The Role of Depression in College Student Attrition

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THE ROLE OF DEPRESSION IN COLLEGE STUDENT ATTRITION

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THE ROLE OF DEPRESSION IN COLLEGE STUDENT ATTRITION

Jeffrey McCoy Peix  August 1984  43 pages

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This study investigated the relationship between clinical depression and college GPA, which has been shown to be directly related to college student attrition. Scores on the Depression scale of the MMPI (MMPI-D) and the Beck Depression Inventory (BDI) were collected from 33 students on academic probation (AP) and 36 students in good standing (GS). All scores were standardized and the mean of the standardized scores on both inventories was computed for each subject. The AP and GS group means were compared using the t-test on the raw scores of both inventories as well as the means of the standardized scores. Mean differences were nonsignificant on the MMPI-D t(67) = 1.5918595, p > .05 and on the means of the standardized scores z = 1.2804, p > .05. The mean difference on the BDI raw scores was significant, t(67) = 2.2398966, p < .05, but this t-value may be spuriously high due to low within-group variance. Pearson-product moment correlations were computed between BDI scores and GPA (r = .0011) and between the MMPI-D scores and GPA (r = .0018). These correlational indices clarify the absence of a relationship between GPA and clinical depression. These results
supported a failure to reject the null hypothesis that there is no relationship between clinical depression and college achievement. It was concluded that the common pattern of response of students placed on academic probation should not be characterized as psychological depression.
CHAPTER 1

Introduction

In the late 1970's and early 80's, a trend of decreasing college enrollment began to pose a long-term threat to the resources of higher education. Although the rate of student attrition has remained remarkably stable throughout the history of higher education, it has attracted increasing attention as a factor contributing to the decreasing student enrollment (Tinto, 1982). Writers continue to express the need for investigation of factors which contribute to the loss of students (Wilder, 1981). This study will take a psychological approach to the investigation of student attrition.

The responses to this need for investigation include a variety of approaches (Pantages and Creedon, 1978). One trend of study reviews the background characteristics of students who do not persist in college (e.g. Gosman, Dandridge, Nettles, & Thoeny, 1983; Smith, 1982). These factors include age (Sexton, 1965), sex (Demos, 1968), and socioeconomic status (Summerskill, 1962) with generally little agreement (Pantages and Creedon). This approach may be informative in defining the existing population of non-persisting students, but it is less informative in developing an understanding of student attrition with implications
for intervention techniques which would aid those students who wish to complete a college degree.

The investigations of academic factors associated with attrition have produced mixed results suggesting a generally indirect relationship to attrition. High school performance, for instance, is an accurate predictor of success in college, but only indirectly predicts persistence (Morrisey, 1971; Sexton, 1965).

There has been some work in the area of personality correlates of nonpersisters. Heilbrun (1965) reported that the primary differences between persisters and dropouts on personality measures are reflected in the Socialization (So) and Responsibility (Re) dimensions of the Minnesota Multiphasic Personality Inventory. Rossman and Kirk (1970) had some success in finding differences on the Omnibus Personality Inventory between voluntary withdrawals and those dismissed on academic grounds. The results of this area of investigation are not yet consistent enough to support the use of personality measures for prediction of persistence (Pantages and Creedon, 1978).

One model of the student dropout process which attempts to account for several variables stresses the role of the institution in the individual's integration into the academic and social systems of college (Tinto, 1975). This is referred to as the person-environment fit model (Pascarella, Duby, & Iverson, 1983). The hypothesis here is that dropout behavior results from a poor fit between person and college.
The emphasis of this model, however, is on those students who voluntarily withdraw.

Tinto (1975) emphasizes the importance of making clear the distinction between those students who voluntarily withdraw and those who are dismissed on academic grounds. Pantages and Creedon assert that the distinction is not a useful one. The research on student attrition almost exclusively deals with undifferentiated withdrawals (both voluntary and involuntary). The only variable reported as an adequate predictor of involuntary withdrawal alone is grade point average (Edwards and Waters, 1983), and the only appropriate intervention is seen by some as skill remediation (Pantages and Creedon). No effort is made to account for psychological factors which might systematically contribute to a student's inability or unwillingness to persist.

The population of students whose experience has not been thoroughly investigated in the research on student attrition is that group of students who withdraw because of poor academic performance yet have an adequate level of academic ability to earn a college degree.

Tinto (1982) points out that most models of student attrition are designed to explore particular types of dropout behavior in the clearest possible terms, and so these investigations do not offer a comprehensive model of student attrition. From this perspective, the purpose of this study
is to examine one possible source of causation for attrition involving academic deficiency.

Reactive depression, which is event- or situation-specific depression, has been suggested as the typical response to the stress of school on elementary and secondary school children. Thoresen and Egleston (1983) report that the experiencing of an imbalance between academic demands and intellectual abilities may lead to such cognitive effects as a deficit in self-esteem and the formation of beliefs about being a failure. They suggest that this experience leads to the evolution of learned helplessness: the response patterns of the individual are perceived to be unrelated to the actual consequences.

