experimental conditions, each was given a brief description of what analogies test were and then was given a preexperimental attribution and expectation questionnaire (see Appendix A) followed by a written description of the format. When all subjects had completed the preexperimental questionnaire and read the description of the analogies test, each was given an analogies questionnaire booklet and a response booklet accompanied by a special marker. Half of the response booklets in each session contained noncontingent feedback. Twenty-five minutes were allowed to complete the 40 analogies questions. At the end of this time, the test and questionnaires were collected and subjects again completed the Likert-type attributional and perceptions of achievement questionnaire.

Experimental subjects were then briefed on and presented with one of the four 25 minute lectures. After the lecture they made ratings of the lecturer's teaching effectiveness and of their

achievement expectations. They then answered a 26 item multiple-choice test based on the lecture content. Finally, the subjects filled out an attributional questionnaire, were debriefed, and given their experimental credit.

Control subjects received the same initial overview of the experiment. Their overview, however, excluded the pretreatment material and thus the post analogies attributional questionnaire associated with it as well. The preexperimental questionnaire was followed by the presentation of one of the four lectures and its subsequent test and attributional questionnaire.

Results

Analyses for the present study employed statistical packages from the standard manuals of SPSS, BMD, and Jeremy Finn's Multivariate manual. A variety of analyses were employed and each will be referred to as it arises. Expectational items were considered to be questions about expected future achievement. Perceptions were considered to be items relating to how well the subject felt s/he had done on preceding tasks. Attributions were considered to be items probing the subjects' perceived source of achievement. Six subjects were discarded for various reasons, which ranged from illness during the session to being incapable of following instructions. The remaining 266 subjects were included in the following analyses.

Overview

This overview is included to summarize the major findings of the present study. The results will be presented in three parts: Phase I or feedback results; Phase II or lecture test results, including both

independent analysis of the Phase II factors' effects and analysis including their interactive effects on the already existing cognitive states created by the Phase I manipulation; and time change results. The major Phase I finding was that the feedback manipulation produced cognitive or attributional evidence of learned helplessness in subjects receiving noncontingent feedback. This was true both by omnibus MANOVAs and by more detailed specific analyses. Phase II or lecture test results indicated that for the expressiveness factor per se, achievement differences approached significance in the predicted direction. Subjects viewing high expressiveness lectures tended to score higher on the Time 3 achievement test, but this difference was not statistically significant. Content consistently produced the predicted effects for both achievement and attributions. High content resulted in higher achievement scores and more internal attributions than low content. Overall results indicated that the predicted two-way interaction between feedback and expressiveness did not occur. The predicted changes in expectational ratings did, however, with subjects who had noncontingent feedback decreasing their expectations of success; while those who received contingent feedback in Phase I increased their expectations of success.

Phase I: Analogy Test Feedback

In the first phase subjects completed an eight item preexperimental questionnaire. Two of the first four items asked how subjects expected to do on the analogies test, a third item was an attribution to the importance of motivation, and a fourth simply asked how positively subjects felt about the upcoming test. The latter four items asked for attributional ratings of achievement for the upcoming analogies test. Two of these four items were ratings of external responsibility, i.e., task difficulty and luck, and two were internal, i.e., effort and ability These four are

the four most common to attributional research in general, and were measured at several points during the experiment. For overall internal and external ratings, the scores fro the two items in each category were summed for each subject.

It was predicted that no rating differences would occur between feedback groups a priori. When the two external and the two internal items were summed, however, and the sum scores compared between groups, it was found that the subjects who were to receive contingent feedback made more external attributions a priori $F(1,169) = 5.1$, $p < .025$. Due to the large number of dependent variables measured and because randomization was employed, it was assumed that this difference was simply a chance occurrence (i.e., with 'p' examined at the .05 level at least one of 20 measures should be significantly different between groups by chance). This assumption was supported by an ANCOVA, which demonstrated that for the "corrected" dependent variable scores (i.e., the scores reanalyzed without the extraneous variance that existed when an ordinary ANOVA was carried out),there were no significant between group differences a priori. For the motivational, expectational and feeling items and for all four attributional responsibility items as examined independently (i.e., not summed to form any combined score) and taken before the start of the experiment, ratings between groups were similar.

After the analogies test, a tense change made one of the expectation items become a perception of achievement item. The feeling item also became a perception item, thus leaving the attribution to motivation item and the four commonly employed attribution items. These four were again examined separately from motivation. As shown in Table 2, significant differences were found on both perception and achievement

questions and on three of the four common attributional items. Neither the attribution to motivation item (an internal, unstable dimension), nor the expected future performance differed between groups. The means, however, were both in the predicted direction, with the contingent subjects' ratings higher than those of noncontingent subjects. Both of the perception of achievement item differences were in the predicted direction. In other words, subjects with contingent feedback perceived themselves to have done better and to have had more success with the analogies than the noncontingent feedback subjects.

Of the four common attributional items, both internal items were significantly different between groups, and in the predicted direction. Contingent feedback subjects felt that their ability and effort were both more responsible for their achievement than did the noncontingent feedback subjects. Of the two external items, luck and task difficulty, only the latter discriminated between groups, and it did so in the opposite direction from prediction. That is, contingent feedback subjects rated the task as more difficult than did the noncontingent feedback group. More detailed examination of this item, however, revealed that while the Time 2 (post analogy) measure was not directly in accord with predictions, the change effected from Time 1 (preexperimental ratings) to Time 2 indicated that ratings for this item did change as predicted. This finding will be elucidated later in this section.

Based on the attributional data it appears that a cognitive state of helplessness was created in the noncontingent group. While this group did not view their analogy test achievement as significantly more externally created than did the contingent feedback group, they did view their achievement as less due to internal factors or those factors over which they had personal control, than did the contingent feedback subjects. As

Table 2

Post Analogy Achievement, Perceptions Expectations, and Attributions

Perceptions and Expectations	Contingent	Noncontingent	F	p
How you did	2.51	2.19	4.98	.027
Expected Performance 2	3.01	2.87	1.49	.224
Success on Analogies	2.67	2.19	9.87	.002
Attributions				
Motivation 2 *	3.02	2.90	.59	.442
Your Ability	3.79	3.30	11.20	.001
Effort	3.63	3.76	5.77	.017
Luck	2.60	2.65	.09	.770
Task Difficulty	4.15	3.86	3.98	.048

*This item was examined separately from the four main or common attributional items.

seen in Table 2, subjects in the noncontingent feedback group rated their achievement as significantly less due to ability, $F(1,169) = 11.20$, $p < .001$; and effort, $F(1,169) = 5.77$, $p < .017$; than did the contingent feedback subjects.

Rating differences on the external factors did not directly support predictions. While the luck rating was in the predicted direction i.e., noncontingent subjects rated it as more important, it was not significant. Task difficulty on the other hand, was rated as significantly more responsible for achievement by the contingent feedback subjects. When the two internal and the two external ratings were combined to examine overall internal and external ratings the difference between groups increased for the internal ratings combined (i.e. ability and effort), $F(1,169) = 12.26$, $p < .001$, and was eliminated for external ratings combined, $F(1,169) = .932$, $p < .336$. The second part of this finding is important for it demonstrates how a significant difference has been eliminated and thus supports hypothesis 1 indirectly. More direct support comes from examining ratings of external control as they change from Time 1 (preexperimental) to Time 2 (postanalogy). When the attributional changes for the feedback factor are examined over time from preexperimental ratings to post analogies attributions (Figure 4), it can be seen that both the contingent and noncontingent groups decreased their ratings of internal achievement responsibility from Time 1 to Time 2. The noncontingent group, however, decreased their ratings more than did the contingent group. In fact, the decrease was significant for the noncontingent group but not for the contingent group.

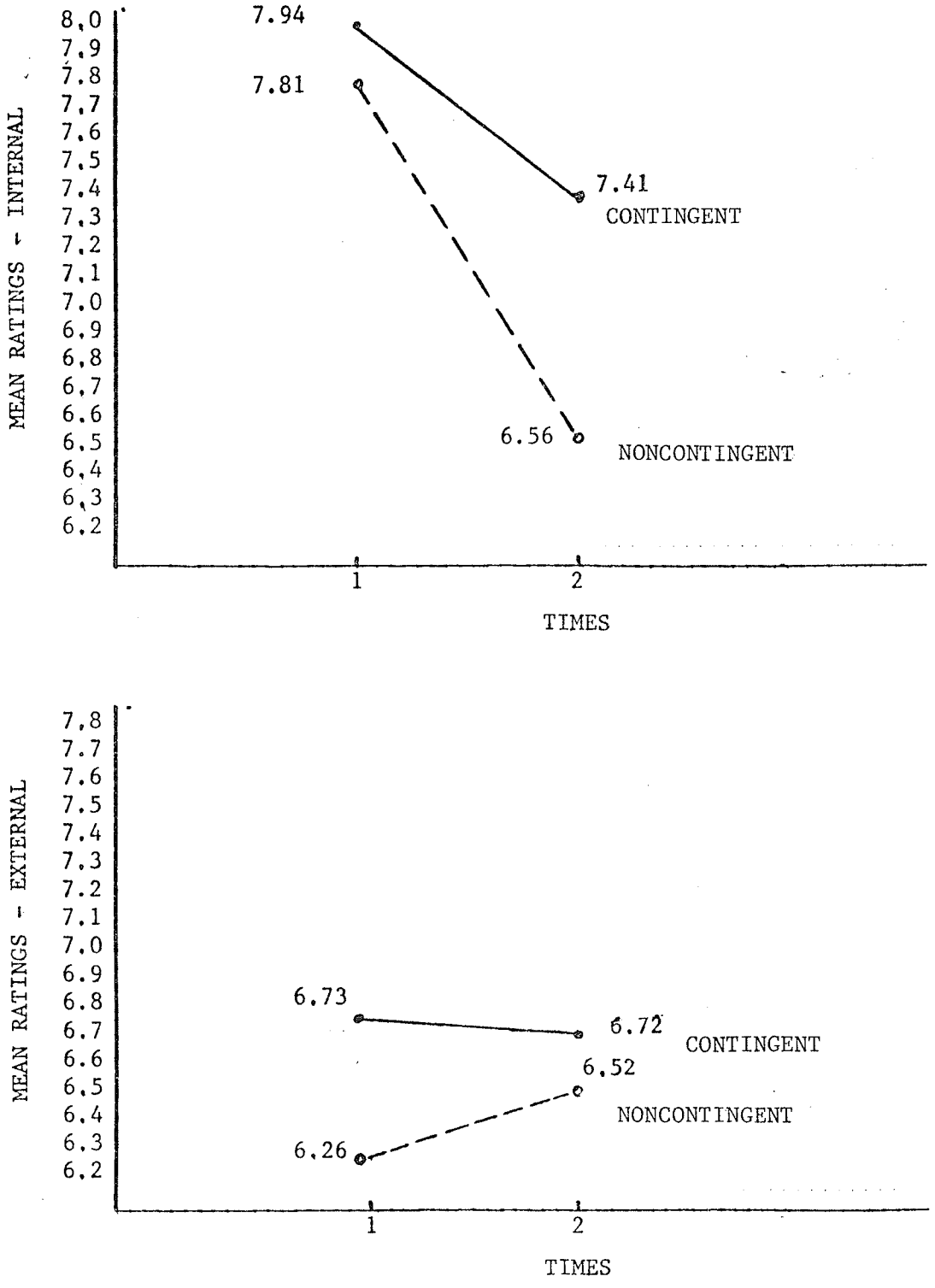

Figure 4: Changes in Attributions Over Time for Feedback Groups

The change in external ratings is more important for present purposes and might partially account for how and why the external ratings difference that was predicted by hypothesis 1 was not found as a result of the initial analysis. As already stated, an ANCOVA illustrated that the a priori difference between feedback groups on their external ratings was specious. Neither the group that was to receive the contingent feedback nor the group that was to receive the noncontingent feedback was preexperimentally more external than the other. Figure 4 illustrates that the feedback manipulation did not alter the external ratings for the contingent group, but did significantly increase ratings of external responsibility for the noncontingent feedback group, $\underline{t}(94) = 2.43$, $\underline{P} < .05$. This finding may explain the complete lack of external rating differences between the feedback groups at Time 2. The same finding also offers support for the first hypothesis that noncontingent subjects view themselves as more helpless than the contingent feedback subjects at Time 2, and adds the more complete information that their ratings become more external and less internal from Time 1 to Time 2 than occurs for the contingent feedback subjects.

Although pilot testing suggested that three preexperimental achievement expectation groups (low, medium, high) would develop, this split did not occur in the present experiment. Instead, over two-thirds of the subjects rated their expectations in the medium category, with the remaining one-third dividing themselves relatively equally between the high and low ratings. In order to avoid violating orthogonality assumptions, only the high and low groups could be compared.

The Phase I expectation hypothesis was that the interaction of noncontingent feedback during pretreatment and high expectations a priori would produce the most helpless ratings, while that of contingent feedback and low expectations would produce the least helpless ratings. The analysis of expectations per se did show a significant effect on the difficulty item, $\underline{F}(1,58) = 8.75$, $\underline{p} < .005$, with subjects who had low preexperimental expectations rating the subsequent test as considerably harder (Mean = 4.50) than subjects who had high preexperimental expectations (Mean = 3.63). The direct test of the interaction of feedback and expectations again demonstrated an effect only on the difficulty item, $\underline{F}(2,168) = 5.97$, $\underline{P} < .003$. Here the ranked order of difficulty ratings was as follows: contingent-low (Mean = 4.67), noncontingent-low (Mean = 4.29), contingent-high (Mean = 4.00), and noncontingent-high (Mean = 3.30).

This effect is the opposite of prediction, with the high expectation subjects who received noncontingent feedback rating the test as the easiest. This might be interpreted as reactance. It seems possible that since high expectation subjects rated the test as easier than did the low expectation subjects, particularly for the noncontingent group, that subjects with high expectations may be more willing to own personal responsibility for academic achievement than are those with low expectations. Also, noncontingent feedback subjects were primed to expect an easy test. Despite the fact that their performance could not match what they were told was the norm, they may have simply decided that internal factors were irrelevant. Further research is needed to examine these possibilities.

Phase II: Lecture and Test Results, Including Interactive Effects on Existing Phase I Cognitive States

Content A MANOVA demonstrated a large main effect of lecture content on post lecture attributional ratings, expectations, and lecture test achievement, $F(18,237) = 6.03$, $p < .0001$. More specific analyses demonstrated support for the achievement hypothesis. That is, the high content group obtained a significantly higher score on the achievement test than did the low content group, $F(1,254) = 63.46$, $p < .0001$. Analysis of the post lecture test attributional measures, as seen in Table 3, demonstrated that when all items were analyzed separately, internal attributions at Time 3 (post lecture test) did not differ between content conditions. While both ability and effort were rated as less responsible for achievement by the low content group, individually analyzed these differences did not reach significance. When summed to produce the more complete overall internal score, the difference between high and low content groups was significant and in the predicted direction, $F(1,264) = 2.70$, $p < .05$, with the high content group rating their achievement as more internally produced than did the low content group. External attributions differed significantly, in the predicted direction, $F(1,264) = 12.38$, $p < .001$. This effect also held when these items were analyzed independently, as luck, $F(1,254) = 6.62$, $p < .01$; and task difficulty, $F(1,254) = 6.34$, $p < .01$. When summed, the ratings also differed as predicted, with the low content group rating their performance more externally than the high content group, $F(1,264) = 12.38$, $p < .001$. A third external attributional item added to the posttest or Time 3 questionnaire was an item referring to the extent that teaching ability was felt to be responsible for academic achievement. The response to this item

Table 3

Mean Post Lecture (Time 3) Attributional Ratings and Achievement

Measure	Expressiveness		Content	
Means	High	Low	High	Low
Ability3	3.23	3.28	3.27	3.12
Effort3	3.68	3.63	3.75	3.55
Teaching Ability3	3.82	4.11 *	3.88	4.05
Your luck3	2.61	2.75	2.48	2.88 **
Difficulty3	3.94	3.87	3.75	4.06 **
Test Score	12.56	11.79	13.88	10.48 ***

* $p < .05$

** $p < .01$

*** $p < .0001$

was in the predicted direction (Mean for low = 4.05, for high = 3.88), but did not significantly differentiate between content levels.

Attributions also changed over time, as illustrated in Figure 5. The critical comparisons on Figure 5 are of Time 2 to Time 3, or post analogies to post lecture test. Note that because one manipulation has already occurred, if significant attributional differences existed between content or expressivess at Time 2 (although none did occur), it would be possible that the effect was not specious but rather was due to the feedback manipulation. These comparisons involve a direct examination of the effects of the content manipulation. After the achievement test, internal ratings dropped significantly for the low content group, $t(85) = 3.3$, $p < .005$, while they increased, although not significantly, for the high content group. Also, after the achievement test, the low content group's external ratings increased, although not significantly, while the high content group's external ratings decreased significantly, $t(85) = 4.0$, $p < .005$.

Expressiveness Expressiveness also demonstrated a significant overall main effect on ratings in general, $Fm(18,237) = 7.03$, $p < .0001$ (see Table 3 for means). Achievement differences were in the predicted direction (i.e., high expressiveness resulted in higher scores than low expressiveness), but differences were not statistically significant. Individual analyses of the four common attributional items at Time 3 indicated, as predicted, that there were no statistically significant differences between groups for the attributions to ability, effort, luck, or task difficulty. An interesting finding did occur for another external attributional item that was included, namely the importance of teaching ability. This measure was taken both after the lecture but before

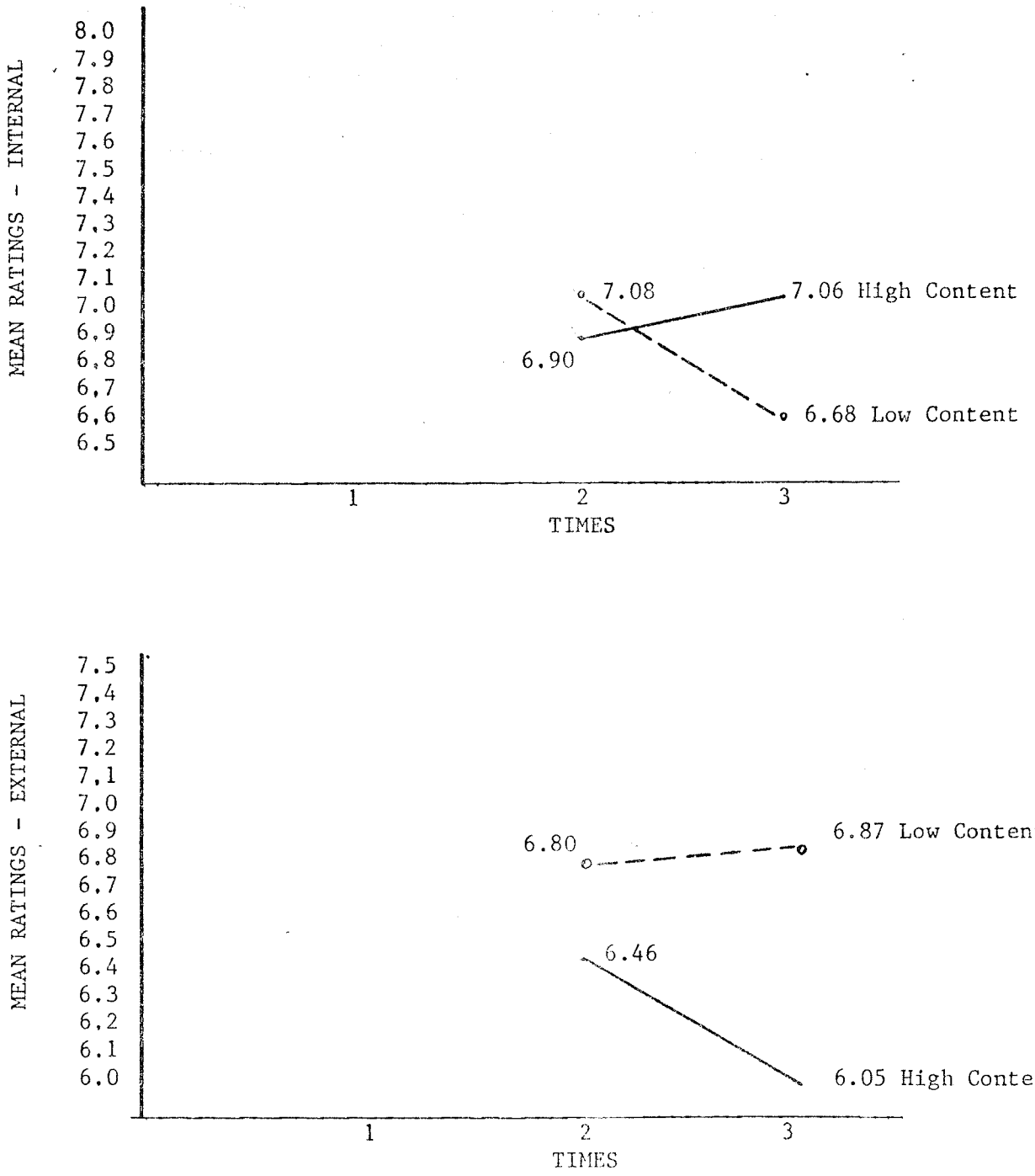

Figure 5: Attributional Changes for Content Groups

the test and again after the test had been taken. At both times the low expressiveness group rated the instructor as significantly more responsible for achievement than did the high expressiveness group, $\underline{F}(1,254) = 5.41$, $\underline{p} < .020$, and $\underline{F}(1,254) = 5.00$, $\underline{p} < .020$, respectively. This suggests that the way an instructor lectures may influence how much his students perceive him to be responsible for their academic achievement.

Although it would seem natural to expect that subjects with the low expressiveness lecturer would rate him as negative, several measures taken after the lecture, but before the test demonstrated unexpected results. For example, the low expressiveness group rated their achievement expectations as higher than the high expressiveness group, $\underline{F}(1,254) = 10.41$, $\underline{p} < .0015$, and finally the low expressiveness group felt more satisfied with the lecture than did the high expressiveness group, $\underline{F}(1,254) = 21.74$, $\underline{p} < .0001$. As Figure 6 illustrates, neither internal ratings nor external ratings changed significantly over time from Time 2 to Time 3 (the period during which the expressiveness manipulation was made) for either level of the expressiveness factor. Also, as with the other two manipulated factors, external ratings were generally lower than internal ratings. Unlike the other factors, expressiveness ratings of both levels paralleled each other closely enough that there were no significant differences between levels at any time for either internal or external ratings.

