

A COMPARATIVE ANALYSIS OF CHANGES IN  
ATTITUDE AND ACADEMIC ACHIEVEMENT AMONG  
"EDUCATIONALLY DISADVANTAGED" STUDENTS  
WHO ARE EXPOSED TO SYSTEMIC COUNSELING  
VERSUS TRADITIONAL COUNSELING TECHNIQUES

Thesis for the Degree of Ph. D.  
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## ABSTRACT

A COMPARATIVE ANALYSIS OF CHANGES IN ATTITUDE AND ACADEMIC ACHIEVEMENT AMONG "EDUCATIONALLY DISADVANTAGED" STUDENTS WHO ARE EXPOSED TO SYSTEMIC COUNSELING VERSUS TRADITIONAL COUNSELING TECHNIQUES

By

William J. Gamble, Jr.

Counseling practices which deal with "special client populations" have demonstrated the inability of traditional counseling techniques to meet the needs of minority group students. The purpose of this investigation was to compare the outcomes of systemic versus traditional counseling techniques with a group of minority students university authorities considered academically disadvantaged.

The population used in this study consisted of 334 black freshman students at Michigan State University. All were admitted to the Developmental Program designed to provide the necessary supportive services for students who do not meet regular admission requirements. The sample included 96 students, 48 male and 48 female, matched on the basis of SAT scores, grade point averages, and number of credits earned fall term.

The counselors who participated in the study included four male and four female counselors with different levels of education and experience. Specifically, the counselors



included the following:

1. Two Ph.D. counselors, one male and one female.
2. Two Ph.D. candidates, one male and one female.
3. Two M.A. counselors, one male and one female.
4. Two M.A. candidates, one male and one female.

Two designs were used to complete the investigation. The first design consisted of a two by four by two ( $2 \times 4 \times 2$ ) multivariate analysis of covariance (MANCOVA) with one nested factor and four dependent measures. The nest consisted of four levels of counselor nested in the treatment condition (therapy). The second design consisted of a one by three ( $1 \times 3$ ) analysis of covariance (ANCOVA) with three dependent measures. This was a simple comparison of three groups, the systemic counseling treatment group, the traditional counseling treatment group, and the no-contact control group.

Four dependent measures, SAT-Verbal, SAT-Math, grade point average, and number of credits earned, were used to test the hypotheses in design one. These were labeled "objective" variables. Three dependent measures, sense of control of the environment, self-concept, and motivation toward further education, were used to test the hypotheses in design two. These were labeled "subjective" variables.

On the objective variables, it was predicted that students exposed to systemic counseling techniques would perform significantly better than students exposed to traditional counseling techniques, and that both treatment

groups would out-perform the no-contact control groups as measured by grade point average and number of credits earned winter and spring terms. It was also hypothesized that treatment would account for a significant difference in performance as measured by the student's sense of control of the environment, self-concept, and motivation. A post-treatment questionnaire was used to gather data to test the subjective measures.

The data were analyzed by using the analysis of variance statistical technique to test the study's eight hypotheses. The hypotheses tested were judged significant at the .05 level of confidence.

The results indicate that none of the design variables, treatment, counselor: treatment, and sex account for any significant portion of variation in the dependent measures (grade point average and credits earned). However, the posttest results indicate that the independent variable, treatment, accounts for a significant difference in the variation in the dependent measures, sense of control of the environment, self-concept, and motivation.

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## CHAPTER I

### INTRODUCTION

The present research examined changes in academic achievement and certain attitudinal variables of a select population. Michigan State University is currently operating a Developmental Program for academically disadvantaged students and is testing the concept of systemic counseling in comparison with traditional counseling techniques. This program and the systemic counseling concept stem from a concern about academic survival of ethnic minorities in institutions of higher learning. The concern is reflected in government and education, and this study was an outgrowth of this concern.

#### Background

Certain groups in our society have been largely underrepresented at institutions of higher education. Despite the sharp increase in minority group enrollment in the past several years, there is ample room for improvement.

The proportion of blacks in the nation's college-age population is 12 per cent, but they constitute only 6.6 per cent of the total college enrollment. This compared with 35.8 per cent in the white college-age population (Ford, 1971).

Even in those situations where a comparatively substantial number of minority student have been admitted to the university environment, the university has failed to respond to these "new students" in a manner that is viable to their success.

Unfortunately, predominately white institutions of higher learning have tended to reflect the values of other white institutions, which have historically excluded black and other minority Americans. Thus, these institutions have generally failed to provide supportive programs to assure minority students a solid opportunity for success (Green, 1971).

Many institutions of higher learning have responded to the presence of the minority students by offering black studies programs or Afro-American Cultural Centers, which often serve no purpose other than as a meeting place for socialization. As important as these offerings may be, they can only be viewed as a part of a total package that is needed to assist and support the new student in his effort to complete his education.

One lesson educators have learned over the past several years is that the "open door" is quite often a revolving door. Many of these low income, minority group students are both economically and educationally disadvantaged and find it difficult, if not impossible, to survive in a white middle class environment that is culturally different from their own and often alienating in a dehumanizing manner.

What is being done to ameliorate this complex problem? The Southern Education Reporting Service (1968) questioned 215 colleges and universities regarding special efforts to serve disadvantaged students. