ACHIEVEMENT MOTIVATION, LEVEL OF ACADEMIC ACHIEVEMENT AND THERAPY OUTCOME

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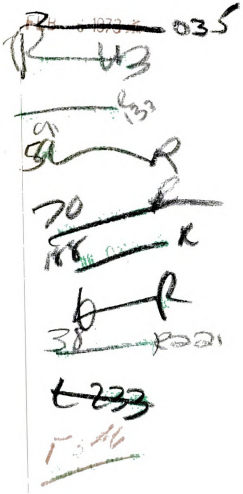

ABSTRACT

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By

Myrna E. F. Lane

Considerable research has been devoted to developing therapeutic procedures for improving the academic performance of underachievers. However, the results of this research have been inconsistent, with a tendency towards negative findings. This raises the possibility that factors other than those considered influence the results. One such possible factor is achievement motivation. Although studies concerning underachievement have considered the performance of the subjects, they have not considered motivation level; and it is possible that this accounts, in part at least, for some of the negative findings. It may be that underachievers enter therapy with the same lack of motivation to succeed with which they approach academic work.

This study was designed to assess the differential effects of achievement motivation and level of academic achievement on therapy outcome. The major hypothesis was that there would be a positive relationship between both level of achievement motivation and academic achievement and therapy outcome. That is, students with higher achievement motivation and level of academic achievement will profit more from therapy than students with lower motivation and academic achievement. It was also expected that personality factors would distinguish between the higher and lower achievers.

The data for this study were drawn from a research project conducted at the Michigan State University Counseling Center from 1967 through 1969. The 25 students for whom pre- and post-therapy test data were available comprised the main sample, the Complete group. An additional Incomplete group contained 21 students for whom all pre-therapy but little post-therapy data were available. It was also hypothesized that students in the latter group would have lower achievement motivation and level of academic achievement. As a result of their predicted lower motivation and achievement, the students in the Incomplete group were also expected to gain less from therapy.

Achievement motivation was assessed from the five MMPI achievement scales and McClelland's n Achievement scores. Raters

were trained to score TAT protocols for the latter measure. High interrater reliabilities were obtained after some modifications of the system. Level of academic achievement was measured by the deviation between the subjects' CQT percentile scores (used as an indication of ability and therefore of expected performance) and their GPA percentiles (or actual performance). Changes in the Tennessee Self Concept Scale Total Positive and Number of Deviant Sign scores from before to after therapy were the measures of therapy outcome. Personality factors were assessed from several MMPI scales and other instruments.

The results of the study generally failed to support the hypotheses that higher levels of either achievement motivation or academic achievement were related to more successful therapy outcome. Also, there were no significant differences between the subjects in the Complete and Incomplete groups in regard to the achievement factors or therapy outcome as assessed by academic performance after therapy. Personality factors, in general, also did not differentiate between higher and lower achievers.

Although the major hypotheses were not supported, there was little contradictory evidence to refute them and some specific relationships were revealed. Several of the achievement motivation measures were found to be related to each other. However,

differences between the measures suggested that achievement motivation may not be a unitary construct.

There was some interaction between achievement motivation and level of academic achievement in that certain patterns of motivation and performance were related to greater gains in therapy. These patterns were specific to the measures of achievement motivation considered and suggest that different components of motivation, in connection with performance, may differentially affect therapy outcome. There was also a negative relationship between level of achievement and changes in feminine achievement motivation during therapy, despite the fact that achievement motivation and level of achievement were generally unrelated. This relationship suggested that therapy may serve to decrease inappropriately high and increase inappropriately low levels of achievement motivation in females.

In comparing the Complete and Incomplete groups of subjects, sex differences were evidenced which indicated that the females tended to have higher achievement motivation and level of achievement than the males. This may indicate that males and females seek therapy for different reasons. It also suggests that males and females may need to be treated separately when investigating achievement behaviors in relation to therapy. Personality

factors were found to relate only to the level of achievement motivation of females.

The present sample appeared to be significantly lower in achievement motivation and higher in both ability and performance than normative groups. Lack of normative data for the Counseling Center population makes it impossible to decide whether this was typical for a Counseling Center population or reflected selection factors specific to this study.

A number of methodological problems were discussed: the questionable appropriateness and meaning of the scores derived from the instruments used, the lack of relevant normative data for a number of the measures and the restricted nature of the sample in both number and diversity. The implications of these problems for the lack of findings were discussed and suggestions were made for future research.

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ACHIEVEMENT MOTIVATION, LEVEL OF ACADEMIC ACHIEVEMENT AND THERAPY OUTCOME

By

Myrna E. F. Lane

A THESIS

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To my husband, Irv

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CHAPTER I

INTRODUCTION

Recently a large body of research has developed relating different client characteristics to therapy outcomes in the hope that characteristics that lead to successful outcomes could be isolated. In this way, clients could be selected who would profit maximally from a given form of therapy.

A separate body of research has concerned itself with the effects of counseling, both group and individual, on academic achievement. One group of these studies examined students with different achievement levels and compared the students' performances before and after therapy. In some instances the type of therapy experience was varied. Although the results of these studies have not been conclusive, the majority seem to indicate that academic performance improves after therapy. Of the studies reviewed, four found that therapy had a beneficial effect on academic achievement. In one case a relationship was found even when academic achievement was measured twenty-five years later (Williamson and Bordin, 1940;

Speilberger, Weitz and Denny, 1962; Campbell, 1965; Shepherd, 1965). Another found improvement in grades under one method of treatment but not under a different method (Garneski, 1966), and two others found no differences in grades or graduation rates for those in therapy as compared to control groups (Richardson, 1964; Hill and Grieneeks, 1966b).

Another, perhaps larger group of studies in this area, has been more restrictive in its subject population, studying the effects of therapy on the academic performance of underachievers. Here the results have been even more contradictory. Although several of the studies with underachievers have reported improvement in scholastic performance following treatment for the subjects in the counseled groups, at least under some conditions (Chestnut, 1965; Dickenson and Truax, 1966; Gilbreath, 1968; Hart, 1963), a large number have either failed to find such improvement or found it only to a minimal and insignificant degree (Baymur and Patterson, 1960; Broedel, Ohlsen, Proff and Southard, 1960; Goodstein and Crites, 1961; Winkler, Teigland, Mungler and Kranzler, 1965; Hill and Grieneeks, 1966a).

Combining these two approaches suggests that there may be something about the motivational patterns or personalities of underachievers that interferes with or impedes the therapy process.

It may well be that the attitudes towards achievement and low motivational level that these students display in regard to their school work are carried over into the therapy situation and that the underachievers seek to obtain as little from therapy as from their academic lives. If this is the case, then one would expect overachieving students to enter therapy with a strong need to do well or get something from the situation and a high motivational level. Students with moderate achievement drives and whose performance is consistent with their abilities might then be expected to fall between these two extremes. Thus the level of achievement or motivation with which a student enters therapy may be directly related to therapy outcome.

Another factor suggesting less success in therapy for underachievers and greater success for overachievers, even when grades are not the outcome measure, is the personality patterns typical of these two divergent groups of students. Traits such as hostility towards authority and poor interpersonal relations have been shown to be related to underachievment. These traits may also be predicted to hinder therapy efforts. On the other hand, high achievers tend to accept authority and have positive interpersonal relations, and these traits may be predicted to facilitate therapy (Taylor, 1964).

This paper will now take a closer look at both the motivational aspects of achievement and the personality factors related to

different levels of achievement. Some other studies dealing with the relationship between achievement and therapy will also be discussed in an attempt to indicate what has been done in this area and to point out some considerations necessary in a study of this kind.

Achievement Motivation

Achievement Motivation (Need for Achievement) and Level of Academic Achievement (Actual Performance)

The studies cited in the preceding section and the majority of those in what follows have concerned themselves with the level of academic achievement or actual performance. Although level of achievement and achievement motivation are related concepts, the two are not the same.

Drive Theories

Early theories of motivation stressed the importance of the survival of the organism or species as a motivating factor. These survival theories stressed that needs, which if left unsatisfied would lead to death or extinction, are the necessary and sufficient causes of goal directed behavior (McClelland, Atkinson, Clark and Lowell, 1953). It has since become apparent that this theory is not always correct and that it cannot account for all of motivation; that is, it is

both too broad and too narrow. It is too broad since there are cases in which survival is threatened yet no goal-directed behavior occurs, for example, in cases of some vitamin deficiencies; it is too narrow since it does not account for certain nonbiological motives such as curiosity, activity and achievement. One of the first experimentalists whose theory accounted for nonbiological motives was Hebb (1949). He devised a neural patterning model in which motives: 1) give direction to behavior and 2) may be associated with pleasure as well as with drive reduction.

Many of the post-Freudian ego psychologists proposed drives similar to the achievement drive. Among these are Hendrick's "instinct to master" from which people derive pleasure from doing things well, Hartmann's autonomous ego in which adaptive skills develop on their own and Kardiner's effective ego that gets gratification from successful performances. Adler also stated that the gratification of achievement needs is important and he related this to the individual's striving for superiority (Munroe, 1955; White, 1959). Two of Erikson's principles also relate to achievement motivation. These are initiative and industry, in which the person finds pleasure in work, especially in its completion (Erikson, 1950).

Perhaps one of the most closely related and well developed concepts in this area is White's notion of competence, which he

defines as the "ability to interact effectively with the environment." He conceives of competence as an innate drive from which the need for achievement develops through maturation and learning (White, 1959).

All of these theories propose that drive reduction is not a necessary condition for motivated behavior and learning, but rather, that some behaviors are based on activity, gratification and success for their own sake.

Achievement Motivation and Learning--Affective Arousal Model

Two of the leading researchers in the area of achievement, McClelland and Atkinson, developed a theory of motivation based primarily on their experimental data. This theory holds that the satisfaction of all motives is learned through a process of affective arousal. This means that behavior that leads to the satisfaction of drives will produce pleasure while other behavior will not. A person seeking to maximize pleasure, then, will repeat those acts that have lead to the satisfaction of drives. The authors go on to define achievement as the success attained in competition with a standard of excellence. This, they conclude, is pleasurable, because it leads to the attainment of approval. Also, while there is some intrinsic pleasure in

achievement, stronger motivation requires standards of excellence set by the parents (McClelland et al., 1953).

Achievement motivation, then, according to McClelland and Atkinson, is the desire or need to achieve because of the consequent pleasure involved. In this sense it is distinguishable from the actual accomplishment of the task, or the level of achievement per se.

As noted above, most studies are concerned with the level of achievement. Hill criticized studies of counseling effectiveness because they have not controlled for level of motivation. He predicted that if counselees and controls were matched on aptitude and achievement, those seeking counseling would have a higher level of motivation but that something would be intervening which prevented that motivation from being expressed in increased performance (Hill, 1966). Hill presented no data to support this claim. This criticism does, though, point to the need for an investigation of achievement motivation as well as performance in therapy.

Research

Measures of achievement motivation. --A frequently used method for measuring achievement motivation was devised by McClelland and Atkinson. In order to test their hypotheses about achievement motivation, the authors found it necessary to devise a

method for measuring its level. They started by examining the effects of varying degrees of food deprivation on projective stories and found that the amount of food imagery increased with the length of deprivation. They then tested different groups of male college students using projective pictures under instructions designed to elicit either weak, average or strong achievement motivation (Relaxed, Neutral and Aroused conditions) and compared the groups on several scoring variables they thought would be related to the level of motivation. The amounts of certain categories of responses increased as the level of achievement motivation was increased from Relaxed to Aroused and these categories were retained. Thus, in the final scoring system, the higher scores represented stronger achievement motivation (McClelland et al., 1953). Four pictures were then selected, two of which came from Murray's Thematic Apperception Test (TAT): cards 7 BM and 8 BM. As this has been the most widely used measure of achievement motivation, its reliability and validity are considered briefly below.

Reliability: Lowell performed a test-retest reliability check using one set of subjects and two sets of pictures with one week intervening and obtained a nonsignificant correlation of .22. However, when two broad categories were used (above and below the median) 72.5% of the subjects were classified in the same category

both times, so that while relative rankings were not maintained, crude positions were. Lowell thus concluded that groups of high and low scorers could be compared (Lowell, 1950). Kagan and Moss performed a more long-range study using three measurements taken over a six year period and obtained a small but positive relationship over that time span (Kagan and Moss, 1959). These results suggest some consistency over time, at least for broad categories.

Validity: As Brown (1965) notes, one type of validity is built into McClelland's measure through his derivation of the scoring system. That is, the system was developed so that scores increase as experimentally induced motivation increases.

There is evidence that McClelland's measure also has predictive validity. The concept of achievement motivation leads to the prediction that people with strong achievement motives should do better in certain situations than people of equal ability but with weaker motives. In this case, their performance in the situation is the criterion. Strodtbeck did a study bearing on this assumption in which he compared boys' IQ's, achievement test scores and test grades. Predictions of grades were made from the first two measures and these were compared to actual grades to determine which boys were underachievers and which were overachievers. The results showed that overachievers had significantly higher achievement motivation as judged by McClelland's measure (Strodtbeck, 1958).

Achievement scores derived from McClelland's measure have also been shown to be positively correlated with other criterion measures. Among these are: improvement in solving anagrams (Lowell, 1950), number of tasks completed (Atkinson, 1953), number of completed and incompleted tasks recalled (McClelland et al., 1953), number of arithmetic problems solved and number solved correctly (Wendt, 1955), and degree of occupational advancement (Everett, 1959). A study by French, using a measure similar to McClelland's, indicated that the relationship between motivation and performance varies with the orientation the subjects are given. This suggests that similar measures may also be valid (French, 1958).

