FUTURE TIME PERSPECTIVE AND ACADEMIC ACHIEVEMENT

By

John E. Teahan

A THESIS

Submitted to the College for Advanced Graduate Studies of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

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ABSTRACT

This research was an attempt to study certain aspects of the temporal orientation of high and low academic achievers. The subjects used in the investigation were sixty male junior high school students (7th and 8th grades), thirty of whom had a history of high academic grades and thirty of whom had a history of marginal or poor grades. Although high and low achievers were matched on the basis of age and socio-economic status, no attempt was made to control for differences in IQ between the two groups. However, the results indicated that there was no correlation between the experimental variable, future time perspective, and intelligence.

Five hypotheses were presented for testing. These were:

(1) High achievers would be characterized by a predominantly future orientation while low achievers would be characterized by a predominantly present orientation.

(2) High achievers would have a more extensive future time perspective than low achievers.

(3) The future time perspective demonstrated by subjects would show stability regardless of the techniques used for its measurement.

(4) High academic achievers would show a greater amount of optimism than low achievers.

(5) There would be a positive relationship between optimism and extensiveness of future time perspective.

The instruments used in this study were of three types. One technique involved obtaining a list of twenty-five things which the

subject had thought or talked about in the past week or two. These items were then rated according to whether they referred to the past, present or future. The second instrument was a story-completion technique in which the subject was asked to finish two partially completed stories. These were then rated in terms of the future time involved in the action of the story. The third instrument was of a similar nature in that subjects were asked to write a short story about three different TAT cards and these were again checked for the amount of time which was projected into the future in the action of each story.

Four of the hypotheses were supported by the data either in total or in part. High achievers were found to have a significantly greater number of future references in their recent thoughts and conversations. Low achievers, however, were not found to be primarily present-oriented, but instead were rather evenly divided between past, present and future. On most other measures high achievers were also found to have a significantly greater future time perspective than low achievers. Although no differences were found between high and low achievers on the basis of the optimism reflected in their TAT stories, a significant correlation was found between optimism and future time perspective.

Significant correlations between the various measures of future time perspective were also found with the exception of the future references in recent conversations. It was felt that this instrument was primarily measuring the kind of temporal orientation which an individual had, rather than the extensiveness of his future orientation, and that it was this reason which accounted for the low correlations

between the total number of future references in recent conversations and extensiveness on either the Story-Completions or TAT stories.

The greater future temporal orientation of high achievers was discussed in terms of its relationship with planfulness and goal-setting, which has been found by other investigators to characterize the high achiever. The relationship between optimism and future time perspective was also explained in terms of the hope and expectations which characterize the optimistic individual and their effect upon his perception of the future. It was concluded that school subjects are probably more meaningful to the high achiever because they are viewed in the light of his ultimate vocational aspirations. It was felt that the successful student perceives himself as occupying a place in the time continuum in which certain sub-goals have already been reached, and where new and exciting challenges are viewed in the future.

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INTRODUCTION

Much has been written on the subject of over- and under-achievement in the classroom. As will be indicated later in this paper, there do seem to be points of agreement and consistency in many of the investigations which have been conducted in this area. The high achiever has been found to be especially characterized by greater optimism, planfulness and self-confidence (17, 24, 25, 26, 49). His interests have been felt to be more mature and vocation-centered (26, 27). All this seemed to suggest that the highly successful student may differ from his less successful counterpart in terms of his psychological future time dimension.

Lewin (33) has indicated that an individual's perceptual field is not merely limited to the situation in which he finds himself at the moment, but that it also includes the future and past as well. It is the general thesis of this paper that the manner in which an individual conceptualizes the future will have a marked effect upon his present efficiency and productivity, especially his academic productivity.

Differences in the psychological time dimension, and in particular the future time dimension, have already been noted in various social class groups (8, 32). Time perspective has also been found to be affected by institutionalization (18) and psychopathological states (11, 48, 51). In the present study an attempt has been made to relate the dimension of future time perspective to differences in academic

achievement. It was felt that if the high achiever is characterized by greater optimism, planfulness and goal-setting, he should also show a more extensive future perspective. To such a student the present chores of school would be more meaningful and interesting when viewed in the light of the ultimate future goals which had been set-up. Thus students who are characterized by a consistently high academic record would also be expected to have a more extensive psychological future time perspective.

REVIEW OF THE LITERATURE

Academic Achievement

The subject of the prediction of academic success and the problem of over- and under-achievement have, in the past, been smothered under piles of literature, much of which has been repetitious. Only a small proportion of this has dealt with children of high school or primary grades and almost all of it has dealt with the prediction of success through the use of group tests.

Aptitude alone appears to be a rather poor predictor of academic or vocational success. Innumerable investigations have been made of the correlation between scores on intelligence tests and later college grade-point averages. Garrett (23), Kinney (30), Douglas (9) and others have reviewed hundreds of these and found correlations ranging from .17 to .67 with a median at .47. Other investigators have sought to predict college success through the use of various achievement tests. Garrett (23) concluded in his review of this literature that scores on mathematics and science tests have correlated higher with academic success than have scores on other tests. Reading has proved to be of least value for correlations obtained between reading achievement and grades have ranged from .10 to .44 (7, 40).

Because of the failure of these more "cognitive" measures in yielding adequate prediction, other investigators have focused their attention on personality factors such as interests, values and traits

as possible important variables in determining the maximum use of ability. A great many studies have been made in this respect through the use of inventories and questionnaires. Garrett (23) states that studies of this nature have completely failed to show any consistent relationship between personality test scores and academic success in college. Thus, Chambers (5), Fleming (19), and Gilliland (22), using samples from different universities found correlations between the Pressey X-O test and college success of .54, .07 and -.02 respectively. Of sixty-three correlations reviewed by Garrett between personality tests and college grades, the range was from -.30 to .64 and the median fell at .09.

The literature also contains studies in which the MMPI was used in the investigation of high and low academic achievement (1, 36, 38, 47). However, different criteria of achievement were used in some of these investigations which limits their value somewhat. Altus (1), for example, used the grade-point average attained in an introductory psychology course and found that low achievers showed more maladjustment on the MMPI, although the hypomania scale was the only one which showed statistically significant differences. Schofield (47), on the other hand, using total grade point average found the hysteria, psychopathic and schizophrenic scales differentiated his groups and concluded that low achievers showed more neuroticism and lack of harmony in interpersonal relationships, while Morgan (38) found no differences on the clinical scales of the MMPI when he chose his subjects on the basis of total grade point average. It does seem questionable, however, whether

an instrument which was standardized in terms of psychiatric nosology can ever be of great use in handling a problem where the establishment of a diagnostic label is not of primary concern.

It is not only the types of instruments which have been used that have made many of the investigations in school achievement of somewhat negligible value. One also finds a great deal of experimental naivete exhibited in this area and very often the groups used are subject to only the most meagre of controls. Kimball (29), for example, with an experimental group of 17 subjects and a control group of 105 (!) concluded from a sentence completion test that failing students revealed more hostility towards father figures. Yet her experimental and control groups were never described and only passing mention was made that the subjects were of "normal intelligence". Myers (39), on the other hand, used a very impressive sample of over 700 college students and a 148 item questionnaire but seemed to assume that any result beyond the 50 percent level of confidence was significant of something. In actuality his results fit a normal distribution with only six items significant at the five percent level of confidence or beyond. Yet he drew his conclusions from responses made to 45 of these items.

The few Rorschach studies which have been attempted using college students have added little information to the problem of under-achievement. Monroe (37) and Thompson (50) both concluded that the high achiever appeared to reveal "better adjustment" on the basis of their investigations, while Cronbach (6), using the same type of total score, found only a very low correlation between the Rorschach and

grade-point average. However, one might wonder whether Thompson was justified in assigning the label of under-achiever to a student merely on the basis of his grade in one psychology course. Nor were her results confirmed by Himmelweit and Summerfield (27) who found no differences between high and low achievers on the Rorschach.

Perhaps one of the most adequate and well planned attempts to utilize the questionnaire approach in studying the academic achiever has been made by Gough (25). He drew his original items from the MMPI and added 100 new items of his own based on the inference that the successful student rebels less against convention and tradition. He found that 38 items correlated .44 and .53 with grades obtained in high school on two separate samples of 234 and 441 students respectively. He concluded that the successful student in high school was more optimistic, accepting of convention, orderly and docile with greater acceptance of others and better study habits.

When Gough (24) attempted to apply this scale at the college level, these same items no longer proved to be of great value. Rather, a different constellation of traits seemed to characterize the high achiever with more emphasis placed upon self-sufficiency and independence of judgment. Similar to his high school sample, however, an enlightened and optimistic attitude towards the world again appeared to be an important asset in high achievement. Gough also cross-validated these results on different college samples.

The picture again seemed to change somewhat when Gough (26) investigated successful graduate students. Using both a questionnaire

and role playing technique he discovered that graduate students who were rated as most successful by faculty members showed greater time perspective, being more concerned with future goals rather than adopting an "exam-oriented" approach to their subjects. Students rated most highly were again more basically optimistic and were not as easily swayed by the vicissitudes of the day. In role playing the high students also appeared to show greater flexibility and ingenuity in carrying out a particular role and developing it beyond expected levels. Gough concluded that at the graduate level the most important characteristics for good achievement were self-confidence, self-acceptance, optimism and a rather skeptical attitude towards things.

Gough's findings, then, do appear to reveal some common threads which run through the personality constellations of high achievers at all academic levels. Optimism seems to be the most outstanding of these. In addition to this there also seemed to be a greater awareness of the future among the successful students. Thus we find that they are characterized by such traits as planfulness in high school, while at the graduate levels they are described as showing greater concern for future goals.

Other investigators have reported findings of a similar nature. "Goal-centered" behavior has been noted by Roe (44) in her study of successful and eminent scientists. She found that these men had made very early decisions concerning their future vocations. Himmelweit and Summerfield (27), using a questionnaire approach also felt that their college high achievers expressed more interest in their future

vocations and appeared to be more motivated by intellectual and social gratifications rather than by the prospect of material gains which were given primary emphasis by low achievers.

Another trait which was found by Gough (24), especially at the college level, among high achievers was self-confidence or self-reliance. Similar terms have been used by other investigators as descriptive of the high achiever. Field (17), for example, using a Q technique with college students found his high achievers differing with respect to a greater amount of "confident self expression". Terman (49), in his follow-up study of gifted children found greater self-confidence among the most successful men, while Lewis (35) used the term "self-reliance" as an important characteristic of his high achieving gifted children.

Summary

The results of many of the studies which have been done on the subject of under- and over-achievement have been inconsistent and unrewarding. Points of agreement have been found among some investigators, however. In general, it would appear that the high academic achiever is more optimistic, self-confident, and shows greater planfulness and interest in the future.

Time Perspective

The life space of an individual, according to Lewin (33), is far from being limited merely to the present situation, but includes the future and past as well. All actions, emotions and the morale of an

individual at any given moment depend upon his total time perspective. This time perspective is defined by Lewin as "The totality of an individual's views of his psychological future and psychological past existing at a given time." Lewin has further indicated that the growth of a psychological time dimension continues into adulthood and that during this process, plans and attitudes involving increasingly larger time units become more meaningfully organized. Therefore, time perspective becomes more extended both with respect to the past and the future as age increases, and as the child matures his present behavior falls more and more under the influence of increasingly more distant past and future events.

The origins of the development of a sense of time and temporal concepts have been referred to, either explicitly or implicitly, by the psychoanalysts (4, 16, 54), and the reader is referred to the work of Wallace (51) for a more thorough discussion of their viewpoints. The main differences of opinion which seem to exist between the analysts would appear to be the amount of stress which each places upon the roles played by the various stages of psychosexual development. Yates (55), for example, feels that it is during the oral stage when the child develops pleasurable anticipations of feedings that the first appreciation of time takes place. Fenichel (16), on the other hand, emphasizes the anal period and toilet training as being of greatest importance in the development of a sense of time.

Closely related, and perhaps almost synonymous to the idea of time perspective is Werner's (54) use of the concept of time binding or

tension binding which Sarbin (45) has discussed in terms of role development. Similar to Lewin and the analysts, Werner sees the newborn infant as undifferentiated in action and perception with no ability to bind tension or time. However, through maturation of the perceptual and motoric functions the child's actions become more differentiated and with varying degrees of ability he is able to tolerate tension and delay and can inhibit actions which formerly would have been called out immediately at the slightest provocation. Werner, like the analysts, believes that frustration or over-specialization during either the primary or later stages of maturation, can result in "fixations" which may prolong the organization of the self at a particular level. Hence, the individual will be unable to assume certain aspects of a later adult role, especially those dealing with the ability to bind tension or inhibit response.

Sarbin (45) relates tension binding to the ability to engage in "as-if" behavior, which he feels is so important in the adoption of roles. This "as if" behavior, or the ability to take the role-of-the-other is the first stage in the incorporation of cultural and adult standards. He differentiates between "undercontrollers", who are unable to bind tension properly (the psychopath, for example) and the "over-controllers" who act compulsively rather than impulsively. Between these two states lies the "socially adequate tension binders" who can bind tension according to the objective demands of their environment. Under-controllers never learn to take the role-of-the-other and as a result are deficient in the assumption of roles, while

the over-controllers are rigid and inflexible and become frozen within the narrow scope of a few roles which leaves them unable to adjust to new situations.

Translating this into notions of time perspective it would appear that the poor tension binder is limited to the present and immediate pleasures of his environment, while the over-controller is more or less bound to the past because each new situation would necessitate the application of a lengthy approval-disapproval criterion before any response could be made. The socially adequate tension binders, however, would be more future oriented in that needs could be inhibited or gratification postponed until some time in the future depending upon what was available or would be available in the person's environment.

Empirical Support

Empirical support for the developmental theory of time perspective can be found in the work of Ames (2), Friedman (21) and Piaget (42). Ames, using techniques involving observation of infants and children as well as interviews and questionnaires found that it is not until the age of two that a child begins to utilize concepts of the past and future in his verbalizations, although some limited ability to show anticipation or project into the future may be manifested by as early as eighteen months. The days of the week, however, are not used appropriately until the age of five, while months are not properly utilized until the age of seven. After this, even rather indefinite extremes may be adequately handled, usually beginning by about the age of eight.

Friedman (21) utilized twelve events in his investigation, and children were required to place these in one of four categories ranging from "a long time ago" to "a long time to come". He found that pupils in grades four to six showed a greater understanding of these indefinite concepts than younger children and his results indicate that the building up of a future perspective requires more maturity than a past perspective. The idea of yesterday or what is already past seems to have a much clearer meaning for the child than the idea of tomorrow or what is to come.

Piaget (42) has also studied the development of a time sense using methods of direct observation and questioning. Like Yates (55) he believes that the infant first begins to develop an experience of time as a result of the waiting period between feedings. However, due to the child's poorly developed perceptual and motor apparatus, and his inability to define the boundaries of his own ego and the external world, no truly objective concept of time can be established. It is not until the age of four and the improvement of memory and other cognitive functions that the child can begin to verbalize and utilize concepts of temporality. Piaget does feel, however, that even before this period, some understanding has already developed but that it has not been manifested verbally. Finally at the age of seven when the egocentricity of the child has begun to diminish it becomes possible for him to appreciate the social relevancy of time and he begins to compare his concepts to those of others.

Eson (12) has studied the temporal emphasis of the thoughts and conversations of subjects of varying ages. He used seven groups who

were representative of five different age levels ranging from ten to sixty-five. His method was to have the subjects list items that they had thought or talked about in the previous two week period. These items were then rated according to whether they referred to the past, or future. His findings revealed that all groups placed relatively more emphasis on the future at least in so far as their thoughts and conversations were concerned. Contrary to what one might have expected, no marked differences seemed to be present between the amount of emphasis placed on the future by ten-year-olds and 25-year olds which might seem to indicate that temporal orientation is quite well established even by the age of ten.