It should be noted at this point that, although many learned helplessness experiments have employed a no pretreatment control group, in the current study this group was not utilized for the same purpose that it commonly fulfills in helplessness studies. It seems that most studies involve this group in order to test for the existence of helplessness (i.e., to determine whether the group that is supposed to be helpless is actually debilitated in performance, or if the other experimental group is simply

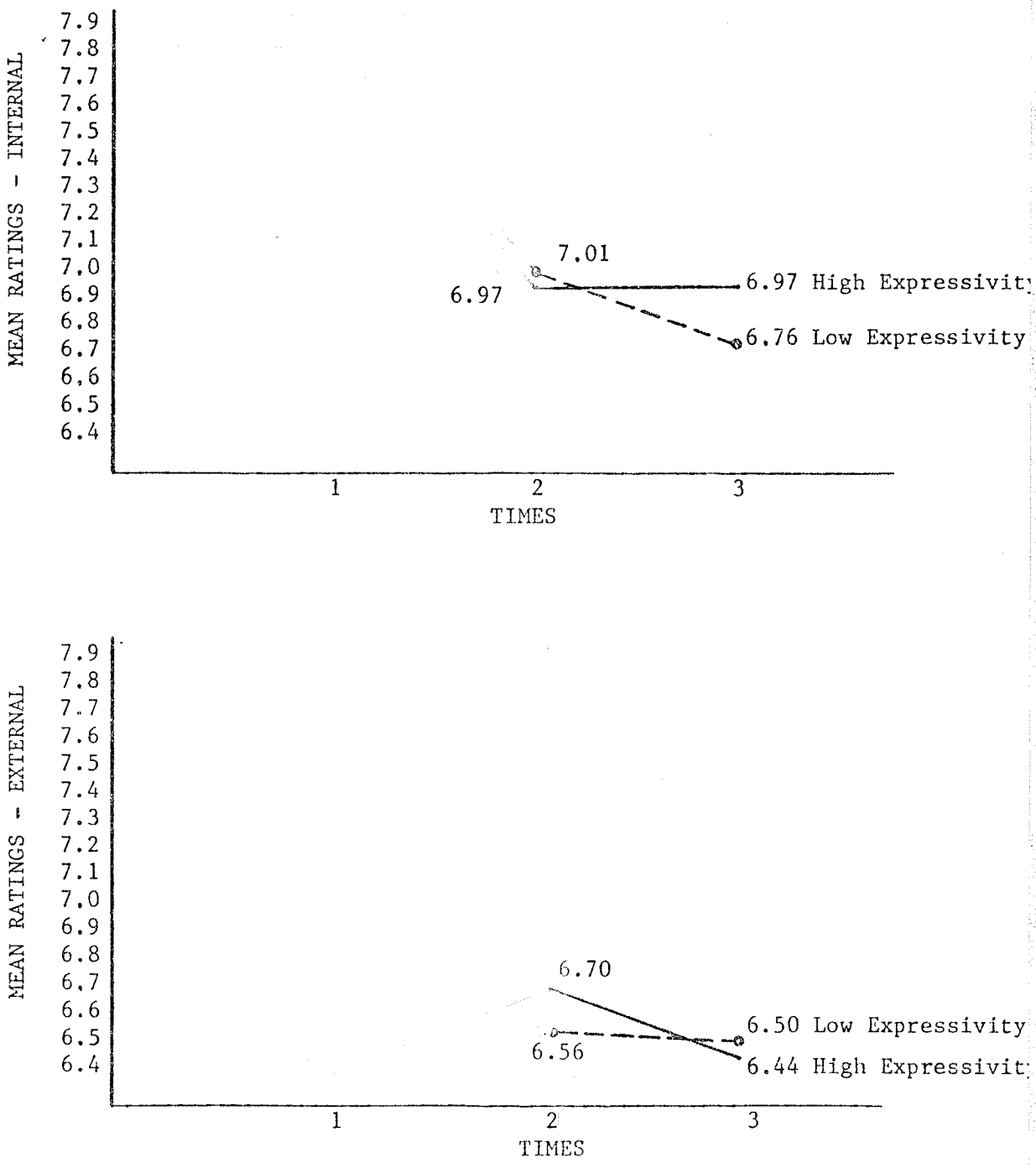

Figure 6: Attributional Changes for Expressiveness Groups

facilitated). The current study, however, contained preexperimental attributional ratings to compare with the post analogies ratings and with the other group. While this technique obviated the need for a no pretreatment control group, it also involved only attributional ratings after the initial manipulation was made and thus made the possibility of a direct post analogy test comparison with the treatment groups untenable. Such a direct comparison would have involved administering the same questionnaire twice. Although this was done for the experimental groups, for the control group it would have meant giving the questionnaire, collecting it, then giving it again. The purpose of the control group in the present study deviated from those commonly employed in that the present experiment required the control group for examination of the interaction of feedback and teacher characteristics on student achievement (see Figure 7). It was employed following the feedback manipulations in order to test whether the absence of any feedback was important.

Because of the large number of measures taken, and because we were more concerned with overall attributional differences at Time 3, the further effects of content and expressiveness upon the cognitive states created by Phase I were examined only for overall internal and external differences, rather than for each questionnaire item, and for achievement differences. An examination of Figure 7 indicates that for low content, little differentiation occurred between feedback or expressiveness conditions on the achievement measure. It would appear that low content did debilitate achievement, but to such an extent that it may have disguised the effects of the other factors.

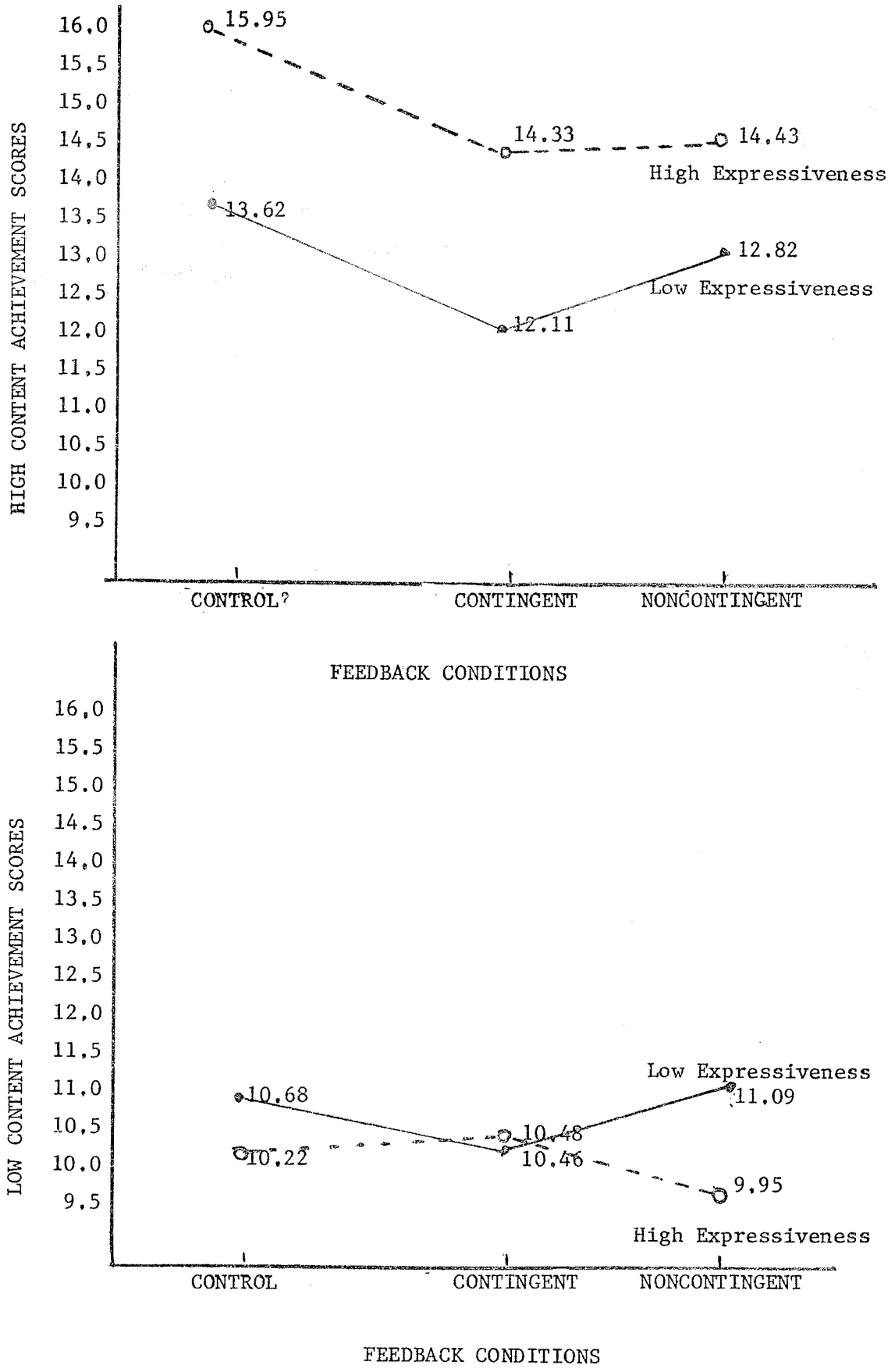

Figure 7: Interaction of Feedback and Expressiveness on Test Achievement

Since expressiveness and content were presented simultaneously, an interaction was predicted. When examined individually, the factors demonstrated interactional effects for student achievement, $F(1,254) = 8.83$, $p < .003$ and the overall interaction of content and expressiveness was also significant, both for an analysis including the control groups, $Fm(18,237) = 2.09$, $p < .007$ and for an anlysis that did not include the control groups, $Fm(26,138) = 1.60$, $p < .045$. For achievement, the interaction can be seen in Figure 8. This graph suggests that content differences had more of an effect that did expressiveness, although as already noted, both were significant changes. The order of the achievement when broken down over subjects was as predicted: high content-high expressiveness ($\bar{X} = 14.86$); high content-low expressiveness ($\bar{X} = 12.94$); low content-low expressiveness ($\bar{X} = 10.75$); and low content-high expressiveness ($\bar{X} = 10.22$). The difference between the latter two groups was not significant. The foregoing analyses were done on the Phase II manipulations alone, and thus the data were treated as if the Phase I manipulation had not occurred.

Direct testing of the effects that the teacher manipulations had upon the already existing states created in Phase I was done by examining both the overall interactions of feedback with both of the teacher variables and more importantly by examining specific planned comparisons. This of course was where the control group played its most important part as well. Omnibus interactions (i.e., involving all dependent variables) were not significant either when the one three-way interaction or the two two-way interactions were examined.

Tests of the hypotheses concerning these interactions and of planned comparisons were more illuminating. As predicted, there was a content main effect, both for internal attributions $F(1,84) = 4.9$, $p < .025$, and for external attributions $F(1,84) = 8.7$, $p < .005$, for the noncontingent feedback group. These effects may be seen in Figure 9. In addition, the shift upwards in internal

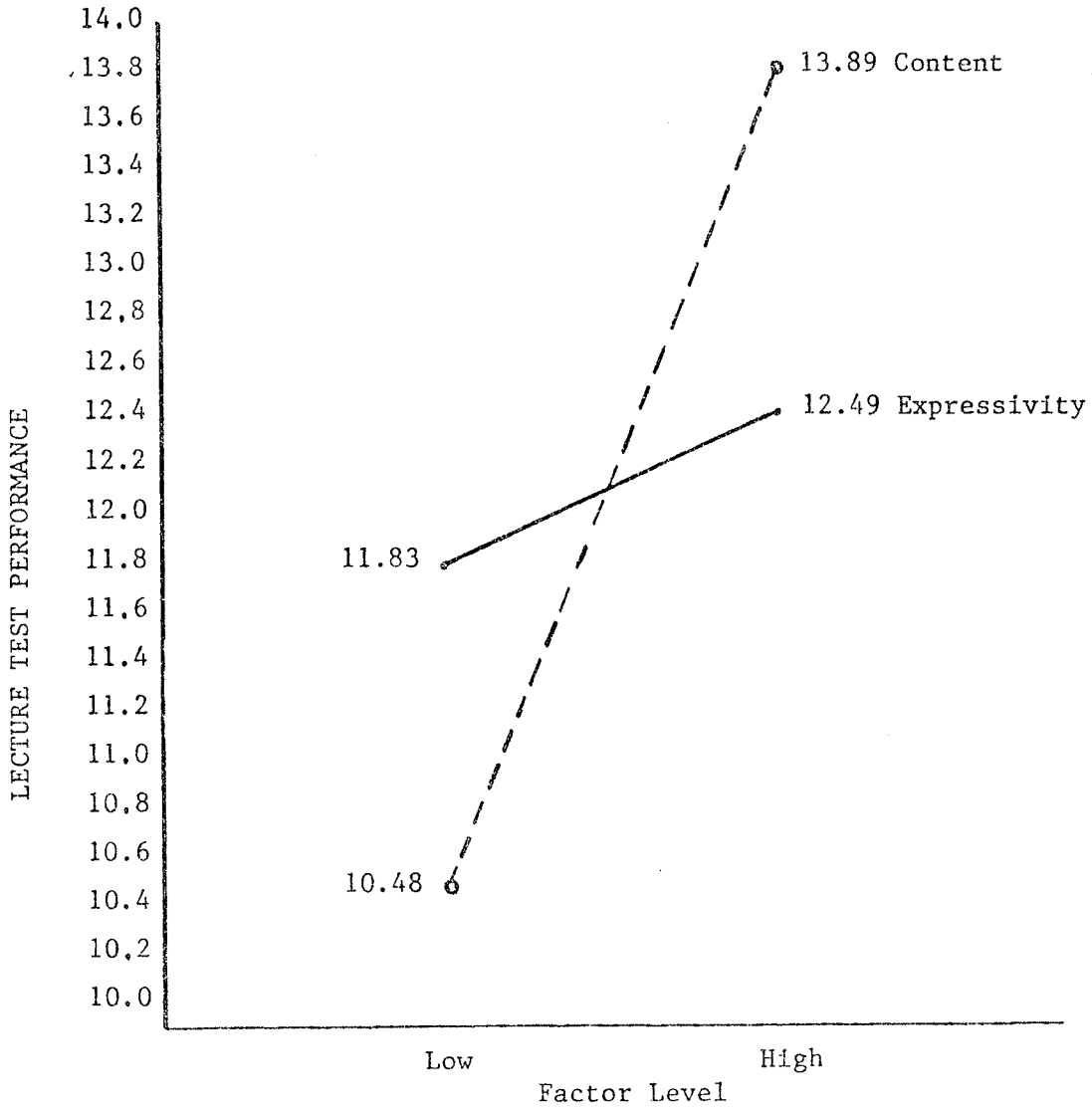

Figure 8: Interaction of Expressiveness and Content on Test Achievement

ratings and downwards in external ratings for the high content groups who had previously received noncontingent feedback (see Figure 9) were both significant changes, $F(1,84) = 4.7$, $p < .05$, and $F(1,84) = 7.0$, $p < .01$ respectively. The Phase II high content manipulation thus appears to have alleviated the cognitive state of helplessness produced in Phase I. Interestingly, the control group internal ratings at Time 3 (see Figure 9) dropped significantly from Time 2 for both the high and low content conditions $F(1,94) = 10.20$, $p < .005$, and $F(1,94) = 11.7$, $p < .005$, respectively, although the ratings did not differ between content conditions. Thus, it appears that regardless of the content of the lecture, the test based upon it was difficult enough for subjects who had not previously been cognitively debilitated to become somewhat this way after completing it. Control subjects' external ratings (see Figure 9) also increased significantly for the low content group $F(1,94) = 9.1$, $p < .005$. In conjunction with the drop in internal ratings for this same group, it suggests that a low content lecture alone may be capable of producing a cognitive state of helplessness. Contingent feedback subjects who received a low content lecture also significantly dropped their internal attributional ratings from Time 2 to Time 3 $F(1,85) = 6.4$, $p < .010$ (although their external ratings did not increase significantly) suggesting again that the low content manipulation was powerful enough to significantly decrease subjects' acceptance of personal responsibility in all but the already severely debilitated noncontingent feedback group. Contingent feedback subjects whith high content lectures, significantly decreased their external ratings $F(1,85) = 6.6$, $p < .010$(although their internal ratings changed nonsignificantly). Overall the content main effect at noncontingent was found, both for internal and external ratings, as well as for achievement (see Figure 7). Content main effects occurred at all feedback levels, as was predicted and fairly much

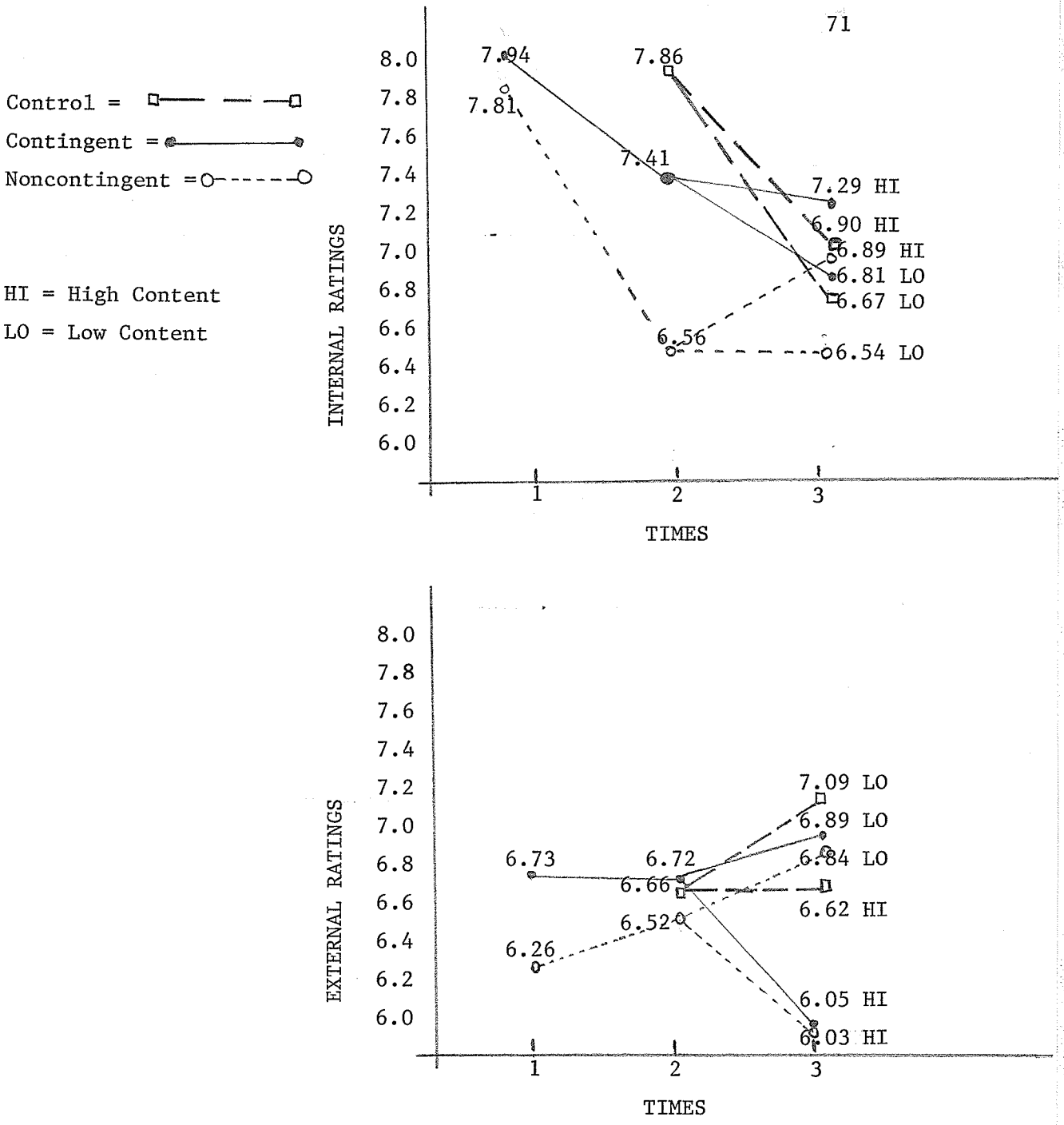

Figure 9: Further Effects of Content on Internal and External Attributions

guaranteed by the fact that the low content lectures ommitted two-thirds of the items necessary for the achievement test.

Due to the results of Perry et al. (1978) as well as because it was felt that the subjects who received noncontingent feedback in Phase I would be more attentive to the lecture, especially under high expressiveness conditions, it was predicted that an interaction would occur between feedback and expressiveness. Specifically, it was predicted that high expressiveness would create greater achievement than would low expressiveness for noncontingent versus contingent or control groups. Also, it was predicted that this would result in more internal attributions and less external attributions. As Figure 7 indicates this effect was not found for the achievement measures when examined over different content levels, nor when both content levels were collapsed. Further, no attributional differences occurred. No other two-way interactions involving feedback or any combination of the factors was found and no three-way interaction occurred.

Although it is by no means definitive or totally accurate, perhaps the most parsimonious picture of the overall further effects of teacher variables (both content and expressiveness) on the Phase I created states comes from collapsing across both teacher variables as shown in Figure 10. This illustration lends credence to the notion that the lecture and lecturer by themselves were of such a nature as to decrease internal attributional ratings for subjects who were not already helpless at Time 2 (i.e., the contingent and control groups). While only the control $\underline{F}(1,94) = 16.21$, $\underline{p} < .001$, and the contingent feedback $\underline{F}(1,84) = 3.5$, $\underline{p} < .05$ groups' internal ratings changes from Time 2 to Time 3 were significant of all the Time 2 to Time 3 comparisons, the noncontingent group in general displayed a tendency towards reactance, while the contingent group demonstrated a tendency away from attributions to the four

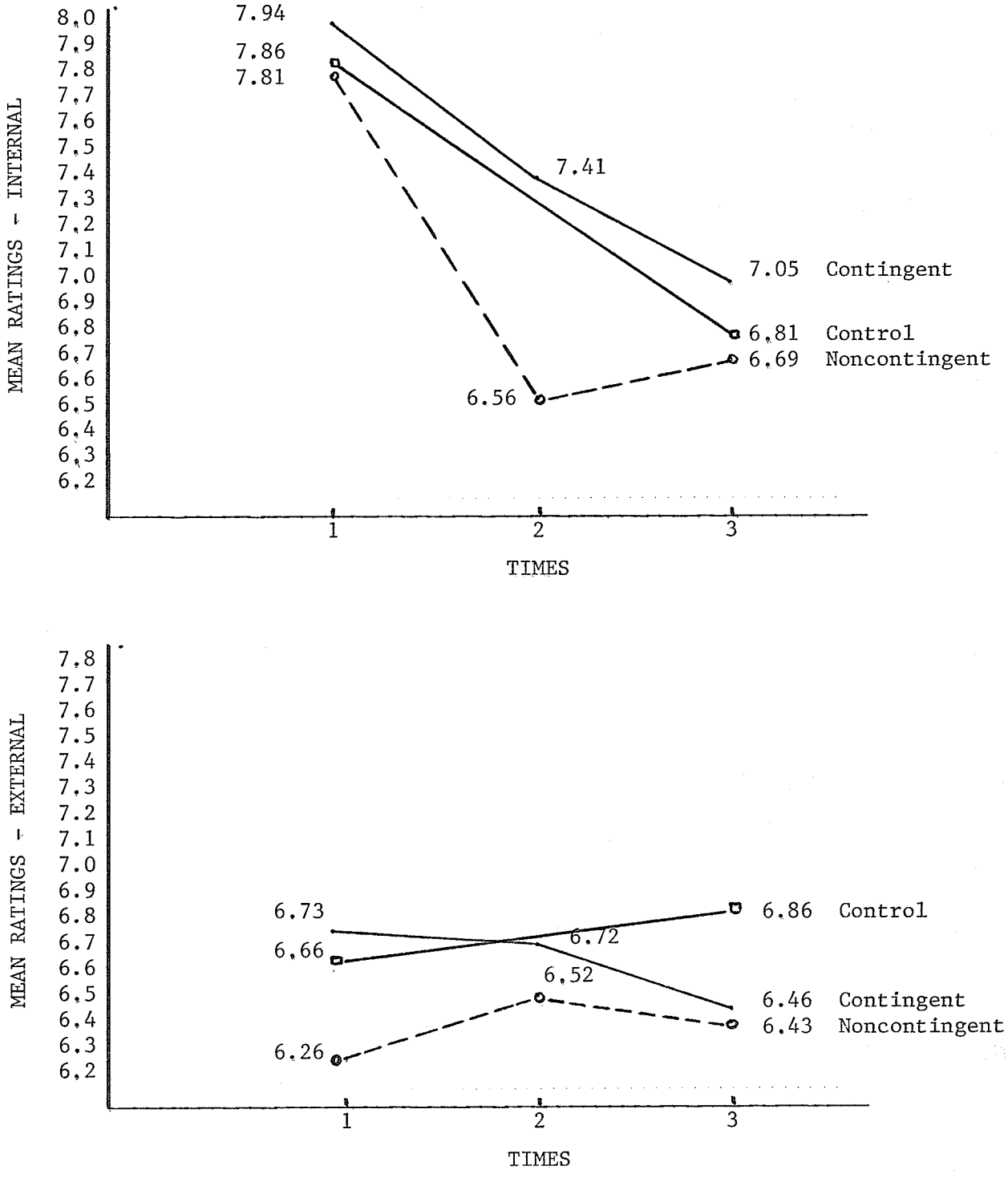

Figure 10: Changes in Attributions Over Time for Feedback Groups

common attributional items at all. Control subjects demonstrated a rather strong tendency towards helpless attributions. For the edification of the reader Table 4 has been presented as a breakdown of the specific three-way interactional effects for feedback x content x expressiveness on the internal, external, and achievement score dependent measures. These results, however, will not be discussed in any further detail.

Expectational Changes Across Experimental Phases

In terms of the predicted Phase I expectation effects of contingent feedback subjects increasing achievement expectations at Time 2 and noncontingent feedback subjects having decreased achievement expectations by Time 2, there was a significant repeated measures effect $F(1,163) = 4.70$, $p < .032$ (see Table 5), which was in the predicted direction. This measure (analogy test expectation) was only taken twice and actually represents a pre- and post-measure. On the other hand, lecture test expectations were measured at three different times through Phases I and II, all prior to the actual presentation of the test. As seen in Table 6 there were various significant effects on expectations from one measurement to another and overall effects occurred as predicted for feedback $F(2,326) = 3.11$, $p < .046$, and expressivity $F(2,236) = 4.94$, $p < .008$. Though not predicted, there was also a significant interaction of expressivity and content $F(2,326) = 3.82$, $p < .023$. Interestingly, noncontingent feedback subjects decreased their expectations of success after the analogies test or from Time 1 to Time 2, but they increased or regained their expectations of success from Time 2 to Time 3 (i.e., after viewing the lecture but before taking the test). Generally, the noncontingent groups had their highest expectations of success at Time 3 (i.e., subjects who had noncontingent feedback in Phase I, then any combination of the two teacher factors in Phase II had their highest expectations after Phase II).

Contingency	Content	Expressiveness	Achievement	Attributions	
Contingent	High	High	14.33	Internal	7.08
Contingent	High	High		External	6.25
Contingent	High	Low	12.11	Internal	7.50
Contingent	High	Low		External	5.84
Contingent	Low	High	10.47	Internal	6.76
Contingent	Low	High		External	6.81
Contingent	Low	Low	10.45	Internal	6.86
Contingent	Low	Low		External	6.96
Noncontingent	High	High	14.43	Internal	7.05
Noncontingent	High	High		External	6.24
Noncontingent	High	Low	12.82	Internal	6.72
Noncontingent	High	Low		External	5.82
Noncontingent	Low	High	9.95	Internal	6.95
Noncontingent	Low	High		External	6.50
Noncontingent	Low	Low	11.09	Internal	6.13
Noncontingent	Low	Low		External	7.17
Control	High	High	15.95	Internal	6.65
Control	High	High		External	6.40
Control	High	Low	13.62	Internal	7.15
Control	High	Low		External	6.81
Control	Low	High	10.22	Internal	6.93
Control	Low	High		External	7.04
Control	Low	Low	10.68	Internal	6.41
Control	Low	Low		External	7.14

Table 4: Breakdown of Attributions and Achievement Over All Three Factors

	Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Tail Probability
	R	57.19124	1	57.19124	93.51	0.00
	RF	2.87347	1	2.87347	4.70	0.032
	RE	0.63029	1	0.63029	1.03	0.312
	RC	0.60550	1	0.60550	0.99	0.321
	RFE	0.03694	1	0.03694	0.06	0.806
	RFC	0.06062	1	0.06062	0.10	0.753
	RFC	0.32626	1	0.32626	0.53	0.466
	RFEC	0.05084	1	0.05084	0.08	0.773
2	ERROR	99.68976	163	0.61159	-	-

R = repeated F = Feedback E = expressiveness C = content

Table 5: Repeated Measures of Analogy Expectation Changes

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Tail Probability
R(1)	0.49467	1	0.49467	0.65	0.420
R(1)F	0.13689	1	0.13689	0.18	0.671
R(1)E	2.21381	1	2.21381	2.92	0.089
R(1)C	0.01076	1	0.01076	0.01	0.905
R(1)FE	0.00429	1	0.00429	0.01	0.940
R(1)FC	2.32892	1	2.32892	3.07	0.082
R(1)EC	4.02092	1	4.02092	5.30	0.023
R(1)FEC	0.00005	1	0.00005	0.00	0.994
ERROR	123.55089	163	0.75798	-	-
R(2)	4.70468	1	4.70468	10.05	0.002
R(2)F	3.68166	1	3.68166	7.86	0.006
R(2)E	3.84770	1	3.84770	8.22	0.005
R(2)C	0.61998	1	0.61998	1.32	0.251
R(2)FE	0.00238	1	0.00238	0.01	0.943
R(2)FC	0.12421	1	0.12421	0.27	0.607
R(2)EC	0.66820	1	0.66820	1.43	0.234
R(2)FEC	0.07381	1	0.07381	0.16	0.692
ERROR	76.30330	163	0.46812	-	-
R	5.19936	2	2.59968	4.24	0.015
RF	3.81854	2	1.90927	3.11	0.046
RE	6.06151	2	3.03075	4.94	0.008
RC	0.63074	2	0.31537	0.51	0.598
RFE	0.00667	2	0.00333	0.01	0.995
RFC	2.45313	2	1.22656	2.00	0.137
REC	4.68912	2	2.34456	3.82	0.023
RFEC	0.07385	2	0.03693	0.06	0.942
2 ERROR	199.85419	326	0.61305	-	-

R = repeated F = feedback E = expressiveness C = content

Table 6: Repeated Measures Analysis of Lecture Test Expectations

Discussion

The present study manipulated college achievement feedback situations in an attempt that successfully created the cognitive or attributional state of learned helplessness. It then examined the effects that the teacher characteristics of lecture content and lecturer expressiveness had upon helplessness. This was done in order to ascertain whether or not either of these characteristics would alleviate or further engender helplessness. The results indicated that after cognitive helplessness had been created, only the content factor further affected the behavioral measure of helplessness, namely lecture test achievement, but attributional measures were affected by the content and expressiveness factors. Furthermore, as a result of the experimental exposure to these naturally occurring variables, subjects' expectations of future success were affected.

Preexperimentally, when the attributional items were summed to form internal and external scores, subjects who were to receive contingent feedback rated their atrributions of success siginificantly more externally than those who were to receive noncontingent feedback. When examined as independent items, these differences disappeared. Thus the problem resulting from the a priori combined score difference is mentioned only because it relates to the lack of significant differences between groups on external ratings after Phase I, when the summed score was validly created.

After Phase I or the analogy test, the results as seen in Table 2 indicated that a cognitive state of helplessness had been created. Subjects with contingent feedback on the analogy test perceived themselves both to have done better and to have been more successful at the task than did the noncontingent feedback subjects. This occurred despite the fact that as a group, a number of the contingent feedback subjects actually attained lower test scores than

the noncontingent subjects(all of whom received 20 correct if they answered all 40 items). The fact that the two different groups were primed to believe that their task was either easy (noncontingent group) or difficult (contingent group) combined with the contingency of feedback, seems to have had a stronger cognitive effect on the subjects than did their actual attained scores. This finding alone suggests that instructors may have a degree of control over students' anxiety levels, study habits, and ultimately their test scores or at least their perceptions of achievement, simply by talking about the difficulty level of an upcoming test. While the contingency factor differentiated between groups in terms of their perceptions of achievement, it did not significantly influence their expectations for future performance. The most obvious explanation for this is that the priming of subjects to believe they were getting either a simple or a difficult task may have instilled a cognitive set that caused them to set the preceding test apart from usual test situations. In other words, subjects may have felt that since the preceding test was presented either as very easy or as very difficult it was different from most other tests and thus was not indicative of what their future performance in testing situations would be like. It is also possible that because the situation examined was presented as a highly powerful academic indicator, subjects simply were cautious in their predictions. A check of responses to this item indicated that most were "expect to do about the same on future tests of a similar nature", which is the most conservative of alternatives.

The added attributional item of motivation also failed to discriminate between groups. Responses to this item were generally high and it seems that subjects were expressing that a great deal of motivation was involved. If a difference had been found, it would have been interpreted as a self-serving bias,

either that contingent subjects were expressing high motivation as a result of doing well, or noncontingent subjects were rationalizing why they did not. Both groups did about the same achievement-wise, however, and the other attributional results help to clarify how noncontingent subjects interpret their random pattern of reinforcement and contingent subjects interpret their overall achievement.

As predicted, the noncontingent subjects and the contingent subjects differed significantly in their internal attributional ratings. Noncontingent feedback subjects rated both ability and effort as significantly less contributory to their score than did contingent subjects. This lack of acceptance of personal responsibility, despite the fact that both groups averaged the same analogy test score indicates further support for the contention that noncontingent subjects were cognitively debilitated by the analogy test. The lack of contingency of feedback they received resulted in their feeling less in personal control of their outcomes than the contingent feedback subjects. If their ratings of external control had been significantly higher than the contingent feedback group, the noncontingent subjects could unequivocally have been labelled as being in a state of learned helplessness.

The external ratings, however, were not this clear cut. Rather, the luck rating failed to discriminate between groups at Time 2 (post analogy test) and the task difficulty item did so in the opposite direction from prediction. That is, contingent feedback subjects rated this item as more contributory to achievement than did noncontingent feedback subjects. A closer examination of the internal and external attributions clarified this apparent inconsistency as well as more fully delineating the attributional results. Firstly, an overall internal and external comparison between groups was called for in order to

determine the overall effects of the feedback manipulation. Such a comparison involved summing the individual internal and external scores. When this was done, the internal difference was greater than when analyzed separately and the external difference was not significant but was in the predicted direction. To get an even more complete picture, Time 1 to Time 2 comparisons were made. The important comparison for present purposes was the change in attributions to task difficulty.

Particularly important is the fact that preexperimentally the subjects in the group that was to get contingent feedback rated task difficulty as significantly more important than did subjects in the noncontingent group. As a result of the contingent feedback, these ratings dropped significantly, while noncontingent feedback subjects' ratings changed little. In a sense this effect not only supports the hypothesis regarding contingent and noncontingent subjects' post analogy attributions, but it may also point out a more direct and possibly more valid comparison in the test for helplessness or reactance, namely change scores. While little experimental research on helplessness per se (the depression studies have used the Beck Depression Inventory in a pre-post comparison fashion and most helplessness studies employ the no treatment controls for a similar purpose), has employed these measures, it could be argued that a direct comparison of the cognitive or emotional effect of a helplessness manipulation is the change in such states from pre to post testing.

In support of this arguement is the fact that while Time 2 differences existed between groups on most of the dependent measures, significant changes also occurred on many from Time 1 to Time 2. In fact, internal ratings all decreased from Time 1 to Time 2, indicating that while contingent subjects were left feeling in greater personal control than were noncontingent subjects

at the end of the analogies test, they also were feeling less in control than they had before the experiment started. This would seem to indicate that they agreed to some extent with the priming they were given about the analogy test (i.e., it was a difficult test). The fact that their overall ratings of external control did not change from Time 1 to Time 2 is interesting because when examined independently it may be seen that their attributions to luck increased slightly, while their attributions to task difficulty decreased significantly, resulting in an overall nonsignificant drop in external attributions. On the other hand, noncontingent subjects, who were told that their analogy test was easy, rated themselves as significantly less personally responsible for their performance than did the contingent subjects. This finding is in direct support of Roth and Kubal (1974), who told high helplessness training subjects that the tasks they were working on were getting easier as they went along.

Also, it contradicts Tennen and Eller's (1977) belief that telling subjects a task will be easy leads them to attribute their achievement or performance more internally. In the present study, subjects attributed performance less internally, suggesting that they may not have believed the task actually was easy. Importantly, subjects who received noncontingent feedback also increased their ratings of external attributional responsibility significantly after receiving this feedback. This indicates again, contrary to Tennen and Eller, that these subjects attributed their performance to external factors after being given noncontingent feedback, even when told their task was easy, rather than accepting personal responsibility. Thus, they demonstrated that

after Phase I they had learned that they were helpless to control their outcomes. This finding substantiates that of the Perry et al. (1978) study, which found that manipulating feedback contingencies for an analogies test was effective in creating helplessness. The present study also was important in demonstrating that helplessness could be created for a group of subjects at one time. In conjunction with the fact that different training and testing situations were employed, this gives it considerable external validity with reference to the college classroom.

The further effects that teacher variables might have on different cognitive states were examined by making comparisons across the three feedback conditions, for both teacher variables as well as for their interaction. Of the Phase II teacher characteristics manipulations (i.e., content and expressiveness), content was the more effective in creating differentiation between feedback groups. The overall picture that these results give is that decrements beyond the cognitive deficits engendered by the noncontingent feedback manipulation alone, resulted only from the manipulation of a variable which was directly related to achievement, that is, the amount of material presented to subjects. Attributions, on the other hand, were affected by subjects' expectations and perceptions, as well as by lecturer expressiveness and content level. Thus, while subjects took less responsibility for their performance after the Phase I analogy test, regardless of how well they actually performed on it, these attributions were not consistent with their future achievement or attributions. In relation to Seligman, Maier and Solomon's (1971) contention that expectations and perceptions determine helplessness, these findings demonstrate a phenomenon more consistent with

the attitude-behavior arguement common in social psychology. That is, expressed attitudes (or expectations and perceptions in this case) are not always consistent with behavior. Roth and Kubal (1974), and Wortman et al. (1976), for example, both demonstrated the inconsistencies that can occur. While Roth and Kubal (1974) found helpless behavior without helpless attributions, Wortman et al. (1976) found helpless attributions with reactive behavior. The present study further demonstrated inconsistencies with what Seligman et al. (1971) would predict.

It seems that while expectations, perceptions, and attributions are important, subjects do not necessarily respond behaviorally in keeping with their paper-and-pencil attributions. Post-test attributional measures indicated that above average achievement on the Phase II lecture test resulted in an increase in internal attributions along with a decrease in external attributions for subjects receiving noncontingent feedback in Phase I. Attributionally, this was interpreted as alleviation of helplessness. The fact that these ratings did not surpass those of the corresponding contingent feedback group or even more importantly of the control group, limits this beneficial effect on the noncontingent feedback group from being labelled as reactive. Since control subjects received no Phase I treatment, they provide the perfect comparison group for the noncontingent feedback subjects. Responses of the control subjects should be due entirely to the various cognitive sets subjects brought to the setting, whereas noncontingent subjects should have generally been in a cognitively helpless state after Phase I. Reactive responding is defined as responding with increased frequency, intensity, etc., from the normal. Thus to be responding reactively, the noncontingent group would have had to change their ratings so as to

be significantly more internal and significantly less external than the control group.

Initial achievement expectations, with respect to the scale scores, were average for the overall ratings and more positive or internal than negative or external for all groups of subjects(especially with regards to luck, which was rated as of little significance by all groups initially). After Phase I or the analogy test, whether it was presented as difficult or easy and regardless of actual performance, subjects decreased their internal ratings and either increased their external ratings, or maintained them at the preexperimental level. After Phase II, or the test based on the lecture, subjects who had had noncontingent feedback for Phase I increased in their perceptions of personal control and decreased external control perceptions (especially if they had viewed one of the high content lectures during Phase II), while contingent feedback subjects continued to decrease both internal and external ratings. Why it should happen that the contingent group should continue to decrease all ratings can only be speculated upon, but it is possible either that the contingent feedback subjects were becoming more helpless and the the external ratings drop was simply adventitious, or that they saw teaching ability (one of the external attributions available on the posttest questionnaire) as more important a determinant of their final test performance than they had earlier. Comparisons did show that they rated teaching ability as a more important factor postexperimentally than did the noncontingent group. Controls, who rated teaching ability the highest, in terms of its importance to student achievement in that particular situation, also scored the highest of all three feedback groups on the lecture test.

This finding of the no pretreatment control group scoring highest on the test phase achievement measure is consistent with other learned helplessness research, both human and infrahuman. It is a common finding in both that regardless of the manipulation that is performed, the no pretreatment control subjects tend to perform the best during the test phase of the experiment. It is also interesting to note that the control group attributions tended to fall inbetween those of the contingent and noncontingent groups, suggesting support for the author's notion that other earlier interventions interfere with future cognitive and behavioral states, regardless of feedback, and that achievement decrements may be partly due to fatigue and/or cognitive interference for the other two groups. It seems possible that the sheer lack of prior experimental stimulation may result in control subjects being more alert and attentive, with less interfering cognitions. This speculation does not necessarily detract from the integrative model, because depressed responding or depression per se both suggest a less alert and responsive individual whose cognitive fatigue, in accordance with the model, has a physical component. In fact this finding indirectly refutes the counter-arguement that the contingent feedback group is simply facilitated cognitively and emotionally to repond, for if these subjects had increased norepinehrine levels and were more alert, they should also have responded in like fashion on the behavioral achievement measure.

The attributional effects found in the present study suggest that the initial or Phase I "failure" for noncontingent subjects was strong enough to be perceived as a lack of control situation but either not

strong enough or not important enough to be behaviorally or cognitively debilitating in the long run. Instead, as predicted, reactance occurred. This was evidenced by the behavioral effect of superior achievement compared with the contingent group on the Phase II lecture test, as well as a concomitant increase of internal attributional ratings and a decrease in external ratings (c.f. Time 2). One possibility is that overt internal attributions drop in keeping with immediate performance decrements, yet subjects' motivation to do well stimulates them on to strengthened attempts on subsequent tasks. This explanation relies partly on Heider's (1958) balance theory ideas and assumes that behaviors can take precedence over "attitudes" or "beliefs". That is, the initial behavioral performance caused attributions of personal responsibility to decrease in order to restore balance. This attempt was not entirely successful because as Brehm (1972) would state, it threatens behavioral freedoms by deliminting subjects' perceptions of their academic ability. Subjects are thus motivated to respond with increased strength in order to restore their freedoms and in order to restore balance, must increase their internal attributions of responsibility as well.

Interestingly, Klein et al. (1976) found that if subjects attributed their immediate performance externally (particularly subjects receiving noncontingent feedback), their subsequent performance improved. In the present experiment, subjects had only one actual performance or achievement score, so all speculation must rely on attributional measures. As well, it would appear that what occurred for noncontingent feedback subjects in the present study might be classed as short term helplessness (as found by Dyck et al., in press). While these subjects decreased internal attributions and increased external attributions (demonstrating

helplessness) after the Phase I manipulation, they increased their internal attributions and decreased their external attributions (demonstrating alleviation of helplessness that could nearly be classified as reactance) after the Phase II manipulations, particularly if they had received one of the high content lectures. This finding is tempered by the fact that contingent feedback subjects decreased most of their ratings throughout the experiment.

Focusing on the noncontingent group leads to the speculation that for some subjects or under some conditions, a curvilinear relationship that is the reverse of that predicted by the integrative model may occur. In other words, rather than the hypothesized "∧"-shaped response curve, a "U"-shaped curve may appear at certain times. Note that the end-point of the former curve is helplessness and of the latter is reactance. Dweck (1973) found that with attributional retraining such that subjects learned to take more personal (internal) responsibility for success and failure, they improved their performance subsequent to failure. As already noted in the current study, it is possible that this study and the Klein et al. (1976) study may be demonstrating similar phenomena. Subjects may be overtly decreasing internal attributions and increasing external ones after failing at a task in order to restore balance and eliminate cognitive dissonance. Covertly, they may be attempting to take on personal responsibility in order to regain control of personal freedom and improve performance. Increased internal attributions then might be concomitant, subsequent, or even antecedent and also partly responsible for these increased attempts to regain control.

Dweck's subjects were children. Subjects in the present study were

university students who were possibly less susceptible to helplessness in the first place and who probably had had considerable experience with gearing themselves up or attributionally retraining themselves to succeed. The fact that all groups of subjects rated task difficulty as a highly important factor in determining their performance on both the analogies test and the lecture test, combined with the actual achievement differences found between feedback groups, lends credence to the idea that Phase I noncontingent feedback subjects were highly motivated or "psyched-up" for the Phase II lecture test.

Effects of the Phase II manipulations of lecture content and lecturer expressiveness were also interesting when considered independently. As hypothesized, the high content group achieved significantly better scores on the lecture test than did the low content group and the content manipulation was the only one to produce differential achievement. Since the low content lecture supplied only about 10 out of 30 teaching points necessary for the exam, it was almost guaranteed that this group would perform poorly. The low content group also perceived their lecture test performance as more externally controlled than either the high content group or than their own performance on the analogies test. Thus, for the content variable analyzed independently, helpless attributions were coincidental with helpless behavior.

The expressiveness variable demonstrated findings that were interesting in their consistency, while not at all consistent with the findings of the series of Ware and Williams' studies. After viewing the lecture, subjects who had seen the low key, dull, boring, or low expressiveness lecturer, expected to do better on the upcoming lecture test than

did subjects who had viewed the flashy and flamboyant or highly expressive lecturer. They also felt that they had learned more material from the lecture than did the high expressiveness group, and they felt more satisfied with the lecture and believed more strongly that teaching ability would determine their performance on the lecture test. Their internal and external ratings throughout virtually paralleled those of the high expressiveness group. Since actual test achievement did not differ either, it could be said that there were no indications of a difference between groups on the reactance-helplessness continuum for different levels of lecturer expressiveness, and that both groups exhibited mildly reactive behavior and made mildly reactive attributions. It shoud be remembered that this statement is made without reference to Phase I and thus the reactive behavior is defined simply by an increase in internal attributions and a decrease in external attributions from Time 2 to Time 3. The fact that low expressiveness subjects expressed pleasure and satisfaction with their lectures suggests that the lecture itself may have provided an impetus to change in a fashion different from that originally intended by the creators of the filmed lectures.

A variable examined in the present study which was unique to the area was the examination of changes in expectation during the ongoing experiment. As predicted, these changes were found both for the analogies test phase and for the lecture test phase and largely for the feedback factor. It is important to note that while Seligman's notion of expectations and perceptions determining behavior may have some degree of validity, in the current study subjects' expectations reflected

states rather than traits. That is, subjects appeared to have responded to the stimulus situation that they were directly involved in more so than to their barrage of experimental events. The generalizability of helplessness effects is seriously called into question by such a finding. It is possible that a series of events that were more directly interrelated or directly important to actual university achievement would have resulted in even more clear cut helplessness and reactance than was found in the current study. In the present study expectations took a similar route to attributions and performance. Subjects generally reduced their expectations after the analogies test. Then, after viewing the lecture, subjects who had received noncontingent feedback during pretreatment raised their expectations to above their preexperimental level, a response that may be considered reactive. Contingent feedback subjects, on the other hand, continued to drop their expectations.

This finding is at least partially explainable within the integrative model. The reactance portion of the model predicts that subjects will only respond reactively if they have high expectations of control, have a high importance task, and/or receive low or poor outcomes. This pattern fits the noncontingent group and explains their reactive behavior. Unfortunately, a priori expectations did not take on the expected trichotomous split, so it is not possible to state the contingent subjects did not respond reactively due to low expectations a priori. It is possible, though, to speculate that because they did not receive undesirable outcomes, they had no need to respond in such a fashion. Overall, the present study

raises some interesting points with regards to the integrative model and the issue of whether or not perceptions, cognitions, and/or expectations determine helplessness. As demonstrated by Roth and Kubal (1974), Wortman et al. (1976), and in the current study, perceptions and behaviors do not necessarily coincide. Also, as demonstrated here, perceptions may change when the situation changes only slightly and/or after a very short time has gone by.

The present study also demonstrates an interesting fact with regards to the onset of helplessness, especially as it pertains to the curvilinear model. It appears that while helpless attributions may occur early in an experiment, this does not mean that subjects will remain helpless throughout. In the present study, many such subjects increased the amount of personal responsibility they were willing to own, with no explicit outside assistance. That is, rather than the classical "∧"-shaped response curve predicted by the integrative model, under the present circumstances a "U"-shaped pattern emerged. In order to understand this phenomenon more fully and get some idea of which pattern occurs when, it would be beneficial to study the effects of a series of manipulations and/or the time course of such manipulations. In this way a more fully elucidated picture of the etiology and chronology of helplessness might be delineated.

References

Anisman, H., & Waller, T.G. Effects of inescapable shock on subsequent avoidance performance: Role of response repertoire changes. Behavioral Biology, 1973, 9, 331-335.

Beck, A.T. Depression: Clinical, Experimental, and Theoretical Aspects. New York: Hoeber, 1967.

Benson, J.S., & Kennelly, K.J. Learned helplessness: The result of uncontrollable reinforcements or uncontrollable aversive stimuli? Journal of Personality and Social Psychology, 1976, 34(1), 138-145.

Bracewell, R.J., & Black, A.H. The effects of restraint and noncontingent pre-shock on subsequent escape learning in the rat. Learning and Motivation, 1974, 5, 53-69.

Brehm, J.W. A Theory of Psychological Reactance. New York: Academic Press, 1966.

Brehm, J.W. Responses to Loss of Freedom: A Theory of Psychological Reactance. Morristown, New Jersey: General Learning Press, 1972.

Centra, J., & Creech, F. The relationship between student, teacher, and course characteristics and student ratings of teacher effectiveness (ETS PR-76-1). Princeton, New Jersey: Educational Testing Service, 1977.

Chapin,M., & Dyck D. Persistence in children's reading behavior as a function of N-length and attribution retraining. Journal of Abnormal Psychology, 1976, 85(5), 511-515.

Church, R.M. Systematic effect of random error in the yoked control design. Psychological Bulletin, 1964, 62, 122-131.

Costin, F., Greenough, W.T., & Menges, R.J. Student ratings of college teaching: Reliability, validity, and usefulness. Review of Educational Research, 1971, 41, 511-535.

Douglas, D., & Anisman, H. Helplessness or expectation incongruency: Effects of aversive stimulation on subsequent performance. Journal of Experimental Psychology: Human Perception and Performance, 1975, 1, 411-417.

Dweck, C.S. The role of expectations and attributions in the alleviation of learned helplessness. Journal of Personality and Social Psychology, 1975, 31, 674-685.

Dweck, C.S. Learned helplessness and negative evaluation. In E.R. Keislor (ed.), The Educator: Evaluation and Motivation, 1976.

Dweck, C.S., & Repucci, N.D. Learned helplessness and reinforcement responsibility in children. Journal of Personality and Social Psychology, 1973, 25, 109-116.

Dyck, D.G., Valentyne, S, & Breen, L.J. Amount of training, attributions of causality, and learned helplessness. Journal of Experimental Social Psychology. In press.

Feather, N.T. Valence of success and failure in relation to task difficulty: Past research and recent progress. Australian Journal of Psychology, 1968, 20, 111-122.

Feldman, K.A. Grades and college student' evaluations of their courses and teachers. Research in Higher Education, 1976, 4, 69-111.

Follman, J. Student ratings of faculty teaching effectiveness: Rater or ratee characteristics. Research in Higher Education, 1975, 3, 155-167.

Glass, D.C., & Singer, J.E. Urban Stress: Experiments on Noise and Social Stressors. New York: Academic Press, 1972.

Hanusa, B.H., & Schulz, R. Attributional mediators of learned helplessness. Journal of Personality and Social Psychology, 1977, 35, 602-611.

Heider, F. The Psychology of Interpersonal Relations. New York: Wiley, 1958.

Hiroto, D.S. Locus of control and learned helplessness. Journal of Experimental Psychology, 1974, 102, 187-193.

Hiroto, D.S., & Seligman, M.E.P. Generality of learned helplessness in man. Journal of Personality and Social Psychology, 1975, 31, 311-327.

Klein, D.C., Fencil-Morse, E., & Seligman, M.E.P. Learned helplessness, depression, and the attribution of failure. Journal of Personality and Social Psychology, 1976, 33, 508-516.

Krantz, D.S., Glass, D.C., & Snyder, M.L. Helplessness, stress level, and the coronary prone behavior patterns. Journal of Experimental Social Psychology, 1974, 10, 284-300.

Langer, E.J., & Rodin, J. The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. Journal of Personality and Social Psychology, 1976, 34, 191-198.

Leventhal, L. Teacher rating forms: Critique and reformulation of previous validation designs. Canadian Psychological Review, 1975, 16, 269-276.

Leventhal, L., Abrami, P., Perry, R.P., & Breen, L.J. Course Evaluation: How? Journal of Educational Psychology, 1976, 68(3), 300-304.

Maier, S.F., & Seligman, M.E.P. Learned helplessness: Theory and evidence. Journal of Experimental Psychology: General, 1976, 105, 3-46.

Miller, D.T., & Ross, M. Self-serving biases in the attribution of causality: Fact or fiction. Psychological Bulletin, 1975, 82(2), 213-225.

Miller, W.R., & Seligman, M.E.P. Depression and the perception of reinforcement. Journal of Abnormal Psychology, 1973, 82, 62-73.

Miller, W.R., Seligman, M.E.P. & Kurlander, H. Learned helplessness, depression, and anxiety. Journal of Nervous and Mental Disease, 1975, 161, 347-357.

Naftulin, D.H., Ware, J.E., & Donnelly, F.A. The Dr. Fox lecture: A paradigm of educational seduction. Journal of Medical Education, 1973, 48, 630-635.

O'Brien, R.A. Positive and negative sets in two choice discrimination learning by children. Unpublished Master's thesis, University of Illinois, Champaign-Urbana, 1967.

Overmier, J.B., & Siligman, M.E.P. Effects of inescapable shock upon subsequent escape and avoidance learning. Journal of Comparative and Physiological Psychology, 1969, 63, 23-33.

Padilla, A.M. Effects of prior and interpolated shock exposures on subsequent avoidance learning by goldfish. Psychological Reports, 1973, 32, 451-456.

Padilla, A.M., Padilla, C., Ketterer, T., & Giacalone, D. Inescapable shocks and subsequent avoidance conditioning in goldfish (Carrascius aurotus). Psyhonomic Science, 1970, 20, 295-296.

Perry, R.P., Leventhal, L., Abrami, P.C., & Dickens, W. Learned helplessness in the college classroom: Are teacher characteristics involved? Paper presented at the annual meeting of the American Psychological Association, Toronto, September, 1978.

Rackinas, J. Maladaptive consequences of loss or lack of control over aversive events. Unpublished doctoral dissertation, University of Waterloo, 1971.

Roth, S., & Bootzin, R.R. Effects of experimentally induced expectacies of external control: An investigation of learned helplessness. Journal of Personality and Social Psychology, 1974, 29, 253-264.

Roth, S., & Kubal, L. The effects of noncontingent reinforcement on tasks of differing importance: Facilitation and learned helplessness effects. Journal of Personality and Social Psychology, 1975, 32, 680-691.

Seligman, M.E.P. Fall into helplessness. Psychology Today, 1973, 7, 43-48.

Seligman, M.E.P. Depression and learned helplessness. In R.J. Friedman & M.M. Katz (eds.) The Psychology of Depression: Contemporary Theory and Research. Washington, D.C.: V.H. Winston, 1974.

Seligman, M.E.P. Helplessness: On Depression, Development, and Death. San Francisco: W.H. Freeman, 1975.

Seligman, M.E.P., & Beagley, G. Learned helplessness in the rat. Journal of Comparative and Physiological Psychology, 1975, 88, 534-541.

Seligman, M.E.P., & Groves, D. Non-transient learned helplessness. Psychonomic Science, 1970, 19, 191-192.

Seligman, M.E.P., & Maier, S.F. Failure to escape traumatic shock. Journal of Experimental Psychology, 1967, 74, 1-9.

Seligman, M.E.P., Maier, S.F., & Geer, J. The alleviation of learned helplessness in the dog. Journal of Abnormal and Social Psychology, 1968, 73, 256-262.

Seligman, M.E.P., Maier, S.F., & Solomon, R.L. Unpredictable and uncontrollable aversive events. In F.R. Brush (Ed.) Aversive Conditioning and Learning. New York: Academic Press, 1971b, Pp. 347-400.

Seligman, M.E.P., Roselline, R.A., & Kozak, M. Learned helplessness in the rat: Reversibility, time course, and immunization. Journal of Comparative and Physiological Psychology, 1975, 88, 542-547.

Tennen, H., & Eller, S.J. Attributional components of learned helplessness and facilitation. Journal of Personality and Social Psychology, 1977, 35(4), 265-271.

Terrace, H.S. Discrimination learning with and without "errors". Journal of the Experimental Analysis of Behavior, 1963, 6, 1-27.

Thomas, E., & Balter, A. Learned helplessness: Amelioration of symptoms by cholinergic blockade of the septum. Science, 1976.

Thornton, J.W., & Jacobs, P.D. Learned helplessness in human subjects. Journal of Experimental Psychology, 1971, 87, 369-372.

Ware, J.E., & Williams, R.G. The Dr. Fox effect: A study of lecture effectiveness and ratings of instruction. Journal of Medical Education, 1975, 50, 149-156.

Williams, R.G., & Ware, J.E. Validity of student ratings of instruction under different incentive conditions: A further study of the Dr. Fox effect. Journal of Educational Psychology, 1976, 68, 48-56.

Williams, R.G. & Ware, J.E. An extended visit with Dr. Fox: Validity of student ratings of instruction after repeated exposures to a lecturer. American Educational Research Journal, 1977, in press.

Wortman, C.B., & Brehm, J.W. Responses to uncontrollable outcomes: An integration of reactance theory and the learned helplessness model. In L. Berkowitz (ed.) Advances in Experimental Social Psychology (Vo. 8). New York: Academic Press, 1975.

Wortman, C.B., Panciera, L., Shusterman, L., & Hilscher, J. Attributions of causality and reactions to uncontrollable outcomes. Journal of Experimental Social Psychology, 1976, 12, 301-316.

1. As compared to other examinations that you have taken, how well do you expect to perform on the upcoming analogies test?

much worse (1) (2) (3) (4) (5) much better

2. How much do you feel that motivation will determine your score?

will not determine score (1) (2) (3) (4) (5) will determine score

3. How well do you expect to perform on the examination that will follow the lecture?

very poorly (1) (2) (3) (4) (5) very well

4. How positive do you feel about your performance on the upcoming analogies tes

very positive (1) (2) (3) (4) (5) very negative

For each of the following questions, please rate how important you feel it will be to your analogies performance.

5. Your own ABILITY

not important at all as a cause (1) (2) (3) (4) (5) very important as a cause

6. The EFFORT you put forth

not important at all as a cause (1) (2) (3) (4) (5) very important as a cause

7. LUCK

not important at all as a cause (1) (2) (3) (4) (5) very important as a cause

8. The DIFFICULTY of the task

not important at all as a cause (1) (2) (3) (4) (5) very important as a cause

LEVEL 5 FORM 1

APTITUDE TESTS

ABSTRACT REASONING and ABILITY

Do Not Open This Booklet Until You Are Told To Do So

On the SEPARATE ANSWER SHEET, print your name and fill in the other requested information in the proper spaces.

DO NOT MAKE ANY MARKS IN THIS BOOKLET

PRINTED IN U.S.A.

1. (a. automobile b. speed c. transmission d. brake):HIGH GEAR :: RECESSION: PROGRESS

2. CYLINDER:MOTOR :: FOUNDATION: (a. plain b. house c. brick d. basis)

3. THEY'RE: (a. ain't b. we'll c. we're d. their) :: HE'S:WON'T

4. HYPOTHETICAL:PROBLEMATICAL :: (a. equivocal b. vague c. assumed d. denied): UNCERTAIN

5. (a. danger b. lunatic c. devotee d. rubber stamp):FANATIC :: TEACH:BRAINWASH

6. QUIXOTIC:IDEALISTIC :: CHAUVINISTIC: (a. apathetic b. patriotic c. anti-establishment d. bucolic)

7. THEATRE: (a. burlesque b. tradgedy c. thespian d. in-in-round) :: POETRY: DOGGEREL

8. MINUTE (a. steak b. second c. hour d. immesity) :: PAGE:BOOK

9. RACKET:FOOTBALL :: NET: (a. tennis b. volleyball c. baseball d. ping-pong)

10. LINEN:FLAX :: BURLAP (a. jute b. bag c. cloth d. orlon)

11. SENTIMENTAL:MAUDLIN :: MOIST (a. limpid b. dry c. soggy d. blue)

12. FAUCET: (a. exit b. stream c. kitchen d. pipe) :: DELTA:RIVER

13. (a. kilogram b. chain c. peck d. transit):SURVEYOR :: CARAT: JEWELLER

14. EXORBITANT:EXPENSIVE :: PARSIMONIOUS: (a. generous b. idiotic c. greedy d. thrifty)

15. (a. second b. minute c. time d. day):HOUR :: YARD:FOOT

16. PERSIFLAGE:CAMOUFLAGE :: (a. conceal b. spy c. banter d. falsify):DISGUISE

17. (a. game b. goal c. concert d. movie):SCORE :: PLAY:SCRIPT

18. GRAPE:OLIVE :: (a. grapefruit b. orange c. pumpkin d. peach):LEMON

19. DUNGEON: (a. torture b. prison c. castle d. guard) :: CELLAR:HOME

20. STAIN:VARNISH :: COLOR: (a. shape b. texture c. gloss d. shade)

21. (a. overweight b. swordfish c. music d. wage):SCALE :: FEVER:THERMOMETER

22. PRISM: (a. spectrum b. reflection c. light d. glass) :: FAMINE:WANT

23. HUMP:DOME :: (a. signpost b. ceiling c. arch d. entrance):CRESCENT

24. (a. fudge b. budge c. trudge d.sludge):JUDGE :: BURGER:BURGHER

25. CAR:SLIM :: CARE: (a. lithe b. little c. core d. slime)

26. FLAUNT: (a. deceptively b. stupidly c. willingly d. boastfully) :: BETRAY: DECEPTIVELY

27. LOVE:VOID :: (a. addition b. blank c. swoop d. subtraction): ZERO

28. AUTUMN: (a. fall b. spring c. winter d. childhood) :: MATURITY:YOUTH

29. HARVEST:MARKET :: MANUFACTURE (a. advertise b. sell c. display d. purchase)

30. (a. tie b. appearance c. tuxedo d. decoration):ATTIRE :: WIT:COMMUNICATION

31. FLAMMABLE:INFLAMMABLE :: PERTINENT: (a. impertinent b. incoherent c. relative d. inopportune)

32. LINEAGE:GENEOLOGY :: (a. science b. events c. economics d. chronology) :HISTORY

33. MAP: (a. geography b. atlas c. legend d. reference) :: TEXT:FOOTNOTE

34. (a. IX b. IV c. XVI d. XXV):V :: XLIX:VII

35. BICYCLE: (a. cow b. man c. cat d. horse) :: CAR:DOG

36. WEAPON:DAGGER :: (a. gem b. diamond c. knife d. red):RUBY

37. (a. scoff b. insult c. ridicule d. attack):DERISION :: FLEE:TERROR

38. LAMB:DEER :: (a. rabbit b. peacock c. snake d. pig):LION

39. VERTEX:VORTEX :: CONE: (a. cyclone b. chocolate c. pyramid d. cane)

40. ½:2 :: (a. 1/3 b. 1/4 c. 1/5 d. 1/6):2/3

Name _____ Student Number _____

1	a	(X)	6	a	(X)	11	a	(X)	16	a	(X)
	b	(X)		b	(C)		b	(X)		b	(X)
	c	(X)		c	(X)		c	(C)		c	(C)
	d	(C)		d	(X)		d	(X)		d	(X)
2	a	(X)	7	a	(C)	12	a	(X)	17	a	(X)
	b	(C)		b	(X)		b	(X)		b	(X)
	c	(X)		c	(X)		c	(X)		c	(C)
	d	(X)		d	(X)		d	(C)		d	(X)
3	a	(X)	8	a	(X)	13	a	(X)	18	a	(X)
	b	(C)		b	(X)		b	(C)		b	(X)
	c	(X)		c	(C)		c	(X)		c	(C)
	d	(X)		d	(X)		d	(X)		d	(X)
4	a	(X)	9	a	(X)	14	a	(X)	19	a	(X)
	b	(X)		b	(X)		b	(X)		b	(X)
	c	(C)		c	(C)		c	(X)		c	(C)
	d	(X)		d	(X)		d	(C)		d	(X)
5	a	(X)	10	a	(C)	15	a	(X)	20	a	(X)
	b	(X)		b	(X)		b	(X)		b	(X)
	c	(C)		c	(X)		c	(X)		c	(C)
	d	(X)		d	(X)		d	(C)		d	(X)

21. a. (C)
b. (X)
c. (X)
d. (X)

22. a. (C)
b. (X)
c. (X)
d. (X)

23. a. (X)
b. (X)
c. (C)
d. (X)

24. a. (C)
b. (X)
c. (X)
d. (X)

25. a. (X)
b. (X)
c. (C)
d. (X)

26. a. (X)
b. (X)
c. (X)
d. (C)

27. a. (X)
b. (C)
c. (X)
d. (X)

28. a. (X)
b. (C)
c. (X)
d. (X)

29. a. (X)
b. (C)
c. (X)
d. (X)

30. a. (C)
b. (X)
c. (X)
d. (X)

31. a. (X)
b. (X)
c. (C)
d. (X)

32. a. (X)
b. (C)
c. (X)
d. (X)

33. a. (X)
b. (X)
c. (C)
d. (X)

34. a. (X)
b. (X)
c. (X)
d. (C)

35. a. (X)
b. (C)
c. (X)
d. (X)

36. a. (C)
b. (X)
c. (X)
d. (X)

37. a. (C)
b. (X)
c. (X)
d. (X)

38. a. (X)
b. (C)
c. (X)
d. (X)

39. a. (C)
b. (X)
c. (X)
d. (X)

40. a. (X)
b. (X)
c. (X)
d. (C)

Name_____ Student Number_____

1	a	(c)	6	a	(x)	11	a	(x)	16	a	(c)
	b	(c)		b	(x)		b	(x)		b	(c)
	c	(c)		c	(x)		c	(x)		c	(c)
	d	(c)		d	(x)		d	(x)		d	(c)
2	a	(c)	7	a	(c)	12	a	(x)	17	a	(c)
	b	(c)		b	(c)		b	(x)		b	(c)
	c	(c)		c	(c)		c	(x)		c	(c)
	d	(c)		d	(c)		d	(x)		d	(c)
3	a	(x)	8	a	(c)	13	a	(c)	18	a	(x)
	b	(x)		b	(c)		b	(c)		b	(x)
	c	(x)		c	(c)		c	(c)		c	(x)
	d	(x)		d	(c)		d	(c)		d	(x)
4	a	(x)	9	a	(c)	14	a	(x)	19	a	(c)
	b	(x)		b	(c)		b	(x)		b	(c)
	c	(x)		c	(c)		c	(x)		c	(c)
	d	(x)		d	(c)		d	(x)		d	(c)
5	a	(c)	10	a	(x)	15	a	(x)	20	a	(c)
	b	(c)		b	(x)		b	(x)		b	(c)
	c	(c)		c	(x)		c	(x)		c	(c)
	d	(c)		d	(x)		d	(x)		d	(c)

21	a	(c)	26	a	(C)	31	a	(c)	36.	a	(c)
	b	(c)		b	(c)		b	(C)		b	(c)
	c	(c)		c	(c)		c	(C)		c	(c)
	d	(c)		d	(c)		d	(C)		d	(C)
22	a	(x)	27	a	(x)	32	a	(x)	37	a	(x)
	b	(x)		b	(x)		b	(x)		b	(x)
	c	(x)		c	(x)		c	(x)		c	(x)
	d	(x)		d	(x)		d	(x)		d	(x)
23	a	(c)	28	a	(x)	33	a	(C)	38	a	(c)
	b	(c)		b	(x)		b	(C)		b	(c)
	c	(c)		c	(x)		c	(c)		c	(c)
	d	c		d	(x)		d	(c)		d	(c)
24	a	(x)	29	a	(c)	34	a	(x)	39	a	(x)
	b	(x)		b	(c)		b	(x)		b	(x)
	c	(x)		c	(c)		c	(x)		c	(x)
	d	(x)		d	(c)		d	(x)		d	(x)
25	a	(x)	30	a	(x)	35	a	(c)	40	a	(x)
	b	(x)		b	(x)		b	(c)		b	(x)
	c	(x)		c	(x)		c	(c)		c	(x)
	d	(x)		d	(x)		d	(c)		d	(x)

INSTRUCTIONS

A student's performance in the classroom is a combination of many factors such as intelligence, amount of study, quality of instructor, motivation, etc. We are interested in the effects of students' intellectual ability and quality of instruction on classroom performance.

You will be given an aptitude test to give us a measure of your general intellectual ability to compare to your classroom performance.

The questions on the aptitude test will be in the form of verbal analogies. An example of an analogy question would be: TRIANGLE is to SQUARE as PENTAGON is to (a. octogon b. heptagon c. hexagon d. parallelogram).
The correct answer is c. hexagon. A triangle has three sides, a square has four, a pentagon five, and a hexagon has six.

We are using this form of question because the verbal analogy has long been considered the single best item for measuring general intelligence. A variety of popular ability tests use verbal analogies as a subset or the complete test (e.g., Scholastic Aptitude Test, Millers Analogies Test, Graduate Record Examination, and Law School Admission Test). All of these examinations have been used to screen prospective applicants for graduate training in biology, law, commerce, etc. Also, because norms for this test have been established across North America, the results of the test can be compared to university students across Canada and the U.S.