Another indication that these measures are valid is that they correlate with each other. Studies utilizing other measures have also shown consistency in the relationship between achievement motivation and behavior across situations. These studies have indicated a positive relationship between achievement behaviors at home and in nursery school, as shown to parents and to teachers, and between different areas such as intellectual and mechanical strivings (Crandall, Preston and Rabson, 1960; Moss and Kagan, 1961).

These results suggest that there is considerable latitude in the pictures that may be employed to assess achievement

motivation. In a study by Capelhorn and Sutton (1965) it was shown that the two of McClelland's pictures that come from the TAT (cards 7BM and 8BM) correlated significantly with performance while the other two of McClelland's pictures did not. The authors suggested that the two TAT pictures seemed to get at a more underlying form of achievement motivation than did the two pictures with greater achievement related cue content. Thus the TAT may have some advantages as a measure of achievement motivation.

One point that should be noted in connection with McClelland's achievement motivation measure is that most of the studies in which it was used have utilized male subjects. Studies involving female subjects have yielded different results, indicating that their achievement motivation does not increase under instructions designed to elicit different levels of arousal (Field, 1951; Veroff, 1950; Wilcox, 1951). Since intelligence and leadership were the traits stressed by the instructions, these results may indicate that these traits are not as relevant to the achievement of females as to males. To support this, females' scores did increase in a study in which achievement motivation was based on social approval and popularity (Field, 1951). Whether these same sex differences will carry over into a situation without instructions designed to elicit achievement arousal is not known. However, the results of these studies suggest that it may be necessary to deal separately with scores from males and females.

There is one major problem involved in the use of McClelland's scoring system and that is the time-consuming process of training raters to use the system accurately and reliably. However, although attempts have been made to develop multiple choice inventories of achievement motivation, to date these attempts have not been very successful (e.g., Moriarty, 1969).

Motivation and performance. --It has already been noted that measures of achievement motivation have been lacking in the research on therapy outcome done to date. Perhaps one reason for this is that motivation is assumed to be positively related to actual achievement, and therefore researchers may have felt that it was only necessary to measure one of the two. The first part of this assumption is, in fact, correct. Motivation and performance have been shown to be positively related to each other. However, in studies utilizing McClelland's measure of achievement motivation, these correlations have typically ranged from a low of close to zero to a high of about .5 (Capelhorn and Sutton, 1965; Birney and McKeachie, 1955; Bendig, 1959; Wendt, 1955). Although some of these correlations proved to be statistically significant, the highest still account for only about twenty-five per cent of the total variance. Thus it does not seem that the amount of motivation should be ignored

but rather that this may be an important factor, varying somewhat independently of performance, and one that certainly deserves consideration.

Personality Factors and Achievement

Studies have indicated that there are a number of personality differences between high and low achievers. Several of these will now be considered along with their implications for therapy.

Research

Independence. -- The trait that stands out as characterizing children and young adults with high achievement motivation and performance is their independence and lack of conflict over dependence and independence. High achievers are typically self-reliant, persistent, capable of making choices and initiating activities (Crandall, Preston and Rabson, 1960; Winterbottom, 1958; Walsh, 1956). This type of behavior has been labeled as instrumental independence, as opposed to emotional independence, since the person is able to carry out activities and handle problems without help.(Heathers, 1955; Ferguson, 1968). Consistent with this, their mothers generally reinforce approval-seeking but not help- or support-seeking (Crandall, Preston and Rabson, 1960). The high

achievers also tend to adopt an active role with respect to their environment (Knapp, 1958). This, too, is instrumental independence.

These characteristics would appear to be beneficial for therapy, since it is reasonable that clients who can initiate constructive activities and persevere in the often difficult and anxiety-provoking task of change would profit more than those who could not. On the other hand, independence might interfere with therapy since the client must be able to take something from the therapist; in fact, it has been suggested that initial dependency is desirable (Dollard and Miller, 1950).

However, the type of independence typically displayed by high achievers is instrumental independence. This does not necessarily imply that they also display emotional independence, that is, that they do not seek reassurance, approval or affection. The fact that their mothers reinforce approval-seeking might suggest that they actually do show some forms of emotional dependence. In this regard, several investigators have argued that overachievers are, in some ways, dependent, that they are more concerned with achievement than with independence, and that they do best under direction (Holland, 1961; Middleton and Guthrie, 1959). This suggests that the overachiever is high on both instrumental independence and emotional dependence. These characteristics, again, would suggest the

ability to profit from therapy. Thus, instrumental independence coupled with a degree of emotional dependence, may be a factilitating combination for therapy.

On the other hand, children and young adults with low achievement motivation and low performance are found to be quite instrumentally dependent, seek help and support often and take a passive role with respect to their environment. Although help- and support-seeking may be beneficial at the beginning of therapy, the continuation of extreme dependency has been shown to interfere with therapy (Dollard and Miller, 1950). According to Stollak, Guerney and Rothberg (1966) dependency in therapy is the extent to which the client passes the responsibility on to the therapist rather than accepting it himself. This, again, appears to represent instrumental dependency. It also goes along with the low achiever's passive role and would suggest that the active participation necessary for change is lacking in these people.

Authority relations. --Another characteristic that differentiates high from low achievers is their attitude towards authority figures. Overachievers tend to accept authority while underachievers tend to be hostile and aggressive towards authority. The theory is advanced that this stems from differential relations with parents. Overachievers on the one hand have parents who are concerned about

them and about their success and they try to please their parents by doing well (Taylor, 1964; Gough, 1953). These attitudes generalize to other authority figures, and overachievers try to please them and create favorable impressions. Underachievers on the other hand have parents who tend to be indifferent to their children's success and often there is conflict between parent and child. The hostility that the child feels towards his parents is often transferred to other authority figures against whom he then rebels (Taylor, 1964). In therapy, the therapist is usually regarded as an authority figure and often as a surrogate parent. Thus, the attitudes the child feels towards his parents are transferred to the therapist (Dollard and Miller, 1950). In the case of the overachiever, these attitudes and feelings may be expected to facilitate therapy since the client will trust the therapist and want to change to please him. However, in the case of the underachiever, the hostility and rebellion transferred from the parents may be expected to retard the therapy process if the client tries to resist the therapist as he did his parents.

Interpersonal relations. --It has been shown that children with a high need for achievement and those who perform at high levels tend to be more successful in social groups and more popular than their counterparts with a low need for achievement (Winter-bottom, 1958). They are also more interested in and sensitive to

the needs of others and have positive, strong peer relationships (Taylor, 1964). In contrast, those with a low need for achievement and low levels of performance are not as adept socially as their peers. They may tend to be withdrawn, disinterested in others and apathetic and at times may even exhibit asocial behavior (Taylor, 1964; Gough, 1953a). Here, again, the evidence would suggest that the high achievers might do better in therapy, as they might form better relationships with their therapists than low achievers.

Other variables. -- Taylor (1964) cites a number of other variables for which there are differences between high and low achievers. One is that high achievers tend to have positive self-values and to feel that they are adequate and self-confident while low achievers have negative self-values and tend to feel inferior and inadequate. It has been suggested that the low achiever's feelings of inadequacy and passivity are what lead to the failures that reinforce his perceptions of himself.

In regard to anxiety, Taylor reviews studies showing that overachievers have less deep-seated anxiety and more tension with resultant strong self-control, and underachievers have a high degree of free-floating anxiety. To cope with this anxiety, underachievers sometimes try to maintain a defensively superior self-image.

In all, the high achievers appeared better adjusted and more mature than the low achievers. While their personality patterns suggest they would derive more from therapy than low achievers, they also lead one to wonder if high achievers would be as much in need of counseling. Perhaps this is one reason why there is little research on high achievers in therapy. At any rate, it is apparent that research has focused on therapy with low achievers rather than high achievers.

Therapy with Underachievers

The one topic still to be considered is therapy with underachievers. The basic results of a number of these studies have already been considered. However, a few points remain.

Research

The basic design of these studies was to identify a group of underachievers, permit them to have a therapy experience and then to assess whether their academic performance improved. Aside from this general structure, the studies differed on a wide number of variables. Among these were: time at which subjects were identified as underachievers--before or after they were in therapy; whether the subjects were self-referred or recruited; type of therapy experience--group or individual; type of material covered--personal-social problems or academic achievement related problems

(emotional versus cognitive psychotherapy); use of a control group --if one was used or not and, if it was, its characteristics; and the measures of achievement and therapy outcome employed. Two studies (Chestnut, 1965; Dickenson and Truax, 1966) obtained overall positive results, and two (Gilbreath, 1968; Hart, 1966) obtained positive results under some conditions.

The study by Dickenson and Truax compared twenty-four academic underachievers who were seen in group counseling (experimental group) with twenty-four academic underachievers who were not in counseling (control group). Students were defined as underachievers if they were put on academic probation after one semester despite having attained scores on the American College Test (ACT) that were high enough to indicate they had the aptitude to get passing grades. All such students were then sent letters that indicated that group therapy was available. Forty-eight of these students responded and they were assigned to one of the two groups mentioned above. The experimental group was further subdivided into three sections of eight students each according to available hours for counseling. The experimental and control groups were then compared on several outcome measures related to improvement in academic performance. Results indicated that the experimental group had made greater improvement in performance than the control group on all the outcome

measures. An additional finding was that, of the three experimental sections, those with the highest therapeutic conditions (in terms of warmth, empathy and genuineness) showed the greatest improvement.

Chestnut examined the relative effectiveness of counselor structured therapy and group structured therapy in improving the academic performance of male underachievers. He contrasted the changes in grades made by subjects seen under these therapy conditions to those made by subjects in a control group that received no therapy. In the counselor structured groups, the discussions were guided by the therapist and focused on the personality dynamics of underachievement and how these related to poor academic performance. Under the group structured condition, the topics originated from the group members and did not have to be related to the dynamics of underachievement. Here, underachievers were defined as those students whose grade point averages (GPAs) were 2.00 or below despite their having scored at or above the fiftieth percentile on the College Qualification Test. The results of this study indicated that the subjects in the counselor structured groups made significantly greater improvement in their GPAs than the subjects in the other two groups and that the subjects in the group structured condition improved their GPAs more than the subjects in the control group.

Hart's study compared underachieving college students seen in two types of group therapy, cognitive and affective, with a control group receiving no treatment. The cognitive group focused on material that related directly to problem areas associated with academic achievement, whereas the affective group stressed material concerned with personality dynamics and personal problems. The subjects were ninety-six students who, despite having sufficient ability for college work as judged by an entrance examination, had unsatisfactory grades their first term. When the grades for the different groups were compared at the end of the term, those in the affective groups had earned significantly higher grades than the controls. There was no such difference between the subjects in the cognitive groups and the control subjects and three months later all three groups were statistically equivalent again. This suggests that, while personal-emotional counseling can cause concurrent improvement in academic achievement, such improvement may be only temporary.

Using a somewhat different approach, Gilbreath considered personality dynamics in forming what he considered appropriate and inappropriate counseling groups. For this, high and low dependent underachievers were seen in either leader structured or group structured groups. The former type of group was considered

appropriate for the high dependent subjects and inappropriate for the low dependent subjects while for the latter group the reverse was true. The leader structured group emphasized underlying emotional patterns of underachievement with the leader presenting the topics and the group members discussing their feelings. Although no topics were presented in the group structured condition, discussions tended to focus on study habits and feelings about not being able to achieve. The results were similar to those in Hart's study: the subjects in the appropriate counseling groups achieved significantly higher grades than the control subjects but not than the subjects in the inappropriate group; and subjects in the inappropriate counseling group did not make significantly greater gains than the control subjects. Again, there were no differences after three months.

These four studies had in common several of the variables mentioned above. First, the subjects in the studies were initially identified as underachievers from the school population and then recruited for the purposes of the studies. Second, they all employed group counseling. Also, while at least the first three studies had groups that dealt with personal-social problems, the latter three also had groups that dealt with achievement-related problems. There was no consistency in the treatment type that produced the most successful results.

These studies suggest, then, that these particular variables are especially conducive to successful therapy and that it is in situations in which they are not present that underachievers tend not to benefit from therapy. That is, it may be that the underachievers' lack of motivation interferes with the therapy process when (a) they refer themselves without the explicit purpose of improving their grades and (b) they have individual counseling.

Although a number of the variables present in these two studies were also present in the studies in which no improvement in grades was found, differences were also noted. For example, in the Hill and Grieneeks study (1966a) all the subjects were self-referred and classified as underachievers only after they were in therapy. In the Goodstein and Crites study (1961) all the subjects were seen in individual counseling, and in the Baymur and Patterson study (1960) one group was seen in individual counseling. Although no outstanding differences in design were found for the other studies, the reviews were often quite brief and more detailed reports might yield important differences.

It was originally felt that the type of material covered in therapy might be an important variable. However, the evidence at present does not support this. Of the studies dealing with achievement-related problems, two obtained at least partial positive results

(Chestnut, 1965; Gilbreath, 1968), and two negative results (Goodstein and Crites, 1961; Hart, 1963). Of the studies employing personal-social counseling, three obtained changes in academic performance (Chestnut, 1965; Dickenson and Truax, 1966; Hart, 1963) while four did not (Baymur and Patterson, 1960; Broedel, Ohlsen, Proff and Southard, 1960; Winkler, Teigland, Munzer and Kranzler, 1965; Hill and Grieneeks, 1966a). Of these, the first two did obtain improvement in personal adjustment. Thus, at present the effect of material covered in therapy appears somewhat ambiguous.

Present Study

The present study was designed to assess the effects of achievement motivation and level of achievement on therapy outcome. As such it differs in two important ways from previous research: 1) Achievement motivation, rather than just performance, is considered; and 2) instead of investigating the effects of therapy on level of achievement--a research problem that has produced rather contradictory results, especially for underachievers--this study turned the problem around and investigated the effects of level of achievement on therapy. This was done in order to examine the possibility that the equivocal results obtained in the former types of investigations were due to the motivational characteristics of the

of the subjects, motivational characteristics that also tended to act as selection variables as well.