Martin E. Seligman (1975) suggests a direct link between a learned helplessness experience and the manifestation of depression. When individuals are exposed to a situation in which they cannot control the outcome, they will develop the expectation the the outcome is independent of their responses. This expectation reduces the motivation for voluntary responding which might control the outcome, interferes with the learning of response patterns which will control the outcome, and, if the outcome can be characterized as aversive, this expectation will be accompanied by an emotional disturbance in response to the environmental cues accompanying the outcome (Seligman, 1975).

Although the college environment differs greatly from that of elementary or high school, the sources of stress
which might lead to depression are much more varied. A social skills deficit, for instance, becomes more crucial in the much less structured and much more novel social environment of college. The stress associated with an imbalance in the intellectual demands of college and the intellectual resources of the student becomes a crucial factor in the development of the expectation that outcome is independent of response pattern. This expectation of helplessness is then not only the effect of academic failure but also a potential cause of continued failure.

The role of depression in the academic failure of college students is a potentially complex one. Depression may come after academic failure as a result of that experience, or it may come before academic failure as a result of other experiences. Depression is typically associated with the suicide attempts of college students. Factors considered to have a causal role in this depression include the breaking of family ties, indecision about vocational choice, problems with sexual intimacy, and some sort of emotional loss, such as the breakup of a romantic relationship (Miller, 1975).

Whenever depression occurs and for whatever reasons, it may then be a cause of either initial or continued failure. In college, much more responsibility for adjustment to academic demands and the fulfillment of academic requirements is placed on the student. When a student's academic standing does not meet university requirements, it is his or her responsibility to take whatever measures are appropriate
(e.g. seek academic counseling, acquire tutoring services, appear before probation committees, or develop study habits) necessary for continued enrollment.

Observation and experience indicate that students on academic probation have a common pattern of response. This pattern of responding includes both a decrease in many adaptive responses and an increase in maladaptive ones. Class attendance decreases, especially in classes which offer them the most difficulty. They do not actively seek counseling or do not respond when counseling is offered.

Additionally, responses which offer immediate reward become more frequent. Study time is replaced with television watching, or a variety of other pleasurable pastimes. Participation in social activities increases as well. In general, the failing student does not respond to the problem of falling grades with a set of adaptive responses. Instead of attacking the problem, they seem to become paralyzed, and the rate of those responses which might improve their grades decreases.

Those students who respond to stress with a depressive reaction are less likely to take the steps necessary to improve their academic standing. They are more likely to let a previously satisfactory level of achievement begin to decline and are then unable to stop the decline. Academic failure continues, resulting in continued depression. This depression is then a result of academic failure and contributes to continued failure. Those students who do not
respond to stress associated with the college environment or to academic failure in particular with depression are psychologically better equipped to increase or maintain a successful academic performance, persist in enrollment, and earn their degree.

The investigation of factors related to attrition is extensive. Recently, the relationship of certain factors typically related to withdrawal in previous literature (i.e. background characteristics) has become increasingly clear. Improved methods and the introduction of theoretical models have contributed to more thorough and reliable studies and a clearer understanding of the phenomenon of dropout. The following review of related literature will serve to trace the lines of causation and reasoning as they have been empirically revealed and theoretically developed.

The problem to be addressed is the identification of psychological factors which systematically affect the academic performance and, therefore, the rate of attrition of college students. The research cited in this and the following chapter and the common response set of failing students indicate that clinical depression may be such a factor.

Tutoring, remediation, and strict admission criteria all address the problem of students who lack the academic preparation or ability necessary for success in college. If psychological factors which are contributing to academic failure can be identified and treated, then some students'
chances of persisting until graduation would be improved. This would clearly benefit both the students themselves and higher education by reducing college attrition.
CHAPTER 2

A Review of the Related Literature

Attrition in higher education is a widely researched phenomenon. Sexton (1965) provides a review of the literature on attrition for the twenty-five years between 1940 and 1965. Factors investigated at that time involved primarily background characteristics of students (family background, age, sex, etc.). Pantages and Creedon (1978) provide an extensive review of more recent efforts into the investigation of attrition.

In his review, Sexton's conclusion concerning the role of age in attrition was that students entering college at or near the normal age had the best chance of graduating. This difference, however, is more likely due to other factors which contribute to problems which arise for the unusually young or old student (such as social integration). Age itself would seem to have no direct relationship to attrition.

The study of sex differences is marked by conflicting results. For instance, while Demos (1968) reported a significantly higher dropout rate for men, Panos and Astin (1968) reported that when grade point average (GPA) is controlled, women have the higher dropout rate. Other findings indicate that sex differences in dropout depend upon certain characteristics of the college (e.g. sex ratio, type of institution;
see Pantages and Creedon). Again, it is clear that there is no direct relationship between sex and attrition.

Contradictory findings can also be found in the study of socioeconomic factors as a predictor of attrition. Morrisey (1971) found students with a low socioeconomic background as significantly more likely to persist that those with higher socioeconomic status. Sewell and Shah (1967) found the opposite to be true when they controlled for intelligence; those of higher socioeconomic status were more likely to graduate. Investigations of background characteristics have failed to produce consistent findings which allow the inference of a direct relationship between such factors and attrition.

