The personal need systems of college students: An analysis of the poorly adjusted freshman

Kenneth Michael Saad
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The personal need systems of college students: An analysis of the poorly adjusted freshman

Saad, Kenneth Michael, Ed.D.
The College of William and Mary, 1990
THE PERSONAL NEED SYSTEMS OF COLLEGE STUDENTS:
AN ANALYSIS OF THE POORLY ADJUSTED FRESHMAN

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by
Kenneth Michael Saad
October 1990
THE PERSONAL NEED SYSTEMS OF COLLEGE STUDENTS:
AN ANALYSIS OF THE POORLY ADJUSTED FRESHMAN

by

Kenneth Michael Saad

Approved October 1990 by

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Kevin E. Geoffrey, Ed. D

Jay L. Chambers, Ph. D
Dedication

This work is dedicated to my mother and father, Victoria and Thomas, my oldest brother, Tommy, and my middle brother, Randy. They provided the nourishment of support, encouragement, and confidence throughout the years.
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>x</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>2</td>
</tr>
<tr>
<td>Justification for the study</td>
<td>2</td>
</tr>
<tr>
<td>Statement of the problem</td>
<td>4</td>
</tr>
<tr>
<td>Theoretical rationale</td>
<td>4</td>
</tr>
<tr>
<td>Definition of terms</td>
<td>9</td>
</tr>
<tr>
<td>Research hypothesis</td>
<td>10</td>
</tr>
<tr>
<td>Sample description and data gathering procedures</td>
<td>11</td>
</tr>
<tr>
<td>Limitations of the study</td>
<td>12</td>
</tr>
<tr>
<td>2. REVIEW OF THE LITERATURE</td>
<td>15</td>
</tr>
<tr>
<td>General Systems Theory and motivation</td>
<td>15</td>
</tr>
<tr>
<td>Research on student attrition</td>
<td>18</td>
</tr>
<tr>
<td>Research on motivation</td>
<td>26</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Male Mental Health General Summary</td>
<td>81</td>
</tr>
<tr>
<td>Male Discipline General Summary</td>
<td>83</td>
</tr>
<tr>
<td>General Student Summary and Conclusions</td>
<td>87</td>
</tr>
<tr>
<td>Female Academic Student General Summary</td>
<td>88</td>
</tr>
<tr>
<td>Male Academic Student General Summary</td>
<td>91</td>
</tr>
<tr>
<td>Male Discipline Student General Summary</td>
<td>92</td>
</tr>
<tr>
<td>Male Mental Health Student General Summary</td>
<td>94</td>
</tr>
<tr>
<td>Female Mental Health Student General Summary</td>
<td>95</td>
</tr>
<tr>
<td>Suggestions for Future Research</td>
<td>95</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>97</td>
</tr>
<tr>
<td>Appendix A</td>
<td>97</td>
</tr>
<tr>
<td>Appendix B</td>
<td>99</td>
</tr>
<tr>
<td>Appendix C</td>
<td>104</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>107</td>
</tr>
<tr>
<td>CURRICULUM VITAE</td>
<td>112</td>
</tr>
</tbody>
</table>
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List of Tables

1. Manova Test Criteria (Wilks' Model) for Female Groups............ 46
2. PIT Discriminant Variables for Female Academic Groups.......... 47
3. Manova Test Criteria (Wilks' Model) for Male Groups.............. 52
4. PIT Discriminant Variables for Male Academic Groups............ 53
5. PIT Discriminant Variables for Female Mental Health Groups... 55
6. PIT Discriminant Variables for Male Mental Health Groups..... 58
7. PIT Discriminant Variables for Male Discipline Groups........... 61
THE PERSONAL NEED SYSTEMS OF COLLEGE STUDENTS: AN ANALYSIS OF THE POORLY ADJUSTED FRESHMAN

ABSTRACT

This study compared the personal need systems of college students who were failing academically, charged with discipline violation, or psychologically troubled with those of a control group with no record of such problems. The Picture Identification (PIT) was mailed to the 1986 and 1987 entering freshmen classes at the College of William and Mary. From the 1986 class, 531 students completed the PIT, and from the 1987 class, 544 students completed the PIT. The subjects were classified by type of problem and gender. The Female Discipline Group was too small for statistical analysis and was omitted from the report. The Academic Groups were comprised of students who had fallen below the accepted criteria for continuance at the college. The Mental Health Groups were comprised of students who attended the Center for Personal Learning and Development for three or more sessions or sought other psychological aid. The Discipline Group was comprised of students found to be in violation of the "Rules of Conduct" established by the college. The Control Group was comprised of students who had never received counseling, fallen below the minimal academic criteria, or transgressed the rules of the college.

Multiple analyses of variance were performed on all sets of PIT variables. A discriminant analysis was then conducted with the most significant ANOVA variables to determine the strongest independent discriminators among groups. Results are discussed in terms of understanding the relationships between aspects of motivation (as measured by the PIT) and adjustment to William and Mary.

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THE COLLEGE OF WILLIAM AND MARY
THE PERSONAL NEED SYSTEMS
OF COLLEGE STUDENTS:
AN ANALYSIS OF THE POORLY ADJUSTED FRESHMAN
Chapter 1

INTRODUCTION

Justification for the Study

Colleges throughout the country invest a great amount of time, finances, and technical effort in the selection and recruitment of their incoming freshmen classes. However, their endeavors to retain students have not always been as successful as their recruitment techniques. In every freshmen college entrance class there is a significant percentage of students that encounter disciplinary (behavioral), health, academic, or psychological problems that may significantly impede their scholastic progress. Theoretically, if factors that contribute to the declension and/or demise of a student's academic career can be predicted, then a variety of means may be implemented to assist a particular student with his or her problem(s). In reality, there are various risk factors that cannot be predicted nor prevented, but many problems and difficulties faced by students can be remedied. Students that are identified "at risk" can be given special attention in order to reduce their chances of academic failure or disablement.
Many studies conducted over the past several decades have attempted to identify potentially maladaptive students as early as possible in their academic career. Among the assessment instruments used in some of the studies is the Picture Identification Test (PIT) designed by Chambers (1988). This test has proved to be an effective instrument in the discrimination of well-adjusted and poorly-adjusted students (Chambers, 1961; Chambers, et al, 1965). The PIT has also been shown to discriminate among inpatients, outpatients, and normal adults, and between prisoners and trade school students (Chambers & Lieberman, 1963, 1965; Chambers, 1972; Chambers & Surma, 1976). Therefore, the utilization of the PIT as an instrument to predict and understand the needs of college students may contribute to the attainment of the common goal sought by both the student and the college; that is, to maximize the students' educational potential and to help the student complete college.

While considerable research has been conducted concerning academic predictors of student success or failure in college, little information exists about the assessment of the motivational needs of college students and their adaptation to the college environment. To address this need, the present study analyzed the data pertaining to those students who completed the Picture Identification Test (PIT) prior to enrollment at The College of William and Mary. On the basis of these data, the author sought to discriminate those students who meet certain
academic, disciplinary, and psychological criteria from those who did not meet these criteria.

**Statement of the Problem**

The purpose of this investigation was to determine the effectiveness of a semi-projective instrument, the Picture Identification Test, in predicting discipline, psychological adjustment, and academic problems of college students. When the indicators of these problems were found the results were interpreted to further understand the motivational causes of the problems.

**Theoretical Rationale**

The importance of the personal and academic development of college students is reflected by the volume of literature devoted to its understanding (Kowalski, 1976; Pantages, 1978). Students who struggle in or withdraw from academia are considered by researchers to have a social affliction and to incur significant educational impediment (Bean, 1985). The literature is replete with data pointing to academic difficulty as the primary cause of college attrition. Numerous studies have shown that students who withdraw from college have lower grade point averages, lower high school ranks, and lower standardized test scores than those
who persist (Munro, 1981; Terenzini, 1978). However, it is possible that other factors (e.g., motivation, personal conflicts, situational trauma, etc.) may also affect academic achievement and student attrition. A scientifically valid study would require the identification of these factors and how they interact or, in other words, a systems approach. The theoretical framework for this study is a theory of motivation based on principles from General Systems Theory (GST). General Systems Theory is a study of the interaction of elements within a system.

The Systems approach was pioneered by Ludwig von Bertalanffy (1901-1972) who began his career as a biologist. Bertalanffy was devoted to the construction of a theory of universal principals that could be applied to all systems. According to Bertalanffy, considered to be the father of General Systems Theory (GST), a system is a collection of elements or components organized so that they all interact with each other. By their mutual association the whole system becomes more than just the sum of its parts. He observed in his studies that there were natural general system laws that could be applied to virtually any system. These "blind laws" are present in a system regardless of the nature of the system, the properties of the prospective system, and the inherent elements of which the system is comprised (Bertalanffy, 1968, p. 30).

Bertalanffy considered any organism to be a system. He referred to a living system as an open system; that is, a system
that is in an exchange with its environment. One of the most important characteristics of an open system is its innate tendency to develop toward a state of higher order or "anamorphosis" (Bertalanffy, 1968, p. 141). Another property of the open system is the ability to attain a "steady state" or to maintain a state of high order and organization. In summary, a living system (organism) is comprised of a hierarchy of open systems with the entire organism developing, organizing, and maintaining itself in a steady state of continual organization. The human organism can thus be considered a system that is comprised of numerous interactive systems such as the physiological and psychological subsystems. As Bertalanffy stated: "Psychological phenomena are found only in individualized entities which in man are called personalities." (1968, p. 208). Motivation is also a major subsystem of personality. An individual's personality can be thought of as incorporating the perceptual, behavioral, cognitive, and affective subsystems of the person.

Proponents of general systems theory concur that a system approach should be used to study any phenomena that are comprised of interacting elements. Thus, a systems perspective is imperative when studying phenomena as complex as human personality. Bertalanffy noted that in addition to other system properties, "Hierarchical order (of systems) similarly holds true in the architecture of personality" (1981, p. 132). This
architecture or systemic structure was perceived by such noted authors as Menninger (1963), S. Freud (1963), and A. Freud (1946) who constructed theories of personality that parallel the core tenants of GST. One of the first theorists to apply a systems approach to motivation was H. A. Murray (1953). Being influenced by Bertalanffy's work, Murray developed a complex open-system theory of personality that included a taxonomy of the human motivational system and the interrelationship between needs. Murray conceptualized motivation as a complex integration of a system of needs.

The motivational system is responsible for mobilizing the energy required to bring about behavior (Chambers, 1980). The ensuing behavior leads an individual to avoid or search for need satisfaction. Murray linked the system of needs to the underlying physiology of the brain. Therefore, the manifestation of needs can occur internally as well as externally. Whether the origin of a need is from internal sources or external presses, it supplies the impetus and maintains the behavior or action directed toward satisfying the need or combination of needs.

The hierarchy of needs postulated by Murray (1953) can be examined through the utilization of the Picture Identification Test (PIT), designed by Chambers (1980) for the assessment of human motivation from a general systems perspective. Chambers' Personal Needs System Theory (PNST) (1980) is based on GST, as proposed by von Bertalanffy (1968), and by the human
motivational system taxonomized by Murray (1953). Chambers' theory recognizes human motivation from the needs systems perspective and in addition concludes that all needs are interrelated by an "organizing principal" or "dominant" function (Chambers, 1980, p. 391). PNST proposes that the aim of the organizing principle of the motivational system is to "integrate and direct" action and to "maximize satisfaction and minimize dissatisfaction" for all the component needs within an individual (Chambers, 1980, p. 7; 1981, p. 391).

Academic achievement and success in the college environment cannot occur without motivation. In spite of the myriad of publications over the past fifty years concerning college attrition, persisters, dropouts, and withdrawals, very few authors have reported studies of college retention and attrition from a motivational perspective or a need system perspective. The theoretical rationale for this study is the application of the GST and a systems-oriented instrument to the motivational system of college students.

This study was designed to compare the personal need systems of college students of The College of William and Mary. Those groups that were classified as having problems concerning discipline, mental health, and academics, are compared to those students who were free of these problems.
Definition of Terms

Attitude dimension. The Need Attitude measure indicates the values that an individual may have about a particular need or dimension. An Attitude score is computed for each need and for each dimension.

Ego needs. These needs are believed to assert our basic desires for self-enhancement. They motivate us to act autonomously, assert our will, and promote vital survival oriented actions. They are divided into two groups. One group is the "ego goal" needs that are termed Autonomy, Dominance, and Sex. The other group of three ego needs is called "implementing" needs that are termed Aggression, Defendance, and Rejection. The latter group implements the expression and satisfaction of the ego goal needs.

Motivational system. The system that releases, activates, and directs the energy needed to carry out the behavior that will meet a specific need or a complex of needs.

Need. A need is an initiator of behavior that can move an individual toward an externally oriented goal directed activity. Needs may act at either at a conscious or an unconscious level.
Need System. A subsystem of the personality in which the elements of the system are needs.

Organizing Principle. A general function which directs and conducts the interrelation of all the elements in a system. For the need system, the goal is to "maximize satisfaction and minimize dissatisfaction for all needs" (Chambers, 1980, p. 391).

Personality. According to systems theory, personality is defined by the way in which the major subsystems of an individual operate and interact.

Research Hypotheses

1. One or more of the Problem scores will be significantly higher for the Academic, Mental Health, and Discipline Groups than for the Control Group. The most troubled clinical Group will have the highest Problem score.

2. One or more of the Ego needs will have a significantly higher Problem score for the Academic, Mental Health, and Discipline Groups than for the Control Group. The most troubled clinical Group will have the highest Problem score for the Ego needs.
3. One or more of the Avoidance needs will have a significantly higher Problem score and/or Central-Peripheral score for the Academic, Mental Health, and Discipline Groups than for the Control Group. The most troubled clinical Group will have the highest Problem score and/or Central-Peripheral score.

Sample Description and General Data Gathering Procedures

The Picture Identification Test (PIT) was mailed to 1344 students who had enrolled at the College of William and Mary for the fall semester of 1986 and 1225 who had enrolled for the fall semester of 1987. The population studied is composed of individuals within the two classes who voluntarily completed and returned the test.

The academic file of each freshman who completed the PIT was examined on the basis of three general criteria: academic problems, disciplinary problems, and mental health problems. Students were subsequently grouped as: 1) free of Academic, Disciplinary probation, and Mental Health problems (Control Group), 2) placed on Disciplinary probation (Discipline Group), 3) advised of Academic Probation/Warning (Academic Group), and 4) sought or were referred for counseling at the Center for Psychological Services at the college or at another mental health service (Mental Health Group).
Limitations of the Study

There are several limiting factors inherent in this study. The first limitation is the response rate to the PIT. The instrument was mailed to 1344 entering freshmen to the fall semester of 1986 and 1225 freshmen entering in the fall semester of 1987 at The College of William and Mary. The number of individuals who completed and returned the instrument from the 1986 freshmen group was 532 and the number of respondents from the 1987 freshmen class was 544.

The percentage of respondents falls below the statistical criterion for generalizability. The low percentage may be due to the total number of entering freshmen, which included transfer students and students who deferred entrance (experimental mortality). The percentage of respondents would be greater if it were based on students who registered. However, this information is not yet readily available for researchers.

Because the response rate is below 70%, one must use caution in generalizing the results to the student population as a whole. It is difficult with this type of study to suggest a comparison between respondents and nonrespondents. One cannot determine if the students who did complete and return the PIT represent the population from which the sample groups were originally selected. It is possible that those students who completed and returned the PIT were more motivated, had a
higher level of psychological awareness or interest, or were more capable of satisfying their needs. However, this study is comparative and thus does not attempt to predict problem needs experienced by all students.

To determine if respondents are different from nonrespondents a systematic random selection of the academic files of a small subsample of nonrespondents is analyzed. Chi-square comparisons of respondents and nonrespondents did not reveal significant differences except in the Female Discipline Group. A comparison of females by Chi-square revealed that females who did not return the PIT were more than three times likely to have discipline problems \( (X^2 (df= 1, N = 28) p < .0001) \).

The second limitation of this study is the demographic characteristics of the population from which the sample was taken. Entering freshmen at The College of William and Mary have predominantly middle to upper-middle class socioeconomic backgrounds, and academically strong, and 70% are residents of Virginia. Therefore, these results may not generalize to more demographically heterogeneous groups.

The third limitation is the varied procedures for the classification and enforcement of "disciplinary probation". Probationary action is a warning that further violations during the probationary period may result in suspension or expulsion. The charge of noncompliance with college regulations and policy (outlined in the Student Handbook) is subjective; it can be brought
against a student by the faculty, administration, support staff, visitor or guest to the campus or community, or a member of the community. It is a form of reprimand that may result in a range of penalties, which at times are left up to the Area Directors, Head Residents, and Resident Assistants. Disciplinary action can manifest in a variety of ways: as an oral or written reprimand or in letters from campus police, academic support, or Colonial Williamsburg police. With such variation in procedures, it is not possible to develop a highly reliable disciplinary classification system.
Chapter 2

REVIEW OF THE LITERATURE

General Systems Theory and Motivation

Charles Darwin is revered by many as the individual who made the greatest scientific contribution to the study of the living organism and its environment. Few people, however, are familiar with that dimension of his work that became fundamental to the development and evolution of a psychology of human motivation. According to Darwin's theory (1859), all motivational processes involved in behavior could be understood if the researcher could merely determine the antecedent conditions of the behavior. Darwin was the first person to propose that the study of animal motivational processes could be perceived as a function of the external and internal environment that affects them. Followers of Darwin soon applied this theory to the study of human motivational process.

Sigmund Freud (1933) was one of many scientists influenced by the work of Darwin. Freud, however, was more focused on psychological processes than biological ones. According to Freud (1917/1963), the reason for and/or purpose of human behavior is the satisfaction of innate human needs. All human needs arise
stimulation and tension and all human behavior or activity is directed toward the reduction of these tensions. His depiction of human motivation was one of conflict between the basic instinct of humans and the latitudes made available by the environment.

The human survivor, according to both Darwin and Freud, was the individual who developed specific mechanisms that permitted the gratification of the instincts necessary for survival. In addition, Freud developed a variety of concepts such as unconscious motivational processes and ego-defense mechanisms that are critical components in human motivation. These constructs served to facilitate our understanding of why human behavior assumes a particular direction. The historical importance of Freud's theory of motivation can be seen in the subsequent influence it had on later theories of motivation.

Murray was the first scholar to perceive human motivation from a systems perspective (Murray, 1951). Murray received formal training in biology, embryology, biochemistry, and medicine. The practicing physician eventually became interested in and committed to the understanding of the psychology of personality or motivational psychology. He believed that unravelling the knot to the understanding of human behavior could not occur merely from biological, physiological, or experimental theories but from an understanding of their interrelatedness. He began with a philosophy that each individual possessed motives that are the arousers and directors of behavior.
The motivational processes of an individual, according to Murray (1951), can only be accurately perceived as a function of the individual's needs or drives. Murray theorized that any degree of understanding of human motivation must have a system's process as its foundation. The system should in turn be composed of a sufficient number of elements that are interrelated and that reflect the complexity of the human motive. Given the complexity of humans, Murray constructed empirical definitions for a set of needs to operationalize his scheme of the human motivation system. The core of his theoretical model was that these needs were not operating in isolation from one another; human needs were mutually influenced and interactive. He was also aware that needs have a hierarchical nature. In a situation where more than one need may be simultaneously stimulated, there may occur an arousal of incongruent responses. In another situation, several needs may be aroused simultaneously and yet become collectively satisfied by one behavior.

Murray classified, taxonomized, and defended his theoretical stand that an individual's needs and motives were invaluable constructs to employ in the study and analysis of personality. He also believed that human motivation could be examined in the clinical environment as well as in everyday lifestyles.

Systems theory offers a holistic understanding of how needs interact to influence human behavior. The rationale for examining
the need systems of college freshmen is that systems theory addresses the interactive nature of needs. A test instrument that measures human needs in a system (not as mutually independent traits) is the Picture Identification Test. The need constructs of Murray have been incorporated into the PIT and modified by Chambers (1980) in order to reduce ambiguity and to maintain differentiation of meaning (an additional element was added—the Gratitude need).

Research on Student Attrition

Several authors have compiled reviews of their investigation of college and university attrition and/or maladjustment in America to establish an accurate picture of the severity of the problem (Kowalski & Cangemi, 1974; Cangemi, 1976). The authors concluded that approximately 40% of the high school students who enrolled as freshmen in their prospective institutions achieved a baccalaureate within the expected four year time frame. In the population of "late" graduates, approximately 20 percent went on to complete their degree in subsequent years. Combined, these findings indicate that approximately 40 percent of college students never complete their undergraduate training (Kowalski & Cangemi, 1974).

There is research that supplies some insight into the persist-withdraw process occurring in undergraduate institutions.
Perhaps the most extensive and accepted model had been advanced by Tinto (1975). He has proposed a longitudinal theoretical model of persistence-withdrawal behavior in the American college student. The persistence-withdrawal behavior is believed to be a reaction to the process of interaction and adaptation between the individual student and the specific institution. Tinto theorized that college students enter their prospective academic institution with organized and unique sets of characteristics. These characteristics include personal attributes, beliefs, aspirations, socioeconomic status, prior academic experiences, and family background. All of these personally unique elements impact on the students' degree of commitment to their goal of graduation as well as their commitments to their institutions.

Once a college student's needs, predispositions, and experiences are harmonized with the institutional environment, both student and college produce a unique infrastructure- a system of social and academic integration. Tinto proposes that students who voluntarily drop out have not integrated or adapted to the social atmosphere of their prospective colleges. The motivation to drop out is a result of an inability to integrate socially and academically. The integration and adaptation of both the individual and institution to each other comprises the core of Tinto's model.

Edwards and Waters (1983) attempted to replicate and augment one of their earlier studies. The authors examined the
following predictors of student attrition in a state university: academic job involvement, academic ability, academic performance, and satisfaction with coursework and institution. Their population of new freshmen was given a "research booklet" with the material concerning predictor variables (p.234). Seven academic quarters later the students' records were examined to assess the degree of attrition and retention in the initial population. Three groups were delineated: students who dropped out due to academic deficiency, those still persisting, and those who left the university while still sustaining academic proficiency. Five factors were found to predict attrition: the verbal subtest of the College Qualification Test (CQT), satisfaction with the academic and nonacademic dimensions of college, the Edwards Personal Preference EPPS Schedule and the College Climate Inventory (CCI), and first quarter GPA.

A stepwise regression analysis was performed with each of the following groups: the combined attrition groups (undifferentiated attrition) and enrolled group, the enrolled and academic deficiency groups, the enrolled and voluntary withdrawal groups. In the enrolled and undifferentiated groups, variables of GPA and Satisfaction were found to add significantly to the prediction of attrition. The second analysis between the enrolled and academic deficiency groups yielded the variable of first quarter GPA as a significant predictor of attrition. In the
third regression analysis of the enrolled and voluntary withdrawal
groups there were no significant correlations.

Edwards' and Waters' study underscored the need in future
research to differentiate the attrition population by types of
attrition. In the current study the author examined the
motivational aspects of students and their adaptation to the
academic environment. The author differentiated several forms of
problems that can lead to attrition that occur in the population:
transfers, permanent voluntary withdrawal, and provisional
withdrawal. The need characteristics of each group were
interpreted from differences in PIT variables such as each groups' need attitudes, judgements, and beliefs.

Maudal, Butcher, and Mauger (1974) applied multiple
linear discriminant function analyses to objective measures of
personality, and academic performance to discriminate three
groups of students: dropouts, persisters, and transfers. They
were able to distinguish those factors having the greatest weight
in predicting the assessment of individuals to each group. The
population studied was two entering freshmen classes (1969 &
1970) at Bethel College, a Protestant, four-year, liberal arts
college in St. Paul, Minnesota. The personality instruments
utilized were the Personality Research Form (PRF) and the
Minnesota Multiphasic Personality Inventory (MMPI). The
personality variables assessed by the PRF were Abasement,
Achievement, Affiliation, Aggression, Autonomy, Change,
Cognitive Structure, Defendance, Dominance, Endurance, Exhibition, Harm-Avoidance, Impulsivity, Nurturance, Order, Play, Sentience, Social Recognition, Succorance, Understanding, Infrequency, Desirability and for the MMPI; Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, Masculinity-Femininity, Paranoia, Psychasthenia, Schizophrenia, Hypomania, and Social Introversion scales. The academic variables gathered in the study included: SAT scores, high school rank, number in high school class, last GPA obtained at Bethel, birth order, number of children in family, and sex.

The data revealed that the academic variables selected were good predictors of membership into all three groups, but were especially strong predictors of membership in the dropout group. In a similar manner the personality measures also did very well in the prediction of membership in all groups, but were especially accurate in predicting the transfer group. Maudal, et al found that personality variables were as accurate as the performance and academic variables in predicting group membership. They claimed that there are significant benefits in employing personality variables and personality theory in the study of college attrition and retention. One merit of this approach, the authors state, is that: "The personality variables (unlike performance variables) may be obtained at the beginning of the student's college career and thus could provide the college counselor valuable information at the outset." (p. 566).
Niebuhr & Norris (1982) investigated the relationship of selected personality variables to the performance of a task under favorable and unfavorable conditions. The population studied was comprised of senior undergraduate students enrolled in three sections of an advanced degree in business at Auburn University, a state college in Alabama. The authors analyzed two personality characteristics, the "personality motive" of need for achievement and "task-related ability" (p. 250). The instruments employed in the study were the Need for Achievement Scale (n-Ach) developed by Hermans (1970) and The Executive Game. Each participant's cumulative GPA was the measure of performance. Niebur and Norris presumed that academic performance and "real-life success" are not strongly correlated (p. 250). They believed that GPA would most likely be correlated with those attributes that are required for achievement in a game of business. Niebur and Norris hypothesized that students who obtained a high GPA would exhibit a better performance in the experiment (i.e., Executive Game) than those students who acquired lower GPA's.

The results of the study suggested that a significant interaction occurred between an individual's skills and motivations and favorability of the situation variables. A student's GPA or measured skill was found to be a strong predictor of performance when the situational variables were designed to be stressless (i.e., "favorable"), unambiguous, or simple. When the situational conditions were "unfavorable" (i.e., stressful and
complex), an individual's need for achievement or motivational variable were found to be the "primary predictor of performance" (p. 253). The authors concluded from their data that in routine situations talent and abilities are stronger predictors of performance than personality variables. However, in unstable situations, personality variables such as motivation are stronger predictors of favorable performance.

Chickering and McCormick (1970) employed the Omnibus Personality Inventory in their study of attrition and retention in colleges. The population studied was comprised of each class in a number of four year colleges. They concluded from their data that personality development as measured by their instrument had occurred in those students who withdrew as well as those who remained in college. They noted that the quantity and direction of the developmental changes were not significantly different between sexes. The researchers also found that the degree and direction of developmental changes were not significantly different among colleges despite their diversity. The personality changes found by Chickering and McCormick were primarily in students' beliefs, attitudes, and behavior. Students, in general, developed more autonomy, understanding, order, flexibility, tolerance to ambiguity, and were less materialistic, more complex, and more expressive in thought and action.

The authors concluded that the student who withdraws voluntarily may be wiser and healthier than expected. They
propose that the student who withdraws may be seeking a more beneficial and/or challenging atmosphere or a less intellectually-limiting academic program. Therefore, students who withdraw voluntarily may be gravitating toward an environment where they can better adapt and satisfy their needs. One can assume that the need systems of those students who voluntarily withdraw will differ from those who persist.

Wallach (1976) reviewed and analyzed data on a number of studies involving the SAT and GRE scores. He concluded that these instruments are moderate predictors of academic grades. He reported that these tests as well as other academic calibrations are not measures of "merit" (p. 58). They are merely guidelines that may provide admission personnel with an example of a given student's academic competence. In addition, he noted that these instruments have minor or even insignificant relationships to an examinees' occupational or professional success.

All attempts to illustrate and predict a profile of the successful student with intellectual measures have been imprecise and unsuccessful. Margrain (1978) considers the primary hindrance to this endeavor to be the "...nature of the statistical approach" (p. 119). She believes that correlational measures and factor analyses dilute the characteristics in the population studied and are guilty of "... ignoring the patterns of similarities between people" (p. 119). One instrument that addresses this limitation is the Picture Identification Test.
Rather than taking a simplistic or correlational approach, the PIT uses multidimensional scaling techniques that are more suitable to the investigation of multivariate data. In addition, the PIT attains greater complexity and precision by measuring the 22 Murray-based needs and their interrelationship in a system matrix. Research to date utilizing the PIT strongly suggests that personality characteristics of various deviant groups (clinical groups) can be differentiated from normal groups by deviations in the motivational systems from that of a target model (Chambers & Lieberman, 1965; Chambers, Barger & Lieberman, 1965; Chambers, 1972; Chambers & Surma, 1977; Ondercin, 1984). From this vantage point therapeutic methods can be used to correct and change a deviant motivational profile toward a more appropriate motivational structure.

**Research on Motivation**

Numerous authors have attempted to construct a profile of the successful as well as the unsuccessful college student. To date, however, most studies have been relatively unenlightening. It has been proposed that students struggle with and/or withdraw from their studies because of the following problems: physical (Cangemi, 1976), personality (Johnson, 1970), separation from family (Komarovsky, 1985), psychological separation from parents (Hoffman & Weiss, 1987), financial (Lwai & Churchill,
1982), academic advising (Trombley, 1984), college environment (Tinto, 1975), socioeconomic status (Barger and Hall, 1965), and psychological impairment (Nagelberg & Shemberg, 1980).