The present study focuses on therapy with self-referred clients in individual treatment since such therapy appears to have had the least beneficial results, in terms of improving academic performance. If level of achievement motivation and academic achievement are shown to be related to therapy success under these conditions, the results may be generalizable to other forms of therapy.

Hypotheses

Major Hypotheses

1. Within a Counseling Center group, there will be a positive relationship between achievement motivation and level of achievement, so that students with higher motivation will be the ones whose performance exceeds what is expected of them and students with lower motivation will be those whose performance is below what is expected of them.
2. Achievement motivation will be positively related to outcome of therapy. That is, students with higher achievement motivation will profit more from therapy than students with lower achievement motivation.

3. Level of achievement will be positively related to outcome of therapy. That is, students who perform at a level above that which is expected of them will profit more from therapy than students who perform at a level below that which is expected of them.
4. Achievement motivation and level of achievement will be higher for the students in a group that completed post-therapy testing than in a group that did not complete the post-testing.
5. The Complete group will also profit more from therapy than the Incomplete group, in terms of improved academic performance.

Subsidiary Hypothesis

1. Personality variables such as independence, interpersonal relations, relations to authority figures and self-concept will be related to achievement motivation, level of achievement and therapy outcome. Students who are high in instrumental independence and emotional dependence and who have good interpersonal and authority relations and positive self-concepts will have the highest levels of achievement motivation and levels of achievement as well as the most successful therapy

outcomes. Conversely, students who are low in instrumental independence and emotional dependence and who have poor interpersonal and authority relations and negative self-concepts will have the lowest levels of achievement motivation and levels of achievement and the least successful therapy outcomes.

CHAPTER II

METHOD

The initial conception of this study called for pre-testing subjects and assigning them to groups according to achievement motivation and levels of achievement to allow for an analysis of variance design. However, problems existed in getting enough cooperative subjects who refer themselves for therapy to fit into each cell. Also, there were the possibilities that some combinations of characteristics might not exist in large enough numbers to permit comparison or that students with certain characteristics (i.e., positive self-concepts, independence, good interpersonal skills) might not enter therapy. These considerations, plus the fact that records containing pre- and post-therapy data were already available for students at the Counseling Center, led to some modifications in the design.

Subjects

The subjects for this study were the students involved in the 1967-1969 psychotherapy research project at the Counseling

Center at Michigan State University. All the students in this group were seen at the Counseling Center for personal-social counseling over a period of time, and all were self-referred. The majority of the referral problems concerned relations with parents and peers, often involving heterosexual relations, and difficulties in adjusting to living in a university setting. The students were seen by therapists with two levels of experience: senior staff and advanced interns. The type of therapy these students received may best be described as eclectic as it covers a wide range, from client-centered therapy and more traditional analysis to behavioral modification and other techniques.

The primary group of subjects consisted of those students involved in the project who completed both the pre- and post-therapy test batteries and who were seen for psychotherapy between the two testing periods.[1] This group included nine male and sixteen female students.

A secondary group of subjects contained those involved in the project who completed the pre-therapy test battery, were then seen for psychotherapy but who did not complete the post-therapy

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[1]In a few instances one or more tests from the battery were either not completed or were unavailable for technical reasons, such as an erased TAT tape. However, at least both pre- and post-therapy TSCS and pre-therapy TAT measures were available for all these subjects.

test battery. In some instances, partial post-therapy test material was available, in others it was not. Most of the students in this group remained in therapy for only a short time. The hypothesis was advanced that the subjects in this Incomplete group would have lower achievement motivation and level of achievement than the subjects in the Complete group. If so, then these lower levels might have interfered with the group's progress in, and completion of, therapy and their completion of the test materials. The Incomplete group was included in the present research to test this hypothesis. There were eight male and thirteen female subjects in this group.

The larger number of female than male students in both groups may be a reflection of sex differences in willingness to participate in research, in dependency, need for approval or motivational factors, since there are no significant sex differences in the number of students involved in psychotherapy at the Michigan State University Counseling Center. (In 1967-8 the percentages were 53 and 47 for males and females respectively and in 1968-9 they were 49.7 and 50.3.) Additional information about the characteristics of the subjects in the samples may be found in Appendix I.

Procedure

Data Collection

As the present study has been designed to make use of existing data, the process by which these data were collected is described below.

It is the customary procedure at the Counseling Center to screen potential clients in an intake interview to assess whether their referral problems are suitable for therapy at the Center. This procedure was continued for the project, with the additional conditions that all students who referred themselves for personal-social problems and who met four criteria were requested to participate in the research project. The four criteria used were: 1) that the potential client was an undergraduate student, 2) that the problem was suitable for him, or her, to be seen at the Center, 3) that he or she had not had previous therapy either at the Counseling Center or elsewhere and 4) that the client would probably spend a considerable time in therapy. If the student met these criteria, the intake counselor described the research to him and asked him to participate. At this time, potential subjects were told that all data would be confidential and anonymous and that the sessions would be tape recorded. They were also informed that their commitments would include four hours each of pre- and post-testing plus some additional testing during the

course of therapy. The students were further told that their participation, or lack of participation, in the research project would not affect whether or not they were accepted for therapy. Prospective subjects were then given a letter explaining the project, which they were asked to sign if they agreed to participate.

Students who did agree were asked to complete a short inventory right after the intake interview and also to set up appointments for the four hours of pre-testing, (completed in two blocks of two hours each) before therapy was begun. They were then assigned to one of the staff members participating in the project on the basis of matching the students' available hours for counseling with those of the counselor.

Students were generally seen on a once-a-week basis. All sessions were tape recorded with the students' permission. The individual counselors were under no obligation to mention the research project to the student during the course of psychotherapy except that, during the final interview, the counselor reminded the student to take the post-tests. During the course of therapy, the students filled out two short inventories and at the end, they took four hours of post-tests, again in blocks of two hours each.

There was also counselor participation in this project. At the beginning of therapy, as well as after the fourth interview and

upon termination, the counselor filled out an Interview Rating Form. He also filled out a Counselor Judgment of Outcome Scale at the conclusion of therapy.

Measurements for Hypothesis Testing

In order to test the hypotheses it was necessary to obtain measures of achievement motivation, level of achievement, therapy outcome and personality factors from the existing data.

Achievement Motivation

McClelland's and Atkinson's achievement motivation measure. --Achievement motivation was assessed via the students' Thematic Apperception Test (TAT) protocols which were collected before, and in the Complete group, after therapy. The cards used in this project for the male subjects were 1, 2, 3BM, 4, 6BM, 6GF, 7BM, 12M, 13MF and 18BM. For the female subjects cards 3BM, 7BM and 18BM were replaced by 3GF, 7GF and 18GF respectively. It was mentioned in the Introduction that two of McClelland's pictures came directly from Murray's TAT (cards 7BM and 8BM) and also that reliability has been demonstrated for pictures other than McClelland's. These two results justified the application of McClelland's scoring system to responses to Murray's TAT pictures for the assessment of achievement motivation.

In order to rate TAT protocols, it was necessary to train raters in the use of the achievement motivation scoring system (McClelland et al., 1953). Difficulties encountered in the use of McClelland's measure have already been mentioned in the Introduction in connection with a Master's Thesis by Moriarty (1969), and the training procedure developed here attempted to minimize these problems.

Two first-year graduate students in clinical psychology plus the writer began training by familiarizing themselves with the scoring system. Then they coded McClelland's practice scoring material and compared their responses with the scoring keys. (This material can be found in Appendix I of Atkinson, 1958.) Wherever possible, scoring rules were clarified so as to produce ratings that agreed with the keys. However, in some instances, McClelland's scoring rules were not specific enough to settle disagreements between raters, and in these instances, clarifications and elaborations were agreed upon among the raters.

After the practice materials had been scored and several of the scoring variables clarified, the raters obtained protocols to the set of ten cards from Murray's TAT that were used in the project from non-client students who were not involved in the research. These protocols were then rated according to the revised scoring

system and further refinements were made. At this point the raters agreed rather well on most categories and subcategories. However, one major problem remained. As the McClelland and Atkinson scoring system is set up, a story is scored as having either Achievement Imagery (AI), Task Imagery (TI) or Unrelated Imagery (UI). Stories rated AI receive a score of +1, those rated TI a score of 0 and UI a score of -1. However, these are three separate, non-continuous categories. A further discontinuity occurs in that only stories scored AI are scored for subcategories, with each subcategory present receiving an additional point. It was this latter consideration that led to the largest scoring discrepancies in that if one rater scored UI or TI the story would receive a score of -1 or 0 and no higher, whereas, if the other rater scored AI, the story could receive anywhere from 1 to 13 points.

To compensate for these problems--and in an attempt to facilitate the analysis of the data--several revisions of the scoring system were made. First, the three categories were assumed to lie on a continuum ranging from lack of achievement imagery (UI) to presence of achievement imagery (AI). Stories with task imagery or those in which the presence of achievement imagery was in doubt were rated together as being between the UI and AI stories and assigned the TI rating. Second, the raters were instructed to rate

the stories initially for only these three categories without the subcategories. This was done independently. When this was completed, the pairs of raters reviewed the ratings and in cases where there was a discrepancy over a story that was scored AI by only one of the two raters, an agreement was reached between the raters as to whether or not it should be scored AI. No other ratings were altered. The raters then independently rated the AI stories for the subcategories and the final results are those used in the present study. (A condensed version of McClelland's scoring system plus a copy of the revisions adopted for this study can be found in Appendix II.)

For the purpose of obtaining reliability measures for the achievement motivation ratings, each study was scored independently by two raters according to the procedures outlined above. As there were three raters (the two first-year clinical graduate students plus the writer) each rater scored the protocols of two-thirds of the subjects with each two raters overlapping on one-third of the protocols. Thus, there were three possible pairs of raters who each rated one-third of the protocols. As a control for possible rater differences, each group contained approximately equal numbers of Complete and Incomplete cases, males and females, and more successful and less successful cases. These factors were systematically

varied among the raters. An attempt was also made to control for the length of the protocols, but this was the last factor considered.

Additional achievement motivation measures. --Subsidiary measures of achievement motivation used were the Achievement subscales of the MMPI. There are five such scales, all empirically derived to measure nonintellective aspects of achievement. These scales were designed to correlate with achievement rather than intelligence and to distinguish achieving from non-achieving students. Four of the scales are applicable to both males and females while the fifth is applicable only to females. The four scales appropriate for both males and females are: 1) the Academic Achievement scale (Ac) which is based partly on achievement motivation and discriminates between high and low achieving high school students (Gough, 1949), 2) the College Achievement scale (Ae) which does the same for college students (Altus, 1948), 3) the Honor Point Ratio scale (Hr) which can be used to predict undergraduate grades on the basis of personality patterns (Gough, 1953b), and 4) the Underachievement Scale (Un) which was designed to distinguish extreme college underachievers from extreme overachievers (McQuary and Truax, 1955).

All but the last of these should correlate positively with both academic achievement and achievement motivation. The fifth scale, used only for the female subjects, is the College Achievement,

Female scale (Af). This was based on personality factors which the authors found to correlate with academic achievement (Clark, 1953). It was therefore predicted to correlate positively with academic achievement and achievement motivation as measured in this study. There is little item overlap among the five scales; with one exception, pairs of scales only have between zero and three items in common. Pair Ae and Af has five items in common. These are out of totals of eighteen items for the Ac scale, twenty-six for the Ae scale, fifty-five for Af, sixteen for Hr and twenty-two items for the Un scale. Thus the scales are relatively independent of each other in item composition.

Level of Achievement

Level of achievement was assessed by comparing a student's capabilities as judged by his score on the College Qualification Test (CQT), given to all incoming freshmen, with his Grade Point Average (GPA). On this basis, deviation scores were computed as an index of the discrepancy between how well the student could be expected to do and how well he has actually performed.

This was done by converting both sets of scores into percentiles based on the entire college population and then computing the differences between these percentile scores. Two groups were

formed based on these discrepancy scores, one composed of those students whose performance was above what would be expected of them on the basis of the CQT scores and the other of students whose performance was below expectations.

Therapy Outcome

Therapy outcome was assessed through changes in scores on the Tennessee Self-Concept Scale (TSCS) from before to after therapy. The TSCS was completed by each student in the Complete group both before beginning therapy and then again following the termination of therapy. It was also completed by students in the Incomplete group before therapy, thereby providing a basis for comparison of initial adjustment between the two groups.

Using the TSCS, improvement in therapy was assessed from the changes in both the Positive Sign scores and the Number of Deviant Sign (NDS) scores from before to after therapy. The Positive Sign score was chosen because it is a measure of a person's self-esteem, and as a person's adjustment improves, so should his self-esteem. The NDS score was chosen because it is the best index of psychological disturbance in the Scale and as such, scores should be expected to decrease as adjustment increases. Both of these scores have been shown to be adequate measures of client improvement during the course of psychotherapy (Ashcraft and Fitts, 1964).

Since there were no post-therapy, or outcome, measures for students in the Incomplete group, that group was treated separately.

Personality Variables

Several personality factors were mentioned in the Introduction as being related to achievement motivation and therapy outcome. The measures used are described briefly below.

Independence-dependence. --From the point of view of facilitating measurement along this dimension, emotional independence-dependence was measured from the perspective of dependence while instrumental independence-dependence was measured from the perspective of independence. This was done because it is generally easier to assess how one is responding or what is being done rather than how one is not responding or what is not being done. It should again be noted, as suggested in the Introduction, that high scores in both emotional dependence and instrumental independence would be predicted to be typical of high achievers and also of people who should benefit most from therapy.

