THE EFFECTS OF AUDIOTAPE SUGGESTIONS ON STUDY HABITS, SELF-CONCEPT, AND LEVEL OF ANXIETY AMONG COLLEGE FRESHMEN

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

Brian J. Kelly, B. A., M. Ed.
Denton, Texas
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This study investigates an application of hypnotic audiotapes to a specific group of college freshmen. Hypnotherapy is recognized as a viable adjunct to counseling, and it is known that hypnosis is possible via audiotapes. As a potential aid to students, these tapes would not place an additional work burden on the staff of a college or university counseling center and, therefore, would increase the proportion of students served. Very little research attention has been given to the use of hypnotic tapes, and the previous research conducted has not been well documented.

The study examines the use of hypnotic audiotapes designed to affect study habits and attitudes. It is assumed that exposure to the hypnotic audiotapes will improve study habits and attitudes. It is further expected that exposure to the audiotapes will improve students' self-concepts and adjustment to college work, as well as reduce anxiety. Previous studies are cited which indicate that hypnosis has had a positive effect on learning. Hypnosis has been shown to be an effective means of changing specific behaviors.
Some of the studies using hypnotic audiotapes have failed to test hypnotic procedures against a strong alternative. Previous studies have confirmed only that hypnosis has a greater effect than the lack of treatment.

The purpose of this study is to measure the relative effect of hypnosis on study habits and attitudes as compared to a placebo-control group who received non-hypnotic relaxing treatment and to an inactive control group. Additionally, the improvement of self-concepts, the reduction of anxiety, and adjustment to college work are measured.

The Post-Test-Only Control Group design is used in this study. Subjects for the study are freshmen students at Southeastern State College who are participants in the Oklahoma-Texas Triple-T Project. Thirty-six (36) subjects were randomly selected and assigned to three groups: Treatment, Placebo-Control, and Inactive-Control.

Treatment One consists of a series of hypnotic audiotapes dealing with study habits and attitudes. Treatment Two consists of taped relaxing music. Both of the treatment groups met at the same time each day in similar rooms with the lights out and the shades drawn. Silence was maintained at all times. The participants received an hour's credit on the work-study program in which they were involved. The sessions lasted for twenty minutes each day for six weeks.
It was hypothesized that the subjects who received the hypnotic treatment would exhibit better study habits and attitudes as well as lower levels of anxiety, better self-concepts, and fewer problems in adjustment to college work than the placebo-control group. Furthermore, it was hypothesized that the placebo-control group would score higher on the same measures than the control group.

Statistical analyses were done using an analysis of variance method, the Dunn C-test. This is an a priori multiple comparison treatment. A .05 level of significance was not obtained for any of the treatment variables. These findings are discussed, as are their implications for research and practice.
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CHAPTER I

THE PROBLEM, RATIONALE, AND REVIEW
OF THE LITERATURE

Problem and Rationale

Hypnosis currently is enjoying an increase in popularity and respectability. Ulett and Peterson (55), reporting on the movement to make hypnosis medically respectable, point out that hypnosis is now being offered by some medical schools on the post-doctorate level and that the value of hypnosis has been formally recognized by the American Medical Association.

Still, there are many misconceptions about hypnosis which plague its acceptance. Magonet (33) indicates that the most common misconception is that the client must be unconscious, and he argues that nothing could be further from the truth. Even in the deepest trance, the client can hear the therapist and is so aware of what is going on that he may deny ever being hypnotized. Magonet further states that a hypnotizable client is not weak-willed, that most people can be hypnotized, and that hypnotism is a relatively easy technique to master.

A review of the literature on this subject indicates that hypnosis is currently playing a role in education. Hartman (2) has pointed out the applicability of hypnosis in
an educational setting and has described a program of group hypnotherapy in a university counseling center. Mullenbruch (37) includes study habits, attitudes toward classes, personal adjustment, mental blocking, and emotional upheavals as being amenable to hypnotherapy with college students. Summo and Rouke (52) report success on a wide variety of student problems.

Astor (1), recognizing the widespread use of the operant conditioning learning model in education, notes that operant conditioning parallels the basic procedures for hypnotic induction. The goal of programmed learning is to get someone to learn without his consciously trying to memorize the material. This method also strives to make learning easy, pleasant, and as efficient as possible. It also suggests incorporating a certain degree of automaticity in the learning process. In hypnotic induction there are similar emphases: to cooperate, relax, become open and easy so that behaviors and experiences occur by themselves with a non-interfering naturalness on the part of the client. The client is always praised and left with a good feeling.

Magonet (33) feels that 95 per cent of the population is amenable to hypnosis. It is generally accepted that verbal induction into the hypnotic state is possible and common, and that hypnosis parallels the operant learning process. In view of these factors, hypnosis by audiotape should be an effective
method by which the counselor may extend services to a larger proportion of the student body. If this technique can be shown to be effective, practical, and easy to administer, more students can be served by counselors and counseling centers. The use of this technique would mean that counselors would have more time to devote to counseling and that a greater number of students would be exposed to counseling services.

Purpose

It was the general purpose of this study to investigate the efficacy of hypnotic audiotapes in a college setting. Specifically, the purpose was to study the effects which exposure to hypnotic audiotapes had on the study habits, attitudes, and behaviors of college freshmen. Answers to the following specific questions were sought: Does exposure to the hypnotic audio tapes result in higher positive self-concepts? In a lower level of anxiety? In fewer classroom related problems? In improved study habits and attitudes?

Review of the Literature

History of Hypnosis

It has been generally accepted that hypnosis had its beginning in France at approximately the same time that the American Revolution was in progress. At this time, Mesmer (3) proposed and practiced what he called animal magnetism. The word "hypnotism" was coined by James Braid, an Englishman,
in 1843. Braid also is credited with having discovered the psychological nature of the hypnotic phenomena. He began his investigation as a skeptic, but quickly recognized hypnosis as a genuine phenomenon. Serious study of hypnosis took place in France, where what is termed the Nancy-Paris controversy resulted in a division into two schools of thought. The followers of Charcot formed the Paris school, asserting that hypnosis was a physiological or neurological state. Leibeault's followers, who comprised the Nancy school, declared that the basic nature of hypnosis was psychological (27).

The Nancy school prevailed, and hypnosis has been accepted as psychological in nature. During the remainder of the nineteenth century, hypnosis was accepted and explained by the term "suggestion." However, with the advent of the 20th century came a period of twenty-five years during which psychologists ignored hypnosis. Since 1925 interest and experimentation has increased, and a greater knowledge of hypnosis has been steadily accumulated (27).

Schneck (46) indicates that there has been a great emphasis placed on hypnoanalysis since the end of World War II. This emphasis is highlighted by the founding of the Society for Clinical and Experimental Hypnosis. The use of the term "hypnoanalysis" stems from work done by many psychiatrists
while serving with the military. These men used hypnosis as a technique to give them direct access to the unconscious mind. Kline (26) states that contemporary hypnotherapy has general psychotherapy as its basis, and is firmly related to modern constructs in both psychology and the behavioral sciences.

There has always been, however, a reluctance to accept hypnosis as a useful technique. Psychology has been very slow in shaking off the mystical and evil associations connected with hypnosis since its inception. It was not until 1958 that hypnosis was officially accepted by the American Medical Association as an effective technique (41). In 1961 the American Psychiatric Association approved hypnosis as a specialized psychiatric procedure. Because hypnosis provides an adjunct to research, diagnosis, and treatment in psychiatric practice, it is regarded as an important aspect of the doctor-patient relationship (15).

Because it is so little advanced as a science, the field of hypnosis is affected by the charisma with which the early investigations were surrounded. Gordon (15) points out, however, that hypnosis is finally emerging from the captivity of its history. The past five to ten years have been characterized by tremendous growth and revision within the field of hypnotherapy. Watkins (56) claims that the curiosity and public demand have forced professionals to reexamine ideas
about the nature and usefulness of hypnosis. It was in this spirit that the present investigation was conducted.

**Theories of Hypnosis**

Suggestibility is defined as the capacity to respond to an idea. There is no consensus regarding a definition of trance or hypnosis; however, it can be described, if not defined. A trance is a state of relaxation, of fixed attention, of mental reorientation with association of the conscious and subconscious minds, and it is a state of greatly increased suggestibility. Hypnosis, then, refers to the capacity of an individual to respond to and use an idea in his own life (49).

Hilgard (23) lists seven characteristics of the hypnotic state which distinguish it from the normal waking or sleeping states. They are (1) a loss of initiative and lack of desire to make or follow through with plans, (2) selective attention and inattention which extends beyond the normal range, (3) visual memories from the past which become available along with an increased ability to fantasize, (4) a reduction in reality testing and a heightened ability to tolerate continued reality distortion, (5) increased suggestibility, (6) increased role-playing ability, and (7) amnesia for that which transpired during the hypnotic state.
The continued and widespread lack of consensus regarding the hypnotic state has resulted in the existence of numerous theories all attempting to explain the phenomenon of hypnosis. Teitelbaum (53) indicates, however, that recent research has succeeded in disproving most of the early theories of hypnosis. There seem to be three dominant trends in theory development. The first is based on Pavlov's conditioned reflex theory, the second is based on experimental psychology, and the third is based on social developmental theories (43).

As Pavlov observed and experimented with his dogs, he hypothesized certain "laws" which he combined to form a general theory of neural functioning. This theory, which included hypnosis, was applied to human behavior. According to Teitelbaum (53), Pavlov maintained that hypnosis is not ordinary sleep, although ordinary sleep, inhibition, and hypnosis are variations of the same neural process. Pavlov believed that hypnosis is partial sleep or partial inhibition of the brain hemispheres rather than the continuous and diffused inhibition of the entire brain, as occurs in ordinary sleep.

Pavlov compared an individual's learning to enter a trance-like state with a dog's learning to salivate to the sound of a bell and claimed that both are examples of a conditioned reflex. This reasoning does not allow for the fact that no training is necessary to induce the state of hypnotic trance.
Hull's (24) approach to hypnosis, unlike Pavlov's, resulted from objective, laboratory experimentation. His studies of the relationships of experimental hypnosis and suggestibility indicate that hypnosis is, to a great degree, a habit phenomenon. Hull believed that this explanation would provide the basis for the ultimate understanding of the hypnotic state.

Hull (24) also mentioned that attempts to discover experimentally the relationships between suggestibility and various character traits have not been significant. White (58) indicates that Hull thought of the difference between the hypnotic state and the normal state as one of quality rather than quantity. In other words, hypnosis is a state of increased concentration and relaxation.

To account for the individual differences in susceptibility to hypnosis, Hilgard (23) proposed what he termed the "developmental-interactive" theory. This theory states that each normal person is born with the potential for profound hypnotic experiences. Theoretically, the ability of a child to become deeply involved in fantasy will be preserved if such behavior is encouraged, modeled, and reinforced during childhood. The influences of identification with salient others are vital in preserving and extending hypnotic susceptibility. Hilgard's theory implies that children whose
Environments are either favorable or unfavorable may be highly susceptible to hypnosis. Not all positive mental health behavior on the part of parents is conducive to hypnotic susceptibility. Contrariwise, not all "unfavorable" parental behaviors inhibit susceptibility. Lastly, Hilgard maintains that individualizing a variety of experiences may produce selective responsiveness within hypnotic susceptibility.

Functional Analysis of Hypnotic Induction

There exists a wide variety of techniques which can be used in inducing a hypnotic trance. Lindesmith and Strauss (31) state that the hypnotic trance is induced in a person primarily by talking to him. There is a variety of specific devices which may be used in conjunction with verbalization. The subject may be placed in a relaxed position and told that his eyelids are becoming heavy, that he is becoming sleepy, and that, as the hypnotist slowly counts to fifty, his sleepiness will increase until, at the count of fifty, he will be in deep sleep, whether or not specific devices are employed by the hypno-therapist. Throughout the various techniques, the essential factor remains communication, usually verbal. Indeed, hypnosis may be induced over the radio or by audio-tape recording.
London (32) indicates that there are a few functional elements common to all hypnotic inductions. The primary common element is the hypnotherapist's deliberate manipulation of the subject and the environment so as to engage the client in compliant responses to his suggestions. Usually the sequence involves moving gradually from simple and compatible suggestions which would normally receive compliant responses, to more complex suggestions which would normally be unlikely to receive agreeable responses. Suggestions of relaxation and concentration are considered to have a facilitating effect on the compliant responses which form the goals of the treatment. The hypnotherapist, in the course of treatment, actually attempts to deprive the client of some of normal stimuli with which he is familiar. Thus, the client must allow great limits to be placed on his sensory intake. The hypnotherapist, after limiting sensory intake by severely limiting bodily movement and restricting the area of thought the client can contemplate, provides specific and restricted mental stimulation (13).

Gordon (15) says that although evidence does exist indicating that susceptibility to hypnosis is related to personality traits, and therefore independent of persuasibility, suggestibility or social, or naivete, the concept that hypnosis is helped or hindered by the interpersonal dynamics of the situation is not disproved. While this evidence suggests a
correlation between hypnotic susceptibility and the personality trait of dependency, London and Rosehan (45) point out that the vast majority of such studies show inconsequential results. Gordon (15) says that to achieve successful induction, rapport and transference are the most important aspects of the client-hypnotherapist relationship.

There are no precise rules governing the proper attitude of the hypnotherapist during induction. However, Chertok (6) proposes four possible approaches: (1) an attitude of unquestionable authority in which the hypnotherapist has absolute faith in the efficacy of his suggestions; (2) an intellectual approach, in which everything done by the hypnotherapist is explained clearly; (3) an emotional approach in which the client's need for comfort, security, and sympathy are used, and, (4) a passive approach which portrays the hypnotherapist as being incapable of any success, everything being dependent on the cooperation of the client.

Fears Concerning Hypnosis

The most controversial aspect of hypnosis has been the relationship of volition to hypnosis. Weitzenhoffer (56) states that a prevailing popular belief is that hypnosis involves an imposition of the therapist's will on that of the client. Estabrooks (11) is very explicit, stating that susceptibility has nothing to do with a "weak will." Tracy
(54) explains that the client does not surrender his will, but exercises it in cooperation with the hypnotherapist. Beins (4) indicates that clients who deeply resent or fear losing control of themselves will never be induced, no matter how hard they try. It is not uncommon for clients to fear that they will not become dehypnotized or that they will not "wake up" after entering the hypnotic state. Weitzenhoffer (57) offers assurance that although one normally dehypnotizes upon suggestion, he will "awaken." This "awakening" will occur within a reasonable period of time.

LeCron (29) lists other factors which are unfavorable to hypnosis. They are (1) lack of confidence in the hypnotherapist; (2) antagonism toward the hypnotherapist; (3) lack of self trust; (4) overcuriosity, and (5) a frivolous attitude.

There are no dangers to the subject which are a result of hypnosis per se. The Hypnosis Foundation (1) states that the only dangers possible are related to the interpersonal relationship during the hypnotic process. Shor and Orne (51) list some common complaints registered by clients who failed to achieve the hypnotic state. They are (1) the client could not forget the situation as a whole and concentrate on the specific instructions; (2) they thought it ridiculous; (3) they were concerned with what others would think after
they were hypnotized; (4) they felt that the suggestions were unreasonable, and (5) they would be humiliated by having their wills overcome by the hypnotherapist.

Effects of Hypnosis on Learning

While the evidence regarding hypnosis is not clear in terms of its effect upon learning, Hilgard (22) points out that suggestions can improve some kinds of performances beyond levels obtained by subjects who were "awake" while hearing the suggestions. Marcus (34) indicates that there may be better recollection of meaningful but non-emotional material as a result of proper suggestion in hypnosis. He further states that motivation may be significantly increased as a result of hypnosis.

Other researchers have credited hypnosis for positive change. Mutke (42), for instance, found that hypnosis significantly improved reading comprehension, while Donk (7) improved reading speed without decreasing comprehension, and eliminated specific reading problems.

Not all researchers have positive results to report. The work of Edmundston and Stanak (8) challenges the claims that hypnosis positively affects the acquisition of verbal material. Barber's (2) review of the research on hypnosis and recall indicates that most of the research reveals that suggestions given under normal waking conditions were as effective as those given under hypnosis.
There are, however, a number of studies which conflict with this view. Hagedorn (18) has successfully demonstrated the effectiveness of hypnosis on recall and amnesia. Sears (48) had success using hypnosis to improve learning Morse Code. In addition to these two reports, Fehr and Stern's study (12) evaluated the effect of hypnosis on attention to relevant and irrelevant stimuli. They demonstrated the effectiveness of hypnosis on the ability to be more attentive to specific tasks and less aware of conflicting stimuli.

Finally, Westzenhoffer (58) reviewed the literature pertinent to the effect of hypnosis on recall and indicated that the positive results obtained via hypnosis demand the development of a more adequate theory of meaning.

The Use of Hypnosis in Counseling

Kline (26) states that the contemporary hypnotherapy has general psychotherapy as its basis, and is firmly related to modern constructs in both psychology and the behavioral sciences. The present-day hypnotherapist is primarily a psychotherapist whose theoretical orientation may be anywhere along the continuum from psychoanalysis to behavioral therapy.

Wakings (56) represents the existential orientation and claims that the existential goal of therapy is facilitated by the use of hypnosis. This goal is the causing of impact to occur between the areas of existence, namely, the environment, the relationship, and the inner self.
The behavioral and phenomenological orientations are also well represented in the literature. Woody (62) has successfully combined hypnosis with behavior therapy. Moorefield (39) and Gooding (14) describe the use of hypnosis with the phenomenological approach to therapy.

The acceptance of hypnosis by professionals of varied theoretical backgrounds has aided in bringing hypnosis and hypnotherapy onto the educational scene. Oetting (44) reported success in increasing concentration in study based on work in a university counseling center, although he did encounter problems with the general attitude toward hypnosis itself. Eisele and Higgins (9) used hypnosis to treat educational and moral problems and claimed startling results in removing examination panic, improvement of study habits, and the decrease of insomnia among students.

The contribution hypnosis is making to education is attested to by Mellenbruch (37), who cites as one of the chief values of hypnosis in student counseling, the ease with which "core" ideas are either established or changed within the student's frame of reference. Apparently each person, over the years, arrives at a fairly stable set of "core" ideas which become a ready reference point for daily experiences. These "core" ideas are either positive or negative, and people react automatically in accordance with them. Thus, upon
encountering algebra, an individual will react positively or negatively depending on the state of the "core" concept he has learned with reference to mathematics. It is these "core" ideas that much of school counseling deals with during treatment. And it is here that hypnosis is an extremely effective asset because the hypnotic state allows for change or development of healthy "core" concepts. This is accomplished without resistance since the hypnotic state is one of complete suggestability. Indeed, Ulett and Peterson (55, p. 30) have defined hypnosis as "the uncritical acceptance of suggestion."

Mordey and Denike (40) concluded that both post-hypnotic and waking motivating suggestions are effective in raising achievement motivation in hypnotizable subjects. These authors point out that, thus far, hypnosis typically involves suggestions emphasizing sleep, relaxation, and fatigue. However, these states do not seem essential to hypnosis. There is evidence that hypnotic suggestion produces effective change along with concomitant physiological change (14, 17). The effective changes that can be produced while a client is in the waking state also appear substantial, though less pronounced (40). Thus, it was hypothesized and substantiated by Mordey and Denike (40) that positive suggestion of the type found on the hypnotic tapes would produce favorable change.
The effectiveness of hypnosis is further demonstrated by Woody and Billy (63), who report that hypnosis is effective in modifying behavior. Erickson (10) and Hartman (20, 21) also report that they have successfully improved motivation and performance, as did Hammer (19) and Mutke (42), while McCord and Sherrill (58) report success in increasing intellectual efficiency.

Further support for the effectiveness of hypnosis is found in the work of Hartman (21), who has had success with group hypnotherapy clinics at a university counseling center. He treats students hypnotically in each of the following areas: weight control, smoking withdrawal, scientific relaxation, concentration and examination behavior, and assertive training. Hartman's clinics meet once a week for an eight-week period. Each weekly meeting is an hour in duration. The author reports success for all students who regularly attend the clinics.

Additional interesting and successful applications of hypnosis counseling are reported by Woody (60, 61, 62), who describes innovative experiments with videotapes as adjuncts to hypnotherapy and systematic desensitization. Woody recommends the use of vicarious tapes with hypnotherapy.
Hypnotic Audiotapes in Counseling Services

Higgins produced a phonograph recording entitled "Relax and Concentrate," which is available commercially to anyone who desires to learn the "secret" of successful study. Neither the word "hypnosis" nor the suggestion of sleep occurs in this recording, but the format is based on hypnosis. Lieberman, Fisher, Thomas, and King (30) in describing the record report that the first side of the record teaches the student to enter a stage of "deep concentration" by use of a self-produced signal. Whenever the listener wants to study, he is to bring about this state of concentration and remain in it as long as he desires.

The listener is told "to practice and practice and practice some more" until he masters the technique. He may then proceed to the remainder of the recording where, in addition to further instructions in deep concentration, the listener is instructed in the "principles of good study habits," including a method for memorization and suggestions for being calm during examinations.

Based on the recording's similarity to hypnosis, Lieberman, Fisher, Thomas, and King (30) modified the contents by transferring the recording to three audiotapes for presentation to groups of students. The tapes were then administered to thirty-five matched pairs of probationary college students.
on a daily basis for three consecutive school weeks. Results from this study failed to significantly improve grade point averages between the experimental and control groups. The researchers did claim, however, that a significantly greater number of students in the experimental group were removed from academic probation.

Support for the concept of hypnosis by audiotapes is offered by Sears (47), who used a similar method successfully with college students with I. Q. 's of 135 or above. All of Sears' subject group had been making poor grades but improved their performance significantly.

Additional support for the use of hypnotic tapes in education is found in the research done by Astor (1), who reports that educational hypnosis has a great potential for overcoming a wide variety of learning deficiencies. In a New York study, forty-eight emotionally disturbed children were successfully given twenty minutes of hypnosis during each school day to assist them with their reading. The children were given tape recorded instructions to relax; sleep was then induced, and post-hypnotic suggestions were given for future reading. The treatment lasted for six months. Although high rates of success were reported, this, like many of the studies, was not carefully controlled research.
The Psych-Up and Learn Tapes

This study makes use of hypnotic tapes which are marketed by Psych-Up Sales Inc., of Dallas, Texas. These tapes were developed by Shirley (50), a practicing physician and hypnotist in Louisiana. The specific tapes used for this study are entitled "Psych-Up and Learn."

Support for the use of these tapes is offered by Hutton (25), who states that she has successfully used these tapes in working with overweight girls. Langly (28) also reports that he has found many of Shirley's programs helpful in his psychiatric practice.

The value of the present study is enhanced because it utilizes a standard presentation readily available and because it is the first study in this field to control for attentional factors.

Summary

Hypnosis is currently enjoying an increase in popularity in the United States, and as a result hypnosis is finding its way into education.

It is the current belief that most people are susceptible to hypnotic induction and that hypnosis may be induced by audio tape recordings. Indeed, there is research which supports the use of hypnotic tapes in educational settings.
The present study offers an analysis of the usefulness of a specific set of hypnotic tapes for the treatment of poor study habits and attitudes. This study also investigates the usefulness of these tapes in reducing anxiety, raising self-concept, and decreasing college adjustment problems.

A detailed description of the experimental design, procedures, and testable hypotheses is contained in the next chapter.
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CHAPTER II

EXPERIMENTAL DESIGN AND PROCEDURES

Experimental Design

The Post-test-Only Control Group Design will be used in this study. This design is based on true randomization to control for possible sources of invalidity. Because of a general mistrust of randomization, this design has been greatly underused in educational and psychological research. It is one of the three true experimental designs listed by Campbell and Stanley (2) and is regarded as having the most stringent controls. Pre-test measures are not required when subjects are randomly assigned to treatment groups. Analysis of variance procedures are recommended with this experimental design.

Subjects

The experiment was conducted at Southeastern State College in Durant, Oklahoma. Southeastern State College is a college with approximately 3,000 students, most of whom live in the area and commute to school. The college is in a community which serves as a trade center for surrounding farmers and ranchers. All major socio-economic classes are represented at the college, with lower classes predominating.
The subjects for this experiment were the freshmen participating in the Oklahoma-Texas Triple-T Project, which was being conducted at Southeastern State College. This project is designed to affect the attitudes of both the faculty and students by facilitating communication between them. All students active in the project are enrolled in elementary education courses and participate in a work-study program. This year the students were recruited from schools in Dallas, Oklahoma City, and rural farming areas in the Durant area. The students are predominantly female, black, and poor.

Treatment Content

Each of the treatments used by the experimenter is described below:

**Hypnotic Audio Tapes (T1).** This group was composed of twelve students who were randomly drawn from the subject pool and assigned to this treatment. The treatment simply involved listening to Shirley's (7) tapes for a twenty-minute period each school day for six consecutive weeks. These tapes contain hypnotic suggestions for improving study habits and attitudes.

The tapes adhere to the following basic format: The subjects are verbally encouraged to relax. They are instructed to concentrate and relax certain parts of the body, moving progressively from the toes to the head. After a training period
when all participants have managed to relax and concentrate on the voice of the speaker, the use of suggestion begins. Suggestions pertain directly to study habits and attitudes and are totally positive in nature. Each ensuing day for six weeks, relaxation is induced quickly, and positive suggestions for study are given. The topics of suggestion are (1) the reason for school, (2) getting rid of negative ideas, (3) the benefit of a proper attitude, (4) self-confidence or the key, (5) concentration, (6) memorization, (7) belief in self, (8) study habits, and (9) examination preparation. These topics are repeated, in order, three times during the course of the treatment period.

Permission could not be obtained to transcribe these copyrighted tapes. However, the format used on the tapes is consistent with the functional analysis of hypnotic induction described in Chapter I.

Music (T2). An additional twelve students were randomly drawn and assigned to treatment two, a placebo-control group. Treatment for this group consisted of listening to soft, contemporary music twenty minutes per school day. Relaxation by music offered a competing treatment in as much as relaxation and attention are strong competitors to hypnotic suggestion. This treatment was totally devoid of any mention of study habits and attitudes, and served only as a placebo-control.
Control (T3). Twelve students were randomly drawn and identified to receive no treatment, serving as the inactive-control group.

Both Treatment Group One and Treatment Group Two met at the same time each day in similar rooms with the lights out and the shades drawn. Group members maintained silence at all times. Both groups were credited with one hour's work on their work study program, but were not given any other incentive.

Experimental Procedures

Initial approval for conducting the experiment at Southeastern State College was given by the Director of the Oklahoma-Texas Triple-T Project, in accordance with established research policy. The dates for administration of the treatment and subsequent testing were established in consultation with the Director of the Triple-T work study program and the advisor to the doctoral interns. The researcher's primary requirement was that a six-week period be provided which was void of extensive interference, and that allowances be made for group testing at the end of the experiment. The time period agreed upon was February 28-April 14, 1972, with provisions made so that the students would be free for group administration of the post-test measures on the final day.
Arrangements were made in cooperation with the college counseling center for the presentation of daily treatments in similar rooms at the same time of day. Cassette tape recorders were used to present the treatment material.

Treatment Procedures

The members of the treatment group and the placebo-control group were told that they were participating in a project which was to measure the effect on their academic performance of systematic listening to taped presentations. They were instructed to relax and maintain silence during the taped presentation. The subjects were further instructed not to discuss the taped presentation with others until after the end of the six weeks.

Criterion Measures

The *Tennessee Self-Concept Scale, Counseling Form*, which was used in this study, is an instrument designed to measure self-concept. The use of this instrument is based upon the assumption that an individual with a personal problem which requires professional help in the form of counseling will be experiencing some distortion in self-concept either as a result of the problem or associated with the problem for which he is seeking help. As Wrenn points out, "...The self-concept of the client is emerging as a significant factor in the counseling process" (8, p. 104).
The Counseling Form of the Tennessee Self-Concept Scale contains 100 items which measure eight different aspects of self-concept. The most important score yielded is the Total Positive Score (Total P). It is this score that was used in the present study. Individuals who score high tend to like themselves and have a more positive self-concept, a factor which is, in turn, associated with stable adjustment.

The Total P Score yields an average score which is made up of several component scores: Self-Identity; Self-Satisfaction; Behavior; Physical Self; Moral-Ethical Self; Personal Self; Family Self; and Social Self. The reliability on the aggregate score is reported by Fitts at .02 (4, p. 14). The content validity is also reported as high. These reports have been documented in several studies conducted by Fitts (4).

Responses on the Tennessee Self-Concept Scale are made on the basis of a five-point scale by the individual. The value of a particular response is determined by the degree to which the client feels that an item describes or does not describe his feelings about himself.

The IPAT Anxiety Scale was also used in the present study. It is an objective questionnaire for the assessment of general free-anxiety level. The use of this instrument is based upon the theoretical assumptions of Freud (5), Sullivan (7), and
others who claim that anxiety is a basic element of all emotional problems.

The **IPAT Anxiety Scale** consists of forty statements which are to be responded to by the client. The **IPAT Anxiety Scale** yields six scores: self-sentimental development, ego strength, protension of paranoid trend, guilt proneness, ergic tensions, and total anxiety. The total-anxiety score will be utilized in this study.

Reliability coefficients for the total-anxiety score are reported to be between .80 and .93. According to Cohen (3), evidence for the validity of the test is varied and impressive. The construct validity is reported to be between .85 and .90.

According to Cohen (3), the **IPAT Anxiety Scale** is the most reliable instrument available for a quick measure of the anxiety level in literate adolescents and adults. This high degree of reliability may be attributed to the extensive research on which the test is based.

The **Mooney Problem Checklist, College Form**, was also used as a post-test in this investigation. It consists of 330 items; however, only the 33 items of the adjustment-to-college-work subscale will be used, as others fall beyond the scope of this experiment. Lentz (6, p. 67) comments

... It (the checklist) seems to constitute a unique contribution to our counseling aids and techniques. It is an instrument for an area of research which must
not be overlooked. As it stands, the instrument is highly commendable to the serious practitioner of guidance or the research scientist in social psychology.

Bedell (1, p. 67) points out that "... the traditional concepts of reliability and validity are not appropriately applied to the lists."

The Brown-Holtzman Survey of Study Habits and Attitudes (SSHA) was the final measure used in this study. The SSHA consists of seventy-five items designed to furnish an inventory of study habits and attitudes to serve as a foundation for self-improvement. Reliability coefficients are satisfactory, ranging from .79 to .95. Concurrent validity coefficients range from .27 to .66 for men and from .26 to .65 for women.

Wrenn (9, p. 689) states that "... this instrument is well grounded, easy to understand, and can be an excellent source of study habit and attitude information for use by student and counselor."

Measurement Procedures

Following the final treatment period, all thirty-six of the subjects reported to a lecture room for a two-hour testing session. During this time, each of the students took the IPAT Anxiety Scale and then the Survey of Study Habits and Attitudes. Because neither of these tests is timed, the
students were free to leave upon completion of the two measures. A two-hour period was allowed for dinner before their return for the remainder of the testing. During this session, each student completed the Tennessee Self-Concept Scale and the Mooney Problem Checklist. All criterion measures were completed within a four-hour time period.

Limitations

This study is limited to those students enrolled as freshmen in the Spring, 1972, term of the Oklahoma-Texas Triple-T Project at Southeastern State College, Durant, Oklahoma. It is further limited by the size of the sample and the six weeks available for treatment.

Statement of the Hypotheses

Of particular interest in this study was the effect of the treatments on the level of subject acquisition of attitudes and behaviors as measured by the criterion measures.

The effect of the hypnotic tapes as compared to the placebo-control procedure was investigated by testing the following hypotheses:

1. At the end of the treatment period the experimental group will exhibit a higher positive mean self-concept as measured by the Tennessee Self-Concept Scale than will the placebo-control group.
2. At the end of the treatment period the placebo-control group will exhibit a higher positive mean self-concept as measured by the Tennessee Self-Concept Scale than will the control group.

3. At the end of the treatment period the experimental group will exhibit a lower mean level of anxiety as measured by the IPAT Anxiety Scale than will the placebo-control group.

4. At the end of the treatment period, the placebo-control group will exhibit a lower mean level of anxiety as measured by the IPAT Anxiety Scale than will the control group.

5. At the end of the treatment period the experimental group will average fewer problems as measured by the adjustment-to-college-work scale of the Mooney Problem Checklist than will the placebo-control group.

6. At the end of the treatment period the placebo-control group will average fewer problems as measured by the adjustment-to-college-work scale of the Mooney Problem Checklist than will the control group.

7. At the end of the treatment period the experimental group will exhibit a higher mean score on study habits and attitudes as measured by the SSHA than will the placebo-control group.
8. At the end of the treatment period, the placebo-control group will exhibit a higher mean score on study habits and attitudes as measured by the SSHA than will the control group.

Statistical Analyses

Statistical analyses were done using an analysis of variance program from the North Texas State University Statistical Library. The program used was ST001: Analyses of Variance [(one-way design) revised May, 1971]. This program generated the necessary statistics to perform the Dunn C-test, which was used to determine the significance level of each factor.

The Dunn C-test is an \textit{a priori} multiple comparison procedure which can be used for making all planned comparisons among means, not simply those that are orthogonal. All hypotheses were tested at the .05 level of significance.

Summary

Thirty-six students participating in the Oklahoma-Texas Triple-T Project at Southeastern State College in Durant, Oklahoma, were randomly assigned to three equal groups. The first group received the hypnotic tape treatment developed by Shirley (7) to improve study habits and attitudes.

The second group, considered the placebo-control group, was exposed to music for a six-week period of time identical to that of the first group.
The third group received no treatment and served as the inactive-control group.

At the end of the six-week period, all students were administered the Survey of Study Habits and Attitudes, the Tennessee Self-Concept Scale, the IPAT Anxiety Scale and the Mooney Problem Checklist. Directional hypotheses were formulated, predicting differential results for each of the groups.

The data were compared using Dunn's C-test. The results are reported in the next chapter.
CHAPTER BIBLIOGRAPHY


CHAPTER III

RESULTS

Overview

The results of the data collected for this study are presented in this chapter, and the hypotheses are restated. The data were compared using one-way analysis of variance and the Dunn C-test, an \textit{a priori} multiple comparison. The computer program used generated the mean squares for the sources of variation from which the appropriate terms were used to compute the planned comparisons. All of the hypotheses examined were tested at the .05 level of significance. The results of the tests of significance are presented in table form.

Results

All of the hypotheses are restated below along with the results of the statistical treatment. The analysis of variance summary is shown for each measure, in as much as the within-group-variance estimate is used in the computation of the Dunn C-test (Table 1).
TABLE 1

ONE WAY ANALYSIS OF VARIANCE SUMMARY

<table>
<thead>
<tr>
<th>Measure</th>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Variance Estimate</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Concept</td>
<td>Between</td>
<td>497.722</td>
<td>2</td>
<td>248.8611</td>
<td>4.0558</td>
</tr>
<tr>
<td></td>
<td>Within</td>
<td>2024.8333</td>
<td>33</td>
<td>61.3586</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2522.556</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>Between</td>
<td>2282.1667</td>
<td>2</td>
<td>1141.0833</td>
<td>1.4101</td>
</tr>
<tr>
<td></td>
<td>Within</td>
<td>26703.8333</td>
<td>33</td>
<td>809.2071</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28986.0000</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems</td>
<td>Between</td>
<td>10.7222</td>
<td>2</td>
<td>5.3611</td>
<td>.1226</td>
</tr>
<tr>
<td></td>
<td>Within</td>
<td>1443.1667</td>
<td>33</td>
<td>43.7323</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1453.8889</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Habits</td>
<td>Between</td>
<td>2608.7222</td>
<td>2</td>
<td>1304.3611</td>
<td>1.9088</td>
</tr>
<tr>
<td>and Attitudes</td>
<td>Within</td>
<td>22550.8333</td>
<td>33</td>
<td>683.3586</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>25159.5556</td>
<td>35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis 1. At the end of the treatment period the experimental group will exhibit a higher mean positive self-concept as measured by the Tennessee Self-Concept Scale than will the placebo-control group. Hypothesis 1 was not accepted at the .05 level of significance. The mean of the treatment group was 32.0833, and the placebo-control group mean was 33.50000. As indicated in Table II, this provides a mean difference of 1.41667, and the difference is in the opposite direction of that hypothesized. The Dunn C-test produced an observed value of .44, which is less than the necessary critical value of 2.35. There were no differences obtained in the level of self-concept.

**TABLE II**

**SELF-CONCEPT MEASURE--DUNN C-TEST SUMMARY**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean Difference</th>
<th>Within-Group Variance Estimate</th>
<th>N</th>
<th>Observed Value</th>
<th>Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.41667</td>
<td>61.3586</td>
<td>12</td>
<td>.44</td>
<td>2.35</td>
</tr>
<tr>
<td>2</td>
<td>7.08333</td>
<td>61.3586</td>
<td>12</td>
<td>2.22</td>
<td>2.35</td>
</tr>
</tbody>
</table>

Hypothesis 2. At the end of the treatment period the placebo-control group will exhibit a higher mean self-concept, as measured by the Tennessee Self-Concept Scale, than will the control group. Hypothesis 2 was not accepted at the .05
level of significance. Table II lists a mean difference of 7.08333 for the two groups of Hypothesis 2. The placebo-control group mean was 35.50000, and the inactive control group mean was 40.58333. The observed value resulting from computing the Dunn C-test was 2.22. This is less than the critical value of 2.35; thus, no differences were obtained in the level of self-concept.

Hypothesis 3. At the end of the treatment period the treatment group will exhibit a lower mean level of anxiety as measured by the IPAT Anxiety Scale than will the placebo-control group. Hypothesis 3 was not accepted at the .05 level of significance. The mean of the treatment group was 331.41667, which is less than the placebo-control mean of 335.58333. Table III shows that the mean difference for these groups is 4.16667. The same table also indicates an observed value of .36 for Hypothesis 3. This is less than the critical value of 2.35. No differences were obtained in the level of anxiety.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean Difference</th>
<th>Within-Group Variance Estimate</th>
<th>N</th>
<th>Observed Value</th>
<th>Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4.16667</td>
<td>809.2071</td>
<td>12</td>
<td>.36</td>
<td>2.35</td>
</tr>
<tr>
<td>4</td>
<td>18.58333</td>
<td>809.2071</td>
<td>12</td>
<td>1.60</td>
<td>2.35</td>
</tr>
</tbody>
</table>
Hypothesis 4. At the end of the treatment period the placebo-control group will exhibit a lower mean level of anxiety as measured by the IPAT Anxiety Scale than will the control group. Hypothesis 4 was not accepted at the .05 level of significance. Table III lists a mean difference between the two groups of 18.58333. The mean of the placebo-control group was 335.58333 while the control group mean was 317.00000. The Dunn C-test yielded an observed value of 1.60, which did not equal the necessary critical value of 2.35, therefore, no differences were obtained in the level of anxiety.

Hypothesis 5. At the end of the treatment period the experimental group will average fewer problems as measured by the adjustment-to-college-work scale of the Mooney Problem Checklist than will the placebo-control group. Hypothesis 5 was not accepted at the .05 level of significance. Table IV lists a mean difference of .58333. The mean of the experimental group was 10.58333, and the placebo-control group mean was 10.00000. This computation of the Dunn C-test yielded an observed value of .22, less than the necessary critical value of 2.35. There were no differences obtained in the number of problems.

Hypothesis 6. At the end of the treatment period the placebo-control group will average fewer problems as measured by the adjustment to college work scale of the Mooney Problem
Checklist than will the control group. Hypothesis 6 was not accepted at the .05 level of significance. The mean of the placebo-control group was 10.00000, and the control group mean was 9.25000. As indicated in Table IV, the mean difference for these groups is .75000. The Dunn C-test produced an observed value of .28, which is less than the necessary critical value of 2.35. There were no differences obtained in the number of problems.

Hypothesis 7. At the end of the treatment period the experimental group will exhibit a higher mean score on study habits and attitudes as measured by the SSHA than will the placebo-control group. Hypothesis 7 was not accepted at the .05 level of significance. As reported in Table V, the mean difference between the two groups was 15.66667. The means of the experimental and placebo-control groups were 99.91667 and 84.25000 respectively. The Dunn C-test produced an observed value of 1.47. This figure is smaller than the

### TABLE IV

**PROBLEMS MEASURE—DUNN C-TEST SUMMARY**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean Difference</th>
<th>Within-Group Variance Estimate</th>
<th>N</th>
<th>Observed Value</th>
<th>Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>.58333</td>
<td>43.7323</td>
<td>12</td>
<td>.22</td>
<td>2.35</td>
</tr>
<tr>
<td>6</td>
<td>.75000</td>
<td>43.7323</td>
<td>12</td>
<td>.28</td>
<td>2.35</td>
</tr>
</tbody>
</table>
necessary critical value of 2.35. There were no differences observed in the quality of study habits and attitudes.

**TABLE V**

**STUDY HABITS AND ATTITUDES MEASURE—DUNN C-TEST SUMMARY**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean Difference</th>
<th>Within-Group Variance Estimate</th>
<th>N</th>
<th>Observed Value</th>
<th>Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>15.66667</td>
<td>683.3611</td>
<td>12</td>
<td>1.47</td>
<td>2.35</td>
</tr>
<tr>
<td>8</td>
<td>4.08333</td>
<td>683.3611</td>
<td>12</td>
<td>.38</td>
<td>2.35</td>
</tr>
</tbody>
</table>

**Hypothesis 8.** At the end of the treatment period the placebo-control group will exhibit better study habits and attitudes as measured by the SSHA than will the control group. Hypothesis 8 was not accepted at the .05 level of significance. The mean of the placebo-control group was 84.25000, compared to the control group mean of 80.16667. This produces a mean difference of 4.08333, as presented in Table V. The same table lists an observed value, resulting from computation of the Dunn C-test, of .38. This is less than the necessary critical value of 2.35. There were no observed differences in the area of study habits and attitudes.
Summary

In this chapter, the results of the data collected for this study were presented. Each hypothesis was restated, and the statistical results were presented.

**Self-Concept.** The level of self-concept was obtained by administering the *Tennessee Self-Concept Scale* on the final day of treatment. The following results were obtained:

1. The experimental group did not have a statistically significant higher mean self-concept than did the placebo-control group.

2. The placebo-control group did not have a statistically significant higher mean self-concept than did the control group.

**Anxiety.** The level of anxiety was obtained by administering the *IPAT Anxiety Scale* on the final day of treatment. The following results were obtained:

1. The experimental group did not have a statistically significant lower level of anxiety than the placebo-control group.

2. The placebo-control group did not have a statistically significant lower level of anxiety than the control group.

**Problems.** The number of problems each group had was obtained by administering the *adjustment-to-college-work-scale.*
of the Mooney Problem Checklist on the final day of treatment. The following results were obtained:

1. The experimental group did not exhibit a significantly smaller number of problems than did the placebo-control group.

2. The placebo-control group did not exhibit a significantly smaller number of problems than did the control group.

Study Habits and Attitudes. The level of study habits and attitudes was obtained by administering the Survey of Study Habits and Attitudes on the final day of the treatment. The following results were obtained:

1. The experimental group did not exhibit significantly better study habits and attitudes than the placebo-control group.

2. The placebo-control group did not exhibit significantly better study habits and attitudes than the control group.
CHAPTER IV

SUMMARY, DISCUSSION, AND IMPLICATIONS

Summary

This study investigated an application of hypnotic audiotapes to a specific group of college freshmen. Hypnotherapy is recognized as a viable adjunct to counseling, and it is known that hypnosis is possible via audiotapes. As a potential aid to students, these tapes would not place an additional work burden on the staff of a college or university counseling center, and, therefore, would increase the proportion of students served. Very little research attention has been given to the use of hypnotic tapes, and the previous research conducted has not been well documented.

This study examined the use of hypnotic audiotapes designed to affect study habits and attitudes. It was assumed that exposure to the hypnotic audiotapes would improve study habits and attitudes. It was further expected that exposure to the audiotapes would improve students' self-concepts and adjustment to college work, as well as reduce anxiety.

Previous studies were cited which indicated that hypnosis has had a positive effect on learning. Hypnosis has been shown to be an effective means of changing specific behaviors. Some
of the studies which used hypnotic audiotapes have failed to
test hypnotic procedures against a strong alternative.
Previous studies have confirmed only that hypnosis has a
greater effect than the lack of treatment.

The purpose of this study was to measure the relative
effect of hypnosis on study habits and attitudes as compared
to a placebo-control group who received non-hypnotic relaxing
treatment and to an inactive control group. Additionally, the
improvement of self-concepts, the reduction of anxiety, and
adjustment to college work were measured.

The Post-test-Only Control Group Design, described by
Campbell and Stanley (2), was used in this study. Subjects
for this study were freshmen students at Southeastern State
College who were participants in the Oklahoma-Texas Triple-T
Project. Thirty-six (36) subjects were randomly selected
and ordered to three groups: Treatment, Placebo-control, and
Inactive-control.

Treatment One consisted of a series of hypnotic audiotapes
dealing with study habits and attitudes. Treatment
Two consisted of taped relaxing music. Both of the treat-
ment groups met at the same time each day in similar rooms
with the lights out and the shades drawn. Silence was main-
tained at all times. The participants received an hour's
credit on the work-study program in which they were involved.
The sessions lasted for twenty minutes each day for six weeks.

It was hypothesized that the subjects who received the hypnotic treatment would exhibit better study habits and attitudes as well as lower levels of anxiety, better self-concepts, and fewer problems in adjustment to college work than the placebo-control group. Furthermore, it was hypothesized that the placebo-control group would score higher on the same measures than the control group.

Statistical analyses were done, using an analysis of variance method, the Dunn C-test. This is an a priori multiple-comparison treatment. A .05 level of significance was not obtained for any of the treatment variables.

Discussion

The literature concerning the use of hypnosis has been largely favorable, although not conclusive. Hypnosis as a method of affecting learning has been challenged by Edmunston and Stanak (3). The effectiveness of hypnosis has also been questioned by Barber (1).

By contrast, there are many writers who support the use of hypnosis in education and counseling, such as Mordey and Denike (6), Woody and Billy (8), Hammer (4), Mutke (7) and Lieberman, Fisher, Thomas, and King (5).
This study was conducted in an effort to determine the effectiveness of hypnosis via audiotape on individual characteristics of selected college freshmen. The usefulness of this method was measured in terms of differences in study habits and attitudes, self-concept, level of anxiety, and problems in the area of adjustment to college work. The results achieved in this study were not statistically significant. This may be a result of the brevity of the treatment period (six weeks), and the use of a non-volunteer population who may have lacked motivation or resented being assigned to treatment groups. It must further be remembered that there was no way to control information leakage between groups.

A significant F ratio was obtained on the measure of self-concept. This significance results from the difference between the experimental group (T1) and the control group (T3), a comparison which is not included in the hypotheses. The greatest mean difference for the measure of self-concept was between the placebo-control group and the control group, thus indicating that attentional factors were perhaps the greatest contributors to significance.

Although there was no significant difference between groups on the adjustment-to-college-work scale of The Mooney Problem Checklist, there was a marked difference between the number of problems students indicated as pressing. This is
true for both the adjustment-to-college-work scale and the entire test. Those students exposed to the hypnotic tapes perceived themselves as having a greater number of problems, although they considered only a very few of the problems as being serious. This fact may be attributed to an increased awareness of self in relation to school. Members of the placebo-control and control groups tended to check a smaller number of problems but were much more likely to perceive their problems as serious.

As a matter of interest, a comparison of grade point averages for each of the three treatment groups was made at the conclusion of the study.

As Table VI indicates, none of the three groups improved in grade point average during the spring semester. There were no appreciable differences between groups. These attendant data seem consistent with the results of the study.

**TABLE VI**

<table>
<thead>
<tr>
<th>Group</th>
<th>Fall 1971 GPA</th>
<th>Spring 1972 GPA</th>
<th>Difference</th>
<th>Number of Improved GPA's</th>
</tr>
</thead>
<tbody>
<tr>
<td>(T₁) Experimental</td>
<td>2.92</td>
<td>2.67</td>
<td>-0.25</td>
<td>3</td>
</tr>
<tr>
<td>(T₂) Placebo-control</td>
<td>2.68</td>
<td>2.38</td>
<td>-0.30</td>
<td>3</td>
</tr>
<tr>
<td>(T₃) Control</td>
<td>2.78</td>
<td>2.56</td>
<td>-0.22</td>
<td>4</td>
</tr>
</tbody>
</table>
Implications

The results of this study must be understood and interpreted in terms of the particular treatment, population, and measures used. The range of external validity is determined by the above, and therefore caution is advised in making implications from the results for other settings and conditions.

Implications for Research

The hypnotic audiotapes used in this study have been shown to be ineffective when used with randomly assigned college freshmen students over a six-weeks period. Research measuring results over a longer period of time could help to establish the range of effectiveness of the treatment procedures.

In this study, a small homogeneous population was exposed to the treatment. Future research could deal with a broader cross-section of the college population. Volunteer subjects could also be researched, and level of motivation would be an important variable to consider in the future. It should be noted that the findings in this study are consistent with all previous research done with similar populations.

Further research attention might be given to the usefulness of these treatments at the beginning of the school year,
as part of an orientation program, before patterns of adjustment to college work are established. In light of the significant F ratio obtained in this study, the self-concept variable could be isolated for further investigation.

Implications for Practice

Although no differences were obtained in improving self-concept, study habits, and attitudes, and limiting academic problems, there were indications that these tapes may prove to be a valuable adjunct to counseling when the client is motivated and when counselor time is at a premium.
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