However, only a few studies have attempted to examine and measure the role of motivational factors in student attrition and retention. A number of relevant studies are addressed below.

Chambers (1961) administered the PIT to all entering freshmen at the beginning of their school year, at Georgia Southwestern Junior College. At the completion of their freshman year each faculty member was requested to select the "best adjusted students" and the "most poorly adjusted students" (p. 433). The faculty were instructed to make their judgments on the basis of "emotional stability and maturity" (p. 433). The author determined from the data that the PIT successfully differentiated those students who were selected by the faculty as "best adjusted" from those who were "most poorly adjusted" to academia. Students chosen as "better adjusted" had significantly higher scores than "poorly adjusted" students on 19 of 21 PIT judgment scores.

Schurr, Ruble, and Henriksen (1988) attempted to determine if there was a relationship between Scholastic Aptitude Test (SAT) scores and personality characteristics that was independent of gender and academic achievement. They were concerned that there is a "...large percentage of unique variance in the SAT scores that cannot be explained by the grades, ...and a
large percentage of unique variance in the grades that cannot be explained by the SAT." (p.188). The population they studied was 1,902 freshmen enrolled at Ball State University, an Indiana public university. The methods applied to assess personality were the Meyers-Briggs Type Indicator, self-reported academic problems, and self-ratings in 14 skill areas. The three indices utilized to measure academic performance were: high school percentile rank, specific course information (i.e., average grades received in six subject areas), and cumulative grade point average earned during the first two years of college. The authors concluded from their data, after controlling for academic achievement and gender, that personality accounted for a significant percentage of the variability in the SAT scores. The researchers noted that their results imply that personality variables should be considered as significant indicators of an individual's or group's academic achievement potential. From their analysis of personality differences among students, Schurr, et al suggest that SAT scores should not be employed by admission staff to determine the achievement potential of a student without "actual achievement data" (p. 194). They also concluded from their studies and others that there should be a "concern for personality differences" by admission personnel in their prediction of college freshman grades (p. 195).

Bardwell & Braaksma (1985) used a multifactored perspective to examine motivation in undergraduates at a
midwestern university. They examined the degree of predictability of motivation as a multifactor trait in academic success. The assessments employed were: Mehrabian and Bank's Need-achievement Measure, Mehrabian Need-affiliation Measure, Rotter's Locus-of-control Measure, and Clifford's Locus-of-control Measure. In addition, grade point average and college board scores were included in the analysis. The authors attempted to determine whether a greater proportion of variance could be explained by either a) the employment of one instrument and the resultant total score or b) by utilizing various subscales. Their data revealed that the instruments used accounted for approximately 23% of the variance. However, the use of subscales were found to account for approximately 36% of the variance. From their results, it was suggested that motivation can be utilized as a significant predictor of school achievement. Bardwell and Braaksma stated that, "...some reconsideration of the assessment of motivation must be made before this predictor will be of significant strength to be of any value. The first step is a reconceptualization of motivation from a singular construct to a multifactored trait." (p. 12).

McClure (1974) identified the personality differences among college freshmen at the University of Kentucky. He attempted to distinguish between those incoming freshmen with selected emotional problems from those who were problem free. In addition, the author utilized the differences uncovered to predict
high or low degrees of emotional problems in other students. The "problem measures" used were Neuroticism, Introversion, Hedonism, Hostility, and Aggression. Problem measures were generated from discussion in group sessions and questionnaires, and from the Problem Self-Report (problems selected by the subject from a given list) (p. 45). The instruments employed to measure personality were a) the Omnibus Personality Inventory (OPI), b) the American College Test (ACT), and c) the Willingness to Accept Limitations Scale (WALS).

McClure was able to significantly discriminate between students with low and high degrees of problems. The data revealed three major significant relationships between the personality variables and the problem measures of Hostility, Introversion, and Neuroticism. Furthermore, McClure utilized the identified problem variables to successfully predict behavior problems in other groups. The author reports on the value and usefulness of predictive approaches in the selection of students for admission to college as well as to "...plan special educational experiences for problem students" (p. 48).

Daehnert and Carter (1987) studied the relationships between selection criteria and graduate performance of students in clinical psychology. They attempted to determine valid predictors of completion and success in the graduate program. The researchers examined various predictors of graduate school performance such as: Graduate Record Exams, undergraduate
GPA, MMPI scores, academic aptitude, subtests of vocational interest inventories, personal letters of recommendation, and biographical / educational data. The measures utilized in determining graduate school performance were: Graduate GPA, Oral Interviews, Graduate Comprehensive Exams, Doctoral Qualifying Exams, Practicum Evaluations, Internship Evaluations, and Peer and Faculty Ratings. The authors' concluded that personality variables measured by the MMPI were the most accurate predictors of internship evaluation.

Summary of Research and Relationship to the Problem

The results of the research cited in this study as well as the findings of other contributions reveal a general consensus that there is only a small and inconsistent relationship between academic ability and accomplishment in the college years. The conclusion of these studies is not to dismiss academic testing and/or admission criteria. These measures of ability have been the most efficient predictors of academic performance in college to date. Instead, the goal is to screen applicants for other factors that may facilitate or hinder specific types of college performance.

The objective of colleges or universities is to facilitate and develop each student toward his or her goals of academic and personal development. Each student has the same goal as the
institution in which they are attending; that is, to graduate and
maximize individual potential. Most authors agree that each
student is a unique member of the college system with inherent
highly specialized needs, attitudes, and beliefs. It is this unique
constellation of traits in each person that should be considered in
the development of the student in the college environment.

Unfortunately, many administrators have become misled by
the results of standardized achievement tests and have criticized
academic institutions for not educating students adequately (i.e.,
to improve their test scores). There are those who overlook, and
some even overtly renounce, the need and importance of the
psychological health and well-being of students.

The importance of needs, personality, and motivation as
variables in the examination of college attrition and the
prediction of academic ability has varied in emphasis over the
past few decades. This interest has added information to the
quest, but many conclusions have been ambiguous and many of the
investigations have failed to shed much light on the problem. To
analyze and ascertain the causes of satisfactory and
unsatisfactory academic performance is an extremely complex
task and as such it warrants an equally multivariate examination.

Over the past several decades student maladjustment has
been operationalized as 'attrition' and defined as merely the
withdrawal of a student from the institution in which she or he
had enrolled. The more recent research on this topic has corrected
this particular error, yet investigation has remained riddled with methodological flaws. For example, the population of academically successful individuals has included incoming and exiting transfer students, a/p students, leave of absence, study abroad, medical withdrawals, and military families. An analysis of the motivational systems of incoming freshmen could assist administrators in helping vulnerable students as well as providing greater insight into the potentially maladaptive student.

Most studies involving student attrition and retention utilize linear measurements focused on strength of personality traits. This study examined the personality variables of motivation in college students from a systems perspective utilizing a systems oriented assessment. The Murray based needs are incorporated as a system by the PIT; that is, all the 22 needs are interrelated. The PIT uses multidimensional scaling techniques to produce a three dimensional motivational system. The PIT focuses on need satisfaction or how effectively the needs are organized to promote need gratification within the three dimensions (Combative, Competitive, and Personal) and within the system as a whole. This study examined the personal needs systems of college freshmen to obtain a more accurate picture of the possible causes and correlates of student maladjustment. This study compared students with different kinds of college adjustment problems on PIT measures of beliefs, values, and perceptions pertaining to their personal needs systems.
Sample Population

The data of each sample group were compiled from those individuals entering the freshman class of The College of William and Mary in the fall semesters of 1986 and 1987. The population of William and Mary students is predominantly composed of recent high school graduates from middle to upper-middle class socioeconomic backgrounds. Approximately 70% are residents of Virginia, and the population, in general, is considered academically strong.

The number of entering freshmen in the fall of 1986 was 1344. Of this population a total of 531 (38%) completed and returned the PIT (228 of 657 males (34.7%) and 283 of 687 females (41.2%) completed and returned the PIT). The number of entering class freshmen in the fall of 1987 was 1225. Of this population, a total of 544 (44.4%) completed and returned the PIT (254 of 576 (44%) males and 290 of 649 (44.7%) females completed and returned the PIT).

The academic files of each of the 1986 and 1987 PIT respondents were individually examined. From the information contained in the files, students were assigned membership to one
or more of the following four groups: Academic, Mental Health, Discipline, and Control.

The criterion for the selection of membership into the Academic Group was that a student fell below the minimal standards expected for continuing at the college (insufficient academic credits and quality points or grade point average). This encompassed students placed on academic probation for one or more semesters and/or charged with academic suspension or academic expulsion. Specific group membership was assigned depending on the degree of academic severity.

To assess the reliability of classification of subjects placed in the Academic Group, three Deans of Academic Support were asked to rate the 'severity' of academic difficulty. One semester or two nonconsecutive semesters of academic probation within five semesters was rated as "mild academic problems". Two consecutive semesters of academic probation within five semesters was considered "moderate". Three or more semesters of academic probation was considered "severe" with regard to academic problems.

Two criteria were employed for the selection of membership into the Mental Health Group: 1) a student attended more than two therapy sessions at the Center for Personal Learning and Development (The two session cutoff was to select out those students who visited the center to inquire about the PIT and receive an explanation of the results from a staff member) and,
2) letters in respondents' files from mental health professionals indicating adjustment problems.

The criteria for selection of membership into the Discipline Group was the inclusion of a letter in their academic folder indicative of "disciplinary action" from a college official. A disciplinary letter is an indication of a student's transgression of the "rules of conduct" established by the college. The college considers the observance of public and federal laws of equal importance with the observance of its own regulations. Students who were suspended or expelled from the college for disciplinary reasons were also included in this group.

The criteria for the selection of membership into the Control Group was that a student's record did not contain letters of disciplinary action, academic warning/probation, or mental health contact.

Instrumentation

The instrument employed in this study was the Picture Identification Test (PIT) (Chambers, 1980). It is a semi-projective test that produces perceptual judgment, attitude, and inter-need association measures pertaining to 22 Murray based needs (Chambers, 1988; Murray, 1953). The original human need hierarchy conceived by Murray has been altered and operationalized for use with the PIT. The measures of needs are
determined from the subject's rating of the strength of each need as it is perceived in the facial expressions of 12 individual photographs and by ratings of "positive" and "negative" aspects of each expression. The 1.5" x 1.5" photographs are faces of six male and six female college students. The instrument is computer scored and interpreted.

In the first section of the PIT, the subject is asked to rate the facial expression of the individual depicted in each photograph as to, "...how strongly they feel the picture expresses or reveals positive (desirable and good) or negative (undesirable and bad) personal qualities of the person" (Chambers, 1989, p. 6). The rating scale employed to determine the subject's reaction to the particular expression is comprised of the following choices: (1) (very positive), (2) (moderately), (3) (neutral or undecided), (4) (moderately negative), and (5) (very negative). In the second section of the PIT, the subject is instructed to rate the strength of each of the needs according to, "...how strongly each motive is or is not expressed by the person in the photograph" (Chambers, 1989, p. 7). The strength of the facial expression of each need is rated by the subject on the following scale: (1) (very definite expression of the need), (2) (some expression of the need), (3) (neutral or undecided), (4) (does not express the need), and (5) (definitely does not express the need) (Chambers, 1989, p. 7).

Extensive research analyzing the PIT by multidimensional scaling (MDS) has yielded a three-dimensional structure
(Chambers & Surma, 1977; Chambers & Surma, 1979). Within this three-dimensional matrix each of the 22 needs has a particular location in each of the three dimensions. The organization of each dimension in this manner, "defines the function or character" of the individual dimension (Chambers, PIT manual, p. 19). The three dimensions have been designated the Combative, the Personal, and the Competitive. According to Chambers (1988), in each of the three dimensions the 22 needs are organized with some degree of polarity. The more distant the location of a need at one end of a dimension the more it "opposes, conflicts with, and inhibits" needs at the opposite location of the dimension (Chambers, 1988, p. 19).

The Combative dimension is considered by Chambers (1988) to be the "most basic and primitive" of the three dimensions (p. 20). The needs are arranged at one end of this dimension to motivate the forceful assertion of our will over our environment. At the opposite end of the Combative dimension (i.e. noncombative) are the needs which can inhibit combativeness. This dimension becomes activated in situations when there is a conflict concerning possessions or materialistic endeavors. The goal of the Combative dimension is to obtain physical control over material objects and people.

The Personal dimension is structured to promote love, care, and support between people. It becomes activated in situations involving the maintenance of emotional ties and intimacy with
others. The Needs clustered in one end of this dimension (i.e., personal) which promote intimacy while the other end of the dimension (i.e., impersonal) is composed of needs that maintain distance in relationships through objectivity and rational resolution of conflict. One can infer that the goals of the Personal dimension are to develop and maintain positive relationships with other people.

The Competitive dimension is structured to provide the motivation for rationality, intellectual analysis, the seeking of symbolic rewards, and "humanistic" concerns (Chambers, 1988, p. 26). It becomes activated in situations that require knowledge, skill, and ability. The arrangement of the needs in the Competitive dimension are organized at one end to motivate an individual to strive, compete, and attain knowledge. The needs at the opposite end of this dimension are "noncompetitive" needs that inhibit an individual from engaging in situations that may have significant repercussions in the event of failure (p. 27). The goals of the Competitive dimension can be viewed as the attainment of competence, knowledge, skill, and ability.

Reliability.

Scoring reliability for the PIT is 100%. To date there is no data on test-retest reliability. However, administration of the test prior to and during therapy at the Center for Psychological
Services at The College of William and Mary yields significant insight into an individual's three-dimensional structure and organization of needs and their subsequent adaptation and reorientation while involved in therapy.

Reliability coefficients of internal consistency were established by split-half correlation with the average coefficient for association between each need being .72. In the present study, each subject's PIT was examined for internal consistency by split-half correlation; those results which were not internally consistent were deleted from the analysis. Internal consistency was defined as a reliability coefficient less than .50 and/or a Need Differential Sum of 20 or less. This particular analysis was used to determine those subjects who may be falsifying responses or those who randomly responded to the assessment.

Validity.

The PIT has proved its construct validity in a number of research conditions. In several studies utilizing the PIT, normal individuals have demonstrated similar patterns of organizations and need associations. In addition, motivational constructs measured by the association dimension of the Picture Identification Test (PIT) have effectively discriminated groups differing in personality and adjustment level (Chambers, 1972; Chambers & Surma, 1976; Chambers & Wilson, 1971).
The PIT also has been successful in the differentiation of pathological groups from normal groups (Chambers & Surma, 1977). Ondercin (1984) utilized the PIT in a study that significantly differentiated bulimic, anorectic, and obese college females. Male narcotic addicts were found to have significant deviations in motivational categories from controls (Chambers, 1972). Homosexuals, sexually uncertain, and heterosexual students were successfully differentiated by their need association dyads (Chambers & Surma, 1976).

The PIT was administered to paranoid schizophrenics, drug addicts, anxiety neurotics, and control subjects. Each clinical group differed significantly from the controls. It was also found that the clinical groups were more deviant than the controls in reference to specific needs (Chambers & Lieberman, 1965). In addition, male and female college freshmen dropouts were highly differentiated from persisters (Chambers, Barger, & Lieberman, 1965).

**Experimental Design**

The specific research design of this experiment is a causal-comparative method or ex post facto research. The purpose of the study is an exploratory analysis of the possible causes, or reasons, for existing differences in the behavior of the groups of students outlined.
Statistical Analysis

Multidimensional scaling analysis employing the SAS ALSCAL/EUCLID statistical program was used to produce the association matrix of the 22 needs for each subject.

The PIT scores are measures of the subjects' dimensional structure of the motivational system, judgment, attitude, and inter-need associations for the 22 needs. A large number of specific sets of variables are produced from these analyses. Each set of variables was first analyzed by the SAS Multiple Analysis of Variance. From MANOVAs significant at the 0.05 level, individual variables significant at the 0.05 (ANOVAs) were selected. In addition, the Bonferroni procedure was employed as a control for the experiment-wise alpha error. To utilize this measure, those sets of scores that had 22 needs must yield a significance level of 0.002 to be acceptable. Therefore, those measures that yielded an ANOVA with a probability of 0.002 or less were also selected for further analysis. The variables selected for discriminators were entered into a SPSSX Wilks' method for directing stepwise discriminant function analysis. This statistical procedure was employed to order the variables according to their discriminating power and their mutual independence. Some PIT measures are similar and some are
combinations of more inclusive scores; therefore, it was important to control for independence of variables.

**Ethical Considerations**

The PIT has been mailed to all freshmen entering the college of William and Mary since 1984. It also has been utilized as an adjunct to therapy at the Center for Psychological Services at the college of William and Mary since 1970. The incoming freshmen of the entering classes of fall 1986 and 1987 who received the PIT were informed that their results would be confidential, appropriately disguised (numerical coding), and would not be associated with them or their official college files in any manner. It was indicated to all students that, if interested in the data, they could have access to their personal results. In addition, students were informed that further interpretations or explanations of the assessment would be provided by a staff member at the Center for Psychological Services if the student so desired.
Female Academic Groups

The significant MANOVA results for the three Female Academic Groups are listed in Table 1. The MANOVAs listed were significant at the 0.05 level or less and produced forty individual variables with ANOVAs significant at the 0.05 level or less. The forty variables were entered in a stepwise discriminant analysis that selected twenty-three of the forty to obtain maximum discrimination power. The twenty-three discriminant variables are listed in stepwise order in Table 2.

The first and most powerful discriminating variable selected was RMAT/COMP (see Appendix C). The three mean group scores for this variable fell in the predicted linear order of correlation. Group 1 had the highest correlation score (0.63), Group 2 intermediate (0.54), and Group 3 the lowest correlation score (0.47). The same linear order from highest to lowest mean scores among groups was seen in the RMAT for the Combative dimension (RMAT/COMB), selected in step fourteen. Group 1 had the highest correlation (0.83), Group 2 intermediate (0.80), and Group 3 the lowest score (0.76). The Need Differential score
(WGTPC/N DIFF) was selected in step sixteen. Group mean scores were linear in order as predicted. Group 1 had the highest (37.96), Group 2 intermediate (35.55), and Group 3 the lowest score (33.48).
### Manova Test Criteria (Wilks' Model) for Female Groups

#### MANOVA

<table>
<thead>
<tr>
<th>PIT Variable</th>
<th>$E$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CENPER</td>
<td>1.65</td>
<td>.0053</td>
</tr>
<tr>
<td>DVMZ</td>
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<td>.0265</td>
</tr>
<tr>
<td>EGO</td>
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<td>.0448</td>
</tr>
<tr>
<td>ORG</td>
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<td>.0226</td>
</tr>
<tr>
<td>RASSMF</td>
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<td>.0123</td>
</tr>
<tr>
<td>RATFD</td>
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<td>.0328</td>
</tr>
<tr>
<td>RATTMF</td>
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<td>.0547</td>
</tr>
<tr>
<td>RMAT</td>
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<tr>
<td>VALZ</td>
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</tr>
<tr>
<td>WGTPC</td>
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<td>.0001</td>
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<tr>
<td><strong>Mental Health</strong></td>
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</tr>
<tr>
<td>CENPER</td>
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</tr>
<tr>
<td>ORG</td>
<td>1.61</td>
<td>.0411</td>
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</table>
Table 2

PIT Discriminant Variables for Female Academic Groups

<table>
<thead>
<tr>
<th>Step</th>
<th>PIT Variable</th>
<th>F</th>
<th>p</th>
<th>Group 1 (n = 374)</th>
<th>Group 2 (n = 72)</th>
<th>Group 3 (n = 32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RMAT/COMP</td>
<td>17.01</td>
<td>.0001</td>
<td>0.63</td>
<td>0.54</td>
<td>0.47</td>
</tr>
<tr>
<td>2</td>
<td>RASSMF/DEF</td>
<td>7.19</td>
<td>.0008</td>
<td>0.67</td>
<td>0.59</td>
<td>0.72</td>
</tr>
<tr>
<td>3</td>
<td>SUMSM/DOM</td>
<td>8.01</td>
<td>.0004</td>
<td>17.19</td>
<td>18.92</td>
<td>20.34</td>
</tr>
<tr>
<td>4</td>
<td>CENPER/AFF</td>
<td>5.30</td>
<td>.0053</td>
<td>-1.41</td>
<td>-2.56</td>
<td>-0.90</td>
</tr>
<tr>
<td>5</td>
<td>VALZ/AUT</td>
<td>4.65</td>
<td>.0100</td>
<td>0.12</td>
<td>0.26</td>
<td>0.68</td>
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<tr>
<td>6</td>
<td>RASSMF/SEX</td>
<td>4.85</td>
<td>.0082</td>
<td>0.57</td>
<td>0.49</td>
<td>0.51</td>
</tr>
<tr>
<td>7</td>
<td>PROB/SEX</td>
<td>6.29</td>
<td>.0020</td>
<td>1.56</td>
<td>1.55</td>
<td>2.23</td>
</tr>
<tr>
<td>8</td>
<td>VALZ/BLA</td>
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<td>3.72</td>
<td>.0249</td>
<td>-0.36</td>
<td>-0.41</td>
<td>-0.66</td>
</tr>
<tr>
<td>10</td>
<td>CENPER/SEN</td>
<td>3.34</td>
<td>.0363</td>
<td>-2.36</td>
<td>-1.51</td>
<td>-2.12</td>
</tr>
<tr>
<td>11</td>
<td>RASSMF/DFD</td>
<td>4.86</td>
<td>.0081</td>
<td>0.62</td>
<td>0.55</td>
<td>0.66</td>
</tr>
<tr>
<td>12</td>
<td>RASSMF/SEN</td>
<td>7.37</td>
<td>.0007</td>
<td>0.63</td>
<td>0.54</td>
<td>0.57</td>
</tr>
<tr>
<td>13</td>
<td>CENPER/GRA</td>
<td>3.78</td>
<td>.0234</td>
<td>-1.29</td>
<td>-1.65</td>
<td>-2.09</td>
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<tr>
<td>14</td>
<td>RMAT/COMB</td>
<td>7.44</td>
<td>.0007</td>
<td>0.83</td>
<td>0.80</td>
<td>0.76</td>
</tr>
<tr>
<td>15</td>
<td>CENPER/ACH</td>
<td>3.40</td>
<td>.0340</td>
<td>-2.26</td>
<td>-2.04</td>
<td>-3.41</td>
</tr>
<tr>
<td>16</td>
<td>WGTPC/N DIFF</td>
<td>13.77</td>
<td>.0001</td>
<td>37.96</td>
<td>35.55</td>
<td>33.48</td>
</tr>
<tr>
<td>17</td>
<td>RATFD/COMP</td>
<td>5.16</td>
<td>.0061</td>
<td>0.25</td>
<td>0.20</td>
<td>0.10</td>
</tr>
<tr>
<td>18</td>
<td>RASSMF/HAR</td>
<td>5.39</td>
<td>.0048</td>
<td>0.63</td>
<td>0.55</td>
<td>0.66</td>
</tr>
<tr>
<td>19</td>
<td>RASSMF/DOM</td>
<td>3.24</td>
<td>.0400</td>
<td>0.58</td>
<td>0.55</td>
<td>0.49</td>
</tr>
<tr>
<td>20</td>
<td>RASSMF/NUR</td>
<td>4.74</td>
<td>.0091</td>
<td>0.68</td>
<td>0.62</td>
<td>0.71</td>
</tr>
<tr>
<td>21</td>
<td>RASSMF/AFF</td>
<td>3.37</td>
<td>.0351</td>
<td>0.65</td>
<td>0.58</td>
<td>0.63</td>
</tr>
<tr>
<td>22</td>
<td>EGO/ABA</td>
<td>6.49</td>
<td>.0016</td>
<td>-0.44</td>
<td>-0.56</td>
<td>-0.61</td>
</tr>
<tr>
<td>23</td>
<td>DIFDVM/DOM</td>
<td>6.04</td>
<td>.0026</td>
<td>9.29</td>
<td>10.41</td>
<td>11.24</td>
</tr>
</tbody>
</table>
Fifteen of the twenty-three discriminators for the female groups were scores based on Association Need scores. Eight of these fifteen discriminators were Association Correlation scores that are correlations between the association dyads for male and female pictures (RASSMF). The RASSMF score proved to be a very sensitive discriminator in that it provided the most discriminant functions of any set of variables.

The RASSMF/DEF was selected as the second strongest independent discriminant variable. The other seven RASSMF discriminators were: Sex (step six), Sentience (step ten), Defendance (step eleven), Harm Avoidance (step eighteen), Nurturance (step twenty), and Affiliation (step twenty-one). Group 2 had the lowest score in 7 of the 8 RASSMF need discriminators. Group 1 never had the lowest score, always having the highest or intermediate score. Group 1 had the highest correlation scores in three of the eight RASSMFs, yet these scores were well within the optimal range. Group 3 scored the highest correlations, near problem threshold, in four of the eight RASSMFs (higher scores than those of Group 1).

The male picture association scores of SUMSM/DOM (step three), DIFDVM/DOM (step twenty-three), and RASSMF/DOM (step nineteen) all pertain to the Dominance need (see Appendix A). The group mean scores were in linear order for the SUMSM and DIFDVM. Group 1 had the lowest, Group 2 intermediate, and Group 3 the
highest score for SUMSM/DOM and DIFDVM/DOM. Group 1 had the highest (0.58), Group 2 intermediate (0.55), and Group 3 the lowest score (0.49) for RASSMF/DOM.

The fourth discriminating variable was the Central-Peripheral score for the Affiliation need (CENPER/AFF) (see Appendix B for definition). Group 2 had the most central score. Group 1 had the most central CENPER Score for the Sentience need (step ten). Group 3 had the lowest CENPER scores (most central) for the needs for Gratitude (step thirteen) and Achievement (step fifteen).

The EGO score (see Appendix B for definition) for the Abasement need was selected in step twenty-two (EGO/ABA). The group scores were in linear order as predicted with Group 3 being the most deviant (-0.61), Group 2 intermediate (-0.56) and Group 1 being the least deviant (-0.44).

Two discriminating variables of the ipsative standardized Valence Score (VALZ) (see Appendix B) were Autonomy (step five) and Blame Avoidance (step eight). Group 3 had the highest score for the Autonomy and Blame Avoidance needs.

The seventh strongest independent discriminant variable was PROB/SEX. The Problem Need score (see Appendix B) for Sex was the highest for Group 3, significantly exceeding the normal threshold.

The ninth discriminating variable was ORG/REJ (see Appendix B). The group scores were in linear order. Group 3 had
an extremely negative score, Group 2 intermediate, and Group 1 least negative.

The Dimensional Attitude score for the Competitive Dimension was selected for the seventeenth step (RATFD/COMP). Results were in a linear order with Group 1 being the highest (0.25), Group 2 intermediate (0.02), and Group 3 the lowest score (0.10).

Male Academic Group Results

The MANOVA results for the Male Academic Groups are listed in Table 3. The Central-Peripheral Deviation Score (CPD) MANOVA was significant at the 0.03 level and produced four individual variables with ANOVAs significant at the 0.03 level or less. The Bonferroni procedure, a control for the experiment-wise alpha error, produced three other ANOVAs with a $p$ of 0.0019 or less. These seven variables were entered in a stepwise discriminant analysis that selected six out of the seven to obtain maximum discrimination power. The six discriminant variables selected are listed in stepwise order in Table 4.

The first and most powerful independent discriminating variable selected was the Perceptual Need Judgment score (JUDG) for the Blame Avoidance need (JUDG/BLA). The three group mean scores fell in the predicted linear order of correlation. Group 1
had the highest correlation (0.53), Group 2 intermediate (0.45), and Group 3 the lowest correlation score (0.38).

The second strongest independent discriminating variable selected was the Central-Peripheral Deviation score (CPD) (see Appendix B) for the Defendance need (CPD/DFD). Of the six discriminating variables, four were CPD scores for the following needs: Defendance (step two), Counteraction (step three), Dominance (step four), and Achievement (step six). Groups 2 and 3 had the highest (most deviant) group mean scores for the needs of Defendance and Counteraction. For the fourth discriminating variable (CPD/DOM) the three group mean scores resulted in a linear order. Group 1 had the highest score (0.64), Group 2 intermediate (0.58), and Group 3 the lowest score (0.54). For the sixth discriminating variable CPD/ACH the three group mean scores resulted in a linear order. Group 1 had the lowest deviation score (0.35), Group 2 intermediate (0.42), and Group 3 the highest score (0.43).

The fifth discriminating variable was SUMSA/BLA (see Appendix B). The three group mean scores resulted in a linear order. Group 1 had the lowest deviation score (0.75), Group 2 intermediate (0.81), and Group 3 the highest deviation score (0.91).
Table 3

Manova Test Criteria (Wilks' Model) for Male Groups

<table>
<thead>
<tr>
<th>PIT Variable</th>
<th>MANOVA</th>
<th>E</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD</td>
<td></td>
<td>1.49</td>
<td>.0303</td>
</tr>
<tr>
<td>Mental Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATTF</td>
<td></td>
<td>1.63</td>
<td>.0403</td>
</tr>
<tr>
<td>DIFDVM</td>
<td></td>
<td>1.90</td>
<td>.0105</td>
</tr>
<tr>
<td>SUMSA</td>
<td></td>
<td>1.77</td>
<td>.0205</td>
</tr>
<tr>
<td>SUMSM</td>
<td></td>
<td>1.71</td>
<td>.0271</td>
</tr>
<tr>
<td>Discipline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONFU</td>
<td></td>
<td>2.19</td>
<td>.0473</td>
</tr>
<tr>
<td>EGO</td>
<td></td>
<td>1.68</td>
<td>.0307</td>
</tr>
<tr>
<td>VAL</td>
<td></td>
<td>1.62</td>
<td>.0406</td>
</tr>
<tr>
<td>WGTPC</td>
<td></td>
<td>3.37</td>
<td>.0101</td>
</tr>
</tbody>
</table>
Table 4

**PIT Discriminant Variables for Male Academic Group**

<table>
<thead>
<tr>
<th>Step</th>
<th>PIT Variable</th>
<th>E</th>
<th>p</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n = 220</td>
<td>n = 78</td>
<td>n = 62</td>
</tr>
<tr>
<td>1</td>
<td>JUDG/BLA</td>
<td>7.74</td>
<td>.0005</td>
<td>0.5263</td>
<td>0.4518</td>
<td>0.3805</td>
</tr>
<tr>
<td>2</td>
<td>CPD/DFD</td>
<td>4.53</td>
<td>.0123</td>
<td>0.8363</td>
<td>0.5971</td>
<td>0.9018</td>
</tr>
<tr>
<td>3</td>
<td>CPD/CNT</td>
<td>4.73</td>
<td>.0101</td>
<td>0.5640</td>
<td>0.5877</td>
<td>0.4516</td>
</tr>
<tr>
<td>4</td>
<td>CPD/DOM</td>
<td>3.76</td>
<td>.0255</td>
<td>0.6425</td>
<td>0.5849</td>
<td>0.5371</td>
</tr>
<tr>
<td>5</td>
<td>SUMSA/BLA</td>
<td>6.83</td>
<td>.0012</td>
<td>0.7575</td>
<td>0.8154</td>
<td>0.9113</td>
</tr>
<tr>
<td>6</td>
<td>CPD/ACH</td>
<td>3.58</td>
<td>.0301</td>
<td>0.3550</td>
<td>0.4206</td>
<td>0.4348</td>
</tr>
</tbody>
</table>
Female Mental Health Results

The MANOVA results for the two Female Mental Health Groups are listed in Table 1. The two MANOVA were significant at the .04 and .01 levels respectively and produced seven individual variables with ANOVAs significant at the 0.05 level or less. These seven variables were entered in a stepwise discriminant analysis that selected six of the seven to obtain maximum discrimination power. The six discriminant variables are listed in stepwise order in Table 5.

The first and most powerful discriminating variable selected was the Central-Peripheral Score for the Gratitude need (CENPER/GRA). Of the six discriminating variables three were Central-Peripheral Scores for the following needs: Gratitude (step one), Order (step three), and Sentience (step four). Group 2 had the most negative (central) score for the Gratitude need. Group 1 had the most central score for the Order and Sentience needs.

The Valence Score (VAL) was selected in step 2 as the second strongest independent discriminating variable for the Aggression need (VAL/AGG). Group 2 had the highest mean score for the Aggression need (VAL/AGG).

The Organizing Principal (ORG) was selected in step five (Play) and step six (Inferiority Avoidance). Group 2 had the lowest
mean score for both needs with an extremely negative score (- 0.02) for the Inferiority Avoidance need (see TABLE 5).

Table 5

PIT Discriminant Variables for Female Mental Health Group

<table>
<thead>
<tr>
<th>Step</th>
<th>PIT Variable</th>
<th>ANOVA</th>
<th>Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$F$</td>
<td>$p$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>CENPER/GRA</td>
<td>10.52</td>
<td>.0013</td>
</tr>
<tr>
<td>2</td>
<td>VAL/AGG</td>
<td>9.32</td>
<td>.0024</td>
</tr>
<tr>
<td>3</td>
<td>CENPER/ORD</td>
<td>6.17</td>
<td>.0134</td>
</tr>
<tr>
<td>4</td>
<td>CENPER/SEN</td>
<td>4.73</td>
<td>.0302</td>
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<tr>
<td>5</td>
<td>ORG/PLA</td>
<td>4.64</td>
<td>.0318</td>
</tr>
<tr>
<td>6</td>
<td>ORG/INF</td>
<td>5.62</td>
<td>.0182</td>
</tr>
</tbody>
</table>
Male Mental Health Results

The MANOVA results for the two Male Mental Health Groups are listed in Table 3. Four MANOVAs were significant at the 0.04 level or less. These MANOVAs produced thirteen individual variables with ANOVAs significant at the 0.05 level or less. These thirteen variables were entered in a stepwise discriminant analysis that selected eight out of the thirteen to obtain maximum discrimination power. The eight discriminant variables are listed in stepwise order in Table 6.

The first and most powerful discriminating variable selected was the Attitude Need score (see Appendix B) for the female pictures (ATTF) for the Blame Avoidance need (ATTF/BLA). The female picture Attitude Need score was also selected in step seven for the Nurturance need (ATTF/NUR). Group 1 had the lowest (most positive) score for both needs.

The second most powerful independent discriminating variable selected was the Differential Deviation score for male pictures based on the Understanding need (DIFDVM/UND) (see Table 6). The DIFDVM score was also selected in step five for the Rejection need. Group 2 had the highest (most deviant) mean score for the Understanding need and the lowest mean score for Rejection. Six of the eight discriminating variables were sex-of-picture Association Need scores (DIFDVM, SUMSM, and SUMSA).
The third most powerful independent discriminating variable was the SUMSM score for the Dominance need (SUMSM/DOM). The sixth discriminating variable was SUMSM for the Understanding need (SUMSM/UND) and the eighth discriminating variable was SUMSM for Rejection (SUMSM/REJ). Group 2 had the lowest mean score for the Dominance need and the highest mean scores for the Rejection and Order needs.

The fourth discriminating variable selected was SUMSA for the Order need (SUMSA/ORD) where Group 2 had the highest mean score.
Table 6

**PIT Discriminant Variables for Male Mental Health Group**

<table>
<thead>
<tr>
<th>Step</th>
<th>PIT Variable</th>
<th>( F )</th>
<th>( p )</th>
<th>( \text{Group Means} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Group 1 (n = 220)</td>
</tr>
<tr>
<td>1</td>
<td>ATTF/BLA</td>
<td>13.8</td>
<td>.0002</td>
<td>1.34</td>
</tr>
<tr>
<td>2</td>
<td>DIFDVM/UND</td>
<td>10.1</td>
<td>.0017</td>
<td>7.81</td>
</tr>
<tr>
<td>3</td>
<td>SUMSM/DOM</td>
<td>4.12</td>
<td>.0434</td>
<td>18.40</td>
</tr>
<tr>
<td>4</td>
<td>SUMSA/ORD</td>
<td>6.98</td>
<td>.0088</td>
<td>0.63</td>
</tr>
<tr>
<td>5</td>
<td>DIFDVM/REJ</td>
<td>4.65</td>
<td>.0319</td>
<td>11.97</td>
</tr>
<tr>
<td>6</td>
<td>SUMSM/UND</td>
<td>7.40</td>
<td>.0069</td>
<td>15.51</td>
</tr>
<tr>
<td>7</td>
<td>ATTF/NUR</td>
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<td>.0116</td>
<td>0.82</td>
</tr>
<tr>
<td>8</td>
<td>SUMSM/REJ</td>
<td>3.65</td>
<td>.0571</td>
<td>22.62</td>
</tr>
</tbody>
</table>
Female Discipline Results

There were not enough (twenty cases) 1986 and 1987 freshman female discipline cases to perform a statistical analysis.

Male Discipline Results

The MANOVA results for the two Male Discipline Groups are listed in Table 3. The MANOVAs were significant at the 0.04 level or less. The MANOVAs produced fourteen individual variables with ANOVAs significant at the 0.05 level or less. These fourteen variables were entered in a stepwise discriminant analysis that selected seven out of the fourteen to obtain maximum discrimination power. The seven discriminant variables are listed in stepwise order in Table 7.

The first and most powerful discriminating variable was the EGO need for Blame Avoidance (EGO/BLA). Group 2 had the most negative mean score.

The second strongest discriminant variable was the Association score based on female pictures for the Blame Avoidance need (SUMSF/BLA). The subjects in Group 2 had the highest mean score.
The third and fourth strongest discriminating variables were the Valence (VAL) score for the Harm Avoidance (step three) and Aggression (step four) needs. Group 2 had the lowest mean scores for both needs.

The fifth strongest discriminating variable was the Dimension Weight score for the Personal Dimension (WGTPC/D2). Group 2 had the highest mean score for the Personal Dimension.

The sixth strongest discriminating variable was the Judgment need correlation score for the Blame Avoidance need (JUDG/BLA). Group 2 had the lowest mean score.

The seventh strongest discriminator was the Inter-Dimension Confusion score for the Competitive and Personal dimensions (CONFU/COMP-PERS). Group 2 had the highest score.
### Table 7

**PIT Discriminant Variables for Male Discipline Group**

<table>
<thead>
<tr>
<th>Step</th>
<th>PIT Variable</th>
<th>ANOVA F</th>
<th>p</th>
<th>Group 1 (n = 220)</th>
<th>Group 2 (n = 104)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EGO/BLA</td>
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<td>-0.55</td>
<td>-0.80</td>
</tr>
<tr>
<td>2</td>
<td>SUMSF/BLA</td>
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<td>.0050</td>
<td>17.22</td>
<td>19.62</td>
</tr>
<tr>
<td>3</td>
<td>VAL/HAR</td>
<td>7.54</td>
<td>.0064</td>
<td>32.73</td>
<td>31.10</td>
</tr>
<tr>
<td>4</td>
<td>VAL/AGG</td>
<td>7.17</td>
<td>.0078</td>
<td>38.12</td>
<td>36.72</td>
</tr>
<tr>
<td>5</td>
<td>WGTPC/PERS</td>
<td>8.78</td>
<td>.0033</td>
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<td>33.06</td>
</tr>
<tr>
<td>6</td>
<td>JUDG/BLA</td>
<td>4.93</td>
<td>.0001</td>
<td>0.53</td>
<td>0.40</td>
</tr>
<tr>
<td>7</td>
<td>CONFU/COMP-PER</td>
<td>3.96</td>
<td>.0473</td>
<td>0.28</td>
<td>0.30</td>
</tr>
</tbody>
</table>
Chapter 5

DISCUSSION and CONCLUSIONS

This study attempted to develop a systems-oriented motivational assessment using the PIT to differentiate those freshman college students who encountered problems during their first five semesters and those who did not in the academic, disciplinary, and mental health areas.

Female Academic Groups

For the Female Academic Groups, the Target-Subject Matrix Correlation for the Competitive Dimension (RMAT/COMP) was the most powerful independent discriminator (see Table 2). It is one of four discriminating Dimension scores (i.e., RMAT/COMB, WGTPC/N DIFF, RATFD/COMP, RMAT/COMP). RMAT/COMP is the correlation between a subject's need structure (location of needs) in the Competitive Dimension and the need structure of the Target model. The Competitive Dimension is particularly relevant with regard to the academic domain. The Competitive Dimension involves situations that require competence, skill, knowledge, and the ability to attain goals. The subjects who had the most significant academic problems (Group 3) had the lowest
correlations (most deviant) for the Competitive Dimension. These results indicate that Group 3 would have the most conflicts in dealing with competitive situations such as those inherent in the academic environment.

The seventeenth strongest independent variable was the Dimension Attitude score based on the female pictures for the Competitive Dimension (see Table 2). It is a correlation between a subject's attitude (as derived from the female pictures) toward the Competitive Dimension and that of the Target model. The more positive the score the more favorable the attitude toward competitive striving. A negative score means an unfavorable attitude toward the competitive striving. The group mean scores resulted in the predicted linear order. Group 1 had the most positive score, Group 2 intermediate, and Group 3 the lowest. The results suggest that the subjects in Group 1 had the most positive attitudes toward female pictures in reference to the Competitive Dimension. The subjects in Group 2 perceived females as being only moderately positive toward the Competitive Dimension. The subjects in Group 3 perceived females as not being positive at all toward the Competitive Dimension.

The fourteenth strongest independent discriminating variable was the Target-Subject Matrix Correlation for the Combative Dimension (the dimension score RMAT/COMB). The Combative dimension promotes the assertion of the will and power of an individual to attain goals. The results suggest that
the subjects in Group 1 have less conflict in making and executing decisions and asserting their will. The better the academic success of the group, the higher the correlation with the Target model for the Combative Dimension. One interpretation of the results is that Group 1 have a cognitive structure that promoted decisiveness and the ability to effectively execute decisions that are conducive to success in the academic domain. On the other hand, Group 3 students may have had difficulty with appropriate self-assertion and may harbor conflicts that were expressed in passive-aggressive defiance or rebellion toward academic requirements. Resistance on the student's part can occur on a conscious or unconscious level (PIT Manual).

The sixteenth strongest independent discriminating variable was the total Dimension Weight score (WGTPC/N DIFF). This score is an indicator of the amount of three dimensional space (weight) computed for the distribution and differentiation of the 22 needs. The higher the score the greater the differentiation among needs. Group 1 had the highest score, indicating that these subjects have a better ability to understand and organize their needs into an effective system. Group 3 had the lowest score which suggests that these subjects have less awareness of the differences and similarities between their needs and how they are best organized to promote need satisfaction.

The Correlation Raw Association Dyads score for male and female pictures was the most frequent discriminator (RASSMF)
(see Table 2). It was selected for eight of the twenty-three discriminating variables. Each of the 22 PIT needs has an independent association with each of the other 21 needs. The RASSMF for a need reflects the similarities of association between those based on male pictures and those based on female pictures. The second strongest independent discriminant variable was the RASSMF correlation for the Deference need (RASSMF/DEF). Group 3 had the highest correlations, near problem threshold, in four of the eight RASSMFs. The high scores of Group 3 exceeded the highest scores of Group 1. These results are expected since there is an optimal range whereby a very low or very high correlation indicates unrealistic beliefs about the similarities and differences between males and females regarding how a need is expressed. The high scores of Group 3 indicate a weakened sensitivity to differences in the way males and females combine motives to satisfy the needs for Deference, Defendance (step eleven), Harm Avoidance (step eighteen), and Nurturance (step twenty).

Group 2 had the lowest RASSMF scores for the following needs: Deference (step two), Sex (step six), Defendance (step eleven), Sentience (step twelve), Harm Avoidance (step eighteen), Nurturance (step twenty), and Affiliation (step twenty-one). The low correlation scores of the subjects in Group 2 indicate an unrealistic exaggeration of differences in the way males and females express and satisfy these needs. In part, this
exaggeration may be due to stereotyping or biases regarding differences in the way men and women satisfy their needs.

The nineteenth strongest independent discriminant variable was the RASSMF for the Dominance need (RASSMF/DOM). The Group mean scores resulted in a linear order. The better adjusted subjects of Group 1 had the highest (nearest the norm) correlation, Group 2 intermediate, and Group 3 the lowest. The results show that male picture associations by the female subjects for the Dominance need were more deviant in the Groups that had moderate and severe academic difficulty. Group 2 and 3 subjects differed from the norm in their beliefs as to how men combine their needs to express and satisfy the Dominance need. The deviation of Groups 2 and 3 from the Target model indicate that the beliefs of these subjects as to how males express their Dominance get more deviant with the increase in academic problems. The subjects in Groups 2 and 3 may be either idealizing the expression or be hostile to the expression of Dominance in males.

Not only was the RASSMF score for Dominance (step nineteen) one of the discriminators but two other scores involving dominance were also discriminators. The RASSMF/DOM, DIFDVM/DOM (step twenty-three), and SUMSM/DOM (step three) are Association Need scores and all three are interrelated in that they are 'sex-of-picture scores'. Results were linear in order with Group 3 consistently having the most deviant score. The
three Association Need scores for the Dominance need were based on the male pictures. The SUMSM for the Dominance need allows a comparison between a subject's beliefs about how males express and satisfy their needs. The high association deviation score in Group 3 indicates that the females in this group may hold unusual or unrealistic beliefs about how men express and satisfy the need. The DIFDVM/DOM permits a comparison of deviancy of the subject's association of male pictures in relation to the female pictures for the Dominance need. The group mean scores were in the predicted linear order. The better adjusted subjects of Group 1 had the lowest score, Group 2 intermediate, and Group 3 the highest. Results suggest that Group 3 had the most deviant beliefs as to how the Dominance need is expressed in males. Group 1 had the most realistic perception of the expression of this need in males.

The progression of Association Need scores from the lowest in Group 1, intermediate in Group 2, to the highest in Group 3 was expected. The poorer the academic performance, the more deviant the subjects were from the Target model. The three Association Need scores for the Dominance need may provide clues as to present or potential conflicts in the subjects' interpersonal lives which may impact on their academics.

The Central-Peripheral score (CENPER) is a differential score that reflects how a subject's needs are located with respect to the Target model in a three dimensional spatial system. The
more negative the score the more central the need in the subject's motivation system. The more positive the score the more peripheral the location of the need.

The fourth strongest independent discriminant variable was the Central-Peripheral score for the Affiliation need (CENPER/AFF). The function of the Affiliation need is to be friendly and sociable with others in an activity that develops a direct relationship between the participants. Group 2 had the most negative score (more central location) for the Affiliation need. This centralized (and perhaps excessive) need of the subjects in Group 2 to be sociable and friendly may be incongruent with academic responsibilities. The CENPER scores were most negative (most central) in Group 3 for the Gratitude (step thirteen) and Achievement (step fifteen) needs. The central location of a subject's Gratitude need may indicate a problem in the expression of the need to be thankful and appreciative. The centrality of the need may be interfering and conflicting with other needs. It may also manifest as a sense of unworthiness on the subject's part for what is given to them. The location of the Achievement need may imply a position too central in a student's motivation system where it is too constant and/or conflicts with the other needs and impairs effectiveness. The subjects in Group 3 may be overly concerned about Achievement (extreme negative score) while Group 2 students may be too unconcerned about the need.
The twelfth strongest independent discriminating variable was the CENPER score for the Sentience need. Group 1 had the most negative score suggesting that the need is more centrally located and therefore more familiar and desirable. This indicates that the subjects in Group 1 operate more from an aesthetic sense and may be more appreciative of aesthetic qualities in their surroundings than the students in Groups 2 and 3. Aesthetic sensitivity is a creative force in work and achievement. It can also be an enhancement to the needs for Achievement and Understanding.

For normal subjects, six of the twenty-two needs consistently cluster in the Combative Dimension. The six needs are referred to as the EGO needs. The other sixteen needs are considered NON-EGO needs. An Ego Need score for a non-ego need is computed from its proximal or distal association to the six ego needs.

The twenty-second strongest independent discriminant variable was the Ego Need score for the Abasement need (the need to recognize and admit to faults, deficiencies, and mistakes). Results indicated that Group 3 subjects had the Abasement need mixed with the six clustered ego needs. In general, a non-ego need such as Abasement is distally associated from the ego needs because it provides an alternative to the ego needs for responding to situations. The present results suggest that the Abasement needs of subjects in Group 3 is conflicted with their Ego needs.
One consequence of this is a difficulty in assertion of their ego. Another consequence can be an aggressive or combative type of Abasement resulting in very self-abasing and self-punishing reactions.

The ipsatively normalized Valence score (VALZ) is based on a subject's perception of the expression of a need perceived in the facial pictures. The more positive the score, the more strength the subject attributed to the need in the pictures.

The two discriminating Valence scores (VALZ) were for the needs of Autonomy (step five) and Blame Avoidance (step eight). Group 3 perceived the expression of Autonomy and Blame Avoidance in an extremely stronger manner (positive score) than the other two groups. Autonomy is perhaps the basic Ego need. The group mean scores for the Autonomy need were ordered in a linear manner. Autonomy was perceived most strongly by the students in Group 3 (most severe academic problems) to the extent that it may be a projection of the subjects' hypersensitivity and concern over the need. The excessive emphasis on Autonomy by Group 3 can lead to poor judgment and self-centered behavior. It may also mean that they attempt to compensate for feelings that they have no freedom or independence and lack control over their lives.

The VALZ group mean scores for Blame avoidance were not significantly different between Groups 1 and 2, but were extremely high in Group 3. This indicates that Blame avoidance is
a very pronounced need for Group 3. This may be related to the degree and amount of problems and disapproval the subjects have experienced in their academic endeavors.

The Problem Need score is a combined need score computed from other scores and is considered an indicator of problems or difficulties associated with a particular need (see Appendix B). The seventh strongest independent discriminant variable was the Problem score for the Sex need (PROB/SEX). Group 3 had the highest mean score suggesting that this need may be an active or potential source of problems and frustrations for these subjects. The mean score for Group 3 was high enough to indicate deviant judgment as to when the Sex need is appropriately expressed and how the need is effectively satisfied.

The ninth strongest independent discriminating variable was the System Organizing Power for the Rejection need (ORG/REJ). It is a computation based on three scores. The more negative a score the stronger the need operates as a negative organizing need. All three groups had negative ORG/REJ scores. However, Group 3 had an extremely negative score. The Rejection need may be perceived by the subjects in Group 3 as extremely adverse and therefore distally associated with other needs. Rejection may be a need the subjects least desire to experience or express and may even go out of their way to avoid situations which call for this need. Difficulty with "saying no" may make these subjects susceptible
to distractions and interference by others with their academic work.

**Male Academic Groups**

The first and most powerful variable selected for the Male Academic Groups discrimination was the Judgment Need score for the Blame Avoidance need (JUDG/BLA) (see Table 4). This score is the correlation between a subject's perception of how strongly the faces expressed each of the needs and averaged perceptual ratings of the Target model group. The higher the correlation the more perceptual agreement a subject has with the Target group for the need. The lower the correlation the poorer the perceptual agreement between a subject and the Target model group. The results of the group mean scores were in the predicted linear order. The better the academic performance of the group, the higher the correlation between subjects and Target model for the Blame Avoidance need. Results indicate that subjects in Groups 2 and 3 do not interpret cues for Blame Avoidance as do others. This suggests that they may not be in agreement as to when Blame Avoidance is appropriate or inappropriate for expression. According to Chambers, "the function of Blame Avoidance is to provide us with internal controls over our combative and competitive impulses." One internal method of avoiding Blame is to become "chronically belligerent". Another compensatory
mechanism may be to practice a "non-committal lifestyle" and avoid blame by abstaining from making decisions and taking responsibility for one's actions.

In an academic environment, a fear of blame, admonishment, and negative consequences may prevent an individual from negotiating academic challenges. The subjects in Group 2 and 3 may thus resist academic competition because they fear blame and criticism for possible mistakes and failures. For Group 3 these mistakes may be misperceived to a degree that they eclipse the motivating potential of academic rewards and scholarly accomplishments.

The fifth strongest discriminating variable was the Sum of the absolute association dyads for the Blame Avoidance need based upon both male and female pictures (SUMSA/BLA). A Dyad Association Deviation score for a need is the average of the absolute differences between a subject's Dyad Association scores and the Target model Dyad Association scores for the need. The group mean scores resulted in the predicted linear order (see Table 4). Group 3 had the highest score (most deviant), Group 2 intermediate (less deviant), Group 1 the lowest (least deviant). The linear order of scores suggests that the more deviant the score from the Target model the greater the academic problems.

The second strongest discriminating variable was the Central-Peripheral Deviation score for the Deference need (CPD/DEF). The CPD proved to be the most sensitive discriminator
in that it provided the most discriminating functions (four of the six) (see Table 4). The more positive the score the more deviant from the Target model the location of the need in the subject's motivation system. Needs that are too centralized are elicited more frequently and experienced more often than necessary. Needs that are too peripheral are considered to be too unacceptable for expression. The CPD score is based on absolute deviations from the norm so that the greater the score, the more deviation in either a central or peripheral direction.

Group 3 had the highest score for the Deference need. The magnitude of the score indicates that the subjects' location of the Deference need is significantly deviant from the Target model location. This suggests that Group 3 subjects have difficulty locating the Deference need in its optimal central-peripheral position and may thus over or under emphasize the need.

Parents are children's first teachers of deference. The beliefs and perceptions an individual develops are transferred over time to other authorities and laws (e.g., teachers and academic rules). Expressions of deference in an academic environment are listening attentively, requesting information and direction, completing assignments, and accepting guidance and advice. The subjects in Group 3 may lack deference to others thus making learning more difficult by continually challenging or rejecting experience, knowledge, and wisdom of others (such as
professors). At the other extreme they may be too dependent on the guidance and direction of others.

The third strongest independent discriminating variable was the Central-Peripheral Deviation score for the Counteraction need (CPD/CNT) (see Table 4). The function of the Counteraction need is to learn how to improve oneself by correcting mistakes and failures. Conflicts arise with any need when it is over emphasized or under emphasized. Groups 1 and 2 had similar mean scores, and Group 3 had the lowest (most central). These results suggest that the subjects in Group 3 have less counteraction conflicts.

The fourth strongest independent discriminating variable was the Central-Peripheral Deviation score for the Dominance need (CPD/DOM). The group means resulted in the predicted linear order (see Table 4). Group 1 had the highest score, Group 2 intermediate, and Group 3 the lowest. Results suggest that Group 3 located the Dominance need away from its optimal central-peripheral location. As a result, Group 3 subjects may either over-or-under emphasize the Dominance need.

According to Chambers' handouts (explanations of the needs given to students to supplement the results of the PIT analysis) : "The function of the Dominance need is to organize and direct people so that individual energy and power can be channeled and concentrated to attain a common goal". Results for Group 3 suggest that the extreme peripheral location of the Dominance
need to the corresponding Target model may be related to inappropriate assertion. A student who either lacks assertion or is overly assertive tends to lack self-control. As a result these students may suffer from poor self-esteem and lack of autonomy. Group 3 subjects may be inadequate in maintaining direction and control over their academic environment and thus more susceptible to anxiety and depression. Group 3 students may have difficulty asserting academic leadership or scholarly status because such endeavors are associated more with competition than with knowledge and ability.

The sixth strongest independent discriminating variable was the Central-Peripheral Deviation score for the Achievement need (CPD/ACH). The group means were in the predicted linear order (see Table 4). Group 1 had the lowest score, Group 2 intermediate, and Group 3 the highest. The deviant central-peripheral location of Achievement indicates the need may be perceived as rarely appropriate for expression and that it required extreme or unusual behavioral expression. For those deviating on the central side, the need may be too infrequently activated. The subjects in Group 2 and 3 may have problems of a temporal nature because Achievement involves motivation to attain future goals (e.g., assignments, exams, graduation, and jobs).

Group 3 subjects have more deviant central-peripheral locations for both the Dominance and Achievement needs. Their deviant location of the Dominance need may leave them vulnerable
to control by others and as such they may lack the effectiveness to direct themselves towards goals. This impacts negatively on the Achievement need because the inability to create goals leaves a person dependent on goal selection by others (e.g., fellow students and parents).

Female Mental Health Discussion

The first and most powerful independent discriminating variable selected to discriminate the female Mental Health Groups was the Central-Peripheral score for the Gratitude need (CENPER/GRA). The CENPER measure proved to be a sensitive discriminator in that it was the most frequent of discriminant functions (three of the six) (see Table 5). A CENPER score of -1.0 or less indicates a movement of the need toward the center of a subject's motivation system increasing its frequency of expression. Group 2 had the lowest score (most negative) for the Gratitude need and Group 1 had the lowest scores for the Order (step 3) and Sentience (step 4) needs. Group 2 had an extremely displaced location of the Gratitude need (-2.05). Group 1 subjects had a more central location of the needs for Order (step three), and Sentience (step four) than that of the Target model.

The extremely misplaced location of the Gratitude need for Group 2 indicates an excessive expression of the need. Gratitude is usually exchanged for nurturance and frequent expression of
Gratitude can stimulate generosity. Gratitude can also become compulsive by an unrealistic belief that one 'should' be constantly grateful. Another problem associated with the need is the misperception that help and gifts aren't unconditional acts of love but premeditated acts to make a person feel obligated and indebted. A fourth problem has to do with faking appreciation towards others in order to manipulate them.

The Sentience and Order needs are two of four "rational" needs closely associated with each other. The basic function of the Order need is to reduce complexity and simplify relationships in order to understand and manage our world. The central location of Order in Group 1 subjects may motivate them to actively organize and systematize their knowledge so they can increase their skill and competence during their college years. Group 1 subjects may also be more appreciative (Sentience) of the complex and subtle patterns of orderly relationships. They also may be actively creating order as well as being more sensitive and appreciative of its discovery and are thus able to understand and manage their affairs more easily.

Group 2 had a more peripheral location of the Order need suggesting that they may neglect the need for order. They may invest more of their time in trying to 'get organized'. This can lead to 'wasting time' and inefficient academic work that can cause sufficient problems to seek help. The lack in ability to prioritize goals and make appropriate decisions can lead to
multiple failures, sloppiness, and disarray, all of which can be depressing.