Emotional dependence: The Dy scale of the MMPI was used to measure emotional dependence. This scale measures the strength of dependency needs by means of a set of items, found to be internally

consistent, that were judged to be characteristic of this need. The items have been shown to be sensitive to differences in personality patterns between normals and neuropsychiatric patients. Moreover, results of studies with the scale indicate that it distinguishes between differences in levels of dependency needs (Dahlstrom and Welsh, 1960; Navran, 1954).

Instrumental independence: This was rated from the subjects' TAT profiles; the ratings were based on Murray's need-press system as adapted by Mussen and Jones (Mussen and Jones, 1957; Jones and Mussen, 1958). The particular rating used was the n Achievement score as defined by Mussen and Jones. This index is different from the n Achievement score used by McClelland and Atkinson. The n Achievement score used by Mussen and Jones is comparable to a competence score and is given when the hero attempts to do something creditable or when he tries to reach a high goal. An additional criterion, that the hero attempts to succeed without the help of others, was added and had to be met before a story received a Mussen and Jones n Achievement score.

Interpersonal relations. --The instrument used to assess the level of the subject's social interaction was the Social Responsibility scale of the Minnesota Multiphasic Personality Inventory (MMPI). This score is indicative of the person's sense of obligation

to and concern for a group and other group members. It was developed on the basis of peer nominations (Dahlstrom and Welsh, 1960).

Self-concept. --The subject's self-concept was assessed from his K score on the MMPI. The scale provides a measure of the subject's degree of self-acceptance. Persons with high self-acceptance, i.e., those who identify socially and personally desirable traits as being characteristic of themselves, tend to be satisfied with themselves and see themselves favorably. There is a strong positive relation between the K score of the MMPI and degree of self-acceptance (Dahlstrom and Welsh, 1960).

Authority relations. --The Pd_2 scale of the MMPI was used to measure relationships to authority figures. This scale is composed of a subset of items from the Pd scale and possesses at least face validity. It was used because a search of the literature did not reveal any other measure of authority relations that was available from the existing data that appeared appropriate for this study.

CHAPTER III

RESULTS

The presentation of results is divided into two sections. The first section examines the interrater reliabilities for n Achievement that were obtained using the training procedure outlined in the Method chapter. The second section is concerned with tests of the hypotheses presented in the Introduction.

Interrater Reliabilities for n Achievement

As noted in the preceding chapter, three raters scored the subjects' TAT protocols for achievement motivation (n Achievement) according to a revised version of McClelland's (1953) scoring system. Each set of TAT stories was initially scored independently by two raters for the three basic categories, AI, TI and UI. At this point the two raters conferred with each other, reached agreement concerning stories scored AI and then independently scored the subcategories for these stories. This was done for both pre- and post-therapy test data.

Product moment correlation coefficients were computed to assess interrater agreement on total n Achievement scores for each pair of two raters both before (uncorrected) and after (corrected) the re-scoring for AI was performed. Table 1 presents the interrater reliabilities.

TABLE 1. --Interrater reliabilities for n Achievement scores

		Raters		
		1 and 2	1 and 3	2 and 3
Uncorrected:	Pre-therapy	-.04(16)[a]	.57(16)	.85(14)
	Post-therapy	.82(8)	.14(8)	.91(8)
Corrected:	Pre-therapy	.96(16)	.86(16)	.94(14)
	Post-therapy	.93(8)	.78(8)	.99(8)

[a]Numbers in parentheses represent number of subjects

As Table 1 indicates, reliabilities for the uncorrected ratings ranged from a low of -.04 to a high of .91. Thus, the agreement of the raters varied considerably so that there was agreement between the raters for some sets of protocols and little agreement for others. Also, the third pair of raters (2 and 3) tended to agree with each other more than the other pairs.

The situation is somewhat different for the corrected ratings, since the lowest reliability is .78 and four of the six correlations

are greater than .90. This indicates considerable agreement among the raters, both for the overall categories, only one of which was re-scored in collaboration, and for the subcategories, which were always scored independently.

Due to the changes in the reliabilities that occurred as a result of the correction procedure, percentages of agreement were computed for the AI scores to assess how much of the initial disagreement was attributable to this category. Table 2 presents the results of this analysis.

TABLE 2. --Percent agreements for AI component of the n Achievement scores

	Raters		
	1 and 2	1 and 3	2 and 3
Pre-therapy	55.3(16)[a]	38.1(16)	69.5(14)
Post-therapy	61.5(8)	26.8(8)	75.0(8)

[a]Numbers in parentheses represent number of subjects

Table 2 shows that the initial agreements for the AI scores were not very high and this, no doubt, contributed considerably to the low interrater reliabilities of the uncorrected scores. Thus, reaching agreement on the AI category (which means that all the cells equal 100%) raises the reliabilities substantially.

Although these results indicate that a high degree of agreement can be reached between raters, they do not tell whether the obtained scores are comparable to those of McClelland; that is, if they are actually measuring achievement motivation. To assess this it is necessary to compare these scores to standardization data. However, the data reported by McClelland and his colleagues (McClelland et al., 1953; Atkinson, 1958) were collected under considerably different circumstances, with a different sample and with different pictures from the data in the present study, thus making comparison between the two difficult (see Discussion chapter).

Achievement Motivation, Level of Academic Achievement, Personality Factors and Therapy Outcome: Testing the Hypotheses

Achievement Motivation

Up to this point the present report has emphasized McClelland's n Achievement score as the major measure of achievement motivation. However, several subsidiary measures of achievement motivation were also used and are considered below. These additional measures are the Achievement scales of the Minnesota Multiphasic Personality Inventory (MMPI). Four such scales were scored for the male subjects and five for the female subjects with the additional scale being the College Achievement, Female (Af)

scale. The other four scales are the Academic Achievement (Ac) scale, the College Achievement (Ae) scale, the Honor Point Ratio (Hr) scale and the Underachievement (Un) scale. It was expected that all but the last of these would correlate positively with each other and with McClelland's n Achievement score, and that the last scale would correlate negatively with the other measures.

The intercorrelations between these measures were computed to assess the relationship between them and also to help to determine the measures that should be retained for use in subsequent analyses. Tables 3 and 4 present these intercorrelations. Table 3 presents them for the pre-test measures and Table 4 for the post-test measures.

Table 3 indicates that, for the pre-therapy measures of achievement motivation, eight of the fifteen correlations reach significance at the .10 level, with six of these being significant at the .05 level and three at the .01 level. This indicates some relationship between the various measures of achievement motivation. However, it should be noted that a number of these correlations are in the opposite direction from that predicted so that a higher level of achievement motivation on one scale was related to lower motivation on another. This suggests inconsistency in what the scales are measuring.

TABLE 3. --Intercorrelations between achievement motivation measures before therapy (pre-test measures)

		TAT	MMPI				
		n Ach	Ac	Ae	Af	Hr	Un
TAT	n Ach	1.00(46)[a]					
MMPI	Ac	.22(46)	1.00(46)				
	Ae	-.36(46)**	-.51(46)**	1.00(46)			
	Af	.03(29)	-.42(29)**	.17(29)	1.00(29)		
	Hr	.26(46)*	.15(46)	-.19(46)	.50(29)***	1.00(46)	
	Un	-.22(46)	-.48(46)***	.21(46)	-.33(29)*	-.43(46)***	1.00(46)

[a]Numbers in parentheses represent number of subjects

*p < .10
**p < .05
***p < .01

TABLE 4. --Intercorrelations between achievement motivation measures after therapy (post-test measures)

		TAT	MMPI				
		n Ach	Ac	Ae	Af	Hr	Un
TAT	n Ach	1.00(24)[a]					
MMPI	Ac	.07(23)	1.00(23)				
	Ae	- .25(23)	.28(23)	1.00(23)			
	Af	- .21(23)	.23(23)	.67(23)***	1.00(15)		
	Hr	- .12(22)	.51(23)**	.22(23)	.46(15)*	1.00(23)	
	Un	.32(23)	-.36(23)*	- .36(23)*	- .26(15)	- .17(23)	1.00(23)

[a]Numbers in parentheses represent number of subjects

*p < .10
**p < .05
***p < .01

The Hr and Un scales of the MMPI each correlate significantly in the predicted direction with three other achievement motivation measures, while the Af scale correlates significantly in the predicted direction with two other scales and the n Achievement score of the TAT and the Ac scales each do so with one other scale. The two significant correlations for the Ae scale were both in the opposite direction, as were one each for the n Achievement score and the Af scale and two for the Ac scale.

For the post-therapy achievement motivation measures, five of the fifteen correlations reach significance at the .10 level, with two significant at the .05 level and one at the .01 level. As with the pre-therapy data, this indicates some relationship between the measures. Here, however, all of the significant correlations were in the predicted direction, suggesting that, for the post-test measures, subjects with high achievement motivation as assessed by one measure also tended to have high achievement motivation, or low underachievement, as assessed by other measures. There is not much similarity between the patterns of intercorrelations among the pre- and post-therapy test measures.

For the post-therapy measures, each of the five MMPI achievement scales correlated significantly in the predicted direction with two other MMPI scales examined.

Of the thirty correlations for the pre- and post-therapy test data, ten were significant in the predicted direction while only three were significant in the opposite direction. This suggests that there is some similarity between what the different achievement motivation scales are measuring, but also that there are considerable differences between them. For this latter reason, all the scales have been retained and treated separately in the subsequent analyses.

Two further questions remain in regard to the scores obtained on these scales: how representative are they of the Counseling Center population or of the college population in general; and how do they compare to the standardization groups? Normative data are needed to answer these questions and, as for the n Achievement scores, there is little relevant data available. Since the MMPI is not generally given to Michigan State University students, nor to the majority of students seeking therapy at the Counseling Center, normative data for these groups are also lacking. Standardization data are also lacking for three of the MMPI scales in that such data are not reported in the literature. However, for two of the scales, Ac and Hr, data are reported for the standardization samples. t-tests were computed between the scores obtained on these measures by subjects in the present study and those of the standardization groups. The results of these comparisons are presented in Table 5.

TABLE 5. --t-tests comparing scores of subjects in the present study with those in the standardization groups, Ac and Hr

		Mean	S. D.	N	t
Ac	Standardization Group[a]	17.0	3.0	336	
	Present Study--Pre-test	13.4	10.7	46	3.11*
	Present Study--Post-test	12.5	3.7	23	6.20*
Hr	Standardization Group[b]	23.8	5.0	100	
	Present Study--Pre-test	10.9	2.6	46	17.19*
	Present Study--Post-test	11.5	2.6	23	11.70*

[a](Gough, 1949)

[b](Gough, 1953b)

*$p < .005$

The results summarized in Table 5 indicate that the sample in the present study scored significantly differently, both before and after therapy, from the standardization groups on both the Ac and Hr scales. In both cases the mean achievement motivation scores for the present sample were lower. The spread of scores for this sample was greater for the Ac scale and more restricted for the Hr scale. Thus the subjects in the present study appear to have lower achievement motivation than the groups of both high school students and college undergraduates on which these scores were standardized.

Achievement Motivation and Level of Academic Achievement

The two aspects of achievement behavior considered in this study are achievement motivation and level of academic achievement. It was predicted that there would be a positive relationship between the two so that students with high achievement motivation would perform better academically than students with low achievement motivation. Correlational analyses were performed to test this prediction. Tables 6 through 8 present the results of these tests.

Tables 6 and 7 present correlations for the achievement motivation and level of academic achievement measures for before and after therapy respectively. It can be seen from these tables that there is almost no relationship between the two forms of achievement as measured in this study, with only one of the correlations being significant at the .10 level, the number expected by chance.

Table 8 presents the correlations between the achievement motivation change scores and the level of academic achievement measures. The former scores represent the changes in achievement motivation from before to after therapy. This table shows that five of the correlations are significant at the .05 level or better. All of these are for the Af scale of the MMPI and in the opposite direction from that predicted. Thus, females whose achievement motivation, as measured by this scale, increased from before to after therapy

TABLE 6. --Correlations between achievement motivation and level of academic achievement before therapy (pre-test measures)

	TAT	MMPI				
	n Ach	Ac	Ae	Af	Hr	Un
CQT%	.08(44)[a]	.21(44)	-.03(44)	-.15(28)	.15(44)	.03(44)
GPA	.01(46)	.27(46)*	.06(46)	-.09(29)	.11(46)	-.10(46)
GPA%	.05(46)	.20(46)	.03(46)	-.08(29)	.07(46)	-.01(46)
GPA% - CQT% Deviation	.00(44)	.01(44)	.03(44)	.01(28)	-.11(44)	-.03(44)
GPA% Change	.06(46)	.03(46)	-.10(46)	-.26(29)	.09(46)	.08(46)

[a]Numbers in parentheses represent number of subjects

*$p < .10$

TABLE 7. --Correlations between achievement motivation and level of academic achievement after therapy (post-test measures)

	TAT	MMPI				
	n Ach	Ac	Ae	Af	Hr	Un
CQT%	.19(24)[a]	-.13(23)	-.04(23)	-.26(15)	.11(23)	-.20(23)
GPA	.16(24)	-.13(23)	.10(23)	-.11(15)	.16(23)	.10(23)
GPA%	.17(24)	-.22(23)	.02(23)	-.10(15)	.13(23)	.09(23)
GPA% - CQT% Deviation	.02(24)	-.15(23)	.07(23)	.38(15)	.05(23)	.34(23)
GPA% Change	.11(24)	-.22(23)	-.12(23)	-.09(15)	.22(23)	.04(23)

[a]Numbers in parentheses represent number of subjects

TABLE 8. --Correlations between changes in achievement motivation scores and level of academic achievement measures

		TAT	MMPI				
		n Ach	Ac	Ae	Af	Hr	Un
Before:	CQT%	.21(24)[a]	-.10(23)	-.16(23)	-.69(15)**	-.28(23)	-.29(23)
	GPA	.00(24)	-.03(23)	.04(23)	-.54(15)*	-.06(23)	-.02(23)
	GPA%	.04(24)	-.10(23)	.00(23)	-.59(15)*	-.14(23)	.01(23)
	GPA% - CQT% Deviation	-.17(24)	-.01(23)	.19(23)	.26(15)	.14(23)	.34(23)
After:	GPA	.02(24)	.00(23)	.10(23)	-.52(15)*	-.15(23)	-.09(23)
	GPA%	.04(24)	-.06(23)	.03(23)	-.51(15)*	-.16(23)	-.06(23)
	GPA% - CQT% Deviation	-.17(24)	.03(23)	.21(23)	.34(15)	.10(23)	.23(23)
	GPA% Change	-.01(24)	.14(23)	.09(23)	.22(15)	-.09(23)	-.27(23)

[a]Numbers in parentheses represent number of subjects

*$p < .05$
**$p < .01$

were those with lower CQT%, GPA and GPA% before therapy and lower GPA and GPA% after therapy. Conversely, those females whose motivation decreased had the higher level of achievement scores. There were no relationships between any of the other measures.

Sign tests were also performed to assess whether those students with high achievement motivation were those whose performance exceeded what was expected of them and if those students with lower motivation were those whose performance was below what was expected of them. The numbers of subjects were the same as in the preceding analyses. The n Achievement score of the TAT and the five achievement motivation scales of the MMPI were the independent variables in these analyses. The deviation between the CQT percentile scores and the GPA percentile scores was the measure of the subject's level of academic achievement, or dependent, measure. These were split on the basis of positive and negative scores, indicating performance above or below expectations. Sign tests were computed for pre-therapy, post-therapy and change scores. The results of these analyses were essentially the same as those obtained above using correlations. Of the twenty-four tests performed, only one was significant at the .10 level, indicating a positive relationship between the changes in Af score, or feminine achievement

motivation, from before to after therapy, and level of academic achievement. Thus, the females whose motivation increased during therapy were those whose performance before therapy exceeded expectations. This is in accord with the hypothesis.

Here the issue can be raised as to the representativeness of the present sample with regard to CQT and GPA percentiles. To assess this, median tests were performed comparing the CQT and GPA percentiles of the students in the present sample with those of the Michigan State University population. The resulting chi-square values are presented in Table 9.

TABLE 9. --Chi-square values for median tests for academic achievement measures

	Number of Subjects Below the Median	Number of Subjects Above the Median	χ^2
CQT%	13	31	7.36*
GPA%	14	32	7.04*

*$p < .01$

These results indicate that the subjects in this study had significantly higher CQT and GPA percentiles than the general college population. Also, as the scores tended to cluster above the median for the population as a whole, there were narrower ranges

of scores for both measures. This makes hypothesis testing difficult.

Achievement Motivation, Level of Academic Achievement and Therapy Outcome

Hypotheses 2 and 3 predicted that both achievement motivation and level of academic achievement would be positively related to therapy outcome. That is, hypothesis 2 predicted that students with higher achievement motivation will profit more from therapy than students with lower achievement motivation and hypothesis 3 predicted that students who perform at a level above or equal to that which is expected of them will profit more than those who perform at a level below that which is expected of them.

Initially, three-way analyses of variance were planned to test these predictions with sex, achievement motivation and level of academic achievement as the independent variables and therapy outcome as the dependent variable. However, as there were empty cells with this design, and as preliminary analyses revealed no overall sex differences, the analyses were collapsed across sex. This resulted in two-way analyses of variance with the two achievement factors as the independent variables and therapy outcome as the dependent variable. This analysis used the least squares solution to the problem of unequal cell frequency.

As in the above analyses, achievement motivation was assessed by the n Achievement scores of the TAT and the five achievement scales of the MMPI. Median splits were performed for the measures and subjects were classified as high or low in achievement motivation on this basis. Level of academic achievement was measured by the deviation between the GPA percentiles and the CQT percentiles. When the deviation scores were positive, indicating that the subjects' GPAs were higher than their CQTs, they were classified as performing above expectations; and when the deviations were negative, the subjects were classified as performing below expectations. There were, therefore, four categories of achievement behavior, high and low for both achievement motivation and level of academic achievement, and subjects could be high in both, low in both or high in one and low in the other. Therapy outcome was assessed from changes in the Total Positive and Number of Deviant Signs (NDS) scores of the Tennessee Self-Concept Scale (TSCS) from before to after therapy. Tables 10 through 21 present the results of these analyses for each of the achievement motivation and outcome measures.

These tables show that level of achievement motivation, however measured, and level of academic achievement by themselves are not significantly related to therapy outcome as measured

TABLE 10. --Summary of analysis of variance for n Achievement scores and level of academic achievement with changes in TSCS Total Positive scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	449.32	0.31
Level of Academic Achievement (L)	1	1032.83	0.72
M × L	1	1032.83	0.72
Error	20	1429.10	

TABLE 11. --Summary of analysis of variance for n Achievement scores and level of academic achievement with changes in TSCS NDS scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	440.80	1.96
Level of Academic Achievement (L)	1	18.70	0.08
M × L	1	427.78	1.91
Error	20	224.38	

TABLE 12. --Summary of analysis of variance for Ac scores and level of academic achievement with changes in TSCS Total Positive scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	287.62	0.21
Level of Academic Achievement (L)	1	2386.31	1.76
M × L	1	2871.11	2.11
Error	20	1359.64	

TABLE 13. --Summary of analysis of variance for Ac scores and level of academic achievement with changes in TSCS NDS scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	558.67	2.40
Level of Academic Achievement (L)	1	79.75	0.34
M × L	1	332.04	1.38
Error	20	232.67	

TABLE 14. --Summary of analysis of variance for Ae scores and level of academic achievement with changes in TSCS Total Positive scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	0.61	0.00
Level of Academic Achievement (L)	1	323.05	0.22
M × L	1	997.10	0.67
Error	20	1454.87	

TABLE 15. --Summary of analysis of variance for Ae scores and level of academic achievement with changes in TSCS NDS scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	172.87	0.84
Level of Academic Achievement (L)	1	134.22	0.65
M × L	1	1047.96	5.07*
Error	20	206.78	

*$p < .05$

TABLE 16. --Summary of analysis of variance for Af scores and level of academic achievement with changes in TSCS Total Positive scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	787.50	0.83
Level of Academic Achievement (L)	1	38.89	0.04
M × L	1	3659.06	3.85*
Error	12	950.17	

*p < .10

TABLE 17. --Summary of analysis of variance for Af scores and level of academic achievement with changes in TSCS NDS scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	200.64	1.10
Level of Academic Achievement (L)	1	62.87	0.35
M × L	1	644.64	3.54*
Error	12	182.18	

*p < .10

TABLE 18. --Summary of analysis of variance for Hr scores and level of academic achievement with changes in TSCS Total Positive scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	1427.00	1.00
Level of Academic Achievement (L)	1	873.74	0.61
M × L	1	57.08	0.04
Error	20	1427.54	

TABLE 19. --Summary of analysis of variance for Hr scores and level of academic achievement with changes in TSCS NDS scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	330.38	1.31
Level of Academic Achievement (L)	1	0.74	0.00
M × L	1	0.05	0.00
Error	20	251.54	

TABLE 20. --Summary of analysis of variance for Un scores and level of academic achievement with changes in TSCS Total Positive scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	3215.72	2.39
Level of Academic Achievement (L)	1	664.41	0.41
M × L	1	41.53	0.03
Error	20	1342.95	

TABLE 21. --Summary of analysis of variance for Un scores and level of academic achievement with changes in TSCS NDS scores as the outcome measure

Source of Variation	df	MS	F
Achievement Motivation (M)	1	267.00	1.11
Level of Academic Achievement (L)	1	25.17	0.10
M × L	1	357.88	1.49
Error	20	240.18	

by changes in both the Total Positive and NDS scores of the TSCS. Thus, as far as these measures are concerned, students with low levels of achievement motivation and those whose performance is below what is expected of them profit just as much from therapy as do students with higher levels of achievement motivation and those whose performance is above what is expected of them. These results fail to support the hypotheses.

The tables also indicate that three of the F-tests reach significance at the .10 level or better. All three of these are for two-way interactions. Tables 22 through 24 present the cell means for these tests.

TABLE 22. --Cell means for changes in TSCS NDS scores with Ae scores as the achievement motivation measure[a]

	Low Achievement Motivation	High Achievement Motivation
Low Level of Academic Achievement	-15.67	3.75
High Level of Academic Achievement	- 6.80	-15.00

[a]Number of subjects--24

For the Ae scale, Table 22, subjects who scored either high or low on both achievement motivation and level of academic achievement were the ones who made the greatest gains in therapy

as measured by decreases in the Number of Deviant Signs on the TSCS.

TABLE 23. --Cell means for changes in TSCS Total Positive scores with Af scores as the achievement motivation measure[a]

	Low Achievement Motivation	High Achievement Motivation
Low Level of Academic Achievement	30.33	47.67
High Level of Academic Achievement	59.33	12.00

[a]Number of subjects--16

TABLE 24. --Cell means for changes in TSCS NDS scores with Af scores as the achievement motivation measure[a]

	Low Achievement Motivation	High Achievement Motivation
Low Level of Academic Achievement	-16.67	-22.67
High Level of Academic Achievement	-26.00	- 4.86

[a]Number of subjects--16

For the Af scale, Tables 23 and 24, subjects who were high in either achievement motivation or level of academic achievement and low in the other made the greatest gains in therapy as measured by both increases in the Total Positive and decreases in the NDS scores on

the TSCS. Thus, in these cases, it was the interaction between achievement motivation and level of academic achievement that was related to the degree of change in therapy. The directions of the results partially support and partially refute the hypotheses.

The question can again be raised as to the representativeness of the present sample, this time in regard to the two TSCS measures: the Total Positive and NDS scores. Standardization data are available for these scores (Fitts, 1965) and have been used here for comparison with the present data. t-tests were performed to test for differences between the groups on the Total Positive scale. For the NDS scale, median tests were performed as the distribution of scores on this scale tends to be quite skewed and Fitts reports only the median for this scale in his standardization data. The results of these analyses are presented in Tables 25 and 26 respectively.

TABLE 25. --t-tests for differences between standardization sample and present sample for TSCS Total Positive score

	Mean	S.D.	N	t-score
Standardization Sample	345.57	30.70	626	
Present Sample--Pre-test	300.52	46.78	46	8.49*
Present Sample--Post-test	325.04	36.39	25	2.98*

*$p < .01$

TABLE 26. --Chi-square values for median tests for TSCS NDS scores

	Number of Subjects Below the Mean	Number of Subjects Above the Mean	χ^2
Pre-therapy NDS	4	42	31.39*
Post-therapy NDS	4	21	11.56*

*$p < .01$

These results indicate that there are significant differences between the subjects in this study and those in the standardization sample for both measures. Also, while the differences are significant for both pre- and post-therapy measures, those for the post-therapy measures are considerably less, suggesting that following therapy, the students were more similar to those in the norm group than before therapy. This can be seen as either an effect of therapy or simply as regression to the mean. Without a control group, one cannot tell which it is.

Achievement Motivation, Level of Academic Achievement and Completion Status

The subjects in this study can be divided into two groups: those who completed post-testing, the Complete group, and those who

did not complete post-testing, the Incomplete group. Hypotheses 4 and 5 predicted that these groups would differ in levels of both achievement motivation and academic achievement and that these differences would influence therapy outcome. Specifically, Hypothesis 4 predicted that the subjects who completed therapy would have higher achievement motivation and levels of achievement than the subjects who did not complete therapy, and Hypothesis 5 predicted that subjects in the Complete group would also profit more from therapy than those in the Incomplete group. As therapy outcome measures were not available for the Incomplete group, Hypothesis 5 was amended to state that the benefits for the Complete group would be in terms of improved academic performance, the only post-therapy measure available for all subjects.

Hypothesis 4 was tested by two-way analyses of variance with sex of subjects and completion status as the independent variables and pre-therapy achievement motivation and level of academic achievement as the dependent variables. Six such analyses were performed: one for each of the achievement motivation measures, except the Af scale, and one for the level of achievement measure. As the Af scale was scored only for females, a t-test was performed between the Complete and

TABLE 27. --Summary of analysis of variance for the effects of completion status on achievement motivation as measured by n Achievement scores

Source of Variation	df	MS	F
Sex (S)	1	1893.61	0.62
Completion Status (C)	1	292.74	0.10
S × C	1	3880.83	1.26
Error	40	3075.60	

TABLE 28. --Summary of analysis of variance for the effects of completion status on achievement motivation as measured by Ac scores

Source of Variation	df	MS	F
Sex (S)	1	71.57	0.59
Completion Status (C)	1	129.89	1.08
S × C	1	106.97	0.89
Error	40	120.44	

TABLE 29. --Summary of analysis of variance for the effects of completion status on achievement motivation as measured by Ae scores

Source of Variation	df	MS	F
Sex (S)	1	6.80	0.45
Completion Status (C)	1	1.17	0.08
S × C	1	7.50	0.50
Error	40	14.96	

TABLE 30. --Summary of analysis of variance for the effects of completion status on achievement motivation as measured by Hr scores

Source of Variation	df	MS	F
Sex (S)	1	41.48	6.96*
Completion Status (C)	1	0.58	0.10
S × C	1	4.61	0.77
Error	40	5.96	

*p < .05

TABLE 31. --Summary of analysis of variance for the effects of completion status on achievement motivation as measured by Un scores

Source of Variation	df	MS	F
Sex (S)	1	0.14	0.01
Completion Status (C)	1	0.41	0.03
S × C	1	10.73	0.90
Error	40	11.99	

TABLE 32. --Summary of analysis of variance for the effects of completion status on level of academic achievement as measured by deviation scores

Source of Variation	df	MS	F
Sex (S)	1	2751.66	3.59*
Completion Status (C)	1	123.70	0.16
S × C	1	770.28	1.00
Error	40	767.05	

*p < .10

Incomplete groups for this measure (see below). Tables 27 through 32 present the summaries of the analyses of variance.