Pantages and Creedon suggest that academic variables such as high school GPA and class rank are "the strongest single variable predictors presently available in the study of persistence" (p. 62). There is evidence for a more indirect relationship between high school performance and attrition. Morrisey (1971) found that high school class rank was significantly related to first-semester college GPA, which, in turn, was significantly related to persistence. So while high school performance predicts college success, it only indirectly predicts persistence.

Fewer efforts have been made to investigate personality correlates of attrition. Hannah (1971) used the aptitude measures of the American College Test (ACT) and the Scholastic Aptitude Test (SAT) scores and the scales of the Omnibus
Personality Inventory (OPI) to examine differences between dropouts and persisters. He found that dropouts had significantly lower ACT and SAT scores than persisters. He also found differences in the scales of Complexity, Impulse Expression, Personal Integration, Anxiety Level, Altruism, and Response Bias of the OPI. The direction of the differences suggested that dropouts are more complex, more impulsive, more anxious, less personally integrated, less altruistic, and less willing to exert an effort to make a good impression on either their peers or their teachers than are persisters.

Differences between persisters and dropouts have also been reported using the Personality Research Form (PRF) and the Minnesota Multiphasic Personality Inventory (MMPI) measures of personality (Mandal, Bucher, and Mauger, 1974). The PRF scales Need for Succorance, Need for Change, and Impulsivity as well as the MMPI scales Social Introversion, Schizophrenia, and EC-5 (an experimental Ego Control scale) all received substantial weights. These results characterize dropouts as being mildly alienated and estranged from their environment. The authors concluded that a simple adjustment-maladjustment dimension accounted for the personality differences between persisters and dropouts.

More recently, researchers have made efforts to develop predictor models for the phenomenon of dropout. Bean (1982) used a path analysis technique to derive a causal model of attrition. The independent variables which make up Bean's
final model in descending order of importance were intent to leave (the self-estimated likelihood of discontinuing one's membership in the organization), GPA, opportunity to transfer (self-estimate of how difficult it would be to leave that university), practical value (the degree to which one's education is believed useful in getting a job), certainty of choice (degree to which the student is certain that that institution is the right one), loyalty (the importance of graduating from that institution, instead of some other), family approval of university, courses (does the university offer the courses desired by the student?), student goals (the importance of finishing the degree to the student), and finally, the degree of certainty in the student's choice of career field and major. These ten variables combined accounted for nearly fifty percent of the variance in dropout.

Kowalski (1982) investigated the self-reported reasons for dropout among nonpersisters and found seven primary factors. In descending order of reported importance, these factors included parental pressure and family problems, dissatisfaction with the general atmosphere of school, poor student/faculty relations, a lack of basic academic skills, discouragement and unhappiness, and finally a perception of the college or university as failing in its purpose.

Edwards and Waters (1982) recently replicated their own work on the use of first quarter GPA and an index of satisfaction with the nonacademic part of college to predict attrition. The authors developed a personal needs/college
climate index from the Edwards Personal Preference Schedule and the College Climate Inventory which had not been previously used. The findings of their original study were successfully replicated as they found satisfaction with the nonacademic aspects of college and first quarter GPA to combine to predict attrition (r = .32). The personal needs/collage climate index was a nonsignificant predictor of attrition.

Tinto (1975) has developed the initial work of Spady (1970) into a theoretical model of attrition. Both authors begin with Durkheim's (1967) theory of suicide. Tinto's model is more explicitly developed and more extensively tested although this line of research continues to credit Spady with the initial development of the basis of Tinto's model.

Durkheim's theory states that suicide is more likely to occur when an individual's value system is quite divergent from the value system of the society, and when the individual has insufficient personal interaction with the society. Tinto simply treats dropout from the university as analogous to suicide. If suicide occurs when the individual is poorly integrated into the value and interpersonal systems of the society, then students drop out of universities when they are poorly integrated into the academic and social systems of the institution.

Dropout, according to Tinto, is a longitudinal process which must take into account factors such as individual
characteristics and motivational attributes for prediction. The student brings with him or her varying degrees of commitment to higher education and to the particular institution itself. Tinto's theory focuses on the interplay between these levels of commitment and the student's integration into the academic and social systems of the university.

According to Tinto (1975), when students experience integration into the systems of the institution, their "goal" (educational) and "institutional" (particular to the specific university) commitments are strengthened, and they persist. If the students do not experience integration, their goal and institutional commitments may weaken, and they may eventually drop out. The role of the students' background characteristics and motivational attributes is in the development of these goal and institutional commitments which more directly effect dropout behavior.

Pascarella and Terenzini (1979) reported results which lend partial support to Tinto's theory. The results of this study agreed with the results of an earlier study (Terenzini and Pascarella, 1978) which suggested that background characteristics have less to do with voluntary persistence than the student's experiences during the freshman year.

In further study (Pascarella and Ternzini, 1980) the authors faulted their previous work for using a "somewhat indirect...only surface assessment of Tinto's concepts of academic and social integration" (p.61). The authors then
developed an inventory of five-point Likert scale items as a tool for more direct assessment of these dimensions. The authors also statistically controlled for the background factors of sex, racial origin, initial program of enrollment (liberal arts or professional), SAT scores, high school class rank, number of high school extracurricular activities, the expected number of informal contacts with faculty, parents' combined annual income, mother's and father's formal education, the student's highest expected degree, the importance of graduating from college, choice of university attended (first, second, third, fourth, or lower choice), confidence in having chosen the right university, freshman year GPA, and the extent of involvement in extracurricular activities during the freshman year.

The inventory was administered to 763 subjects. Factor analysis revealed five dimensions as related to dropout. In descending order of alpha reliability, the first factor was Peer-Group Interactions, followed by an Interaction with Faculty dimension which assessed the impact of student-faculty informal interactions and the accessibility of the faculty to the students, and an Interaction with Faculty dimension which reflected the perceived faculty concern for student development and teaching. The next two factors were an Academic and Intellectual Development factor which reflected the student's self-perception of his or her own academic and intellectual growth while at the institution, and the Institutional and Goal Commitment dimension.
All of the resulting partial correlations between the factors and the criterion (persistence) when the above background characteristics were statistically controlled were significant at the .01 alpha level. The five factor solution accounted for 44.45 percent of the variance in the correlation matrix. Upon cross-validation, scores on the five scales corresponding to the dimensions revealed by factor analysis correctly identified 78.9 percent of persisters and 75.8 percent of nonpersisters.

Tinto (1982) later wrote that his theoretical model "sought to focus attention upon the impact the institution itself has, both in its formal and informal manifestations" (p. 688). There is agreement between Tinto's thesis and Pascarella and Terenzini's revealed factors of the impact of peer interactions (social integration), of the faculty and the student's perceived intellectual growth (academic integration), and of the student's stated goal and institutional commitments on the tendency to persist in college.

In summary of the findings of the research on background factors as well as the recent testing of theoretical models, withdrawals in contrast to persisters have been described as

. . . coming from families of lower socioeconomic families, having lower intelligence, having poorer pre-college academic preparation. . . , having lower college achievement; . . . coming from smaller towns (and) . . . smaller high schools, being less secular; coming from
families which were more religious, but less warm and supporting, having lower educational aspirations and lower commitment to remain in college; valuing education for vocational rather than intellectual reasons; spending less time studying; being less socially integrated; being less "mature;" having ideas and personal attributes which did not "fit" the college culture; and being less satisfied with the college or university they left. (Simpson, Baker, & Mellinger, 1980, p. 203).

Tinto's (1975) model, as mentioned above, describes the institution's impact on the student's decision-making process either to withdraw voluntarily or to persist. Tinto therefore also asserted that withdrawals due to academic failure are categorically different from withdrawals in good standing, and so only those students withdrawing while in good standing can form an appropriate sample for the study of factors involved in attrition. Pantages and Creedon (1978), on the other hand, assert that the distinction between voluntary and involuntary withdrawals is not a meaningful or useful one. The question has been addressed empirically (Simpson, et al, 1980).

Failing dropouts and dropouts in good standing were compared on background variables (father's education and income, minority status, home-town size, and family's social status), academic preparation, relations with family, commitment to college, educational aspirations, social
integration, satisfaction with institution, orientation to college, political orientation, and alternative life-styles. Failing withdrawals differed from withdrawals in good standing only on the background factors.

When the authors controlled for GPA, they found that these background factors have no independent relationship to withdrawal. These factors will not predict which of those in a group of failing students will withdraw. These factors will not predict which of those in a group of students in good standing will withdraw. These factors will aid in predicting those who will be in the failure group and those who will be in the good-standing group.

The authors concluded, like Pantages and Creedon, that for the purpose of investigating factors associated with student attrition other than college performance, the distinction between failing and passing withdrawals or between voluntary and involuntary withdrawals is not a meaningful or useful one. In future study, they suggest that the groups should be combined and college performance be included as a factor potentially related to withdrawal.

The conclusion (Simpson, et al., 1980) seems warranted that those variables generally represented as background characteristics have an indirect relationship to withdrawal. They are directly related to college performance which, in turn, is directly related to withdrawal. The recommendation that the groups of failing and passing withdrawals should always be combined when persistence is the criterion would
seem to depend on the relationship, if any, between the predictors being investigated and college performance. This relationship between the factors being investigated and college performance should be empirically tested rather than assumed.

Burton (1976) tested the relationship between some background characteristics and college GPA. SAT scores, high school grades, and the number of colleges attended as well as the self-perception of independence and community activity participation (as reported on 7-point Likert scale items) all showed significant positive correlations with college GPA. Father's education, hometown size, and self-perceptions of discipline, materialism, and social activity participation all showed significant negative correlations with GPA. These findings support the conclusion that background characteristics are predictors of college performance, rather than direct predictors of persistence.

Failing dropouts, dropouts in good standing, and persisters have been contrasted on a combination of psychological and academic factors. Morgan (1974) examined differences in dimensions derived from the ACT and the CPI on 256 males enrolled at the University of Kentucky. Those who withdrew while academically deficient were lower than persisters on all measures of scholastic abilities and the highest of all subjects on measures of autonomy and nonconformity. Those who were dismissed on academic grounds and did not reenroll were the lowest of all on measures of
academic ability, and were higher than most other students on measures of authoritarianism and nonconformity dimensions. This pattern of findings prompted the author to conclude that the "practical, career-oriented, extroverted conformist" had the best chance of graduating (p. 287). Conformity, then, may be a psychological factor with an indirect effect on persistence through college performance.

When Morgan examined the data from his study, he recognized a group of students who were dismissed on academic grounds yet continued to reenroll when eligible, sometimes making several attempts to return and persist. This group had academic abilities somewhat below average, but had the highest average standard score in social studies on the ACT. They also showed the greatest ability to think abstractly and to think scientifically. They were the lowest on measures of social discomfort, indicating that they had a tendency to form, maintain, and enjoy social contacts.

Rossman and Kirk (1970) previously used the OPI and the verbal, quantitative, and overall scores of the School and College Ability Test (SCAT) to compare voluntary withdrawals to involuntary withdrawals ("failures"). The sample of 472 subjects from the University of California, Berkeley, were divided according to sex for independent comparison. Male failures and voluntary withdrawals differed significantly on all standard scores of the SCAT, and females differed significantly on all scores except the quantitative section.
Females differed on seven of the OPI scales, the directions of which suggested that female voluntary withdrawals, in contrast to failures, were more reflective, more aesthetic, had a greater need for independence, were more other-directed, less concerned with practical matters, and more intellectually oriented. Males differed significantly only on two scales of the OPI: Thinking Introversion and the Masculinity-Femininity scale, suggesting that male voluntary withdrawals were more thoughtfully reflective and had greater esthetic interests than male failures.

Pandy (1973) conducted a direct examination of the personality characteristics of students on academic probation. In addition to looking at racial differences, Pandy compared probationary students with students in good standing on the 16 Personality Factor (16PF) test. Significant differences were reported on scales B, E, and G. Scale B responds primarily to intellectual ability, and probationary students were much lower on this scale than other students. Scale E described the probationary students as assertive, independent, and stubborn while the students in good standing appeared humble and submissive. On scale G, students in good standing scored in the direction of higher ego strength and conscientiousness while the probationary students appeared more expedient and of weaker ego strength.

The findings of the research on personality correlates of academic achievement indicate that the dimensions of conformity and autonomy seem to be related to college
performance. This trend of investigation is limited in that while it might potentially aid in the selection of those college applicants most likely to succeed, there are no implications for interventions which might improve some students' chances of persisting until graduation.

In terms of psychological, nonintellective factors which might be related to academic achievement, depression has been cited as playing an important role in the failure of elementary and secondary school children and adolescents (Thoresen and Eagleston, 1983). Strong correlations have been reported between depression in school children (measured via the Children's Depression Inventory) and impaired problem-solving of block designs (r=.64) and anagrams (r=.67) (Kaslow, Tanenbaum, Abramson, Peterson, & Seligman, 1983). Similar results have been reported in adults (Price, Tryon, & Raps, 1978).

Oliver and Burkham (1979) reported that depression touches one in six college students at any point in time. They also reported a significant negative correlation between depression and year in school with the higher rate of depression observed in underclassmen. The authors note that this is "consistent with but not necessarily because of" depressed underclassmen dropping out or failing before becoming upperclassmen (p. 669).

The Beck Depression Inventory (BDI) was the instrument used when Oliver and Burkham (1979) investigated depression in college students. No relationship was found between BDI
scores, sex, marital status, their interaction, or age. The authors divided the subjects into four independent groups. Two groups participated in single administrations (at different calendar points in time) and two groups participated in a double administration (at different calendar points in time) with a three-week delay between administrations. The different calendar points in time spanned seven weeks. There was no main effect for administrations at different points in the semester.

In the pooled double-administration groups, there was a significant decline in both recruitment and BDI scores upon the second administration. The authors offered three potential explanations: 1) the knowledge that their mental health would be monitored over the next few weeks had a therapeutic effect, or 2) the BDI is easily faked, and so "faking good" would give the appearance of improvement for the depressed individual wishing to avoid detection and referral, or 3) the more depressed students declined to participate in the second administration, dropping out of the study.

Wertheim and Schwarz (1983) used the BDI to separate a sample of undergraduates into depressed and nondepressed groups. When given the choice between immediate or delayed punishment, depressed males chose to delay punishment significantly more often than nondepressed males. Given the choice between an immediate reward and a greater reward after a three-week delay, depressed males chose the immediate
reward significantly more often than nondepressed males. The authors discussed these findings in terms of a present or future orientation. Depressed individuals seem to prefer to correct current aversive circumstances rather than to prevent future aversive circumstances. These findings have clear implications on the difficulty probationary students have in making unpleasant changes in their present behavior in order to achieve long-term success in school.

Smits and Oliver (1982) had a sample of college students complete the BDI, the College and University Environment Scales-II, and the Family Environment Scale. Each of the two latter scales was completed twice by each subject: once with the instruction to consider the actual environment and once with the instruction to consider the ideal environment. All subjects fell into either a mildly depressed (MD) group or a nondepressed (ND) group. The difference between actual and ideal environments was significant for the MD students on both scales with more negative views being held toward the actual environment. The difference between the MD and ND students views of their actual environments was also significant.