Summary

The present situation of an individual includes not only the present but the past and future as well. All actions and emotions depend upon the person's views of his psychological past and psychological future. The growth of this psychological time perspective would appear to be a developmental process extending from infancy into adulthood, and as an individual matures his behavior falls under the influence of more and more distant past events and future expectations. Studies have shown that the appreciation of time begins to develop even during nursing when the infant begins to anticipate feedings. It is not until the age of seven or eight that the concept of indefinite temporal periods begins to be understood. Children may be hampered in their ability to understand and tolerate time and the necessity of delaying the gratification of their impulses either by excessive frustration of

their early needs, or by overindulgence. It would appear, in general, that the future plays a much more important role in later childhood and throughout adulthood than does the past, at least in so far as ideation and verbalizations are concerned.

Future Time Perspective

In the last section, a differentiation was often made within the total time dimension between "future perspective" and "past perspective". Some writers have even proposed that individuals can be characterized by the kind of temporal orientation which they generally adopt. Porteus and Babcock (43), for example, compare the retroverts or backward looking individuals with anteverts or forward looking individuals. They feel that an orientation to the future is more constructive, progressive and creative. Israeli (28) has also mentioned H. G. Wells' typology of the "legal type" who is primarily concerned with the past, as opposed to the "legislative or creative type".

Eson's (12) methodology in which a subject's recent conversations are analyzed for past and future references is essentially geared towards determining the type of orientation which characterizes an individual. Thus Fink (18), who used this technique in the study of the institutionalized aged found that this group was primarily concerned with the past in their thoughts and daily conversations, i.e. they were "past oriented". Non-institutionalized aged, on the other hand, were predominately concerned with the future, which agrees with Eson's findings concerning the kind of orientation most prevalent among the general population.

Future time perspective has been defined by Wallace (51) as, "The timing and ordering of personalized future events." In his discussion of this concept he feels that not only must there be a recognition of the different kinds of perspectives within the total time perspective dimension, but that future time perspective itself also has certain aspects which must be differentiated from one another. These two aspects he refers to as "extension" and "coherence". Extension refers to the extent to which an individual's perspective stretches into the future (or past). The setting up of long range goals, for example, would be a reflection of extension in the psychological time dimension. Spranger's classification scheme, which is discussed by Israeli (28), is essentially a dichtomy of individuals according to extension, in that he contrasts the short-range or emergency type of individual with the long-range or foresighted type. The second variable discussed by Wallace, coherence, refers to the degree to which the elements or events in the future can be meaningfully related to one another. Thus, an individual who demonstrates extension (the setting up of long-range goals) shows coherence in the extent to which he perceives that certain sub-goals must be accomplished in a certain sequence before the final end can finally be accomplished. Coherence, then, refers to the logical order which is imposed upon the contents of a time span by the individual.

Thus, while Eson (12) and Fink (18) determined the kind of orientation which seemed to typify certain groups of persons, Friedman (21) whose study was discussed previously, would seem to have primarily devoted his investigation to coherence in the time perspective of

children. Thus, he asked his subjects to place certain events into four different time categories and analyzed the responses according to their logic. Ames (2), on the other hand, was concerned with the reflection of both extension and coherence in the speech and thoughts of the maturing child.

In Frank's (20) eyes, future time perspective plays the most essential role in determining behavior. Thus he states:

> ....the actual present has no validity for our conduct, except as it is the threshold of the future towards which our conduct is oriented with varying degrees of focal length. (p. 303)

He has also commented on the relationship between social class and future time perspective as follows:

> Whole social classes may be described by the time perspectives that dominate their lives as revealed in the range of their planning, their prudential calculations, their forethought, their abstinence, and so on. (p. 297)

Davis (8) and Kinsey (31) have also discussed the different temporal orientations of social class groups, pointing out that the lower classes are less likely to postpone present gratification in favor of future gains. They feel that the middle class families place greater stress upon the future in the training of their children. The emphasis on "getting ahead" and "putting away for a rainy day" all tend to impress upon the child the importance of relinquishing present satisfactions in order to attain something of greater value in the future, i.e. tends to create greater extensiveness in future time perspective.

LeShan (32) has put this hypothesis to empirical test. Using a story technique he discovered that middle class boys tended to project a greater amount of future time span or extensiveness into their stories than boys from the lower classes. Barndt and Johnson (3) have used a similar technique in a study of delinquent boys. Holding social class constant he found that his delinquents also projected less future time into their stories than a control group, and concluded that the delinquent is a sort of temporal misfit who may find it difficult to adjust to a society where a future time perspective is so necessary for success.

These findings bring to mind the previous theories of Sarbin (45) with respect to tension binding and the ability to assume cultural roles. He also felt that psychopaths were probably deficient in their ability to bind tension and that a lack of training in the postponement of gratification, or prolonged frustration of drives, would lead to later maladjustment especially with respect to the ability to take the role-of-the-other and to gain satisfaction by vicarious means.

Summary

The total psychological time dimension may be divided into the past, present and future. Individuals may be characterized by the kind of temporal orientation which predominates their daily lives, especially with respect to "past orientation" and "future orientation". Of these two the latter is felt by most to be more progressive and creative. Future time perspective can also be characterized as possessing "extension", the amount of future span which an individual

can conceptualize, and "coherence", the logical order which he imposes upon the content of this perspective. The degree to which an individual is oriented to the future is felt to have important effects upon his present behavior, especially with respect to his ability to adjust to the roles of his culture throughout adulthood. The concomitants of greater extension in time perspective are felt to be long-range goal setting and perhaps even better ultimate productivity.

Future Time Perspective, Optimism, and Achievement

In a previous section of this paper it has been pointed out that the high achiever seems to be characterized by more optimistic attitudes and a greater concern for future goals (24, 25, 26). Self-confidence, self-reliance and goal-centered behavior are other traits which have been felt to typify the behavior of the highly successful student (17, 27). Lewin (34) has suggested in his discussion of morale that productivity and the motivation to achieve implies self-confidence, hope, and a planning and wishing for a better future. Hope means that sometime in the future the person feels that the situation, as it is now, can be altered to equal his wishes and satisfy his needs. The person without hope is pessimistic and must satisfy himself as best he can with any immediate pleasure as it arises. Thus hope and optimism imply a future time perspective--they imply an orientation towards life which is not merely present-centered. As Lewin states:

> Only when the person gives up hope does he stop 'actively reaching out'; he loses energy, he ceases planning, and finally, he even stops wishing for a better future. (p. 48)

Some of the studies which have been made on psychopathological states also have bearing on this statement by Lewin. Strauss (48) and Eissler (11) both place a great deal of emphasis on temporal orientation in pathological emotional disorders. In melancholia and depression, for example, they feel that the person sees no solution for his present problems in the future. Thus, he loses hope, the future becomes empty and meaningless and his thoughts become anchored in the past. Israeli (28) has also commented that a limited future outlook in patients whose perception scarcely extends beyond the present usually means that response to treatment will be poor and that recovery will be long and drawn out.

The setting up of goals would also be closely related to a future time perspective for the goals of an individual include his expectations for the future, his wishes and his daydreams. The felt probability of reaching these goals, however, would be dependent upon the past successes and failures of the person, and thus upon his self-confidence. If he had little confidence in his ability to achieve a goal, the future would play a less important part in governing his behavior in that he would not look far beyond the immediate. In this respect Sears (46) has found that previous failure, and insecurity with respect to ability (lack of self-confidence) will usually lead a child to set goals which are either unrealistically high or unrealistically low. The former case, of course, eventually leads to more failure until the goal is finally relinquished. The secure and optimistic child, on the other hand, seems to set more realistic goals which are in keeping with his

ability. He therefore tends to experience success which in turn creates greater self-confidence and more positive feelings about future expectations.

A previously quoted statement of Frank's (20) again has relevance here. He stated that:

> ...the actual present has no validity for our conduct, except as it is the threshold of the future towards which our conduct is oriented with varying degrees of focal length. (p. 303)

This observation has been given empirical support by Farber (14) who utilized questionnaire techniques with college students (13) and prison inmates (15). He concluded that an individual's current mood or morale is more influenced by his psychological future time perspective than the situation in which he actually finds himself. In the latter study, for example, he found a high degree of correlation between the amount of suffering which a prisoner experienced and the uncertainty he felt with respect to the prospect of when parole might be granted. This finding would appear to have further relevance to the relationship which exists between hope, optimism and future time perspective. When an individual feels that he no longer has control over his future, when he can no longer predict, he loses hope, becomes pessimistic and his life space shrinks in scope to the immediate. Therefore, self-confidence or self reliance, i.e. the belief that one can handle future problems, plays an intimate role in the future perspective of an individual.

Another investigation whose findings also bear upon this issue is that of Fink (18) who determined the proportion of past, present and future references in the TAT stories and recent conversations of the

institutionalized aged. He discovered that men who were confined to a home for the aged were more concerned with the past and less concerned with the future than those subjects who were still living within the community. Institutionalization, with its dreary and monotonous routine, removes from the individual his control over the future. Regardless of his initiative he has little chance to better his conditions for in such a setting life today is very similar to life tomorrow or life next week; the individual has little expectancy for surprise or change. Thus he loses hope and interest and his future perspective is constricted in scope. He may either turn to the present to enjoy what few satisfactions he can find there, or he may turn to the past in an attempt to recapture bygone and better days. Fink also found a significant positive relationship between the total number of hours devoted to hobbies and other activities and future time perspective, and a significant negative relationship between these same variables and past time perspective. Thus it would seem that an orientation which is geared to the future lends itself to greater productivity and creativity.

Another study mentioned in an earlier section also has a bearing on time perspective and achievement. This concerns Sarbin's (45) theory that poor "time or tension binders" are also poor role players because of their inability to engage in vicarious "as-if" behavior. It may also be remembered that Gough (26) in his work on school achievement found that highly successful graduate students were much more flexible in their ability to role play, giving performances which showed good ingenuity and which were often beyond the expectations of

the experimenter. Gough also found that these students were more stable and less easily swayed by the vicissitudes of life. If, as it would appear, future time perspective and tension or time binding are somewhat synonymous or at least highly related terms, then high achievers might also be expected to be superior in their ability to postpone satisfaction and tolerate delay and they might therefore also show greater extension in the future time dimension.

It might also be of interest to note at this point that Pearson (41) has emphasized the inability to postpone gratification of needs as an important factor in school failures. He feels that very often a child does not learn to exercise proper controls because of overly permissive or indulgent parents with the result that he becomes Id dominated. Thus, when he is placed in a schoolroom where self-control is necessary for concentration and study, the child becomes anxious and, because all his energies are in the service of the pleasure-principle he has none left to devote to the acquisition of knowledge. This is, of course, highly related to the discussion just concluded on tension-binding and again would seem to indicate that the unsuccessful student is more likely to be characterized by a dwarfed future time span.

Findings of this nature have already emerged as a corollary from a larger research project being conducted on gifted children by Drews and Teahan (10). It was found that high achieving gifted junior high school students had a more extensive total time perspective than a low achieving group of students with similar intellectual levels. This time

perspective was determined by estimating the number of years of life assigned to the characters in fictitious autobiographies which were written by the students. This measure of time perspective also showed good reliability in a retest which was given three months later using the same instrument. Thus, there does appear to be good evidence that highly successful students can be differentiated from their less successful counterparts on the basis of the extensiveness of psychological future time span.

Summary

Previous studies have indicated that the high academic achiever is more optimistic, self-confident, planful and goal-oriented in his approach to life. Hope and optimism, it was felt, imply a future time perspective or an orientation towards life which is more than merely present-centered. The setting-up of goals also implies a temporal orientation which is geared to the future in that a person's goals contain his expectations and anticipations of future success. The fact that feelings of hope and optimism are intimately linked to the future is also indicated by studies made on psychopathological states such as depression and melancholia where the individual's thoughts become rooted in the past and where the future becomes an empty and meaningless shell. One study of gifted students has already shown that high achievers have more extensive total time perspectives. It is therefore felt that high academic achievers should also be characterized by a greater future temporal span.

HYPOTHESES

Future time perspective is believed by many to play an essential role in determining present behavior. Lewin (33) has commented on the fact that persistency depends upon the meaning or value of the goal and the outlook for the future. It is therefore felt that individuals with an extensive future orientation see more purpose in what they are doing and, as a result, they apply themselves more diligently to the tasks at hand. Studies of high and low achievers have shown that they tend to be characterized by more planfulness (24) and a greater interest in future vocations (27). All this would seem to indicate that they possess a more broad future time perspective and that school subjects have been more meaningfully related to the individual's life plans. Thus the successful student will perceive himself as occupying a certain place in a time continuum which not only stretches out behind him, but which offers new promise for the future. The acquisition of high grades is then merely a subgoal which is given purpose and meaning by the ultimate hopes of the individual.

Actually, two aspects of time perspective are implicit in the above discussion. It has been indicated in an earlier section that one might conceivably characterize individuals or groups of individuals by the kinds of temporal orientations which dominate their lives. Porteus and Babcock (43), for example, have contrasted the retrovert or backward looking individual with the antevert or forward looking individual. Fink (18) also found that the institutionalized aged were

"past oriented" while the non-institutionalized were "future-oriented". Thus, the first hypothesis may be stated as follows:

I. High academic achievers will be characterized by a predominantly future orientation while low academic achievers will be characterized by a present orientation.

Wallace (51) has shown that there are also different aspects of future time perspective itself which must be considered, namely, extension and coherence. Extension refers to the amount of future time which an individual can conceptualize, while coherence is the logical order which is imposed upon the contents of a time span by the individual. The second hypothesis is then that:

II. High achievers will have a more extensive future time perspective than low academic achievers.

The third hypothesis is implicit in much of the discussion which has already been made on time perspective, although no direct reference has been made to it thus far. This concerns the fact that future time perspective is a highly generalized set of attitudes or "cardinal trait" whose effects will show themselves in many facets of a person's behavior. As Frank (20) has observed, the actual present has no validity for our conduct except as it is the threshold of the future. For this reason it is felt that regardless of the measurements used to determine future time perspective, it will show stability and constancy within the personality. The third hypothesis is:

III. The future time perspectives demonstrated by subjects will show stability regardless of the techniques used for its measurement.

It has been shown by Gough (25) that one of the most outstanding characteristics of high achievers in his investigations was the factor of optimism. Lewin (34) has suggested that hope and optimism imply a future time perspective in that a pessimistic person without hope must satisfy himself as best he can with immediate pleasures for he sees little prospect of happiness or change in the future. The setting-up of goals, which has also been found characteristic of high achievers, is related to optimism and future time perspective in that the goals of a person include his hopes and expectations for the future. High academic achievers have also been found to possess a greater degree of self-confidence or self-reliance. This again appears to be related to both optimism and future perspective for the self-confident person has more positive expectations with respect to his ability to succeed in the future. The fourth and fifth hypotheses may therefore be stated as follows:

IV. High academic achievers will show a greater amount of optimism than low academic achievers.

V. There will be a significant positive relationship between the amount of optimism displayed by an individual and the extensiveness of his future time perspective.

PROCEDURE

Subjects

The samples used in this investigation were composed of sixty seventh and eighth grade boys who were selected from two parochial schools taught by the Christian Brothers Order. Thirty of these students had received high academic grades for the previous two years of their school history which had placed them in the upper quarter of their classes. Students obtaining such a consistent high level of academic standing were identified as high achievers. The low achievers, on the other hand, were students who had shown consistently poor academic grades and had been in the lower quarter of their classrooms with respect to grade point averages for a period of at least two years.

An equal number of high and low achievers were chosen from each grade level and school, and controls were established to equate the groups for age and socio-economic status. The latter was determined by rating the occupations of the fathers of students according to the method developed by Warner, Meeker and Eells (53). The intellectual level of the groups was measured by the California Primary Mental Maturity Test which was administered in group form. However, because of the rather limited sample which was available for testing, no attempt was made to equate the groups for intellectual level. It was instead decided to use all high and low achievers regardless of their IQ rating (with the exception of those whose IQ's fell below 80) and

to use statistical methods to eliminate the effects of these IQ differences if intelligence was found to be correlated with the experimental variable, future time perspective. The comparison of high and low achievers is shown in Table I. It was discovered in the analysis

TABLE I

COMPARISON OF HIGH AND LOW ACADEMIC ACHIEVERS ON THE BASIS OF IQ, AGE, AND OCCUPATIONS OF THEIR FATHERS

	High Achievers Means	Low Achievers Means	t Ratio
Age in Months	155.8	157.8	1.23
Occupation of Fathers	4.8	4.7	.15
Intelligence	108.3	95.5	5.12++
Required for significance:	1% level 2.75 5% level 2.04		

of the test results, however, that IQ did not seem to be a relevant variable, at least with respect to the groups used in this investigation, for the correlations between intellectual level and the various measures of time perspective were found to approach zero in all cases (See page 34).