The results indicate that there is little relationship between completion status and either achievement motivation or level of academic achievement. Only two of the eighteen F-values reach significance which is the number expected by chance at the .10 level. Both of these are for sex and they suggest that the females in each group had somewhat higher achievement motivation as measured by the Hr scale and level of academic achievement as measured by the GPA% - CQT% deviation scores. Whether this is true of Michigan State University students in general cannot be known without normative data. The cell means for these two tests are presented in Tables 33 and 34.

TABLE 33. --Cell means for sex and completion status with Hr scores as the measure of achievement motivation[a]

	Males	Females
Complete Group	9.22	11.94
Incomplete Group	10.14	11.50

[a]Number of subjects--44

TABLE 34. --Cell means for sex and completion status with deviation scores as the measure of level of academic achievement[a]

	Males	Females
Complete Group	-19.88	5.48
Incomplete Group	- 7.59	0.22

[a]Number of subjects--44

Since the possibility existed that more males in the sample were underachievers than females, a chi-square test was performed. The resulting chi-square of 3.32 was marginally significant at the .10 level. This suggests that males and females may come to the Counseling Center for different reasons.

None of the F-tests for completion status alone or for the interactions between sex and completion status approach significance. A t-test for differences between the Complete and Incomplete group on the Af scale yielded a t-score of 0.36 which is not significant and is in accord with the above findings.

t-tests were performed to test for differences in academic performance after therapy between the Complete and Incomplete groups as tests of Hypothesis 5. The dependent measures for these were GPA% after therapy, which is a measure of academic performance, GPA% - CQT% deviation, which is a measure of level of

academic achievement as it takes ability into account, and changes in GPA% from before to after therapy. The t-tests are presented in Table 35.

TABLE 35. --t-tests comparing post-therapy academic performance of Complete and Incomplete groups

	Complete Group			Incomplete Group			t-score
	Mean	S. D.	N	Mean	S. D.	N	
Post-therapy GPA%	61.00	30.82	25	49.90	31.92	21	1.20
Post-therapy GPA% - CQT% Deviation	- 6.00	24.65	25	- 7.59	35.61	19	0.18
Before-After Changes in GPA%	- 2.35	7.79	25	- 3.99	8.61	21	0.68

The t-tests indicate that there are no significant differences between the Complete and Incomplete groups on any of the post-therapy academic performance measures. Thus, the subjects in the two groups had similar academic performance and similar levels of academic achievement as related to ability following therapy, and the performance of the subjects in both groups changed comparable amounts during therapy.

The results in this section suggest that completion status is generally unrelated to achievement motivation, level of academic

achievement or improvement in academic performance following therapy. These results fail to support either of the hypotheses.

Achievement Motivation, Level of Academic Achievement, Therapy Outcome and Personality Factors

A number of studies have found differences in level of achievement motivation to be related to personality factors such as independence, self-concept, authority relations and good interpersonal relations. Some of these personality factors have also been shown to be related to success in therapy. For these reasons the additional hypothesis was advanced in this study that these personality factors will be related to the levels of both achievement motivation and academic achievement and to therapy outcome. More specifically, the hypothesis predicted that students who are high in instrumental independence and emotional dependence and who have positive self-concepts and good interpersonal and authority relations will have the highest levels of both achievement motivation and academic achievement and gain the most in therapy. Conversely, students low in these personality factors will have lower levels of achievement motivation and academic achievement and will not profit as much from therapy.

Correlations were computed to test this hypothesis. For these correlations achievement motivation, level of achievement and therapy outcome were assessed with the same measures as in previous analyses. Emotional dependence, self-concept, interpersonal relations and authority relations were assessed by the Dy, K, Re and Pd_2 scales of the MMPI respectively and instrumental independence was measured by an n Achievement score (II) from the TAT developed by Mussen and Jones (1957; Jones and Mussen, 1958). The rationale for these measures was discussed above in the Method chapter. Table 36 presents the obtained correlations.

These results indicate that there is little relationship between either of the achievement factors or therapy outcome and the personality measures, since only six of the forty-five correlations were significant at the .10 level, a number only slightly above what would be expected by chance. However, all of these are for achievement motivation measures, although two are in the opposite direction from that predicted. Also, as in several other analyses, the majority of the significant correlations involve the Af scale.

As for the measures of the other variables, analyses were performed to assess the representativeness of the present sample on the personality scales for which there were normative data. t-scores were available for three of the MMPI scales, Dy, Re and

TABLE 36. --Correlations of personality measures with achievement motivation, level of academic achievement and therapy outcome measures

		Personality Measures				
		II	Dy	Re	K	Pd_2
TAT:	n Ach	.64(46)***[a]	-.12(46)	.04(46)	.04(46)	-.12(46)
MMPI:	Ac	.06(46)	.07(46)	.04(46)	-.07(46)	.14(46)
	Ae	-.13(46)	.10(46)	.16(46)	.12(46)	.04(46)
	Af	-.05(31)	-.31(31)*	.37(31)**	.33(31)*	-.32(31)*
	Hr	.19(46)	-.21(46)	.19(46)	.20(46)	.02(46)
	Un	-.04(46)	.02(46)	-.06(46)	.14(46)	-.25(46)*
GPA% - CQT% Deviation		.02(44)	.02(44)	-.07(44)	-.10(44)	.15(44)
TSCS:	TP Change	-.11(25)	.20(25)	.12(25)	.04(25)	-.08(25)
	NDS Change	-.20(25)	-.15(25)	-.12(25)	.22(25)	-.02(25)

[a]Numbers in parentheses represent number of subjects

*p < .10
**p < .05
***p < .01

K, and median tests were performed for these. The results are summarized in Table 37.

TABLE 37. --Chi-square values for median tests for the personality measures

	Number of Subjects Below the Median	Number of Subjects Above the Median	χ^2
Dy	8	37	9.36*
Re	27	17	2.27
K	28	18	2.17

*$p < .01$

This table shows that the subjects in this study were significantly different from the normative group for one of the three measures. Whether this difference is typical of college students in general or specific to a Counseling Center population or to this sample cannot be assessed without data on the overall college population. Considering the previous data in this study, the more important results may be that the other two measures are the only ones examined in this study, where normative data were available, that did not show significant differences from the norms. The question can thus be raised as to whether or not this is typical of average

college students. Again, additional data would be necessary to examine this question.

CHAPTER IV

DISCUSSION

After discussing the results of the interrater reliabilities, this chapter will concentrate on the implications of the relationships between achievement motivation, level of academic achievement and therapy outcome. The focus of the discussion will be the major hypotheses stated in the Introduction, that is 1) that achievement motivation and level of achievement are positively related, 2) that achievement motivation will be positively related to therapy outcome, 3) that level of academic achievement will be positively related to therapy outcome, 4) that both achievement motivation and level of achievement will be higher for students who completed post-testing than for those who did not and 5) that students in the Complete group will profit more from therapy than students in the Incomplete group. The findings related to the subsidiary hypotheses, relating personality variables to achievement motivation, level of achievement and therapy outcome also are considered.

Interrater Reliabilities for n Achievement

Interrater reliabilities were computed for each pair of two raters for the Uncorrected and Corrected n Achievement scores for both pre- and post-test data. It was noted in the Results chapter that there was a wide range of reliabilities for the Uncorrected scores with agreement being evidenced in the ratings of some sets of protocols but not others and between certain raters more than others. This suggests that there were still sources of disagreement between the raters as to the scoring of the basic categories. In doing the actual scoring, much of this seemed to involve the AI category.

To assess the degree to which disagreement on the AI category may have contributed to the low Uncorrected reliabilities, percentages of agreement were computed for each set of raters for the AI scores. These agreements were not very high. One reason for this may be the uncertainty about how leniently the AI category should be applied. This was a particular problem in stories where the references to achievement were indirect, vague or very brief compared to the total length of the story. In such instances the raters' own levels of achievement motivation often seemed to influence their ratings so that certain raters tended to score more leniently than others. These results seemed to indicate that it was the problems encountered in scoring the AI category that were responsible, in large part, for the low Uncorrected reliabilities.

This lends support to the rating procedure adopted in this study, that of conferring on the basic categories and reaching certain agreements before scoring the subcategories. This procedure does not invalidate the final test scores nor does it interfere with the hypothesis testing. Rather, it increases the consistency of the scores so that if a lack of results is obtained in testing the hypotheses, it cannot be attributed solely to inconsistent ratings.

That the correction procedure did increase the consistency of the ratings is evidenced by the greater reliabilities for the Corrected than the Uncorrected scores. For each pair of correlations, the reliability is higher for the Corrected scores. Thus, once the AI scoring was agreed on (this was the only category affected by the correction procedure), there was considerable agreement on the subcategories as well as on the other major categories.

One further point which should be made here is that a high degree of agreement between raters does not mean that they are accurately assessing achievement motivation or that they are accurately measuring the same thing that McClelland measured. It merely means that their ratings are consistent with each others' and that whatever they are measuring, they are doing it similarly.

These difficulties suggest that the McClelland measure of achievement motivation may not be adequate for research of this type. Besides the problems encountered in training raters,

especially in regard to reaching agreement, and the time-consuming nature of such training, there is the question of what the final scores actually mean and how they compare, qualitatively, to those obtained by McClelland and his researchers. Thus, although relatively good agreement can be reached within a set of raters, it is questionable as to whether their scores mean the same thing as scores from other sets of raters.

There is also the problem of the quantitative meaning of the scores. It is difficult, if not impossible, to find appropriate normative data against which to compare results as the specific pictures, number of pictures, populations and instructions used vary from study to study. Thus, the normative data given by McClelland (McClelland et al., 1953; Atkinson, 1958) were based on scores obtained under conditions in which all the above factors differed from those in the present study. As no normative data have been found with which to compare the present results, interpretation is difficult.

Achievement Motivation, Level of Academic Achievement, Personality Factors and Therapy Outcome: Discussion of the Hypotheses

Achievement Motivation

As mentioned in the Introduction and Results chapters, several measures of achievement motivation in addition to the

n Achievement score of McClelland were employed in this research. In order to assess which of these measures to retain for further consideration for testing the effects of achievement motivation, the intercorrelations between the measures were computed. The different achievement motivation measures were expected to be positively related to each other with the exception of the underachievement measure which was expected to be negatively related to the others.

The results of these intercorrelations indicated that considerably more measures correlated significantly with each other in the predicted direction than in the opposite direction; however, quite a few of the correlations did not reach significance. This suggests that, while there is some commonality between what the scales are measuring, there are also differences. One possible explanation for this is that the scales were developed to tap somewhat different aspects of achievement motivation. That this is the case for at least the five MMPI achievement motivation scales can be inferred from the facts that there was little item overlap between the scales, as noted in the Method section, and that different reference groups were employed to derive the items for the various scales (see the Method chapter). The McClelland n Achievement measure, furthermore, was designed quite differently from the MMPI scales and therefore may also be measuring slightly different components of

achievement motivation. These results suggest, then, that achievement motivation may not be a unitary construct, or at least that different, somewhat independent, aspects of it can be measured separately.

It is also possible that the correlations were attenuated by the restricted ranges of scores on these scales and the tendency for subjects' scores to cluster about the median, at least on some of the measures. Whether this is a function of the scales themselves, or whether it is indicative of selection factors in the Counseling Center population or just in this sample, is difficult to assess without more complete standardization data. For the two scales on which standardization data were available, the Ac scale itself appeared to have a fairly restricted range of scores while on the Hr scale, the subjects in this study obtained scores that clustered about the mean. Thus, it is likely that factors both within the scales and within the sample are operating to restrict the ranges of scores and thereby reduce the correlations.

Another possibility also exists, however, and that is that at least some of the scales may not be measuring what they purport to measure. Considering the way several of the MMPI achievement scales were derived, they may be measuring personality factors more than achievement factors. This could also contribute to the low intercorrelations between the measures.

Therefore, while there may be a degree of underlying similarity between what some of the scales are measuring, the differences between them seemed to warrant retaining all of them separately for further use.

The comparisons of the data obtained in the present study with the standardization data yielded another relevant finding: the subjects in this study scored significantly lower in all instances than those in the standardization sample. Even though standardization data were available for only two of the MMPI achievement scales, this suggests that the subjects in the present study have considerably lower achievement motivation, both before and after therapy, than groups of both high school and college students. This may reflect motivational differences in the Counseling Center population in general or selection factors operating in this research. If it is true of the general Counseling Center population, it contradicts Hill's theory, noted in the Introduction, that students seeking counseling, as opposed to a control group matched on aptitude, would have higher levels of motivation (Hill, 1966). There is the possibility, then, that the low achievement motivation is in some way related to factors influencing these students to seek therapy. It may be that their low achievement motivation is causing problems, both in academic and other areas, that prompt them to seek counseling or that their

personal problems are interfering with their motivation. Additional research is necessary to test these explanations.

A further possibility is that the sample of subjects in this study may not be representative of the general Counseling Center population. As already mentioned, there are no comparable data for the latter population with which to compare them. However, considering the fact that not all the students seeking therapy agreed to participate in the research, it can be assumed that there are some selection factors operating and thus the sample may be atypical.

Concerning the spread of scores for subjects in this study, those for the Ac scale were greater than for the standardization sample while those for the Hr scale were more restricted. Although no data are available with which to compare the results for the other scales, the spread of scores for the present sample tended to be somewhat restricted on these, absolutely. However, it cannot be known how meaningful this is without standardization data.

Achievement Motivation and Level of Academic Achievement

This study was designed to test the effects of achievement motivation and level of academic achievement on therapy outcome. The first hypothesis predicted that these two measures of achievement would be positively related to each other so that students with

higher achievement motivation would be those whose performance exceeds what is expected of them while those with lower motivation would be those whose performance is below what is expected of them.