The tendency for depressed students to have significantly more negative views of their college environment than nondepressed students could affect both direct interaction with the environment and the perceptions of the academic and social aspects of the institution outlined in Tinto's (1975) model of attrition. This implies both impairment of the
voluntary withdrawal decision-making process and impairment of academic performance through the inability to alter long-range behavior patterns for an extremely delayed reward of improved grades.

If a relationship between depression and simple attrition were to be established, a problem would still remain. Would this relationship be directly between depression and the tendency to withdraw, or between depression and college performance, which is directly related to the tendency to withdraw, or some combination of relationships? Clearly the first issue to be sorted out is the relationship between depression and college performance so that the possibility of other than a direct relationship between depression and attrition can be ruled out or tentatively supported.

This study seeks to investigate the relationship between psychological depression and college performance. The stated null hypothesis shall be that psychological depression is unrelated to college performance.
Chapter 3

Method

Subjects

A total of 69 undergraduates from Western Kentucky University composed the sample used in this study. The names of 120 students were selected at random from a roster of all students on academic probation during the Spring, 1984, semester. These students were contacted by mail. Twenty-one of those students responded.

Additionally, volunteer subjects were elicited from four different sections of undergraduate psychology courses. To help insure a sampling of the full range of grade point averages (GPAs), one small undergraduate honor student section was included in the sample. Forty-eight students of those enrolled in these classes, some of which were later identified as being on academic probation, chose to participate in the study.

All students who completed both inventories and whose social security numbers were verified on the university's master file were included in the sample. Some of the social security numbers listed on the inventories did not appear on the university's master file. Some of the students were in their first semester of college work and, therefore, had no
GPA. Some of the inventories were returned incomplete. In all these cases, the inventories were eliminated from the study. Only one student was both contacted by mail and enrolled in one of the sampled psychology classes. His or her inventories returned through the mail were included in the study while the inventories returned during class were eliminated. The final total of 69 subjects included 33 students on academic probation, and, thusly, subject to academic dismissal, and 36 students considered in good standing academically.

Materials

Two scales were used with each subject in the study: the Depression scale of the Minnesota Multiphasic Personality Inventory (MMPI-D: Dempsey, 1964) and the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

The Minnesota Multiphasic Personality Inventory - Depression (MMPI-D) scale.

The MMPI-D (Dempsey, 1964) contains 57 true-false items. Each item has a keyed response (true or false), and the scale's total score is the sum of keyed responses made by an individual. The MMPI is a widely used clinical instrument and validation and reliability findings are readily available (see Dahlstrom & Dahlstrom, 1980).

Although the MMPI-D is considered to be a measure of the more stable personality trait of depression rather than a temporary swing of mood (Finkle, Glass, & Merluzzi, 1982),
the trait measured by the MMPI-D is thought to be a less
stable trait than those measured by the other clinical
scales of the MMPI. The MMPI-D responds to "the presence at
the time of testing a clinically recognizable, general frame
of mind characterized by poor morale, lack of hope in the
future, and dissatisfaction with the patient's own status
generally" (Dahlstrom & Dahlstrom, 1980, p.25).

The MMPI-D is composed of much more subtle items than
the BDI and, therefore, might be considered a more covert
measure of depression. Scale MMPI-D is considered one of
the three most subtle of the MMPI scales and is "less
subject to distortion" than the other scales (Dahlstrom &
Dahlstrom, 1980, p.129). Subjects would clearly be less
successful in attempting to "fake good" on the MMPI-D than
on the BDI.

The Beck Depression Inventory (BDI).

The BDI (Beck, et al., 1961) consists of 21 multiple
choice items. Each item offers four statements from which
subjects choose the most appropriate for their current state
of mind. Each item is concerned with one symptom of depres-
sion (e.g. crying, weight loss, sleep disturbance). The
four statements are simply four levels of frequency or se-
verity of each symptom (e.g. from not having a good appetite
to not having any appetite at all). A point value is as-
signed to each response, with 0 points being earned for the
least level of severity, or frequency, 1 point for the next
highest, 2 points for the next highest, and three points for
the greatest level of severity or frequency. The total score is the sum of all the point values for the chosen statements.

The BDI has been validated for use with college populations as a measure of depression (Bumberry, Oliver, & McClure, 1978). The investigators reported a decrease in the Pearson product-moment correlation between the inventory and psychiatric ratings from .77 with a one day delay between administration and psychiatric ratings to .30 with a 14 day delay. They emphasize that the BDI measures current mood rather than a personality variable, and so it is a state rather than a trait measure. The BDI has been used in the study of depression among college students since the validation by Bumberry, et al. (Oliver & Burkham, 1979; Smits & Oliver, 1982).

Procedure

Subjects were selected either from a list of all students on academic probation or from four undergraduate psychology classes. All students were enrolled at Western Kentucky University. The students on academic probation were sent a cover letter asking them to participate in a study of the psychological characteristics of college students by completing the enclosed inventories and returning them in the enclosed envelope.

