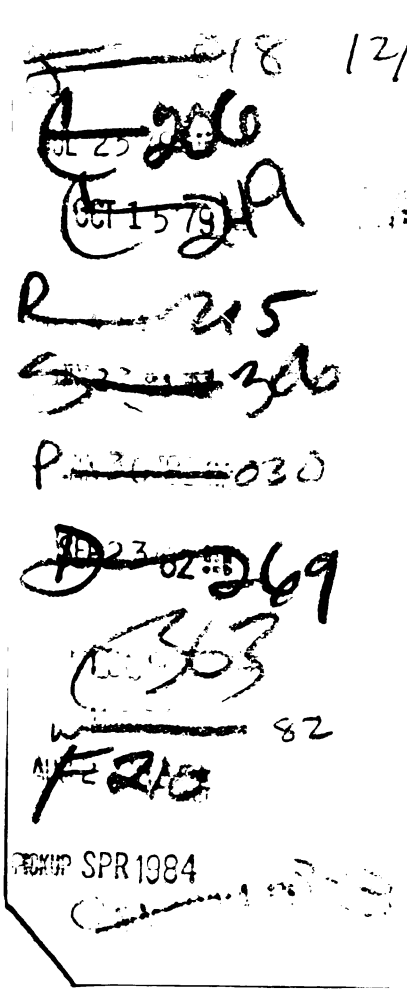
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ABSTRACT

THE EFFECT OF THREE MODELS OF STUDENT COUNSELING ON THE ADJUSTMENT OF FIRST-YEAR COLLEGE STUDENTS

By

Elmima Camillas Johnson

The purpose of this experiment was to evaluate the effects of three models of student counseling, race, and sex on the behavior and attitudes of first-year college students. The three counseling models tested were the Behavior Modification Approach, the Systemic Counseling Approach, and the Peer (no training) Approach. The participants were freshman clients and their sophomore, junior, and senior counselors. The study also attempted to identify those students who had difficulty functioning in the college environment and to subsequently determine the personal and environmental factors which are related to their academic performance.

The clients were 84 first-term, full-time students who requested counseling services from the university counseling center. Thirty counselors were selected from volunteers; they were offered course credit for their counseling activities. Clients were assigned to counselors of the same race and sex through a combination of random and forced assignment procedures. All counselors received an 18-hour general orientation. The Behavior Modification and Systemic counselors were given an additional 20 hours of skill

training. Counseling services were terminated at the end of the second academic term (20 weeks).

The experimental design was a three by two by two design. The three independent conditions were: counseling model, race, and sex. Dependent measures compared among client and counselor groups included self-perceptions, attitudes toward the educational process, counseling relationship variables, and academic performance measures, i.e., credit load and grade point average. Information was obtained from questionnaires administered to clients and counselors. Questionnaires were administered in September 1975 prior to client assignment and in March 1976 at the termination of the experiment. Additional information was obtained from student academic files, the trainer-supervisors, and case records. Two control groups were utilized in data analysis. The first group was composed of 206 freshman students who were enrolled in the university in September 1975. Stratified random sampling based on the racial and sex composition of client groups and client high school grade point distribution was used to select the first control group. The second control group was composed of the 31 clients who had fewer than two contacts with their counselors. Statistical analysis included the use of chi-square, single and repeated measures analysis of variance, and cluster analysis.

The major hypotheses in this experiment involved differences between counseling models. Few significant differences were found on attitudes toward self or higher education, counseling outcome, or academic performance. Furthermore, those differences that were

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The major hypotheses in this experiment involved differences between counseling models. Few significant differences were found on attitudes toward self or higher education, counseling outcome, or academic performance. Furthermore, those differences that were

obtained could be attributed to chance factors. Beyond the obvious possibility that no significant differences existed between counseling conditions, other factors might have accounted for these results. Explanations include the possibility of instrument bias and counselor variation in the implementation of specific techniques. A general decrease in self-esteem found for all client groups could possibly be attributed to the negative feedback about academic performance received from parents, peers, and university staff, while the increase in negative attitudes toward higher education for all counselor groups seemed to result from a disillusionment with higher education.

There were significant racial differences on outcome measures. White students generally held more positive attitudes than black students for both client and counselor groups. Race also correlated with perceptions of counseling--white students tended to rate counseling as more successful than black students. White students also performed better academically than black students for all groups. However, the racial differences in client academic performance did not reach statistical significance when clients were matched on high school grade point average. Therefore, it appears that it was not race, per se, that caused the difference in performance, but the nature of previous academic and personal-social experiences related to ethnic status.

Sex differences also appeared. Male counselors reported more positive attitudes than female counselors; the pattern was not consistent for client scales. Female clients, however, perceived

counseling as more successful than male clients. Although females tended to perform better academically than males, this difference did not reach statistical significance.

The associative analyses of client and counselor variables indicated that socioeconomic status, financial aid status, family composition, and previous academic performance were all significantly related to college academic achievement for all students. Attitudes toward higher education and self-perceptions were not highly correlated with academic performance. This finding is consistent with related research which shows no relationship between attitudes and performance. Nor did the results of counseling relate to academic achievement. It appears that more specific techniques focused on the acquisition of academic skills are needed. An interesting finding was that credit load and grade point average, although significantly correlated, appeared to measure somewhat different dimensions of academic performance. Other results of the associative analyses also indicated a need to redefine the areas investigated as well as the outcome measures chosen.

The analysis of the counseling process revealed additional significant findings. Those clients and counselors who liked each other and perceived each other as similar in values and feelings tended to rate counseling as successful. The consistency of this finding across counseling conditions supports earlier research which emphasized the influence of the relationship on feelings about therapy success. However, it is not clear from the results whether this perceptual outcome can be translated into behavioral improvement.

There was only partial support for the influence of counselor and client characteristics in determining the outcome of counseling. Socioeconomic status and race were correlated with outcome. There was, however, no strong relationship between counselor age, experience, or skill and counseling outcome.

In summary, the results of this experiment indicated that counseling services administered by students over a 6-month period did not produce significant changes in previously established patterns of behavior and perceptions. Based on these results a variety of innovations in counseling and educational services were reviewed. Emphasis was placed on the lack of coordination of these services, their limited availability, and the clear need to evaluate their effectiveness. The general public was also seen as playing a significant role in educational programming. The interdependence of activities in these areas was stressed.

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By

Elmima Camillas Johnson

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1976

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DEDICATION

To my parents, Joseph and Annie Johnson, who taught me to be proud of my heritage, to respect human frailties and most important, to believe in myself. From them I've learned that knowledge is the key to self-fulfillment.

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CHAPTER I

INTRODUCTION

The Problem

> The school is the primary agent for helping each person to realize his potential for freedom by developing his rational power. . . . The ordinary course of life cannot be relied upon to promote the ability to think well. . . . A specific environment is therefore preferable. That environment is usually called a college (National Education Association, 1964, p. 84).

This statement reflects the belief of a majority of Americans regarding the importance of postsecondary education in the intellectual growth and ultimately the economic, personal, and social achievement of individuals. However, in contrast to American society's codification in law of each citizen's right to primary and secondary education, participation in postsecondary education is a function of a multiplicity of social, economic, and personal variables which together tend to exclude a number of individuals.

There are a number of individuals whose adjustment to the educational system has been problematic as reflected in their grades and retention rates, their relationships with other students and faculty, and the relevancy of the educational environment to their individual goals and values. The labels applied to these persons have included culturally, educationally, socially, or economically disadvantaged; deprived; high risk; nontraditional; emerging; culturally different; atypical; developmental; underprepared; and new (Klingelhofer & Hollander, 1973; Astin, Bisconti, & Frankel, 1972).

These terms not only lack precision but when the same term is used by different authors its meaning may vary (Klingelhofer & Hollander, 1973).

The educationally disadvantaged are a heterogeneous group. They include students and nonstudents, all age groups, all economic strata, both sexes, and all ethnic groups. The nonstudents is defined as the adult with less than 8 years of formal education (Nadler, 1972). In contrast, the disadvantaged student spans all educational levels. What they all have in common is their poor academic performance, past or present, as defined by grades or standardized test scores. Another common characteristic is their multi-disadvantagement. Hence, most definitions refer to their economic and cultural problems as well as their educational ones. The disadvantaged college student is, in effect, the product of these economic, social, and education deficits which have characterized his earlier life. These deficits are seen as producing individuals "who exhibit few of the behaviors necessary for coping with the demands of the academic subculture of the college campus" (Froe, 1964). Part of their problem is their "newness" to higher education; i.e., they are often "first generation" college students (Cross, 1971). It is important to note, however, that the assessment of their ability varies among colleges. Thus students labeled disadvantaged at some colleges are among the intellectually elite on other campuses (Williams, 1969). Atkinson, Etzioni, & Tinker (1969) further note that the severely disadvantaged never reach college; thus, we are dealing with those who are minimally disadvantaged.

The disadvantaged college student can be divided into two categories: the economically disadvantaged and the minority student. The economically disadvantaged are "those individuals who possess acceptable academic credentials but who, because of financial disability, are inadequately represented in institutions of higher education" (Subcommittee on High Risk Students, 1970, p. 37). A family of four with an annual income of $5,038 or less is defined as living in poverty (U.S. Department of Commerce, 1975a, p. 41). However, "poverty is more than the shortage of dollars. It is the absence of encouragement, of confidence, of aspiration, and of achievement" (Proctor, 1969, p. 29). In relation to education, Sexton (1961) found that the overall achievement of children varies directly according to income levels. Thus in those public schools where the mean family incomes was $7,000, the students' achievement was significantly higher than that of children in schools where the family income was below $7,000. In terms of personal characteristics, a national survey of college freshmen found that "aside from the expected dissimilarities in demographic and background characteristics, the low income student does not differ dramatically from his more affluent classmates" (Holmstrom, 1973, pp. 19-20). On the other hand, Cross (1973) found that these students differed in interests, abilities, expectations, and particularly in the type of college environment they preferred. (Differences in sampling procedures and research designs may account for these conflicting results.) Even so, there were two points on which both authors agreed: Ethnic minorities, particularly blacks, are overrepresented

in this group; and low-income students are more dependent on institutional and government support than other groups. National statistics tend to confirm these facts. For in 1974 27.8% of black families were living in poverty as compared to only 7% of white families. (U.S. Department of Commerce, 1975a, p. 41). The increasing cost of higher education along with the increasing number of students competing for these funds make this characteristic a major barrier to a college education for the poor. Furthermore, Holmstrom found that if a student does not receive substantial financial support from his parents, his chances for degree completion are reduced about 10% (1973, p. 3). In terms of enrollment figures, students with family incomes of less than $5,000 constituted 17% of the freshman population in 1974 (U.S. Department of Commerce, 1975a, p. 42). This is in comparison to 54% of those students with family incomes of over $20,000 (U.S. Department of Commerce, 1975b, p. 6).

The minority student is another identifiable subgroup. This student can be defined as "that individual who possesses acceptable academic credentials but who, because of prejudice and discrimination on account of race, color or national origin, has been inadequately represented in institutions of higher education" (Subcommittee on High Risk Students, 1970, p. 38). Blacks, students with Spanish surnames, American Indians, and Asian Americans are included in this definition. Of course, not all minority students lack traditional academic credentials; however, the point being made is that race, not ability, may be the major barrier to higher education. Bayer (1972), in conducting a national survey of black college freshmen, found that

these students rated themselves higher on motivation and self-confidence, while nonblack students rated themselves higher on academic ability. In addition, blacks placed more emphasis on career success and graduate education. Financially, they depended more on loans and grants than nonblacks (U.S. Department of Commerce, 1975a, p. 98). Other racial differences included a predominance of females and older students among this group, and a significant difference in parental education. These students, furthermore, felt more of a need for compensatory service (particularly in math). Black students comprise the largest minority in higher education (Pruitt, 1973). In fact, in 1974 there were approximately 800,000 (9%) blacks in postsecondary institutions as compared to over 7,000,000 whites (14%) (U.S. Department of Commerce, 1975a, p. 98). Because they have been in the forefront of higher education, the literature on the disadvantaged predominates with studies on blacks. In fact, "when the topic of the disadvantaged comes up, one automatically thinks of black students" (Klingelhofer & Hollander, 1973, p. 8). Some educators profess that there has been a considerable increase in the enrollment of all ethnic minorities in higher education. For example, there has been a 56% increase for blacks since 1970 (U.S. Department of Commerce, 1975a, p. 3). "However, the percentage of minority students relative to the total number of students, is still low and falls short of achieving parity with population figures" (Klingelhofer & Hollander, 1973, p. 4).

In addition to these two groups, students are labeled disadvantaged if, regardless of race or income, they do not meet

traditional admission requirements. Thus veterans, women, the adult student, and the handicapped are also considered disadvantaged. In spite of this overlap and variation in definitions, there are several generalizations that can be made about these students: (1) There is a recognizable conflict between the traditional admissions criteria of colleges and the credentials of these students; (2) These students are underrepresented in the college population; (3) Their admission is based on the assumption that their deficits can be overcome. It is difficult to project future college enrollment figures. However, it is predicted that of the expected aggregate increase of 2.8 million undergraduates by 1979, the majority will be disadvantaged students (Klingelhofer & Hollander, 1973, p. 4).

Admissions, however, is only half of the problem. For a disproportionately large number of these students drop out before completing their academic programs. In terms of ethnic minorities, statistical analyses show that more than 70% of disadvantaged students drop out before graduation (Weber, 1968). In fact, attrition rates have been substantial for all groups. In terms of ethnic minorities there were three times as many freshmen as seniors in 1974. A substantial part of this difference was due to attrition during the first few years of college life. There are also sex differences. Women are more likely to discontinue than men, and black females have the highest attrition rate of all groups. Overall statistics are also a cause for concern, for among all

college students there were twice as many freshmen as seniors (U.S. Department of Commerce, 1975b, p. 5).

The reasons given for such attrition include intellectual deficiencies (Jensen, 1969), culture shock (Aikin, 1969), lack of information skills (Gamble, 1973), limited motivation and poor self-concept (Klingelhofer & Hollander, 1973), and financial problems (Trent, 1970).

Moore (1970) summarized the impact of these problems on the disadvantaged student:

> Almost without exception, disadvantaged students are students with a staggering number of problems. In this way they are not unique among college students. There is, however, one significant difference: The problems of disadvantaged students never seem to get solved. . . .
>
> The casual observer would not see the full range of problmes that many of these students must handle daily along with the business of attending college. The problems are as common as breathing. And the students are forced to devote a disproportionate part of their time coping (pp. 56-57).

Background Information

This section will be presented under four topical headings: (1) student characteristics related to academic achievement, (2) the effectiveness of educational support services, (3) the use of students as counselors, and (4) summary of findings.

Student Characteristics Related to Academic Achievement

The research on the characteristics of students and their relationship to academic achievement can be divided into two categories: research on their cognitive and scholastic functioning and studies which describe personal and environmental correlates of

success. Gordon (1970), Astin et al. (1972), and Klingelhofer and Hollander (1973) offer excellent review of this research, each citing more than 100 references. Epps (1969) cited a collection of journal articles focused on the correlates of academic success for blacks. The largest body of research concerns intelligence, the plasticity of intellectual development, and the validity of I.Q. test scores for minorities. Most of the literature confirms the dual influence of heredity and environment on the determination of intelligence. However, Jensen (1969) revived the argument for the genetic inferiority of blacks and so the debate continues. Williams (1974) leads those who argue that I.Q. tests are not based upon the cultural experiences of blacks and are therefore inappropriate for that population. In response, he has developed new tests geared to black experience.

A related controversy is the validity of admissions tests, e.g., SAT, ACT, and grades, in the prediction of academic success. It has been charged that these tests and grades measure experience, not potential, and as such reflect the poor quality of previous educational facilities, or worse, racism that exists in some, if not all, educational systems. The proponents and opponents of this hypothesis can each offer a number of research studies to support their views. Astin et al. (1972) reviewed the literature and concluded that tests are not accurate predictors. Green (1972) and Williams (1974) support these results. On the other hand, Stanley (1971), Newman (1971), and Clearly (1966) found that tests and grades were valid predictors of academic success for all students,

including minorities and low-income persons. These authors and others note that if these tests are biased, the same bias exists in the college grading process; thus the use of these tests is justified. The problem is in part due to the difficulty in defining and measuring academic performance and the variance in research designs used (Lavin, 1965). Studies of academic skills offer little new information, since regardless of the criterion the disadvantaged student is by definition one whose academic skills are minimal (Klingelhofer & Hollander, 1973).

Others question the criterion as opposed to the predictors. Academic achievement, as reflected in grades, has been the traditional criterion of success with graduation being the ultimate goal. It was assumed that this "success" in college would predict success in nonstudent roles, particularly employment (Lavin, 1965). However, recent studies have questioned the validity of this assumption. Astin (1972) sees the role of the university as making a positive difference in the student's life by improving his performance. He argues that the "best" applicants will not necessarily profit from a college education; thus the university should select those who most need its resources (i.e., the disadvantaged). Holland and Richards (1965) point out that the relationship between academic success measures and later life achievement are small. Lavin (1965) concluded that grades are important as an indication of competence in school work, but if the ultimate goal of higher education is to prepare the student to function within the larger society, then the emphasis on grades as the only criterion is unwarranted (p. 16). This viewpoint

is of particular relevance to the minority student, whose preparation for the future should include the acquisition of skills to mediate the discrimination in the larger society.

Personal and environmental characteristics related to achievement include socioeconomic status, family and social relationships, self-concept, prior educational experiences, and motivation. Low socio-economic status fosters a cluster of deficits both obvious and suspected (Trent, 1970). An obvious deficit is the lack of money which results in the student's dependence on sources of financial support outside of the family. Other correlates of socioeconomic status are poor nutrition and limited educational resources (e.g., books, etc.). Less obvious are the restrictions placed on the experiential component of the child's growth. Gordon (1965) found that low SES homes lack appropriate stimuli; while Riessman (1962) describes the detrimental effects of overcrowding, disorganization, and high noise levels. According to Deutsch (1967), these factors result in minimal intellectual stimulation and consequently lower intelligence. Others argue that it is not SES per se but family and peer relationships that are the critical variables. Vontress (1968) found that families of poor and minority students are often unsupportive of their college experience, while Pruitt (1970) speaks to family pressures to succeed. There have been few studies on the influence of peers on academic performance. However, "the general belief seems to be, no matter the level of talent or the degree of motivation of the student, background influences can act to inhibit or interfere with the individual's performance, or keep

him from realizing his capabilities to the fullest" (Klingelhofer & Hollander, 1973, p. 101).

An intervening variable is the student's perception of self in relation to his disadvantagement. The interest in self-concept is based on the belief that it bears a direct relationship to academic performance. (Some researchers, however, point out that it is academic self-concept, not general self-concept, that is related to achievement.) There is much evidence to support the correlation between these two variables. Even so, the research does not differentiate between ethnic groups or SES levels (Klingelhofer & Hollander, 1973). Moreover, the pattern of causal predominance remains unclear. In fact, there is only one point on which there is general agreement: that is, that self-concept can be predicted from ability level. Thus "students with a history of academic failure, exhibit low self-esteem in advanced academic settings" (Klingelhofer & Hollander, 1973, p. 52).

However, it is more than just previous academic failure which influences college achievement. Havighurst (1971) feels that the entire school experience influences academic success. Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, and York (1966) delineate the detrimental effects of school segregation on achievement. Deutsch (1967) found that early school experiences reinforce the negative self-concept of disadvantaged children, while Gordon and Wilkerson (1966) point out that the school's rejection of the child's cultural values and experiences limits the child's chances of early success and certainly reduces, if not destroys, the

child's interest in future education. In effect, the public schools refuse to accept responsibility for their failures; instead, they "blame the victim" (Ryan, 1970). In terms of higher education, the cumulative effects of these factors require a major psychological readjustment in the student if he is to succeed in college (Deutsch, 1967).

A crucial variable in success is motivation. In fact, it is this characteristic that colleges attempt to assess when students lack traditional admissions credentials (Trent, 1970). However, motivation is a difficult concept to define. Crossland (1971) notes "motivation is an ill-defined but critical mixture of personal ambition, drive, determination and persistence" (p. 72). Again, the literature is voluminous and the evidence is inconclusive on the difference in motivation between different ethnic and socioeconomic groups. More important, there is no clear relationship between motivation and academic performance. A plausible but unsubstantiated hypothesis is that motivation and performance covary (Klingelhofer & Hollander, 1973, p. 61). Part of the problem is that motivation has not been separated from other student characteristics in its effect on achievement. Locus of control, which distinguishes between self and other determinants of rewards for behavior, has also been researched extensively as a factor related to student achievement and motivation (Rotter, 1966; Gurin, Gurin, Lao, & Beattie (1969); Lao, 1970; Coleman et al., 1966). The results of this research, although limited by differences in instrumentation and the preoccupation with blacks as subjects, indicate that the concept "bears a

real and consistent relationship to achievement and aspiration" (Klingelhofer & Hollander, 1973, p. 95). In effect, students with minimal motivation and low grades tend to believe that they lack the power to manage their own environment and to obtain rewards by their own behavior. Attention has been given to the kinds of defenses students develop to cope with the college environment. Common techniques employed include apathy, withdrawal, and rejection of the university system and its values. In response to this situation, some authors suggest that one of the goals of college should be to teach students "how to manipulate the academic environment" (Klingelhofer & Hollander, 1973, p. 27).

There is another body of literature on these students which focuses on their strengths, not deficits. Williams (1970) characterizes the problems of blacks as "niggeroses" which results from being black, poor, or just unable to prove their intelligence. Similarly, Tucker (1974) refers to the "black six hour retarded child" who is retarded five days a week from 9:00 to 3:00 based on school performance and I.Q. scores (p. 7). Riessman (1962) identifies the strengths in black families. Gunnings and Simpkins (1972) emphasize the system's role in creating the disadvantaged student, while Gibbs (1973) attributes academic problems to a difference between student versus faculty expectations and perceptions of the college environment. The common theme of this research is the need for the expansion of basic skills as opposed to the extinction of pathological behavior. Developmental learning theory lends support to this approach through its emphasis on teaching the student the needed

skills to modify his own environment (Oetting, 1967; Morrill & Hurst, 1971). Regardless of the researchers' findings, there is general agreement that negative labels such as deprived or disadvantaged are psychologically damaging by implying inferiority and thus encouraging failure (Clements, Duncan, & Taylor, 1971; Klingelhofer & Hollander, 1973: Johnson & Sanday, 1971).

In summary, a variety of cognitive personal and environmental factors have been evaluated in terms of their relationship to the academic and personal-social adjustment of college students. The conflicting and inconclusive nature of much of this literature is discussed by Klingelhofer and Hollandr (1973). First, the majority of the research focuses on blacks and children; thus its applicability to adults and other ethnic groups is limited. In addition, the tendency is to consider all of the students experiencing problems as identical, ignoring regional, sexual, or socioeconomic differences. There is also a preoccupation with negative qualities. In terms of methodology, there is great variation in the quality of the research literature. Much of it is opinion without documentation. Even in studies which employ experimental designs, subjects, instruments, and research procedures vary; thus comparisons across studies are difficult. In effect it is impossible to distinguish the individual effects of each factor on academic achievement.

The Effectiveness of Educational Support Services for Disadvantaged Students

The response of institutions of higher education to the characteristics and problems of the disadvantaged student has varied

considerably. The predominantly black colleges have established a tradition of service to one segment of the disadvantaged population. Since their inception in the late 1800's, they have offered post-secondary education to those who, because of race, poverty, or inadequate academic preparation, were denied admission elsewhere. In fact, as recently as 1965, over one-half of the blacks in higher education were enrolled in black colleges which have graduated thousands of "academically underprepared students" (Carnegie Commission, 1971). An alternative form of higher education offered to disadvantaged students has been the creation of the 2-year community or junior colleges. The advantages of these institutions include open admissions; the elimination of problems of geographic access, since they are located in the community; and the reduction of the financial burden because of their modest cost as compared to 4-year institutions. In addition the community colleges have been particularly innovative in curriculum changes. Practices implemented include guided studies programs, personalized instruction, on-site vocationally oriented classes, and study skills courses (Morrison & Ferrante, 1973).

Initially the predominantly black colleges and community colleges would seem to offer a meaningful alternative to the non-traditional student. However, these institutions are having problems. In terms of black colleges they have been forced by federal legislation to alter their hiring and admissions policies. Thus they must now compete with larger, better financed white colleges for faculty, funds, and students (Carnegie Commission, 1971). The

community colleges, on the other hand, are sometimes used as screening grounds for 4-year institutions or as dumping grounds by the more prestigious universities (Gordon, 1972). Their students and faculties are expressing dissatisfaction with this situation. In fact, increasing numbers of students are leaving community colleges before completing their studies or having problems transferring to 4-year colleges (Newman, 1971; Willingham, 1970).

Four-year colleges and universities have also instituted programs and services for the nontraditional student. The range of services offered includes special counseling, tutoring, and curriculum changes. The specific objectives of these activities vary, but all focus on increasing the student's potential for academic success (Oliver, 1974). In terms of specific activities, academic supports include remedial classes, tutoring extended school experiences, and changes in grading procedures. Remedial courses have met with minimal success because they are often resented by the students and, in general, only seem to reinforce the student's feelings of inferiority (Mares, 1973). The reduction in course loads, the liberalization of probation policies, the increased use of deferred grades, and the use of technological supports such as reading machines and tape recorders have met with more success (Morrison & Ferrante, 1973; Atkinson et al., 1969). In general, curriculum innovations have been minimal. One exception to this trend has been the creation of ethnic studies programs. However, there is an ongoing debate concerning the need for as well as the effectiveness of these programs (Rosser, 1974; Atkinson et al., 1969).

Much of the controversy surrounding the impact of these educational activities has focused on counseling activities, which are a major component of the services offered by colleges and universities. The effectiveness of counseling with disadvantaged students is a continually debated issue. One problem has been a lack of understanding and acceptance of some students because of differences in socio-cultural experiences of client and counselor (Kendrick & Thomas, 1970). Another problem has been the counselor's tendency to attribute the problems of these students to psychological deficits, rather than exploring the effect of environmental factors (White, 1970). Equally important has been the counselor's inability to offer such students meaningful problem solutions because of the restricted usefulness of traditional therapeutic techniques (Calia, 1966; Gamble, 1973). Other authors have discussed the client barriers that inhibit the counseling process. Rust and Dave (1961) pointed out that low-income and minority students may reject counseling services because they see their problems as inappropriate concerns for counseling, or feel they should be able to solve them alone. Riessman (1962) related the problem to the student's dislike for talk, which is isolated from experiences. Vontress (1969) cited the additional barriers of racial prejudice and language differences. As a result, some students exhibit self-disclosure reserve and game-playing behavior (Grier & Cobbs, 1968).

These criticisms of counseling practices refer primarily to the insight therapies (e.g., Freudian, nondirective, existential, etc.), which use verbal interaction to assist the client in

self-exploration (London, 1964). In contrast, the action therapies (e.g., learning and behavioral theories) attempt to eliminate the client's symptoms using techniques such as reinforcement and modeling. In terms of their relative effectiveness, Truax and Carkhuff found that improvement rates for both types of therapies were equivalent to the random effects of normal living without treatment. However, the effectiveness of these therapies with minority and low-income persons did differ significantly (1967, p. 149). In this context, the insight therapies continue to be relatively ineffective with these persons, while the literature provides some support for the use of structured and behavior modification techniques. For example, in relation to college students, Kalahan, Stringer, and Cherry (1966), Paul (1967), and Johnson (1966) found desensitization techniques successful in increasing grades of test-anxious, underachieving college students. Allen (1966) found positive reinforcement important in improving GPA's of educationally disadvantaged high school and college students. There would appear to be several advantages in using behavioral modification with these students, for it de-emphasizes the use of insight and does not require a close interpersonal relationship built on trust (Aikin, 1969). Also, its structure and concreteness make the therapeutic relationship less ambiguous and thus potentially less threatening. Finally, these techniques offer specific methods for developing self-regulation, control, and structure, and thus are potentially more effective with students who lack academic stick-to-itiveness, self-regulation, and intrinsic motivation. Aikin (1969) attempted

to test the relative effectiveness of these therapies, using black disadvantaged freshmen at Michigan State University. He found no significant differences in academic performance; however, those treated with behavioral techniques attended more sessions and had a lower attrition rate than those who did not receive such treatment. He suggested the use of peer counselors and an expansion of his methods to include attention to nonacademic problems might increase the effectiveness of the action therapies.

Durlak (1971) reviewed seven comprehensive studies performed in the sixties which discussed more than 25 different treatment programs in which lay therapists functioned in a direct therapy role using behavior modification techniques. He found that operant therapy techniques (i.e., the use of reinforcement, punishment, and extinction principles to strengthen or extinguish behavior) received the most attention. In addition, in the majority of programs the lay therapist had the primary therapist role with professional therapists being used only as consultants. He concluded from the success of these various programs that lay therapists, including students, can be trained to be effective therapists in a wide variety of programs utilizing behavior modification techniques. O'Leary (1972) offers confirmation of Durlak's conclusion in his review of the use of paraprofessionals, including students, as behavioral modifiers in educational settings.

In contrast to these traditional therapies, several counseling models have been specifically designed for use with minority and low-income groups. These models also focus on the cause of

behavior, but they attribute client problems to environmental factors, not client psychopathology. One of the major proponents of this view is Dr. Thomas Gunnings, who developed the Systemic Approach to counseling. This model is based on the assumption that client problems are actually social system problems because they reflect injustices in societal rules and regulations. The client's behavior, therefore, is not seen as maladaptive but as an attempt to cope with the problems of racism, sexism, and poverty. Consequently, the systemic counselor is not a therapist, but an ally and advocate of the client. As an advocate, his role is to articulate his client's feelings and insure him fair treatment. As a consultant, he attempts to promote the system's understanding of the client and to change the behavior of those who control the system (Gunnings, 1970; Gunnings & Simpkins, 1972).

Several other theorists agree with Gunnings' emphasis on system-focused counseling. Tucker (1973) developed the Action Counseling Model to prepare counselors for minority clients. The model emphasizes the need for outreach, trust, systematic setting of priorities, and evaluation of practices. Harper and Stone (1974) listed similar techniques in their Transcendent Theory of Counseling. Finally, Adkins (1970) proposed the use of Life Skills Structured Counseling, which identifies four stages through which learning progresses. All of these theoretical models are similar in their emphasis on the manipulation of the environment as part of the problem solution. The Systemic Approach and the Action Counseling Model have been experimentally shown to be effective in the counseling

of disadvantaged students (Gamble, 1973; Tucker, 1973). However, none of these models has been utilized in the training of undergraduate student counselors.

In comparing the action, insight, and system-focused models of counseling, we find three major differences. First, the models differ in their emphases on the cause and importance of the client's behavior. Second, they differ in their conceptualization of the counselor's role and the techniques to be used. Third, they appear to differ in their relative effectiveness with a disadvantaged population. However, regardless of the counseling model employed, a significant factor in the success of counseling is the quality of the relationship between the client and counselor (Rogers, 1962, p. 12).

The literature has identified four interrelated counselor qualities that are essential to the establishment of rapport with the client: empathy, positive regard, concreteness, and genuineness (Carkhuff & Truax, 1966; Rogers, 1961; Jourard, 1964). Empathy refers to the counselor's ability to understand the client's personal frame of reference. Positive regard is defined as the acceptance of the client's worth as an individual without judgment or reservation. Concreteness or specificity of expression reflects the counselor's ability to express his feelings and reactions in a direct and clear manner. Genuineness concerns the counselor's recognition and expression of his true feelings about the client's behavior. In terms of the three models of counseling under review, the action-oriented counselors appear to minimize the importance of

the interpersonal relationship between client and counselor. As Patterson (1973) pointed out, though, research shows the relationship is of greater significance than action-oriented counselors admit. In fact, these characteristics influence all counseling relationships regardless of theoretical orientation (p. 532).

The client, of course, plays an equal role in determining the nature of the counseling relationship. Kagan, Krathwohl, Goldberg, Campbell, Schauble, Greenberg, Danish, Resnikoff, Bowes, and Bondy (1967) listed four major client behaviors that are necessary for effective counseling. According to them, the client must (1) admit to his discomfort, (2) commit himself to change, (3) begin to differentiate stimuli, and (4) change his behavior within and outside of the counseling interview. Research evidence indicates that lay professionals, including students, can be trained to exhibit the four helping behaviors specified and to elicit appropriate client behavior. Carkhuff and Truax (1965) found that after 100 hours of training, graduate students functioned at levels of facilitative behavior equal to professional counselors. Carkhuff and Griffin (1970) found that black adults with specific training could successfully work with black junior high school students. Scharf (1971) and Dendy (1971) trained undergraduate students to exhibit high levels of facilitative behavior in counseling other undergraduates. Finally, Gardner (1970), in a study of black sophomores at Michigan State University, found that counselors of different levels of education and experience could function as effective change agents after training in these four conditions.

The research on the effectiveness of various counseling methods employed with students must be viewed within the framework of several major issues surrounding the therapeutic process. These issues include the overall effectiveness of counseling and psychotherapy, the choice of outcome measures, and the identification of client and counselor characteristics related to outcome. In relation to the question of effectiveness, Eysench (1952) brought the conflict into the spotlight by publishing a series of papers questioning therapeutic outcomes. The ensuing controversy has lasted more than 20 years with data being presented to support both viewpoints. Whiteley, Burkhard, Harway, Herman and Whiteley (1975) review the literature on the topic and conclude that Bergin's (1971) review of 48 studies of outcome along with Meltzoff's (1969) and Meltzoff and Kornreich's (1970) review of 101 studies, which all found positive results in a significant number of cases, present ample evidence to support the effectiveness of the therapeutic process. The lack of success found in previous studies is attributed to several factors. First there is the inadequacy of past research designs. The assumption is that "the better the quality of the research, the more positive the results obtained" (Meltzoff & Kornreich, 1970, p. 177). Bergin (1963) offers the alternative hypothesis that no-treatment controls often improve because of therapeutic contacts with other sources. Lemay and Christensen (1968) offer support for this hypothesis in their study of the effects of group counseling on college students. These authors found that 56 percent of the control subjects, many of whom showed

significant improvement, received counseling from another campus agency. They imply that the percentages quoted would have been higher if peer and family contacts had been included. A third factor correlated with success is the outcome measures chosen. Recent attention has focused on the need for objective behavioral measures versus therapist or client ratings which are characterized as reflecting either a placebo effect for clients or wish fulfillment for counselors (Pepinsky & Meara, 1974). The use of global versus client-specific outcome measures has also been related to past findings of therapeutic ineffectiveness. Bergin and Strupp (1972) after reviewing the literature suggest attention to "the specific therapeutic interventions that produce specific changes in specific patients under specific conditions" (p. 8).

The second area of controversy surrounds the identification of client and counselor characteristics which are related to outcome. Research on therapist characteristics has focused primarily on the core facilitative dimensions or conditions as they are defined by Rogers (1957) and measured by the Carkhuff scales. Prior to 1970 concern focused on the validity of the assumed relationship between the existence of these conditions and client exploration, as well as the relationship between self-exploration and a favorable outcome. Research has not yet shown that a significant relationship exists between these three variables (Whiteley et al., 1975). Related to this point is whether self-exploration is the only vehicle to change. Skeptics point to the consistent lack of a relationship between these core conditions and outcome variables in nonclient

centered therapy (Garfield & Bergin, 1971; Pepinsky & Meara, 1974; Bergin & Suinn, 1975). There is also evidence that empathy, genuineness, and warmth do not consistently exhibit a positive correlation with each other (Garfield & Bergin, 1971). Equally important is the perceived instability of these variables within and across sessions as well as across clients (Whiteley et al., 1975; Bergin & Suinn, 1975).

The concept of empathy has been the subject of much of the research with questions being raised on its meaning and the reliability of ratings on the Carkhuff scales. Critics question if raters who are exposed only to therapist responses can accurately measure empathy as defined as the therapist sensitivity to client feeling as expressed verbally. In addition, they imply that reliability ratings are often inflated in studies in which a small number of therapists are rated numerous times by each rater. It is hypothesized that raters may be measuring a more global quality than accurate empathy (Chinsky & Rappaport, 1970; Rappaport & Chinsky, 1972). Truax's (1972) defense of this criticism does not adequately explain the data. Luborsky, Averback, Chandler, Cohen, and Bachrach (1971) investigated empathy and a number of other therapist characteristics in terms of their correlation with outcome measures. In their review of 166 studies of individual therapy with adults they identified four variables, i.e., experience level, attitude and interest factors, the perceived similarity between therapist and client, and empathy as significantly related to outcome. However, caution is needed in interpreting these results because of the

brevity of treatment and the small number of cases involved in the evaluation of each characteristic. Currently the issue appears to be, not if therapist characteristics are related to outcome, but the specific nature of these characteristics.

There have also been attempts to specify the client characteristics which relate to outcome. Bergin and Suinn (1975), in their review of current research, identify five variables including degree of pathology, expectations of therapy, race, sex, and class. However, the relationship between these factors and outcome is still unspecified. For example, in terms of race, there is ample evidence to support the success of the same and different race patient-therapist dyads. The study by Luborsky et al. (1971) also found that patient psychological health and socioeconomic status relate to the success of treatment. They add to the list motivation for therapy, anxiety level, and intellectual factors. Patients who scored high on each of these variables were found to function better in therapy. Part of the problem in evaluating patient and therapist characteristics is that they do not exist in a vacuum. An intermediate variable is the therapeutic relationship which serves as a medium through which change occurs (Patterson, 1967). Support for this view is found in the well-known research finding that the patient's receptivity to the therapist determines the extent to which therapy is effective. Whiteley et al. (1975) see the further investigation of relationship variables, separate from client and counselor characteristics, as a means to identify the behaviors that

are basic to influencing another person, regardless of the goals of therapy (p. 350).

In conclusion, this brief review of the current issues in psychotherapy suggests a number of guidelines for future research. First, there is the question of methodology. Bergin and Suinn's critique of current problems in behavior modification research can be generalized to all methods of therapy or counseling (1975, pp. 541-542). These authors detail the continued inadequacy of research designs which have led to inconclusive and conflicting results. They suggest a standardization of measures employed to test concepts, better control of extraneous variables that might affect outcome, and closer scrutiny of the possible bias in self-report measures. Other recommendations include an end to studies comparing treatment methods. In their opinion, future research efforts should focus on the variables involved in success or failure for specific techniques employed with a variety of patients. The implication is that a variety of treatment methods as well as patient-specific outcome measures are needed. They also remind us of the need for longer follow-up periods to determine the stability of treatment effects. Finally, it is clear that more attention should be given to therapist and patient characteristics as they relate to the relationship established and to the outcome of the therapeutic process.

The Use of Students as Counselors

It has been suggested that the use of student counselors would facilitate the adjustment of incoming students. This is not

a unique idea, for students have been used as therapeutic agents in a variety of mental health settings. The early literature details the use of college students as companions to chronic hospitalized mental patients. The first formal program began in the Boston area in 1954. By 1966 more than 301 colleges were participating in similar programs involving 7,000 students. "Although formal evaluations have been minimal reports indicate a certain degree of success" (Durlak, 1971, p. 81). One of the most widely quoted studies in this area was Poser's (1966) use of untrained female college students as group therapists with chronic schizophrenic patients. Patients were matched on pre-treatment status and randomly assigned to students or professional therapists. Statistical analysis of the 5-month program revealed that on psychological tests of behavior, the students' patients improved more than those of professional therapists or the untreated controls. A 3-year follow-up of the students' patients indicated the stability of their improvement. These results reflect student success in a variety of programs, in spite of the study's methodological problems such as sex bias and differential attrition between treatment groups. A larger, more recent, and better designed study was implemented by Rappaport, Chinsky, and Cowen (1971), who tested more than 100 college students and 320 chronic mental patients. They established four treatment groups consisting of same and different sex therapist and patient groups. There was also a control group of 64 patients. Patients were matched on a number of demographic variables and treated for about 6 months. Outcome measures were behavioral ratings of patient

change and patient activity, e.g., reaction time, finger tapping, etc. Major findings were that (1) sex is an important variable in treatment, with male patients improving most with female patients; (2) students had the most success with the most regressed patients; (3) patients perceived less social distance between themselves and students; and (4) patients' perceptions and expectations of college students improved. These results offer some support for the validity of Poser's (1966) findings.

College students have also been shown to be effective therapists with emotionally disturbed and delinquent children (Gorlich, 1967; Cowen, 1968; Cowen & Zax, 1968; Cowen, 1969). In terms of their use in academic settings, the successful academic experiences of upper classmen are seen as playing an important role in the transmission of appropriate coping skills to incoming students. The assumption is that these students' lack of training frees them to uncover effective new approaches and usually results in greater flexibility in terms of acceptance of client behavior (Gruver, 1971; Reiff & Riessman, 1965). In effect, the successful student is seen as providing an appropriate and accessible role model that may be absent in the student's community or family. In addition, the literature confirms the influence of peers in providing social and psychological support for the completion of the developmental tasks of late adolescence (Mitchell, 1973).

The freshman student appears to be in particular need of special counseling. As Fitzgerald (1972) pointed out, the college freshman "often gets the largest classes, the least experienced and

poorest paid members of the faculty, the fewest academic options, the least advisement, the dullest subject matter, the least personal living arrangements, and most personal 'rules'" (p. 169). Dressel and Lehman (1965) found the greatest change in critical thinking occurs in values during the initial 6 to 8 weeks of the first year of college. Thus the need for immediate information and reassurance is critical (Brown, 1965; Haettenschwiller, 1971). The natural relationships formed with fellow students during the initial adjustment period lead to a great deal of informal counseling, which, in effect, sets the tone for the student's college life (Lynch, 1970, p. 203).

Acceptance of these findings is reflected in the fact that paraprofessionals have been employed in colleges and universities for a number of years. For example, campus housing departments have traditionally used resident assistants to aid the professional staff, while student involvement in orientation and tutoring is well known. However, not until the student protests of the 1960's were attempts made to involve students in the development and implementation of support-service programs. Additional pressure for student involvement in counseling activities resulted from the increase in the number of counseling centers, the resulting manpower crisis, and the expansion of staff roles (Delworth, Sherwood, & Casaburri, 1974). The current view appears to be that "any program which does not include the active involvement of students would only be a partial and incomplete approach to community mental health intervention" (Oetting, Iven, & Weigel, 1970, p. 48). Organizational support for

this view was given by the American Personnel and Guidance Association and the American Psychological Association. These developments have resulted in an expanded use of student personnel in counseling programs. In fact, in a survey of 121 colleges, over 75% were in favor of using students and 64% had actually hired student staff in their programs (Crane & Anderson, 1971).

Paralleling this increase in the use of student counselors, there has been an expansion in student roles and responsibilities. In effect, they have been promoted from information clerks and public relations officers to counselors and administrators. For example, Walz (1971) described the use of students in college readiness programs, as student ombudsmen, and as administrators of student-staffed counseling programs. Wren and Mencke (1972) used students as group counselors in psychology classes. Delworth et al. (1974) examined the tasks involved in counseling intervention and delineated a number of tasks that could be assigned to students. These duties included intake and screening, individual and group counseling, testing and evaluation, and training other paraprofessionals.

Research on the effectiveness of student counselors has been very encouraging. Brown (1965), Zunker and Brown (1966), and Murray (1972) found that students' effectiveness in academic advising activities equalled or surpassed that of professional advisors. Brown's work deserves special attention because of its length and scope. He detailed the results of 18 years of counseling research on the ability of high school and college students to counsel their

peers (Brown, 1972). This research covers the period from 1952 to 1970 and involved 42,000 students in 60 high schools and colleges in 15 different states. There were a total of 30 major studies focused on three major objectives: (1) to evaluate the effect of learning motivation and behavior on high school and college academic achievement, (2) to construct and validate testing materials to predict scholastic achievement, and (3) to develop and evaluate techniques for counseling students about academic problems. The ultimate goal was to produce a practical, economical, and effective counseling program to help students adjust to the demands of college life. The first step was the development of several instruments to identify student academic attitudes and study skills. Over a 15-year period two instruments, the Survey of Study Habits and Attitudes and the Effective Study Test, were designed and validated. Next the correlation between attitudes, study skills, motivation, and achievement was clarified. Methods to train students to effectively utilize the motivational approach to counsel other students were subsequently perfected.

The knowledge gained from this research culminated in the implementation of a freshman counseling program at a Texas college which utilized student counselors. This program has served as the model for student counseling activities at a number of 2- and 4-year institutions and has proven to be effective with low SES and Latino students. Six major studies were performed between 1959 and 1968 to assess the success of these programs. The evidence supported the acceptability of peer counseling to a wide variety of high school

and college students, including potential dropouts. Specifically, male and female counselors were found to be equally effective in groups, but males were more successful in individual cross-sex counseling. Furthermore, he found that student counselors equalled or surpassed the effectiveness of professional counselors. In addition, their clients made greater use of the information obtained (pp. 110-123). Finally, Brown characterized the most successful programs across institutions as having voluntary client participation, as being client centered in approach and motivation oriented in content, and as being long term in length (1972, p. 191).

There is support for the conclusions of Brown's research. Dana, Heynen, and Burdette (1974) found that students preferred help from peers in times of crisis, and Archer (1971) concluded that undergraduates could function as group leaders for interpersonal communication skills groups. In addition, Wolff (1969) confirmed the effectiveness of resident assistants in improving interpersonal relations among freshmen, and Pyle and Snyder (1971) demonstrated their usefulness in community college settings. It has been postulated that the success of student counselors is based on several unique characteristics of students, including: (1) the lack of stigma attached to their clients, (2) a greater sense of personal conviction to the work, and (3) the reduced social distance between students and clients (Gruver, 1971; Siegel, 1973). Added to this is the flexibility of student attitudes which leads to multiple levels of intervention (Rioch, 1966). In terms of the specific effects of student counseling with minority and low-income students,

the literature is filled with positive program reports and client testimonials. However, carefully controlled longitudinal research is practically nonexistent. Even so, it appears that when minority and low-income students are counseled by their peers, the problems of acceptance and understanding are minimized (Mitchell, 1973; Janssen, 1969; Brown, 1972).

The research has given some attention to the effect of the counseling experience on student counselors. It was pointed out that these students gain an opportunity to make changes in the university system and to meet key administrative personnel. In addition, they are taught skills that can lead to clarification of vocational plans or better employment after graduation, or that can facilitate admission to graduate school (Delworth et al., 1974). These experiences often result in increased self-esteem and higher GPA's (Gruver, 1971). In addition, there is often a positive shift in their knowledge of and attitudes toward mental illness (Siegel, 1973; Rappaport et al., 1971). Explanations for such changes include the counselor's satisfaction in acquiring new skills, his perceived increase in status, and his assumption that one must be in good mental health to help others (Reiff & Riessman, 1965).

Not all of the literature on student counseling, however, has been positive. There are those who feel that paraprofessionals should function strictly as support personnel or case aides, freeing the professional from his nonprofessional administrative duties (Dendy, 1971). Others contend that peer counseling of college students "may involve directive techniques that are counterproductive

and conducive to infantile regression" (Berns, 1972). Gruver (1971) felt some of these negative views resulted from professional staff insecurity or lack of information on the role of student counselors. But, after a thorough review of the literature, he decided the primary reason for skepticism among professionals was the poor quality of the research. For example, he found that these studies are plagued with inadequacies of design including no control group, lack of pre- and post-measures of outcome, differences in sampling, and lack of objective measures of outcome. Gruver concluded that "few of the studies are similar enough in any respect to warrant conclusions in a given area" (1971, p. 123). McArthur (1970) found additional sources of bias, in that independent variables were not isolated nor was there any control for the Hawthorne effect. Brown (1974) confirmed the problems in research design, but felt "such offhand dismissal of the paraprofessional's contribution is untenable when set against the numerous positive reports published during the past fifteen years" (p. 261). In terms of college student counselors, Duriak concluded that "since the research to date has indicated that students are very responsible to and highly evaluative of services delivered by their peers, the student-turned-counselors may ultimately become the most feasible and effective mental health agent on the college campus" (1971, p. 99).

The selection and subsequent training of student counselors has been given minimal attention in the research literature. Part of the problem has been the lack of solidly validated techniques for

professional counselor training to use as guidelines (Durlak, 1971). Thus although there is general agreement that student counselors require some type of job preparation, there is little agreement about who should counsel or the specific nature of the preparation needed (Siegel, 1973). The methods employed in selection have varied, but most programs have systematically attempted to select psychologically healthy and facilitative persons (Carkhuff, 1969). Professional training programs, in contrast, focus on intellective factors. Brown (1974) hypothesized that this difference may partially explain the effectiveness of paraprofessionals. In terms of selection standards, Muller (1961) and Allen (1966) agreed that sophomore and junior students are the best candidates for freshman counselors because they are closest to their own freshman experiences and are thus most compatible with the client population. Delworth et al. (1974) reviewed a variety of student selection procedures and identified three successful selection principles: (1) the selection of job responsibilities should precede and guide the selection of counselors, (2) paraprofessionals and professionals should be included in the process, and (3) selection procedures should allow the applicant to demonstrate as well as talk about what he can do. Durlak confirms the importance of behavioral selection measures. He states, "research has consistently demonstrated that the best way to predict an individual's future behavior in a particular situation is to obtain a measure of that individual's present behavior in the same or a similar situation" (1971, p. 344).

Rappaport et al. have identified two types of skills required for effective counseling. In their research on student paraprofessionals they found that social as well as technical skills are needed, i.e., the ability to form a relationship as well as the skill to use the relationship to change the behavior of another person (1974). They reject interviews, personality tests, and the Carkhuff scales as unreliable measures of these traits. They recommend the use of a behavioral measure, the Group Assessment of Interpersonal Traits (GAIT), which was developed by Gerald Goodman (1972). This scale involves a small group interaction lasting approximately 90 minutes, in which each group member describes something about his or her personal life to another group member. Each person takes the role of understander and discloser. The group members are then rated or ranked on eight dimensions (e.g., openness, warmth, empathy, directness, enthusiasm, quietness, persistence, and best therapist). Research has shown that scores on these dimensions have some promise as predictors of the therapeutic performance of nonprofessional counselors, particularly college students (Rappaport et al., 1971, 1974; Goodman, 1972). More research, however, is needed to support the reliability of these scores. Dooley (1975) points out that test-retest correlations of peer ratings are low over a 9-week period and that there is still much variability between peer and observer ratings. There is also uncertainty about the exact nature of the construct being measured. For example, the Therapeutic Talent Triad (e.g., the understanding, open, and warm scales) identified by Goodman (1972)

have been compared to Rogers' (1957) core conditions. They also have shown significant correlations with other measures of empathy (Dooley, 1975). However, the high intercorrelations between this triad of scores and the Best Scale score given by peers implies that these variables may be describing a more general construct, e.g., "help oriented activity." Suggestions include the standardization of GAIT ratings as well as the need to specify training procedures for raters.

In terms of training procedures, Powell (1959), in a survey of 218 universities, found that training procedures were short and superficial and varied considerably according to the function students were expected to fulfill. In a follow-up study of this survey, Brown (1972) reported a definite trend toward more systematic selection, longer training time, and improved instructional methods and materials (p. 17). Pepinsky and Meara (1974) reviewed the current research on counselor training methods. They point out that instruments are questionable, criteria of effectiveness are biased (self-report), and there is a general lack of careful conceptualization about what should be involved in training (p. 120). Delworth et al. (1974) found that most training programs provided both a preservice and an inservice phase. They recommended that future training include two components: core training (e.g., policies, procedures, ethics) and job-specific skill training. Danish and Brock (1974) identified relationship-building skills as the most important skills to be taught. Brown adds to these criteria the need to formulate meaningful program goals and delineate realistic

activities. He stresses the importance of continuous supervision and evaluation of counselor efforts (1972, pp. 201-202).

Three training programs or models have been given extensive coverage in the literature. Ivey's Microcounseling Program, Kagan's Interpersonal Process Recall Method, and Carkhuff's Facilitative Dimensions Training. Microcounseling divides interviewing skills into component-specific skills that are tuaght with the aid of videotaping and feedback. It offers the trainee a conceptual framework in which to learn verbal and nonverbal behavior, and provides practice until a satisfactory skill level is obtained (Delworth et al., 1974, p. 24). Kagan's model assists the trainee in understanding the interaction between counselor and client by recognizing the impact each has on the other. Kagan's model also employs the videotape and feedback method. Carkhuff took a different approach. His model emphasizes the teaching of the four counselor qualities identified by Rogers as essential for effective counseling. In effect, the trainees are taught to make responses at these specific levels of facilitative qualities (Danish and Brock, 1974). The number of hours of training necessary is flexible for each model. In fact, the literature cited figures ranging from 20 hours to 1 year as effective training periods (Berenson, Carkhuff, & Myrus, 1966). It should be noted that each of these models also specifies a process for selecting and training the trainers. For, as Danish and Brock (1974) pointed out, "having certain skills does not insure that one can teach them to others" (p. 301). Moore (1974), who agreed with this viewpoint, asserted that two of the most important

tasks for professionals to learn are how to select and supervise paraprofessionals. He designed a workshop format for teaching these and other trainer skills.

A comparison of the three training programs reveals that they all emphasize teaching interpersonal skills. Thus it would appear that they are most appropriate for insight-focused counseling. Another limitation of these models is that, although "each has a body of literature to support its effectiveness, no attempt has been made to empirically compare the programs" (Danish & Brock, 1974, p. 302). Therefore their relative effectiveness in unknown. According to Brown (1974), the criticisms can be applied to the majority of paraprofessional training procedures. Two additional points should be kept in mind. The literature indicates that students with no formal training can be effective counselors. In addition, students tended to disregard formal training when it impeded their spontaneity and effectiveness or increased their anxiety (Hetherington & Rappaport, 1967).

In summary, the college student has been shown to be an effective therapeutic agent in a variety of settings, particularly the college campus. Still there are areas requiring further research. These include the stability of treatment effects and the identification of specific client and counselor characteristics which are associated with successful outcomes. Related to this is the need to create effective selection and training methods and materials. Other areas to be clarified are the treatment goals best suited to volunteer talent and the type of client who would be

amenable to student counseling. Finally, it will be important to delineate how students can complement rather than compete with the services of professional counselors (Siegel, 1973; Durlak, 1971).

Summary

This review of the literature has focused on the identification of those characteristics which influence student functioning within the college environment. The use of counseling, specifically by students, was explored as a means of increasing student achievement. Areas requiring further research were also identified. The findings in each area are now summarized.

Disadvantaged college students are not a homogeneous group; the causes of their disadvantagement as well as their personal characteristics vary among authors. In general, these students were identified as being poor, members of ethnic minorities, and/or academically deficient. These characteristics have been shown to correlate with their poor adjustment to the college environment; thus attempts have been made to provide them with a variety of supportive services. Colleges and universities have instituted a variety of supportive services and programmatic changes to deal with the problems of these students. Counseling, the major component of most support programs, has had mixed effectiveness with these students. The difference has been attributed, in part, to the theoretical model employed. For example, current research offers little support for the use of insight theories, while behavioral and system-focused theories appear to be more relevant to the lifestyles and

values of these students. Counselor and client characteristics were also found to relate to counseling outcome.

Based on the documented influence of adolescent peers in attitudinal and behavioral change, the effectiveness of student-to-student counseling with the disadvantaged was explored. The majority of the research literature supported the ability of students to counsel their peers. However, these results must be viewed within the framework of the methodological problems inherent in the studies. The inconsistencies in selection and training procedures were highlighted as contributing to the bias in the research on student counseling. For example, it was pointed out that training models have not been experimentally compared, nor are selection procedures, length of training, or the qualifications of trainers consistent across programs. More important, none of the current training models provides for the teaching of behavioral or systems-manipulation techniques.

It was concluded that future research on the counseling of college students should include attention to the following areas: (1) the influence of specific student and counselor characteristics on counseling effectiveness, (2) the development of training models for teaching students behavioral and system-focused counseling techniques, (3) the selection of appropriate outcome measures, (4) the determination of the effectiveness of behavioral and system-focused models of counseling, and (5) the effect of the counseling process on counselors and clients.

Purpose of the Study

The traditional insight therapies continue to be the most common counseling approaches utilized with college students. However, the research literature reviewed suggests that the action therapies such as behavior modification and other approaches focused on environmental change may be more sensitive to the life styles and needs of low-income and minority students. In addition there is increasing evidence that these students, themselves, can function as effective therapeutic agents with their peers. Yet, to date, there have been few attempts to investigate these two findings by exploring the relative effectiveness of these innovative counseling strategies or by training students in their use with peers. Part of the problem is that few guidelines exist for the training of student counselors, or for the selection of appropriate outcome measures to determine the effect of the counseling process on the clients or counselors.

The present study represents an experimental test of these findings through a comparison of the effects of three models of student counseling, race, and sex on the behaviors, perceptions, and attitudes of male and female, black and white first-year college students. The participants are freshman clients and their sophomore, junior, and senior counselors. The three counseling models to be tested are the Behavior Modification Approach, the Systemic Counseling Approach, and the Peer (no training) Approach. This study will also attempt to assess the effectiveness of the training procedures created by the experimenter. Finally, the data obtained will be

used to make inferences about the personal and environmental correlates of academic performance.

A total of 11 comparative and associative hypotheses were generated for testing in this study:

Hypothesis One. The Systemic Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing the client's sense of internal control.

Hypothesis Two. The Peer Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing client self-esteem.

Hypothesis Three. There will be no significant differences between clients counseled by the three methods in the following areas: general adjustment, attitudes toward higher education, motivation for higher education, academic self-concept, and problem expectancy.

Hypothesis Four. Client evaluation of the effectiveness of the three counseling models will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model.

Hypothesis Five. There will be no significant differences between counselors in the three models in attitudes toward higher education or themselves.

Hypothesis Six. The counselors' evaluation of their effectiveness in solving client problems will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model.

Hypothesis Seven. There will be no significant differences between client groups or counselor groups by race or sex.

Hypothesis Eight. Client term and cumulative grade point average and credit load will be significantly correlated with the number of contacts with counselors and their use of related counseling services.

Hypothesis Nine. Problem solution as defined by clients will be significantly correlated with the number of contacts with their counselors and their use of related services.

Hypothesis Ten. Client perceptions of the effectiveness of counseling services will be significantly correlated with their perceptions of the counseling relationship and their perceived similarity to their counselors.

Hypothesis Eleven. Counselor perceptions of their effectiveness in solving student problems will be significantly correlated with the number of contacts with their clients, their perceptions of the counseling relationship, their perceived similarity to their clients, and their therapeutic skills.

Table 1 lists the scales used to evaluate each of the hypotheses of the study.

Table 1: Scales Used to Evaluate the Hypotheses of the Study.

Hypotheses	Scales
Comparative Hypotheses--Clients	Client Scales
Hypothesis One. The Systemic Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing the client's sense of internal control.	Locus of Control
Hypothesis Two. The Peer Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing client self-esteem.	Self-Esteem
Hypothesis Three. There will be no significant differences between clients counseled by the three methods in the following areas: general adjustment, attitudes toward higher education, motivation for higher education, academic self-concept, and problem expectancy.	General Adjustment to Higher Education Attitude Toward Higher Education Motivation for Higher Education Academic Self-Concept Problem Expectancy
Hypothesis Four. Client evaluation of the effectiveness of the three counseling models will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model.	Perception of Problem Solution Perception of Current Functioning Satisfaction With Counseling Services Perception of Counselor Experience Effect of Counseling on Academic Functioning
Comparative Hypotheses--Counselors	Counselor Scales
Hypothesis Five. There will be no significant differences between counselors in the three models in attitudes toward higher education or themselves.	General Adjustment to Higher Education Attitudes Toward Higher Education Motivation for Higher Education Self-Esteem Academic Self-Concept Locus of Control

Table 1: Continued.

Hypotheses	Scales
Hypothesis Six. The counselors' evaluation of their effectiveness in solving client problems will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model.	Perception of Problem Solution Perception of Client Current Functioning Perception of Client Satisfaction With Counseling Services
Hypothesis Seven. There will be no significant differences between client groups or counselor groups by race or sex.	All Scales
Associative Hypotheses--Clients	Client Scales
Hypothesis Eight. Client term and cumulative grade point average and credit load will be significantly correlated with the number of contacts with counselors and their use of related counseling services.	Grade Point Average Fall, Winter, Spring Terms Cumulative Grade Point Average Total Credits Carried Fall, Winter, Spring Terms Total Credits Earned Fall, Winter, Spring Terms Number of Contacts Between Client and Counselor Use of Related Services
Hypothesis Nine. Problem solution as defined by clients will be significantly correlated with the number of contacts with their counselors and their use of related services.	Perception of Problem Solution Perception of Current Functioning Satisfaction With Counseling Services Perception of Counselor Experience Effect of Counseling on Academic Functioning Number of Contacts Between Clients and Counselors Use of Related Services

Table 1: Continued.

Hypotheses	Scales
Hypothesis Ten. Client perceptions of the effectiveness of counseling services will be significantly correlated with their perceptions of the counseling relationship and their perceived similarity to their counselors.	Perception of Problem Solution Perception of Current Functioning Satisfaction With Counseling Services Perception of Counselor Experience Effect of Counseling on Academic Functioning Mutual Liking Perceived Similarity
Associative Hypotheses--Counselors	Counselor Scales
Hypothesis Eleven. Counselor perceptions of their effectiveness in solving student problems will be significantly correlated with the number of contacts with their clients, perceptions of the counseling relationship, their perceived similarity to their clients, and their therapeutic skills.	Perception of Problem Solution Perception of Client Functioning Perception of Client Satisfaction With Counseling Services Number of Contacts Between Client and Counselor Mutual Liking Perceived Similarity GAIT Scale Scores

CHAPTER II

METHOD

This study utilized the Experimental Social Innovation (ESI) approach created by Fairweather (1967). In ESI research the unit of analysis is a social subsystem defined by "the functional relationship between outcome, participants and the social situation" (p. 77). Two or more such subsystems are created by the experimenter and previously selected variables are manipulated within each subsystem and tested for desired outcome. In this study the social subsystems were defined as three models of student counseling. The models or student counseling methods were: the Behavioral Modification Approach, the Systemic Counseling Approach, and the Peer Counseling Approach.

The Behavior Modification Approach (BMA) draws heavily on Skinner's (1953) learning theory, the work of Bandura (1969), and the therapeutic approach of Phillips and Wiener (1966). The basic assumption of these theorists is that all behavior is learned and is influenced by four factors: motivation, stimulus, response, and reinforcement. Skinner focused on the operant conditioning principle, which states that the environmental response determines which behaviors are learned, while Bandura delineated the role of modeling in imitation learning. Phillips and Wiener (1966) combined these principles into a theory of short-term therapy that focused on

solving current problems by providing the client with the means to structure or control previously uncontrollable situations. The goal is to realign response-centered variables to produce a different outcome (Aikin, 1969, p. 22). This theory was operationalized as a training model for professional counselors of educationally disadvantaged students at Michigan State University (Aikin, 1969). The procedures used in that experiment were specifically designed to apply to academic problems only.

The major characteristics of the Behavioral Modification Approach (BMA) are:

1. Goals--The development of the client to the level of a successfully functioning college student. The focus is on changing student behavior that the student counselor and student client have identified as interfering with successful functioning.

2. Assumption--Problems result from the client's lack of control over or structure in his behavior.

3. Means of Achieving Goals--Isolate inappropriate behavior and change it through the use of structured and behavioral modification principles.

4. Counseling Relationship--Based on student client's recognition of the student counselor's helping skills. A close interpersonal relationship is not required.

5. Role of the Student Counselor--Actively leads in planning the content of the sessions and dictates the procedures and direction of counseling.

6. Role of Student Client--Actively carries out behavior prescribed by the student counselor and provides feedback on the effects of the prescribed behavior.

7. Techniques--Scheduling and structuring of student client's time, positive and negative reinforcement of specific behaviors, and written record of client's behavior.

The Systemic Counseling Approach (SCA) is based on the theoretical model as defined by Gunnings and Simpkins (1972). The major characteristics of this model include:

1. Goal--To manipulate the client's environment so that it is more responsive to his needs and goals.

2. Assumptions--The problems of disadvantaged students are the result of injustices or imperfections in our societal systems. Thus the system, not the client, must be changed. The student's behavior is, in effect, a symptom not a cause of the problem.

3. Means of Achieving Goal--The environment is changed through mediation, consultation, and advocation.

4. Counseling Relationships--Based on mutual trust, understanding, and acceptance.

5-6. Role of Counselor and Client--Counselor and client are equal partners in the therapeutic relationship and decide together on the direction and projected outcomes of counseling.

7. Techniques--Acceptance, advice, information giving, advocacy, outreach, and environmental manipulation and negotiation.

It is recognized that the SCA and SBM models are not entirely independent in methods and goals. However, in this study attempts were made to maintain three operational differences:

	BMA	SCA
Primary Techniques	Verbal communication and modification of the client's behavior	Specific actions to modify the environment's response to the client
Therapeutic Relationship	Structured and concretely defined by counselor	Flexible; based on mutual decisions of client and counselor
Focus of Therapy	Change in client's behavior	Change in client's environment

The Peer Counseling Approach (PCA) reflects one of the basic premises in the use of student counselors; i.e., their own successful academic experiences can play an important role in the transmission of self-control, self-reinforcement, and self-evaluative behavior (Aikin, 1969). Thus, colleges often assign upperclassmen to incoming freshmen to facilitate their adjustment to the academic and social environment of the institution. These students are given a brief orientation to university regulations, but no formal training. The assumption is that "theoretical wisdom is not a necessary ingredient for a helping relationship" (Rogers, 1957). In addition, it can be assumed that if these counselors are truly indigenous to the target population, facilitative behaviors such as empathy will be naturally exhibited without training. Based on these assumptions, the Peer Counselor Training Model consisted of several orientation sessions in which the problems of new students were defined. The student counselors were then encouraged to use their own experiences to develop problem-solving strategies.

Design of the Study

The experimental design of the study was a three by two by two design. The first independent variable was model of counseling with three levels: (1) the Behavior Modification Approach (BMA), (2) the Systemic Counseling Approach (SCA), and (3) the Peer Counseling Approach (PCA). The second independent variable was race with two levels: (1) black and (2) white. The third independent variable was sex with two levels: (1) male and (2) female. From this design 12 counseling groups were formed: (1) black females--Behavior

Modification Approach (BF BMA); (2) black males--Behavior Modification Approach (BM BMA); (3) white females--Behavior Modification Approach (WF BMA); (4) white males--Behavior Modification Approach (WM BMA); (5) black females--Systemic Counseling Approach (BF SCA); (6) black males--Systemic Counseling Approach (BM SCA); (7) white females--Systemic Counseling Approach (WF SCA); (8) white males--Systemic Counseling Approach (WM SCA); (9) black females--Peer Counseling Approach (BF PCA); (10) black males--Peer Counseling Approach (BM PCA); (11) white females--Peer Counseling Approach (WF PCA); (12) white males--Peer Counseling Approach (WM PCA). Table 2 illustrates the arrangement of these conditions and groups.

There were also two control groups utilized in the analysis of data. The first control group was composed of 206 freshman students randomly selected from all full-time, first-term freshman students enrolled as of September 1975. Stratified random sampling based on high school grade point average, as computed by Michigan State University, race, and sex was employed. In terms of grade point average, subjects were sampled by .25 intervals from 2.0 to 4.0. The percentage, race, and sex of control subjects in each grade point interval was matched with that of clients in the experiment. The results of this sampling process are discussed on pp. 101-106. The second control group was composed of those assigned clients who had less than two contacts with their counselors.

The dependent variables were either (1) single dependent measures used to determine equality of samples (see Tables 18, 19, 20, 28, 29, 30), (2) twice repeated dependent measures which were

Table 2: Arrangement of Counseling Model Conditions, Sex and Race.

Race/Sex	Counseling Model Conditions[a]		
	Behavior Modification Condition (BMA)	Systemic Counseling Condition (SCA)	Peer Counseling Condition (PCA)
Black Females	CL = 14 CO = 4	CL = 8 CO = 3	CL = 14 CO = 5
Black Males	CL = 4 CO = 1	CL = 7 CO = 2	CL = 4 CO = 1
White Females	CL = 11 CO = 4	CL = 8 CO = 4	CL = 4 CO = 1
White Males	CL = 2 CO = 1	CL = 2 CO = 1	CL = 6 CO = 3
Race	Black CL = 51 CO = 16	White CL = 33 CO = 14	
Sex	Female CL = 59 CO = 21	Male CL = 25 CO = 9	

[a]In each cell CO denotes the number of counselors originally assigned to that condition. CL denotes the number of clients originally assigned to that condition.

tested in questionnaire two, or (3) repeated dependent measures which were compiled from student administrative records. Refer to pp. 172, 173.

Statistical analysis techniques included the following. In analyzing comparative hypotheses, chi-square was used for nominal data, while analysis of variance for either single or repeated measurement designs was used for the remaining variables. The computer programs ANOVA and Multivariance (Finn, 1972) were used for the analysis of single and repeated measurement variables, respectively. In addition, an associative analysis was performed using Tryon and Bailey's (1970) cluster analysis technique and their BCTRY computer program.

Administrative Procedures and Agreements

This study required the cooperation and approval of a number of programs and individuals at the university. In order to clarify the roles and responsibilities of each group, several administrative agreements were utilized. In terms of approval for the study the research design was reviewed and approved by the researcher's doctoral committee, the University Committee on Research Involving Human Subjects, and the Committee on Release of Confidential Information on Students. Administrative Agreements were also signed by the Director of the counseling program in which the study was run and the members of the research team. Copies of all administrative agreements can be found in Appendix A.

Design Implementation

This study was implemented in seven stages: (1) the determination of student problems, (2) the selection of the research team members, (3) the development of training procedures, (4) the selection of student counselors, (5) the training of student counselors, (6) the selection and assignment of student clients, and (7) the provision of counseling services to student clients.

The Determination of Student Problems

The literature on freshman students identifies three major problem areas as contributing to their minimal academic achievement. These include academic, financial, and personal social problems. The present study accepts these as variables correlated with student achievement and retention. However, the specific nature of these problems varies among students and universities. Therefore, it is necessary to define these problems within the context of the campus and student population chosen. This was accomplished by administering a questionnaire to the staff of the counseling program chosen as the site of the study.

The Michigan State University Counseling Center offers professional counseling and psychological services at no charge to all regularly enrolled students at the university. Services include career planning, personal social counseling, and testing. Assistance is provided in individual and group settings. The Multi-Ethnic Counseling Center Alliance (MECCA) is a branch of this Counseling Center, housed in the administrative building in one of the

dorm complexes. The impetus behind the creation of MECCA was the realization that the minority student as well as the economically and academically disadvantaged student encounters many problems such as racism, isolation, and sexism in addition to other problems common to students in general. It was postulated that the traditional approach to counseling did not treat the basic cause of most disadvantaged youths' problems because the traditional counselor lacked understanding, knowledge, and experience with students whose environment deviates from the norm. It was believed that counselors of the same or similar ethnic backgrounds as clients, who have faced these same problems, would have a better perspective from which to assess these students. Based on these strong beliefs, the MECCA program, focusing on multi-ethnic concerns in counseling, was established in 1969. MECCA services include individual and group counseling around personal and academic concerns, vocational and career seminars and workshops, and the training of counseling personnel. Any MSU student experiencing problems and concerns related to functioning in an alien university environment is eligible for services. This was the program chosen as the site of the study. During the period of this study, the researcher held the position of instructor in the Counseling Center and was a part-time staff member on the MECCA staff.

During the summer term of 1975 the five members of the MECCA staff completed a questionnaire on each of the freshman students seen during the 1974-75 academic year. This questionnaire detailed eight problem areas students might encounter, i.e., living conditions, finances, health, peer relations, emotional problems,

academic adjustment, family relations, and career vocational choice. The staff indicated all problem areas discussed with each student seen and then ranked these problems in terms of their seriousness as perceived by their students.[1] Staff were asked to review case records to check the accuracy of their responses. Questionnaires were completed on 316 freshman clients. Client ethnic group was not specified; however according to the staff, the majority were black. There were 89 males (28%) and 227 females (72%).

Table 3 indicates the results of this questionnaire. The table indicates that more than 50% of the MECCA freshman clients experienced problems with academics, finances, and/or living conditions. These three problem areas were also ranked as the most serious problems. Forty-two percent of the students experienced problems in peer relations, which was ranked sixth in terms of seriousness. Problems in family relations and emotional functioning were experienced by only 4% of the client population. These two areas were ranked seventh and eighth in terms of seriousness. An interesting result is that while only 13% of the students were seen for vocational problems, it was ranked fourth in terms of seriousness. These results provided guidelines in the creation of training materials.

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[1]The original plan was to have the clients themselves complete this questionnaire. However, only a small percentage were available during the summer term.

Table 3: Problems Encountered by MECCA Freshman Clients (September 1974-June 1975).

Problem Area	Frequency	Percentage[a]	Client's Rank of Problem Seriousness
Living conditions	186	59	3
Finances	184	58	1
Health	40	13	5
Peer relations	132	42	6
Emotional problems	14	4	7
Academic adjustment	170	54	2
Family relations	12	4	8
Career/vocational choice	41	13	4

[a]Column totals more than 100% because students experienced problems in more than one area.

The Selection of the Research Team Members

The research team was composed of the researcher and three trainer-supervisors. These persons were not randomly selected, but were volunteers from the staff of the MECCA program. Three persons were chosen as trainer-supervisors and signed the participation agreement form (see Appendix A). These persons were assigned to the counseling model in which they had the most experience and training. Therefore, the trainer-supervisor for the BMA model had extensive knowledge of behavioral modification techniques; while the trainer-supervisor assigned to the SCA model had been trained in this theoretical orientation by the creator of this approach. The trainer-supervisor for the PCA model was new to the university and to the

program, but had experience in counseling students at another university. She was therefore assigned to the no-training model.

Table 4 gives a description of the trainer-supervisors. All three persons had masters degrees in counseling; one had received the Ph.D. in psychology. The difference in education is reduced by the fact that the Ph.D. trainer-supervisor had less than one year post-doctoral experience at the time of the study, while both of the other trainer-supervisors were enrolled in Ph.D.-level work. There is a sex difference and an age difference. However, the influence of trainer sex or age on trainee performance is unknown and is rarely addressed in the literature. All of these characteristics were considered in the interpretation of experimental results.

Table 4: Demographic Characteristics of Trainer-Supervisors.

Race/Sex	Model	Education	Experience	Age
Black male	BMA	Ph.D. level	2 yrs. staff counselor MECCA	30
Black female	SCA	M.A. level	2 yrs. staff counselor MECCA	24
Black female	PCA	M.A. level	2 yrs. staff counselor--college level	27

The duties of the trainer-supervisors included: (1) review and approval of the training models, (2) training of student counselors assigned to their model, (3) supervisor of student counselors

assigned to their model, and (4) the assessment of student counselor skill and effectiveness.

The Development of Training Procedures

The analysis of the student problem inventory was used as a guide in the selection and development of training materials and procedures. Thus, although all eight problem areas were covered in the training, special attention was given to the most frequently encountered problems as well as the problems ranked as the most serious, e.g., living conditions, finances, peer relations, academic adjustment, and career vocational choice.

Training materials were developed by the researcher in conjunction with the trainer-supervisors who helped in the selection of materials and in the general scheduling of sessions. Although there was not enough time to pretest the training model on students prior to the implementation of training for counselors, the researcher and two of the three trainer-supervisors had been involved in the training of MECCA student counselors for 2 years prior to this study.

The Selection of Student Counselors

The selection criteria included: (1) full-time student status, (2) upperclassman status, (3) a minimum 2.2 GPA, and (4) willingness to participate in the research study. The position of student counselor was publicized in the student newspaper and by program staff. In addition, university personnel who had contact with students were asked to recommend students who met the above criteria. Independent study credit was offered in lieu of payment.

Interested students were required to complete an application form. A total of 69 students applied for the position of MECCA student counselor. Of these 44 (64%) met the selection criteria. Because of the number of acceptable applicants and anticipated attrition, all 44 students were offered training. Forty-two students accepted training, 30 of whom completed the training program. (Ten students dropped out after the orientation session.) All of those students who did not complete training were contacted. Their reasons for not participating in the program centered around their perceived inability to handle program activities and required course work.

Prior to selection, all potential trainees were informed that the researcher would be experimentally evaluating the program as her doctoral research project. Only those students who agreed to participate in the research project and who signed the consent form in Appendix A were included in the study. See Table 2 for the results of this assignment process. The comparability of groups is illustrated in Tables 28, 29, and 30.

The Training of Student Counselors[2]

Once selected, student counselors were trained in two stages. First, they received an 18-hour general orientation which was spread over six meetings during the second week of the fall 1975 term. Meetings were scheduled in the evenings and on the weekends. This orientation covered the following areas: (1) the history,

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[2]Copies of training materials can be obtained from the author.

ethics, and objectives of counseling; (2) the identification of campus resources (personnel and materials); (3) university rules and regulations; (4) the problems of freshman students; and (5) the nature, operations, and staff of the MECCA program. Trainees were given a Resource Manual developed by the experimenter, which detailed the policies and procedures to be followed. A copy of the training schedules can be found in Appendix B. This first stage of training was presented in an informal group setting; discussions and questions were encouraged. Guest speakers were invited from various campus departments. All trainer-supervisors participated in this stage of training, each being responsible for two of the six sessions. The researcher attended all of these sessions, but only as an observer. A unique feature of this part of training was the taping of all sessions. This was done so that those student counselors who missed a session could come in and review the material presented. At the end of this stage of training, student counselors were given a written exam on the information covered in these sessions. This exam was developed by the researcher from questions submitted by the research team. The exam was used as a criterion of training. That is, students were not graded on the exam; instead, those who did not answer all questions correctly were given additional training.

Next counselors were assigned to counseling models. Stratified random sample by race and sex was utilized. Refer to Table 2 for the results of this assignment process.

The second stage of training included the following topics: (1) communication skills training, (2) an introduction to the theoretical model to be employed, (3) an explanation of the problem-solving approach, and (4) skill building. The instructional model included lectures, role playing, films, and group discussion. SCA and BMA counselors were given joint training in communications skills; the two groups received the remainder of their training separately. Training procedures for each group were equated on method of training, length of training sessions, etc. This stage of training lasted 1 week and involved six sessions which lasted a total of 21 hours. The counselors assigned to the PCA model did not participate in this stage of training. Instead, they were given one general lecture on the peer counseling approach and were seen individually, at which time they were encouraged to use their own experiences as a guide to developing and implementing problem-solving techniques. At the end of this stage of training students were given a final training assignment which required them to meet with freshman students in small groups and test their newly acquired skills.

The Selection and Assignment of Student Clients

In reviewing student characteristics associated with poor adjustment to the college environment, three variables can be identified: minority status, poverty, and minimal academic achievement as defined by grades and retention status. (However, as discussed previously, the exact nature of the relationship is unclear.) In most definitions a combination of characteristics is used. In

context of this study, student clients were chosen according to the following criteria: (1) first-time full-time freshman status, and (2) willingness to participate in the research project. In addition to increasing the population available for sampling, this operational definition of incoming students expanded the population of students to whom results could be generalized. In terms of student status, information was obtained from students and verified by a check of their administrative records. Student clients were chosen from those referred to the experimenter by the MECCA staff, the main branch of the counseling center, academic advisors, resident hall staff, and other faculty, staff, and students. Freshmen who agreed to participate in the evaluation process and to accept a student counselor were then assigned to student counselors. A total of 84 clients were assigned to student counselors (see Tables 2 and 5).

Client assignment was implemented in two stages. First clients were randomly assigned to a model of counseling. Next they were assigned to a counselor of the same race and sex within that model. This matching was effected to control for race-sex effects. It should be noted that due to the small number of males per model, this assignment process was not always random. There was another restriction on assignment procedures. Because it was impossible to predict the number of clients who would participate in the research program, steps were taken to equalize the number of clients across counselors. After a black counselor had been assigned four clients, he or she became ineligible for further client assignment. The same rule applied after each white counselor had been assigned two

clients. (This racial difference in the number of clients assigned to each race counselor was based on the fact that the majority of MECCA clients are black.) In effect, all clients did not have an equal chance of being assigned to all models or to all counselors. The effect of this restricted client assignment process on sample comparability is discussed on pp. 93-101. Client selection and assignment were terminated at the end of the fall term since students who applied for services during the second term could be considered as representing a different population from first-term clients.

Table 5. Assignment of Clients to Counselors.

Client Characteristics (Race and Sex)	Student Counselor Characteristics (Race and Sex by Training Model)[a]											
	Behavior Modification (BMA)				Systemic (SCA)				Peer (PCA)			
	BF	BM	WF	WM	BF	BM	WF	WM	BF	BM	WF	WM
Black females	CL				CL				CL			
Black males		CL				CL				CL		
White females			CL				CL				CL	
White males				CL				CL				CL

[a]CL denotes the conditions to which clients were assigned in each model.

The Provision of Counseling Services to Student Clients

Once training was completed, the student counselors became members of the staff of the counseling program at the university. Student counselors in all three models were supervised in groups by model on a weekly basis. Supervisory sessions were used to assign new clients, discuss problems, and clarify procedures. In addition, on-going case activities were monitored through this review of case reports. Supervision was essential in the determination of counselor adherence to the specific model in which he or she was trained. (Supervision of PCA counselors was primarily an administrative meeting, i.e., collection of case reports.)

Short-term or time-limited counseling was used. Thus students were told that counseling would be terminated at the end of the second academic term (20 weeks), but that they could reapply for further services if needed. Student counselors did not contact their clients after this period. Those clients who applied for further counseling were assigned to professional staff members. The number, characteristics, and problems of students who reapplied for services throughout the remainder of the academic year was measured.

Two factors were seen as presenting problems in maintaining experimental constancy. The first was student client use of other counseling and related support services. Since the use of counseling services in this study was voluntary, this factor could not be controlled; however, use of such services was measured, along with student perceptions of the effect of these services on problem solution. Student client attrition, i.e., length of treatment, was

also outside the control of the experimenter. Even so, to maintain a minimum level of constancy, only those student clients who had attended a minimum of two counseling sessions were included in the study. Student counselors encouraged attendance, but clearly stated that no penalty would be attached to nonattendance. In addition, measures of this variable were taken and used as an indication of student counselor effectiveness. (Client satisfaction and reason for termination of counseling prior to the end of the term were also measured.)

Assessment Device

One of the most important steps in designing an experiment is the choice of instruments to measure participant, situational, and criterion variables. The choice of scales becomes critical in ESI experiments where innovative treatment models may not have been previously tested or measured (Fairweather, 1967). This discussion of assessment devices will be presented in three sections: (1) the description of instruments and scoring procedures, (2) the determination of instrument reliability, and (3) the administration of the questionnaires.