The first part of this hypothesis, that there is a positive relationship between the two achievement factors, was tested by correlational analyses. These analyses indicated almost no relationship between achievement motivation and level of academic achievement either before or after therapy. That is, students with high achievement motivation scores performed at similar levels to those with lower motivation. These results fail to support the hypothesis.

There are several possible explanations for this. One is that the selection process for admitting students to college probably results in the fact that only restricted ranges of both level of academic achievement and motivation are represented in the general college population. It is also possible that these ranges are further restricted in the Counseling Center population. This was the case for this sample in regard to the CQT and GPA percentiles in that the scores tended to cluster above the median for the college population on both variables. Also, although standardization data were available for only two of the MMPI achievement scales, the ranges appeared to be somewhat limited, with scores tending to cluster

above the median for the sample. However, normative data are not available on these measures for the remainder of the Counseling Center population or the college population on which to test the significance of these results. The tendency towards restricted ranges, though, would attenuate the correlations.

The meaning of the restricted ranges and significantly higher scores for this sample on the CQT is difficult to assess. There are two possible explanations for this. One is that it may be due to a natural attrition process by which students with less ability drop out or fail out of school. The normative data on which the statistical tests were performed were for entering freshmen and no data appear to be available for the CQT scores for those remaining in school in succeeding years. As the sample of subjects used here contains students in the freshman through senior years, the attrition rate may be an important factor. The other explanation is that a large number of students coming to the Counseling Center, or at least those that participated in this research, may be students with high ability.

The results for the GPA percentiles support this latter explanation. Since the GPA percentiles are computed for each year level, they are not affected by attrition in the same way as are the CQT percentiles. The subjects in this study had significantly higher

GPAs than the general college population and, thus, perform at a level above that of the population as a whole. This suggests that these students are not representative of the general college population. The lack of relationship between achievement motivation and level of academic achievement may therefore be peculiar to this sample or to a Counseling Center population rather than to an overall college population. (It is not known how representative the sample is of the total Counseling Center population as norms for the latter are not available.)

Another possible reason for the lack of results is that the instruments may not be sensitive to the differences that are present, even within the restricted sample. If this is the case, better instruments may produce different results.

A further possibility is that there may actually be no relationship between these two aspects of achievement within the college population or at least within that segment that seeks counseling. Thus some bright students may be highly motivated and do well while others may do well despite low motivation. Similarly, some less bright students with low motivation may do poorly while others with higher motivation may use this to compensate for their lower ability. That is, there may be an interaction between a student's state of being and his motivation which affects his performance.

Again, problems exist in regard to both the instruments employed and the representativeness of the sample and these problems, plus the lack of normative data for some of the measures, make it difficult to interpret the results.

One additional set of results remains to be considered here. The subjects in this study scored both significantly higher than the normative sample on the two level of achievement measures, the GPA and CQT percentiles, and significantly lower than the standardization samples on two of the achievement motivation measures, the Ac and Hr scales, yet level of achievement and achievement motivation were found to be unrelated. This discrepancy may be due to the fact that the normative sample for the CQT and GPA percentiles differed from the standardization samples for the Ac and Hr scales and the samples may not be comparable.

The change scores generally indicated no relationship between changes in achievement motivation occurring during the course of therapy and level of achievement. Therapy, therefore, seemed to have similar effects on the achievement motivation of subjects functioning at different levels of academic achievement. The results for the Af scale were exceptions to this, however, in that five of the eight correlations were significant, although all in the opposite direction from that predicted. Thus, females functioning at higher

levels of academic performance both before and after therapy tended to decrease in feminine achievement motivation following therapy more than females functioning at lower levels. Conversely, females performing at lower levels tended to show greater increases in feminine achievement motivation after therapy than females functioning at higher levels.

One possible explanation of this is that the changes represent regression towards the mean for the subjects high and low in achievement motivation or level of achievement. However, as there was no significant relationship between level of achievement and achievement motivation, it cannot be assumed that those with high levels of achievement had higher motivation and that this decreased or that those with lower levels of achievement had lower motivation and that this increased. Also, although some regression can be expected for all the motivation measures, the Af scale is the only one for which these changes are significantly related to level of achievement.

Another possibility is that the therapy process causes some changes in feminine achievement motivation that are related to both pre- and post-therapy levels of achievement. It may be that therapy brings about changes in feminine identification or role concepts which are then reflected in the Af score. That is, female subjects

with high levels of achievement may become able to relinquish some of their need to achieve (achievement motivation), whatever its pre-therapy level, in the process of becoming more feminine. Also, female subjects with low levels of achievement may become more able to accept achievement as part of their feminine role and therefore increase their achievement motivation as a result of therapy. Further investigations of possible sex-role changes are necessary to test this explanation.

The second part of the hypothesis, that achievement motivation would be positively related to whether or not one's performance exceeded expectations, was tested by sign tests. The results of these tests generally failed to support the hypothesis. They, too, indicated little relationship between achievement motivation and level of academic achievement with only one of the twenty-four tests reaching significance at the .10 level, less than the number expected by chance. That test suggested that there is a positive relationship between changes in feminine achievement motivation from before to after therapy and the deviation between how the student is expected to perform and how she actually performs. This would tend to lend some support to the hypothesis in that female subjects whose performance exceeded expectations were those whose achievement motivation increased more during therapy than did the achievement

motivation of those whose performance was below what was expected of them.

Although this may seem to contradict the above findings involving the Af scale, this is not the case, since different measures of level of achievement were involved. Whereas in the preceding analyses the Af scores correlated negatively with pre- and post-therapy performance, these scores did correlate positively, although not significantly, with the deviation scores between GPA and CQT percentiles. This represents whether performance was above or below expectations. Thus, although female subjects with high levels of performance increased less in achievement motivation during therapy than those with low performance, those whose performance was above what was expected of them made greater increases in achievement motivation during therapy than those whose performance was below expectations. This suggests that level of performance per se and level of performance as compared to ability are differentially related to changes in feminine achievement motivation occurring during therapy.

The results, therefore, generally do not support the hypothesis that there is a positive relationship between achievement motivation and level of academic achievement among students coming to the Counseling Center. Whether or not this holds for the

entire college population requires additional investigation. There is the possibility that this lack of relationship may be a contributing factor that causes these students to seek therapy.

Achievement Motivation, Level of Academic Achievement and Therapy Outcome

The primary purpose of this study was to assess the effects of high and low achievement motivation and level of academic achievement on therapy outcome. Hypotheses 2 and 3 predicted that both of these achievement factors would be positively related to outcome, so that students with high achievement motivation and those whose performance exceeded expectations would profit more from therapy than those with low motivation or performance that did not exceed expectations. It was further predicted that these two achievement measures would be positively correlated so that students scoring high on one achievement measure would score high on the other and have the most successful therapy outcomes. The first part of that prediction was not supported, as shown in the Achievement Motivation and Level of Academic Achievement section of the Results chapter. This section considers the remainder of the prediction.

The results of the two-way analyses of variance presented in the preceding chapter indicate that there is little relationship

between either achievement motivation or level of academic achievement and therapy outcome. Considering each of these achievement factors separately, none of the F-tests reached significance at the .10 level. Thus, within this sample of students seen at the Counseling Center, students with high levels of achievement motivation or whose performance exceeded expectations profited from therapy as much as, but no more than, students with low levels of achievement motivation or whose performance was below expectations.

Again, there may be several reasons for this lack of significant results. First, there are problems connected with the instruments used. Those involving the achievement motivation and level of achievement measures have already been discussed. Briefly, these fall into two categories: the qualitative and quantitative meaning of the scores. Qualitatively, there is the question of whether the scores are really indicative of what they purport to measure. This question arises because of the low intercorrelations between measures that were expected to be tapping similar behaviors and, therefore, which were predicted to be highly related. The quantitative meaning of the scores also poses problems in that there is a lack of relevant normative data with which to compare the obtained results. Thus, it is difficult to assess the reasons for the lack of results.

Second, there are problems involving the sample of subjects used. These concern the meaning of the restricted ranges of scores and whether the restrictions are due to the instruments employed or the range of subjects studied. There is also the question of the representativeness of the sample with regard to both a Counseling Center population and the college population in general. Again, these problems have already been considered in some detail in regard to achievement motivation and level of academic achievement.

As with the other measures, the subjects in the present study were found to be significantly different from those in the standardization group on both the NDS and Total Positive scales of the TSCS. These differences occurred for both the pre- and post-therapy data. However, the differences from the standardization group were considerably greater for the analyses involving the pre-therapy data. This suggests that changes occurred during therapy which made the subjects more like those in the normative sample, which contained a large number of college students. That these differences are due to selection factors related to students' seeking counseling rather than to differences between the general college population and the standardization group is supported by the fact that a study by Dietzel (1970) found no significant differences between his group of Michigan State University students taken from a

psychology class and the normative sample. Thus, the subjects in this study do not appear representative of the Michigan State University population in general. Rather, their protocols indicate greater amounts of deviation, which is a sign of psychological disturbance, and lower self-esteem than is typical of the average student. These factors may contribute to the lack of results.

Third, there is the possibility that level of achievement motivation and academic achievement have no effect on therapy outcome and that these achievement factors are unrelated to the progress made in therapy. Thus, students who are highly motivated to achieve in some areas and those who perform above expectations may not carry this increased drive into the therapy setting. Similarly, students with low motivation to achieve and those who perform below expectations may not transfer their lack of drive into therapy. Further, as achievement motivation and level of academic achievement are basically unrelated, there may be a number of instances in which high achievement in one area is balanced by low achievement in the other. The associated intermediate achievement drive may then be carried into therapy.

Turning to the two-way interactions between achievement motivation and level of academic achievement, three of the tests were significant, suggesting that the combined effects of motivation

and level of achievement may influence therapy outcome. For one of the scales, the Ae scale, success in therapy was related to either high or low scores on both achievement motivation and level of achievement with subjects scoring high on one and low on the other having less success. The opposite held for both outcome measures in relation to the Af scale. Here, subjects high in one aspect of achievement behavior and low in the other made the greatest gains in therapy while those high or low in both showed less improvement.

In each case, part of the data support the hypotheses and part contradict them. Thus for the Ae scale, the greater improvement for subjects high on both measures supports the hypotheses while that for subjects low on both measures refutes them. Similarly for the Af scale, the hypotheses are supported by the relationship of large gains to higher scores on one measure and refuted by the association with lower scores on the other measure.

These results suggest that it may not be the degree of achievement motivation or level of achievement per se that influence therapy outcome but rather the pattern of the interaction between them. Also, the pattern of achievement behavior that leads to greater success in therapy may be specific to the particular component of achievement motivation measured. Thus, for different aspects of achievement motivation, different relationships between

this motivation and level of academic achievement may be expected to facilitate the therapy process. Further, for some aspects, congruence between achievement motivation and level of achievement may be the critical factor while for others, discrepancy may be necessary. There may also be sex differences involved since the Af scale, the feminine achievement motivation scale, had a different pattern of interaction related to success in therapy than the Ae scale.

One additional point should be noted in regard to these significant findings. They may simply be due to chance factors since only three out of the thirty-six F-tests reached significance and these were for patterns that are not particularly psychologically meaningful.

Achievement Motivation, Level of Academic Achievement and Completion Status

Since some of the subjects in this study completed the post-testing and others did not, these two groups were compared to assess whether they differed in either achievement motivation or level of academic achievement. Hypotheses 4 and 5 predicted that subjects in the Complete group would have higher achievement motivation and level of academic achievement and, as a result, would profit more from therapy than subjects in the Incomplete

group. It has already been shown, however, that there is little relationship between the achievement factors and therapy outcome.

As presented in the Results chapter, there were no significant differences in either achievement motivation or level of achievement between the two groups. The only differences that did exist suggested that for each group the females had higher achievement motivation and level of academic achievement than the males. Thus, somewhat more underachieving males than females seek counseling, or at least participated in this research project. This may suggest that males and females seek counseling for different reasons: males for problems related to scholastic achievement and females for personal-social problems. Another possibility is that the females who seek counseling for achievement-related problems may be overachievers rather than underachievers. These explanations would be in accord with the fact that achievement tends to be sex-role relevant for males but not for females. Thus, males would tend to have more problems if they failed to achieve and females if they performed too well and this interfered with other aspects of their feminine role.

However, these findings may also be attributable to chance, especially since there were no sex differences in the preliminary three-way analyses of variance and other preliminary analyses that have not been reported.

None of the other measures differentiated between the groups. This suggests that completion status is related to factors other than achievement motivation or level of achievement. It might be of interest to do a follow-up study of the students in the Incomplete group in order to examine their reasons for not completing the testing.

These results, then, fail to support Hypothesis 4 and suggest, instead, that the subjects in the Complete and Incomplete groups are quite similar in regard to the achievement factors and that failure to complete post-testing is not related to achievement behaviors.

Since the outcome measures used in the preceding section, the NDS and Total Positive scales of the TSCS, were not available for the Incomplete group, the academic performances of the subjects in the two groups were compared to assess possible post-therapy differences between them. Again, analysis of the data failed to reveal any differences between the groups in either academic performance following therapy, changes in academic performance during therapy or levels of academic achievement as compared to ability.

Here, too, the subjects in the two groups were quite similar. However, this may be more a reflection of their similarity in achievement motivation and level of academic achievement

than in their therapy progress. Considering the lack of relationship between the achievement factors and therapy outcome, the use of academic performance as an outcome measure can be seriously questioned. Further investigation with different measures is necessary to test if there were any differences in outcome between the two groups. Thus, Hypothesis 5 is not supported by the data available in this study.