Those enrolled in the four undergraduate psychology classes were similarly invited, by the author, to participate in the study. Although volunteers were elicited
in a classroom setting for some of the subjects and through the mail for others, all students were asked to complete the inventories on their own and return them (students from the psychology classes took the inventories home with them overnight). The students were informed that a decision not to participate, exercised by simply not returning completed inventories, would be neither questioned nor acknowledged.

All subjects were asked to list their social security numbers instead of their names on the top of the front page of the materials. They were informed that this would enable the author to categorize them properly without overtly identifying them. All subjects were assured of their anonymity.

Inventories were collected through the mail with a maximum of a four day delay between the initial mailing and return, and were collected in class after a maximum of a three day delay between distribution and collection.

**Design and Analysis of the Data.**

The data available on each subject included his or her college GPA and three scores indicating the presence and severity of depression. Two scores were simply the raw scores from each inventory (see Materials, above), and the third score consisted of the mean of the standardized scores on each inventory. The procedure of averaging the standardized scores is one which has been used with the administration of these instruments to college students, and which allows for the discrimination of group differences even if the
range of depression across the entire sample is somewhat limited (Finkle, Glass, & Merluzzi, 1983).

In order to maintain continuity between this study and related research (Morgan, 1974; Pandy, 1973; Simpson, Baker, & Mellinger, 1980), subjects were grouped according to their academic standing. This formed a two-group comparison: students in good standing vs. students on academic probation. Mean differences were tested for significance using the t-test. The three depression scores for each subject afforded three two-group comparisons.

Studies investigating the relationship of student background characteristics with college GPA (Burton, 1976) and with dropout (Bean, 1982) have reported correlational indices to describe results. In this study, Pearson product-moment correlations were also computed between each instrument and college GPA for an indication of the strength and direction of the relationship between depression and college performance.
Chapter 4

Results

The experimental design allowed for one two-group comparison for each of the depression inventories and one two-group comparison using the mean of each subject's standardized inventory scores. The two groups were students on academic probation (AP; N=33) and students in good standing (GS; N=36). The observed t values for these three two-group comparisons indicate whether the difference between the means of the two groups was statistically significant. Correlation coefficients between the scores on each inventory and the students' cumulative GPAs indicated the strength and direction of those relationships.

The two groups did not differ significantly on the MMPI-D, t(67)=1.5918595, p>.05. Group means of raw scores were GS=28.166667 and AP=23.15. Group variance values were GS=-316.91429 and AP=-11.89867. The Pearson product-moment correlation between MMPI-D raw scores and cumulative GPA was r=.0018, which indicated the absence of a relationship between the variables. These results on the MMPI-D scores support a failure to reject the null hypothesis.

The observed t value calculated on the BDI scores was significant, t(67)=2.2398966, p<.05. Group means were GS=4.9166667 and AP=8.2727. The variance for each group was
GS=18.82 and AP=60.4545.

The difference between these two means does not initially seem great enough to be statistically significant, especially when all scores less than 9 on the BDI are considered to be in the nondepressed range (Bumberry, et al., 1978). The Pearson product-moment correlation between scores on the BDI and cumulative GPA was r=.0011. This means that less than one percent of the variance in these two variables is shared.

It should be noted that the standard deviation for the AP group was only 7.7752492 and the standard deviation for the GS group was even less at 4.338204. With this little variance associated with the scores of each group, a very small difference in group means is liable to be statistically significant. Under these circumstances, and in the case of this study, this significance is not an accurate reflection of the relationship between the variables. The finding of a significant mean difference would in this case lead to the erroneous rejection of the null hypothesis and a Type I error.

The third comparison involved standardizing the scores for each subject on both inventories, obtaining the mean of the standardized scores for each subject, and calculating a z-score value. With alpha set at .05, the value would have to be greater than +1.96 or less than -1.96 for the difference to be statistically significant. The value was actually 1.2804 and, thus, was nonsignificant.
The comparison of standardized data was included so that if the range of inventory scores over the entire sample was limited, a significant difference between means which might not be detected using raw scores would be detected using standardized data. That is, this comparison was intended to help insure that a relationship which existed would not be overlooked. The case is, however, that due to minimal within-group variance, a relationship which does not exist is apparent in the comparison of the BDI scores.

A further examination of the data revealed that 20 scores on the MMPI-D from the total sample of 69 fell one standard deviation above the normal mean. Twelve of these 20 were from the AP group. Only two scores from the total sample exceeded two standard deviations above the normal mean: one each from the GS and AP groups. Elevation of two standard deviations on an MMPI scale is considered clinically significant.

Bumberry et al. (1978) established ranges of scores on the BDI which were diagnostically meaningful for a university population. These ranges include four categories: nondepressed (0-9), mildly depressed (10-15), moderately depressed (16-23), and severely depressed (24 and above).

Fifty of the 69 students in this study fell into the nondepressed range. Twenty-eight were in the GS group and 22 were in the AP group. A total of 13 students scored in the mildly depressed range: 8 from the GS group and 5 from the AP group. All of the subjects in the GS group were in
one of these first two categories. Four subjects from the AP group scored in the moderately depressed range. Two students from that group fell into the severely depressed category.