The Description of Instruments and Scoring Procedures[3]

Data for this study were collected from six sources: (1) student administrative files, (2) counselor application forms, (3) client case records, (4) trainer-supervisors, (5) clients, and

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[a]A copy of experimenter-created instruments can be obtained from the author.

(6) counselors. Data from student administrative files included: (1) student high school grade point average; (2) student grade point average, total credits carried, and total credits earned for the fall, winter, and spring terms of the 1975-76 academic year; (3) the student's financial aid status, i.e., the total amount received in financial aid from nonfamily sources as well as the total amount in loans; and (4) a verification of demographic data collected from students, i.e., class standing, major, age, etc. Data collected from counselor application forms included previous counseling experience and cumulative grade point average prior to application and transfer status. Data collected from case records included the number and nature of contacts between clients and counselors, and the nature of problems discussed.

Information collected from the trainer-supervisors included: their perceptions of the counselors' use of their training and their response to the research study. In terms of counselor use of training, trainer-supervisors completed the Use of the Model Scale given to clients and counselor. Their form of this scale asked for an assessment of counselor use of specific counseling techniques and methods. A questionnaire was completed on each client assigned to a counselor in their model 1 week after counselor posttesting in March 1976. Trainer-supervisors were instructed to thoroughly review each case record before completing the questionnaires. In addition, trainer-supervisors completed questionnaire five, which asked for a narrative account of their evaluation of the research project, the

training program, the supervisory process, and their relationship with their student counselors.

Information was obtained from student clients and counselors through the administration of four questionnaires. Questionnaires one and two constituted a pretest and gathered demographic, personal, and attitudinal information from clients and counselors. A detailed listing of scales is given in Table 1. Questionnaire one asked for the following information: (1) demographic data, i.e., race, sex, marital status, religious affiliation, current home address, occupation and educational level of spouse and parents, and number of children; (2) family status data, i.e., birth order and family composition; (3) employment status; (4) academic data, i.e., high school grade point average, participation in high school activities, high school curriculum, current major, credit load, student classification, and student status; (5) sources of financial aid; and (6) health status.

Questionnaire two included eight attitudinal scales. These eight scales were:

1. General Adjustment to Higher Education. This Likert-type scale, which was constructed by the researcher, was composed of seven items relating to student reactions to the general college environment. Items were answered on a five-point scale from strongly disagree to strongly agree. The more positive attitudes received the higher scores.

2. Attitude Toward Higher Education. This Likert-type scale of nine items was created to measure the value one places on

a college education. Scoring followed the procedure described above.

3. Motivation for Higher Education. The experimenter developed an eight-item Likert-type scale to measure the respondent's general tendency to seek a college education. Scoring procedures duplicated those described above.

4. Self-Esteem Scale. This 10-item scale developed by Rosenberg (1965) measures the self-acceptance aspect of self-esteem. Items were answered on a four-point scale from strongly agree to strongly disagree. Responses reflecting higher self-esteem are given the higher scores.

5. Post-High School Self-Concept of Ability Scale (Wamhoff, 1969). This eight-item scale is a revision of the Michigan State General Self-Concept of Ability Scale (Brookover, Paterson, & Thomas, 1962). It measures "the evaluation one makes of oneself in respect to the ability to achieve in academic tasks in general as compared to others" (Wamhoff, 1969). The client form of this scale was composed of six items focusing on high school and undergraduate achievement. The counselor form of this scale included seven items focusing on undergraduate and graduate-level achievement. Items were answered on a five-point scale with the higher self-concept alternatives receiving the higher values.

6. Problem Expectancy. This Likert-type scale lists seven areas that may cause problems for students. The respondent was asked to specify the degree of difficulty they expect in each of these areas. Scoring is from 1 to 5 with the more positive

expectations receiving the higher scores. This researcher-created scale was administered to clients only.

7. Locus of Control. This scale combines nine items from Rotter's (1966) Internal-External Locus of Control Scale and Gurin et al.'s (1969) Multidimensional IE Scale. These scales attempt to measure the respondent's beliefs concerning the role of internal and external forces in determining success or failure. The scale consisted of pairs of statements from which one is selected. The internal control statements were scored zero if chosen; the external control statements were scored 1.

8. Training-Supervision. This 10-item scale was administered to counselors only. It attempted to measure counselor attitudes toward the student counseling program including training, supervision, number of clients assigned, and designated roles and responsibilities. The first eight items constituted a Likert-type scale with response categories ranging from strongly disagree to strongly agree. Answers indicating greater satisfaction with these areas were given higher scores. Items 9 and 10 were open-ended questions asking for suggestions for improving the program and comments on counselor roles. Answers for these two questions were categorized with totals computed for each category.

In addition to these two questionnaires, the Group Assessment of Interpersonal Traits Scale (GAIT) (Goodman, 1962) was administered to counselors. This scale is a measure of interpersonal skills which have been related to counselor effectiveness. Following a series of two-person verbal interactions, subjects are

rated on eight dimensions, i.e., openness, warmth, empathy, directness, enthusiasm, persistence, quietness, and best therapeutic agent. In this study, counselors ranked themselves and other group members on these dimensions. They were also ranked by two professional counselors and the group leader. These rankings were transformed into factor scores. This process is discussed in detail on pp. 78-82.

Questionnaire three included four scales. They were:

1. Results of Counseling. This four-item scale attempted to measure client and counselor perceptions of problem solution, client satisfaction with services received, and change in client functioning. The fourth item asked the reason for termination of contacts, i.e., end of program or other. Items one through three were answered on a five-point scale from strongly disagree to strongly agree. Responses indicating positive results were given the higher scores. Responses to the fourth item were categorized and totals computed. The client form had two additional questions relating to the client's perception of counselor experience level and the effect of counselor activities on client academic functioning. Scoring for these two items paralleled that for the rest of the scale.

2. Mutual Liking. This eight-item Likert-type scale attempted to measure the degree to which clients and counselors liked each other. Items were answered on a five-point scale from strongly disagree to strongly agree. The responses indicating the greater degree of liking were given the higher scores.

3. Perceived Similarity. This Likert-type scale of eight items attempted to measure the perceived communality between clients and counselors. Responses, which ranged from strongly disagree to strongly agree, were scored from 1 to 5 with those answers indicating greater similarity receiving the higher scores.

4. Use of the Model. This 18-item scale was constructed to measure client and counselor knowledge and use of the techniques and methods identified with each of the three models of counseling. Responses were scored on a four-point scale with answers indicating greater use and knowledge being given the higher scores. The 18 items were scored as a total scale and as three separate subscales of six items each. Each subscale described the techniques and methods in one of the models of counseling.

Questionnaire four was administered to clients only. Clients were asked to describe their contacts with 14 university counseling-related services or agencies. Questions focused on referral sources, the number of contacts, the purpose of contacts, and the results of contacts. The total number of agencies contacted and the total number of contacts across agencies were computed.

An average item score was computed for each scale or subscale in questionnaires two and three, with the exception of the GAIT and Use of Related Services Scales. This score was created by dividing the total score for each scale by the number of items answered. It was used in data analysis in lieu of a total scale score to compensate for missing data.

Determination of
Instrument Reliability

The majority of scales utilized in this study were pretested on Michigan State University students during the period between August and December of 1975. Five of the scales in questionnaire two were pretested on 84 students in August 1975. Participants were students in a required undergraduate science course. Freshmen through seniors, both sexes, and white and black students were represented in the sample. Three of the scales in questionnaire three were pretested in December 1975. Subjects were 19 clients of the MECCA staff. Again, both sexes and races as well as freshmen through seniors were represented in the sample. The test-retest reliability and internal consistency of scales were computed for these scales. In addition the internal consistency of all scales in questionnaires two and three was computed from either pretest or posttest data of clients and counselors.

Table 6 indicates the results of these analyses. Test-retest reliability coefficients for the self-esteem and academic self-concept scales are quoted from the literature. The reliability coefficients ranged from .64 for the General Adjustment Scale to .92 for the Academic Self-Concept Scale. The mean reliability was .77. These scores were viewed as acceptable for use in this study. Internal consistency of the items in each scale was computed using Hoyt's Analysis of Variance. (Coefficients listed are those obtained after the removal of items which did not correlate with the scales.) These coefficients ranged from .37 (Training-Supervision Scale) to .92 (Mutual Liking Scale--client form).

Table 6: The Reliability and Internal Consistency of Scales Used in This Study.

Scales	Reliability	Internal Consistency		
	Trial Sample Fall 1975	Trial Sample Fall 1975	Pretesting Fall 1975	Posttesting Spring 1976
Questionnaire Two				
General Adjustment	.64	.49	.74	
Attitude Toward Higher Education	.78	.64	.66	
Motivation for Higher Education	.71	.50	.52	
Self-Esteem	.85[a]	.81	.83	
Academic Self-Concept[b]	.88 males .92 females	.73	.79 CL[c] .77 CO[d]	
Problem Expectancy	.80	.56	.70	
Locus of Control	.70	.58	.57	
Questionnaire Three (Posttest only)				
Results of Counseling (total scale)	.71	.40	.47 CL .53 CO	
Item 1--Problem Solution	.75	NA[e]	NA	
Item 2--Client Satisfaction	.77	NA	NA	
Item 3--Client Functioning	.19	NA	NA	
Item 4--Counselor Experience	.93			

Table 6: Continued.

Scales	Reliability	Internal Consistency		
	Trial Sample Aug.-Dec. 1975	Trial Sample Aug.-Dec. 1975	Pretesting Sept.-Dec. 1975	Posttesting March 1976
Item 5--Effect on GPA	.73			
Mutual Liking	.77	.83		.92 CL .88 CO
Perceived Similarity				.88 CL .80 CO
Use of Model (total scale)	NPT[f]	NPT		.85 CL .87 CO .58 TS[g]
Behavior Modification Subscale	NPT	NPT		.83 CL .85 CO .92 TS
Systemic Subscale	NPT	NPT		.80 CL .77 CO .88 TS
Peer Subscale	NPT	NPT		.60 CL .78 CO .88 TS
Training-Supervision	NPT	NPT		.37

[a](Silbert & Tippett, 1965).

[b]Coefficient of reproducibility (Wamhoff, 1969).

[c]CL = coefficient for client form of scale.

[d]CO = coefficient for counselor form of scale.

[e]NA = not applicable.

[f]NPT = not pretested prior to use in this study.

[g]TS = coefficient for trainer-supervisor form of scale.

The mean score was .71. Table 6 indicates that in general the coefficients were larger for experimental data than for trial sample data. For the scales of questionnaire three, this increase may be due, in part, to the increased number of subjects who completed pretest data. The low coefficients obtained for the Results of Counseling and Training-Supervision Scales resulted in the separate analysis of each item in these scales.

Table 7 gives the results of the statistical analyses of the Group Assessment of Interpersonal Traits Scale (GAIT). The total scale scores for peer and self-ratings indicate a general consistency across peer and individual counselors. However, individual subscale scores vary considerably for both groups. The ratings by the three raters had minimum consistency. This lack of correlation between rater scores and individual subscale counselor scores was not unexpected since none of these persons was trained in the use of the GAIT scale prior to rating. As a result of these analyses each counselor was given a total peer and self score on this scale, which was the sum of the subscale scores.

Tables 8 and 9 illustrate the results of a factor analysis of peer and self-ratings. The decision to give each counselor only a total scale score is supported by the eigenvalues as shown in the percentage of variance accounted for by one factor.

All experimenter-created scales were reviewed by the trainer-supervisors and members of the researcher's doctoral committee for wording, length, and the appropriateness of response categories.

Table 7: Internal Consistency of GAIT Scale Ratings by Group.

Group	Generalizability Coefficients
Peers	
Total scale score	.71
Individual scale scores	
Openness	.67
Empathy	.56
Warmth	.28
Persistence	.16
Quietness (outgoing)	.77
Directness	.63
Enthusiasm	.54
Best Therapist	.55
Self (total scale score)	.89
Raters	
Individual scale scores	
Openness	.31
Empathy	.28
Warmth	.29
Persistence	.59
Quietness (outgoing)	.69
Directness	.38
Enthusiasm	.25
Best Therapist	-.15

Table 8: Factor Analysis for Counselor GAIT Scale Scores (Peer Ratings).

Factor	Eigen-values	Percent of Variance[a]	Factor One[b]		
			Variables	Factor Loading	Communalities
1	5.15	64.4	Open	.57	.32
2	.91	11.3	Empathy	.83	.68
3	.73	9.1	Warmth	.75	.56
4	.55	6.9	Persistence	.70	.49
5	.27	3.4	Outgoing	.80	.65
6	.21	2.6	Direct	.89	.80
7	.10	1.2	Enthusiasm	.90	.82
8	.09	1.1	Best Therapist	.91	.83

[a]Percentage of total variance accounted for by each factor.

[b]The decision on the number of factors used (one) was based on the Kaiser (1958) criteria; i.e., rotate as many factors as have eigenvalues greater than one.

Table 9: Factor Analysis for Counselor GAIT Scale Scores (Self-Ratings).

Factor	Eigen-values	Percent of Variance[a]	Factor One[b]		
			Variables	Factor Loading	Communalities
1	4.71	58.8	Open	.63	.39
2	.85	10.7	Empathy	.85	.72
3	.79	9.9	Warmth	.80	.64
4	.58	7.3	Persistence	.69	.47
5	.49	6.0	Outgoing	.63	.40
6	.35	4.4	Direct	.71	.50
7	.17	2.1	Enthusiasm	.91	.83
8	.07	.8	Best Therapist	.88	.77

[a]Percentage of total variance accounted for by each factor.

[b]The decision on the number of factors used (one) was based on the Kaiser (1958) criteria; i.e., rotate as many factors as have eigenvalues greater than one.

Minor changes were made in the format and wording of several scales before the questionnaires were administered to experimental subjects.

The Administration of Questionnaires

Questionnaires were administered separately to clients and counselors. Table 10 illustrates the data-collection schedule. Counselors completed questionnaires one and two in a group setting at the beginning of the first training session in September 1975. The GAIT scale was administered at the end of the second stage of training. Student counselors were randomly assigned across models to one of four groups which met for 2 hours. The scale was administered by the group leader, a graduate student in psychology. The 5-minute interactions between group members were videotaped for the subsequent rating by two professional counselors. Questionnaire two was readministered along with questionnaires three and four at the final supervisory sessions in March 1975. (All clients had been terminated 1 week prior to posttesting.) Counselor posttesting covered two group sessions since class and work schedules prevented them from all attending one meeting. Client pretesting and posttesting was done on an individual basis. The original plan was to administer questionnaires one and two prior to client assignment to counselors. However, this necessitated a delay in assignment for clients who were originally contacted outside of the MECCA office. (Requests for services often came as a result of casual meetings on campus.) As a result several clients, who required immediate services, were lost to the study, when their presenting problems were

Table 10: Data-Collection Schedule.[a]

	Pretest Only Fall 1975		Posttest Only Spring 1976			Pretest and Posttest	
	CL	CO	CL	CO	TS	CL	CO
Questionnaire One							
Demographic data	x	x					
Questionnaire Two							
General Adjustment Scale						x	x
Attitude Toward Higher Education Scale						x	x
Motivation for Higher Education Scale						x	x
Self-Esteem Scale						x	x
Academic Self-Concept Scale						x	x
Problem Expectancy Scale						x	
Locus of Control Scale						x	x
Training-Supervision Scale				x			
GAIT Scale	x						
Questionnaire Three							
Results of Counseling Scale			x	x			
Mutual Liking Scale			x	x			
Perceived Similarity Scale			x	x			
Use of the Model Scale			x	x	x		
Questionnaire Four							
Use of Related Services Scale			x				
Questionnaire Five							
Evaluation of Research Project					x		

[a]CL = clients, CO = counselors, TS = trainer-supervisors.

solved by other campus agencies before student counselors could contact them. Therefore, it was decided to change pretesting procedures. Clients were assigned immediately to student counselors who were instructed to have them complete pretest forms during the first session, prior to any problem discussion. This procedure resulted in a 100% return of questionnaires. However, some forms were not completed until after second or third counseling contact. In spite of specific instructions and constant reminders, student counselors sometimes forgot to take the pretest forms with them or forgot to have clients complete them during the first session. Because of the potential influence of counseling contacts on client responses on questionnaires, those questionnaires returned late were compared to the others for significant differences in scale scores. The results of this analysis are discussed on pp. 90-91.

In posttesting, questionnaire two was readministered along with questionnaires three and four in March 1976 at the end of the winter term. Because of the problems encountered in pretesting, each client was paid $2 for the completion of questionnaires. Data collection was instituted in four steps: (1) Each client was informed 1 week in advance of posttesting and payment by his or her counselor; (2) Questionnaires two, three, and four along with a cover letter explaining the data-collection process were delivered to clients' dorms by the researcher with the aid of several student counselors; (3) Clients living in the Brody complex were asked to return questionnaires in person for payment; (4) The researcher collected all remaining questionnaires. Data collection was

completed within 1 week. Only one client did not participate in posttesting. This student did not return to campus for winter term and there was no record of her current address. A questionnaire mailed to her former address was returned by the post office.

CHAPTER III

RESULTS

The results of this study are presented in four parts: (1) comparability of samples, (2) validity of the counseling models, (3) comparative analyses, and (4) associative analyses.

Comparability of Samples

This section of the data will be presented in five parts: (1) client attrition, (2) comparability of response conditions, (3) analysis of client pretest data, (4) comparability of client and control groups, and (5) analysis of counselor pretest data.

Client Attrition

A total of 84 freshmen were offered the services of student counselors. Of this number 31 were not included in data analysis. Table 11 gives the reasons for client attrition by counseling model. The largest number of lost clients, 20 or 67%, did not participate because of lack of interest. These students initially agreed to see a student counselor but when contacted, refused an appointment. Even so, many of them commented that they liked the idea of students as counselors. Three students were lost because of the delay between their assignment and contact by a student counselor. This occurred during the early stages of the experiment. Also during this time, four students who were currently being seen by a staff counselor

were assigned to student counselors. Three students were lost when they refused further contact after their initial questions on career planning had been answered. Finally one student could not be contacted despite repeated phone calls and letters. In addition to these 31 students, one additional student left school before posttesting was completed but is included in the analysis of pretest data.

Table 11: Reasons for Client Attrition by Counseling Model.

Reason	Counseling Model		
	Behavior Modification	Systemic	Peer
Lack of interest	5	5	10
Initial problem solved prior to counselor contact	1	2	
Inappropriate referral--being seen by staff counselor	2		2
Problem solved on first contact; no further contact desired		2	1
Unable to contact			1
Total	8	9	14

Table 12 shows the arrangement of lost and retained clients by counseling model, race, and sex. Tables 13 and 14 present the results of analyses of variance and chi-square analyses for lost and retained. Table 13 shows that there were no significant differences between lost and retained clients by counseling model, race, or

Table 12: Lost and Retained Client Characteristics by Counseling Model, Race, and Sex.[a]

Race/Sex	Counseling Model Conditions			Total
	Behavior Modification Approach (BMA)	Systemic Counseling Approach (SCA)	Peer Counseling Approach (PCA)	
Black Females	5 (9)	6 (2)	5 (9)	16 (20)
Black Males	(4)	1 (6)	1 (3)	2 (13)
White Females	3 (8)	2 (6)	3 (1)	8 (15)
White Males	(2)	(2)	5 (1)	5 (5)
	8 (23)	9 (16)	14 (14)	31 (53)
Race	Black 13 (33)	White 13 (20)		
Sex	Female 24 (35)	Male 7 (18)		

[a]Retained clients in parentheses.

sex. However, Table 14 indicates that there was a significant racial difference on high school grade point average within both groups, which accounts for 19% of the variance for this condition. Table 15 presents the group means for high school grade point averages for these two groups. Within both groups, white students had a higher high school grade point average. Based on these analyses it would appear that there were significant racial differences for both lost and retained clients.

Table 13: Chi-Square Analysis for Lost and Retained Clients.

Variable Description	df	Chi-Square	Level of Significance
Model	2	3.711	.16
Race	1	.022	.88
Sex	1	.729	.39

Table 14: Analysis of Variance for Lost and Retained Clients on High School Grade Point Average.

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	1	.121	.778	.999
Race	1	3.286	21.445	.001(w^2=.19)
Sex	1	.302	1.970	.16
Model by race	1	.235	1.533	.22
Model by sex	1	.390	2.547	.11
Race by sex	1	.219	1.431	.23
Model by race by sex	1	.186	1.212	.27
Residual	76	.153		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 15: Mean Scores on High School Grade Point Average for Lost and Retained Clients.[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.0 (2.8)	3.1 (2.9)	2.8 (2.8)	3.0 (2.8)
Black males	(2.9)	3.5 (2.8)	2.5 (2.5)	3.0 (2.7)
White females	3.2 (3.4)	3.0 (3.3)	3.3 (3.9)	3.2 (3.4)
White males	(2.9)	(2.8)	3.3 (3.2)	3.3 (2.9)
Total model	3.1 (3.0)	3.1 (3.0)	3.1 (2.8)	3.1 (3.0)
Total race	Black 3.0 (2.8)		White 3.2 (3.3)	
Total sex	Female 3.0 (3.1)		Male 3.2 (2.8)	

[a]Retained client scores in parentheses.

Comparability of Response Conditions

Some of the clients did not complete the pretest questionnaire prior to receiving counseling services. Of the 53 clients included in data analysis, 24 or 45% did not complete the pretest questionnaires until after the second counseling session despite continuous attempts to avoid delay. Because of the possible influence of these contacts on questionnaire responses, an analysis of variance was used to compare the attitudes of those who completed pretesting prior to counseling with those who completed pretesting after two counseling contacts.

There were no significant race or sex differences between these two groups on these seven attitudinal scales. However, as shown in Table 16 there was a significant ($p<.02$) interaction between number of contacts and counseling conditions on the Self-Esteem Scale. Table 17 gives the mean scores on this scale for each group. This table indicates that prior to counseling, clients assigned to the Peer Model obtained the highest score on this scale. However for clients who completed this scale after several contacts with counselors, those assigned to the Behavior Modification Model scored higher on this scale. Sakoda, Cohen, and Beall (1954, p. 173) present a method of determining the probability that this one significant difference could be obtained by chance. According to their tables, one significant difference in a series of 14 significance tests could be expected to occur with a probability of between .40 and .50 at the .05 level of significance. In addition this difference accounts for only 13% of the variance. Thus it is probable that this difference occurred by chance. Despite this finding specific attention should be given to the Self-Esteem Scale if further analyses show it to significantly differentiate the groups. Generally then it would appear that the number of counseling contacts prior to the completion of pretesting did not significantly affect the scores obtained on the seven attitudinal scale administered to clients.

Analysis of Client Pretest Data

Evidence of the success of achieving sample similarity by a combination of random and forced assignment of clients to counselors is seen in the analysis of pretest data.

Table 16: Analysis of Variance of Response Bias for Client Self-Esteem Scale (Pretest--Fall 1975).[a,b,c]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
No. of contacts	1	.032	.181	.99
Race	1	.002	.009	.99
Sex	1	.008	.047	.99
Counseling model	2	.369	2.069	.14
Interactions				
Contacts x race	1	.062	.349	.99
Contacts x sex	1	.015	.882	.99
Contacts x model	2	.860	4.818	.02(w^2=.13)
Race x sex	1	.249	1.398	.24
Race x model	2	.218	1.222	.31
Sex x model	2	.013	.073	.99
Contacts x race x sex	1	.029	.161	.99
Contacts x race x model	1	.293	1.641	.207
Contacts x sex x model	2	.353	1.978	.153
Race x sex x model	2	.278	1.556	.225

[a]Error term, df = .178.

[b]w^2 = percentage of variance accounted for by the source of variation.

[c]Because of small cell size, higher order interactions could not be computed.

Table 17: Client Mean Scores on Self-Esteem Scale Prior to and After Two Counseling Contacts (Pretest--Fall 1975).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.3 (3.7)	2.7 (3.3)	3.6 (2.9)	3.4 (3.3)
Black males	3.2 (3.4)	3.1 (2.9)	3.2 (3.4)	3.2 (3.0)
White females	3.0 (3.3)	3.2 (2.7)	(3.5)	3.1 (3.1)
White males	3.3 (3.8)	3.5	(3.2)	3.4 (3.5)
Total model	3.2 (3.5)	3.2 (2.9)	3.5 (3.1)	3.2 (3.2)

Total race	Black	White
	3.3 (3.2)	3.2 (3.2)
Total sex	Female	Male
	3.3 (3.2)	3.2 (3.2)

[a]Mean scores after two counseling contacts are in parentheses.

The demographic information was obtained from a questionnaire and student administrative files. Additional information was obtained from seven attitudinal scales relating to attitudes toward self and higher education. Analysis of variance and chi-square analyses are summarized for each variable.

Clients were compared on each variable by counseling model, race, and sex. For the 22 variables compared between each subgroup, six significant differences were discovered:

Conseling conditions:
As shown in Table 18 there were no significant differences between counseling conditions.

Table 18: Comparison of Clients on Demographic Variables by Model.

Variable	Counseling Model[a]			Test of Signif.
	Behavior Modification	Systemic	Peer	
Sex				
% males	26.10	50.00	28.60	χ^2=2.652
% females	73.90	50.00	71.40	
Race				
% black	56.50	50.00	85.70	χ^2=4.624
% white	43.50	50.00	14.30	
Mean age	17.87	18.19	18.14	F=1.587
Religious affiliation				
% no religious affiliation	47.10	71.40	42.90	χ^2=2.728
% stated religious affil.	52.90 (N=17)	28.60 (N=14)	57.10	
Mean SES score	43.94 (N=18)	35.93 (N=14)	41.70 (N=10)	F=.491
Family stability (childhood)				
% both parents in home	90.50	75.00	57.10	χ^2=5.215
% one parent in home	9.50 (N=21)	25.00	42.90	
Family stability (current)				
% both parents in home	81.80	56.30	66.70	χ^2=2.967
% one parent in home	18.20 (N=22)	43.80	33.30 (N=12)	
Mean number of siblings in family	4.05 (N=21)	3.75	4.00	F=0.549
Mean birth order	2.21 (N=19)	2.13	1.62	F=1.062
High school curriculum				
% college preparatory	82.60	87.50	66.70	χ^2=2.019
% noncollege preparatory	17.40	12.50	33.30 (N=12)	
Mean number of high school activities	2.43 (N=21)	2.47 (N=14)	2.64	F=0.379
Mean high school grade point average	3.01	2.99	2.83	F=0.039

Table 18: Continued.

Variable	Counseling Model[a]			Test of Signif.
	Behavior Modification	Systemic	Peer	
Mean distance between home and MSU	102.39	69.19	120.93	F=.757
College major				
% people focused majors	39.10	25.00	50.00	
% nonpeople focused majors	39.10	31.30	42.90	X^2=5.75
% no declared major	21.70	43.80	7.10	
Mean amount of financial aid nonfamily sources	1266.74	1770.81	1877.50	F=1.887
Mean amount of financial aid in loans	335.13	446.38	526.43	F=.315
Employment				
% employed part-time	43.50	25.00	7.10	X^2=5.785
% not employed	56.50	75.00	92.90	

[a]Number of subjects: Behavior Modification = 23, Systemic = 16, Peer = 14 unless otherwise indicated.

Racial differences (see Table 19):
A significant difference indicated that white students had a higher high school grade point average than black students.

Black students obtained significantly ($p<.001$) more financial aid from nonfamily sources than white students.

Black students received significantly ($p<.05$) more financial aid in loans than white students.

Students also differed in terms of majors. Black students were divided primarily between people focused majors, i.e., the social sciences, and nonpeople focused majors, i.e., the physical sciences. White students were divided primarily between no declared major and nonpeople focused majors.

Table 19: Comparison of Clients on Demographic Variables by Race.

Variable	Race[a]		Test of Significance[b]
	Black	White	
Mean age	17.97	18.15	F=1.369
Religious affiliation			
% no religious affiliation	46.20	63.20	X^2=0.684
% stated religious affiliation	53.80	36.80	
	(N=26)	(N=19)	
Mean SES score	43.52	37.37	F=0.329
	(N=23)	(N=19)	
Family stability (childhood)			
% both parents in home	67.70	90.00	X^2=2.225
% one parent in home	32.30	10.00	
	(N=31)		
Family stability (current)			
% both parents in home	60.00	85.00	X^2=2.48
% one parent in home	40.00	15.00	
	(N=30)		
Mean number of siblings in family	4.07	3.75	F=1.880
	(N=30)		
Mean birth order	1.93	2.15	F=0.276
	(N=28)		
High school curriculum			
% college preparatory	74.20	90.00	X^2=1.055
% noncollege preparatory	25.80	10.00	
	(N=31)		
Mean number of high school activities	2.13	3.05	F=0.361
	(N=30)		
Mean high school grade point average	2.77	3.26	F=19.698** (w^2=.23)
Mean distance between home and MSU	109.55	77.00	F=1.918
College major			
% people focused majors	48.50	20.00	
% nonpeople focused majors	39.40	35.00	X^2=8.23*
% no declared major	12.10	45.00	

Table 19: Continued.

Variable	Race[a]		Test of Significance[b]
	Black	White	
Mean amount of financial aid--nonfamily sources	1989.06	859.70	F=13.375** (w^2=.18)
Mean amount of financial aid in loans	537.27	224.50	F=4.006* (w^2=.06)
Employment			
% employed part-time	24.20	35.00	X^2=0.279
% not employed	75.80	65.00	

[a]Number of subjects: Black = 33, White = 20 unless otherwise noted.

[b]w^2=percentage of variance accounted for by the source of variation.

*p<.05.

**p<.001.

Sex differences:
A significant difference (p<.05) indicated that females had a higher high school grade point average than males (see Table 20).

Interaction effects:
There was a significant (p<.01) race by sex interaction for the Problem Expectancy Scale (see Table 21). As shown in Table 60, white males expected more serious problems during their freshman year than the other groups.

Table 20: Comparison of Clients on Demographic Variables by Sex.

Variable	Sex[a]		Test of Significance[b]
	Females	Males	
Mean age	18.03	18.06	F=0.009
Religious affiliation			
% no religious affiliation	50.00	60.00	X^2=0.101
% stated religious affiliation	50.00	40.00	
	(N=30)	(N=15)	
Mean SES score	42.54	37.81	F=0.949
	(N=26)	(N=16)	
Family stability (childhood)			
% both parents in home	72.70	83.30	X^2=0.258
% one parent in home	27.30	16.70	
	(N=33)		
Family stability (current)			
% both parents in home	75.00	61.10	X^2=0.500
% one parent in home	25.00	38.90	
	(N=32)		
Mean number of siblings in family	4.21	3.41	F=2.035
	(N=33)	(N=17)	
Mean birth order	2.13	1.82	F=0.927
	(N=31)	(N=17)	
High school curriculum			
% college preparatory	81.80	77.80	X^2=0.001
% noncollege preparatory	18.20	22.20	
	(N=33)		
Mean number of high school activities	2.65	2.13	F=0.805
	(N=34)	(N=15)	
Mean high school grade point average	3.05	2.78	F=4.026* (w^2=.04)

Table 20: Comparison of Clients on Demographic Variables by Sex.

Variable	Sex[a]		Test of Significance[b]
	Females	Males	
Mean age	18.03	18.06	F=0.009
Religious affiliation			
% no religious affiliation	50.00	60.00	X^2=0.101
% stated religious affiliation	50.00	40.00	
	(N=30)	(N=15)	
Mean SES score	42.54	37.81	F=0.949
	(N=26)	(N=16)	
Family stability (childhood)			
% both parents in home	72.70	83.30	X^2=0.258
% one parent in home	27.30	16.70	
	(N=33)		
Family stability (current)			
% both parents in home	75.00	61.10	X^2=0.500
% one parent in home	25.00	38.90	
	(N=32)		
Mean number of siblings in family	4.21	3.41	F=2.035
	(N=33)	(N=17)	
Mean birth order	2.13	1.82	F=0.927
	(N=31)	(N=17)	
High school curriculum			
% college preparatory	81.80	77.80	X^2=0.001
% noncollege preparatory	18.20	22.20	
	(N=33)		
Mean number of high school activities	2.65	2.13	F=0.805
	(N=34)	(N=15)	
Mean high school grade point average	3.05	2.78	F=4.026* (w^2=.04)

Table 20: Continued.

Variable	Sex[a]		Test of Significance[b]
	Females	Males	
Mean distance between home and MSU	94.77	102.11	F=0.027
College major			
% people focused majors	42.90	27.80	X^2=3.697
% nonpeople focused majors	28.60	55.60	
% no declared major	28.60	16.70	
Mean amount of financial aid--nonfamily sources	1584.37	1521.11	F=1.308
Mean amount of financial aid in loans	368.00	518.89	F=0.390
Employment			
% employed part-time	34.30	16.70	X^2=1.054
% not employed	65.70	83.30	

[a]Number of subjects: Females = 35, Males = 18 unless otherwise indicated.

[b]w^2 = percentage of variance accounted for by the source of variation.

*p<.05.

Table 21: Analysis of Variance for Problem Expectancy Scale (Pretest--Fall 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.231	.699	.99
Race	1	.072	.219	.99
Sex	1	.002	.005	.99
Model by race	2	.219	.662	.99
Model by sex	2	.059	.178	.99
Race by sex	1	.160	6.529	.01(w^2=.10)
Model by race by sex	2	.390	1.179	.32
Residual	40	.331		

[a] w^2 = percentage of variance accounted for by the source of variation.

The probability of obtaining four significant racial differences at the .05 level of significance in a series of 15 tests of significance is between .01 and .001. The probability of obtaining one significant sex difference at the .05 level of significance in a series of 15 tests of significance is between .40 and .50. The probability of the one race by sex difference occurring by chance in a series of seven significance tests is between .20 and .30. Thus it would appear that the most plausible nonchance differences are the racial difference on high school grade point average and financial aid status. The sex difference could have occurred by chance.

Because of the significant correlations among the attitudinal scales as shown in Table 22, a total scale score was computed for each client. The results of the analysis of variance for the omnibus scale score are given in Table 23. The same significant ($p<.04$) race by sex interaction was obtained although it accounts for a smaller percentage of the variance, i.e., 7% as opposed to 10% (Table 24).

As mentioned previously no variables produced significant counseling model differences. This would seem to indicate that, in spite of the restrictions on assignment procedures, the sampling process was reasonably successful in distributing students equally across counseling conditions. Therefore any significant differences between counseling models which might be found later could be given reasonable credibility. Differences between the sexes should be interpreted with minor caution; major emphasis must be given to the racial differences, particularly in the area of academic performance.

Comparability of Client and Control Groups

Because of the small number of subjects used in data analysis, it was decided to compare clients with a sample of freshmen on behavioral outcome measures, i.e., grade point average, academic credits, and attrition. The purpose was to further distinguish between significant and chance differences. Table 25 gives the results of an analysis of variance performed on client and control participants on high school grade point average. Table 25 indicates

Table 22: Correlations Between Each of the Seven Scales in Client Questionnaire Two (Pretest--Fall 1975).

Scale	Scale						
	1	2	3	4	5	6	7
1. General Adjustment		.09	.34**	.35**	-.13	.42**	.24*
2. Attitude Toward Higher Education	.10		.36**	.12	-.26*	-.03	-.18
3. Motivation for Higher Education	.34**	.36**		.10	.00	.27*	-.10
4. Self-Esteem	.35**	.12	.10		-.13	.31*	.01
5. Control	-.13	-.26*	.00	-.13		-.12	-.08
6. Academic Self-Concept	.42**	-.03	.27*	.31*	-.12		.09
7. Problem Expectancy	.24*	-.18	-.10	.00	-.08	.09	

*p<.05.

**p<.01.

Table 23: Analysis of Variance for Client Total Attitudinal Scale Scores (Pretest--Fall 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	4.240	1.459	.24
Race	1	.037	.013	.99
Sex	1	2.817	.969	.99
Model by race	2	.566	.195	.99
Model by sex	2	.800	.275	.99
Race by sex	1	13.557	4.664	.04(w^2=.07)
Model by race by sex	2	3.239	1.114	.34
Residual	41	2.907		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 24: Client Mean Scores on Total Attitudinal Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	21.7 (20.6)	20.8 (20.3)	20.7 (18.7)	21.1 (19.6)
Black males	21.3 (21.4)	20.4 (19.7)	20.7 (20.7)	20.8 (19.9)
White females	20.5 (21.0)	20.7 (20.6)	20.4 (20.9)	20.6 (20.9)
White males	24.3 (22.1)	22.1 (21.4)	20.2 (22.4)	22.6 (21.9)
Total model	21.4 (20.6)	20.8 (20.3)	20.6 (19.6)	21.0 (20.2)
Total race	Black 21.0 (19.7)		White 21.1 (21.1)	
Total sex	Female 20.9 (20.1)		Male 21.3 (20.5)	

[a]Posttest scores are in parentheses.

Table 25: Analysis of Variance for Clients and Control Subjects on High School Grade Point Average.

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	1	.000	.004	.99
Race	1	12.053	129.840	.001(w^2=.28)
Sex	1	2.977	32.075	.001(w^2=.07)
Model by race	1	.004	.046	.99
Model by sex	1	.003	.027	.99
Race by sex	1	3.521	37.934	.001(w^2=.08)
Model by race by sex	1	.030	.319	.99
Residual	251	.093		

[a] w^2 = percentage of variance accounted for by the source of variation.

that there are significant ($p<.001$) racial and sex differences as well as a race by sex difference within each group. However, the racial difference accounts for the largest percentage of the variance, i.e., 28% as compared to 7% for sex and 8% for the race by sex interaction. Table 26, which presents the mean high school grade point average for control subjects, indicates that white students had significantly higher grade point averages than black students and that females had higher grade point averages than males. White females had the highest grade point average of all groups. These differences are similar to the ones found for clients in Tables 19 and 20. Thus there are similar race and sex differences within each

condition on high school grade point averages as mentioned above. These findings indicate that caution must be used in the latter interpretation of college grade point average, which is a behavioral outcome measure.

Table 26: Mean Scores on High School Grade Point Average for Control Subjects.

Race/Sex		Mean Grade Point Average
Black females		2.8
Black males		2.8
White females		3.4
White males		2.9
Total		3.0
Race	Black	White
	2.8	3.2
Sex	Female	Male
	3.1	2.8

Analysis of Counselor Pretest Data

A total of 30 upperclass students completed training and were assigned freshman clients as shown in Table 2. Five of these counselors were not included in the data analyses because they had less than two contacts with their clients. All five of these counselors were offered alternative assignments within the counseling program. One counselor was assigned to clients not chosen for the

study. The remaining four decided to drop out of the program because of heavy course or work schedules. Table 27 presents the racial and sexual characteristics of the 25 counselors who were included in the data analysis.

Table 27: Retained Counselor Characteristics by Counseling Model, Race, and Sex.

Race/Sex	Counseling Model Conditions		
	Behavior Modification Condition (BMA)	Systemic Counseling Condition (SCA)	Peer Counseling Condition (PCA)
Black females	4	2	4
Black males	1	2	1
White females	4	3	1
White males	1	1	1
Total	10	8	7

Race	Black	White
	14	11

Sex	Female	Male
	18	7

Analysis of variance and chi-square were used to compare these 25 counselors on demographic characteristics. As shown in Table 28 there were no significant differences between counseling conditions. There were, however, racial and sex differences:

Table 28: Comparison of Counselors on Demographic Variables by Model.

Variable	Counseling Model[a]			Test of Signif.
	Behavior Modification	Systemic	Peer	
Sex				
% males	20.00	37.50	28.60	X^2=0.677
% females	80.00	62.50	71.40	
Race				
% black	50.00	50.00	71.40	X^2=0.939
% white	50.00	50.00	28.60	
Mean age	20.50	20.63	19.71	F=2.079
Religious affiliation				
% no religious affiliation	50.00	50.00	42.90	X^2=0.103
% stated religious affil.	50.00	50.00	57.10	
Mean SES score	39.70	33.50	52.57	F=1.372
Family stability (childhood)				
% both parents in home	90.00	62.50	71.40	X^2=1.954
% one parent in home	10.00	37.50	28.60	
Family stability (current)				
% both parents in home	90.00	62.50	71.40	X^2=1.954
% one parent in home	10.00	37.50	28.60	
Mean number of siblings in family	3.60	4.25	4.29	F=0.480
Mean birth order	2.30	1.63	3.14	F=3.468
Mean number of high school activities	3.00	3.50	3.00	F=0.555
Mean high school grade point average	3.17	3.06	2.85 (N=6)	F=0.803
Mean distance between home and MSU	159.80	123.13	172.00	F=0.189
College major				
% people focused majors	80.00	87.50	71.40	
% nonpeople focused majors	10.00		14.30	X^2=1.222
% no declared major	10.00	12.50	14.30	

Table 28: Continued.

Variable	Couseling Model[a]			Test of Signif.
	Behavior Modification	Systemic	Peer	
Financial aid Mean amount from non-family sources	1179.00	960.00	1350.29	F=0.231
Mean amount in loans	404.50	263.75	220.71	F=0.555
Mean number of hours employed	11.30	8.38	10.71	F=0.137
Class standing				
% sophomores	30.00	25.00	42.90	
% juniors	10.00	25.00	57.10	X^2=7.699
% seniors	60.00	50.00		
Years at MSU prior to program				
% no years		12.50	14.30	
% one year	60.00	12.50	57.10	X^2=7.121
% two years	20.00	37.50	28.60	
% three years	20.00	37.50		
Living conditions				
% living on campus	30.00	37.50	14.30	X^2=1.031
% not living on campus	70.00	62.50	85.70	
Mean cumulative grade point average prior to program	2.93	2.78	2.68	F=0.291
Previous counseling experience				
% previous experience	70.00	62.50	28.60	X^2=3.070
% no previous experience	30.00	37.50	71.40	

[a]Number of subjects: Behavior Modification = 10, Systemic = 8, Peer = 7 unless otherwise indicated.

Racial differences:
A significant difference ($p<.01$) indicated that white students had a higher cumulative grade point average prior to program participation than black students. In addition black student counselors received significantly more ($p<.05$) financial support from nonfamily sources than white students (see Table 29).

Sex differences:
Female counselors had a significantly higher ($p<.05$) scholastic average prior to program participation than male counselors (see Table 30).

Counselors were also compared on six attitudinal scales. Five significant differences, involving four of the scales, were found:

Counseling model differences:
There was a significant ($p<.002$) difference between counselors in the three conditions on the General Adjustment Scale (see Table 31). Counselors assigned to the Systemic Model made a better adjustment to college life than counselors in the other two models. Table 66 gives the mean pretest scores on this scale.

A significant difference ($p<.03$) indicated that counselors assigned to the Peer Model had a more negative self-concept than counselors in the Behavior Modification and Systemic Models (see Tables 33 and 68).

Racial differences:
On the Attitude Toward Higher Education Scale a significant ($p<.002$) difference indicated that white counselors had more positive attitudes than black counselors (see Tables 32 and 67).

Interaction effects:
A significant difference ($p<.01$) was found on the Attitude Toward Higher Education Scale in that white females expressed the most positive attitudes of all groups (see Tables 32 and 67).

On the Locus of Control Scale, black females assigned to the Behavior Modification Model were significantly ($p<.05$) more external control oriented than the other groups (see Tables 34 and 69).

The probability of obtaining these eight significant differences by chance at the .05 level of significance in a series of 25 significance tests is given by condition: (1) for the two counseling condition differences the probability is between .30 and .40,

Table 29: Comparison of Counselors on Demographic Variables by Race.

Variable	Race[a]		Test of Significance[b]
	Black	White	
Mean age	20.14	20.55	F=0.604
Religious affiliation			
% no religious affiliation	42.90	54.50	X^2=0.035
% stated religious affiliation	57.10	45.50	
Mean SES score	48.29	32.46	F=3.404
Family stability (childhood)			
% both parents in home	64.30	90.90	X^2=1.157
% one parent in home	35.70	9.10	
Family stability (current)			
% both parents in home	64.30	90.90	X^2=1.157
% one parent in home	35.70	9.10	
Mean number of siblings in family	3.79	4.27	F=0.680
Mean birth order	2.57	2.00	F=0.699
Mean number of high school activities	3.29	3.00	F=0.231
High school grade point average	3.01	3.12 (N=10)	F=0.017
Mean distance between home and MSU	161.79	138.36	F=0.071
College major			
% people focused majors	85.70	72.70	
% nonpeople focused majors	7.10	9.10	X^2=0.785
% no declared major	7.10	18.20	

Table 29: Continued.

Variable	Race[a]		Test of Significance[b]
	Black	White	
Mean amount of financial aid--nonfamily sources	1658.36	518.64	F=4.974* (w^2=.13)
Mean amount of financial aid in loans	453.93	122.27	F=2.487
Mean number of hours employed	11.07	9.09	F=0.280
Class standing			
% sophomores	35.70	27.30	
% juniors	38.60	27.30	X^2=0.287
% seniors	35.70	45.50	
Years at MSU prior to program			
% no years	7.10	9.10	
% one year	42.90	45.50	X^2=1.698
% two years	21.40	36.40	
% three years	28.60	9.10	
Living conditions			
% living on campus	35.70	18.20	X^2=0.271
% not living on campus	64.30	81.80	
Mean cumulative grade point average prior to program	2.58	3.11	F=9.568** (w^2=.23)
Previous counseling experience			
% previous experience	42.90	72.70	X^2=1.183
% no previous experience	57.10	27.30	

[a]Number of subjects: Black = 14, White = 11 unless otherwise indicated.

[b]w^2 = percentage of variance accounted for by the source of variation.

*p<.05.

**p<.01.

Table 30: Comparison of Counselors on Demographic Variables by Sex.

Variable	Sex[a]		Test of Significance[b]
	Females	Males	
Mean age	20.17	20.71	F=2.076
Religious affiliation			
% no religious affiliation	33.30	85.70	X^2=3.640
% stated religious affiliation	66.70	14.30	
Mean SES score	43.44	35.86	F=0.766
Family stability (childhood)			
% both parents in home	83.30	57.10	X^2=0.731
% one parent in home	16.70	42.90	
Family stability (current)			
% both parents in home	83.30	57.10	X^2=0.731
% one parent in home	16.70	42.10	
Mean number of siblings in family	3.89	4.29	F=0.159
Mean birth order	2.11	2.86	F=3.002
Mean number of high school activities	3.17	3.14	F=0.019
Mean high school grade point average	3.09	2.94 (N=6)	F=0.492
Mean distance between home and MSU	142.50	174.57	F=0.248
College major			
% people focused majors	83.30	71.40	
% nonpeople focused majors	11.10		X^2=3.092
% no declared majors	5.60	28.60	

Table 30: Continued.

Variable	Sex[a]		Test of Significance[b]
	Females	Males	
Mean amount of financial aid--nonfamily sources	879.28	1870.71	F=3.497
Mean amount of financial aid in loans	238.89	485.71	F=1.150
Mean number of hours employed	10.50	9.43	F=0.067
Class standing			
% sophomores	33.30	28.60	X^2=0.057
% juniors	27.80	28.60	
% seniors	38.90	42.90	
Years at MSU prior to program			
% no years	5.60	14.30	
% one year	44.40	42.90	
% two years	33.30	14.30	X^2=1.493
% three years	16.70	28.60	
Living conditions			
% living on campus	27.80	28.60	X^2=0.208
% not living on campus	72.20	71.40	
Mean cumulative grade point average prior to program	2.92	2.53	F=5.064* (w^2=.11)
Previous counseling experience			
% previous experience	50.00	71.40	X^2=0.271
% no previous experience	50.00	28.60	

[a]Number of subjects: Females = 18, Males = 7 unless otherwise indicated.

[b]w^2 = percentage of variance accounted for by the source of variation.

*p<.05.

Table 31: Analysis of Variance for Counselor General Adjustment Scale (Pretest--Fall 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.757	11.354	.002(w^2=.37)
Race	1	.026	.395	.99
Sex	1	.215	3.231	.10
Model by race	2	.166	2.491	.12
Model by sex	2	.210	3.145	.08
Race by sex	1	.102	1.533	.24
Model by race by sex	2	.006	.090	.99
Residual	12	.067		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 32: Analysis of Variance for Counselor Attitude Toward Higher Education Scale (Pretest--Fall 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.024	.271	.99
Race	1	1.554	17.509	.002(w^2=.33)
Sex	1	.264	2.971	.11
Model by race	2	.024	.267	.99
Model by sex	2	.025	.285	.99
Race by sex	1	.954	10.754	.01(w^2=.19)
Model by race by sex	2	.068	.766	.99
Residual	12	.089		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 33: Analysis of Variance for Counselor Self-Esteem Scale (Pretest--Fall 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.516	4.954	.03(w^2=.23)
Race	1	.126	1.212	.29
Sex	1	.259	2.493	.14
Model by race	2	.036	.348	.99
Model by sex	2	.122	1.172	.34
Race by sex	1	.110	1.055	.33
Model by race by sex	2	.081	.779	.99
Residual	12	.104		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 34: Analysis of Variance for Counselor Locus of Control Scale (Pretest--Fall 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.065	2.135	.16
Race	1	.066	2.175	.16
Sex	1	.029	.958	.99
Model by race	2	.019	.621	.99
Model by sex	2	.036	1.197	.34
Race by sex	1	.033	1.097	.32
Model by race by sex	2	.115	3.781	.05(w^2=.14)
Residual	12	.030		

[a] w^2 = percentage of variance accounted for by the source of variation.

(2) for the three racial differences the probability is between .10 and .20, (3) for the one sex difference the probability is greater than .50, (4) for the one race by sex difference and the one race by sex by model difference the probability is also greater than .50. An omnibus scale score was not computed for counselors because as shown in Table 35 the six attitudinal scales were not significantly related.

The most plausible nonchance differences would appear to be the racial and sex differences found on cumulative grade point average, which account for 23% and 10% of the variance. There is also support in the literature for the racial differences in financial aid status and attitudes toward higher education, which account for 13% and 33% of the variance, respectively.

It should be noted that there were no significant differences between counseling conditions on demographic characteristics. This would seem to indicate that the sampling process was reasonably successful in distributing the students across counseling conditions. The two significant attitudinal differences by counseling conditions do indicate the need for some caution in the analysis of any posttest differences found on these scales since they account for 37% (General Adjustment) and 23% (Self-Esteem) of the variance. Again the racial and sex differences found on grade point average indicate that any posttest differences on scholastic achievement would have to be interpreted with great caution.

Table 35: Correlations Between Each of the Six Scales in Counselor Questionnaire Two (Pretest--Fall 1975).

Scale	Scale 1	2	3	4	5	6
1. General Adjustment		-.29	-.32	-.04	-.18	.19
2. Attitude Toward Higher Education	-.29		.00	-.20	-.14	-.16
3. Motivation for Higher Education	-.32	.00		.00	.08	-.11
4. Self-Esteem	-.04	-.20	.00		.00	-.20
5. Locus of Control	-.18	-.14	.08	.00		-.08
6. Academic Self-Concept	.19	-.16	-.11	-.20	-.08	

Validity of the Counseling Models

This portion of the data will be presented in four sections: (1) an analysis of client problem areas, (2) a description of counseling activities, (3) counselor use of the counseling model, and (4) counselor response to the training and supervision processes.

Client Problem Areas

The problem areas discussed in counseling sessions were categorized by two raters who independently reviewed case records. A 95% agreement was obtained between rater perceptions of the distribution of the problem areas encountered. The category labels used were those employed in the survey of Multi-Ethnic Counseling Center Alliance (MECCA) freshman clients for the previous year, except that the finances and employment categories were separated (refer to Table 3). Table 36 illustrates the frequency of problems encountered by clients in the research study. According to this table, clients experienced multiple problems. The six most frequently encountered problems centered around living conditions, finances, employment, academic adjustment, career/vocational choice, and peer relations. Problems in family relations, health, and intrapersonal functioning had the lowest frequencies. This distribution is very similar to the one obtained from the survey of freshman client problems the previous year (see Table 3). Thus it would appear that the 1974 survey was reasonably accurate in predicting major problem areas encountered by MECCA clients.

Table 36: Frequency of Problems Encountered by Clients (Posttest--Spring 1976).

Problem Areas	Frequency	%
Living conditions	23	43.4
Finances	16	30.2
Employment	10	18.9
Health	4	7.5
Peer relations	18	34.5
Intrapersonal problems	2	3.8
Academic adjustment	37	69.8
Family relations	9	17.0
Career/vocational	24	45.3

Table 37 illustrates the major problem focus of counseling. Here again the six major problem areas are listed with academic adjustment and living conditions being the primary concerns of the largest percentage of clients (35.8 and 24.5%, respectively).

Table 38 gives the results of a chi-square analysis of general problem areas and the major problem discussed. Tables 39 and 40 give the frequencies and percentages for these problem areas. Six significant differences were found:

Counseling model differences:
While only 14% of the clients in the Peer Model expressed concern over career choice, 57% of the clients in the Behavior Modification Model and 56% of those in the Systemic Model saw this as a problem (see Table 39).

Table 37: Major Problem Focus of Counseling Contacts (Posttest--Spring 1976).

Problem Areas	Frequency	%
Living conditions	13	24.5
Finances	4	7.5
Employment	1	1.9
Health		
Peer relations	4	7.5
Intrapersonal problems		
Academic adjustment	19	35.8
Family relations	2	3.8
Career/vocational	10	18.9
Total	53	99.9

Table 38: Chi-Square Analysis for Client Problem Areas.

Problem Area	χ^2		
	Model	Race	Sex
Living conditions	3.952	.455	.033
Finances	3.431	.901	.002
Employment	2.041	.039	.006
Health	5.643	1.173	.889
Peer relations	1.219	6.597**	.976
Personal	.840	.144	.074
Academic	2.561	4.568*	.348
Family	1.055	.006	.117
Career	7.378*	17.956***	.144
Major problem focus	15.962	22.290***	12.645*

*p<.05.

**p<.01.

***p<.001.

Table 39: Frequencies for Problem Areas by Experimental Conditions.[a]

Problem Areas	Counseling Model Condition			Race		Sex	
	Behavior Modification	Systemic	Peer	Black	White	Female	Male
Living conditions	7 (30.4)	10 (62.5)	6 (42.9)	16 (48.5)	7 (35.0)	15 (42.9)	8 (44.4)
Finances	10 (43.5)	3 (18.8)	3 (21.4)	12 (36.4)	4 (20.0)	11 (31.4)	5 (27.8)
Employment	6 (26.1)	3 (18.8)	1 (7.1)	7 (21.2)	3 (15.0)	7 (20.8)	3 (16.7)
Health	4 (17.4)	--	--	4 (12.1)	--	4 (11.4)	--
Peer relations	6 (26.1)	6 (37.5)	6 (42.9)	16 (48.5)	2 (10.0)	14 (40.0)	4 (22.2)
Personal	1 (4.3)	1 (6.3)	--	1 (3.0)	1 (5.0)	1 (2.9)	1 (5.6)
Academic	14 (60.9)	11 (68.8)	12 (85.7)	27 (81.8)	10 (50.0)	23 (65.7)	14 (77.8)
Family	3 (13.0)	4 (25.0)	2 (14.3)	6 (18.2)	3 (15.0)	6 (17.1)	3 (16.7)
Career	13 (56.5)	9 (56.3)	2 (14.3)	7 (21.2)	17 (85.0)	17 (48.6)	7 (38.9)

[a]Percentages are in parentheses.

Racial differences:
Only 10% of the white clients were concerned with peer relations as compared to 49% of the black clients (see Table 39).

While 82% of the black clients had academic problems, only 50% of the white clients expressed concern in this area (see Table 39).

A larger proportion of white clients (85%) were concerned with career choice than black clients (21%) (see Table 39).

The major problem for white students was career choice (50%), while academic adjustment concerned the majority of black students (46%) (see Table 40).

Sex differences:
While academic adjustment was the major problem for males (61%), females had several major areas of concern (living conditions, academics, and career choice, each approximately 25%) (see Table 40).

The probability of obtaining four racial differences at the .05 level of significance in a series of 10 tests of significance is less than .001. The probability of the one counseling condition difference or the one sex difference occurring by chance at the .05 level of significance is between .30 and .40. Thus while the counseling condition and sex differences could have occurred by chance, clearly race is highly significant in distinguishing between problem areas discussed by clients.

In summary, the problems encountered by freshman MECCA clients did not change significantly between 1974 and 1975. Students continued to experience problems in the areas of academic adjustment, finances, living conditions, career choice, and peer relations, among others. Major problem areas appear to differ significantly between the races.

Table 40: Frequencies for Major Problem Focus by Experimental Conditions.[a]

Major Problem Focus	Counseling Model Condition			Race		Sex	
	Behavior Modification	Systemic	Peer	Black	White	Female	Male
Living conditions	4 (17.4)	5 (31.3)	4 (28.6)	10 (30.3)	3 (15.0)	9 (25.7)	4 (22.2)
Finances	3 (13.0)	1 (6.3)	--	2 (6.1)	2 (10.0)	3 (8.6)	1 (5.6)
Employment	--	1 (6.3)	--	1 (3.0)	--	--	1 (5.6)
Health	--	--	--	--	--	--	--
Peer relations	2 (8.7)	--	2 (14.3)	3 (9.1)	1 (5.0)	4 (11.4)	--
Personal	--	--	--	--	--	--	--
Academic	6 (26.1)	5 (31.3)	8 (57.1)	15 (45.5)	4 (20.0)	8 (22.9)	11 (61.1)
Family	2 (8.7)	--	--	2 (6.1)	--	2 (5.7)	--
Career	6 (26.1)	4 (25.0)	--	--	10 (50.0)	9 (25.7)	1 (5.6)

[a]Percentages are in parentheses.

Description of Counseling Activities

Counseling activities can be described in terms of the number of clients counseled and client use of related counseling services provided by the university. The assignment of clients to counseling conditions was illustrated in Table 5. Table 41 gives the results of an analysis of variance for the number of clients assigned per counselor. There were two significant differences found. A significant difference at the .03 level of significance indicated that black counselors were assigned more clients than white counselors. This difference reflects the matching of counselors and clients on race and the predominance of black clients. There was also a significant ($p<.05$) race by sex interaction which is accounted for by the fact that the largest number of clients were black females. The percentage of variance accounted for by these two differences is relatively small, i.e., 15% race; 11% race by sex. An analysis of variance for the characteristics of clients showed no significant differences between groups. It is important to notice here that there were no significant differences between counseling conditions. These results give further support to the success of the assignment process in the distribution of clients across counseling models.

Table 42 gives the mean number of sessions between clients and counselors. Counselors averaged seven contacts per client. Counselors in the Systemic Model had the highest average number of contacts (8.6), while white male counselors averaged the largest

Table 41: Analysis of Variance for Number of Clients Assigned to Counselors.

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	1.914	1.359	.29
Race	1	3.840	5.705	.03(w^2=.15)
Sex	1	.187	.277	.99
Model by race	2	.549	.815	.99
Model by sex	2	.267	.397	.99
Race by sex	1	3.017	4.483	.05(w^2=.11)
Model by race by sex	2	.403	.598	.99
Residual	13			

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 42: Mean Counselor Contacts With Clients by Model, Race, and Sex.

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	7.2	11.0	6.4	7.3
Black males	6.8	9.2	5.0	7.5
White females	5.8	8.2	8.0	6.9
White males	13.0	6.0	6.0	8.8
Total model	7.1	8.6	6.2	7.3
Total race	Black		White	
	7.3		7.4	
Total sex	Female		Male	
	7.1		7.8	

number of contacts across models (8.8). An analysis of variance resulted in no significant differences on this measure.

Another measure of the counseling process is the client's use of related counseling services. Table 43 gives the results of the analysis of variance for the number of related services utilized. There was a significant ($p<.01$) race difference found which accounted for 13% of the variance. Table 44, which gives the mean number of services contacted, indicates that black clients utilized more of these services than white clients. The analysis of variance for the total number of client contacts with these counseling-related services indicated that there were no significant differences between conditions on this measure.

Counselor Use of Counseling Model Techniques

In order to assess counselor use of specific counseling techniques, the Use of the Model Scale was developed and administered to clients, counselors, and trainer-supervisors. Table 45 presents the results of a correlational analysis of the responses of these three groups on this scale. As illustrated in Table 45, counselors perceived a significant relationship between the use of techniques associated with all three models: Behavior Modification and Systemic ($r = .56$); Behavior Modification and Peer ($r = .24$); Peer and Systemic ($r = .50$). That is, if counselors admitted to using the techniques associated with one model, they tended to admit to using techniques associated with all three models. Clients held a somewhat different perception. They

Table 43: Analysis of Variance for Client Use of Related Counseling Services.

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	8.541	1.777	.18
Race	1	43.064	8.959	.01(w^2=.13)
Sex	1	.575	.120	.99
Model by race	2	2.086	.434	.99
Model by sex	2	12.736	2.650	.08
Race by sex	1	1.277	.266	.99
Model by race by sex	2	.131	.027	.99
Residual	40	4.807		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 44: Mean Number of Related Counseling Services Used by Clients.

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	5.9	5.5	5.3	5.7
Black males	8.5	5.3	4.3	6.1
White females	4.0	4.5	3.0	4.1
White males	5.5	4.0	1.0	4.0
Total model	5.7	4.9	4.8	5.2
Total race	Black 5.9		White 4.1	
Total sex	Female 5.0		Male 5.5	

Table 45: Correlations Between Perceptions of Counselor Use of the Counseling Model Techniques.

Group	Group								
	Counselors			Clients			Trainer-Supervisors		
	1(BMA)	2(SCA)	3(PCA)	1(BMA)	2(SCA)	3(PCA)	1(BMA)	2(SCA)	3(PCA)
Counselors									
1. Use of Behavioral Modification Approach (BMA)		.56***	.24*	.22	.11	.16	.15	.21	.21
2. Use of Systemic Counseling Approach (SCA)	.56***		.50***	.02	.07	.09	-.03	.31**	.20
3. Use of Peer Counseling Approach (PCA)	.24*	.50***		-.12	-.11	.09	.02	.17	.25*
Clients									
1. Use of Behavioral Modification Approach (BMA)	.22	.02	-.12		.43***	.12	.20	-.07	.03
2. Use of Systemic Counseling Approach (SCA)	.11	.07	-.11	.43***		.34**	.11	-.05	-.12
3. Use of Peer Counseling Approach (PCA)	.16	.09	.09	.12	.34**		.22	.01	-.00
Trainer-Supervisors									
1. Use of Behavioral Modification Approach (BMA)	.15	-.03	.02	.20	.11	.22		-.69***	-.37***
2. Use of Systemic Counseling Approach (SCA)	.21	.31**	.17	-.07	-.05	.01	-.69***		.64***
3. Use of Peer Counseling Approach (PCA)	.21	.20	.25*	.03	-.12	-.00	-.37***	.64***	

*p<.05.

**p<.01.

***p<.001.

saw a significant relationship between their counselors' use of Systemic and Peer Techniques (r = .34). However, they perceived little correlation between their counselor's use of Behavior Modification and Peer Techniques (r = .02). The trainer-supervisors had still another view of the counseling process. They perceived a significant relationship between the use of Systemic and Peer techniques (r = .64). However, the use of Behavior Modification techniques was viewed as having a negative correlation with the use of Systemic techniques (r = -.69) and Peer techniques (r = -.37).

In summary, the three groups each held a somewhat different view of the techniques being utilized by counselors. However, all three groups perceived a significant relationship between the use of Peer and Systemic techniques. Even so, there were enough differences in the perceptions of clients, counselors, and trainer-supervisors to justify giving each counselor three separate scores on this scale.

Table 46 summarizes the results of the analysis of variance for the Use of the Model Scale. Eight significant differences were found:

Counseling condition differences:
Trainer-supervisors in the Behavior Modification and Systemic Conditions each viewed their group of counselors as having used their own model techniques significantly ($p<.001$) more than those techniques associated with the other two counseling conditions (see Tables 47 and 48). (This difference was expected in that each trainer-supervisor rated only the counselors in his group.) The trainer-supervisor ratings of counselors in the Systemic Model deserve further notice in that this model difference accounts for 65% of the variance. In contrast to these results, the trainer-supervisor in the Peer Condition saw these counselors as utilizing Systemic techniques significantly ($p<.001$) more than Peer or Behavior Modification

Table 46: Analysis of Variance for Counselor Use of Counseling Model Techniques.[a,b,c]

Source of Variation	Groups											
	Counselors				Clients				Trainer-Supervisors			
	BMA	SCA	Peer	Total	BMA	SCA	Peer	Total	BMA	SCA	Peer	Total
Model	NS	NS	NS	NS	NS	NS	NS	NS	S	S	S	NS
Race	S	NS	NS	S	NS	NS	NS	NS	NS	NS	NS	NS
Sex	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Model by race	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Model by sex	S	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Race by sex	NS	NS	NS	NS	NS	NS	NS	S	NS	NS	S	NS
Model by race by sex	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix C.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

[c]BMA = Behavior Modification Approach, SCA = Systemic Counseling Approach, Peer = Peer Counseling Approach.

Table 47: Counselor Mean Scores on Use of the Model Scale (Behavior Modification Subscale--Trainer-Supervisor Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.1	1.0	1.5	2.2
Black males	2.8	1.2	1.5	1.7
White females	3.0	1.0	2.3	2.2
White males	3.5	1.0	1.5	2.1
Total model	3.1	1.1	1.6	2.16
Total race	Black 2.0		White 2.2	
Total sex	Female 2.2		Male 1.8	

Table 48: Counselor Mean Scores on Use of the Model Scale (Systemic Techniques Subscale--Trainer-Supervisor Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	1.2	2.9	2.3	1.7
Black males	1.2	2.7	2.2	2.1
White females	1.4	2.6	3.2	2.0
White males	1.3	2.6	2.5	2.0
Total model	1.3	2.7	2.3	2.0
Total race	Black 2.0		White 2.0	
Total sex	Female 1.9		Male 2.1	

techniques. This difference accounts for 34% of the variance; however, it may primarily reflect a lack of differentiation between counseling condition techniques as suggested in the significant correlations between the subscales (refer to Table 49).

Racial differences:
White counselors perceived themselves as employing significantly ($p<.05$) more counseling techniques (across models) than black counselors (see Table 50).

White counselors perceived themselves as using the Behavior Modification techniques taught significantly ($p<.05$) more than black counselors (Table 51).

Interaction effects:
Male counselors in the Behavior Modification Model perceived themselves as utilizing fewer techniques than any other group of counselors ($p<.004$) (Table 51).

The trainer-supervisor in the Peer Counseling condition also perceived a significant ($p<.03$) difference in that the white female counselor was viewed as having utilized Peer techniques to a lesser degree than the other counselors in this model (Table 49). This difference, however, accounts for only 7% of the variance and thus should not be given special emphasis.

White male clients viewed their counselors as having employed fewer of the counseling techniques described than any other group ($p<.05$) (see Table 52).

Counselor Response to the Training and Supervision Processes

An eight-item Training-Supervision Scale was administered to counselors at the end of the experiment. The items in this scale were analyzed individually using analysis of variance because of the low correlations between them. Three significant differences were found. As shown in Table 53, there was a significant ($p<.01$) difference between counseling model conditions on item 7, which asked about the counselors' understanding of their roles. Table 54, which gives the mean scores on this item, indicates that counselors in the Systemic Model expressed a better understanding of their roles

Table 49: Counselor Mean Scores on Use of the Model Scale (Peer Techniques Subscale--Trainer-Supervisor Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	2.4	3.3	2.8	2.7
Black males	2.0	3.1	2.8	2.7
White females	1.9	2.9	2.7	2.3
White males	2.8	3.1	2.8	2.9
Total model	2.2	3.1	2.8	2.6
Total race	Black 2.7		White 2.5	
Total sex	Female 2.5		Male 2.8	

Table 50: Counselor Mean Scores on Use of the Model Scale (Total Scale Score--Self-Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	2.2	2.3	2.1	2.2
Black males	1.9	2.6	2.5	2.2
White females	2.7	2.4	2.3	2.6
White males	2.0	3.1	1.9	2.4
Total model	2.1	2.4	2.2	2.3
Total race	Black 2.2		White 2.5	
Total sex	Female 2.3		Male 2.2	

Table 51: Counselor Mean Scores on Use of the Model Scale (Behavior Modification Subscale--Self-Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	1.8	1.7	1.6	1.7
Black males	1.1	1.8	2.8	1.8
White females	2.7	1.8	1.8	2.3
White males	1.3	2.7	1.0	1.8
Total model	1.9	1.9	1.9	1.9
Total race	Black 1.7		White 2.2	
Total sex	Female 1.9		Male 1.8	

Table 52: Counselor Mean Scores on Use of the Model Scale (Total Scale Scores--Client Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	2.3	2.1	2.4	2.3
Black males	2.9	2.3	2.6	2.5
White females	2.4	2.2	2.3	2.3
White males	2.1	1.9	MD[a]	1.0
Total model	2.4	2.2	2.4	2.3
Total race	Black 2.4		White 2.2	
Total sex	Female 2.3		Male 2.4	

[a]MD = missing data.

Table 53: Analysis of Variance for Counselor Training-Supervision Scale--Item Seven (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	6.613	6.655	.01(w^2=.15)
Race	1	3.607	3.630	.08
Sex	1	.319	.321	.99
Model by race	2	.050	.050	.99
Model by sex	2	.961	.968	.99
Race by sex	1	1.080	1.087	.32
Model by race by sex	2	.018	.018	.19
Residual	13	.994		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 54: Mean Scores for Counselor Training Supervision-Scale--Item Seven (Posttest--Spring 1976).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.3	4.5	3.0	3.4
Black males	3.0	5.0	2.0	3.8
White females	2.5	3.3	2.0	2.8
White males	3.0	5.0	2.0	3.3
Total model	2.9	4.3	2.6	3.2
Total race	Black 3.5		White 2.9	
Total sex	Female 3.1		Male 3.6	

than counselors in the Behavior Modification or Peer Models. There were two significant differences found in responses to item 8, which asked about the need for additional supervision (see Table 55). A significant ($p<.04$) sex difference indicated that female counselors were more satisfied with the amount of supervision given than male counselors. In addition a significant ($p<.04$) model by sex interaction was found. Males in the Behavior Modification Model were more dissatisfied with their supervision than all other groups of counselors (Table 56 gives the mean scores on this item).

The probability that the counseling model, sex or model by sex differences were obtained by chance at the .05 level in a series of eight differences per condition is between .30 and .40 for each condition. Thus it is likely that all three of these significant differences were obtained by chance. In summary it appears that counselors were not significantly different in their perceptions of the training and supervision processes.

Comparative Analyses

Test of the Hypotheses

Comparative and associative analyses were made for the dependent variables for each of the 11 major hypotheses in this study. The 11 hypotheses were:

Hypothesis One. The Systemic Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing the client's sense of internal control.

Hypothesis Two. The Peer Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing client self-esteem.

Table 55: Analysis of Variance for Counselor Training-Supervision Scale--Item Eight (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	1.407	3.181	.07
Race	1	.368	.833	.99
Sex	1	2.352	5.318	.04(w^2=.12)
Model by race	2	.105	.237	.99
Model by sex	2	1.847	4.176	.04(w^2=.18)
Race by sex	1	.130	.294	.99
Model by race by sex	2	.175	.396	.99
Residual	13	.442		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 56: Mean Scores for Counselors on Training-Supervision Scale--Item Eight (Posttest--Spring 1976).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	4.0	4.5	3.8	4.0
Black males	2.0	4.5	4.0	3.8
White females	4.0	4.0	4.0	4.0
White males	2.0	4.0	3.0	3.0
Total model	3.6	4.3	3.7	3.8
Total race	Black 3.9		White 3.7	
Total sex	Female 4.0		Male 3.4	

Hypothesis Three. There will be no significant differences between clients counseled by the three methods in the following areas: general adjustment, attitudes toward higher education, motivation for higher education, academic self-concept, and problem expectancy.

Hypothesis Four. Client evaluation of the effectiveness of the three counseling models will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model.

Hypothesis Five. There will be no significant differences between counselors in the three models in attitudes toward higher education or themselves.

Hypothesis Six. The counselors' evaluation of their effectiveness in solving client problems will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model.

Hypothesis Seven. There will be no significant differences between client groups or counselor groups by race or sex.

Hypothesis Eight. Client term and cumulative grade point average and credit load will be significantly correlated with the number of contacts with counselors and their use of related counseling services.

Hypothesis Nine. Problem solution as defined by clients will be significantly correlated with the number of contacts with their counselors and their use of related services.

Hypothesis Ten. Client perceptions of the effectiveness of counseling services will be significantly correlated with their perceptions of the counseling relationship and their perceived similarity to their counselors.

Hypothesis Eleven. Counselor perceptions of their effectiveness in solving student problems will be significantly correlated with the number of contacts with their clients, their perceptions of the counseling relationship, their perceived similarity to their clients and their therapeutic skills.

The variables used in testing each hypothesis were analyzed by single or repeated measures analysis of variance or a correlational analysis, depending on the nature of the hypothesis. The exact probability values for significant results which are summarized in the text can be found in the appendices.

Hypothesis One. Hypothesis One states that the Systemic Counseling Model will be more effective than the Behavior Modification or Peer Models in increasing the client's sense of internal control. The Locus of Control Scale was used to test this hypothesis. Reference to Table 57 shows that no significant differences were found between counseling model conditions on this scale. There were also no significant race or sex differences discovered. The type of counselor training or experiences provided apparently did not differentially affect the clients' sense of control over the environment.

Hypothesis Two. Hypothesis Two states that the Peer Counseling Model will be more effective than the Behavior Modification or Systemic Models in increasing client self-esteem. The Rosenberg (1965) Self-Esteem Scale was used to test this hypothesis. Table 57 indicates that there was no significant difference between counseling model conditions on this measure. However, there was a significant time difference ($p<.0001$). Table 58 gives the mean pretest and posttest scores on this measure. This table indicates an overall decrease in self-esteem for each group. A significant ($p<.03$) time by sex interaction between groups was also discovered. Table 58 also indicates that male self-esteem decreased more than female self-esteem over time.

Thus, there is no support for the hypothesis that the Peer Counseling Model was more effective than the Behavior Modification or Peer Models in increasing client self-esteem. There were no

Table 57: Results of Significance Tests for Scales Used to Test Hypotheses One and Two[a,b,c]

Source of Variation	Hypothesis One Locus of Control Scale	Hypothesis Two Self-Esteem Scale
Model	NS	NS
Race	NS	NS
Sex	NS	NS
Time	NS	S
Model by race	NS	NS
Race by sex	NS	NS
Time by model	NS	NS
Time by race	NS	NS
Time by sex	NS	S
Model by race by sex	NS	NS
Time by model by race	NS	NS
Time by model by sex	NS	NS
Time by race by sex	NS	NS
Time by model by race by sex	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix D.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

[c]Number of subjects: Self-Esteem Scale = 51; Locus of Control Scale = 42.

Table 58: Client Mean Scores on Self-Esteem Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.5 (3.0)	3.0 (3.2)	3.3 (3.2)	3.3 (3.1)
Black males	3.2 (2.7)	2.9 (2.6)	3.3 (2.6)	3.1 (2.6)
White females	3.1 (2.6)	3.0 (2.8)	3.5 (3.1)	3.1 (2.7)
White males	3.6 (2.6)	3.5 (2.7)	3.2 (2.7)	3.4 (2.7)
Total model	3.3 (2.8)	3.0 (2.7)	3.3 (3.0)	3.2 (2.8)
Total race	Black 3.2 (2.9)		White 3.2 (2.7)	
Total sex	Female 3.2 (2.9)		Male 3.2 (2.6)	

[a]Posttest scores are in parentheses.

significant differences found between the counseling models on this measure. The time difference and sex by time interaction, however, do require further investigation.

Hypothesis Three. Hypothesis Three states that there will be no significant differences between clients counseled in the three models on the following scales: (1) General Adjustment to Higher Education, (2) Attitudes Toward Higher Education, (3) Motivation for Higher Education, (4) Academic Self-Concept, and (5) Problem Expectancy. Table 59 gives the results of the repeated measures analysis of variance for these scales. Of the tests performed on these five scales only one significant difference was found. This was a significant ($p<.05$) race by sex interaction for the Problem

Table 59: Results of Significance Tests for Scales Used to Test Hypothesis Three.[a,b,c]

Source of Variation	Scale				
	General Adjustment (1)	Attitude Toward Higher Education (2)	Motivation for Higher Education (3)	Academic Self-Concept (4)	Problem Expectancy (5)
Model	NS	NS	NS	NS	NS
Race	NS	NS	NS	NS	NS
Sex	NS	NS	NS	NS	NS
Time	NS	NS	NS	NS	NS
Model by race	NS	NS	NS	NS	NS
Model by sex	NS	NS	NS	NS	NS
Race by sex	NS	NS	NS	NS	S
Time by model	NS	NS	NS	NS	NS
Time by race	NS	NS	NS	NS	NS
Time by sex	NS	NS	NS	NS	NS
Model by race by sex	NS	NS	NS	NS	NS
Time by model by race	NS	NS	NS	NS	NS
Time by model by sex	NS	NS	NS	NS	NS
Time by race by sex	NS	NS	NS	NS	NS
Time by model by race by sex	NS	NS	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix D.

[b]S = significant a $p<.05$; NS = not significantly different at $p<.05$.

[c]Number of subjects: Scale 1 = 51; Scale 2 = 52; Scale 3 = 52; Scale 4 = 51; Scale 5 = 51.

Expectancy Scale. Table 60 gives the mean pretest and posttest scores on this scale. It indicates that white male clients expected to experience more serious problems during their freshman year than the other groups. This is the same difference found on the pretest administration of this scale. The significant ($p<.01$) correlation between pretest and posttest scores on this scale ($r = .55$) increases the probability that pretest differences influenced posttest differences.

Table 60: Client Mean Scores for Problem Expectancy Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.4 (3.2)	3.4 (3.4)	3.3 (3.2)	3.4 (3.2)
Black males	2.8 (3.4)	3.5 (3.2)	2.8 (2.8)	3.1 (3.2)
White females	3.1 (3.3)	3.2 (3.2)	2.7 (3.3)	3.1 (3.3)
White males	4.1 (3.7)	3.6 (3.7)	3.0 (4.0)	3.7 (3.8)
Total model	3.2 (3.3)	3.4 (3.3)	3.1 (3.2)	3.2 (3.3)
Total race	Black 3.3 (3.2)		White 3.2 (3.4)	
Total sex	Female 3.2 (3.2)		Male 3.3 (3.3)	

[a]Posttest scores are in parentheses.

There were several significant differences between groups on the posttest administration of the Attitude Toward Higher Education Scale. Table 61 gives the results of the analysis of variance performed on the posttest version of this scale. A significant ($p<.05$) race effect and a significant ($p<.03$) sex effect were found. Table 62 gives the mean pretest and posttest scores on this scale. It indicates that although the groups were comparable prior to counseling, white clients had more positive attitudes than black clients in March. In addition, male clients had more positive attitudes than female clients. However, neither of these differences accounts for a large percentage of the variance.

Table 61: Analysis of Variance for Client Attitudes Toward Higher Education Scale (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.007	.029	.99
Race	1	.958	3.925	.05(w^2=.05)
Sex	1	1.164	4.765	.03(w^2=.01)
Model by race	2	.044	.180	.99
Model by sex	2	.253	1.036	.37
Race by sex	1	.131	.535	.99
Model by race by sex	2	.080	.326	.99
Residual	34	.244		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 62: Client Mean Scores on Attitude Toward Higher Education Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.4 (3.3)	3.6 (3.5)	3.4 (3.5)	3.4 (3.4)
Black males	3.9 (3.9)	3.3 (3.5)	3.6 (3.6)	3.6 (3.7)
White females	3.5 (3.7)	3.6 (3.7)	3.4 (3.7)	3.5 (3.7)
White males	3.7 (4.0)	3.7 (3.8)	3.8 (3.8)	3.7 (3.9)
Total model	3.6 (3.6)	3.5 (3.6)	3.5 (3.5)	3.5 (3.6)
Total race	Black 3.5 (3.5)		White 3.6 (3.7)	
Total sex	Female 3.3 (3.5)		Male 3.6 (3.7)	

[a]Posttest scores in parentheses.

Overall, little evidence was found to suggest that client attitudes were influenced by counseling conditions. First, there were no significant differences found between counseling conditions. A race by sex interaction was found. The probability of its occurrence by chance is .50. In addition, the probability that either the two significant differences found on the Attitudes Toward Higher Education Scale occurred by chance is .50. An analysis of variance on the omnibus attitudinal scale scores also produced no significant differences. Table 24 gives the mean posttest scores. Thus there is strong support for the statistical hypothesis that there would be no significant differences between client groups on these attitudinal measures.

Hypothesis Four. Hypothesis Four states that client evaluation of the effectiveness of the counseling models will be in the following rank order from most to least effective: Systemic Model, Behavior Modification Model, Peer Model. The Results of Counseling Scale was used to test this hypothesis. Each item was analyzed separately because of the low correlation between items (see Table 6). These items were: (1) perception of problem solution, (2) satisfaction with counseling services, (3) perception of current functioning, (4) perception of counselor experience, and (5) effect of counseling on academic functioning. Table 63 summarizes the results of the analysis of variance performed on these items. The analysis of variance tables for the items showing significant differences can be found in Appendix E. Table 63 indicates that there were no significant differences between counseling conditions on any of these five items. However, two significant differences were found. A significant ($p<.01$) racial difference on item three indicated that white clients perceived more improvement in their general functioning than black clients. In addition, item three showed a significant ($p<.04$) race by sex effect indicating that white females perceived the greatest improvement in functioning of all groups while black females perceived the least. Refer to Table 64 for the mean scores on this item.

The probability of obtaining one significant racial difference at the .05 level in a series of five significance tests by race is between .20 and .30. The probability of obtaining one significant race by sex interaction at the .05 level in a series of

Table 63: Results of Significance Tests for Variables Used to Test Hypothesis Four.[a,b]

Source of Variation	Scale Items				
	Problem Solution	Satisfaction With Service	Current Functioning	Counselor Experience	Effect on Grades
Model	NS	NS	NS	NS	NS
Race	NS	NS	S	NS	NS
Sex	NS	NS	NS	NS	NS
Model by race	NS	NS	NS	NS	NS
Model by sex	NS	NS	NS	NS	NS
Race by sex	NS	NS	S	NS	NS
Model by race by sex	NS	NS	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix E.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 64: Mean Scores on Results of Counseling Scale--Current Functioning Item (Client Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	2.8	2.5	3.1	2.9
Black males	3.3	2.7	3.7	3.1
White females	4.0	3.0	5.0	3.7
White males	3.0	3.5	4.0	3.4
Total model	3.3	2.9	3.5	3.2
Total race	Black 3.0		White 3.6	
Total sex	Female 3.2		Male 3.2	

five significant tests is between .20 and .30. Thus it is possible that both of these differences occurred by chance. In summary, there was no evidence to support the hypothesis of a differential effect of counseling conditions on client perceptions of the effectiveness of counseling. In addition, the race differences and race by sex interaction effect, which could be chance differences, account for only a small percentage of the variance, i.e., 12% and 7%, respectively.