Achievement Motivation, Level of Academic Achievement, Therapy Outcome and Personality Factors

The subsidiary hypothesis in this study predicted that different levels of both achievement motivation and academic achievement, as well as amount of gain made in therapy, would be associated with differences in personality factors. The personality factors considered were instrumental independence, emotional dependence, interpersonal relations, self-concept and relations to authority figures. The results of the correlational analyses performed to test this hypothesis indicated little relationship between any of the personality factors and either level of academic achievement or therapy outcome.

There was some relationship, however, between level of achievement motivation and personality. The highest correlation

occurred between McClelland's n Achievement score, a measure of achievement motivation, and Mussen and Jones' n Achievement score, the measure of instrumental independence. This correlation indicates that subjects with higher achievement motivation tended to be higher in instrumental independence than subjects with lower achievement motivation. This supports the hypothesis. However, this correlation may be spuriously high since the measures are not completely independent. That is, both were made by the same raters using somewhat similar scoring criteria. Since none of the other correlations for instrumental independence and achievement motivation approached significance, the meaning of this result must be questioned.

As with several other analyses involving achievement motivation, the majority of significant correlations occurred in connection with the Af scale. These suggested that females with higher achievement motivation tended to have greater social responsibility and positive self-concepts, fewer problems in relation to authority and to be less emotionally dependent than females with lower achievement motivation. The first three of these are in the predicted direction and support the hypothesis while the last does not. The greater number of significant correlations with the Af scale may suggest that this scale is somewhat more reliable than the other achievement

motivation measures. However, it has already been suggested that the scale may be measuring personality factors rather than achievement factors, a suggestion supported by the present data. Therefore, Af may not be a very valid measure of the achievement motivation construct. Considerations such as these point to the need for further investigation of the reliability and validity of all the achievement motivation measures, or of the usefulness of the achievement motivation construct.

Thus, although there seems to be at least some relationship between achievement motivation and personality factors, at least for feminine achievement motivation, the results generally fail to support the hypothesis relating levels of achievement motivation, academic achievement and therapy outcome to personality.

Again, however, a word of caution should be included for interpreting the results, both for the problems already discussed and for those involving the personality scales. The results of the comparisons with the normative data indicated that the subjects in the present study were not significantly different from those in the norm groups for the social responsibility (Re) and self-concept (K) measures. There were significant differences between the groups for the emotional dependence measure (Dy) but the norms for a general college population are not known so this difference may not be atypical.

These scales may not be very good measures of the variables they were chosen for, however, and there is not much research by which to evaluate most of them. They were chosen primarily because they seemed to be the best measures of these personality factors available in the existing data. Where it is possible to choose from a wider range of instruments, it is likely that better measures can be found.

Retreat or Advance?: Comments and Implications for Research

The present research was undertaken to examine if the lack of results of therapeutic intervention, in terms of improved performance, often obtained in studies with underachievers might have been due to an overall lack of achievement motivation for these subjects. A number of hypotheses were advanced that related levels of both achievement motivation and academic achievement to therapy outcome. In general, these hypotheses stated that higher levels of both achievement behaviors would be related to each other and to greater success in therapy. Thus, it was predicted that underachievers, who already have low levels of academic achievement as related to ability, would also have lower achievement motivation and profit less from therapy than students achieving at higher levels.

A few results were obtained that supported the hypotheses. Thus there seemed to be some relationship among the achievement measures. One achievement motivation scale, the Af scale, correlated significantly with other measures of academic performance and personality. Several patterns of interaction between achievement motivation and level of achievement emerged which were related to success in therapy. Generally, though, the results failed to support the hypotheses. However, they also did not often contradict the hypotheses. Rather the major finding seemed to be the lack of significant results. That is, most of the variables considered in this study appeared to be unrelated.

This lack of results can lead to doubts about the meaningfulness of the original question, at least as it was stated at the time. Retrospectively, it seems that the initial question is still relevant and in need of investigation. However, it was difficult to test in this study because of the methodological problems that arose.

These problems can be divided into four categories: 1) the use of McClelland's scoring system for rating TAT protocols for n Achievement, 2) the lack of appropriate normative data for the measures used, for the Counseling Center population and for the entire college population, 3) the restrictions within the subject population and 4) the use of existing data obtained from the Counseling

Center case library. The first three of these have already been considered in some detail above, and the problems involving the sample itself appear to be the major ones in this study.

The problems connected with the use of the Counseling Center case material primarily involve the limited sample of subjects for whom complete pre- and post-therapy test data are available and the tests on which results have been collected for these students. In regard to the former, there are only twenty-five complete cases and of these, only nine are males. This makes it somewhat difficult to test for sex differences. In any form of design in which median splits or other categorizations are desired, empty cells often result. It also precludes the selection of extreme groups on any variable. In addition, the small number of subjects means that very large differences between groups are necessary for results to reach statistical significance.

Tests administered for the research project as a whole were selected on the basis of two major criteria. First, instruments were chosen that fit research planned by those involved in the project at the time. Second, additional measures were included either on the basis of frequency of use or because they seemed to provide data in areas not already covered. However, for any given study designed after this selection was made, the best measures of the variables

involved may not have been included in the test materials. Thus it was necessary to fit the study to the instruments rather than vice versa, and this led to difficulties in finding suitable measures.

These problems suggest that it may not have been the original question that was inappropriate or unfeasible for study, but rather that a different design may be necessary to test it. Pre-selection of subjects with more extreme scores, both high and low, on both the achievement motivation and academic achievement measures would permit a comparison between students in these two groups. This would eliminate some of the problems of the restricted ranges that were incurred in this study. It would also then be possible to obtain a more even distribution of male and female subjects. This would permit analysis of sex differences which some of the results in this study suggest may be an important factor.

This last point raises other possibilities: those of restating the hypotheses to account for sex differences in the meaning of achievement motivation or the development of differential procedures for assessing achievement motivation of males and females. Achievement has often been found to be a sex-related construct and there was some indication in this study that the achievement levels of males and females seeking therapy may be quite different, with males being more likely to be underachievers. This should be

considered in future research which could then be planned to assess and capitalize on these differences rather than obscure them.

An additional approach for future research would be the investigation of changes in level of achievement motivation as a result of therapy Many of the studies cited in the Introduction dealt with changes in performance following therapy, but none considered motivation. This study was originally planned to include this variable, but consideration of changes in achievement motivation had to be dropped because of the many problems encountered and the lack of suitable post-test data.

CHAPTER V

SUMMARY

This study was designed to assess the effects of achievement motivation on therapy outcome. Much research has been done relating the effects of therapy to changes in academic performance and achievement, but these studies have neglected the motivational component of achievement. They have, in addition, failed to consider the possibility that achievement motivation and achievement-related behaviors may also have an influence on the therapy process. Thus it may not be just the effects of therapy that need to be considered, but rather, the interaction between achievement motivation, achievement behaviors and the therapy process.

Since a large number of studies aimed at improving the academic performance of underachievers have failed to yield significant results, it was thought that there may be factors related to the motivation, performance or personality patterns of underachievers that interfered with their performance in therapy as well as in academic matters. Specifically, it was hypothesized that students

with low levels of academic achievement would have lower achievement motivation and gain less from therapy than students with higher academic achievement and motivation. It was also predicted that personality factors would distinguish between these groups.

The results of this study, in general, failed to support these hypotheses. That is, higher levels of either achievement motivation or academic achievement, in and of themselves, were not found to be related to greater therapy gains and lower levels of these variables did not seem to impede the therapy process.

However, there did appear to be some interaction between achievement motivation and level of academic achievement so that certain patterns of motivation and performance were related to therapy outcome. These patterns were specific to the measure of achievement motivation used. Thus, there may be different components of achievement motivation that, in connection with performance, differentially affect the therapy process.

Some significant results were obtained in testing the specific hypotheses. Several of the different measures of achievement motivation were found to be related to each other, although these relationships were not as great as was expected. Differences did seem to exist between what the scales were measuring and these suggest that achievement motivation is not a unitary construct.

There was little relationship between achievement motivation and level of academic achievement. However, level of achievement was negatively related to changes in feminine achievement motivation that occurred during therapy so that the achievement motivation of females with higher levels of achievement decreased more during therapy than that of females with lower levels of achievement. Therapy may act for females, then, to reduce inappropriately high need for achievement.

No relationship was found between the groups of students who did and did not complete post-testing in regard to achievement motivation or level of achievement. The analyses involving these groups did reveal some sex differences, though, which indicated that females tended to have higher achievement motivation and level of achievement than males. This suggests that future research should consider treating males and females as separate populations when investigating achievement behaviors in relation to therapy.

There was some indication of a relationship between achievement motivation and personality, at least for females, but personality did not relate differentially to different levels of either academic performance or therapy outcome.

In comparison to normative groups, this sample appeared to be significantly lower in achievement motivation and higher in

both ability and performance. However, questions were raised as to the relevance of some of the normative data and often such data were not available.

A number of methodological problems were evident in this study and these may have interfered with obtaining results. Among these were problems with the instruments, the restricted nature of the sample and the lack of relevant normative data for a number of the measures.

The implications of these problems were considered along with suggestions for future research.

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APPENDICES

APPENDIX I

CHARACTERISTICS OF THE SAMPLE

I. AGE

Age:	17	18	19	20	21	22	Over 22	Not Known
Frequency:	2	4	15	9	11	2	1	2

II. YEAR IN SCHOOL

Year:	Freshman	Sophomore	Junior	Senior
Frequency:	9	15	14	9

III. SOCIAL CLASS

Class:	Working Class	Middle Class	Upper Class	Not Known
Frequency:	7	37	1	1

IV. AREA OF RESIDENCE

Area:	Rural	Urban	Other	Not Known
Frequency:	15	29	1	1

V. RELIGION

Religion:	None	Catholic	Jewish	Other
Frequency:	21	6	2	17

VI. NUMBER OF THERAPY SESSIONS ATTENDED

Number of Sessions	Frequency Complete Group	Frequency Incomplete Group
1		
2		3
3	1	4
4		2
5	2	1
6	5	1
7	2	1
8		
9	2	1
10		
11		
12	2	
13	1	
14		
15	2	
16	4	
17		
18		
19		
20	1	
over 20	3	2
not known		6

APPENDIX II

MC CLELLAND'S SCORING SYSTEM:

A CONDENSED VERSION

I. Major Categories

A. Achievement Imagery (AI)

AI is scored when at least one of three conditions is met by the hero:

1. competition with a standard of excellence

2. unique accomplishment

3. long-term involvement

B. Doubtful Imagery (TI)

TI is scored for stories involving commonplace tasks or routine problems.

C. Unrelated Imagery (UI)

UI is scored when none of the above conditions are met.

II. Subcategories of AI--These are only scored for stories initially scored AI.

A. Stated Need for Achievement (N)

N is scored when there is a desire to reach an achievement goal. This desire has to be explicitly stated.

B. Instrumental Activity with Various Outcomes (I+, I-, I?)

There has to be a statement of activity independent of both the original statement and the final outcome to score I.

C. Anticipatory Goal States (Ga+, Ga-)

This is scored when the hero anticipates goal attainment or frustration and failure. Valence is scored according to what he anticipates.

D. Obstacles or Blocks (Bp, Bw)

Bp or Bw are scored when the hero must overcome obstacles before the goal can be reached. There are two types of blocks:

1. Bp -- personal blocks that lie within the individual.

2. Bw --blocks lying within the environment. This is also used when it is doubtful where the block lies.

E. Nurturant Press (Nup)

Nup is scored when the hero received help in achievement-related behavior or in reaching a goal.

F. Affective States (G+, G-)

These are scored when there is an affective state associated with goal attainment, active mastery or frustration of achievement-related behavior.

1. G+ -- scored when person experiences either positive affective state connected with mastery or when there are definite objective benefits of achievement.

2. G- -- scored when person experiences negative affect because of failure to attain an achievement goal or when there are objective concomitants of frustration and deprivation.

G. Achievement Thema (Ach Th)

Ach Th is scored when achievement is the central plot of the story.

Revisions of McClelland's Scoring System

The scoring system employed in this study follows that of McClelland with the following additions and modifications.

I. Major Categories

A. Achievement Imagery (AI)

Any achievement activity by any character is scored AI. There can be more than one hero; group activity can be scored. Any involvement with career plans, life plans or job plans is considered long term involvement and scored AI.

B. Doubtful Imagery (TI)

Any task-oriented behavior and/or concern with performance is scored TI. Doubtful imagery that is not quite AI but also not task-related is scored TI.

II. Subcategories

A. Stated Need for Achievement (N)

Wanting and dreaming of achievement goals are scored N. Hope is not. Two statements are needed to score both N and Ga.

B. Instrumental Activity (I+, I-, I?)

The act has to be related to the achievement goal to be scored I. Acts that occurred in the past are not scored. Flunking out is I-. Decisions are not instrumental acts.

C. Anticipatory Goal States (Ga+, Ga-)

Hope, wishing for, thinking of are anticipatory goal states and are scored Ga+. Expectations are doubtful and are therefore scored G-. Ga is anticipatory, G is actualization.

D. Obstacles or Blocks (Bp, Bw)

Only score B unless both Bp and Bw are present in the same story.

E. Nurturant Press (Nup)

Nup is scored whenever help is given.

F. Affective States (G+, G -)

G represents actualization.

G. Achievement Thema (Ach Th)

Thema is scored wherever it occurs, regardless of the presence of other motives, as long as about 50% of the story or more is achievement related.

APPENDIX III

DISTRIBUTION OF GPA% - CQT% DEVIATION SCORES

Score	Frequency Before Therapy	Frequency After Therapy
80.00 to 99.99		
60.00 to 79.99		
40.00 to 59.99	2	2
20.00 to 39.99	6	6
0.00 to 19.99	11	11
- 0.01 to -20.00	18	11
-20.01 to -40.00	3	7
-40.01 to -60.00	1	4
-60.01 to -80.00	2	2
-80.01 to -100.00	1	1