The second most powerful independent discriminating variable was the Valence score for the Aggression need (VAL/AGG) (see Table 5). The function of the Aggression need is to use force to attain goals and to mobilize an opposing force to counter fear, withdrawal, and passivity. Group 2 had the highest mean Valence score for the Aggression need, exceeding the threshold level. A high VAL/AGG score means that the need is rarely perceived. The results suggest that the Group 2 subjects may deny the expression of the Aggression need in others and therefore may be repressing their own concerns about the need. The non-aggressive student then becomes vulnerable to exploitation by those who are aggressive. The subjects of Group 2 may also have a problem with Aggression by confusing it with abasement. As such, they may become intrapunitive and this manifests as unrealistic self-blame, self-criticism, and self-punishment. Inability to use and express the Aggression need can lead to feelings of inadequacy, impotence, helplessness, and passivity. Frequent experience of these feelings can cause anxiety and depression can thus motivate a person to seek counseling.

The fifth and sixth strongest discriminant variables were the Organizing Principal score for the needs for Play and Inferiority Avoidance (see Table 5). The subjects in Group 2 had the lowest score for both needs with a negative score for the
Inferiority need. The results for Group 1 suggest that they may perceive the Play need more frequently in themselves and others and place a higher value on the need. In order to receive the immediate gratification from play a person must avoid anxiety and other negative feelings to enjoy experiences. Play is restorative, gratifying, and relaxing while it relieves us from tension producing anxiety and worry. The need to play and have fun requires attention focused on gratification and away from frustration. Group 2 students may not be able to enjoy playful situations. They may be distracted by anxiety and depression and thus may be motivated to seek counseling.

Results for Group 2 suggest that the Inferiority need has a negative organizing power. These subjects perceive Inferiority Avoidance as unfavorable and prefer not to be aware of it. It is not valued and may be isolated or distantly associated with other needs. Experiences of failure and inadequacy are frequently associated with being blamed and harmed. Inferiority Avoidance focuses on negative outcomes and may motivate one to reject a goal and avoid further attempts. Group 2 students may be less adventurous and ambitious because they expect frequent failures. They may be more cautious about asserting themselves because of doubts about their ability. The 'avoidance learner' will restrain and confine rather than increase and expand behavior. Too much concern for Inferiority Avoidance need may also cause a person to concentrate on familiar skills and neglect others to decrease the
probability of failure. Another inferiority avoidance problem occurs in some people who do not learn from failure and therefore keep repeating their mistakes. They continue to persistently test their ability and attempt to achieve goals beyond their capacity.

**Male Mental Health Group Discussion**

The first and most powerful discriminant variable for the Male Mental Health Groups was the Attitude Need score based on female pictures for the Blame Avoidance need (ATTF/BLA) (see Table 6). The eighth strongest discriminant variable was the Attitude score based on female pictures for the Nurturance need (ATTF/NUR). The female picture Attitude score is an indication of how a subject considers the expression of needs (Blame Avoidance and Nurturance) in females (i.e., positive or negative). Group 2 had the highest mean score for both needs. These results suggest that the Group 2 male subjects perceived the expression of Blame Avoidance and Nurturance more negatively in females than did the Group 1 males. This suggests that Group 2 males do not appreciate concern about disapproval and caring for others in females. Perhaps they prefer women who "don't give a damn" about the needs and reactions of others. Such attitudes could result in unsatisfactory relationships with females. Failures in the establishment and maintenance of personal and social relationships can motivate an individual to seek counseling.
Six of the eight discriminant functions were Association Need scores based on male and female pictures (see Table 6). The sex-of-picture scores proved to be very sensitive discriminators for the Male Mental Health Groups. The Differential Deviation score for male pictures for the Understanding need was selected as the second strongest independent discriminating variable (DIFDVM/UND). The DIFDVM was also selected as the fifth strongest independent variable for the Rejection need. Group 2 had the highest score for Understanding and the lowest score for Rejection. The Results show that the males in Group 2 had more deviant beliefs than Group 1 males with regard to the expression of the Understanding need in females. However, Group 1 males had more deviant beliefs about how males express the Rejection need than did Group 2 males.

The Sum of the Absolute Association Dyads based on male pictures (SUMSM) was selected for the following needs: Dominance (step three), Understanding (step six), and Rejection (step eight) (see Table 6). Group 2 had the lowest scores for Dominance and Rejection and the highest score for the Understanding need. Results indicate that the subjects in Group 2 were more realistic about how males express and satisfy the Dominance and Rejection needs (both Ego assertive needs) than Group 1 and were less realistic about how males express and satisfy the Understanding need.
The fourth strongest independent discriminating variable was the Sum of the Absolute Association Dyads for the Order need (SUMSA/ORD) (see Table 6). The results indicate that Group 2 subjects had unusual and perhaps unrealistic beliefs about how the Order need is expressed and satisfied. The Order and Understanding needs are closely associated. If a person can perceive order in their life experiences they can reduce the complexity of their experiences which enables them to better understand them. When we can understand our experiences they become more meaningful and we develop realistic beliefs with which we can appropriately direct ourselves. Psychological problems develop from unrealistic beliefs that become manifest in inappropriate behavior. Such inadequate actions have negative consequences that can influence an individual to seek counseling.

**Male Discipline Group Discussion**

The first and most powerful discriminating variable for the Male Discipline Groups was the Ego score for the Blame Avoidance need (EGO/BLA) (see Table 7). Group 2 had an extremely negative score (excessive deviation from the Target model). This indicates that Group 2 subjects associate the Blame Avoidance need too closely with Ego needs. The fear of blame strongly conflicts with the expression of a person's Ego needs. When a person asserts the Ego needs of Aggression, Autonomy, and Sex
they are likely to arouse or evoke blame, criticism, punishment or other negative reactions. The conflict becomes one of choosing between expressing Ego needs or not expressing them to avoid blame. Such confusion can cause unnecessary guilt feelings and/or problems in social interacting.

The second strongest and most independent variable was the Sum of the Absolute Association Dyads for the Blame Avoidance need based on female pictures (SUMSF/BLA) (see Table 7). Group 2 had the highest score for this function. This indicates that their beliefs about how females avoid blame and punishment were more deviant than Group 1 students. Unrealistic beliefs by males about social conformity in females can create conflicts, confusion, or misunderstandings in relationships with females.

The sixth strongest and most independent variable was the Judgment score for the Blame Avoidance need (JUDG/BLA) (see Table 7). Group 2 had the lowest score. The Judgment of the expression of Blame Avoidance for Group 2 subjects was thus more deviant from the Judgment of the Target model. In general, a low correlation with the Target model means that the person does not satisfy the need very effectively. The low correlation in Group 2 suggests that they interpret cues about the need in different ways than others and are therefore not in agreement with others as to when the Blame Avoidance need is appropriately expressed and when it is not.
The third and fourth strongest discriminating variables was the Valence score for the needs of Harm Avoidance (step three) and Aggression (step four) (see Table 7). The strength of expression of these needs was not as strongly perceived in the facial pictures by Group 2 subjects as by Group 1 subjects. A lack of perception and concern for the Harm Avoidance and Aggression needs (Group 2) may reflect denial, repression, or insensitivity regarding these needs that could have antisocial consequences. The function of the Harm Avoidance need is to aid us in our survival by avoiding danger. It accomplishes this by inhibiting or modifying impulses that if unchecked could lead us into dangerous situations. Harm Avoidance is most opposed to combative assertiveness and competitive striving. The most serious general problem relating to Harm Avoidance is its influence on our learning, especially when we over-react or over-generalize the need. The need can impose severe limitations on the learning needed to improve mastery over the environment. Over-generalization of the Harm Avoidance need creates a downward spiral; as fear increase so does avoidance behavior. The failure to realistically perceive and/or assess dangers can result in negative consequences. People who are reckless and risk taking are often unwilling and/or unable to project into the future to anticipate and prevent harm. Group 2 subjects may also have unrealistic beliefs that they are immune to the pain and consequences of their behavior. They may also have difficulty
deciding whether or not to attempt things that might be dangerous if they are challenged to take dangerous risks. The Aggression need is probably involved in more social problems than any of the other needs. Failure to perceive aggression as such and failure to be concerned about harmful consequences can lead to reckless destructive behavior such as vandalism and drunk driving.

The fifth strongest and independent discriminating variable was the Dimension Weight score for the Personal Dimension (WGTPC/PERS) (see Table 7). Group 2 subjects had a greater emphasis on the Personal Dimension then did Group 1. This may mean that Group 2 males emphasize the social-personal aspects of life at the expense of the competitive and are thus more attuned to immediate gratification than to concern for consequences and the future. Such a structure, combined with inadequate perception of the need to avoid blame, could lead to antisocial behavior.

The seventh strongest discriminating variable was the Inter-Dimension Confusion score between the Personal and Competitive Dimensions (CONFU/COMP-PERS). Group 2 had the highest mean score. This indicates that parts of their Personal Dimension are getting mixed with their Competitive dimension. The merging of dimensions diminishes the alternate modes of action for a subject. It can also mean that the subjects in Group 2 tend to let personal-social matters intrude into their competitive activities. Thus, party-time and socializing may subvert study-
time and learning. As most of the male disciplinary cases involve party-times (and drinking), the competitive-personal confusion of Group 2 males may be partly the result of underemphasis on academic competition along with compensatory social behavior.

GENERAL STUDENT SUMMARY AND CONCLUSIONS

This study was designed to investigate by discriminant function, the specific motivation characteristics associated with academic, behavioral, and psychological adjustment of college students. The classification of the college freshmen was based on academic, behavioral, and psychological parameters. In order to generalize the results, they will have to be understood in the context of the particular college system from which the population was selected. In this light, the conclusions generated from the discriminant variables from this population may not be significant predictors of academic performance, behavior, or psychological adjustment at other institutions.

The general hypothesis examined in this study was that students with low academic achievement, behavioral, and psychological problems would show greater deviation of PIT scores than students with no record of such problems. The results show that significant differences in deviation scores in the male and female groups occurred in the predicted order from the severely problematic to the well adjusted students. The general
findings for this study are discussed in terms of the deviant PIT variables that selectively discriminated groups.

**Female Academic General Summary**

The major finding for the Female Academic Groups is that seven of the twenty-three discriminator variables are normative scores (see Table 2). On all seven of these deviation scores, the poorest academic performance group had the most deviant scores from the Target model. The differences found were also in the expected linear direction from severe (Group 3), to intermediate (Group 2), to well adjusted (Group 1) on all but one (PROB/SEX) for which Groups 1 and 2 had similar scores. This linear order in the predicted direction suggests that the discrimination was not by chance.

As stated above, students having severe academic difficulty (Group 3) had more deviant scores than the other two groups. These results are in accord with other PIT studies that have shown lower adjustment level groups to have greater deviation from Target model scores than higher level groups (Chambers, Barger, & Lieberman, 1965; Chambers, & Lieberman, 1963; Chambers, & Wilson, 1971; Musselman, Barger, & Chambers, 1967).

The six normative deviation scores for Group 3 students were most deviant for the Competitive and Combative dimensions
and for the needs for Dominance (three discriminators), Abasement, and Sex (two discriminators) (see Table 2). Female students having severe academic difficulty may have a combative motivation structure which does not promote decision strategy. Students who cannot be appropriately decisive cannot negotiate the decisional maze inherent in academia. They may thus have difficulty asserting their need to focus on academic interests.

The function of the Competitive dimension is obviously of major importance in the academic domain. Group 3 students had the most deviant scores for this dimension. It is possible that their devaluation of the Competitive dimension (see Table 1; RATFD/COMP) can cause them to be ill-prepared for the rigors of competitive academic involvement or they may be indecisive about accepting competitive scholarly challenges. The female in severe academic trouble may be underemphasizing the value and importance of knowledge, abilities, and competence as a resource for satisfying their needs.

The severely troubled academic females (Group 3) also had the most deviant beliefs in two sex-of-picture scores. Results from these two normative discriminator scores indicate that these females had the most unrealistic beliefs about how men express and satisfy dominance. Results of the two deviation scores in regard to the Dominance need can provide insight as to the interpersonal conflicts these students may have that impact negatively on their academics. In a college environment these
female students may perceive dominance in an unrealistic way. A failing female student may also feel weak and helpless as a result of inadequate academic achievement and thus have difficulty affirming her autonomy.

The females of Group 3 also had the most deviant Ego need score for the Abasement need (the need to admit faults and weaknesses) (see Table 2). The linear order of this normative score suggests that the poorer the academic status of the female the more conflict she may have in recognizing and admitting her faults, deficiencies, and mistakes. Another expression, in light of the other normative discriminator scores, may be that such students have an aggressive or combative form of abasement that can result in self-punishing attitudes.

The results of the Problem score suggest that the female in severe academic trouble has difficulty satisfying the Sex need (see Table 2). Their judgment in regard to this need is sufficiently deviant to cause potential conflict as to when and how to satisfy sexual desires. If the student is confused as to when to express or inhibit her sexual urges, the resulting interpersonal problems could interfere with academic responsibilities. In the college atmosphere, sex is an integral bonding component in affiliative relationships. It fulfils the biological imperative, and it can also be exclusively recreational. Conflictual judgments concerning the appropriate expression and
satisfaction of the Sex need can interfere with the demanding academic pressures of the institution.

**Male Academic General Summary**

All six of the discriminating variables for the Male Academic Group are normative scores (see Table 4). The severely troubled male academic students (Group 3) had the most deviant scores as compared to the Target group. The results show that the Group 3 student may have difficulty with Blame Avoidance that is the base need for two discriminators. These results suggest that males with academic problems do not interpret cues for Blame Avoidance in the same manner as others and therefore may not express this need appropriately. The male students in severe academic difficulty may avoid blame by avoiding making decisions or by not assuming responsibility for their behavior. The need to avoid blame may be a problem for these male students by inhibiting their self-assertiveness. The student with severe academic problems may also be in conflict as to when to assert leadership and act in a commanding way (Dominance). The fear of blame may also impede their need to assert leadership and conduct themselves in a persuasive manner. They may be overly cautious because of their fear of criticism and punishment and in turn this may diminish their repertoire of behavior and limit their thinking.
The males who had severe academic difficulty had the most deviant central-peripheral location of the needs for Achievement, Counteraction, and Defendance (see Table 4). These results indicate that the Group 3 students tend to over or under-emphasize the expression of these needs. Their problem with the Achievement need may create problems in competitive situations that interfere with their academic development. According to the selection criteria for this group, the failing academic student has been unable to maintain the accepted academic criteria for three semesters. This academic declension can lead to feelings of discouragement as a result of having to constantly face the task of improving and correcting shortcomings (Counteraction). Their academic performance becomes an uphill battle. Criticism from external sources (e.g., family and fellow students) about their poor academic performance may add stress. These students may have difficulty dealing with guilt and their concern about blame (see JUDG/BLA and SUMSA/BLA; Table 4).