Test Materials

The following three types of instruments were used in the investigation.

(1) The first of the techniques was originally developed by Eson (12) who studied the time perspectives of individuals of varying age levels. A modified version of this technique was also used by Fink (18) in his study of the aged. The method consists essentially in asking the subject to relate or record a number of things which he has thought or talked about in recent weeks, and these items are then rated according to whether they refer to the past, present or future.

In the present investigation the subject was instructed as follows:

> I am interested in finding out something about the kinds of things which boys of school age think about and talk about. I would like you to write down twenty-five different things which you have thought or talked about in the past week or two.

At the end of the entire testing sessions, i.e., after all tests had been done, the examiner went back over each of these twenty-five items with the subject using the following instructions:

> Now I am interested in finding out whether, when you spoke and thought about these things, they referred to something you had done in the past, something you were doing at the time, or whether they referred to something you intended to do in the future. Now tell me a little more about what you mean by this first one (the first item was indicated by the examiner) and then decide whether it referred to the past, present or future at the time you were thinking or talking about it.

An elaboration of the meaning and a temporal rating was therefore obtained for each item of conversation which had been listed by the subject. The reason behind obtaining this elaboration was to help the subject reinstate the set or circumstances under which the conversation had been held, thus helping to insure a more correct rating.

(2) The second technique used was originally developed by LeShan (32) and modified versions have been used by Barndt and Johnson (3) and Wallace (51). It consisted of a story-completion technique in which the subject was given a few sentences to begin the story and was asked to complete it. All stories were written by the subjects themselves in the present investigation. Instructions for this test were given as follows:

I. I want to see what kind of story you can write. I'll start one for you and let you finish it any way you wish. I'll start it now. 'At three o'clock one bright sunny afternoon in May, two men were out walking near the edge of town....' Now you start there and finish the story for me.

II. As soon as the first story had been completed the following instructions were then given.

That was fine. Now I'll begin another story which, as before, you may finish any way you wish. Here it is: 'Joe is having a cup of coffee in a restaurant. He's thinking of the time to come when...' Now you finish it for me.

Any questions which were asked throughout these stories with respect to how long they should be, or what they should concern, were answered with, "It's entirely up to you--you may finish the stories any way you wish".

At the end of the entire testing session, the examiner then went back over the stories with each subject individually, and asked the following question: "How long a time was involved in this story, not in writing it, but in the action described? How long would this have all taken if it had actually happened?" This procedure was repeated for each story.

(3) In the third part of the examination the subjects were presented with three different TAT cards. These included Card #1 (boy with a violin), Card #12B (boy sitting alone before a cabin) and Card #14 (silhouette of a person in a window). The cards were presented one at a time in this order, and the subjects were instructed to "Write a story about this picture". Again, all questions were responded to with, "It's up to you--you may write any kind of story you wish just so long as it is a story and not just a description of the picture". As with the story-completions, when the entire testing situation was ended, the examiner went over each story with the subject and asked the following questions. "How long a time was involved in the action of this story--not in writing it but in the action described? How long would it have all taken if it had really happened beginning with the time at which you saw the individual in the picture?

Administration

The first section of the investigation (Eson's technique) was introduced to the subjects as an attempt to find out more about the kind of things which boys of school age think and talk about. The other two sections of the study were introduced as tests of creative imagination.

All testing was done in small groups of usually three subjects and they were given in the following order: first, Eson's technique; second, the story-completions and third, the TAT cards. The conversations and stories were written by the boys on plain white paper.

Scoring Method

1. The examiner went over each conversational topic with the subject who rated each item himself according to its temporal reference at the time the item had been thought of or discussed. The total number of future references was then computed.

2. Each subject calculated the total amount of future time in each of his story-completions.

3. The extensiveness of future time span was calculated for each TAT story by the subject.

4. A rating of the outcome of each TAT story was made on a five point scale of optimism-pessimism. The following frame of reference was used for this 1-5 rating.

(i) Very pessimistic--the principal character is unhappy at the end of the story and there seems to be little or no prospect of any change in his present situation.

(ii) Somewhat pessimistic--things have not gone well for the principal character at the end of the story, although they could be worse. There is some chance that things may improve.

(iii) There is no expression of feeling within the story which could be classified as either optimistic or pessimistic. The story describes some situation or happening but the principal character is not emotionally involved.

(iv) Mildly optimistic--although all of the character's wishes are not fulfilled in the manner he would wish, he is happy at the end and things do look fairly bright in the future.

(v) Very optimistic--the character gains prestige, importance and happiness. If, for example, he wanted to become a violinist, he becomes a successful musician at the end of the story.

5. Rater-Reliability on Optimism-Pessimism--two other judges re-rated the TAT stories of thirty-three (sixteen high and seventeen low achievers) students. These ratings were done on separate occasions and no judge had any idea of how the stories had been previously rated.

Statistical Analysis

The Mann-Whitney non-parametric test was used to determine the significance of differences between high and low achievers on the extensiveness of future time perspective. Parametric measures were not used because of the great variability in the time measures obtained which ranged from five minutes to sixty years. For this same reason it was also necessary to use a rank coefficient of correlation (Spearman's rho) to determine the reliability of the various measures with one another. In only one case, the determination of rater-reliability on optimism-pessimism, was a Pearson r computed.

RESULTS

IQ and Future Time Perspective

No attempt was made during the selection of the sample to control for differences in intelligence between high and low achievers. Instead it was decided to use an analysis of covariance to correct for the effects of these IQ differences if intelligence and future time perspective were found to be correlated. However, as Table II indicates,

TABLE II

CORRELATIONS BETWEEN IQ AND FUTURE TIME PERSPECTIVE

	Intelligence		
Instrument	High Achievers[1] rho	Low Achievers[1] rho	All Achievers[2] rho
Future Conversations	-.18	-.08	.09
Story Completions	.26	-.13	.11
TAT Stories	.04	-.09	.14

[1] required for significance: 1% level .456, 5% level .355

[2] required for significance: 1% level .325, 5% level .250

the correlations obtained between these two variables was found to approach zero. It thus seems clear, at least with respect to the range of intelligence and methods used to assess it in this investigation, that intelligence and future time perspective are independent variables.

Reliability of the Future Time Perspective and Optimism Ratings

Table III reveals that of all the instruments used, the story-completion technique seemed to have the lowest degree of "alternate form" reliability. When story #1 was compared to story #2, the obtained correlation failed to reach a level of statistical significance. The TAT stories, on the other hand, showed a fairly high degree of reliability when the results obtained from one story were compared to those obtained by either of the other two stories. The obtained rank-difference correlations were significant beyond the one percent level in all cases when the scores obtained by all achievers (regardless of whether they were high or low achievers) on any particular card were compared with their scores on any of the remaining cards. When either high or low achievers were isolated and compared in this way, the results were also statistically significant except in the case of low achievers when TAT #2 and #3 were compared.

There would also appear to be a high degree of internal consistency with respect to the future references obtained from recent conversations. An odd versus even comparison was made of the 25 items listed by each subject (only future references were considered), and the obtained correlation for all achievers of .85 is, of course, highly significant.

In order to check the reliability of the optimism ratings made on the TAT stories, two other judges were given 33 records (17 high and 16 low achievers) for rescoring. These results, which are recorded in Table IV, reveal that the scoring method used to obtain the ratings was highly reliable.