Hypothesis Five. Hypothesis Five states that there will be no significant differences between counselors in the three models on attitudes toward higher education or themselves. Six scales were used to test this hypothesis. They are: (1) General Adjustment to Higher Education, (2) Attitudes Toward Higher Education,

(3) Motivation for Higher Education, (4) Self-Esteem, (5) Academic Self-Concept, and (6) Locus of Control. Table 65 summarizes the results of the repeated measures analysis of variance performed to test this hypothesis. Exact probabilities for all significant results can be found in Appendix F.

Six significant differences involving four of the scales were found. They were:

Counseling model differences:
A significant difference ($p<.01$) indicated that counselors in the Systemic Model scored higher on the General Adjustment to Higher Education Scale than counselors in the other two models (see Table 66).

Systemic counselors had a significantly ($p<.01$) more positive self-concept as compared to counselors in the Behavior Modification and Peer Models (see Table 68).

Systemic counselors were significantly ($p<.04$) more internal control oriented than counselors in the other two models (see Table 69).

Racial differences:
White counselors had significantly ($p<.0004$) more positive attitudes toward higher education than black counselors (see Table 67).

Time effects:
Counselor responses on the Attitude Toward Higher Education Scale became significantly ($p<.05$) more negative over time for all groups (see Table 67).

Interaction effects:
A significant ($p<.01$) difference indicated that black females had more negative attitudes toward higher education than the other counselor groups (see Table 67).

There were two additional differences found on posttest scores. There was a significant ($p<.05$) model difference on the Motivation for Higher Education Scale because counselors in the Peer Model appeared to have stronger motivation for obtaining a

Table 65: Results of Significance Tests for Scales Used to Test Hypothesis Five.[a,b,c]

Source of Variation	Scale					
	General Adjustment (1)	Attitude Toward Higher Education (2)	Motivation for Higher Education (3)	Self-Esteem (4)	Academic Self-Concept (5)	Locus of Control (6)
Model	S	NS	NS	S	NS	S
Race	NS	S	NS	NS	NS	NS
Sex	NS	NS	NS	NS	NS	NS
Time	NS	S	NS	NS	NS	NS
Model by race	NS	NS	NS	NS	NS	NS
Model by sex	NS	NS	NS	NS	NS	NS
Race by sex	NS	S	NS	NS	NS	NS
Time by model	NS	NS	NS	NS	NS	NS
Time by race	NS	NS	NS	NS	NS	NS
Time by sex	NS	NS	NS	NS	NS	NS
Model by race by sex	NS	NS	NS	NS	NS	NS
Time by model by race	NS	NS	NS	NS	NS	NS
Time by model by sex	NS	NS	NS	NS	NS	NS
Time by race by sex	NS	NS	NS	NS	NS	NS
Time by model by race by sex	NS	NS	NS	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix F.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

[c]Number of subjects equals 25, except for Locus of Control Scale wehre N = 23.

Table 66: Counselor Mean Scores on General Adjustment to Higher Education Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	4.0 (4.0)	4.6 (4.1)	3.6 (3.8)	3.9 (3.9)
Black males	4.1 (4.3)	4.7 (4.4)	4.4 (4.0)	4.3 (4.3)
White females	4.3 (4.2)	4.4 (4.5)	3.7 (3.7)	4.3 (4.3)
White males	4.3 (4.3)	4.1 (4.6)	4.1 (4.3)	4.2 (4.4)
Total model	4.1 (4.1)	4.4 (4.4)	3.8 (3.9)	4.1 (4.1)
Total race	Black 4.1 (4.0)		White 4.3 (4.3)	
Total sex	Female 4.1 (4.1)		Male 4.3 (4.3)	

[a]Posttest scores are in parentheses.

Table 67: Counselor Mean Scores on Attitude Toward Higher Education Scale (Pretest and Posttest.[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.6 (3.4)	3.4 (2.7)	3.6 (3.5)	3.5 (3.3)
Black males	3.7 (3.3)	3.8 (3.3)	3.8 (4.4)	3.8 (3.6)
White females	4.2 (3.9)	4.3 (3.9)	4.6 (3.7)	4.3 (3.9)
White males	3.8 (4.2)	3.2 (3.7)	3.7 (3.6)	3.6 (3.8)
Total model	3.8 (3.7)	3.8 (3.4)	3.8 (3.7)	3.8 (3.6)
Total race	Black 3.6 (3.4)		White 4.1 (3.9)	
Total sex	Female 3.9 (3.6)		Male 3.9 (3.7)	

[a]Posttest scores are in parentheses.

Table 68: Counselor Mean Scores on Self-Esteem Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.1 (3.1)	3.2 (3.5)	2.8 (2.9)	3.0 (3.8)
Black males	3.0 (2.6)	3.8 (3.8)	3.4 (3.2)	3.5 (3.7)
White females	3.4 (3.4)	3.5 (3.4)	2.8 (2.9)	3.3 (3.3)
White males	3.4 (3.4)	3.4 (3.7)	3.1 (3.4)	3.3 (2.5)
Total model	3.3 (3.2)	3.5 (3.6)	2.9 (3.0)	3.2 (3.3)
Total race	Black 3.1 (3.2)		White 3.3 (3.4)	
Total sex	Female 3.1 (3.2)		Male 3.4 (3.4)	

[a]Posttest scores are in parentheses.

Table 69: Counselor Mean Scores on Locus of Control Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	.61 (.40)	.11 (2.8)	.47 (.62)	.47 (.46)
Black males	.11 (.44)	.44 (.17)	.22 (.11)	.26 (.22)
White females	.30 (.19)	.26 (.30)	.22 (.22)	.28 (.24)
White males	.33 (.33)	.11 (.22)	.44 (.67)	.30 (.41)
Total model	.41 (.32)	.22 (.25)	.40 (.50)	.35 (.35)
Total race	Black .41 (.39)		White .28 (.29)	
Total sex	Female .38 (.37)		Male .28 (.30)	

[a]Posttest scores are in parentheses.

college degree than counselors in the other models (see Tables 70 and 71). There was also a significant ($p<.01$) race difference on the Attitude Toward Higher Education Scale because white counselors had more positive attitudes toward post-secondary education (see Tables 72 and 67).

Table 70: Analysis of Variance for Counselor Motivation for Higher Education Scale (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.401	3.926	.05(w^2=.21)
Race	1	.225	2.204	.16
Sex	1	.202	1.979	.18
Model by race	2	.161	1.577	.25
Model by sex	2	.017	.164	.99
Race by sex	1	.236	2.307	.15
Model by race by sex	2	.024	.234	.99
Residual	12	.102		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table 71: Counselor Mean Scores on Motivation for Higher Education Scale (Pretest and Posttest).[a]

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.6 (3.6)	4.1 (3.5)	3.9 (4.1)	3.8 (3.8)
Black males	4.1 (3.8)	3.5 (3.4)	3.5 (4.3)	3.7 (3.7)
White females	3.9 (3.7)	3.6 (3.6)	3.9 (3.6)	3.8 (3.6)
White males	3.6 (3.0)	3.3 (3.3)	3.4 (3.4)	3.4 (3.2)
Total model	3.8 (3.6)	3.7 (3.5)	3.8 (4.0)	3.7 (3.7)
Total race	Black 3.8 (3.7)		White 3.7 (3.5)	
Total sex	Female 3.8 (3.7)		Male 3.6 (3.5)	

[a]Posttest scores are in parentheses.

Table 72: Analysis of Variance for Counselor Attitude Toward Higher Education Scale (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.308	2.058	.17
Race	1	1.376	9.197	.01(w^2=.22)
Sex	1	.184	1.226	.29
Model by race	2	.508	3.392	.07
Model by sex	2	.045	.299	.99
Race by sex	1	.255	1.705	.21
Model by race by sex	2	.237	1.586	.24
Residual	12	.150		

[a]w^2 = percentage of variance accounted for by the source of variation.

The model differences found on the repeated measures analyses of variance appear quite significant. The probability of obtaining three significant model differences at the .05 significance level in a series of six significance tests is between .01 and .001. The probability of the one race difference occurring by chance at the .05 level of significance in a series of six significance tests is between .20 and .30. The probability of two posttest differences or the one time difference occurring by chance at the .05 level of significance is also greater than .20 for each condition. The interpretations of these results must be made cautiously because two of the counseling model differences (General Adjustment and Self-Esteem Scales) as well as the racial difference were present at pretesting. Thus the probability that uncontrolled factors may have been operating to produce these discrepancies must be considered.

In summary, although there were significant differences between counseling models on three of the six scales, the presence of two of these differences on pretest scores reduces the probability that they were influenced by counseling model conditions. The significant ($p<.01$) correlations between pretest and posttest scores on these sclaes, i.e., General Adjustment, $r = .54$; Self-Esteem, $r = .62$, increases the probability that initial differences between the groups influenced posttest differences. The most probable nonchance difference is the time effect found for the Attitude Toward Higher Education Scale. Thus the hypothesis that

there will be significant model differences between counselor attitudes is given little support by these data.

Hypothesis Six. Hypothesis Six states that the counselors' evaluation of their effectiveness in solving client problems will be in the following rank order from most to least effective: Systemic Model counselors, Behavior Modification counselors, Peer counselors. The Results of Counseling Scale was used to test this hypothesis. Each item was analyzed separately because of the poor internal consistency of this scale. The three items are: (1) perception of client problem solution, (2) perception of client satisfaction with services, and (3) perception of client current functioning. Table 73 summarizes the results of the analysis of variance used to test these items. The exact probabilities of all significant results can be found in Appendix G.

As shown in Table 73, there were no significant differences found between the counseling models. However, there was a significant ($p<.05$) race difference. White counselors saw more improvement in their clients than black counselors (see Table 75). There were also two significant ($p<.01$) sex differences. Male counselors perceived their clients as more satisfied with services than did female counselors (see Table 74). Male counselors also perceived more improvement in their client's functioning than female counselors (see Table 75). None of these three differences accounts for a large percentage of the variance on this scale, i.e., the racial difference, 8%; the two sex differences, 11% each.

Table 73: Results of Significance Tests for Variables Used to Test Hypothesis Six.[a,b]

Source of Variation	Scale Item		
	Problem Solution	Satisfaction With Services	Current Functioning
Model	NS	NS	NS
Race	NS	NS	S
Sex	NS	S	S
Model by race	NS	NS	NS
Model by sex	NS	NS	NS
Race by sex	NS	NS	NS
Model by race by sex	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix G.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 74: Mean Scores on Client Satisfaction With Counseling Services Item (Counselor Perceptions)

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.4	4.0	3.2	3.4
Black males	3.6	4.2	4.7	4.1
White females	3.9	3.7	3.0	3.7
White males	4.0	5.0	3.0	4.5
Total model	3.7	4.1	3.5	3.7
Total race	Black 3.7		White 3.9	
Total sex	Female 3.5		Male 4.2	

Table 75: Mean Scores on Client Current Functioning Item (Counselor Perceptions).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	3.1	2.5	3.2	3.1
Black males	3.4	4.0	4.3	3.9
White females	3.9	3.3	4.5	3.7
White males	3.5	4.0	4.0	3.8
Total model	3.5	3.6	3.6	3.5
Total race	Black 3.4		White 3.7	
Total sex	Female 3.4		Male 3.8	

The probability of obtaining one significant racial difference at the .05 level of significance in a series of three tests of significance is between .10 and .20. The probability of obtaining two significant sex differences at the .05 significance level in a series of three significance tests is between .001 and .01. The most plausible nonchance difference would appear to be the sex differences found for the satisfaction with services and current functioning items.

Overall, there was little evidence to support the hypothesis that the counselors' evaluations of their effectiveness would be differentially affected by counseling conditions.

Hypothesis Seven. Hypothesis Seven states that there will be no significant differences between client groups or counselor groups by race or sex. All scales were used in the analysis of this hypothesis. This included 13 scales and 19 demographic variables for counselors and 14 scales and 15 demographic variables for clients. The significant racial and sex differences found for individual client and counselor scales are discussed in the analysis of each of the comparative hypotheses. The results of these analyses are summarized in Tables 76 and 77.

Table 76 indicates that for counselor groups a total of eight significant racial differences were found which involve three of the scales and two of the demographic variables. These differences covered pretest, posttest, and repeated measures analyses. A total of four sex differences were found which involved two scales and one demographic variable. The five significant interaction effects involved four of the scales. Particular attention should be given to the consistent racial differences for the Attitude Toward Higher Education Scale and the differences in financial aid status and cumulative grade point average. These three findings--(1) that white students tend to have more positive attitudes toward higher education than black students, (2) that they tend to receive less financial aid than black students, and (3) that they tend to have higher grade point averages than black students--are given support in the research literature.

Table 77 shows that for client groups a total of 11 racial differences were found which involved four of the scales and four

Table 76: Results of Significance Testing for Racial and Sex Differences for All Counselor Scales.

Scales	Number of Significant Differences Found by Race and Sex Conditions[a]		
	Race	Sex	Interactions
Attitudinal Scales			
1. General Adjustment			
2. Attitude Toward Higher Education	1-PRE 1-RM 1-POST		1-RxS-PRE 1-RxS-RM
3. Motivation for Higher Education			
4. Self-Esteem			
5. Academic Self-Concept			
6. Locus of Control			1-MxRxS-PRE
Counseling-Related Scales			
1. Mutual Liking			
2. Perceived Similarity			
3. Result of Counseling Problem Solution Satisfaction With Services Current Functioning	 1-POST	 1-POST 1-POST	
4. Training Supervision		1-POST	1-MxS-POST
5. Use of the Model	2-POST		1-MxS-POST
6. GAIT--Self-Rating			
7. GAIT--Peer Rating			
Demographic Variables			
1. Financial Aid (total)	1-PRE		
2. Cumulative Grade Point Average Prior to Program	1-PRE	1-PRE	

[a]PRE = pretest difference; POST = posttest difference; RM = repeated measures difference; M = model; R = race; S = sex.

Table 77: Results of Significance Testing for Racial and Sex Differences for All Client Scales.

Scale	Number of Significant Differences Found by Race and Sex Conditions[a]		
	Race	Sex	Interactions
Attitudinal Scales			
1. General Adjustment			
2. Attitude Toward Higher Educ.	1-POST	1-POST	
3. Motivation for Higher Educ.			
4. Self-Esteem			1-TxS-RM
5. Academic Self-Concept			
6. Problem Expectancy			1-RxS-PR 1-RxS-RM
7. Locus of Control			
8. Total Attitudinal Scale			1-RxS-PRE
Counseling-Related Scales			
1. Mutual Liking			
2. Perceived Similarity			
3. Results of Counseling Problem Solution Satisfaction With Services Current Functioning Counselor Experience Effect on Acad. Functioning	1-POST		1-RxS-POST
4. Problem Areas Discussed	4-POST	1-POST	
5. Use of Related Counseling Services	1-POST		
6. Counselor Use of the Model			1-RxS-POST
Demographic Variables			
1. High School G.P.A.	1-PRE	1-PRE	
2. Financial Aid (total)	1-PRE		
3. Financial Aid (loan)	1-PRE		
4. Academic Major	1-PRE		

[a]Pre = pretest difference; POST = posttest difference; RM = repeated measures difference; M = model; R = race; S = sex.

of the demographic variables. The three sex differences involved two of the scales and one of the demographic variables. The significant interaction effects involved five of the scales. Special attention should be given to the differences found for the Attitude Toward Higher Education Scale, the rating of problem areas discussed, scholastic achievement, financial aid status, and academic major. These five differences, which indicate that black students have more problems than white students in functioning in a college environment, are supported by the research literature.

In summary, the analysis of 13 scales and 19 demographic variables for counselors produced significant racial or sex differences on a total of 5 of the 13 scales and 2 of the 19 demographic variables. The analysis of 14 scales and 15 demographic variables for clients produced significant racial or sex differences on a total of 8 scales and 4 demographic variables. These differences, which include pretest, posttest, and repeated measures analyses, offer strong support for the conclusion that there were significant racial and sex differences within client and counselor groups. Therefore Hypothesis Seven, which states that there will be no significant differences between client groups or counselor groups by race or sex, is not supported by these data.

Hypothesis Eight. Hypothesis Eight states that client term and cumulative grade point average and credit load will be significantly correlated with the number of contacts with counselors and their use of related counseling services. To test this hypothesis 10 academic performance variables were correlated with

the number of counseling contacts and the two scores given for the Use of Related Services Scale.

Table 78 gives the results of this associative analysis. There were no significant correlations found. Thus there was no evidence to support the hypothesis that client academic performance is significantly correlated with the number of contacts with counselors or with client use of related counseling services.

Hypothesis Nine. Hypothesis Nine states that problem solution as defined by clients will be significantly correlated with the number of contacts with their counselors and their use of related counseling services. To test this hypothesis the five items in the Results of Counseling Scale were correlated with: (1) the number of contacts between clients and counselors, (2) the number of related counseling services utilized by clients, and (3) the total number of client contacts with these counseling-related services.

Table 79 gives the results of the associative analysis performed on these variables. Only one significant correlation was obtained. This was a negative correlation ($r = -.26$) between client satisfaction with counseling services and the number of contacts between clients and counselors. In effect, the more contacts between clients and counselors, the more dissatisfied they tended to be with the services they received. However, the probability that this one significant correlation out of 15 was obtained by chance must be considered.

Table 78: Results of Associative Analysis for Variables Used to Test Hypothesis Eight.

Variable	Variable Number[a]									
	1 FCC	2 FCE	3 FGPA	4 WCC	5 WCE	6 WGPA	7 SCC	8 SCE	9 SGPA	10 CUM
Contacts with counselor	.17	.10	.02	.04	-.05	-.11	-.15	-.14	-.11	-.07
Total number of related counseling services utilized	-.14	-.12	-.10	-.13	-.01	-.10	-.24	-.17	-.13	-.18
Total client contacts with related counseling services	.14	.10	-.06	-.09	.02	-.12	.10	-.02	-.15	-.12

[a]FCC = fall credits carried; FCE = fall credits earned; FGPA = fall grade point average; WCC = winter credits carried; WCE = winter credits earned; WGPA = winter grade point average; SCC = spring credits carried; SCE = spring credits earned; SGPA = spring grade point average; CUM = cumulative grade point average.

Table 79: Results of Associative Analysis for Variables Used to Test Hypothesis Nine.

Variable	Scale Item				
	Problem Solution	Satisfaction With Services	Current Functioning	Counselor Experience	Effect on GPA
1. Number of contacts with counselor	.00	-.26*	.01	.12	.06
2. Number of related counseling services utilized	.11	.09	-.05	-.08	-.03
3. Total number of contacts with counseling-related services	.10	.12	.12	.01	.20

*p<.05.

In summary, there was no substantial evidence to support the hypothesis that client perceptions of problem solution are significantly correlated with client contacts with their counselors or with other counseling-related services.

Hypothesis Ten. Hypothesis Ten states that client perceptions of the effectiveness of counseling services will be significantly correlated with their perceptions of the counseling relationship and their perceived similarity to their counselors. Three scales were used to test this hypothesis. The five items in the Results of Counseling Scale were correlated with (1) the Mutual Liking Scale and (2) the Perceived Similarity Scale.

Table 80 shows the results of the associative analysis performed. Four of the five items in the results scale have a significant positive correlation with both the Mutual Liking and Perceived Similarity Scales. Only item 3, client perception of functioning, did not have a significant correlation with these two scales. In effect, clients who liked their counselors and perceived themselves as similar to them tended to view the counseling process as successful and their counselors as experienced.

It should be noted that according to Table 81 the Mutual Liking and Perceived Similarity Scales are significantly ($p<.001$) correlated within groups, i.e., for counselors $r = .48$; for clients $r = .74$. There are no significant correlations between these scales across groups. That is, counselors and client who like each other also tend to perceive themselves as similar to each other in

Table 80: Results of Associative Analysis for Variables Used to Test Hypothesis Ten.

Scales	Scale Item				
	Problem Solution	Satisfaction With Services	Current Functioning	Counselor Experience	Effect on GPA
Mutual Liking	.31*	.53***	.14	.52***	.47***
Perceived Similarity	.41**	.43***	.28	.51***	.42***

*p<.05

**p<.01

***p<.001.

Table 81: Results of Associative Analysis Between Client and Counselor Mutual Liking and Perceived Similarity Scales.

Scales	Scales[a]			
	Mutual Liking CO	Perceived Similarity CO	Mutual Liking CL	Perceived Similarity CL
1. Mutual Liking (Counselors)		.48*	.15	.08
2. Perceived Similarity (Counselors)	.48*		.20	.16
3. Mutual Liking (Clients)	.15	.20		.74*
4. Perceived Similarity (Clients)	.08	.16	.74*	

[a]CO = counselors; CL = clients.

*p<.001.

attitudes and opinions. However, these feelings are not necessarily mutual. The relationship between these two scales is a factor to be considered in the number of significant correlations found in this analysis.

In summary, there is considerable evidence to support the hypothesis that client perceptions of the effectiveness of counseling are influenced by their perceptions of the counseling relationship and their perceived similarity to their counselors.

Hypothesis Eleven. Hypothesis Eleven states that counselor perceptions of their effectiveness in solving student problems will be significantly correlated with the number of contacts with their clients, their perceptions of the counseling relationship, their perceived similarity to their clients, and their therapeutic skills. To test this hypothesis, the three items in the Results of Counseling Scale were correlated with the number of counseling contacts, the Mutual Liking Scale, the Perceived Similarity Scale, and self and peer ratings on the Group Assessment of Interpersonal Traits (GAIT) Scale.

Table 82 shows the results of the associative analysis performed. Three significant correlations were found. Counselor perceptions of problem solution had a significant positive correlation ($p<.01$) with the Mutual Liking Scale. Thus if counselors liked their clients, they tended to feel that client problems had been solved. There was also a significant positive correlation ($p<.01$) between counselor perceptions of client satisfaction with counseling services and the Mutual Liking and Perceived Similarity

Table 82: Results of Associative Analysis for Variables Used to Test Hypothesis Eleven.

Scale[a]	Scale Item		
	Problem Solution	Satisfaction With Services	Current Functioning
Number of contacts between client and counselor	.21	.32	-.06
Mutual Liking	.67*	.55*	.31
Perceived Similarity	.28	.61*	-.17
Therapeutic Skills--self-rating	.17	.20	.06
Therapeutic Skills--peer rating	.11	-.38	.16

[a]For therapeutic skill, the lower the score, the higher the rating of skill.

*p<.01.

Scales. In effect, those counselors who tended to feel that a client was satisfied with counseling services tended to like this client and to see themselves as similar to this client.

Three additional correlations deserve mention although they did not reach statistical significance. First, there was a positive relationship between the number of counselor contacts with clients and counselor perceptions of client satisfaction with services. Second, there was a positive relationship between counselor perceptions of client satisfaction and peer ratings of their therapeutic skills. That is, counselors who perceived clients as satisfied with services tended to receive a higher rating of their counseling skills from peers. Finally, although the counselor perceptions of client functioning item were not significantly correlated with any scale, there was a positive association between this item and the Mutual Liking Scale.

In summary, the items in the Results of Counseling Scale correlated significantly with two of the five scales. Thus the hypothesis that counselor perceptions of the results of counseling would correlate significantly with counselor contacts, therapeutic skills, perceived similarity, and Mutual Liking is given partial support by this analysis.

Academic Performance

In addition to measuring client and counselor attitudes toward themselves and the educational process, five behavioral outcome measures relating to academic performance were analyzed.

These measures are: (1) academic credits carried per term, (2) academic credits earned per term, (3) term grade point average, (4) cumulative grade point average, and (5) attrition. The results of single and repeated measures analysis of variance performed on these variables will be discussed separately for client and counselor groups.

Client academic performance. A three repeated measure analysis of variance was performed for credits carried, credits earned, and term grade point averages. Table 83 summarizes the results of these analyses.

Table 83 indicates that there were no significant differences between counseling models or the sexes. There were, however, six significant differences:

Racial differences:
A significant ($p<.04$) difference indicated that white students carried a larger number of credits than black students for fall and spring terms. For winter term the difference was not significant (see Table 84).

White students earned a significantly ($p<.004$) larger number of credits per term than black students (see Table 85).

White students achieved a significantly ($p<.007$) higher grade point average per term than black students (see Table 86).

Time effects:
There was a significant ($p<.002$) time difference in that overall credits carried increased from fall to winter term and then decreased spring term (see Table 84).

There was a significant ($p<.03$) increase in credits earned between fall and winter terms and a decrease between winter and spring terms (see Table 85).

Table 83: Results of Significance Tests for Variables Used to Test Client Academic Performance (Fall 1975-Spring 1976).[a,b]

Source of Variation	Variables		
	Credits Carried	Credits Earned	Term Grade Point Average
Model	NS	NS	NS
Race	S	S	S
Sex	NS	NS	NS
Time	S	S	NS
Model by race	NS	NS	NS
Model by sex	NS	NS	NS
Race by sex	NS	NS	NS
Time by model	NS	NS	NS
Time by race	S	NS	NS
Time by sex	NS	NS	NS
Model by race by sex	NS	NS	NS
Time by model by race	NS	NS	NS
Time by model by sex	NS	NS	NS
Time by race by sex	NS	NS	NS
Time by model by race by sex	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix H.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 84: Client Mean Credits Carried (Fall 1975-Spring 1976).[a]

Student Characteristics	Counseling Condition											
	Behavior Modif.			Systemic			Peer			Total		
	F	W	S	F	W	S	F	W	S	F	W	S
Black females	11.3	14.8	13.7	12.5	14.5	12.0	11.4	13.3	12.4	11.5	14.0	12.8
Black males	11.3	14.0	12.0	11.8	15.2	12.7	12.5	13.0	15.0	11.8	14.4	12.8
White females	12.4	13.1	12.4	14.0	14.7	14.2	17.0	14.0	15.0	13.3	13.8	13.3
White males	14.0	13.5	14.0	14.0	14.5	15.0	16.0	16.0	15.0	14.4	14.4	14.6
Total	12.0	13.9	12.9	13.0	14.8	13.4	12.4	13.5	13.3	12.5	14.1	13.2

	Black			White		
Race	F	W	S	F	W	S
	11.6	14.2	12.8	13.6	14.0	13.6

	Female			Male		
Sex	F	W	S	F	W	S
	12.4	13.9	13.0	12.5	14.4	13.4

[a]F = fall term; W = winter term; S = spring term.

Table 85: Client Mean Credits Earned (Fall 1975-Spring 1976).[a]

Student Characteristics	Counseling Condition									Total		
	Behavior Modif.			Systemic			Peer					
	F	W	S	F	W	S	F	W	S	F	W	S
Black females	11.3	13.5	13.0	12.5	14.5	10.0	11.4	12.5	11.3	11.5	13.1	11.8
Black males	11.3	14.0	11.3	11.8	12.2	8.5	12.5	13.0	15.0	11.8	12.9	10.5
White females	12.4	13.5	12.0	14.0	14.7	14.3	17.0	14.0	15.0	13.3	14.0	13.3
White males	14.0	11.5	14.0	14.0	15.0	15.0	16.0	16.0	15.0	14.4	13.8	14.6
Total	12.0	13.4	12.4	13.0	13.7	11.7	12.4	13.0	12.5	12.4	13.4	12.2

Race	Black			White		
	F	W	S	F	W	S
	11.6	13.0	11.2	13.6	14.0	13.5

Sex	Female			Male		
	F	W	S	F	W	S
	12.4	13.6	12.4	12.5	13.2	11.7

[a]F = fall term; W = winter term; S = spring term.

Table 86: Client Mean Term Grade Point Average (Fall 1975-Spring 1976).[a]

Student Characteristics	Counseling Condition											
	Behavior Modif.			Systemic			Peer			Total		
	F	W	S	F	W	S	F	W	S	F	W	S
Black females	2.6	2.4	2.5	2.5	2.2	2.1	2.6	2.1	2.0	2.6	2.2	2.2
Black males	2.6	2.4	2.1	2.5	2.1	1.7	2.1	2.3	2.5	2.5	2.2	2.0
White females	2.8	3.0	2.6	3.1	2.8	3.0	2.5	2.8	3.1	2.9	2.9	2.8
White males	2.6	2.4	2.9	2.6	2.7	3.2	2.5	2.6	2.9	2.6	2.6	3.0
Total	2.7	2.6	2.5	2.7	2.5	2.4	2.5	2.2	2.2	2.7	2.5	2.4

	Black			White		
Race	F	W	S	F	W	S
	2.5	2.2	2.1	2.8	2.8	2.8

	Female			Male		
Sex	F	W	S	F	W	S
	2.7	2.6	2.5	2.5	2.3	2.3

[a]F = fall term; W = winter term; S = spring term.

Interaction effects:

There was a significant ($p<.02$) time by race interaction in that the change in credits carried per term was larger for black students than for white students; i.e., the difference between each term is .4 for white students, while for blacks it is 2.6 between fall and winter terms and 1.4 between winter and spring terms (see Table 84).

The probability of obtaining three significant racial differences at the .05 level of significance in a series of three significance tests is .001. The probability of obtaining two significant time differences at the .05 level of significance in a series of three significance tests is between .001 and .01. The probability of obtaining one significant time by race difference at the .05 level of significance in a series of three significance tests is between .10 and .20. The most probable nonchance differences are the racial and time differences. However, the fact that the racial differences were present at pretesting suggests that level of entry into the program might account for these discrepancies. The cluster analysis gives some support to this hypothesis in that there is a positive relationship between academic achievement each term.

Lost and retained client academic performance. As discussed on pp. 86-87, 31 clients did not accept the counseling services offered. The academic performance of these lost clients was compared to that of the 53 retained clients. Table 87 gives the results of the repeated measures analysis of variance performed. Table 88 gives the mean scores for lost clients on these measures.

Table 87: Results of Significance Tests for Variables Used to Test Lost and Retained Client Academic Performance (Fall 1975-Spring 1976).[a,b]

Source of Variation	Variables		
	Credits Carried	Credits Earned	Term Grade Point Average
Model	NS	NS	NS
Race	S	S	S
Sex	NS	NS	NS
Time	S	S	NS
Model by race	NS	NS	NS
Model by sex	NS	NS	NS
Race by sex	NS	NS	NS
Time by model	NS	NS	NS
Time by race	NS	NS	NS
Time by sex	NS	NS	NS
Model by race by sex	NS	NS	NS
Time by model by race	NS	NS	NS
Time by model by sex	NS	NS	NS
Time by race by sex	NS	NS	S
Time by model by race by sex	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix I.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 88: Mean Academic Performance for Lost Clients (Fall 1975-Spring 1976).[a,b]

Student Characteristics		Academic Performance Variables								
		Credits Carried			Credits Earned			Term G.P.A.		
		F	W	S	F	W	S	F	W	S
Black females		11.8	12.8	12.9	11.3	12.1	11.2	2.1	2.0	2.0
Black males		12.0	15.5	12.5	12.0	15.5	10.5	2.8	2.8	2.1
White females		12.8	14.9	13.3	13.8	14.5	13.5	2.6	2.7	2.4
White males		12.4	14.4	13.4	14.0	14.4	13.4	3.1	2.9	3.2
Total		12.1	13.8	13.0	12.4	13.3	12.1	2.4	2.4	2.3
Race	B	11.8	13.1	12.8	11.4	12.5	11.1	2.2	2.1	2.0
	W	12.6	14.7	13.3	13.9	14.5	13.4	2.8	2.8	2.7
Sex	Fe	12.1	13.5	13.0	12.1	12.9	12.0	2.3	2.3	2.1
	M	12.3	14.7	13.4	13.4	14.7	12.6	2.9	2.9	2.9

[a] F = fall term; W = winter term; S = spring term.

[b] B = black; W = white; Fe = female; M = male.

There were no significant counseling model or sex differences found. In addition, five of the six significant differences found parallel the differences found for retained clients. They were:

Racial differences:
White students carried a significantly ($p<.01$) larger number of credits per term than black students.

White students earned a significantly ($p<.0001$) larger number of credits per term than black students.

White students achieved a significantly ($p<.0001$) higher grade point average per term than black students.

Time effects:
There was a significant ($p<.0001$) time difference in that the number of credits carried increased between fall and winter terms and decreased between winter and spring terms.

A significant ($p<.008$) time difference indicated that there was an increase in credits earned from fall to winter terms and a decrease in credits earned between winter and spring terms.

Interaction effects:
There was a significant ($p<.04$) time by race by sex interaction. White male students maintained the highest grade point average of all groups.

The probability of obtaining three significant racial differences at the .05 level of significance in a series of three significance tests is .001. The probability of obtaining two significant time differences at the .05 level of significance in a series of three significance tests is between .001 and .01. The probability of obtaining one significant interaction difference is between .10 and .20. Thus the most probable nonchance differences are the racial and time differences found for each measure. These five significant differences were the same obtained for the client group and indicate that while there were no significant differences between lost and retained clients, the same race and time differences

were found within each group. The time by race interaction on credits carried for retained clients did not reach statistical significance for lost clients because of the increased variation in credits carried per term for white students. The absence of a time by race by sex interaction on grade point average for retained clients is due to the fact that white male retained clients had the highest grade point average only in spring term.

In summary, a comparison of lost and retained clients on academic performance variables resulted in five identical differences being found for both groups. The other two differences, one for each group, could have been obtained by chance. Thus it would appear that there are no significant differences between these two groups. However, there are significant differences within each group which can be primarily attributed to race.

Client and control student academic performance. A comparison was made between the academic performance of 53 clients and 206 control students who were matched with clients on race, sex, and high school grade point average; see pp. 52-55. Table 89 summarizes the results of the repeated measures analysis of variance which was performed.

Eight significant differences were found (see Table 90). Five of these differences parallel those found for clients:

Racial differences:
White students carried a significantly ($p<.0001$) larger number of credits than black students.

White students earned a significantly ($p<.0001$) larger number of credits than black students.

Table 89: Results of Significance Tests for Variables Used to Test Client and Control Student Academic Performance (Fall 1975-Spring 1976).[a,b]

Source of Variation	Variables		
	Credits Carried	Credits Earned	Term Grade Point Average
Model	NS	NS	NS
Race	S	S	S
Sex	NS	NS	NS
Time	S	S	S
Model by race	S	NS	NS
Model by sex	NS	NS	NS
Race by sex	NS	NS	NS
Time by model	NS	NS	NS
Time by race	NS	NS	S
Time by sex	NS	NS	NS
Model by race by sex	NS	NS	NS
Time by model by race	NS	NS	NS
Time by model by sex	NS	NS	NS
Time by race by sex	NS	NS	NS
Time by model by race by sex	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix J.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 90: Mean Academic Performance for Control Subjects (Fall 1975-Spring 1976).[a,b]

Student Characteristics		Academic Performance Variables								
		Credits Carried			Credits Earned			Term G.P.A.		
		F	W	S	F	W	S	F	W	S
Black females		11.6	13.2	12.3	11.0	12.1	10.6	2.2	2.1	1.9
Black males		12.9	13.3	12.5	11.8	12.9	11.0	2.3	2.1	1.9
White females		13.8	14.5	13.7	13.4	14.3	13.2	2.8	2.8	2.8
White males		13.6	15.4	13.5	13.0	14.7	12.9	2.5	2.4	2.5
Total		12.7	13.9	12.9	12.2	13.3	11.8	2.5	2.3	2.2
Race	B	11.9	13.2	12.4	11.3	12.4	10.8	2.2	2.1	1.9
	W	13.7	14.8	13.6	13.3	14.4	13.1	2.7	2.7	2.7
Sex	Fe	12.7	13.8	12.9	12.3	13.1	11.8	2.5	2.4	2.3
	M	12.8	14.1	12.9	12.1	13.6	11.7	2.4	2.2	2.1

[a] F = fall term; W = winter term; S = spring term.

[b] B = black; W = white; Fe = female; M = male.

White students achieved a significantly ($p<.0001$) higher grade point average than black students.

Time effects:
A significant ($p<.0001$) time effect reflects an increase in credits carried between fall and winter terms and a decrease between winter and spring terms.

This same significant ($p<.0001$) difference was found for credits earned, i.e., an increase winter term over fall and a decrease spring term.

Three additional significant differences were found:

Interaction effects:
There was also a significant ($p<.005$) time by race interaction. White students maintained the same grade point average across terms for both client and control groups. However, while the sharpest decline for black clients was between fall and winter terms, black control student grade point averages decreased the most between winter and spring terms.

A significant ($p<.04$) difference indicated that white clients in the Peer Model carried a higher number of credits for fall and spring terms than other client groups or control students (see Table 84).

Time effects:
A significant ($p<.0001$) time difference indicated that there was a general decline in grade point average for clients and control students each term. However, the decline was not equal across groups: Peer Model clients maintained the same scholastic average for winter and spring terms. At spring term their mean score was identical to that of the control participants. In contrast, the initial difference between control students and Behavior Modification and Systemic Model clients widened for winter and spring terms.

In summary, a comparison of client and control students revealed five similar racial and time differences within each group. These five differences take on additional significance in that they were also present in lost clients. It would appear that they represent several important trends in freshman student academic performance. The three additional differences found could each have occurred by chance at the .05 level of significance with a probability between .10 and .20.

Selected client academic performance. As discussed on p. 88, there was a significant racial difference between clients on high school grade point average. Because of the potential influence of this initial difference on college academic performance, the repeated measures analyses were repeated for the 32 black and white clients whose grade point average fell within the same interval. Thirty-two clients, i.e., 24 black and 8 white, were included in this group; the grade point interval used extended from 2.53 to 3.14. Table 91 summarizes the results of the repeated measures analysis of variance performed.

As seen in Table 91, only two significant differences, both relating to credits carried, were found. There was a significant ($p<.01$) time effect which indicated an overall increase in credits carried between fall and winter terms and a decrease spring term. There was also a significant ($p<.03$) model by sex interaction indicating that males in the Peer Model averaged the largest number of credits carried per term (see Table 92).

The probability of obtaining either of these two differences by chance at the .05 level of significance in a series of three statistical tests is between .10 and .20 for each effect. Thus both of these differences could have occurred by chance. The most probable nonchance difference is the time effect, which parallels the difference found for all retained clients, control participants, and lost clients.

These results strongly suggest that when clients are matched on high school grade point average, there will be no

Table 91: Results of Significance Tests for Variables Used to Test Selected Client Academic Performance (Fall 1975-Spring 1976).[a,b]

Source of Variation	Variable		
	Credits Carried	Credits Earned	Term Grade Point Average
Model	NS	NS	NS
Race	NS	NS	NS
Sex	NS	NS	NS
Time	S	NS	NS
Model by race	NS	NS	NS
Model by sex	S	NS	NS
Race by sex	NS	NS	NS
Time by model	NS	NS	NS
Time by race	NS	NS	NS
Time by sex	NS	NS	NS
Model by race by sex	NS	NS	NS
Time by model by race	NS	NS	NS
Time by model by sex	NS	NS	NS
Time by race by sex	NS	NS	NS
Time by model by race by sex	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix K.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 92: Selected Client Mean Credits Carried (Fall 1975-Spring 1976).[a]

Student Characteristics	Counseling Condition									Total		
	Behavior Modif.			Systemic			Peer					
	F	W	S	F	W	S	F	W	S	F	W	S
Black females	11.8	14.8	13.8	12.5	14.5	12.0	11.7	13.0	12.6	11.9	13.9	12.9
Black males	10.5	13.0	11.5	11.6	15.2	13.2	16.0	15.0	12.0	11.9	14.6	13.3
White females	12.0	14.5	13.5	13.0	15.0	16.0	--	--	--	12.3	14.7	14.3
White males	14.0	13.5	14.0	14.0	14.5	15.0	16.0	16.0	15.0	14.4	14.4	14.6
Total	12.0	14.2	13.4	12.4	14.9	13.6	12.7	13.6	13.3	12.3	14.2	13.4

	Black			White		
Race	F	W	S	F	W	S
	11.9	14.1	13.1	14.5	14.5	14.5

	Female			Male		
Sex	F	W	W	F	W	S
	11.9	14.0	13.2	12.9	14.5	13.8

[a]F = fall term; W = winter term; S = spring term.

statistically significant racial differences in college academic achievement.

In summary, several inferences can be made from the analysis of academic performance for these four groups of freshman students. First, it should be noted that there were no significant main effect differences between counseling conditions or the sexes. In addition, only three interaction effects involved either of these conditions. This suggests that sex and counseling model did not significantly influence academic performance. Second, white students consistently performed better academically than black students. Third, there was a definite trend across groups for academic performance to improve between fall and winter terms and to decline spring term. These consistent race and time differences and the lack of sex or counseling condition differences across groups gives further support to the success of the client selection and assignment processes. Finally, the analysis of selected client performance implies that racial differences in college academic performance are clearly related to previous academic achievement.

Counselor Academic Performance. A repeated measures analysis of variance was performed on the three academic performance variables for counselor groups. Table 93 summarizes the results of these analyses. Four significant interactions were found. All were related to grade point average. See Table 94 for counselor mean scores on this measure.