Male Discipline General Summary

The Male Discipline Group students had the most deviant score on three normative discriminators. According to PIT interpretation of one measure, the Ego score, the discipline group students associated the Blame avoidance need too closely with their Ego needs. Thus, their fear of blame may conflict with the
expression of their ego needs (Aggression, Autonomy, and Sex). If a discipline prone student is in a situation where an Ego need is activated there is a simultaneous arousal of a fear of blame and criticism (or other conflictual reactions). The student then is often faced with the choice between expressing or suppressing Ego needs in order to avoid the negative consequences. For example, if a situation occurs where a student needs to express himself in an assertive manner (Aggression), this action may be suppressed because of unrealistic fears of negative outcomes. The final result may be a displaced over-reaction of aggression when the student does become assertive.

The problems these students have concerning the Blame Avoidance need was also revealed in the sex-of-picture score (see Table 7). The male discipline group had a deviant score for this function, indicating that they have unrealistic beliefs about how females avoid blame and punishment. Such deviant beliefs concerning the social conformity of females may cause them to rely on alcohol (usually involved in male discipline infraction) to assert themselves in social situations. When there is conflict with an avoidance need in the male discipline student's motivational system, they may become over-inhibited (seeking alcohol to socialize) or resort to compensatory risk-taking (vandalizing). The enjoyment and satisfaction of affiliation is diminished in these students and they may seek to compensate for
this deficiency through drinking and engaging in antisocial behavior.

Male Mental Health General Summary

The major findings of the Male Mental Health Group are that six of eight discriminating variables are normative sex-of-pictures scores (relating to male and female pictures). This means that the male student with mental health problems may have more deviant beliefs about differences in the way males and females express and satisfy their needs for Understanding (two discriminators), Dominance, Order, and Rejection (two discriminators) (see Table 6).

For the male with mental health problems, problems involving the Dominance and Order needs may result in conflict between desires to organize and plan their activities and their need to be assertive and carry out decisions. Such difficulties can result in switching back and forth between ordering and deciding. The consequences of such lack of order, decision making, and autonomy inhibits understanding of the world and can cause the student to seek psychological help.
Female Mental Health General Summary

The interesting results of the Female Mental Health Group are found in the System Organizing scores for Inferiority Avoidance and Play that provided two of six discriminant variables (see Table 5). Inferiority Avoidance is the most negative organizer need for the clinical female student: it is a need least experienced or expressed. For this student, Inferiority is perceived less frequently, valued negatively, and distantly associated with other needs. The student may thus have difficulty recognizing and dealing with the threat of failure.

Play was valued less positively by the clinical female student as indicated by the System Organizer score. Play frequently involves interaction with others. The clinical female student may not adequately satisfy her need to play. She may seek counseling because she is more likely to be isolated and less likely to engage in social behavior in a satisfying way.

Future Research Suggestions

Results of this study would perhaps be more statistically significant if larger samples were employed. Administering the PIT to entering freshmen at other colleges would permit generalizable results. The motivational system of the entering
college student could be better identified and the institution could provide focused support for those who may encounter difficulty.

William and Mary is a residential liberal arts and science state university where most of the freshmen are residents of Virginia. Every university or college has a unique identity based on academic philosophy, extracurricular activities, and rules and regulations and selection of students and faculty. The discriminant variables of this study, therefore, may not be significant predictors of college adjustment at other institutions. However, this study contributes to the research on motivational factors of college students and their retention. The accumulating evidence that motivational measures can be studied and found to correlate with academic adjustment further supports the importance of college counseling centers. Personality measures, in addition to standardized achievement tests can provide both college officials and students with a profile of the motivational strengths and weaknesses of their students that compliments the results of their cognitive tests.
## Appendix A

**Picture Identification Test Need Definitions**

<table>
<thead>
<tr>
<th>Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ABA) Abasement: The need to admit faults and weaknesses.</td>
<td></td>
</tr>
<tr>
<td>(ACH) Achievement: The need to work hard and to attain goals.</td>
<td></td>
</tr>
<tr>
<td>(AFF) Affiliation: The need to be friendly and sociable.</td>
<td></td>
</tr>
<tr>
<td>(AGG) Aggression: The need to be forceful and criticize or attack others.</td>
<td></td>
</tr>
<tr>
<td>(AUT) Autonomy: The need to be free, independent, and uninhibited.</td>
<td></td>
</tr>
<tr>
<td>(BLA) Blame Avoidance: The need to avoid doing things which might arouse criticism or disapproval.</td>
<td></td>
</tr>
<tr>
<td>(CNT) Counteraction: The need to improve oneself and correct mistakes and shortcomings.</td>
<td></td>
</tr>
<tr>
<td>(DFD) Defendance: The need to stand up for one's rights and defend oneself.</td>
<td></td>
</tr>
<tr>
<td>(DEF) Deference: The need to follow the advice and guidance of those with experience and authority.</td>
<td></td>
</tr>
<tr>
<td>(DOM) Dominance: The need to assert leadership and act in a commanding and persuasive way.</td>
<td></td>
</tr>
<tr>
<td>(EXH) Exhibition: The need to express ideas and exhibit one's talent and abilities.</td>
<td></td>
</tr>
</tbody>
</table>
(GRA) **Gratitude**: The need to be appreciative, thankful, and grateful.

(HAR) **Harm Avoidance**: The need to avoid harm and danger.

(INF) **Inferiority Avoidance**: The need to avoid failure, inadequacy, and inferiority.

(NUR) **Nurturance**: The need to give aid and comfort to others.

(ORD) **Order**: The need to systematize, organize, and put things in order.

(PLA) **Play**: The need to play, have fun, and enjoy oneself.

(REJ) **Rejection**: The need to resist pressures to do things one does not wish to do.

(SEN) **Sentience**: The need to appreciate the beauty and harmony of one's surroundings.

(SEX) **Sex**: The need to satisfy sexual desire.

(SUC) **Succorance**: The need to receive help, support, and assistance.

(UND) **Understanding**: The need to learn, understand, and find the meaning of things.
APPENDIX B

Definition of Picture Identification Test Scores

1. **ATT** -- The Attitude score indicates whether a subject considers the expression of a need to be generally positive or negative. A positive attitude encourages expression and a negative attitude inhibits expression of the need. The higher the Attitude score the more negative is the attitude toward the need.

2. **CENPER** -- A three dimensional spatial model of a subject's need system reveals a central or peripheral location of a need. The score is an indication of how a subject's needs are located differentially from the Target model. The Target model placement of a need is 0.0, a positive score indicates a more peripheral location and a negative score indicates a more central location of a need. Needs which are too central (more negative) are more frequently activated and experienced and a likely source of problems. Needs that are too peripheral (more positive score) are believed to be more rarely expressed but also expressed more strongly.

3. **CONFU** -- The Confusion score. Each of the three Target model dimensions (Combative, Personal, Competitive) have independent structures, some individuals have a dimension that is a mixture of two dimensions. A significant interdimension Confusion score (i.e., .40 or higher) reduces the distinct alternative modes of action for meeting one's needs, thus limiting
the individual's effectiveness and flexibility. Confusion of the dimensions limits a person's flexibility and effectiveness in finding alternative ways to satisfy their needs.

4. **DIFDVM, DIFDVF** -- The Differential Deviation score for Male Pictures and the Differential Deviation score for Female pictures indicates whether a subject is in good agreement with others in their beliefs about how males and females express needs. A subject's DIFDVM and DIFDVF scores are based on deviations from the Target model need associations. A score of 13.0 or higher indicates unrealistic beliefs about the expression of a particular need with regard to the indicated sex. A score of 5.0 or less indicates realistic beliefs about the expression of a particular need for the indicated sex.

5. **EGO** -- The Ego Need score. Six of the 22 needs cluster consistently when data for normal groups are analyzed. Needs in this cluster are termed "ego needs" because they assert basic desires for self-enhancement and motivate vital survival oriented actions. The six needs fall into two groups. One group is termed the 'ego goal needs' (Autonomy, Dominance, and Sex). The other three needs implement the expression and satisfaction of the ego goal needs and are called 'ego implementing needs' (Aggression, Defendance, and Rejection). Each need shares a Dyad Association Deviation Score with each of the other five ego needs. The five ego need dyads of a particular ego need are averaged to produce the Ego Need Score for the need.
6. **JUDG** -- This is a measure of how a subject's perceptual judgment of the expression of each need correlates with the judgment of others. People with a high judgment correlation for a need satisfy the need more effectively than those with low correlations because they interpret external cues for the need in similar manners as others.

7. **PROB** -- A Problem score is computed for each need and is composed of weighted distributions from four other PIT scores (SUMSA, CPDEV, JUDG, and EGO scores). It is the best indicator of how well each need fits into the overall pattern of a person's motivation system. The higher the Problem score for a need, the greater the possibility of conflicts and frustrations related to the need.

8. **SUMSA** -- The Sum of the Absolute Deviation Dyads for each need. A Dyad Association Deviation Score is the difference between the Target ipsatively standardized Dyad Association score and the subject's corresponding ipsatively standardization Dyad Association score. The difference is computed so that a negative Dyad Association Deviation score indicates that the subject associated the pair of needs in the dyad more closely than did the average Target model subject. A positive Dyad Association Deviation score indicates that the subject associated the pair of needs in the dyad more distantly than did the average Target model subject.
9. **SUMSM, SUMSF** -- The Sum of the Absolute Deviation Dyads for each need based on Male Pictures and the Sum of the Absolute Deviation Dyads for each need based on female Pictures provides a measure of a subject's overall male and female picture association deviations for that need. The Dyad Association Deviation score is computed for each pair of needs based on the male picture ratings and for each pair of needs based on the female picture ratings. The SUMSM and the SUMSF scores indicate deviations in a subject's beliefs about how men or women express needs. Extremely high scores suggest that the subject is more unrealistic in his or her beliefs about the sex with the large deviation scores.

10. **VAL, VALZ**-- The Valence score is the sum of the 12 ratings for each need on the 1 to 5 rating scale for the strength of expression of a need (PIT, Part II). The range in the sum of the 12 ratings is 12 to 60. A strong Valence score (low end of the VAL scale) for a particular need indicating that the subject perceives the need strongly in most facial expressions and that this may be a projection of the subject's oversensitivity and concern about the need. A low Valence score (high end of the VAL scale) for a need indicates that the subject denies the expression of the need in others and may thus repress concerns about the need. The mean and standard deviation of the subject's 22 raw Valence scores are used to ipsatively normalize the Valence scores (VALZ). The VALZ scores are computed so that a positive score means relatively
high valence and a negative score means relatively low valence. The ipsative standardization is computed to reduce possible scale bias on the part of subjects.

11. **WGTPC** -- The first three WGTPC scores indicate the Combative, Personal, and Competitive dimension weights. The fourth score is the Need Differentiation Sum. The Dimension weights indicate the emphasis given to each dimension in an individual's motivation system. The average Combative dimension weight is approximately 40% and the Personal and Competitive dimensions are approximately 30%. Overweighted or underweighted dimensions may create imbalances in a motivation system that can cause personality problems. The higher the dimension weight, the greater the emphasis on that dimension. The Need Differentiation Sum is calculated by adding the absolute scale locations of all needs in each dimension. The greater the score the more "space" the need distribution occupies in the three dimensions. The higher the Need Differentiation Sum, the greater the ability to analyze and organize motives to maximize need satisfaction.
Appendix C

Picture Identification Test Score Descriptions

<table>
<thead>
<tr>
<th>Label</th>
<th>n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMAT</td>
<td>3</td>
<td>Dimension Scores</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$r$ between Subject and Target locations of needs for each dimension. Normative score. Low = deviant.</td>
</tr>
<tr>
<td>WGTPC</td>
<td>4</td>
<td>Measure of confusion (lack of independence) between each pair of dimensions. Low = good.</td>
</tr>
<tr>
<td>CONFU</td>
<td>6</td>
<td>Measure of confusion (lack of independence) between each pair of dimensions. Low = good.</td>
</tr>
<tr>
<td>RATTD</td>
<td>3</td>
<td>Dimension Scores</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$r$ between Subject's need attitude scores and Target need locations for each dimension. High = positive.</td>
</tr>
<tr>
<td>RATTFD</td>
<td>3</td>
<td>RATTD based on female pictures.</td>
</tr>
<tr>
<td>RATTMD</td>
<td>3</td>
<td>RATTD based on male pictures.</td>
</tr>
</tbody>
</table>

Association Need Scores

<table>
<thead>
<tr>
<th>Label</th>
<th>n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMSA</td>
<td>22</td>
<td>Subject's association deviations from Target model need associations. Normative score. High = deviant.</td>
</tr>
<tr>
<td>SUMSF</td>
<td>22</td>
<td>SUMSA based on female pictures. Normative score. High = deviant.</td>
</tr>
</tbody>
</table>
SUMSM 22 SUMSA based on male pictures. Normative score.
    High = deviant.

DIFDVF 22 Association deviations for female pictures (SUMSF)
    relative to all pictures (SUMSA). Normative score.
    High = deviant.

DIFDVM 22 Association deviations for male pictures (SUMSM
    relative to all pictures (SUMSA). Normative score.
    High = deviant.

DVZ 3 Z scores for DIFDVF and DIFDVM sums and difference
    between the two. Normative score absolute. High =
    deviant. Abs high = deviant for DVZ 3 (difference
    between DIFDVF and DIFDVM).

RASSMF 22 r between Subject's male and female picture
    associations for each of 22 needs.

EGO 6 Association deviations based on 6 EGO needs.
    Normative score. Abs high = deviant.

NONEGO 16 Association deviations of 12 non-ego needs from 6
    ego needs. Normative score. Abs high = deviant.

CENPER 22 Central-peripheral location of need in Subject's
    needs system. High = peripheral.

CPDEV 22 Deviations from Target model of central-peripheral
    locations of needs. Normative score. High = deviant.
Perceptual Judgment Need Scores

Judg 22 $r$ between Subject and Target group (mean) ratings of strength of need. Normative score. Low = deviant.

VAL 22 Subject's rating of strength of the need across all 12 pictures. Low = strong.

VALZ 22 Ipsatively standardized VAL scores. High = strong.

Attitude Need Scores

ATT 22 Positive-negative value associated with need. Low = positive.

ATTF 22 ATT scores based on female pictures.

ATTM 22 ATT scores based on male pictures.

DEVATT 22 Deviation of ATT scores from Target model values. Normative score. Abs high = deviant.

Combination Need Scores

Prob 22 General indicator of problems for a need based on SUMSA, CPDEV, EGO, and JUDG scores. Normative score. High = deviant.

ORG 22 General organizing power of need in Subject's need system based on VAL, ATT, and CENPER scores. High = positive

Note. $n$ stands for the number of scores in the set.
REFERENCES


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