TABLE III

RANK-DIFFERENCE CORRELATIONS BETWEEN THE VARIOUS FUTURE TIME PERSPECTIVE MEASURES

Instruments	High Achiever rho	Low Achiever rho	All Achievers rho
Odd vs. Even Fut. Ref.	.885**	.733**	.854**
Story Comp. #1 vs. #2	.131	.295	.214
TAT #1 vs. TAT #2	.426*	.454*	.415**
TAT #1 vs. TAT #3	.502**	.421*	.514**
TAT #2 vs. TAT #3	.582**	.261	.449**

** Significant at the one percent level or less.
* Significant at between the five and one percent levels.

TABLE IV

SCORING RELIABILITY OF OPTIMISM RATINGS

	Judge #1 r.	Judge #2 r.	Judge #3 r.
Judge #1	---	.846**	.909**
Judge #2	.846**	---	.911**
Judge #3	.909**	.911**	---

** Significant at the one percent level or less.

Future References in Recent Conversations

When high and low achievers were compared with respect to the kind of temporal orientation which characterized their recent conversations, high achievers were found to have a predominantly future orientation. Thus, when the number of future references obtained by each high achiever was compared to the total number of either his past or present references, the result was statistically significant at beyond the one percent level. (See Table V) There was no such difference when the future references of low achievers were compared to the total number of their past or present references. Therefore, while high achievers have a significantly great number of future references, low achievers are rather evenly split between present, past and future orientation. As might be expected from these results, high achievers also had a significantly greater number of future references than those obtained by low achievers. This latter result is recorded in Table VI, along with other comparisons of high and low achievers on future time perspective.

Story Completions

Although high achievers were found to have a more extensive future time perspective on both story-completions, only one of these (story #1) gave differences which were satistically significant. (See Table VI) When the results of both story completions were combined, the differences were again statistically significant when a one-tailed test was used.

TABLE V

COMPARISON OF THE TEMPORAL REFERENCES MADE BY HIGH AND LOW ACHIEVERS IN THEIR RECENT CONVERSATIONS

Subjects	Fut. vs. Pres. Md.	Md.	Z	Fut. vs. Past Md.	Md.	Z	Pres. vs. Past Md.	Md.	Z	Fut. vs. Pres. and Past Md.	Md.	Z
High Achievers	13.5	4.5	3.86**	13.5	5.6	4.42**	4.5	5.6	.29	13.5	11.5	.81
Low Achievers	9.2	7.5	.56	9.2	7.5	.52	7.5	7.5	.09	9.2	15.8	4.38**

** Significant at the one percent level or less.

TABLE VI

COMPARISON OF HIGH AND LOW ACHIEVERS ON THE BASIS OF THE AMOUNT OF FUTURE TIME PERSPECTIVE IN THEIR RECENT CONVERSATIONS, STORY-COMPLETIONS AND TAT STORIES

Instrument	High Achievers Medians	Low Achievers Medians	Z	P[1]
Future References	13.5	9.2	2.77	.003
Story-Completion #1	4 hours	1.5 hours	2.03	.021
Story-Completion #2	3 days	6 hours	1.32	.093
All Story-Completions	3.5 days	1.5 days	1.69	.045
TAT Story #1	1 day	1.5 hours	1.82	.034
TAT Story #2	2.5 days	2 hours	2.02	.022
TAT Story #3	12 hours	1 hour	1.82	.034
All TAT Stories	6 months	14 hours	2.21	.013

[1] Because of the fact that the results were all in the predicted direction, the probabilities listed are for a one-tailed test of statistical significance.

Thematic Apperception Test

Again the high achievers demonstrated more extensive future time perspectives on all three stories given to the TAT cards. All results reached a level of statistical significance (See Table VI). It will be noted that when the total time on all TAT stories was used as a basis of comparison, the differences between high and low achievers was greater than the differences which emerged on any one individual story. This would appear to be a result of the high degree of reliability which this test demonstrated. (See Table III)

Comparability of the Instruments

When the total score obtained by a subject on one instrument was compared to his total score on either of the other two tasks, some interesting findings emerged. A significant relationship between total scores on the TAT and total scores on the story-completions appeared when all achievers were compared on these two groups of tests. The results were significant at the one percent level of confidence indicating that there is a fairly high degree of commonality between these two instruments. (See Table VII) This did not appear to be the case, however, when the future time perspective scores obtained on either the TAT's or the story-completions were compared to the number of future references in the subjects' recent conversations. In all cases here the correlations approached zero. It might therefore appear that this latter measure (future references) is not related to the kind of thing which is being measured in the future time span of the subjects' stories.

TABLE VII

COMPARABILITY OF SCORES OBTAINED BY MEANS OF THE STORY-COMPLETIONS, TAT, AND RECENT CONVERSATIONS

Instruments	High Achievers rho	Low Achievers rho	All Achievers rho
Story Compl. vs. TAT	.312	.211	.334**
TAT vs. Future References	.073	.106	.214
Story Compl. vs. Fut. Ref.	.051	.157	.132

**Significant at the one percent level or less.

Optimism and Future Time Perspective

No significant differences were found when high and low achievers were compared with respect to their ratings on the degree of optimism reflected in their TAT stories. (See Table VIII) However, statistically

TABLE VIII

COMPARISON OF HIGH AND LOW ACHIEVERS ON OPTIMISM RATINGS

Subjects	Optimism Rating		Chi Square	P
	Above Median	Below Median		
High Achievers	20	10	1.72	.20
Low Achievers	15	15		

significant differences did emerge when a comparison was made between optimism and future time perspective. (See Table IX) Thus, when

TABLE IX

COMPARISON OF FUTURE TIME PERSPECTIVE AND OPTIMISM ON THE TAT STORIES

Future Time	Optimism Ratings		Chi Square	P
	Above Median	Below Median		
Above Median	22	8	4.45	.04
Below Median	14	16		

individuals falling above and below the median on time perspective were compared on this optimism variable, the chi square obtained was

significant at the four percent level, indicating that persons with extensive future time perspective also tend to be more optimistic.

This result can be shown in a different manner by computing a rank-difference correlation between future time perspective and optimism on the TAT stories. (See Table X) The obtained coefficients of

TABLE X

RANK-DIFFERENCE CORRELATIONS BETWEEN FUTURE TIME PERSPECTIVE AND OPTIMISM RATINGS ON THE TAT STORIES

	Optimism		
	High Achiever rho	Low Achiever rho	All Achievers rho
Future Time Perspective	.471**	.399*	.496**

**Significant at the one percent level or less.
*Significant at between the five and one percent levels.

correlation were significant when high and low achievers were compared separately, or when they were studied as a total group, again indicating that highly optimistic people tend to be more future oriented.

DISCUSSION OF RESULTS

Intelligence and Future Time Perspective

It would appear from the very low correlation obtained between IQ and the various measures of future time perspective that these two variables are independent of one another. This conclusion must, of course, be tempered by the knowledge that it applies only to the range of intelligence studied, i.e. from 80 to 120 IQ. In addition, the majority of the individuals used in this investigation fell within the average or dull normal range and only a few cases were in the bright classification. It may well be that if the upper levels of the intelligence range had been more adequately represented, differences would have emerged with respect to intellectual level and future time perspective.

Drews and Teahan (10), in this connection found differences between gifted and average children in both the quality of their reading interests as well as in the kind of future vocations which they had outlined for themselves. Gifted children were more inclined to choose vocations of a professional sort requiring many years of graduate school while average children did not. Israeli (28) also did an investigation of a similar nature in which children of superior intelligence were asked to write personal projected-into-the future-autobiographies. He felt these students showed a very high level of personal aspiration in their stories as well as good coherence with

respect to the means by which they attained these goals. Unfortunately he did not use a control group of average intelligence with whom to compare his results, in spite of the fact that he does interpret the study to reveal a more extensive future time perspective among the gifted.

One other factor which also cannot be ignored is the assumption that the large standard error of group intelligence tests will be equal for both high and low achievers. It must be remembered that high academic achievers are students who function well in group activities. Low achievers, on the other hand, have already demonstrated by their poor grades that they do not achieve well in competitive group situations. Thus it may also be that these low achievers are hampered on group intelligence tests because of poor motivation, and reading difficulties. If this is true, then the intelligence quotients obtained from group tests may be spuriously low in the case of low achievers. Therefore, because of the fact that a majority of these poor students received IQ's in the 80's and 90's while high achievers received scores falling between 100 and 110, it may be that the range of intelligence dealt with in this study really covers only the average and bright normal classifications. If greater extremes in IQ had been present differences might then have emerged. All this, of course, is highly speculative and further investigation would be necessary to clarify the issue.

