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PERSONALITY CHARACTERISTICS OF PREDICTORS OF
ACADEMIC ACHIEVEMENT

by

KAREN MARTIN BILLIS

A professional paper submitted in partial fulfillment
of the requirements for the degree

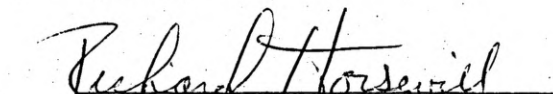
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ABSTRACT

The purpose of this study was to determine if a relationship existed between personality types as measured by Bell's projective instrument and academic achievement indexed by grade point average. The study was conducted at Montana State University in the Spring Quarter of 1975. The sample consisted of students within the College of Education enrolled in an Educational Psychology course. The instrument was administered on a volunteer basis. Forty-one tests were examined and results computed. The results were analyzed by the t-test at the .01 level of significance, with the resulting probability of one or more false significances occurring being computed to be .15.

The statistical results were compiled in table form. Table 1 listed the groups involved with the study together with the percentages and mean scores. In Table 2, the results of comparing the groups by means of the t-test were given. This data included comparison of treatment means, t-scores, and P-values. In addition, six smaller tables comparing the individual groups by means of the P-values were listed. It was shown that a significant difference existed between the average grade point average of the achiever groups and the avoider group and the average grade point average of the achiever and the pleaser group.

The results indicate that a significant difference existed with the achiever group as a possible predictor of academic achievement in relationship to the avoider and pleaser group. The results can be attributed to the characteristics of the achiever as defined by Bell which indicate a higher grade point average for the achiever group than for the avoider and pleaser group.

Chapter 1

INTRODUCTION

Lewis R. Aiken, in his book Psychological and Educational Testing, defines projective testing as follows:

A relatively unstructured personality test in which an examinee responds to material such as ink blots, ambiguous pictures, and other objects by telling what he sees, making up stories, or constructing and arranging objects. Theoretically, since the material is fairly unstructured, whatever structure the examinee imposes on it will be a projection of his own personality (1971:317).

The measurement of personality by means of projective techniques has been a major consideration in the understanding of an individual's personality and behavior. Frank suggests that "projective methods are attempts to answer the problem of how we can reveal the way an individual personality organizes experience in order to disclose or at least gain insight into the individual's private world of meanings, significances, patterns and feelings (1948:5)."

A specific projective instrument and the one that was used in this study was constructed by Bell. A specific title pertaining to Bell's test has not yet been indicated within the related literature. Therefore, it will be referred to as Bell's projective instrument. This method utilizes a pencil and paper technique and aims at broadly categorizing six personality types based on needs. The theoretical foundation of Bell's work deals with Maslow's concept of needs. According to Maslow, needs are defined as "empty holes or deficits in

the organism which must be filled up for health's sake (1964:116)."

The basic needs of a person have a definite affect on his psychologically healthy life style. These psychological needs are one's motivation to seek and grow toward self-actualization. According to Maslow's concept of self-actualization, these individuals tend to be gratified in their basic needs and therefore are motivated to achieve higher levels of fulfillment.

Bell's projective test is related to those things which motivate an individual and how his personality needs are carried from one situation to another. Satisfaction of the major needs are what motivates and therefore concerns the individual. Bell has classified these personality types into the following six categories: commander, attacker, avoider, pleaser, performer, and achiever. In the testing, one of these six types should emerge as the primary motivational need and hence be seen as the major framework of the individual's behavior.

Bell considers the "achiever" as the personality need most beneficial for an individual's psychological well-being. If an individual's test indicates that his basic need is different from this, then a specific direction is indicated in which to work toward achieving this individual's inherent need for self-actualization.

The most common method for measuring a student's academic achievement is by Grade Point Average (G.P.A.). It appears as though a relationship exists between an individual's personality needs and his

G.P.A. That this is actually the case has already been indicated in numerous studies. Reviews of previous studies will be investigated in further detail in Chapter 2.

In this study the research attempted to examine a specific projective test that has not been used in prior studies, namely Bell's projective instrument, and investigate its relationship to academic achievement.

Statement of the Problem

The problem of this study was to determine if there is a relationship between personality types measured by a specific projective technique and academic achievement as determined by Grade Point Average of students within the College of Education at Montana State University.

Application and Contribution to Educational Theory

Although numerous studies have been done comparing an individual's personality needs with G.P.A., the literature indicates that Bell's personality test has not been used in any of these comparisons. Consequently, it was felt by the researcher that the use of this specific instrument would fill this gap and hence be a contribution to educational theory and a possible aid in a counseling program.

General Questions to be Answered

The general questions to be answered by this study are the following:

1. What is the most prevalent personality type indicated by this projective instrument?
2. What will be the relationship between the personality types measured by the projective test and academic achievement indexed by Grade Point Average?

General Procedure

The method of investigation concerning personality types determined by the projective test and academic achievement was presented in the following manner:

1. The sample of students within the College of Education enrolled in Educational Psychology 208 was administered the projective test in a classroom setting according to specific instructions (see Appendix A, page 39.)
2. The students answered questions after observing a particular picture (see Appendix A). For further understanding of the personality needs, the subjects answered twelve additional questions (see Appendix A).
3. From the scores obtained, the students were categorized into one of six personality types.
4. Once classification of the sample had been grouped, the

researcher examined the G.P.A. of each individual.

5. The relationship of G.P.A. to the personality type was examined.

6. Interpretation, recommendations, and conclusions were drawn by the researcher from the data obtained in the study.

Delimitations

This study was limited to a selected group of students from Montana State University. The sample was drawn from students enrolled in Educational Psychology 208 within the College of Education. The time designated for the conduct of the study was in the spring of 1975. The use of only one projective technique was also considered a delimiting factor.

Definition of Terms

The following terms used in this study are defined below.

Projective technique. This term refers to Bell's projective test categorizing subjects into six personality types according to their reactions to a specific picture and twelve additional questions.

Personality types.

1. Commander - the characteristics are the need to control, dominate situations, and live a clear-cut and rigid life.

2. Attacker - the characteristics include hostility, resistance

to authority, sarcasm, insolence, and the ability to annihilate a plan without taking responsibility.

3. Avoider - the characteristics are the need to maintain a routine and safe environment without risk, little self-confidence, and dependence for leadership from others.

4. Pleaser - the characteristics are the need of acceptance and approval from others, easily manipulated, and gracious.

5. Performer - the characteristics are the need to claim formal acknowledgment and gain status, to manipulate others for attainment of identity, and to display in an ostentatious manner.

6. Achiever - the characteristics include the inherent tendency for self-actualization, self-sufficiency, spontaneity to internal growth, independency, and self-confidence in working through problems in a challenging and realistic environment.

Academic achievement. This term refers to the cumulative college G.P.A. of each subject. A self-report method was the means of collecting the Grade Point Average on each student. The reason for this was that the General Education Provisions Act was put into effect in November, 1974. This act was concerned with the confidentiality of students' records and forbade access to them except under special circumstances which were difficult to fulfill in the course of this study.

Concept of need. Maslow presented the concept of a hierarchy of needs. Man's needs fall into a hierarchical arrangement that moves from basic needs of physiology to higher needs of personality development. The infant is concerned with satisfying little more than the fundamental biological needs that assure him survival and comfort. These needs come first, and only after these needs are met can a person confront his higher needs. With enough to eat and drink, man can then devote himself to satisfying his need for safety by establishing a stable social order. Only then can he confront the issues of love, esteem, and self-actualization (1972:56).

Concept of self-actualization. Maslow refers to this term as the individual's motivation:

. . . primarily by trends to self-actualization (defined as an ongoing actualization of potential capacities and talents, as fulfillment of mission or call or fate or vocation, as a fuller knowledge of, an acceptance of, the person's own intrinsic nature, as an unceasing trend toward unity, integration or synergy within the person) (1964:118).

Summary

Research has indicated that personality types have an affect upon academic achievement. Although much work has been done in this regard, a great deal of the research has been concerned with intellectual rather than nonintellectual factors. Consequently, the researcher has directed the study toward investigation of personality types which are nonintellectual in nature. The vehicle for this study is Bell's

projective test. An examination of the results of this test were made to determine whether or not a relationship to Grade Point Average existed.

Chapter 2

REVIEW OF LITERATURE

Non-intellectual assessments pertaining to academic performance have been extensively investigated. Lanyon and Goodskin stated that "understanding another individual and his personality typically involves making some prediction about future behavior in specific terms (1971: 31)."

This survey was concerned with one particular aspect of this manner of assessment; namely, personality factors considered as predictors of academic performance. Variables pertaining to an individual's personality characteristics were divided into two groups. The first type involved the modes of personality. Examples of these are independence, extroversion, and introversion. The second factor related to a person's self-concept. This involved the cognitive process of the individual with regard to his self-image.

A representative sample of related literature was presented in Chapter 2. The personality variables discussed are those specific characteristics which relate to Bell's categorized personality types. The following six personality variables are presented and discussed: self-concept, introversion, independence, aggression, impulsivity, and anxiety as predictors of academic achievement.

Introversion as a Predictor of
Academic Achievement

Introversion has been extensively explored with regard to its relation to academic performance. The findings have been consistent.

The two extremes of achievement behavior would be under- and over-achievers. A study by Gebhart (1958:125-128) reported that there was a possible difference between over-achievers and under-achievers with regard to personality traits. The investigation considered the over-achievers possessing distinct characteristic needs. These were a drive to achieve, an ability to organize, and a need for an intellectually stimulating environment. In contrast, the under-achiever had a consistent need for variety and change. This created the necessity to relate socially to a much greater extent than the over-achiever. Hence, a certain loss of independence developed.

Another study by Beach (1960:208-212) investigated sociability in relation to academic achievement. There were four groups identified by interaction with the students in a classroom. These were lecture, leaderless, interactive discussion, and an independent study group. The hypothesis was that the more sociable student's achievement would increase with a corresponding increase in interaction with other students. However, the less sociable would achieve at a higher level with very little interaction. The research indicated that there was a positive relationship between sociability and academic achievement in the lecture and leaderless groups. In the lecture groups, the less

sociable students achieved more than the more sociable; while in the discussion group, the more sociable achieved to a greater extent. The findings suggested that sociability and personality characteristics could definitely effect academic achievement.

Indications from the reviewed studies imply that there was a positive relationship between introversion and academic performance. One possible interpretation from the research was that extroverts spend more time in social interaction. Consequently, they have less study time. Another possibility was concerned with the relationship between introversion and independence. For example, because of his decrease in social encounters and his extensive pursuit of excellence in his education, if the student succeeded in school then he may have appeared as an introvert.

Independence as a Predictor of Academic Achievement

Studies indicate there was a positive relationship between independence and academic achievement. A study by Weigand (1953:458-461) involved motivational factors and the difference between successful and unsuccessful students. Two motivation factors utilized in the study were hypothesized as goal orientation and personal involvement from the individual concerning that particular goal. A sample of eighty-one individuals entered college on probation and all were working for a two-point average. They could be admitted to a college

they chose and each student was given courses in reading and studying techniques. Results from the test indicated that the students who were removed from probation tended to have independently chosen their own goals. These goal aspirations helped to determine the success or failure of the students.

Another study conducted by Merrill and Murphy (1959:207-210) examined the personality variables of college students who had a predicted low achievement and appeared to succeed in school. A comparison was made with students of similar traits who performed as predicted and failed. The Edwards Personal Preference Schedule was administered, and from the results it was found that the over-achiever was less affiliative, was not pressured by change, and endured more pressure in a given period of time. Hence, it was concluded from the study that the group remaining in college performed better than predicted. A possible indication can be drawn from evidence presented. Society has valued education as a necessity for every individual. They must go to school to succeed and to solve problems. Therefore, even though the potential of academic success is small and a risking situation, the individual still continued to go to school.

A study of conformity as a possible predictor of academic success was completed by Erb (1961:361-366). The research hypothesized that female and male groups with a high degree of conformity would achieve academically more than low conformity groups. Results indicated

that grades were more important to female than male students. Conformity and academic success were positively related to the female group and there was no relationship between conformity and academic success with males. The evidence indicated there was a correlation between academic achievement and conformity only for the female.

It was apparent from the research evidence presented that independence and conformity were positively related to academic achievement.

Self-Concept as a Predictor of Academic Achievement

Self-concept as a measure of predicting academic achievement has been systematically investigated. Several studies indicate there was a relationship between an individual's behavior and self-image. Brim's study (1954:477-484) involved academic achievement as determined by grade point average in relation to self-assessed intelligence. The purpose was to determine if the grade point average that the student received was directly related to his own self-estimate of his intelligence. It was found that the rank of intelligence correlated with his grade point average and was dependent on his level of achievement motivation. If the student's intelligence rank was evaluated as high or low, then the self-estimate likewise reported high or low. The degree of the motivation relevant to the estimated Intelligence Quotient (I.Q.) effected the student's desire to achieve higher grades.

The study suggested a positive relationship between self-concept and academic performance. More specifically, the students with a high self-evaluation of I.Q. had a higher grade point average than the students with the same level of I.Q. but with a lower self-evaluation of their intelligence.

Another study by Lum (1960:109-114) found that over-achievers significantly demonstrated more self-exploration than under-achievers. Three groups of twenty females were given the American Council on Education Psychological Examination. The findings indicated that the primary difference in under- and over-achievers was in the areas of attitude and motivation. Also, academic achievement motivation differed in these two groups. The under-achievers had a tendency to be discouraged easily, procrastinated, and expressed doubts in the need to go to college. The over-achievers differed markedly in their characteristics. They worked harder when under pressure and were found to be more self-confident. It was concluded that the over-achievers had a stronger motivation for studying. In addition, the results implied that the over-achievers had a need to improve their self-awareness.

McDavid's study (1959:151-154) investigated over- and under-achievement of grades related to the receiving of high grades as reinforcement. Findings indicated that the more motivational importance it had for the student, the more value that was placed upon a reinforcement, based on society's standards. Hence, the student increased his

academic achievement from these reinforcements to obtain his goal. Self-image was considered as a function of feedback to the individual. The implications were that an increase in motivation to receive better grades would be positively related to his higher academic performance and thus influence his self-evaluation. The findings indicated there was a relationship between reinforcement of high grades and further involvement in achievement performance by the individual.

A final study by Shaw, Edson, and Bell (1960:192-196) supported the hypothesis that self-concept was related to under- and over-achievement. The Primary Mental Abilities Test was administered to high school students grouped as under- and over-achievers. The Sarbian Adjective Checklist was used to measure their self-concept. Results significantly indicated that differences in self-concept existed between over- and under-achievers. An important point made by the author was that the data related to this study did not necessarily indicate that under- or over-achievement of an individual was caused by his self-concept. However, an examination of the related literature pertinent to self-concept as a predictor of academic performance did indicate an apparent correlation.

Anxiety as a Predictor of Academic Achievement

Studies dealing with general anxiety have been extensively measured at the college level. A study by Grooms and Endler (1960:

299-304) was concerned with a multidimensional research as a measurement of anxiety. Data was collected from a sample of college males, and aptitude, anxiety, and academic achievement were measured and inter-correlated. Results indicated highly anxious students did not differ from lower anxious students in academic achievement and aptitude. Findings from this study suggested that anxiety was a predictable variable in the sense that enhances an actual score on an aptitude test.

In conclusion, the previous study indicated that anxiety as a variable contributed to the predictability of academic achievement.

Impulsivity as a Predictor of Academic Achievement

Literature has defined various terms which describe impulsivity. Some of these include persistence, compulsiveness, and endurance. A study by Weigand (1957:518-522) dealt with persistence in relationship to impulsivity. The study was concerned with the students' academic achievement and its relationship to the effectiveness role of the parent. An adaptive factor was found to be related to the role of the parent and the academic achievement of the student. An important point of the study was concerned with how the student reacted and interpreted the academic situation with regard to parental influence. The results suggested that successful students in an academic setting were taught to act with an adaptive characteristic in all situations. This

behavior tended to be reinforced by positive responses from the parent. This adaptive behavior appeared to be related to the success of the student in an academic situation.

In conclusion, evidence from this study indicated that the persistence of the adaptive behavior with regard to impulsivity was positively related to academic achievement.

Aggression as a Predictor of Academic Achievement

Conducted investigations have indicated a positive relationship between aggression and academic achievement. A study by Shaw and Grubb (1958:263-266) found that hostility was a personality characteristic of bright underachieving students. A sophomore high school class was administered four personality scales, one being the Social Scale of the Bell Preference Inventory. The results were examined by means of the t-test. From the data obtained, the bright underachievers scored significantly higher than the bright overachievers on the personality scales which measured hostility. Findings indicated that hostility was a trait of the bright underachievers. The research suggested that hostility is related to the personality structure of the individual.

A study supporting the previous research was conducted by Shaw and Brown (1957:195-199). The purpose of the research was also to investigate characteristics of the high ability student who under-achieved. Research found that characteristics of the high ability

underachiever were long standing traits of their personality makeup, and that hostility was a defensive trait of these individuals. Findings suggested that home environment was a possible influence and that hostility was directed toward authority.

Conclusions from the two investigations indicated that aggression in the form of hostility was an evident characteristic of the bright underachiever.

Summary

From the above areas of investigation, a conclusion can be drawn. The research indicated that the personality variables of self-concept, introversion, independence, aggression, impulsivity, and anxiety examined as predictive measures were positively related to academic achievement.

Chapter 3

PROCEDURES

The problem of this study was to determine if there is a relationship between personality types as measured by Bell's projective instrument and academic achievement as indexed by grade point average. The selected sample was a group of college students within the College of Education at Montana State University.

Using Maslow's concept of needs as a theoretical basis, categorization of each student into one of the six personality types was accomplished. The six personality types were as follows: commander, attacker, avoider, performer, pleaser, and achiever.

Although previous literature has studied the relationship of personality factors to academic achievement, Bell's projective instrument has not been used in this regard. In this study, the researcher attempted to investigate the relationship of the measured six personality types to the grade point average of each student in the selected sample by means of Bell's projective test.

This chapter is presented in the following manner:

1. A population description has been given and the sampling procedure defined.
2. The categories used in the investigation have been defined.
3. The method of collecting data has been described.
4. The method of organizing data has been defined.

5. The statistical hypothesis has been stated.
6. Analysis of the data has been discussed.
7. The precautions taken for accuracy have been explained.
8. The summary has been given.

Population Description and Sampling Procedure

The population for this study consisted of students from within the College of Education who were enrolled in four sections of Educational Psychology II 208 at Montana State University during Spring Quarter of 1975.

The results were gathered from the tests of those students who volunteered for the study. Assistance and cooperation was given by the three professors of Educational Psychology.

Investigation and Categories Defined

This study consisted of the following investigative categories:

1. Based on the results of the projective instrument, will a relationship be shown to exist between the personality types of the individuals and their grade point average?
2. Based on the results of the instrument, what percentage of the students will be in each of the six categorized personality types?
3. Based on the results of the projective instrument, what will be the computed average of grade point average in each of the six categorized personality types?

4. Based on the results from the projective instrument, what comparisons can be made between the personality type and the designated average of the grade point average?

5. Based upon the results of the study, what will be the most prevalent personality type indicated by the data collected?

Method of Collecting Data

The investigation was conducted at Montana State University during Spring Quarter of 1975. The sample consisted of students within the Co-lege of Education who were enrolled in Educational Psychology 208. Information pertaining to this study was presented to the four sections of Educational Psychology 208. Students who were willing to participate then took the test during the class period. The test administere was Bell's projective instrument. Tests taken by students not within the College of Education were discarded.

The students were informed that the collection of data would be confidential and their names were not required. A self-report of the grade point average was requested from each student. This method for obtaining the grade point average was necessary due to the General Education Provisions Act which was amended and put into effect November 1974. The Act was essentially a protection of the students' right to privacy, and in effect made access to the files of individual students impossible.

The students observed a picture and then answered questions which related to the picture. In addition, each student answered twelve questions in order to allow the examiner to gain further understanding of his motivational needs. Purportedly, this gave further insight into his personality type. Examination of the answers given categorized each individual within the sample into one of the six personality types, as defined by Bell. The six personality types were as follows: commander, attacker, avoider, performer, pleaser, and achiever. Assistance was given by one professional in the counseling field to confirm the content validity of the instrument and the scoring procedure.

From the results obtained, the sample was grouped into each of the six personality types on a percentage basis. An average of the G.P.A.'s within each group was computed. Comparisons and interpretations of the relationship between the personality types and G.P.A. was examined and discussed.

The statistical data compiled in relationship to Bell's projective instrument was limited to one source, The Achievers by Gerald D. Bell. The data collected, sample size, and percentages given by Bell were as follows:

1. The sample size from the data collected included three thousand subjects.
2. The data collection was over an eight-year period.
3. The percentages based on the results of Bell's test were

estimates of each personality type. The percentages given were "based on a sample of three thousand people from a wide variety of occupations, social classes, education, religion, I.Q., and parts of the country.

People were ranked based on their dominant need only (1973:15)."

	% General Population	% Middle Level Administrators and Managers	% Top Level Administrators and Managers
Commander	16	18	22
Attacker	8	6	4
Avoider	20	9	3
Pleaser	14	11	5
Performer	35	42	41
Achiever	8	14	24

4. The most frequent combinations of needs found from the results of Bell's study were graphed on a Six-Personality Diamond arranged by Bell. These combinations tend to be personality types which were shown next to each other in the graph (see Appendix B, page 42).

Method of Organizing Data

The analysis of the data obtained from this investigation was summarized in table form. The relevant data compiled in Table 1, page 28, included the six groups together with their group numbers, average G.P.A., standard deviation, and percent of the total sample. In Table 2, page 29, the means of the groups were compared and corresponding T-values and P-values given.

Statistical Hypotheses

The null hypotheses for this study were stated in the following manner.

1. There was no significant difference between the computed G.P.A. of the commander type as measured by Bell's projective instrument and the G.P.A. of the five other types.
2. There was no significant difference between the computed G.P.A. of the attacker type as measured by Bell's projective instrument and the G.P.A. of the five other types.
3. There was no significant difference between the computed G.P.A. of the avoider type as measured by Bell's projective instrument and the G.P.A. of the five other types.
4. There was no significant difference between the computed G.P.A. of the pleaser type as measured by Bell's projective instrument and the G.P.A. of the five other types.
5. There was no significant difference between the computed G.P.A. of the performer type as measured by Bell's projective instrument and the G.P.A. of the five other types.
6. There was no significant difference between the computed G.P.A. of the achiever type as measured by Bell's projective instrument and the G.P.A. of the five other types.

Analysis of Data

The measurement of the relationship between personality variables and grade point average was determined by the Bonferroni t-test for one-way analysis of variance. The results were tested at the .01 level of significance. This resulting probability that one or more false significances occurred was calculated to be .15.

Precautions Taken for Accuracy

A computer was used for the computation of the data obtained. These results were double-checked by an expert in the math field. In addition, one professor in the counseling field aided in scoring Bell's projective instrument and helped to determine the validity of the results. A general consensus was drawn by the researcher and the one professional.

Summary

The purpose of this study was to investigate the relationship between the six personality types measured by Bell's projective instrument and academic achievement determined by G.P.A. The sample was selected from the College of Education students enrolled in Educational Psychology 208 Spring Quarter of 1975 at Montana State University.

The procedure described in Chapter 3 was the method of data collection for this study. The results were analyzed and comparisons were drawn from the categorical data obtained.

Former studies indicated a relationship between certain non-intellectual variables and academic achievement. Bell's projective instrument has not been investigated concerning its relationship to academic achievement. The investigator together with one counseling professional examined the collected data and interpretations of the computed results were drawn.

The researcher hopes to apply the findings of this study as a utilizing factor in a counseling program and, hence, as a beneficial aid to educational research and theory.

Chapter 4

RESULTS OF DATA

The purpose of this study was to determine if a relationship between personality type and grade point average existed. In order to guarantee meaningful results, a significance level of .01 was chosen. The resulting probability that one or more false significances occurred was calculated to be .15. Because of this tolerance level, the reliability of any occurring significances was enhanced.

In essence, the null hypotheses stated that no significant difference existed between the grade point averages of any of the personality groups. In the next session, the null hypothesis has been compared with the statistical evaluation in the following manner. Two tables have been presented. The first table presents the one-way classification of the six groups together with an analysis of variance. Table 2 compares treatment means. The null hypothesis was then restated as either accepted or rejected at the .01 level of significance.

Analysis of Results

The code for the personality types in examination of the data is as follows: pleaser - 1; commander - 2; attacker - 3; avoider - 4; achiever - 5; and performer - 6.

Table 1

One-Way Classification

Group	Count	Per cent	Mean	Within M.S. (DF=count-1)
1	8	19	2.410	.5167
2	5	10	3.008	.5306
3	3	8	2.543	.1146
4	4	10	2.347	.1884
5	4	9	3.385	.9290E-01
6	17	44	2.983	.2115
Overall	41	100	2.819	

Analysis of Variance

Source	D.F.	S.S.	M.S.	F-Value
Between	5	4.372	.8745	3.002
Within	35	10.20	.2913	
Total	40	14.57		

P-Value for F = .023

Note that the P-Value for F was calculated to be .023. This interpretation is that the probability that these means would occur in a random selection of groups of students of the indicated size is .023. In other words, there is a probability of .977 that a significant difference between the means of the various groups exists in some manner.

Once this was determined, a comparison of the groups was made. These results are given in Table 2, page 29.

Table 2

Comparison of Treatment Means

Group	Mean	Compared Group	Mean	Difference	T-Values	P-Values
5	3.385	4	2.347	1.037	2.72	.01010
		1	2.410	.9750	2.95	.00564
		3	2.543	.8417	2.04	.04896
		6	2.983	.4021	1.34	.18888
		2	3.008	.3770	1.04	.30547
2	3.008	4	2.347	.6605	1.82	.07732
		1	2.410	.5980	1.94	.06047
		3	2.543	.4647	1.18	.24596
		6	2.983	.2506E-01	.09	.92880
6	2.983	4	2.347	.6354	2.12	.04117
		1	2.410	.5729	2.48	.01810
		3	2.543	.4396	1.30	.20210
3	2.543	4	2.347	.1958	.48	.63421
		1	2.410	.1333	.36	.72101
1	2.410	4	2.347	.6250E-01	.19	.85041

Null hypothesis 1. There will be no significant difference between the computed grade point average of commander type as measured by Bell's projective instrument and the G.P.A. of the five other types.

The P-Values calculated for the commander and the compared groups are given below.

<u>Commander Group</u>	
<u>Group Compared</u>	<u>P-Value</u>
achiever	.30547
attacker	.24596
pleaser	.06047
avoider	.07732
performer	.92880

An examination shows none of the P-Values of the compared groups are less than or equal to .01. Hence, this null hypothesis is accepted.

Null hypothesis 2. There will be no significant difference between the computed grade point average of the attacker type as measured by Bell's projective instrument and the G.P.A. of the five other types.

<u>Attacker Group</u>	
<u>Group Compared</u>	<u>P-Value</u>
achiever	.04896
pleaser	.72101
avoider	.63421
performer	.20210
commander	.24596

The data shown indicates that a significance level does not exist between the compared groups and the mean grade point average.

Therefore, the null hypothesis is accepted.

Null hypothesis 3. There will be no significant difference between the computed grade point average of the avoider type as measured by Bell's projective instrument and the G.P.A. of the five other types.

Avoider Group

<u>Group Compared</u>	<u>P-Value</u>
achiever	.01010 *
attacker	.63421
pleaser	.85041
commander	.07732
performer	.04117

As indicated by the data presented, the third null hypothesis was rejected. A significant difference existed between the avoider group and the achiever group. The P-Value of the other four groups indicated a significant difference at the .01 level did not exist.

Null hypothesis 4. There will be no significant difference between the computed grade point average of the pleaser type as measured by Bell's projective instrument and the G.P.A. of the five other types.

Pleaser Group

<u>Group Compared</u>	<u>P-Value</u>
achiever	.00564 *
attacker	.72101
avoider	.85041
commander	.06047
performer	.01810

The null hypothesis is rejected in the following manner. Since the P-Value for the pleaser group when compared with achiever group was calculated to be .00564, the following conclusion was made. There is a significant difference between the achiever and pleaser group. However, the P-Values indicated the pleaser group when compared with the other four types shows that there was no significant difference between the attacker, commander, avoider, and performer types.

Null hypothesis 5. There will be no significant difference between the computed grade point average of the performer type as measured by Bell's projective instrument and the G.P.A. of the five other types.

<u>Performer Group</u>	
<u>Group Compared</u>	<u>P-Value</u>
achiever	.18888
attacker	.72101
pleaser	.01810
commander	.92880
avoider	.04117

The fifth null hypothesis was accepted. The significant data indicated by the P-Values demonstrates there was no relationship between the performer and the other compared groups.

Null hypothesis 6. There will be no significant difference between the computed grade point average of the achiever type as measured by Bell's projective instrument and the G.P.A. of the five

other types.

Achiever Group

<u>Group Compared</u>	<u>P-Value</u>
attacker	.04896
pleaser	.00564 *
commander	.30547
avoider	.01010 *
performer	.18888

As indicated by the previous comparison, this null hypothesis was rejected. In addition to this comparison an examination of the P-Value of the achiever group when compared with the avoider group shows the following: there is a significant difference between the computed grade point average of the achiever type as measured by Bell's projective instrument and the grade point average of the avoider and pleaser groups.

A further examination of the P-Values for the remaining compared groups indicated that no further significances occurred.

Summary

From the data collected for the investigation, the following procedures were followed and corresponding results determined. Fifteen comparisons were computed and examined. Three comparisons were found to be significant at the .01 level of significance. The resulting probability that no fake significances occurred was .15. The

statistical data indicated that the mean of the grade point average of the achiever group was significantly higher than that of the avoider group and the pleaser group.

An explanation of these results is subjective in nature but by an examination of Bell's defined personality characteristics of the types involved some interpretations can be made. Bell defined the characteristics of an achiever as a need to utilize potential, ability to organize, goal directed, and a need for self-exploration.

It is exactly these characteristics which tend to increase a student's grade point average. In contrast an avoider type bases his needs on avoiding failures, runs low risks, prefers stability, possesses little self-confidence, and his goal is to hide. The pleaser type of personality has a need to make friends rather than task oriented, denotes time to looking for approval, desires jobs of people on an easy social basis, and tends to be dependent on others' needs rather than his own.