Table 93: Results of Significance Tests for Variables Used to Test Counselor Academic Performance (Fall 1975-Spring 1976).[a,b]

Source of Variation	Variables		
	Credits Carried	Credits Earned	Term Grade Point Average
Model	NS	NS	NS
Race	NS	NS	NS
Sex	NS	NS	NS
Time	NS	NS	NS
Model by race	NS	NS	S
Model by sex	NS	NS	NS
Race by sex	NS	NS	NS
Time by model	NS	NS	NS
Time by race	NS	NS	S
Time by sex	NS	NS	NS
Model by race by sex	NS	NS	NS
Time by model by race	NS	NS	S
Time by model by sex	NS	NS	NS
Time by race by sex	NS	NS	NS
Time by model by race by sex	NS	NS	S

[a]Exact probabilities of all significant results can be found in Appendix L.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

Table 94: Counselor Mean Term Grade Point Average (Fall 1975-Spring 1976).[a]

Student Characteristics	Counseling Condition									Total		
	Behavior Modif.			Systemic			Peer					
	F	W	S	F	W	S	F	W	S	F	W	S
Black females	2.3	2.1	2.2	3.1	2.9	3.0	3.1	3.2	3.1	2.8	2.7	2.7
Black males	2.9	3.2	3.2	2.7	2.5	2.7	3.2	2.3	3.0	2.9	2.6	2.9
White females	3.3	3.2	3.7	3.4	3.7	3.5	2.6	3.3	2.4	3.3	3.4	3.2
White males	3.2	3.2	3.7	3.6	2.6	1.9	3.0	4.0	0.0	3.3	3.3	1.9
Total	2.9	2.8	2.9	3.2	3.1	2.9	3.0	3.2	2.6	3.0	3.0	2.8

	Black			White		
Race	F	W	S	F	W	S
	2.8	2.7	2.8	3.3	3.4	2.8

	Female			Male		
Sex	F	W	S	F	W	S
	3.0	3.0	2.9	3.0	3.9	2.4

[a]F = fall term; W = winter term; S = spring term.

Interaction effects:

A significant ($p<.05$) model by race interaction indicated that white students in the Peer Model had the lowest grade point average spring term.

A significant ($p<.03$) time by race interaction indicated that while black student grade point average remained stable across terms, white students decreased significantly from winter to spring term.

A significant ($p<.02$) difference indicated that white counselors in the Peer Model had the largest change in grade point average between terms.

There was also a significant ($p<.03$) difference in that the white male in the Peer Model had the largest change in grade point average between terms.

The probability of these differences occurring by chance at the .05 significance level in a series of three significance tests is between .10 and .20 for each interaction. In contrast to the trends in academic performance for client groups, there appears to be no stable trend among counselors. There are no main effect differences by race or time as there were for clients. Nor were there any main effect counseling model or sex differences found. In addition, the differences attributed to the Peer Model are greatly influenced by the large variance in term grade point average for the one white male counselor in this group. The most probable nonchance difference is the time by race difference.

In summary, no strong patterns emerge in the term grade point averages of counselors. The time by race difference does not hold for all three terms and there is much variability among groups within each counseling model.

Overall academic performance. In order to determine the overall academic performance of client and counselor groups, an analysis of variance was performed for cumulative grade point average and attrition during the year. Table 95 summarizes the results of these analyses. Table 95 indicates that there were no significant differences between or within the groups on attrition. In effect, the majority of students were retained until the end of the year. However, in terms of cumulative grade point average there was a significant race difference for four of the five groups. That is, for lost clients, retained clients, control participants, and counselors, white students attained a higher cumulative grade point average than black students. Tables 96, 97, and 98 give the mean scores for each group on this measure. There was also a significant ($p<.02$) race by sex interaction for the control participants. As seen in Appendix M and Table 98, white females attained the highest cumulative grade point average among control group participants; black females in the control group had the lowest cumulative grade point average.

The probability of obtaining four significant racial differences at the .05 level of significance in a series of five significance tests is greater than .001. The probability of obtaining one race by sex interaction in a series of five significance tests for this interaction is between .10 and .20. However, these results must be interpreted with caution. For there was a significant racial difference between counselors on cumulative grade point average at pretesting; while client groups were significantly different by

Table 95: Results of Analysis of Variance for Cumulative Grade Point Average and Attrition for Experimental Participants (Spring 1976).[a,b,c,d]

Source of Variation	Cumulative Grade Point Average					Attrition		
	CO	CL	CLvsAT	CLvsCN	SC	CL	CLvsAT	CLvsCN
Model	NS	NS	NS	NS	NS	NS	NS	NS
Race	S	S	S	S	NS	NS	NS	NS
Sex	NS	NS	NS	NS	NS	NS	NS	NS
Model by race	NS	NS	NS	NS	NS	NS	NS	NS
Model by sex	NS	NS	NS	NS	NS	NS	NS	NS
Race by sex	NS	NS	NS	S	NS	NS	NS	NS
Model by race by sex	NS	NS	NS	NS	NS	NS	NS	NS

[a]Exact probabilities of all significant results can be found in Appendix M.

[b]S = significant at $p<.05$; NS = not significantly different at $p<.05$.

[c]CO = counselors; CL = clients; AT = lost clients; CN = control students; SC = selected clients.

[d]Attrition not computed for counselors or selected clients; there was no attrition for either group.

Table 96: Client Mean Cumulative Grade Point Average (Spring 1976).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	2.4	2.3	2.2	2.3
Black males	2.4	2.1	2.5	2.3
White females	2.8	2.9	2.8	2.8
White males	2.7	2.9	2.7	2.8
Total model	2.6	2.5	2.3	2.5
Total race	Black 2.3		White 2.8	
Total sex	Female 2.6		Male 2.4	

Table 97: Counselor Mean Cumulative Grade Point Average (Spring 1976).

Student Characteristics	Counseling Conditions			Total
	Behavior Modification	Systemic	Peer	
Black females	2.5	2.8	2.8	2.7
Black males	2.5	2.5	2.5	2.5
White females	3.2	3.3	2.8	3.2
White males	3.3	2.4	3.1	3.0
Total model	2.8	2.9	2.8	2.8
Total race	Black 2.6		White 3.1	
Total sex	Female 2.9		Male 2.7	

Table 98: Lost Client and Control Student Cumulative Grade Point Average (Spring 1976).

		Lost Clients	Control Students
Black females		2.2	2.2
Black males		2.6	2.2
White females		2.6	2.8
White males		3.1	2.5
Total		2.5	2.4
Race	B	2.2	2.1
	W	2.8	2.7
Sex	F	2.3	2.4
	M	3.0	2.3

race and sex on high school grade point average. Control subjects were, of course, matched with clients on high school grade point average. For counselors this difference is significantly influenced by prior academic performance, since cumulative grade point average is computed using all prior term grades. Support for this conclusion is given by the fact that there was no significant main effect race difference between counselors on term grade point average for the 1975-1976 academic year. For client groups the fact that neither the racial difference nor the race by sex interaction was significant for students matched on high school grade point average suggests that these two differences are significantly influneced by previous academic performance.

In summary, client and counselor groups were not significantly differentiated on attrition; nor were there any significant main effect model or sex differences between or within groups on cumulative grade point average. Moreover, the racial differences and the race by sex interaction found can be mainly attributed to pretest differences between the groups.

Associative Analyses

Associative analyses were performed for clients and counselors using Tryon and Bailey's (1970) cluster analyses approach. The results of these analyses will be reported separately for clients and counselors.

Client Associative Analysis

A total of 64 variables were selected for the analysis from client questionnaires and student academic and administrative files. For repeated measures, all measures were used.

The cluster analysis revealed eight clusters:

Cluster One. Academic Performance by Grade Point Average

Cluster Two. The Satisfied Client

Cluster Three. Academic Performance by Credits

Cluster Four. The Disadvantaged Student

Cluster Five. Locus of Control

Cluster Six. Early Academic Performance and Family Structure

Cluster Seven. Family Stability

Cluster Eight. Positive Academic Orientation

Table 99 shows the internal variable make-up of each cluster and the factor coefficient of each variable with its cluster.

Table 99: The Eight Client Clusters, Their Variable Construction, and Variable Factor Coefficients.

Cluster and Variable Description	Variable's Factor Coefficient With Cluster
Cluster One--Academic Performance by Grade Point Average	
1. Has a higher cumulative grade point average at the end of the freshman year	.99
2. Has a higher spring term grade point average	.88
3. Has a higher winter term grade point average	.83
4. Has a higher cumulative high school grade point average	.69
5. Has a higher fall term grade point average	.58
6. Tends to expect more serious problems sophomore year	.40
Cluster Two--The Satisfied Client	
1. Tends to like the student counselor	.89
2. Tends to perceive self as similar to the student counselor	.78
3. Tends to be satisfied with student counseling services	.64
4. Tends to feel that student counseling services had a positive effect on academic functioning	.61
5. Tends to feel that the student counselor was experienced	.60
6. Tends to feel that problems were solved by the student counselor	.51
7. Tends to have a stronger motivation for higher education at the end of the freshman year	.49
Cluster Three--Academic Performance by Credits	
1. Tends to earn a higher number of credits spring term	.94

Table 99: Continued.

Cluster and Variable Description	Variable's Factor Coefficient With Cluster
2. Tends to carry a higher number of credits spring term	.86
3. Tends to earn a higher number of credits winter term	.50
Cluster Four--The Disadvantaged Student	
1. Tends to have received a larger amount of financial aid from the university	.75
2. Tends to be black	.75
3. Tends not to be concerned with career-vocational choice	.70
4. Tends to have received a larger amount of financial aid in loans	.64
5. Tends to have a lower socioeconomic status rating	.43
Cluster Five--Locus of Control	
1. Tends to be external-control oriented at the beginning of the freshman year	.81
2. Tends to be external-control oriented at the end of the freshman year	.77
3. Tends to have a less positive attitude toward higher education at the end of the freshman year	.44
4. Tends to have a more positive self-concept at the end of the freshman year	.41
Cluster Six--Early Academic Performance and Family Structure	
1. Tends to carry a larger number of credits fall term	.76
2. Tends to earn a larger number of credits fall term	.61
3. Has a smaller number of siblings	.57
4. Tends to be unemployed while in school	.46
5. Tends to be an older or middle child in the family	.45
6. Tends not to be concerned with health problems	.41

Table 99: Continued.

Cluster and Variable Description	Variable's Factor Coefficient With Cluster
Cluster Seven--Family Stability	
1. Both parents were in the home during student's childhood	.89
2. Both parents currently in the home	.76
3. Tends not to express concern over peer relations	.49
Cluster Eight--Positive Academic Orientation	
1. Has a more positive academic self-concept at the end of the freshman year	.82
2. Has a more positive academic self-concept at the beginning of the freshman year	.80
3. Tends to make a more positive adjustment to the college environment at the beginning of the freshman year	.52
4. Tends to have a more positive self-concept at the beginning of the freshman year	.45
5. Tends to make a more positive adjustment to the college environment at the end of the freshman year	.43

Table 100 gives the correlations between the eight clusters and illustrates the degree of relationship between each of the oblique cluster domains.

According to Table 99, eight factors appear to underlie the 64 variables used in the associative analysis. Cluster One--Academic Performance by Grade Point Average includes those variables which constituted the major outcome measures for this experiment. Its highest correlation is with Cluster Three (r = .42)--Academic

Table 100: Correlations Between Each of the Eight Client Clusters.

Clusters	Clusters							
	1	2	3	4	5	6	7	8
1. Academic Performance by Grade Point Average		-.16	.42	-.26	-.14	.19	.11	.21
2. The Satisfied Client	-.16		-.04	-.10	-.17	.10	.30	.40
3. Academic Performance by Credits	.42	-.04		-.21	-.08	.22	-.06	.13
4. The Disadvantaged Student	-.26	-.10	-.21		.07	-.23	-.37	-.08
5. Locus of Control	-.14	-.17	-.08	.07		-.26	-.05	-.13
6. Early Academic Performance and Family Structure	.19	.10	.22	-.23	-.26		.04	.03
7. Family Stability	.11	.30	-.06	-.37	-.05	.04		.05
8. Positive Academic Orientation	.21	.40	.13	-.08	-.13	.03	.05	

Performance by Credits, which includes other variables used as outcome measures. Cluster One also has a negative relationship (r = -.26) with Cluster Four--The Disadvantaged Student, which describes a low-income, low-SES, minority student. This negative relationship is supported by the research literature. Cluster One is relatively uncorrelated with the other clusters.

Cluster Two--The Satisfied Client identifies the student who feels that counseling was a positive helpful experience. Its highest correlation is with Cluster Eight--Positive Academic Orientation (r = .40). Thus the satisfied client also tends to be satisfied with his/her college experiences. Cluster Two was also correlated with Cluster Seven--Family Stability (r = .30). Thus the satisfied client tends to come from a two-parent home. Cluster Three is relatively uncorrelated with all clusters except Cluster One. Cluster Four--The Disadvantaged Student has its highest correlation with Cluster Seven--Family Stability (r = -.37). The implication that the disadvantaged students come from a one-parent home is also discussed in the literature. Although the correlation is not significant, Cluster Four is negatively associated with Cluster Six--Early Academic Performance and Family Structure (r = -.23), which describes an academically successful student (fall term) who is a member of a small family.

Cluster Five--Locus of Control has its highest correlation with Cluster Six (r = -.26). Thus students who feel that they can control their environment tend to perform well academically fall term and to come from a small family; i.e., for locus of control,

the lower the score, the more internal the orientation. Cluster Six is relatively unrelated to any other clusters.

In the comparative analysis, five broad areas were investigated: (1) self-perceptions, (2) attitudes toward higher education, (3) the counseling process, (4) academic performance, and (5) demographic characteristics. Comparison of these five theoretically defined areas with the eight clusters found in the associative analysis shows some degree of correspondence.

1. Self-perception is reflected primarily in Cluster Five--Locus of Control.

2. Attitudes toward higher education variables are concentrated in Cluster Eight--Positive Academic Orientation, with a few in Cluster Five--Locus of Control.

3. The counseling process is described by variables in Cluster Two--The Satisfied Client.

4. Academic performance variables are divided between Cluster One--Academic Performance by Grade Point Average, Cluster Three--Academic Performance by Credits, and Cluster Six--Early Academic Performance and Family Structure.

5. Demographic characteristics are included in Cluster Four--The Disadvantaged Student, Cluster Six--Early Academic Performance and Family Structure, and Cluster Seven--Family Stability.

Thus the eight clusters do correspond to some degree to the five original areas defined. There are some differences, in that academic performance variables are divided among three clusters, as are the demographic variables. The implication is that the five original areas are not independent of each other; in addition, areas such as academic performance appear to include more than one factor. Finally, the fact that 25 of the original 64 variables were dropped from the cluster structures because of low communalities

gives further support to the need to redefine the original five areas investigated.

Counselor Cluster Analysis

A total of 68 variables were selected for the analysis from counselor questionnaires and from student academic and administrative files. For repeated measures, all measures were used.

The cluster analysis revealed nine clusters:

Cluster One.	The Academically Successful Counselor
Cluster Two.	The Eclectic Approach Counselor (Self-Perceptions)
Cluster Three.	Family Stability and Early Academic Achievement
Cluster Four.	The Systemic Approach Counselor (Supervisor Perceptions)
Cluster Five.	The Eclectic Approach Counselor (Client Perceptions)
Cluster Six.	The Older Counselor
Cluster Seven.	The Vocationally Undecided Counselor
Cluster Eight.	The Peer Approach Counselor
Cluster Nine.	The Late-Achieving Counselor (spring term)

Table 101 shows the internal variable make-up of each cluster and the factor coefficient of each variable with its cluster.

Table 102 gives the correlations between the eight clusters and illustrates the degree of relationship between each of the oblique cluster domains.

Table 101 shows that nine factors underlie the 68 variables used in this associative analysis. These nine factors are relatively

Table 101: The Nine Counselor Clusters, Their Variable Construction, and Variable Factor Coefficients.

Cluster and Variable Description	Variable's Factor Coefficient With Cluster
Cluster One--The Academically Successful Counselor	
1. Tends to be white	.88
2. Tends to have a higher grade point average prior to becoming a student counselor	.86
3. Tends to have a higher cumulative grade point average at the end of the year	.83
4. Tends to have a higher grade point average winter term	.61
5. Tends to have a more positive attitude toward higher education at the beginning of the year	.51
6. Tends to have a higher socioeconomic status rating	.51
7. Tends to have had previous counseling experience	.46
Cluster Two--The Eclectic Approach Counselor (Self-Perceptions)	
1. Tends to have a higher self-rating on the use of all counseling techniques	.99
2. Tends to have a higher self-rating on the use of Systemic Counseling techniques	.85
3. Tends to have a higher self-rating on the use of Behavior Modification techniques	.63
4. Tends to feel the clients were satisfied with counseling services	.54
5. Tends to like the clients served	.53
6. Tends to earn a smaller number of credits winter term	.51
Cluster Three--Family Stability and Early Academic Development	
1. Both parents were in the home during childhood	.90
2. Both parents currently in the home	.90
3. Tends to have carried a smaller number of credits fall term	.81
4. Tends to have earned a smaller number of credits fall term	.80
5. Home tends to be closer to the university	.42

Table 101: Continued.

Cluster and Variable Description	Variable's Factor Coefficient With Cluster
Cluster Four--The Systemic Approach Counselor (Supervisor Perceptions)	
1. Tends to have a higher trainer-supervisor rating on the use of Systemic Counseling techniques	.91
2. Tends to have a lower trainer-supervisor rating on the use of Behavior Modification techniques	.89
3. Tends to be in the Systemic or Peer Counseling model	.85
4. Tends to have a higher trainer-supervisor rating on the use of Peer Counseling techniques	.64
5. Tends to have a higher self-rating on therapeutic skills	.60
Cluster Five--The Eclectic Approach Counselor (Client Perceptions)	
1. Tends to have a higher client rating on the use of all counseling techniques	.98
2. Tends to have a higher client rating on the use of Behavior Modification techniques	.84
3. Tends to have a higher client rating on the use of Systemic Counseling techniques	.58
4. Tends to have a lower self-rating on the use of Peer Counseling techniques	.53
5. Tends to have a less positive self-concept at the end of the year	.42
Cluster Six--The Older Counselor	
1. Tends to be older	.89
2. Tends to be a junior or senior	.81
3. Tends to have been assigned a smaller number of clients	.62
4. Tends to have a higher peer rating of therapeutic skills	.58
5. Tends not to be a science major	.54
6. Tends to express a more positive adjustment to the university at the beginning of the year	.51
7. Tends to have a more positive academic self-concept at the end of the year	.50

Table 101: Continued.

Cluster and Variable Description	Variable's Factor Coefficient With Cluster
8. Tends to have attended the university a longer time	.49
9. Tends to express a more positive self-concept at the beginning of the year	.42
Cluster Seven--The Vocationally Undecided Counselor	
1. Tends not to have chosen a major	.85
2. Tends not to have a people-oriented major	.72
3. Tends to express a more positive attitude toward higher education at the end of the year	.66
4. Tends to have a higher grade point average at the end of fall term	.59
5. Tends to have fewer contacts with clients	.48
6. Tends to express a more positive adjustment to the university at the end of the year	.46
Cluster Eight--The Peer Approach Counselor	
1. Tends to have a higher client rating on the use of Peer Counseling techniques	.82
2. Tends to be a younger child in the family	.73
3. Tends to have received a higher amount of financial aid from the university	.62
4. Tends to have a larger number of siblings	.56
5. Tends to have been employed a larger number of hours during the year	.48
6. Tends to be more external-control oriented at the end of the year	.47
Cluster Nine--The Late-Achieving Counselor (Spring Term)	
1. Tends to carry a larger number of credits spring term	.86
2. Tends to earn a larger number of credits spring term	.77
3. Tends to have a higher spring term grade point average	.66
4. Tends to be female	.58

Table 102: Correlations Between Each of the Nine Counselor Clusters.

Clusters	Clusters								
	1	2	3	4	5	6	7	8	9
1. The Academically Successful Counselor		.10	.22	-.14	.02	.16	.22	-.04	.12
2. The Eclectic Approach Counselor (Self-Perceptions)	.10		.26	.00	-.23	.09	.07	-.31	-.06
3. Family Stability and Early Academic Achievement	.22	.26		-.05	-.18	.00	.18	-.13	-.26
4. The Systemic Approach Counselor (Supervisor Perceptions)	-.14	.00	-.05		-.12	.00	.04	-.09	-.18
5. The Eclectic Approach Counselor (Client Perceptions)	.02	-.23	-.18	-.12		-.01	-.17	.29	.09
6. The Older Counselor	.16	.09	.00	.00	-.01		-.14	.07	-.13
7. The Vocationally Undecided Counselor	.22	.07	.18	.04	-.17	-.14		-.22	-.15
8. The Peer Approach Counselor	-.04	-.31	-.13	-.09	.29	.07	-.22		.16
9. The Late-Achieving Counselor (Spring Term)	.12	-.06	-.26	-.18	.09	-.13	-.15	.16	

independent of each other, with none of the correlations indicating a strong relationship. Several of these correlations are, however, of interest in terms of general trends. Cluster One--The Academically Successful Counselor has its highest correlations with Cluster Three--Family Stability and Early Academic Achievement ($r = .22$) and Cluster Seven--The Vocationally Undecided Counselor ($r = .22$). All three of these clusters contain academic performance variables. Cluster Two--The Eclectic Approach Counselor (Self-Perceptions) has its highest correlation with Cluster Eight--The Peer Approach Counselor ($r = -.31$). In one sense counselors who view themselves as employing a variety of techniques tend not to be the same counselors that clients view as using Peer techniques. It should also be noted that clients and counselors do not agree on who utilizes an eclectic approach (Cluster Two and Cluster Five [$r = -.23$]). Cluster Three--Family Stability and Early Academic Achievement has a negative correlation with Cluster Nine--The Late Achieving Counselor ($r = -.26$). In effect, counselors who are not academically successful fall term do not tend to improve significantly spring term.

Cluster Four--The Systemic Approach Counselor (Supervisor Perceptions) is relatively independent of the other clusters. Cluster Five--The Eclectic Approach Counselor (Client Perceptions) has its highest correlations with Cluster Eight--The Peer Counselor ($r = .29$). Apparently clients tend to view the Peer Approach as involving a variety of techniques. Cluster Six--The Older Counselor shows no strong association with any other cluster. Cluster Seven--

The Vocationally Undecided Counselor is negatively correlated with Cluster Eight--The Peer Approach Counselor ($r = -.22$). Finally, Cluster Nine--The Late-Achieving Counselor is relatively unrelated to the other clusters with the exception of Cluster Three.

In the comparative analysis five broad areas were investigated: (1) self-perception, (2) attitudes toward higher education, (3) the counseling process, (4) academic performance, and (5) demographic characteristics. A comparison between these theoretically defined areas and the nine clusters does not reveal a strong correspondence.

1. Self-perception variables were found in Cluster Five--The Eclectic Approach Counselor, Cluster Six--The Older Counselor, and Cluster Eight--The Peer Approach Counselor. In effect, these variables did not correlate with any one counseling approach.

2. Attitudes toward higher education variables were not concentrated in any one scale; in fact, the majority of them were not included in the cluster structures.

3. The counseling process variables, particularly ratings of use of specific counseling techniques, define four of the nine clusters, i.e., Clusters Two, Four, Five, and Eight. However, these four clusters do not clearly define the three counseling conditions; instead they reflect the different perceptions of the counseling process held by client and counselor groups.

4. Academic performance variables were included in four of the clusters, i.e., Clusters One, Three, Seven, and Nine. There were some relationships between these clusters. However, a large number of academic achievement variables were not included in the cluster structure because of low communalities.

5. Demographic characteristics were spread among the cluster with the highest concentration of variables in Cluster Six--The Older Counselor, Cluster Seven--The Vocationally Undecided Cluster, and Cluster Eight--The Peer Approach Counselor.

In effect, the nine clusters do not closely follow the five rationally defined areas of investigation. In general, the variables are spread over several of the clusters which are relatively independent. Even the four clusters which define counseling approaches vary, to some degree, from the originally defined counseling model conditions. Finally, of the 68 variables used in the analysis, 15 were dropped from the cluster structures because of low communalities. These results suggest the need to redefine the original areas investigated.

CHAPTER IV

DISCUSSION

The purpose of this experiment was to evaluate the effects of three models of student counseling, race, and sex on the behavior and attitudes of first-year college students. The participants were freshman clients and their sophomore, junior, and senior counselors. The study also attempted to identify those students who have difficulty functioning in the college environment and to subsequently determine the personal and environmental factors which are related to their academic performance. The discussion of experimental results is presented in four parts: (1) an evaluation of the counseling process, (2) the identification of personal and environmental factors related to academic performance, (3) future directions, and (4) summary.

The Counseling Process

Five factors have been identified in the literature as influencing the success of the therapeutic process. These are: (1) the outcome measures utilized, (2) client characteristics, (3) counselor characteristics, (4) the nature of the relationship, and (5) counseling methods. The results of this experiment will be discussed within the framework of these five factors.

Counseling Outcomes

It was hypothesized that counseling conditions would differentiate client and counselor groups on their perceptions of counseling effectiveness. The Results of Counseling Scale was used to test these hypotheses. Each item in the scale was analyzed separately because of low inter-item correlations. The separate analysis of client and counselor versions of this scale indicated that there were no significant differences between counseling model conditions on these items for either client or counselor groups.

There are several possible reasons for these results. First, as previously discussed, there is some question concerning counselor adherence to the model. Bergin (1963) discussed another factor influencing outcome. He suggests that control groups in counseling experiments often receive counseling help from other sources, i.e., peers, family, etc. The Use of Related Services Scale did not assess these possible sources of help. The hypothesis that the differential use of other sources of advice may have masked model differences is given support by the fact that counselors were not assigned until the fourth week of classes, thereby increasing the possibility that clients had identified additional sources of aid. There is, of course, the possibility that the counseling models were equal in their level of effectiveness or ineffectiveness. The mean scores on this scale indicate that clients were uncertain of the effects of counseling. It might be that clients needed additional time to determine the effects of counseling.

It was also hypothesized that counseling conditions would differentiate client and counselor groups on scales measuring attitudes toward self and higher education. These scales are: (1) General Adjustment to the College Environment, (2) Attitudes Toward Higher Education, (3) Motivation for Higher Education, (4) Self-Esteem, (5) Locus of Control, (6) Academic Self-Concept, and (7) Problem Expectancy (clients only). In terms of client groups there were no significant model differences found for any of these scales. The omnibus scale score also showed no significant counseling model differences. It appears that counseling did not significantly affect client attitudes toward themselves or higher education.

The results were similar for counselor groups. Although there were significant time and posttest differences between the counseling conditions on four of the six counselor attitudinal scales, the differences found on two of these scales, i.e., General Adjustment and Self-Esteem, were also present at pretesting. This factor, plus the significant correlations between pretest and posttest scores on the scales, reduces the potential effect of counseling conditions. Still it should be noted that the Systemic Model counselors maintained the most positive attitudes during the experimental period. Another finding of interest is that the attitudes of Peer Model counselors, who did not receive skill training, became more positive over time. However, this change only reached statistical significance on the Motivation for Higher Education Scale. This trend may indicate that the predicted positive change

in student counselor attitudes is influenced by whether or not they receive training.

The lack of significant model differences on these scales can be attributed to several factors. Most important, attention must be given to the factors which produced student attitudes. These include family relationships, SES, and prior academic experiences. Counseling services as administered by students over an approximate 6-month period may not have been sufficient to cause significant changes in freshman attitudes. Certainly student counselors could not change the socioeconomic status or prior academic experiences of clients. Furthermore, there is the possibility that clients may not have been receiving consistent positive feedback from other sources. For example, related research findings indicate that the families of minority and poor students are often ambivalent about what constitutes appropriate educational and occupational behavior for their children. They question whether their children should accept an inferior class and educational status or strive to achieve a high-status occupation (Astin et al., 1972, p. 210). The lower achievement patterns of black and male students is another potential source of negative feedback on ability. Finally, there is the question of discriminatory attitudes toward low-income and minority students. Clients who were black, rural residents, and first-generation college students consistently mentioned feelings of alienation and culture shock. In addition, the analyses of problem areas discussed in counseling sessions indicated that black students emphasized problems in peer relations. These factors, combined with

the increase in the negative attidues of counselors toward higher education, may not only have masked significant model differences, but appear to have significantly diminished the potential effectiveness of student counseling services in general.

The racial and sex differences found for both clients and counselors on the attitudinal scales give partial support to this conclusion. For clients these differences involved three of the seven scales: (1) white clients and male clients exhibited more positive attitudes toward higher education at posttesting than black or female clients; (2) male self-esteem declined more than female self-esteem; (3) white males consistently exhibited an expectation of more serious problems. The race and sex differences in attitudes toward higher education are attributed in the literature to prior differences in educational experiences. That is, the pattern of lower achievement among blacks and males is seen as creating a psychological deficit which leads to continuing negative attitudes (Havighurst, 1971; Deutsch, 1967; Gordon & Wilkerson, 1966). The associative analysis shows that high achievers often worry more about academic performance than low achievers.

Counselor attitudes reflect a similar pattern. White counselors maintained more positive attitudes than black counselors, while white females had the most positive attitudes at pretesting. Black females had the most negative attitudes at posttesting. These results suggest that college achievement patterns; i.e., white students achieve higher grades than black students, tend to reinforce attitudinal differences found in the first year (Duetsch, 1967).

There was also a time difference. Counselor attitudes toward higher education became more negative between pretesting and posttesting. This change could reflect a disillusionment with college life as a means of satisfying personal needs and goals.

Client Characteristics

Client characteristics related to outcome include degree of pathology, expectations of treatment, race, sex, and socioeconomic status. In effect, white middle-class females who do not exhibit serious emotional problems and who expect therapy to succeed have been found to show the greatest improvement in functioning (Bergin & Suinn, 1975; Luborsky et al., 1971). The results of this experiment give only partial support to these findings. Emotional problems had the lowest frequency for all client groups, while the majority of clients were black or female. White students had significantly higher SES ratings than black students. In terms of their perceptions of counseling effectiveness, white student perceived more improvement in their functioning than black students, with white females perceiving the greatest improvement of all groups. However, there were no significant racial or sex differences on questions concerning satisfaction with services, perceptions of problem solution, the effect of counseling services on academic functioning, or perceptions of counselor experience. Only one of the five items in the Results of Counseling Scale produced significant racial differences. Moreover, the mean scores on each of these items indicate that all client groups were somewhat uncertain about the specific effects of counseling on their behavior and feelings.

It may be that more time was needed to determine if any significant changes had occurred. In terms of the associative analysis, the disadvantaged student cluster, i.e., a black, low SES, economically poor student, had a slightly negative correlation with the satisfied client cluster, which described a student who felt that counseling was successful in terms of three of the five result scale items. In summary, race and SES were given partial support as factors influencing counseling effectiveness as perceived by clients. Sex was a significant factor for only one of the items, while the seriousness of problems was not tested because of lack of variance.

Counselor Characteristics

Counselor characteristics related to outcome include degree of experience, attitude and interest factors, and empathy (Luborsky et al., 1971). For student counselors, Chinsky and Cowen (1974) place additional emphasis on social skills, i.e., the ability to form a relationship, while Brown (1972) and Delworth et al. (1974) give attention to the importance of the counselor's prior success in adjusting to the college environment. The associative analysis on counselor variables did not identify a successful counselor cluster. However, this analysis, combined with the analysis of the Results of Counseling Scale, did indicate some association between race, sex, age, SES, counselor skill, and counseling effectiveness. (See Appendices G and N.) In terms of race, white counselors saw more improvement in their clients than black counselors, while male counselors saw more improvement in their clients than female counselors. Male counselors also perceived their clients as more

satisfied with services than female counselors. Thus there was some support for the differential effect of counselor race on perception of counseling outcome. Socioeconomic status had a significant correlation with counselor perceptions of problem solution. The higher the SES rating, the more the counselor perceived client problems as being solved. This positive association between SES and problem solution was the same for the other two items in the Results of Counseling Scale; however, these correlations did not reach statistical significance.

Older counselors tended to perceive their clients as more satisfied with services. Counselor therapeutic skills as rated by their peers had a significant correlation with perceptions of client satisfaction. However, peer ratings of skill were not related to perceptions of problem solution or client current functioning, while self-ratings of skills were virtually unrelated to perceptions of counseling outcome. Counselor class standing and amount of previous counseling experience were also unrelated to outcome. Finally, in terms of counselor posttest attitudes, the general trend was a positive association between attitudes and perceptions of counseling success. These correlations reached significance on four of the six scales: (1) academic self-concept had a positive correlation with perceptions of client satisfaction, (2) attitudes toward higher education had a positive correlation with perceptions of client functioning, and (3) self-esteem and a sense of internal control over the environment had a positive correlation with perceptions of problem solution and client satisfaction with services.

Thus some support was given to the importance of race, sex, age, SES, and counselor experiences in the college environment as determinants of counseling outcome. However, there was no clear pattern of association between previous counseling experience, class standing, and outcome. It should be noted that the racial difference parallels that found for clients; i.e., white students perceived the greatest improvement in client functioning. Yet the sex difference was exactly the opposite of that found for clients; i.e., female clients and male counselors saw the greatest improvement in client functioning. It is difficult to explain these findings. The bias in self-report and chance factors should be considered here.

Nature of the Relationship

The counseling relationship has been identified as an intervening variable in outcome. In this experiment, five relationship variables were evaluated: (1) mutual liking between clients and counselors, (2) perceived similarity between clients and counselors, (3) the number of counseling sessions, (4) the number of clients assigned, and (5) the number of clients served. There was considerable support for the association between the nature of the relationship and perceptions of outcome for both client and counselor groups. For clients there was a significant positive association between both the Mutual Liking and Perceived Similarity Scales and three out of the five items in the Results of Counseling Scale. For counselors, two of the three items, i.e., problem solution and client satisfaction, were significantly correlated with the Mutual

Liking and Perceived Similarity Scales. For both groups the perception of current functioning item was unrelated to these two relationship variables. This suggests that a more objective assessment was made in this area. The correlation between relationship variables and outcomes across counseling conditions gives some credence to Patterson's (1973) contention that regardless of the techniques and methods employed, a satisfactory relationship is necessary for the success of the therapeutic process. One additional finding should be noted here. There was a significant correlation between the two scales within groups. That is, clients and counselors who liked each other also tended to perceive themselves as similar to each other in attitudes and opinions. However, these feelings were not necessarily mutual. That is, when a client liked a counselor, the counselor did not always like the client. The reverse was also true. These results were supported in the associative analysis, which identified a satisfied client cluster which included relationship and outcome variables. There was no clear pattern of association between these variables in the counselor clusters. Number of counseling sessions was not significantly correlated with outcome for counselors; it had a negative relationship with client satisfaction with services. It is difficult to explain this finding. Further research is needed to assess its validity, stability, and cause. The number of clients assigned or served also had no significant correlation with outcome.

In summary, these results give support to the importance of mutual liking and perceived similarity in relationship to outcome

as discussed by Carkhuff and Truax, 1965; Poser, 1966; Strupp and Bergin, 1969. However, the positive relationship between number of contacts and outcome as discussed by Luborsky et al. (1971) is not supported. In addition, this experiment indicates that outcome may be perceived differently by clients and counselors.

Counseling Methods

This experiment compared three models of student counseling: the Behavior Modification Approach, the Systemic Counseling Approach, and the Peer Counseling Approach. In evaluating these models, attention must be given to the training procedures, the uniqueness of the models, and counselor use of the model. There were only three significant differences found in the analysis of the Training-Supervision Scale: (1) females were more satisfied with supervision than males, (2) Systemic model counselors had a better understanding of their roles, and (3) males in the Behavior Modification model were most dissatisfied with supervision. All of these differences could have occurred by chance. Three differences on two of eight items indicate that counselors were not significantly different in their response to training or supervision. One additional finding should be noted. In their narrative assessment of training, both counselors and trainer-supervisors expressed the feeling that training was too long. (Training was a maximum of 40 hours over a 2-week period.)

In terms of the uniqueness of the counseling conditions, there were some problems in maintaining operational differences in approaches. One reason was the lack of control over volunteer

counselors. Only one-half of the counselors signed up to receive course credit which was not offered until the second term of the school year. In addition, the Use of the Model Scale had significant correlations among the subscales. This indicates that either the techniques and procedures which identify each counseling model were not perceived as significantly different by the experimental participants or that the differences between models were not reflected in the scale items. This similarity in techniques between supposedly different theoretical approaches is continually debated in the literature and has led to the suggestion that it is specific techniques, regardless of theoretical framework, that should be researched in terms of effectiveness (Bergin & Strupp, 1972). The evaluation of counselor use of specific techniques reflects this conflict over the uniqueness of the theoretical approaches used. For trainer-supervisors, counselors and clients each had a somewhat different perception of the techniques and methods used by the counselors. However, in all three groups there was a significant correlation between the use of Peer techniques and Systemic techniques. That is, the techniques in these two approaches were sent as similar. This result can be partially explained by the fact that the Systemic Approach places specific emphasis on the counselor's ability to treat the client as an equal in the therapeutic relationship, and it is this characteristic that is explored in the Peer techniques subscale.

The question then becomes, what techniques did the counselors use? The cluster analysis identified four method clusters.

The Systemic counselors are described as using a combination of Peer and Systemic techniques and as having confidence in their skills. The Peer counselor is distinguished by youth, membership in a large family, and an external-control orientation. The eclectic approach counselor was perceived by clients as having utilized techniques associated with all three models, while they perceived themselves as having low self-esteem. On the other hand, the counselors who used a variety of techniques tended to like their clients and to feel that their counseling activities resulted in client satisfaction with services. It would seem that counselor confidence in their skills and their feelings about themselves were deciding factors in the techniques used. This variation in the techniques used is discussed by Hetherington and Rappaport (1967), who found that student counselors tended to disregard training when it was viewed as inhibiting their spontaneity or effectiveness or as increasing their anxiety. The cluster structures, counselor complaints on the length of training, and the fact that apparently half of the counselors had previous counseling experience suggests that some of these factors might have been operating in this experiment. For example, the Systemic Approach, which requires aggressive action on the part of the counselor, i.e., systems manipulation and confrontation, may have raised the anxiety of the less assertive counselor; while the Behavior Modification Approach, which requires a more structured formal relationship, may have been too confining for the peer-oriented counselor.

In summary, these results suggest that all counselors did not strictly adhere to the techniques taught. There appeared to be a tendency among some counselors to use the technique with which they felt most comfortable. Of course, this finding must be viewed within the context of the scale used to assess counselor activity, which apparently did not clearly differentiate between counseling conditions. This is in spite of the fact that prior to its use in this experiment, the scale was revised three times and pretested twice to improve its validity and reliability. Even so, it must be remembered that the Systemic and Behavior Modification Approaches had not been experimentally compared prior to this study. Furthermore, the Peer counselors received no method training and thus were free to use any techniques which they deemed appropriate.

These statistical results do not present a complete picture of client or counselor response to the program. For in their narrative evaluation of the program 19 (76%) of the counselors commented on the positive effects of the program. Examples of comments are: "I learned a lot about myself"; "I feel good about helping others"; "My experiences as a student counselor helped me choose a career." In addition, seven of the counselors subsequently applied for summer jobs in counseling-related fields or have been accepted into counseling-related graduate programs. One senior counselor was hired as the coordinator of a minority aide program at the university. Of course, the influence of the program on these counselor activities cannot be directly determined. However, these findings do give some support to the predicted positive effect of

counseling on counselor functioning (Delworth et al., 1974; Gruver, 1971). There was also a positive response from clients. During the collection of posttest data, clients repeatedly expressed their gratitude and surprise that an upperclassman had volunteered to help them. These comments were made regardless of client assessment of counselor effectiveness. Four clients, after being given an explanation of the program, expressed an interest in becoming student counselors for the next freshman class.

Personal and Environmental Factors Related to Academic Performance

Five behavioral measures of academic performance were utilized in the analyses of client and counselor academic achievement. These measures were: (1) academic credits carried per term, (2) academic credits earned per term, (3) term grade point average, (4) cumulative grade point average, and (5) attrition. These variables were also included in an associative analysis of client and counselor characteristics. In addition, the 31 clients who refused services as well as a control group of 206 randomly selected freshmen were compared with clients on academic performance. The results of the comparative and associative analyses will be discussed within the framework of five factors: (1) the counseling models, (2) race, (3) sex, (4) other demographic factors, and (5) attitudes.

The Counseling Models

The repeated measures analyses of variance performed on credits carried, credits earned, and grade point average resulted

in no main effect differences between counseling conditions for lost clients, retained clients, or counselor groups. The interaction effects, which do not reflect a clear pattern of results, can easily be attributed to chance factors. Attrition rates were not significantly different for either counselor or client groups. Nor were there any significant counseling model differences on cumulative grade point average for clients or counselors. Problem areas discussed in counseling sessions also failed to differentiate client groups on academic performance. Instead major problem areas appeared to reflect academic performance. For example, black and male clients were most concerned with academic adjustment. These same groups also had the lowest high school grade point averages. There was no significant relationship between counseling outcome variables and academic performance for clients. However, client satisfaction with counseling services did have a positive correlation with academic orientation as defined by self-concept, academic self-concept, and adjustment to the college environment. The pattern for counselors was similar in that there was no significant relationship between counseling outcome variables and academic achievement. However, positive attitudes toward the educational process did cluster with high achievement variables. In effect, neither the counseling processes nor counseling outcomes appear to be related to achievement patterns. This finding supports the results of Gamble (1973), who compared the Systemic Approach to traditional insight counseling techniques using professional counseling staff. He found no significant relationship between counseling outcome and the academic

achievement of black disadvantaged freshman students at Michigan State University. He concluded that counseling, regardless of methods or techniques, is not powerful enough to produce changes in the academic achievement of students who have a history of marginal performance.

Race

There was a significant correlation between race and academic achievement for both client and counselor groups. For clients, the repeated measures analyses of variance revealed that for credits carried, credits earned, and grade point average, white students performed significantly better than black students. This same pattern of achievement prevailed for lost clients and control group students. Similar racial differences were found in the analysis of cumulative grade point average. Attrition rates did not differentiate between the races. The cluster analysis of client variables gives further support to this racial difference, for there was a negative relationship between a black disadvantaged student cluster and the three clusters which described an academically successful student.