Reliability of the Measures

Of all the instruments used, only the story-completion technique failed to show good "alternate form" reliability, i.e., when story #1 was compared to story #2 the obtained rank-order correlation failed to obtain a level of statistical significance. The three TAT stories all had good inter-test reliability, however, and the future references obtained from the subjects' conversations also showed good internal consistency when odd numbered items were compared to even numbered items. This latter finding indicates that the results would not have been markedly altered if more than 25 items had been obtained from each subject.

The failure of the story-completion to show good reliability may be a function of the different emphasis which is laid upon the future in these two stories. In the first, there was no necessity for a subject to project himself into the future because he merely had to complete a rather innocuous sentence dealing with two men walking near the edge of a city. However, in story #2 the subject was literally forced to think about the future because of the very wording of the instructions, i.e., "He is thinking of the time to come when...". The TAT cards, on the other hand, were more identical to each other in that no one picture appeared to be more geared to the future than any of the others. Hence the greater degree of reliability between these three pictures in comparison to that found between the two story-completions.

Future Time Perspective

Previous reference has been made to the assumption that individuals and even groups of individuals may be typed according to the kind of temporal orientation which predominates their lives. Porteus and Babcock (43), for example, have used the classification of retroverts to refer to backward-looking individuals, and anteverts to designate the more foresightful forward-looking individuals. The results of Eson's (12) technique which was used in the present investigation would seem to mean that high academic achievers are predominantly anteverts in so far as their recent thoughts and conversations are concerned, i.e. they tend to look mostly to the future. Low achievers, on the other hand, were found to be more evenly divided in terms of the kinds of temporal references in their conversations, and they had significantly fewer future-oriented references than high achievers. This finding is in general agreement with those which have emerged from other studies of high academic achievers. These have indicated more planfulness and a greater interest in future vocations among the more successful student, all of which would be expected in individuals characterized by a future temporal orientation.

High achievers were also found to have a more extensive future time perspective than low achievers on most of the projective tests used for this purpose. Only one test (story-completion #2) failed to produce statistically significant differences when a one-tailed test of significance was used. Thus it is felt that the second hypothesis is, for the most part, supported by the data and high achievers can

be considered as having more entensive future time perspective. Using Spranger's dichtomy, which is discussed by Israeli (28), this would mean that low achievers had the short-range or emergency type of future orientation while high achievers had a long-range or foresightful type.

Discussion in a previous section has shown that a long-range future perspective implies the setting of goals and contains within it the elements necessary for good achievement or productivity. This means, of course, that the tasks which an individual must face take on a new meaning when they can be viewed in the light of some highly desirable future goal. Thus while continued and concentrated attention to school subjects may be tedious and boring to the low achiever, these chores are not as highly invested with negative affect among high achievers but instead represent meaningful sub-goals on a time continuum in which the final end is eventual vocational success.

Comparability of Instruments

It will be remembered that the third hypothesis in this study dealt with the supposition that the future time perspective demonstrated by subjects would show stability regardless of the technique used for its measurement. A significant correlation was obtained when all achievers were compared with respect to their total scores on the Story-Completions and TAT stories which would tend to support this hypothesis. However, very low correlations were obtained when either the TAT's or Story-Completions were compared to the total number of Future References

in the subjects' recent conversations. It might therefore, at first glance, appear that this latter technique is not measuring the same kind of thing as the former two instruments.

As previously mentioned, Wallace (52) has argued that Eson (12) and Fink (18) in their investigations were primarily concerned with the kind of time perspective which characterized people, i.e., whether it was past, present or future oriented. The TAT and Story-Completions, on the other hand, deal with one aspect of future time perspective only, namely, "extension". In Eson's technique no account is given to this factor of extension "per se". Thus all conversations or thoughts which have reference to the future are given equal weight regardless of whether they refer to something in one hour's time or one week's time. It might therefore seem that these instruments are not geared to measure the same things and thus it is not unexpected that high correlations would be found between the Story-Completion and TAT's, both of whom are concerned with "extension", while low correlations would be revealed when they were compared to the Future References.

Optimism, Achievement and Future Time Perspective

In spite of the fact that other investigations have shown high academic achievers to be more optimistic than low academic achievers, no differences of this nature were found when the TAT stories were rated on this variable. Although high achievers were discovered to have relatively more optimistic endings to their stories, these results were significant only at the twenty percent level of confidence and

could have been due merely to chance. Admittedly the methods used to measure optimism in this study were simple and the lack of significant results may be due to this fact. The ratings themselves did show good reliability, however, for the correlations obtained between different raters were between .846 and .911.

A significant correlation was found, however, between future time perspective and optimism. Thus students high in future extension also appeared to be more optimistic. This agrees with Lewin's (34) theories concerning the relationship between self-confidence, hope and a planning and wishing for a better future. The person without hope is pessimistic and has little confidence in his ability to change his present situation. When this happens his perspective shrinks in scope and he concentrates his attention on his immediate surrounds gaining whatever satisfactions he can in the present. In a similar fashion the student who has a history of poor grades would likely lack confidence and would perceive the future as one in which only marginal success in school could be expected. His aspirational level would therefore be low and he would not make plans as long-term as the student who had been highly successful and was looking forward to college or other academic success. Thus optimism, or the hope that positive changes can be expected in the future would be intimately related to the extensiveness of a person's plans, for there is little use in planning if one cannot look for success as well. As Lewin (34) states:

> Only when a person gives up hope does he stop actively reaching out; he loses energy, he ceases planning, and finally, he even stops wishing for a better future. (p. 48)

Some Implications for Further Study

One implication for further research which emerges from this study concerns the stability of future time perspective in day to day living. This investigation has shown that students who have a history of high academic standing have more extensive future perspectives than students with a consistently poor academic history. Although it has been inferred in the various sections of this paper that the temporal orientation of a child is established through early parent-child relationships and the training it has received in tension binding, this does not mean that future perspective is not also closely bound to situational aspects of a child's environment. Sears (46), for example, has shown that level of aspiration can be influenced by situations of artifically induced failure. If, as we have seen, future perspective is closely related to feelings of hope and optimism, then we might expect to find some periodic fluctuation in individuals who were placed under discouraging circumstances. A profitable area for further research would then be to determine whether a child's future perspective would shrink if he were to suffer severe failure in an experimental situation.

It has already been noted in this investigation that intelligence did not appear to be related to the extensiveness of future time perspective. Israeli (28), however, felt that he found a greater degree of coherence and extension in the projected-into-the-future autobiographies of bright children. Unfortunately he used no control group and the norms by which he reached this decision appear to be his own subjective standards of how well the average child should do. Some

support for his contention might appear to be found in a study by Drews and Teahan (10) concerning the vocational aspirations of children of gifted and average intelligence. The former were found to anticipate more years of academic training before they reached their ultimate professional goal. This, of course, is only suggestive and further research into the time perspective of groups who differ radically in intelligence would be necessary before this issue can be cleared. One aspect which would certainly have to be controlled is that of socio-economic status for Israeli did not consider this variable, nor did Drews and Teahan, and differences certainly could be attributed to this factor alone.

SUMMARY AND CONCLUSIONS

This research was an attempt to study certain aspects of the temporal orientation of high and low academic achievers. The samples used in the investigation were composed of sixty students, thirty of whom had a history of high academic grades and thirty of whom had a history of marginal or poor grades. Although high and low achievers were matched on the basis of age and socio-economic status, no attempt was made to control for differences in IQ between the two groups. However, the results indicated that there was no correlation between the experimental variable, future time perspective, and intelligence.

Five hypotheses were presented for testing. These were:

(1) High achievers would be characterized by a predominantly future orientation while low achievers would be characterized by a predominantly present orientation.

(2) High achievers would have a more extensive future time perspective than low achievers.

(3) The future time perspective demonstrated by subjects would show stability regardless of the techniques used for its measurement.

(4) High academic achievers would show a greater amount of optimism than low achievers.

(5) There would be a positive relationship between optimism and extensiveness of future time perspective.

The instruments used in this study were of three types. One technique involved obtaining a list of twenty-five things which the subject had thought or talked about in the past week or two. These items were then rated according to whether they referred to the past,

present or future. The second instrument was a story-completion technique in which the subject was asked to finish two partially completed stories. These were then rated in terms of the future time involved in the action of the story. The third instrument was of a similar nature in that subjects were asked to write a short story about three different TAT cards and these were again checked for the amount of time which was projected into the future in the action of each story.

Four of the hypotheses were supported by the data either in total or in part. High achievers were found to have a significantly greater number of future references in their recent thoughts and conversations. Low achievers, however, were not found to be primarily present-oriented, but instead were rather evenly divided between past, present and future. On most other measures high achievers were also found to have a significantly greater future time perspective than low achievers. Although no differences were found between high and low achievers on the basis of the optimism reflected in their TAT stories, a significant correlation was found between optimism and future time perspective.

Significant correlations between the various measures of future time perspective were also found with the exception of the future references in recent conversations. It was felt that this instrument was primarily measuring the kind of temporal orientation which an individual had, rather than the extensiveness of his future orientation, and that it was this reason which accounted for the low correlations

between the total number of future references in recent conversations and extensiveness on either the Story-Completions or TAT stories.

The greater future temporal orientation of high achievers was discussed in terms of its relationship with planfulness and goal-setting, which has been found by other investigators to characterize the high achiever. The relationship between optimism and future time perspective was also explained in terms of the hope and expectations which characterize the optimistic individual and their effect upon his perception of the future. It was concluded that school subjects are probably more meaningful to the high achiever because they are viewed in the light of his ultimate vocational aspirations. It was felt that the successful student perceives himself as occupying a place in the time continuum in which certain sub-goals have already been reached, and where new and exciting challenges are viewed in the future.

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APPENDICES

APPENDIX A

APPENDIX A

Samples of t he Recent Conversations Technique

Subject: D. T. High Achiever

	Response	Self-Rating
1.	Hockey games--ones I've seen.	past
2.	Football games--the ones that are coming up.	future
3.	Examination tests--that we are going to have.	future
4.	The speeches we have to say.	future
5.	The Christmas cards we are supposed to sell--I'm doing that right now.	present
6.	Going to bed too late--about the times I did.	past
7.	Getting up too late--about how I've been late.	past
8.	When Alec Delviccio for the Red Wings can get back into the N. H. L. again.	future
9.	If I should have sold apples on Apple Day for the scouts.	past
10.	When will the scouts go on their next camping trip.	future
11.	Who will have to say the speeches in front of the classes.	future
12.	I should take the job--thinking about one.	future
13.	I should go skating Saturday.	future
14.	When will this test be over.	future
15.	If Billy Day for the Red Wings will go very far in the N. H. L. hockey.	future
16.	Who will win Sunday night's hockey game.	future
17.	When will winter get here so we can make a rink.	future
18.	If may skates will still fit me.	future
19.	What will I get for Christmas.	future

	Response	Self-Rating
20.	How many hockey sticks will I break this season.	future
21.	Will I have to do the dishes next week.	future
22.	If Detroit will stay in first place.	future
23.	Will I be good enough to play for Assumption midgets.	future
24.	When we are going to get our next polio shot.	future
25.	Will I get good marks in school.	future

Subject: T. M. Low Achiever

	Response	Self-Rating
1.	I talked about the football games I won.	past
2.	About a new mudflap I bought.	past
3.	Going to manual training--what I made there.	past
4.	Giving a black eye--about a fight I had.	past
5.	Getting pushed in the mud--another kid pushed me but I got even.	present
6.	Getting mistakes--talked about what we got wrong.	past
7.	Playing football in school--we do every day.	present
8.	Getting the strap--told the kids how many times I got hit.	past
9.	Killing a pheasant--about how I went hunting.	past
10.	Breaking a window--we were wondering who did it.	past
11.	World series--about who made the most hits.	past
12.	Boxing match--talk about the fights we've seen on T.V.	past
13.	Getting hit with a football--I got hit by one.	present
14.	Looking around the stores--I just look around sometimes.	present
15.	Playing with the other kids--after school.	present

Response	Self-Rating
16. About getting worms in a candy bar--talking about one of the kids who did.	past
17. Meeting a new girl--talked about a girl I met last week.	past
18. My new b.b. gun--showing it to some kids.	present
19. Catching a fish--I went fishing.	present
20. Watching T.V.--I like to watch it.	present
21. Playing hockey--how I did last year.	past
22. Going skating--as soon as it gets cold.	future
23. Going to the football game tonight.	future
24. To go and see my boy friend's Dad's new car--went last week and was talking about it.	past
25. A new record I heard--talking about it.	past

APPENDIX B

APPENDIX B

Samples of Sentence-Completion Technique

Subject: V. P. High Achiever

1. They were funny looking men. They wore long grey coats which covered almost their whole body. They were also acting mighty peculiar and they just kept walking up and down past the bank every moment or so. Later at about six o'clock when the bank was closing I saw one of them enter by the front door and one of them go in the back of the bank. A while later the one that came out had a large black bag in his hand and went into the back of the alley also. Then I saw a black sedan ride out of town quickly. So later I went to the bank to see what had occurred. I saw the vault open and no money in it. I went to call the manager and found him tied up behind his desk. He called the police and they soon caught up with them. Well, I had my good deed for the day. (Time: 6 hrs)

2. ....he was to deliver orders for Mr. Brown. Mr. Brown was the owner of a grocery store. He was supposed to start on Monday and this was only Friday. He went all through Friday wondering if he could get a lot of tips or not any. The same thing happened on Saturday. On Sunday, though, he began thinking if he would make mistakes in delivering or lose the money he was supposed to take back to Mr. Brown, or get into an accident. So he asked his mother about it. His mother told him not to worry about it. Jow did what his mother told him and Monday

everything turned out fine. So it pays to do what the song says, "What will be, will be". (Time: 4 days)

Subject: T. L. Low Achiever

1. One of them was short and had a blue suit on with a grey tie. The other had a brown suit with a white shirt. By their appearance it seemed they were walking a long time. The closer they came, the more they seemed to be hungry. One of them pointed to a bar and the other started to dig for some change in his pocket. Deeper and deeper his hand went in. Then out it came with two dimes in it, and towards the bar they went. (Time: 15 minutes)

2. When his friend would come. He was to be there at seven o'clock and now it was 8.30. Then all of a sudden a big slap on the back woke Joe. His friend Tom was sitting behind him all the time. (Time: 2 minutes)

APPENDIX C

APPENDIX C

Samples of the TAT type stories.

Subject: D. T. High Achiever

1. All the other boys and girls were outside playing and having fun and he had to stay inside and practise his violin. A boy of that age would not understand even if his parents told him that the violin could help him out in the near future. Day after day he laboured with the violin in his hands (he thought), but his mother knew he only laboured a short half hour. His funny jokes in his later years and his violin too helped him to be one of the top comedians in Hollywood. He was Jack Benny. (Time: 30 years)

2. He sat in the doorway wondering when his father would come home and if he had shot enough fowl to bring them through the long dreary winter. He only wished he was old enough to go with his father on some of his hunts for food. The boy sat there for three days waiting for the only person who showed any interest in him. When the sun was bowing down over the pines, his father appeared amidst the pine trees. They would surely not starve or even come close to starving this winter for the father shot two deers, one he had draped across his shoulders and another was back in the woods. (Time: 3 days)

3. There he stood in the open window and five feet between him and the safety of a maple branch. He jumped and was now grasping for the branch. He clung to it and shortly after slid down the trunk of the

tree. He ran to the nearest village to get the sheriff, for he now knew where the escaped convict was for he had been his prisoner for three days. He told the sheriff and they went out to get the man. He escaped but a posse caught him two days later hiding in a swamp. (Time: 2 days)

Subject: B. M. Low Achiever

1. John is mad because he has to take lessons in violin and he doesn't want to. He is just staring and thinking what he should do. He feels like breaking the violin. (Time: 30 minutes)

2. His mother said he couldn't go out so he is just looking out and watching the boys and girls play, while in his mind he feels like going out and play with them, or even go swimming. But his mother knows best and he does what his mother tells him to do. (Time: 30 minutes)

3. That is a boy who has to go to bed but instead he is watching at the sky to see the stars and the moon and he is thinking what a lousy thing it is to stay in. He is thinking about his girl friend and his boy friend and watching the cars go by.