One would expect from the preceding examination of the personality characteristics of the types involved that differences in grade point average would occur. The research bore this out.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The problem of this study was to determine if a relationship existed between the personality type as measured by Bell's projective instrument and academic achievement indexed by grade point average. The sample consisted of students within the College of Education enrolled in an Educational Psychology course. Those students volunteering were administered Bell's projective instrument. Bell's test was a measure of six personality types based on needs. The procedure for taking the test involved writing a story in relationship to observation of a picture. Next, twelve questions were answered for further understanding of the subjects' motivational needs.

The data was then collected and examined. A statistical evaluation was made by means of the t-test. Analysis of the results was at the .01 level of significance. The resulting probability that no false significances occurred was computed to be .15. The null hypotheses were compared with the statistical evaluation and either accepted or rejected.

Conclusion

The null hypotheses that stated no significant difference existed between the achiever and the avoider and the achiever and the pleaser were rejected. All others were accepted.

The results of the investigation can be attributed to the manner in which Bell characterized the various personality types. Those characteristics of which the achiever type was comprised of are the same characteristics which would increase the students' grade point average while the characteristics of the avoider and pleaser types would contribute to a students' grade point average being lowered.

Recommendations

The following recommendations for further research are given below.

1. Although the size level was chosen to guarantee reliability of the results because of the tests subjective nature, it would be desirable to rerun the test with a larger sample if possible.
2. Extend the research to comparison of personality type with the grade point average of students in other curricula.
3. In personal correspondence with Bell, new personality tests and evaluation procedures were being constructed. The utilization of these tests could be instrumental in further determining the relationships discussed.
4. Study the possibility of using Bell's projective instrument in a counseling situation. Over a counseling period, tests could be given at intervals to indicate possible changes in personality type.
5. The highest average G.P.A. was that of the achiever. This may be due to higher intelligence level or to personality characteristics

or a combination of both. A comparison could be made between the relationship of personality type and intelligence. This would further check the validity of the results compiled in this paper. For example, if the average intelligence of the achiever type is much higher than that of the other types, then the results cannot be attributed solely to personality characteristics.

APPENDICES

APPENDIX A

QUESTIONNAIRE

Basic Information

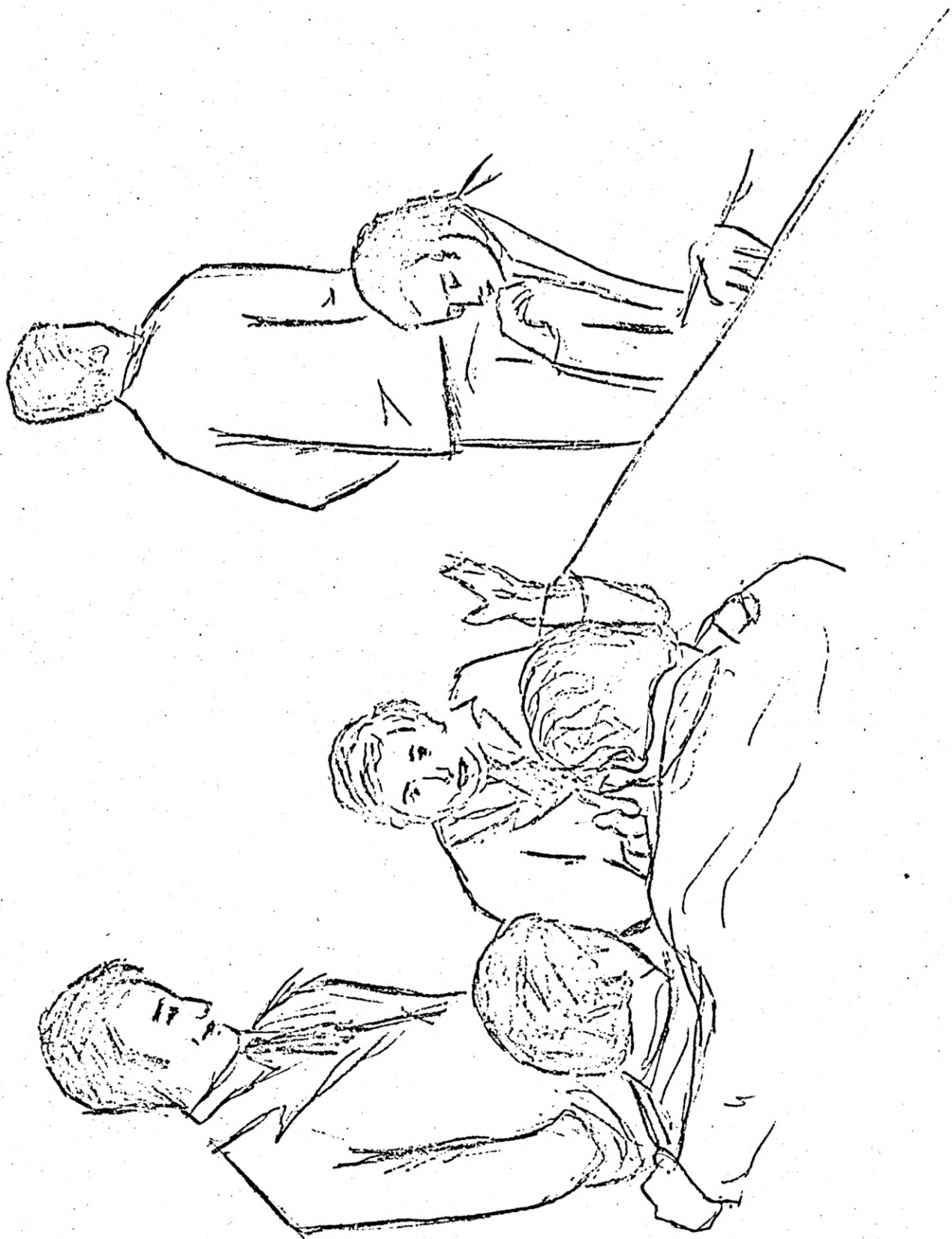
Please answer the following questions:

1. What curriculum are you in?
2. What year of school are you in? Freshman _____
Sophomore _____
Junior _____
Senior _____
Graduate _____
3. Age _____
4. Sex: Female _____
Male _____

Directions

Which of these personality types sounds like it might be you? Are you a commander? Are you an attacker? Are you an avoider? Are you a pleaser? Are you a performer? Or, are you an achiever? What are your motivations? What basic psychological needs do you seek to satisfy? How effective and self-confident are you? You will find answers to these questions if you examine the following picture for a few seconds and then make up a story about what you see in the picture. Who are these people? What do you think is going on? What has just happened? What is going to happen in the future? Use your imagination.

WRITE YOUR STORY BELOW



In addition to the story you just wrote, for you to understand your motivations more accurately you will find it helpful to answer the following questions:

1. Who is the most effective person or best leader you have ever known personally?
2. Please write a short description of him. What are his major characteristics?
3. Who is the worst person or worst leader you have ever known personally?
4. Please write a short description of him.
5. Who is the person that you know well other than your spouse (or closest friend if not married) who you are most naturally attracted to?
6. If you were recovering from a serious illness and were confined to your hospital bed for two more months, who would you select to be in the bed next to you? (It must be someone you know personally. It cannot be a wife or relative. You must rule out sexual motivations.)

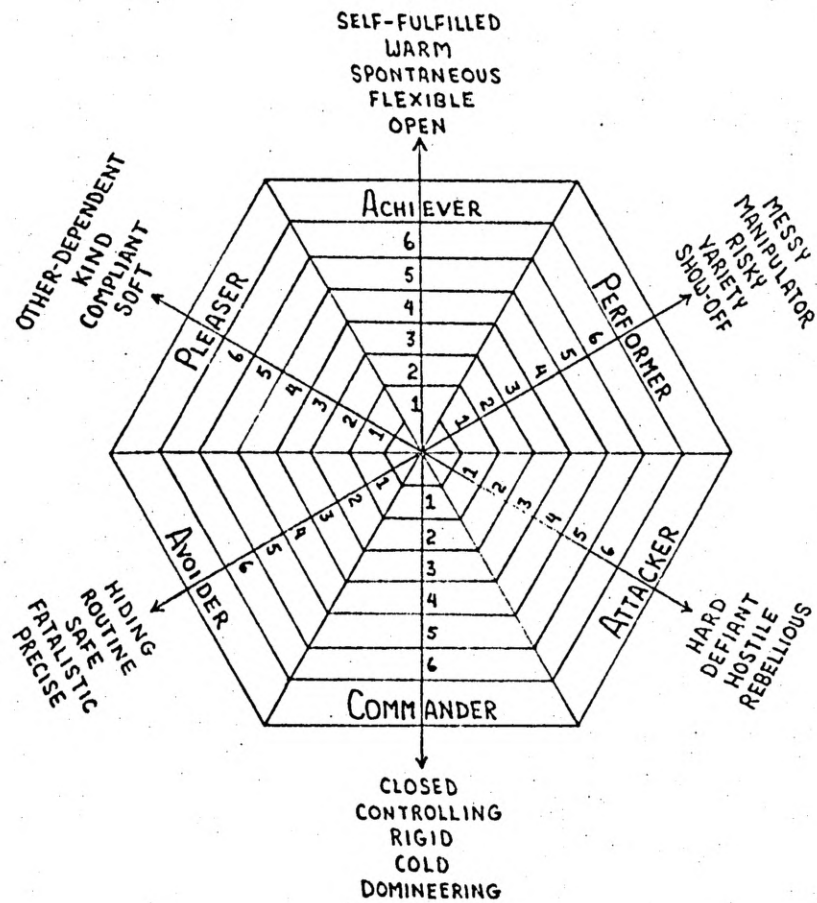
-Compared to Most People-

Check the appropriate line for each question: A__, very much; B__, much; C__, some; D__, not much; E__, little; F__, very little.

7. How orderly and domineering are you? A__ B__ C__ D__ E__ F__
8. How critical and argumentative are you? A__ B__ C__ D__ E__ F__
9. How shy and quiet are you? A__ B__ C__ D__ E__ F__
10. How much do you like to please others? A__ B__ C__ D__ E__ F__
11. How eager for success and recognition are you? A__ B__ C__ D__ E__
F__
12. How self-confident and self-fulfilled are you? A__ B__ C__ D__ E__
F__

APPENDIX B

CHART 1



THE SIX-M PERSONALITY DIAMOND

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