This racial difference in the academic performance of clients deserves special attention. When clients with similar high school grade point averages were compared on term credit load, term grade point average, and cumulative grade point average, the racial differences did not reach statistical significance. It appears that previous academic experiences, as reflected in high school grade

point average, combine to produce this difference. Havighurst (1971) feels that the entire range of school experiences prior to college exerts significant influence on college performance, while Coleman et al. (1966) focus on school segregation as another factor producing lower achievement levels for black students. Finally, Gordon and Wilkerson (1966) point to the school's rejection of the cultural values of minorities as a factor which reduces their interest in and efforts toward academic achievement.

The relationship between race and the academic achievement of counselors is somewhat different. The repeated measures analysis of variance showed no significant difference between black and white counselors, while the significant interaction effects can probably be attributed to chance. Yet white counselors did achieve a significantly higher cumulative grade point average at the end of the year. Since cumulative grade point average is based on previous as well as current grades, it would appear that there had been a racial difference in counselor achievement levels prior to this year. Apparently, however, this difference in achievement levels had diminished. The associative analysis of counselor characteristics presents a stronger case for the relationship of race and academic performance. The cluster structure identifies a white counselor who tended to perform well academically throughout the year.

Sex

Contrary to the findings of Astin et al. (1972), Cross (1971), and Klingelhofer and Hollander (1973), sex did not show a strong consistent relationship with academic performance. The repeated

measures analysis of credit load and grade point average resulted in no main effect differences by sex for client groups, counselors, lost clients, or control group students. The interaction effects involving sex do not reveal a consistent pattern and can be attributed to chance factors. There were also no significant main effect differences between the sexes on attrition. Thus although females had significantly higher grade point averages than males for both client and counselor groups prior to the program, this difference did not reach statistical significance for the 1975-76 academic year. The cluster analyses are not definitive with respect to sex. The client clusters do not correlate sex with academic performance, while the late-achieving, female counselor cluster does not have a strong correlation with the cluster describing counselors who achieve well at the beginning of the year. In summary, no clear patterns emerged in terms of academic performance by sex.

Other Demographic Factors

The clusters indicate that six additional personal and environmental factors are related to academic achievement. These factors are: (1) age; (2) socioeconomic status (SES); (3) family stability, i.e., parental presence in the home; (4) family structure, i.e., birth order, number of siblings; (5) financial aid status; and (6) high school grade point average. The cluster analysis identified three related client clusters which contained academic performance variables, i.e., academic performance by grade point average, academic performance by credits, and early academic performance and family structure. It should be noted, however, that

grade point average and credit load, although significantly related, appear to define a slightly different aspect of academic performance. These clusters also show that early achievement is related to later achievement in that grade point average for the first term had a positive relationship with second and third term achievement. The disadvantaged student cluster, which identifies a black, low-SES student who is financially dependent on the university, is negatively related to all three of the academic performance clusters. This cluster also has a negative relationship with clusters which describe an older student, with few siblings, who is living with both parents. These three characteristics, i.e., low birth order, family stability, and small family size, have a positive relationship with academic achievement. However, it is not a strong association. Other demographic variables including academic major, high school curriculum, location of home, and religion do not exhibit a consistent significant correlation with academic performance variables.

The cluster analysis of the relationship between counselor characteristics and academic performance revealed a similar pattern. The associative analysis identified an academically successful counselor who is white, has a high SES rating, has a high grade point average prior to and during the program, and who has a positive attitude toward higher education. This cluster has a positive correlation with clusters describing a stable home environment, an older counselor, a positive academic orientation, and a positive self-concept. In effect, the relationship between age, high school grade point average, SES, family structure, and academic performance

parallels the one found for clients. The correlation between these clusters, however, is not a strong one. The clusters also imply that these six variables are not independent in their effect on academic performance. The relationship between SES and financial status is an obvious one, while the literature emphasizes the potentially negative effect of large families and one-parent homes, which are often correlated with low SES, on the child's intellectual growth (Trent, 1970; Riessman, 1962; Deutsch, 1967). There is also research indicating that the older siblings or the only child, who tends to come from a high-SES stable family, scores higher on measures of ability and performance (Altus, 1965; Lunneborg, 1968). Finally, high school grade point average can be viewed as reflecting a variety of environmental as well as academic experiences. In effect, the existence of one of these factors correlates highly with the existence of several others, and thus their impact on academic performance should be viewed as incremental.

Attitudes

Student attitudes toward themselves and higher education did not exhibit the expected positive relationship with academic performance. This is reflected in the associative analyses of clients and counselors' characteristics. The cluster analysis of client variables identifies a positive academic orientation cluster which was defined by self-concept, academic self-concept, and degree of adjustment to the college environment. This cluster has a positive but nonsignificant relationship with the academic performance clusters. The locus of control cluster, which included

academic orientation variables, also shows no clear relationship with academic performance. As previously stated, attitudes toward the counseling process have a strong positive relationship with attitudes toward the educational process but there is no strong association between academic performance and: (1) counseling outcome, (2) attitudes toward higher education, and (3) self-perceptions. Nor is there a clear relationship between self-perceptions and academic orientation. The cluster analysis of counselor characteristics revealed a similar pattern. A number of the attitudinal variables were dropped from the clusters because of low correlations; the remaining variables are spread over several clusters which were not significantly correlated with each other.

The consistent lack of correlation between attitudes and performance is supported by the research of Fairweather (1964), Gamble (1973), Tucker (1974), Payne (1975), Aikin (1969), and Wicker (1969). Fairweather's research focused on factors influencing behavioral and attitudinal changes in chronic hospitalized mental patients. He found no relationship between treatment success and general attitudes toward mental illnes. This is similar to the lack of association between academic performance outcome and attitudes toward higher education found in this experiment. Payne's (1975) study dealt with the effects of parent-training on the attitudes and behaviors of pre-school children. He found an increase in parent-child interactions as well as an increase in psoitive attitudes between parents and children. However, neither of these changes correlated with the child's educational achievement

level. Tucker (1974) found a similar lack of correlation between the academic achievement of high school students and general attitudes toward education. Aikin (1969) and Gamble (1973), who evaluated the effectiveness of counseling with disadvantaged students at Michigan State University, offer additional support for this finding.

All of these authors differ somewhat in their explanation of these results. However, there is general agreement that change in academic performance requires the implementation of activities specifically focused on the teaching of learning-related tasks, i.e., study skills, reading skills, etc. This is in contrast to the more global activities which characterized these experiments. It could be speculated that the design of this experiment was also too broad to effect change in both academic attitudes and performance. Wicker's (1969) review of research on job performance, interracial relations, maternal behavior, and participation in research indicates that the inconsistency between attitudes and behavior is not confined to academic achievement. After a comprehensive review of performance in these areas, he concluded that there was "little evidence to support the postulated existence of stable underlying attitudes within the individual which influence both his verbal expressions and his actions" (p. 75). He suggested that other personal and environmental factors contribute to the variation in behavior, i.e., other attitudes, competing motives, ability level, alternative behaviors available, and societal norms.

These results give support to the relationship of selected personal and environmental variables including race, high school grade point average, SES, family structure, and financial aid status to college achievement levels. Similar results were obtained by Trent (1970); Gordon (1965); Deutsch (1967); and Astin et al. (1972). However, these findings do not support the predicted correlation between self-perceptions, academic orientation, and academic performance (Deutsch, 1967; Crossland, 1971; Rotter, 1966). Calsyn (1973) investigated the relationship between academic achievement and three of the attitudinal variables used in this study, i.e., self-esteem, locus of control, and academic self-concept. His findings, which were a reanalysis of research data on preschool through high school students, give only partial support to the results of this experiment. Using a cross-lagged panel analysis, he found no pattern of causal predominance between general self-esteem and achievement. Achievement was, however, causally predominant over academic self-concept. This relationship was strongest for older subjects, i.e., high school students, and in those cases where grade point average was used as the measure of achievement. Locus of control was causally predominant over achievement, but the pattern of the relationship was not a strong one. In effect, only the results for self-esteem support the findings of this experiment. Klingelhofer and Hollander (1973), after a comprehensive review of hundreds of studies on the academic performance of college students, concluded that the inconsistency in results is attributable not only to differences in sampling methods, instruments, and timing,

but also to the complexity of the factors which impinge on student functioning.

One other trend in the academic performance of clients and counselors should be noted. There was significant variation in grade point average and credit load between the terms. The trend was for academic performance to increase winter term and then to decrease spring term. There is no discussion of such a trend in the literature. However, on a speculative level, the fall-winter term difference could reflect an adjustment period for freshmen and a readjustment period for upperclass students. The decline in academic achievement levels spring term might be attributed to "spring fever," i.e., an increasing boredom with school.

Future Directions

The results of this experiment offer a number of guidelines for the counseling profession, the educational system, society in general, and research activities. Suggestions for future activities in each area will be discussed separately.

The Counseling Profession

A major finding of this experiment is that counseling as administered by students did not affect the academic performance of first-year college students. This is not a new finding; the effectiveness of counseling for a variety of client groups, particularly ethnic minorities, has been debated for a number of years. Assuming the reliability of the results of this study, it is clear that the future of counseling must be questioned. It might be

refocused in new directions or it might be replaced with different programs.

If counseling is to be continued, the first area requiring attention is student utilization of counseling services. In this experiment 31 students refused services, while the number of counseling contacts was relatively small, i.e., approximately seven per client. There was also minimal student use of related counseling services, including those specifically designed to improve academic functioning. Several alternative means of increasing student involvement with counseling are available. Some universities have mandatory counseling sessions for low-achieving students. However, this policy has met with much resistance from students and counseling personnel. Moreover, it does not affect the basic problem of student attitudes toward counseling. A more practical solution might be the creation of a college-level course designed to meet the needs of entering students. Such a course, if offered for credit, would have several advantages. It would reduce the stigma often attached to those who seek counseling, while simultaneously providing the student with vital information about college policies and procedures. The classroom setting would facilitate the teaching of learning tasks related to academic achievement as well as offer an objective environment in which to focus on student attitudes which might interfere with academic succes. Michigan State University has instituted an introductory psychology course which incorporates some of these activities. However, it is open to only a small number of students, and there has been no formal evaluation of its

effectiveness. The use of upperclass students as teachers in such a course might increase its attractiveness to freshmen as well as offer accessible role models.

Another means of increasing the effectiveness of counseling is the use of student-led groups. Such groups would utilize counselor time more effectively, would provide group sanctions and reinforcements for specific behaviors, and would offer students the opportunity to learn from shared problems. In terms of academic performance, a greater commitment to academic achievement may be obtained through group pressure to perform at a high level. That is, "to the extent that the group values high academic performance and a particular student values the group, the group may bring pressures to bear on that subject toward achieving high academic performance" (Aikin, 1969). Gunnings (1971) has proposed a type of student group called the "family" composed of freshman and upperclass students, each of whom has a specific academic or personal skill. Students would share their skills with other family members while gaining help in other areas from their "siblings." For example, a student who has skills in math would tutor the other family members in this subject while receiving help in social skills, i.e., dating, making friends, etc., from another group member. The group members would be encouraged to establish close personal relationships, i.e., to truly function as a family. Once established, the professional counselor could be phased out as group leader and would be used only as a consultant. This family approach would seem appropriate for use with students who lack a stable home life or

close family ties. It could also offer a meaningful experience for students from large families who are far from home and miss the close relationship they had with siblings. In either case, this sharing of talents would offer group members consistent feedback on their functioning, an opportunity to make friends, and most importnat, a sense of worth in that their skill is of value to others. This last point, the potential of the family to increase student self-esteem, is crucial in view of this study's finding that freshman self-esteem decreased significantly during the year.

Little has been written about parental involvement in higher education. Yet this experiment indicates that parental attitudes and relationships with their children may have a significant influence on student functioning. Direct parental involvement is dependent on the distance between home and the college. However, this does not preclude the establishment of an on-going system of communication between the school and home. Currently, parents traditionally visit the college twice a year; they bring their children in the fall and collect them in the spring. Written communication consists of the tuition bills. Parents cannot be expected to give their children the support and guidance they need without knowledge of institutional policies, curriculum changes, etc. Parents who have not attended college are in particular need of such information. The counseling staff would seem to be the appropriate group to initiate some kind of newsletter or other periodic form of communication with parents. Included in this information should be a copy of the catalogue, and the term schedule of courses. Any

changes in requirements for graduation should also be included. The cost could be assumed by the institution as an investment leading to dividends including promptly paid tuition bills and lowered attrition rates.

This experiment also found no significant differences between counseling models on academic performance variables. Even so, the factors which did correlate with academic achievement, i.e., socioeconomic status, race, financial aid status, etc., suggest that the environmental change approach should not be abandoned but refocused on another level. That is, although student counselors, who were matched with compatible clients, did effect problem solution, they did not change the educational and societal policies which have resulted in discrimination, poverty, unemployment, and broken homes. Professional counselor involvement in the planning of educational and societal policies is a hotly debated issue, with some counselors feeling that such activities are outside of their professional responsibilities. However, if counselors are truly committed to facilitating student functioning, they must do more than solve minor problems or change student attitudes. For another finding of this study is that attitudinal change does not correlate with academic achievement. Thus counselors should take an active role in protecting and expanding students' rights and resources, i.e., rights to the best education available and resources which will facilitate their acquisition of knowledge. This requires counselor involvement in admissions, financial aid, and curriculum planning, as well as consultation with staff and faculty members

who may be unaware of changing student needs and values. In effect, as suggested in the philosophy of the Systemic Approach, the counselor must become an advocate for students, expanding their options and assuring their rights to an education relevant to their individual needs and goals.

Counselors must also examine the timing of their intervention. The significant relationship between high school grade point average and college achievement implies that it is difficult to alter achievement patterns acquired prior to college entry. It could even be said that high school is too late to instill new learning skills. Programs such as Head Start and Follow-Through, which focus on primary-level students, are examples of educational activities which attempt to instill positive attitudes and teach learning skills at an early age. This is the point at which counseling could also be emphasized; not only as a problem-solving activity, but as a valuable resource providing information and clarification. It is at this point in the child's educational process where attitudes toward counseling are formed. Thus this is the point at which positive attitudes should be instilled.

An important point to keep in mind is the need for a variety of methods, techniques, and services, for this experiment illustrates the variance in student characteristics and skills. A range of services which can be tailored to individual student needs is necessary. Related to this is the need for counselors who are skilled in student assessment, knowledgeable about the resources available, and able to implement the various techniques available.

More important, counselors must be willing to create new techniques and to refocus their efforts as the characteristics and goals of students change.

The Educational System

As stated previously, the results of this study offer strong support for the findings of Aiken (1969) and Gamble (1973), who question the ability of counselors to improve academic performance, which was the social changes outcome criteria in this experiment. This experiment, therefore, questions whether the counseling profession should assume responsibility for the academic performance of students. The institution, in fact the entire educational system, must share in efforts to improve the students' completion of the academic program. Those in the higher educational system who have accepted this responsibility have proposed a number of innovations in the area of admissions, curriculum grading, and support services. In the areas of admissions attention has been focused on the criteria used. Suggestions include the lowering of standards (i.e., GPA's and test scores) and the inclusion of nonintellective factors as criteria. Williams (1969) suggests a number of noncognitive factors which might be used to assess academic potential. They include (1) a willingness to accept some measure of personal responsibility for achievement or failure, (2) a minimal perception of self-worth, (3) emotional toughness, (4) intense motivation to improve one's life, (5) leadership potential, (6) a special talent, (7) the capacity to think and plan creatively, and (8) success in any

activity which has required sustained effort. Other factors used include social maturity (Sedlacek, Brooks, & Mindus, 1973), study skills (Shaffer, 1973), and biographical data (Beasley and Sease, 1974). The results have been disappointing; i.e., the correlations have been weak, the findings inconsistent, and the causal status unclear (Lavin, 1965). However, these studies suggest that a combination of criteria could offer a better assessment tool than test scores or GPA's alone. This experiment indicates that these criteria deserve increased attention since, in many cases, high school grade point average is primarily a reflection of past experience, not future potential.

Curriculum innovations have been minor; rather, attempts have been made to assisst students in meeting traditional course requirements. Strategies include the reduction of course loads or extending the student's program a year or two in order to allow students to pace themselves according to their abilities. What has proven successful in the community colleges is the liberalization of probation policies, greater use of deferred grades, permitting students to repeat courses, and offering students the opportunity to do additional work to raise a grade (Hull, 1969; Morrison & Ferrante, 1973). Other activities previously mentioned include the use of technological supports such as reading machines, tape recorders, and computerized instruction (Atkinson et al., 1969). Community colleges have instituted some curriculum changes. For example, two Virginia community colleges have developed a curriculum based on developmental learning theory. This includes a special credited

lab for English and math, taught by the instructors in the regular classes. The lab, open to all students, is required for those with minimal academic preparation for that course. Reactions from student and faculty have been very positive and there has been a significant improvement in students' grades in these courses (Vaughn & Puyear, 1972).

The faculty member has the most direct impact on student achievement, and, consequently, the greatest responsibility to meet their educational needs. Yet faculty members are not consistently involved in the planning of these innovations in 4-year institutions. However, a significant number of 2-year colleges have programs for training faculty to deal with students with low achievement records (Morrison & Ferrante, 1973). It appears that the top administrative officials set the tone for the involvement of university personnel in these activities. Thus, the question becomes one of their commitment to providing meaningful educational experiences for students. Some feel that the verbalized commitment of most institutions to helping the low-achieving student is only a public relations ploy, which sometimes backfires. For example,

> If the student believes that the institution is only trying to improve its image and that he functions only as an instrument toward that end, he is bound to react with some degree of hostility. In contrast, if the student can perceive the institution as existing to help him meet his needs, then he can begin to develop his own expectations of the institution--an important psychological step for a heretofore alienated individual. As a self-determining person, he can comfortably "use" the institution's resources and facilities (Trent, 1970, p. 6).

The finding that client self-esteem decreased over time while counselor attitudes toward higher education became more negative might

imply that the students in this experiment perceived a lack of commitment among faculty and staff. The job of increasing commitment is not an easy one and is partially dependent on societal pressure and legislative support.

Paralleling the need to increase faculty commitment is the need to strengthen the student's sense of responsibility for his/her own education. For as Hiller points out

> A lowly status leaves its mark on persons as truly as the more applauded position does. An old aphorism states that responsibility makes the person. Although this is an important half-truth, the converse is equally true; for occupational subordination and lack of a voice in reciprocities tend to produce either resignation and a feeling of inferiority or a high sensitivity to the implied inequity. Insofar as a culture emphasizes equalitarianism there is an imputed adverse comparison in all subordinate positions. . . (1947, p. 509).

Current student involvement in institutional planning and policy making is limited to the presence of one or two persons on selected academic committees. However, these students have neither the power nor ability to significantly influence the academic regulations which, in part, determine their performance. More to the point, the students chosen to participate in academic planning are usually those who have proven their ability to meet traditional standards.

Attempts to change this situation are reflected in the reduction of required freshman courses, the institution of college credit for life experiences, the expansion of grading options, and the creation of individualized academic programs, i.e., interdisciplinary majors. Still many of the innovations which resulted from the student protests of the early seventies, i.e., relaxed admissions standards, student involvement in faculty selection,

etc. have not been implemented on a wide basis. More to the point, the lack of significant change in client attitudes or performance found in this experiment suggests that such measures should be instituted prior to college entry. The open classroom concept, which incorporates individually paced learning and student choice of learning materials and subjects, has been implemented on a small scale. However, these activities are costly to implement and consequently are utilized primarily in private schools.

A more subtle issue is what level of education should assume responsibility for the low-achieving student. The question being asked is, Why are these students unable to meet traditional standards? The obvious answer is the continued failure of the public schools. Of course, efforts are being expended to remedy the situation. However, as Clark points out, "less than one percent of the products of inefficient public elementary and secondary schools can hope to profit from the most effective collegiate compensatory programs for low income and minority group children" (1966, p. 8). Realistically, it will be years before the results of curriculum innovations and support services are reflected in the performance of high school graduates. To ignore these students is against our democratic principles. Thus higher education is forced to compensate for their inadequate preparation. Related to this is the role of education in facilitating success in nonstudent activities, particularly employment. Willingham believes that the development of real opportunity lies in the educational process of teaching and learning, which provides confidence, intellectual growth, and coping skills

(1970b, p. 5). Atkinson et al. (1969) believe that the growth of American technology makes college training imperative and that though it is difficult to measure the variance in income and status due to education per se, the degree does provide access to many positions regardless of competence. Cross (1971), however, takes a more critical look at the problem, pointing out that though her research correlates salary and greater job satisfaction with increased education, "the assumption of a direct causal relationship is inappropriate." The argument that too much emphasis has been placed on education as the facilitator of later life success may be true. However, since educational level will continue to play at least a partial role in economic productivity, continued attention to college student functioning is justified.

Society's Role

America has been characterized as an open society in which mobility is based on achievement, not status. This is reflected in an emphasis on individualism and equality of opportunity. Individualism refers to the recognized uniqueness and thus value of each citizen, while equality of opportunity refers to the right of access to societal resources based on one's abilities and efforts. Accordingly, contest mobility is the norm. That is, "sucesss can be won in an open contest of fair play based on the individual's aspirations and skills" (Turner, 1960). However, the results of this experiment indicate that selected environmental factors have constrained the mobility of certain segments of the population. These factors are reflected in economic and legislative policies

as well as societal norms. The federal government has passed legislation in this area. The Supreme Court decision of 1954 followed by the civil rights legislation of the sixties laid the foundation for increased admission of the disadvantaged to higher education. On a policy level, the education of all students was identified as a federal priority, while each administration has voiced its commitment to the support of equal educational opportunity. In the past, legislation has provided for student assistance and institutional development. Student assistance legislation included funds for the identification, recruitment, financial support, and academic support of these students. Institutional development legislation offered support for instructional innovations, training of personnel, and the expansion of facilities.

The future role of the federal government is implied in several emerging trends. First, post-secondary institutions have increased their dependence on federal funds. Thus the government's input into institutional policy should increase. A disturbing note is the emphasis on the two-year colleges and technical institutions as the primary sources of higher education for the disadvantaged. For example, the Task Force on Higher Education recommended "the enlargement of general opportunity for post-high school education primarily through expansion of the comprehensive two year colleges. . ." (Priorities in Higher Education, 1970, p. v). Moreover, "the largest percentage increase (in federal grants) is for vocational-technical and continuing education. . . . This support reflects the widely held view that more students should be prepared

for useful employment before terminating their formal education" (Simon & Grant, 1973, p. 3). Also to be monitored is the amount allocated for loans as opposed to grants. To date, loans constitute a substantial percentage of federal funds, and as this experiment points out, the student's dependency on nonfamily sources of aid, particularly loans, is correlated with low academic achievement. Another negative trend is the reduction in federal funds for the programs and activities previously described.

Since legislation reflects public priorities, the reversal of these negative trends is dependent on public support for educational innovations and supportive services. Recent events indicate a split in public opinion on what groups should be given priority access to educational resources. In effect women, minorities, the poor, and others are competing for the limited resources now available. Alternative strategies to be considered include a collaborative effort focused on increasing access for all groups, or the creation by the public of new resources. The latter suggestion refers to the need for each community or group to identify its human resources and to use the collective knowledge of these persons to increase the functioning of all group or community members. This philosophy has been implemented in the form of "free schools" and other community self-help activities. Such activities are proposed as an alternative to higher education for those who do not want a college degree and a means to prepare others for the successful completion of the college curriculum. The point being made is that the public has an important role to play in the shaping of

future educational policies and activities, which will in turn determine the success of future student groups.

Research Activities

This experiment represents a beginning attempt to apply experimental methodology to the study of the effects of student counseling on the behaviors and attitudes of first-year college students. The results suggest a number of possible directions for future research efforts.

First there is the question of the generalizability of results to other institutions and populations. Since each institution has its unique characteristics, there is the need to replicate similar studies on different campuses. Related to this is the need to expand the number and the characteristics of experimental participants. For in a larger sample beginning trends found might reach statistical significance, while the inclusion of upperclass students as clients would allow one to observe changes in older age groups. There is also a need to establish a longer follow-up period. This expansion of the time of the program would help to validate the stability of results. In addition, selected students could be followed for several years after graduation to assess the relationship between performance in college and later life achievement. This is an area requiring further investigation since there is substantial conflict in the literature over the relationship between college achievement and functioning in nonstudent roles, particularly employment.

The behavioral and attitudinal measures used require further refinement to increase their reliability. In this context behavioral measures of counseling effectiveness could be introduced to decrease the bias inherent in self-report measures. Academic performance outcome measures also require further refinements. Most important, if this study is replicated, the differences between counseling conditions should be broadened and measures taken to assure the maintenance of these differences.

Training is another area which would profit from further investigation. This experiment attempted to create methods appropriate for the training of action-oriented counseling approaches. However, there were some indications that the length and time schedule require revision. If counselors are to be trained in the fall, a shorter training period would facilitate the earlier assignment of clients, which might reduce the possibility of client use of other helping resources. The use of students as trainers and their success in this role is another area for future investigation. Finally, there is the question of remuneration for services. It would be helpful to clarify the effect of course credits as compared to monetary rewards or no remuneration.

The discussion of future directions in counseling and educational programming listed a number of innovative services which have been implemented at various colleges and universities. To date, minimal efforts have been expended to evaluate the effectiveness of these activities. For example, counseling innovations such as the freshman adjustment course or the use of student-led groups

focused on academic adjustment have received little attention in the research literature. The effectiveness of specific environmental change techniques also requires further investigation. The results of this experiment identify two additional areas of inquiry. First there is the need to examine the reasons why some students refused counseling services, in spite of the fact that their subsequent grades indicated that they were experiencing problems in academic adjustment. The question is when and how are student attitudes toward counseling formed. There appears to be a pattern of nonutilization stemming from experiences at earlier grade levels. In addition to the negative implications of receiving help, there may be specific parts of the counselor's role which are perceived as nonrelevant to student needs. Certainly the use of counselors as a general informational resource has been ignored by many students. There is also continual confusion over which techniques will change attitudes versus performance. The somewhat global methods used in this and related studies appear to have primarily affected attitudes.

The suggested changes in educational and community programming present similar problems. Again it was shown that a variety of innovative techniques have been implemented on a small scale without formal evaluation of their effectiveness. The federally sponsored programs also lack careful evaluation. Within this context special attention should be given to the development of nonintellective factors as admissions criteria. Certainly the results of this study indicate that the traditional criteria, i.e., grades and test scores, may not adequately assess potential skills. On another level, there

is the need to examine the black colleges, which for years have successfully educated one segment of the disadvantaged population. Their curriculum and programs should be carefully examined to determine the effect on academic performance and attitudes. The community colleges deserve equal attention since many of the current innovations in academic policies were initiated at these institutions. Finally, little has been done to coordinate the programs and services currently available across and within institutions and grade levels. More efficient methods of sharing resources and personnel are sorely needed.

The continued resistance of the educational system to the evaluation process raises the question of its willingness to allow change in its programs and services. For without the careful testing of these innovations, there is little chance of their acceptance and use on a widespread basis. The problems of implementing new practices in higher education can be viewed within the framework of social change methodology, which identifies those functions necessary for the implementation of change within social systems. In fact, the lack of attention to this process can be seen as the ultimate reason for the reported failure of higher education. According to Clark and Guba (1966), there are eight identifiable functions necessary to effect a program of planned change. These include (1) gathering operational and planning data, (2) inventing solutions to solve problems, (3) engineering programs for operational use, (4) testing and evaluating programs, (5) informing target systems about the program, (6) demonstrating the effectiveness of the

program, (7) training target systems in the use of programs, and (8) servicing and nurturing installed innovations (p. 4). If these functions are applied to the implementation of innovative educational programs, it is obvious that there has been minimal attention to most of these functions with particular neglect of the planning, inventing, and testing functions. As Clark and Guba point out in relation to most innovations in higher education, "Examples of activities related to the process can be cited for every category but they are ad hoc, parttime, poorly supported efforts which hardly represent a planned program of intrainstitutional change. . ." (1966, p. 20).

These authors have identified particular behavioral types in university settings who foster the failure of innovation. These types include the "manipulators," the "parasites," and the "prototypes," whose actions based on elitist and isolationist attitudes dilute the efforts of the "progressives," who advocate change (Clark & Guba, 1966, p. 31). The role of the change agent is seen as one of identifying these types, redirecting their energies and strengthening their commitment to educational practices which facilitate student functioning. The implementation of this experiment suggests that this is not an easy task. Some university staff members, skeptical of student ability to counsel freshmen, did not support student counselor efforts. Others did not support the program because they felt that experimental activities would interrupt current operations or require an inordinate amount of time. These criticisms do have some validity: careful evaluation is

time consuming and costly. Even so the results of this experiment indicate that such activities are vital to the future success of the educational process.

Summary

This experiment attempted to answer three questions: (1) is there an identifiable disadvantaged college student as described in the literature, (2) do counseling services as provided by upper-class students facilitate the adjustment of first-year students, and (3) what factors relate to the academic performance of college students.

On the first question, the associative analysis did result in the identification of a black, economically poor, low-SES student who comes from a large family with one parent in the home. This student tended to do less well academically than a white, high-SES, financially independent student. However, the self-esteem, feelings of control over the environment, and academic orientation of this student were only slightly related to the student's academic performance.

The analysis of the counseling process identified some counseling relationship variables as significantly related to outcome. That is, those clients and counselors who liked each other and perceived each other as similar in values and feelings, tended to perceive counseling as being successful. The consistency of this finding across counseling conditions gives strong support to the influence of the relationship on feelings about therapy success. The results, however, question whether this perceptual outcome can

be translated into behavioral improvement. There was only partial support for the influence of counselor and client characteristics in determining the outcome of counseling. Race, sex, and SES of both clients and counselors did tend to correlate with perceptions of outcome in that white females with a high SES rating tended to perceive counseling as being more successful than black, male, low-SES clients or counselors. There was no strong association between counselor age, experience, or skill and outcome. Number of counseling sessions tended to be a positive influence on counselor perceptions of outcome, while no clear pattern evolved for clients. The negative relationship between contacts and client satisfaction requires further investigation.

There were no significant differences between counseling conditions on measures of counseling effectiveness. Explanations offered for this finding included instrument bias, a lack of measurable differences between counseling models, and counselor variation in the implementation of specific techniques. (The associative analysis identified four unrelated method clusters.) Additional findings highlighted include the fact that the majority of counselors expressed satisfaction with their counseling experiences.

Several patterns emerged in the area of the influence of counseling on participant attitudes. There were no significant differences between client groups on these scales. In relation to counselor groups, Systemic model counselors maintained the most positive attitudes, while the attitude of counselors in the Peer model increased over time. However, this change was significant

for only one of the scales. Racial differences also appeared in attitudes. White students generally held more positive attitudes than black students for both client and counselor groups. Sex differences also appeared. Male counselors reported more positive attitudes than female counselors; the pattern was not consistent for client scales. A general decrease in self-esteem for all client groups was attributed to the negative feedback received from parents, peers, and university staff, while the increase in negative attitudes toward higher education for all counselor groups was attributed, on a speculative level, to a disillusionment with higher education. It was hypothesized that counseling services administered by students over a 6-month period could not be expected to produce significant changes in previously established patterns of behavior and perception. This conclusion was given added support in that race, SES, previous academic functioning, and family composition were identified in the associated analysis as having the most significant influence on academic functioning.

The third area of exploration was the identification of factors related to academic performance as reflected in grades and credit loads. Race, SES, financial aid status, family composition, and previous academic performance were all significantly related to college academic achievement for client and counselor groups. However, the racial differences between client groups did not reach statistical significance when clients were matched on high school grade point average. It appears that it was not race, per se, that caused the difference in performance, but the nature of the previous

academic and personal-social experiences which are related to ethnic status. The previously established pattern of higher achievement by females did not emerge in this study. Attitudes toward higher education and self-perceptions did not exhibit a strong correlation with academic performance. This finding was confirmed in a review of related research. Nor did the results of counseling relate to academic achievement. It was suggested that more specific techniques focused on the acquisition of academic skills were needed. An interesting finding was that credit load and grade point average, although significantly correlated, appear to measure somewhat different dimensions of academic performance. Related to this the results of the associative analysis indicate a need to redefine the areas investigated as well as the outcome measures chosen.

A variety of innovations in counseling and educational services were reviewed. Emphasis was placed on the lack of coordination of these services, their limited availability, and the need to evaluate their effectiveness. The general public was also seen as playing a significant role in educational programming. The interdependence of activities in these areas was stressed.

APPENDICES

APPENDIX A

ADMINISTRATIVE AGREEMENTS

APPENDIX A

ADMINISTRATIVE AGREEMENTS

MICHIGAN STATE UNIVERSITY

Department of Psychology
Olds Hall

East Lansing, Michigan 48824

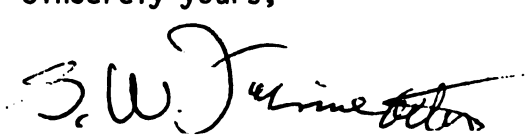
April 24, 1975

Robert Schuetz, Ph.D., Chairman
Committee on Human Experimentation
Institute of Human Biology and Medicine
423 Administration Building
Michigan State University
East Lansing, Michigan 48824

Dear Dr. Schuetz:

Elmima Johnson is a graduate student in the Ecological Psychology Program at MSU. As her major advisor, I have reviewed her proposed study and approve of it. Thank you for reviewing her proposal.

Sincerely yours,



George W. Fairweather, Ph.D.
Professor

GWF/jo

MICHIGAN STATE UNIVERSITY--East Lansing, Michigan 48824

To MSU--Department of Ecological Psychology

The project entitled "The Effect of Three Models of Student Counseling on the Adjustment of First-Year College Students" whose principal investigator will be Elmima C. Johnson has been reviewed by our institutional committee for the use of human subjects.

____ This application does not include activities involving human subjects.

__X__ This application includes activities involving human subjects. Our committee has reviewed and approved it on May 5, 1975.

Assistant Coordinator for Health Programs
Title

May 5, 1975
Date

MICHIGAN STATE UNIVERSITY

Office of Institutional Research
Administration Building

East Lansing, Michigan 48824

April 29, 1975

MEMORANDUM

TO: Elmima C. Johnson

FROM: Paul L. Dressel

The research proposal which you describe (A Comparison of Three Models of Student Counseling of Disadvantaged College Freshmen) is clearly a project of merit. Since it is being done under the auspices of the Counseling Center and you will be employed by the Center, I believe that this satisfies the concerns of the Committee on Release of Confidential Information. Each university has the right, indeed the obligation, to conduct such studies as are needed to monitor and improve its own operations.

P.L.D.

cc: Robert Schuetz

ADMINISTRATIVE AGREEMENT

The following agreement is a statement of cooperation between Elmima C. Johnson, graduate student in Ecological Psychology, and Dr. Gloria S. Smith, director of the MECCA Counseling Program at Michigan State University. The research is being conducted to investigate different models of student counseling and their effect on the academic achievement of freshman students seen by these counselors.

In order that the responsibilities of the individuals involved are understood, the following responsibilities of each are hereby agreed to:

ON THE PART OF THE DIRECTOR OF THE MECCA PROGRAM AT MICHIGAN STATE UNIVERSITY

1. Allow Miss Elmima C. Johnson, graduate student in Ecological Psychology, to conduct a study of student training models as outlined in the attached document entitled "A Comparison of Three Models of Student Counseling of Disadvantaged College Freshmen" from June 1975 through June 1976.

2. Allow Miss Johnson the use of postage, secretarial assistance, and office space as approved by the Program Director.

3. Agree to assist Miss Johnson in the implementation of the study through the use of specific program staff as members of the research team based on individual selection and agreement to participate; and the general use of all program staff when appropriate with specific approval in each instance from the Program Director.

4. Allow Miss Johnson accessibility to student files as maintained by the program when appropriate to the information needed for the study.

5. Agree to follow the method of random selection and assignment of first-time freshman program students of September 1975 to student counselors as outlined in the attached document.

6. Agree to the administration of questionnaires and interviews to student and staff participants in the study upon their approval.

7. Agree to the use of the information collected from this research to meet doctoral dissertation requirements at Michigan State University.

ON THE PART OF ELMIMA C. JOHNSON, GRADUATE STUDENT IN ECOLOGICAL PSYCHOLOGY AT MICHIGAN STATE UNIVERSITY

1. Agree to assume full responsibility for the design, implementation, daily operation, and publication of the study as outlined in the attached document.

2. Agree to follow university procedures for insuring the confidentiality of information obtained on participants in the study.

3. Agree to make available all reports on research as they become available.

4. Agree to be responsible for the assignment of duties and responsibilities to research team members (including program staff and student counselors) involved in this study.

5. Agree to be responsible for the provision of counseling services, as outlined in the attached document, to all program clients participating in this study.

Elmima C. Johnson — 3/6/75

Elmima C. Johnson, Graduate Student in Ecological Psychology — Date

Gloria S. Smith — 3/6/75

Dr. Gloria S. Smith, Director of MECCA Counseling Program — Date

Michigan State University Counseling Study
Research Team Participation Agreement Form

I agree to participate in the Michigan State University Counseling Study for the 1975-1976 academic year, being conducted by Elmima C. Johnson. I understand that the study involves the determination of the effectiveness of student counselors and the student's satisfaction with these services. I further understand that:

1. The names of participants in the study will be held confidential.
2. Only group results will be reported; no identification of individuals will be made.
3. I agree to participate in the completion of tests and questionnaires, previously described to me, to be administered during the course of this study.
4. Information obtained from me by means of questionnaires, and tests will be kept confidential.
5. I agree to participate in the training of student counselors as specified in the training schedule.
6. I agree to the supervision of those student counselors assigned to me. This supervisory process will include but is not limited to:
   a. weekly group supervisory sessions.
   b. two (2) individual supervisory sessions with each counselor each term.
   c. the review of case records of counseling sessions to determine counselor adherence to the counseling model.
   d. the periodic administration of questionnaires to my student counselor group.
   e. other data-collection procedures including the monitoring of attendance at training and supervisory sessions.
7. I agree to the maintenance of a research journal which will be used in the feedback of information to the researcher concerning my impressions of the implementation process.

8. I agree to participate in weekly research team meetings.

9. I agree to adhere to the research design as specified by Elmima C. Johnson. This includes adherence to the counseling model that I have agreed to implement.

10. I agree to keep all information regarding the nature of this study confidential. No information will be disclosed to persons not on the research team without permission of Elmima C. Johnson.

11. I waive all publication rights to all data collected in this study.

I agree to participate in the Michigan State University Counseling Study.

_____ _____

Signature Date

Michigan State University Counseling Study
Participation Agreement Form

I agree to participate in the Michigan State University Counseling Study for the 1975-1976 academic year, being conducted by Elmima C. Johnson. I understand that the study involves the determination of the effectiveness of student counselors and the student's satisfaction with these services. I further understand that:

1. The names of participants in the study will be held confidential.
2. Only group results will be reported; no identification of individuals will be made.
3. I agree to participate in the completion of tests and questionnaires, previously described to me, to be administered during the course of this study.
4. Information obtained from me by means of questionnaire, tests, academic files, etc. will be confidential.
5. I agree to allow Miss Elmima C. Johnson access to information pertinent to the study from my academic and financial aid files.
6. My participation in the study does not guarantee any beneficial results to me.
7. I am free to discontinue participation in the study at any time without penalty.
8. I can receive additional explanation of the study after my participation is completed.

I agree to participate in the Michigan State University Counseling Study.

(1)_____ Yes (2)_____ No

_____ _____
Student Signature Student Number

APPENDIX B

STUDENT COUNSELOR TRAINING PROGRAM

APPENDIX B

STUDENT COUNSELOR TRAINING PROGRAM

Training Schedule

Part One		
Thursday, Sept. 25	Orientation--All Research Team	6:00-8:30 p.m. 334 Union
Saturday, Sept. 27	The Freshman Student	1:00-3:00 p.m. Brody Aud.
	Introduction to Counseling	9:00-12:00 noon
Monday, Sept. 29	Living Conditions/Health	7:00-10:00 p.m.
Tuesday, Sept. 30	Peer Relations	7:00-10:00 p.m.
Wednesday, Oct. 1	Financial Aid	7:00-10:00 p.m.
Thursday, Oct. 2	Academic Adjustment (exam on material to date)	7:00-10:00 p.m.
Friday, Oct. 3	Students Assigned to Trainers for Small Group Sessions	
Part Two	Behavioral Modification and Systemic Models	Brody Aud. Holdin 105
Saturday, Oct. 4	Communication Skills Interviewing Techniques	9:00-3:00 p.m.
Sunday, Oct. 5	Introduction of Theoretical Model	6:00-9:00 p.m.
Monday, Oct. 6	Problem-Solving Approach	7:00-10:00 p.m.
Tuesday, Oct. 7	Implementation of the Theoretical Model	7:00-10:00 p.m.
Wednesday, Oct. 8	Skill Building	7:00-10:00 p.m.
Thursday, Oct. 9	Skill Building (cont'd) (Inform students of date of first supervisory session)	7:00-10:00 p.m.

Part Three	Peer Model	Holmes 107 C
Saturday, Oct. 4	Exploration of Helping Needs	9:00-3:00 p.m.
Sunday, Oct. 5	Individual Sessions	6:00-9:00 p.m.
Monday, Oct. 6 through Thursday, Oct. 9	Individual Sessions (cont'd) (Inform students of date of first supervisory session)	7:00-10:00 p.m.