These results indicated a failure to reject the null hypothesis that there is no relationship between depression as measured by the MMPI-D and the BDI and college performance as indicated by cumulative GPA. The observed t values for two of the comparisons were nonsignificant. Although significance was observed on the BDI, the extremely weak correlations on both instruments indicate that this significance is due to the lack of variance around each group mean. Rejection of the null hypothesis on the basis of the BDI comparison would constitute a Type I error.
Chapter 5

Discussion

The results of this study indicated that psychological depression was not directly related to academic performance. The hypothesis that depression, occurring for whatever reasons, contributed to poor academic performance which contributed to a greater probability of dropout was not supported by these findings. Although the occurrence of depression in college students has been previously demonstrated (Finkle, Glass, & Merluzzi, 1983; Oliver & Burkham, 1979; Smits & Oliver, 1982), the results of this study revealed that this depression was not consistently related to academic failure in college.

It has been indicated that the finding of a significant difference between students in good standing and students on academic probation on the BDI was not an accurate reflection of the relationship between depression and achievement. While some students on academic probation did score in the moderate and even severe ranges of depression, the relationship was not consistent within the academic probation group. The very low correlational indices on both instruments clarify the absence of a relationship between depression and failure in college.

The common response set of students on academic probation cannot be characterized, as this study shows, as
clinical depression, but is perhaps a situation-specific depression. It is those patterns of behavior which are related to college performance which become less frequent and more difficult to improve while incompatible response patterns which are unrelated to achievement increase (see Chapter 1, Introduction).

An inventory designed to identify students subject to an academically disabling response pattern would not tap clinical depression but a number of other factors. These factors might include the tendency toward avoidance of stressful situations, toward the inability to postpone reward, and toward a preference for reward-certain responses over problem-relevant responses. It would seem that, instead of clinical depression, failing students suffer an academic depression in which the frequency of only academically oriented responses decreases dramatically.

Clinical depression may be otherwise related to dropout. For instance, persisters may in general be less subject to depression than dropouts, or academically deficient dropouts may be more subject to depression than academically deficient persisters. Studies of the personality correlates of persisters indicate that a simple adjustment-maladjustment dimension accounts for the personality differences between persisters and all dropouts (Maudal, Butcher, & Mauger, 1974). Depression is only one part of maladjustment, and so studying depression alone further divides the
variance associated with maladjustment. Clear differences within this dimension are not likely to be found.

There is also a theoretical foundation for the link between depression and college performance which does not exist for any link between depression and general dropout. Students on academic probation are of generally lower academic ability than students in good standing (Morgan, 1974; Simpson, Baker, & Mellingen, 1980) and so need to invest greater amounts of time and effort to be successful in the same tasks as their academically superior classmates. A common problem, then, is the change of long-term behavior patterns (development of and perseverance with study habits). The inability to hold a "future orientation" and make long-term changes is associated with depressed students (Wertheim & Schwarz, 1983). While this line of reasoning initially supports a hypothesis that depression would be related to college failure (a hypothesis not supported by this study), there seem to be no theoretical grounds for expecting dropouts to be more depressed as a group thanpersisters.

Another theoretical link between depression and college performance was based on the similarity of the learned helplessness phenomenon to the experience of the failing student and Seligman's (1975) connection of depression to learned helplessness. This study was not intended to test any of these similarities directly. A link between failure in college and learned helplessness might be tested through
behavioral observations of students' response rates (e.g., class attendance, time spent attending to study) rather than through a measure of psychological depression.

As was noted above (see Chapter 2, Literature Review), Thoreseu and Eagleston (1983) report that some elementary and secondary school children and adolescents respond to the stress of the academic environment with depression which then plays a role in the academic failure of these students. If these findings have any implications on the failure of college students, then depression may in fact play a role in the short term success or failure in academics.

In this study cumulative (overall) GPA was used as the measure of performance. A study of the more immediate effects of psychological depression on achievement might include use of the students' current semester GPA as the criterion and measures of depression during that semester as predictors. In this study, the role of depression in college attrition was investigated; overall performance or academic standing has been linked to attrition.

While the results of this study do not indicate the presence of general group differences, there were a few individual cases of interest. All students who scored in the moderately and severely depressed ranges on the BDI were on academic probation. Depression is not a problem in general for failing students, yet the academic counselor or the faculty advisor should be aware that there will be occasional cases in which the student is unable to maintain
a satisfactory level of performance in school because of depression. The advisor's primary concern then, of course, is for the psychological well-being of the individual.

In summary, depression is not related to overall academic performance. While depression may have a more immediate, short-term effect on performance, it is not evidently related to academic standing, which has been shown to predict attrition. If depression is related to dropout, the relationship is not mediated through academic performance.

The statistical findings on the BDI raw scores do complicate the overall findings and the inferences which can be drawn from them. This is but one observation, and, although no clear relationship was observed here, the possibility that a relationship might be observed during replication cannot be entirely ruled out.
References


college attrition.  


Smith, A.D. (1982). A study of sex differences among student persisters and nonpersisters enrolled in a major urban