Outline of Lectures for Stage One Training

Training Sessions Part I

Lecture/Saturday, September 27, 1975

Freshman Student Problems

I. Exercise: Why do you want to be a student counselor? One page written explanation. (Discuss written assignment.)

II. Description of M.S.U. freshman student population

III. Types of freshman students

- A. Problem students
  1. Baby Brenda
  2. Disorganized Dan
  3. Cool Calvin
  4. Social Sandra
  5. Apathetic Ann
  6. Brainy Bill
- B. Exploring stereotypes of freshman students

IV. MECCA student problem survey

V. Exercise: Ranking of potential student problems

- A. Results of the MECCA student problem survey
  1. Living conditions
     a. Mentioned most often
  2. Finances
     a. Ranked most serious
  3. Academic adjustment
  4. Peer relations
  5. Career vocational choice
  6. Health
  7. Emotional problems
  8. Family relations
- B. Discuss student counselor ranking order and compare the results with the MECCA survey

VI. Informational skills

- A. Definition
- B. Their use
- C. How to teach them

Lecture/Saturday, September 27, 1975

Introduction to Counseling

I. History of counseling as a profession
   - A. Freudian influence
   - B. Behavioral influence
   - c. Influence of World War II
   - D. Recent developments (i.e., the Community Mental Health Movement)

II. Overview of the major therapies
   - A. Differences
   - B. Similarities

III. Characteristics of counselors/therapists
   - A. Training
   - B. Eclectic vs. school oriented
   - C. Settings in which counselors practice

IV. Crucial issues in the practice of counseling
   - A. Ethics
   - B. Confidentiality
   - C. Use of records

V. The counseling center at MSU
   - A. History
   - B. Goals
   - C. Staff
   - D. Programs
   - E. Outreach offices

VI. The MECCA program
   - A. History
   - B. Philosophy and goals
   - C. Staff
   - D. Programs

VII. Use of paraprofessionals as counselors
   - A. History
   - B. Roles and settings
   - C. Assessment of their effectiveness

VIII. Review the Student Counselor Resource Manual

Lecture/Monday, September 29, 1975

Living Conditions/Health

I. Living conditions
   - A. Presentation of materials collected by students
     1. New information discovered
     2. Problems encountered in gathering information
     3. Prediction of student problems in these areas
   - B. Discussion with guest speakers (two R.A.'s at MSU)
     1. Housing contracts
     2. Dorm hours, curfews, etc.
     3. Dress regulations
     4. Room policies
     5. Safety regulations
     6. Social regulations, guests, visiting hours, etc.
     7. Residence halls' Bill of Rights
     8. Off-campus housing
   - C. Discussion of major student problems related to these policies, regulations
     1. Overcrowding
     2. Roommate conflict
     3. Drug usage
     4. Noise
     5. Co-ed housing

II. Health
   - A. Presentation and discussion of materials collected on this subject area
     1. New information discovered
     2. Problems encountered in gathering this information
     3. Prediction of student problems in this area
   - B. Lecture on major problem areas
     1. Drugs
     2. Pregnancy/abortion
     3. Emotional problems
   - C. Resources to deal with problems
     1. On-campus services (i.e., Olin, etc.)
     2. Community agencies
     3. Health insurance

Lecture/Tuesday, September 30, 1975

Peer Relations

I. Presentation of material collected by students
   - A. New information discovered
   - B. Problems encountered in gathering information
   - C. Prediction of freshman problems in this area

II. Discussion of current student problems in this area
   - A. Making friends
     1. Where to meet people
     2. How to select friends
   - B. Dating
     1. Male-female ratio
     2. Interracial dating
     3. Co-ed dorms
     4. Conflicting values and standards of behavior
   - C. Race relations

III. Exercise

(Students will be divided into three groups, each of which will discuss one of these problem areas. They will use their own freshman experiences as a basis for discussion and will compile a list of their problems. Each subgroup will share its list with the total group.)

Lecture/Wednesday, October 1, 1975

Financial Aid

I. Presentation of material collected by students
   - A. New information discovered
   - B. Problems encountered in gathering information
   - C. Prediction of student problems in these areas

II. Discussion of financial aid policies and forms
   - A. Types (i.e., basic grant, loans, scholarships, etc.)
   - B. Composition of typical freshman package
   - C. Repayment
   - D. How to complete forms

III. Discussion of student problems related to financial aid
   - A. Budgeting
   - B. Insufficient funds

Lecture/Thursday, October 2, 1975

Academic Adjustment

I. Presentation of material gathered by students
   - A. New information discovered
   - B. Problems encountered in gathering information
   - C. Prediction of freshman problems in this area

II. Review of academic information
   - A. Services offered by the university
     1. Learning Resource Center
     2. Academic advisors
     3. Testing office
     4. Vocational Library (Counseling Center)
   - B. Academic policies and requirements
     1. General information (University Catalog)
     2. Schedule of courses and academic handbook
        - a. Out-of-state tuition regulation
        - b. Procedure for reclassification to in-state status
        - c. Registration
        - d. Attendance
        - e. Change of enrollment
          (1) to add a course
          (2) to drop a course
          (3) change of section
        - f. Withdrawal from university
          (1) voluntary during a term
          (2) voluntary at the close of a term
          (3) involuntary
          (4) disciplinary
          (5) unauthorized
          (6) readmission procedure
        - g. Selecting and changing major
          (1) freshmen and sophomores
          (2) juniors and seniors
        - h. Scholastic honors
          (1) Dean's Honors List
          (2) College Honors Award
          (3) graduation honors
   - B. Academic records
     1. Obtaining a transcript
     2. Release of information from student academic records
     3. Credits
        - a. Term credit load
        - b. Classification by credits
     4. Readmission procedure

D. Grading system
    1. The numerical system
    2. The credit-no credit system
    3. The pass-no grade system
    4. Postponement of grading
    5. Correction of grades
    6. Grade point system
        a. Grade point averages
            (1) computed for term
            (2) computed cumulative

Outline of Stage Two Training Sessions

Training Sessions Part Two

Lecture/Saturday, October 4, 1975

Peer Model

I. Explanation of the Peer Counseling Philosophy

II. Exercise--Understanding the need to be a helper (Danish & Hauer, 1973)

III. Assignments

A. Students are to write or type why they want to be a student counselor (one page). They are to note any differences between these reasons and the ones they gave previously, i.e., last Saturday's session.
B. Students are to think about some of the problems they had as freshmen and how they dealt with them. Would they make any changes in the ways they choose to handle these problems?
C. Sign up for an individual session with the trainer to discuss the above.

Lecture/Sunday, October 5-
Thursday, October 9, 1975

Peer Model

Individual sessions--approximately 2 hours

Discussion of the assignments made on Saturday, October 4. Attention should be focused primarily on student counselor problems as freshmen and how they dealt with them. Positive feedback is to be given on all but the most bizarre problem-solving strategies discussed. In extreme cases, encourage students to think of alternative ways to handle problems. No prompting, please. Remember, these counselors are not to receive any skill training! Trainer-supervisors are to note in their research journals any characteristics which may prevent these students from facilitating student retention (i.e., anyone with severe emotional problems, poor attendance, seeming minimal interest, etc.). This will be important in the final selection of counselors.

Lecture/Saturday, October 4, 1975

Systemic and Behavioral Modification Models
(Joint Session)

I. Communication skills
   A. The communications process
      1. Source
      2. Message
      3. Channel
      4. Receiver
   B. The importance of communication skills
      1. In everyday life
      2. In the counseling process
   C. Components of communication skills
      1. Voice tone
      2. Eye contact
      3. Facial expression
      4. Body position
      5. Content
   D. Exercises

II. Interviewing skills
   A. Lecture on the stages of an interview
      1. Initiation
      2. Development
      3. Termination
   B. Exercise
      Student will break into groups and interview each other. They will identify the three stages of their interviews and rate their skill in each stage.

III. Listening skills
   A. Types
   B. Exercises

IV. Empathy training
   A. Definition
   B. Response levels (Carkhuff)
   C. Practice in response levels

V. The interaction of communication skills in the counseling process

Lecture/Sunday, October 5, 1975

Behavioral Modification Model
Introduction of Theoretical Model

I. Historical development

II. Theoretical framework

- A. Comparison to other therapies, particularly Freudian
- B. Major characteristics of this approach
  1. Goals
     - a. To assess the nature of the problem. The method used is the functional analysis of behavior.
     - b. To determine the nature of the contingencies controlling behavior.
     - c. To change the contingencies and teach clients new ways of behaving.
  2. Major assumptions (see Franks, 1969, p. 5)
     - a. Symptoms are unadaptive conditioned responses.
     - b. Symptoms are evidences of faulty learning.
     - c. Symptomatology is determined by individual differences in conditionability and autonomic lability, as well as accidental environmental circumstances.
     - d. Cures are achieved by treating the symptom itself, i.e., by extinguishing unadaptive conditioned responses and establishing desirable conditioned responses.
     - e. The symptom is the behavior.
     - f. Behavior is a function of its consequences.
  3. Means of achieving goals
     - a. The therapist conducts a functional analysis of behavior to determine the client's strengths, weaknesses, and the contingencies controlling the behavior.
     - b. The therapist teaches the client new ways of behaving, helps him/her to arrange new contingencies, and uses self as a change agent. All techniques and teaching are based on learning principles.
     - c. The therapist and client monitor the effectiveness of the new contingencies and/or techniques and make changes as necessary.
  4. Counseling relationship
     - a. It is symptom oriented. The symptom is the behavior requiring change.
     - b. It requires working with the behavior and the consequences.
     - c. Personal relations are not essential for cures of neurotic disorders, although they may be useful in certain circumstances.

d. A thorough functional analysis of behavior must occur before intervention. This is done with the client and in some cases with significant others.
e. The therapist must have a thorough knowledge of learning principles and techniques of behavior change.
f. Empathy, acceptance are important but not sufficient conditions for change.
g. "The essential ingredients of a psychotherapeutic endeavor with the patient usually involve two separate efforts: (a) to change the patient's approach to perceiving, classifying, and organizing sensory events, including perceptions of himself, and (b) to change the response patterns which he has established in relation to social objects and to himself over the years" (Franks, 1969).
h. "Psychological treatment involves the utilization of a variety of methods to devise a program which controls the patient's environment, or enables him to control his behavior and the consequences of his behavior in such a way that the presenting problem is resolved" (Franks, 1969).

5. Role of the therapist and client
   a. To work together to determine the symptoms.
   b. Therapist is a teacher/expert. Client is an active participant.
   c. Focus of session is upon the functional analysis of behavior, the changing of contingencies by whatever learning techniques necessary.
6. Techniques--There are many techniques, but few general principles involved in behavior therapy. The techniques used vary from therapist to therapist.
   a. Contingency management
   b. Modeling
   c. Verbal reinforcement
   d. Behavioral contracting
   e. Assertion training
   f. Shaping
   g. Reinforcement
   h. Self-modification through record keeping, graphing, etc.

III. Discussion of basic terminology with examples

A. Learning
B. Extinction
C. Operant conditioning
D. Classical conditioning
E. Reinforcement (i.e., primary, secondary, positive and negative)

F. Functional analysis of behavior
G. Premack Principle
H. Stimulus control and generalization
I. Reciprocal inhibition
J. Counter conditioning
K. Contingency management
L. Behavior modification
M. Schedules of reinforcement

Lecture/Monday, October 6, 1975

Behavior Modification Model
The Problem-Solving Approach

I. The problem-solving approach

II. The rules of behavior modification
   A. Be consistent
   B. Think small
   C. Whenever possible establish functional behavior, i.e., behavior that is reinforceable outside of therapy session
   D. Start where the person is
   E. Reinforce each unit of the stimulus-response chain

III. Practice in implementing the problem-solving process

Lecture/Tuesday, October 7-
Thursday, October 9, 1975

Behavior Modification Model

Implementation of Theoretical Model--Skill Building

I. Behavioral techniques--definition and use

A. "While there are many techniques, there are few general principles involved in behavior therapy" (Ullman & Krasner, 1975, p. 233).

B. "Although the techniques are important, none of them, as such, define behavior therapy. Rather, behavior therapy can be summarized as involving many procedures that utilize systematic environmental contingencies to alter directly the subject's reactions to situations" (Ullman & Krasner, 1975, p. 233).

C. "Therapy, however, does not rest on specific methods of application of techniques but rather on the planned, explicit manipulation of differences in the environment contingent upon the person's responses to stimuli. The possibilities for new approaches are limited only by the creativity of experimental psychologists and the ingenuity of clinical workers" (Ullman & Krasner, 1975, p. 233).

II. Techniques--Students will be taught through examples and role playing how to implement the techniques and how to apply them to major student problem areas, i.e., academic, living conditions, peer relations, and finances.

A. Contingency management--requires the specification of behaviors, consequences, and contingencies and involves managing the contingencies (i.e., relationships) between behaviors and their consequences. There are four basic contingencies.
   1. Positive reinforcement
   2. Negative reinforcement
   3. Avoidance
   4. Punishment

B. Modeling--The teaching of a client to emit certain behaviors by observing that behavior in another person.

C. Verbal reinforcement--The process wherein a verbal reinforcing stimulus follows the desired performance and increases the frequency of the performance.

D. Behavioral contracting--Similar to contingency management, wherein the therapist and client agree on a contingency which specifies the manner in which their interaction will occur.

E. Assertion training--Teaching a client a series of tasks that successively approximate the desired assertive behavior; i.e., the goal is to increase the client's tendency to exhibit certain behaviors not presently in his repertoire.
F. Shaping (successive approximation)--A process whereby a task or behavior which is not currently in a person's repertoire is conditioned. The performance which is approximate to the desired end behavior and which the person already emits is reinforced. Thereafter, reinforcement occurs after those performances which are in the direction of the end behavior. The behaviors which are not similar to the end behavior are not reinforced.
G. Self-modification--Teaching clients how to control and reinforce their own behaviors.

III. Record keeping

A. Types
1. Graphs, how to construct them
2. Notebooks

Modeling and Relaxation Training (Wednesday)

IV. The first half of the session will be devoted to a slide-audio on the basic principles of modeling. A discussion will follow the film.

V. Relaxation training

A. Its development
B. Its use
C. Practice in using the four-muscle group method

(Thursday)

VI. Assertion training

A. Assertion vs. aggression
B. Its use
C. Examples of procedures
D. Practice in using technique

VII. Verbal reinforcement (shaping)

A. Definition
B. Demonstration
C. Practice

VIII. Self-control (self-monitoring)

A. Definition
B. Examples
C. Demonstration and practice

Lecture/Sunday, October 5, 1975

Systemic Model

Introduction of the Theoretical Model

I. Definition

A. Nature of systems functioning
B. Problems of oppressed people

II. Theoretical framework

A. Assumptions
B. Means of achieving goals
C. Counseling relationship
D. Role of the counselor and client

III. Discussion

Monday, October 6, 1975

Systemic Model

The Problem-Solving Approach

I. The steps in the approach

A. Symptom identification
B. Exploration of problem cuasation
C. Discussion of problem-solving strategies and techniques
D. Selection of problem-solving strategies and techniques
E. Implementation of selected strategies and techniques
F. Evaluation of effectiveness of problem-solving process
G. Expansion of client use of model
H. Counselor dissemination and use of results of the problem-solving process.

II. Examples of how to implement each step of the process

III. Discussion

Lecture/Tuesday, October 7-
Thursday, October 9, 1975

Systemic Model

Implementation of Theoretical Model--Skill Building

I. Categorization of systemic techniques

- A. Symptom identification techniques
- B. Problem identification techniques
- C. Problem-solving techniques
- D. Symptom elimination or reduction techniques
- E. Skill building techniques

II. Definition and examples of selected techniques

- A. Symptom identification techniques--client-role playing, consultation, field observation
- B. Problem identification techniques--information sharing, field observation, systems monitoring
- C. Problem-solving techniques--advice giving, manipulation, negotiation, advocacy consultation
- D. Symptom elimination techniques
- E. Skill building techniques--self-observation and recording of behavior. Role playing, client systems' monitoring, client-systems research. Role playing and practice exercises will be used to teach the systemic techniques.

APPENDIX C

ANALYSIS OF VARIANCE FOR USE OF THE MODEL SCALE

APPENDIX C

ANALYSIS OF VARIANCE FOR USE OF THE MODEL SCALE

Table C1: Analysis of Variance for Use of the Model Scale--Counselor Perceptions (Behavior Modification Subscale).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.032	.061	.99
Race	1	2.133	4.138	.05 (w^2=.04)
Sex	1	.053	.103	.99
Model by race	2	1.204	2.337	.08
Model by sex	2	3.271	6.347	.004(w^2=.14)
Race by sex	1	.435	.844	.99
Model by race by sex	2	1.116	2.165	.12
Residual	41	.515		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table C2: Analysis of Variance for Use of the Model Scale--Counselor Perceptions (Total Scale Score).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.139	.522	.99
Race	1	1.087	4.084	.05 (w^2=.05)
Sex	1	.065	.245	.99
Model by race	2	.180	.674	.99
Model by sex	2	.689	2.589	.09
Race by sex	1	.021	.078	.99
Model by race by sex	2	.369	1.388	.26
Residual	41	.266		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table C3: Analysis of Variance for Use of the Model Scale--Client Perceptions (Total Scale Score).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.288	1.306	.28
Race	1	.125	.566	.99
Sex	1	.205	.930	.99
Model by race	2	.052	.237	.99
Model by sex	2	.074	.334	.99
Race by sex	1	.914	4.138	.05 (w^2=.07)
Model by race by sex	2	.067	.303	.99
Residual	38	.221		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table C4: Analysis of Variance for Use of the Model Scale--Trainer-Supervisor Perceptions (Behavior Modification Subscale).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	20.015	90.351	.001(w^2=.16)
Race	1	.071	.318	.99
Sex	1	.006	.026	.99
Model by race	2	.717	.771	.99
Model by sex	2	.027	.122	.99
Race by sex	1	.055	.250	.99
Model by race by sex	2	.471	2.125	.13
Residual	41	.222		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table C5: Analysis of Variance for Use of the Model Scale--Trainer-Supervisor Perceptions (Systemic Techniques Subscale).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	10.017	47.365	.001(w^2=.65)
Race	1	.148	.669	.99
Sex	1	.034	.162	.99
Model by race	2	.356	1.682	.20
Model by sex	2	.002	.011	.99
Race by sex	1	.016	.077	.99
Model by race by sex	2	.098	.462	.99
Residual	41	.211		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table C6: Analysis of Variance for Use of the Model Scale--Trainer-Supervisor Perceptions (Peer Techniques Subscale).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	3.883	15.345	.001(w^2=.34)
Race	1	.413	1.632	.21
Sex	1	.024	.093	.99
Model by race	2	.059	.233	.99
Model by sex	2	.054	.212	.99
Race by sex	1	1.337	5.282	.03 (w^2=.07)
Model by race by sex	2	.286	1.130	.33
Residual	41	.407		

[a] w^2 = percentage of variance accounted for by the source of variation.

APPENDIX D

REPEATED MEASURES ANALYSIS OF VARIANCE FOR CLIENT ATTITUDINAL SCALES

APPENDIX D

REPEATED MEASURES ANALYSIS OF VARIANCE FOR CLIENT ATTITUDINAL SCALES

Table D1: Two Repeated Measures Analysis of Variance for Client Self-Esteem Scale.[a]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2,39	1.1134	2.0307	.15
Race	1,39	.3433	.6261	.43
Sex	1,39	.8495	1.5494	.22
Interactions				
MxR	2,39	.5661	1.0326	.37
MxS	2,39	.2410	.4396	.65
RxS	1,39	.9649	1.7599	.19
MxRxS	2,39	.1650	.3010	.74
Main Effects				
Time	1,39	1.9154	25.9615	.0001
Interactions				
TxM	2,39	.0824	1.1164	.34
TxR	1,39	.0359	.4869	.49
TxS	1,39	.3865	5.2383	.03
TxMxR	2,39	.0065	.0878	.92
TxMxS	2,39	.0100	.1351	.87
TxRxS	1,39	.0043	.0584	.81
TxMxRxS	2,39	.0232	.3139	.73

[a]Number of subjects = 51.

Table D2: Two Repeated Measures Analysis of Variance for Client Problem Expectancy Scale.[a]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2,39	.4230	.2962	.75
Race	1,39	.0305	.0214	.89
Sex	1,39	.0905	.0634	.80
Interactions				
RxR	2,39	.0497	.0348	.97
MxS	2.39	.8535	.5976	.56
RxS	1,39	5.6388	3.9483	.05
MxRxS	2,39	.2018	.1413	.87
Main Effects				
Time	1,39	.0042	.0454	.83
Interactions				
TxM	2,39	.0395	.4241	.66
TxR	1,39	.2152	2.3116	.14
TxS	1,39	.0818	.8791	.35
TxMxR	2,39	.0768	.8251	.45
TxMxS	2,39	.0423	.4540	.64
TxRxS	1,39	.1242	1.3341	.26
TxMxRxS	2,39	.2614	2.8077	.07

[a]Number of subjects = 51.

APPENDIX E

ANALYSIS OF VARIANCE FOR CLIENT RESULTS OF COUNSELING SCALE--CURRENT FUNCTIONING ITEM

APPENDIX E

ANALYSIS OF VARIANCE FOR CLIENT RESULTS OF COUNSELING SCALE--CURRENT FUNCTIONING ITEM

Table E1: Analysis of Variance for Client Results of Counseling Scale--Current Functioning Item (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	2.045	2.401	.10
Race	1	6.271	7.363	.01(w^2=.12)
Sex	1	.444	.521	.99
Model by race	2	.345	.405	.99
Model by sex	2	.027	.032	.99
Race by sex	1	3.811	4.474	.04(w^2=.07)
Model by race by sex	2	.399	.399	.99
Residual	35	.852		

[a] w^2 = percentage of variance accounted for by the source of variation.

APPENDIX F

REPEATED MEASURES ANALYSIS OF VARIANCE FOR COUNSELOR ATTITUDINAL SCALES

APPENDIX F

REPEATED MEASURES ANALYSIS OF VARIANCE FOR COUNSELOR ATTITUDINAL SCALES

Table F1: Two Repeated Measures Analysis of Variance for Counselor General Adjustment Scale.[a]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2,13	2.4709	8.4709	.01
Race	1,13	.6609	2.2659	.16
Sex	1,13	.6364	2.1817	.16
Interactions				
MxR	2,13	.0497	.1704	.84
MxS	2,13	.5322	1.8244	.20
RxS	1,13	.0575	.1973	.66
MxRxS	2,13	.0127	.0437	.96
Main Effects				
Time	1,13	.0002	.0046	.95
Interactions				
TxM	2,13	.0063	.1414	.87
TxR	1,13	.0148	.3329	.58
TxS	1,13	.0066	.1490	.71
TxMxR	2,13	.0381	.8596	.45
TxMxS	2,13	.0550	1.2407	.32
TxRxS	1,13	.0050	.1128	.74
TxMxRxS	2,13	.0202	.4554	.64

[a]Number of subjects = 25.

Table F2: Two Repeated Measures Analysis of Variance for Counselor Attitude Toward Higher Education Scale.[a]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2,13	.2247	.9185	.42
Race	1,13	5.6944	23.2803	.0004
Sex	1,13	.0020	.0081	.93
Interactions				
MxR	2,13	.3418	1.3974	.28
MxS	2,13	.0446	.1823	.83
RxS	1,13	2.5265	10.3290	.01
MxRxS	1,13	.5907	2.4150	.13
Main Effects				
Time	1,13	.2391	4.7638	.05
Interactions				
TxM	2,13	.0507	1.0105	.39
TxR	1,13	.0007	.0139	.91
TxS	1,13	.1584	3.1561	.10
TxMxR	2,13	.1660	3.3073	.07
TxMxS	2,13	.0206	.4110	.67
TxRxS	1,13	.0824	1.6415	.22
TxMxRxS	2,13	.0141	.2803	.76

[a]Number of subjects = 25.

Table F3: Two Repeated Measures Analysis of Variance for Counselor Self-Esteem Scale.[a]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2,13	2.4353	7.5483	.01
Race	1,13	.4916	1.5237	.24
Sex	1,13	.7837	2.4292	.14
Interactions				
MxR	2,13	.2944	.9124	.43
MxS	2,13	.5998	1.8591	.20
RxS	1,13	.0009	.0028	.96
MxRxS	2,13	.1741	.5398	.60
Main Effects				
Time	1,13	.0196	.4562	.51
Interactions				
TxM	2,13	.0215	.4996	.62
TxR	1,13	.0001	.0013	.97
TxS	1,13	.0126	.2924	.60
TxMxR	2,13	.0094	.2197	.81
TxMxS	2,13	.0044	.1020	.90
TxRxS	1,13	.0896	2.0846	.17
TxMxRxS	2,13	.0021	.0478	.95

[a]Number of subjects = 25.

Table F4: Two Repeated Measures Analysis of Variance for Counselor Locus of Control Scale.[a]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2,11	.3252	4.3511	.04
Race	1,11	.1468	1.9646	.19
Sex	1,11	.0981	1.3130	.28
Interactions				
MxR	2,11	.0685	.9172	.43
MxS	2,11	.0116	.1550	.86
RxS	1,11	.2597	3.4746	.09
MxRxS	2,11	.2727	3.6491	.06
Main Effects				
Time	1,11	.0002	.0120	.92
Interactions				
TxM	2,11	.0257	1.4458	.28
TxR	1,11	.0001	.0067	.94
TxS	1,11	.0021	.1172	.74
TxMxR	2,11	.0010	.0571	.95
TxMxS	2,11	.0332	1.8636	.20
TxRxS	1,11	.0142	.5831	.46
TxMxRxS	2,11	.0248	1.3966	.29

[a]Number of subjects = 23.

APPENDIX G

ANALYSIS OF VARIANCE FOR COUNSELOR RESULTS OF COUNSELING SCALE

APPENDIX G

ANALYSIS OF VARIANCE FOR COUNSELOR RESULTS OF COUNSELING SCALE

Table G1: Analysis of Variance for Counselor Results of Counseling Scale--Problem Solution Item (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance
Model	2	.174	.322	.99
Race	1	.042	.078	.99
Sex	1	.653	1.209	.28
Model by race	2	.259	.480	.99
Model by sex	2	1.173	2.172	.13
Race by sex	1	.553	1.025	.32
Model by race by sex	1	.481	.892	.99
Residual	41	.540		

Table G2: Analysis of Variance for Counselor Results of Counseling Scale--Satisfaction With Services Item (Posstest--Spring 1975).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.386	.709	.99
Race	1	.730	1.340	.25
Sex	1	4.525	8.311	.01 (w^2=.11)
Model by race	2	.224	.411	.99
Model by sex	2	1.361	2.500	.09
Race by sex	1	.350	.643	.99
Model by race by sex	1	.678	1.245	.27
Residual	41	.544		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table G3: Analysis of Variance for Counselor Response to Results of Counseling Scale--Current Functioning Item (Posttest--Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.834	1.425	.25
Race	1	3.250	5.555	.02 (w^2=.08)
Sex	1	4.319	7.382	.01 (w^2=.11)
Model by race	2	.167	.285	.99
Model by sex	2	1.291	2.206	.12
Race by sex	1	.916	1.566	.22
Model by race by sex	1	.018	.030	.99
Residual	41	.585		

[a] w^2 = percentage of variance accounted for by the source of variation.

APPENDIX H

REPEATED MEASURES ANALYSIS OF VARIANCE FOR CLIENT ACADEMIC PERFORMANCE VARIABLES

APPENDIX H

REPEATED MEASURES ANALYSIS OF VARIANCE FOR CLIENT ACADEMIC PERFORMANCE VARIABLES

Table H1: Three Repeated Measures Analysis of Variance for Client Credits Carried (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2	10.3000	11.8787	.17
Race	1	23.9201	4.3629	.04
Sex	1	4.6928	.8559	.36
Interactions				
MxR	2	16.4905	3.0078	.06
MxS	2	2.0962	.3823	.69
RxS	1	3.9976	.3678	.40
MxRxS	2	4.5650	.8326	.44
Main Effects				
Time	2,35		7.3753	.002
Interactions				
TxM	4,70		.3787	.82
TxR	2,35		4.1519	.02
TxS	2,35		.0940	.91
TxMxR	4,70		.5075	.73
TxMxS	4,70		.4547	.77
TxRxS	2,35		.0462	.96
TxMxRxS	4,70		.5884	.67

[a]Number of subjects = 48.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

Table H2: Three Repeated Measures Analysis of Variance for Client Credits Earned (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2	.7292	.0599	.94
Race	1	113.1258	9.2974	.004
Sex	1	.1867	.0154	.90
Interactions				
MxR	2	35.4419	2.9129	.07
MxS	2	7.9250	.6513	.53
RxS	1	4.4752	.3678	.55
MxRxS	2	4.1592	.3418	.71
Main Effects				
Time	2,35		3.8179	.03
Interactions				
TxM	4,70		.5937	.67
TxR	2,35		1.6699	.20
TxS	2,35		.3154	.73
TxMxR	4,70		1.0139	.41
TxMxS	4,70		.2156	.93
TxRxS	2,35		.2599	.77
TxMxRxS	4,70		1.0322	.40

[a]Number of subjects = 48.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

Table H3: Three Repeated Measures Analysis of Variance for Client Grade Point Average (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2	.9237	.8736	.43
Race	1	8.5612	8.0967	.007
Sex	1	.5288	.5001	.48
Interactions				
MxR	2	.5982	.5657	.57
MxS	2	.0838	.0792	.92
RxS	1	.0066	.0062	.93
MxRxS	2	.0273	.0258	.98
Main Effects				
Time	2,35		2.4444	.10
Interactions				
TxM	4,70		.1814	.95
TxR	2,35		2.2103	.13
TxS	2,35		.2456	.78
TxMxR	4,70		.6735	.61
TxMxS	4,70		.3839	.82
TxRxS	2,35		1.4061	.26
TxMxRxS	4,70		.7850	.54

[a]Number of subjects = 48.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

APPENDIX I

REPEATED MEASURES ANALYSIS OF VARIANCE FOR LOST AND RETAINED CLIENT ACADEMIC PERFORMANCE VARIABLES

APPENDIX I

REPEATED MEASURES ANALYSIS OF VARIANCE FOR LOST AND RETAINED CLIENT ACADEMIC PERFORMANCE VARIABLES

Table I1: Three Repeated Measures Analysis of Variance for Lost and Retained Client Credits Carried (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	3	7.4501	1.2021	.32
Race	1	40.7160	6.5698	.01
Sex	1	3.9912	.6440	.43
Interactions				
MxR	3	11.2419	1.8139	.15
MxS	3	1.4682	.2369	.87
RxS	1	.3029	.0489	.83
MxRxS	3	5.3532	.8638	.47
Main Effects				
Time	2,61		11.9979	.0001
Interactions				
TxM	6,122		.2390	.96
TxR	2,61		1.4007	.25
TxS	2,61		.3281	.72
TxMxR	6,122		1.3482	.24
TxMxS	6,122		.3702	.90
TxRxS	2,61		.5353	.59
TxMxRxS	6,122		.5651	.76

[a]Number of subjects = 78.

[b]Mean squares for time effects are not printed by Finn (1972) computer program.

Table I2: Three Repeated Measures Analysis of Variance for Lost and Retained Client Credits Earned (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	3	.4990	.0459	.99
Race	1	211.0993	19.4114	.0001
Sex	1	1.9892	.1829	.67
Interactions				
MxR	3	23.7920	2.1878	.10
MxS	3	5.5356	.5090	.68
RxS	1	.4708	.0433	.84
MxRxS	3	5.1021	.4692	.71
Main Effects				
Time	2,61		5.2169	.008
Interactions				
TxM	6,122		.4078	.87
TxR	2,61		1.0750	.35
TxS	2,61		.1336	.88
TxMxR	6,122		.8091	.57
TxMxS	6,122		.3674	.90
TxRxS	2,61		.8873	.42
TxMxRxS	6,122		.7582	.60

[a]Number of subjects = 78.

[b]Mean squares for time effects are not printed by Finn (1972) computer program.

Table I3: Three Repeated Measures Analysis of Variance for Lost and Retained Client Grade Point Average (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	3	.8558	.9238	.44
Race	1	18.0314	19.4657	.0001
Sex	1	.2771	.2991	.60
Interactions				
MxR	3	.5690	.6143	.61
MxS	3	1.0683	1.1532	.34
RxS	1	.0008	.0009	.98
MxRxS	3	.0214	.0232	.96
Main Effects				
Time	2,61		2.7170	.07
Interactions				
TxM	6,122		.2805	.95
TxR	2,61		2.0959	.13
TxS	2,61		.1448	.87
TxMxR	6,122		.6495	.69
TxMxS	6,122		.3094	.93
TxRxS	2,61		3.3376	.04
TxMxRxS	6,122		.6891	.66

[a]Number of subjects = 78.

[b]Mean squares for time effects are not printed by Finn (1972) computer program.

APPENDIX J

REPEATED MEASURES ANALYSIS OF VARIANCE FOR CLIENT AND CONTROL PARTICIPANT ACADEMIC PERFORMANCE VARIABLES

APPENDIX J

REPEATED MEASURES ANALYSIS OF VARIANCE FOR CLIENT AND CONTROL PARTICIPANT ACADEMIC PERFORMANCE VARIABLES

Table J1: Three Repeated Measures Analysis of Variance for Client and Control Participants Credits Carried (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	3	6.9668	1.3052	.27
Race	1	349.8886	65.5513	.0001
Sex	1	17.0771	3.1994	.08
Interactions				
MxR	3	14.6747	2.7493	.04
MxS	3	1.3975	.2618	.85
RxS	1	.0000	.0000	.99
MxRxS	3	4.6313	.8677	.46
Main Effects				
Time	2,220		31.9562	.0001
Interactions				
TxM	6,440		.4924	.49
TxR	2,220		2.3367	.10
TxS	2,220		.3090	.74
TxMxR	6,440		1.4759	.19
TxMxS	6,440		.3935	.88
TxRxS	2,220		2.1135	.12
TxMxRxS	6,440		.5582	.76

[a]Number of subjects = 237.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

Table J2: Three Repeated Measures Analysis of Variance for Client and Control Participants Credits Earned (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	3	3.0220	.2159	.89
Race	1	719.8961	51.4434	.0001
Sex	1	15.6183	1.1161	.29
Interactions				
MxR	3	24.0343	1.7175	.16
MxS	3	5.6995	.4073	.75
RxS	1	9.9762	.7129	.40
MxRxS	3	7.7156	.5228	.67
Main Effects				
Time	2,220		24.3864	.0001
Interactions				
TxM	6,440		.4199	.87
TxR	2,220		.7215	.49
TxS	2,220		.2840	.75
TxMxR	6,440		1.0419	.40
TxMxS	6,440		.3412	.92
TxRxS	2,220		.3904	.68
TxMxRxS	6,440		.7958	.57

[a]Number of subjects = 237.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

Table J3: Three Repeated Measures Analysis of Variance for Client and Control Participants Grade Point Average (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	3	1.6936	1.5938	.19
Race	1	60.9670	57.3745	.0001
Sex	1	1.6071	1.5124	.22
Interactions				
MxR	3	.5195	.4889	.69
MxS	3	.0578	.0544	.98
RxS	1	3.8947	3.6652	.06
MxRxS	3	.2185	.2056	.89
Main Effects				
Time	2,220		11.0877	.0001
Interactions				
TxM	6,440		.2176	.97
TxR	2,220		5.3526	.005
TxS	2,220		.3868	.68
TxMxR	6,440		.6485	.69
TxMxS	6,440		.5408	.78
TxRxS	2,220		1.6607	.19
TxMxRxS	6,440		.8056	.57

[a]Number of subjects = 237.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

APPENDIX K

THREE REPEATED MEASURES ANALYSIS OF VARIANCE FOR SELECTED CLIENT CREDITS CARRIED

APPENDIX K

THREE REPEATED MEASURES ANALYSIS OF VARIANCE FOR SELECTED CLIENT CREDITS CARRIED

Table K1: Three Repeated Measures Analysis of Variance for Selected Client Credits Carried (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2	2.1401	.4154	.67
Race	1	21.6019	4.1934	.06
Sex	1	3.6478	.7081	.41
Interactions				
MxR	2	1.3926	.2703	.77
MxS	2	22.5035	4.3684	.03
RxS	1	1.5472	.3033	.59
MxRxS	2	4.4552	.8649	.44
Main Effects				
Time	2,18		7.0797	.01
Interactions				
TxM	4,36		.3890	.82
TxR	2,18		.8226	.46
TxS	2,18		.2328	.80
TxMxR	4,36		.4725	.76
TxMxS	4,36		.3212	.86
TxRxS	2,18		.5834	.57
TxMxRxS	4,36		.2427	.91

[a]Number of subjects = 30.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

APPENDIX L

THREE REPEATED MEASURES ANALYSIS OF VARIANCE FOR COUNSELOR GRADE POINT AVERAGE

APPENDIX L

THREE REPEATED MEASURES ANALYSIS OF VARIANCE FOR COUNSELOR GRADE POINT AVERAGE

Table L1: Three Repeated Measures Analysis of Variance for Counselor Grade Point Average (Fall 1975-Spring 1976).[a,b]

Source of Variation	df	Mean Square	F	Level of Significance
Main Effects				
Model	2	.3225	.4856	.83
Race	1	32.9349	4.4197	.06
Sex	1	.7426	1.1183	.31
Interactions				
MxR	2	2.6093	3.9293	.05
MxS	2	1.7101	2.5753	.12
RxS	1	.5884	.8861	.37
MxRxS	2	.1122	.1689	.84
Main Effects				
Time	2,11		1.2625	.32
Interactions				
TxM	4,22		2.1504	.11
TxR	2,11		5.2229	.03
TxS	2,11		1.4827	.27
TxMxR	4,22		3.8066	.02
TxMxS	4,22		1.4443	.25
TxRxS	2,11		2.0970	.17
TxMxRxS	4,22		3.1789	.03

[a]Number of subjects = 24.

[b]Mean squares for time effects are not printed by the Finn (1972) computer program.

APPENDIX M

ANALYSIS OF VARIANCE FOR EXPERIMENTAL PARTICIPANT CUMULATIVE GRADE POINT AVERAGE

APPENDIX M

ANALYSIS OF VARIANCE FOR EXPERIMENTAL PARTICIPANT CUMULATIVE GRADE POINT AVERAGE

Table M1: Analysis of Variance for Client Cumulative Grade Point Average (Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	2	.031	.090	.99
Race	1	2.755	7.973	.01 (w^2=.18)
Sex	1	.028	.082	.99
Model by race	2	.131	.379	.99
Model by sex	2	.046	.133	.99
Race by sex	1	.016	.047	.99
Model by race by sex	2	.036	.104	.99
Residual	38	.346		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table M2: Analysis of Variance for Lost and Retained Client Cumulative Grade Point Average (Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	3	.037	.118	.99
Race	1	5.464	17.286	.001 (w^2=.18)
Sex	1	.205	.647	.99
Model by race	3	.082	.261	.99
Model by sex	3	.277	.875	.99
Race by sex	1	.002	.008	.99
Model by race by sex	3	.031	.099	.99
Residual	64	.316		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table M3: Analysis of Variance for Client and Control Participant Cumulative Grade Point Average (Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	3	.364	1.050	.37
Race	1	21.561	62.229	.001 (w^2=.20)
Sex	1	.196	.567	.99
Model by race	3	.214	.618	.99
Model by sex	3	.021	.059	.99
Race by sex	1	1.823	5.262	.02 (w^2=.01)
Model by race by sex	3	.093	.269	.99
Residual	225	.346		

[a] w^2 = percentage of variance accounted for by the source of variation.

Table M4: Analysis of Variance for Counselor Cumulative Grade Point Average (Spring 1976).

Source of Variation	df	Mean Square	F	Level of Significance[a]
Model	1	.017	.124	.99
Race	1	1.433	10.297	.01 (w^2=.29)
Sex	1	.210	1.510	.24
Model by race	2	.121	.871	.99
Model by sex	2	.187	1.344	.30
Race by sex	1	.000	.001	.99
Model by race by sex	2	.131	.941	.99
Residual	13	.139		

[a] w^2 = percentage of variance accounted for by the source of variation.

APPENDIX N

RESULTS OF ASSOCIATIVE ANALYSES FOR RESULTS OF COUNSELING SCALE ITEMS AND SELECTED COUNSELOR CHARACTERISTICS

APPENDIX N

RESULTS OF ASSOCIATIVE ANALYSES FOR RESULTS OF COUNSELING SCALE ITEMS AND SELECTED COUNSELOR CHARACTERISTICS

Table N1: Results of Associative Analysis for Results of Counseling Scale Items and Selected Counselor Characteristics.

Variable[a]	Scale Items		
	Problem Solution	Satisfaction With Services	Current Functioning
Class standing	.11	.28	-.04
Previous counseling experience	.06	.04	.03
Socioeconomic status	-.44*	-.32	-.15
Age	-.04	.42*	.10
Therapeutic skills--peer ratings	.11	-.38*	.16
Therapeutic skills--self-rating	.17	.20	.06
Attitudinal scale scores (posttest)			
General adjustment	.34	.12	.14
Attitude toward higher education	.16	-.18	.39*
Motivation for higher education	.18	-.11	.13
Self-esteem	.44*	.56**	.25
Locus of control	-.47*	-.54**	-.16
Academic self-concept	.33	.39*	.35

[a]For SES and therapeutic skill scores, the lower the score the higher the rating on that variable.

*$p<.05$.

**$p<.01$.

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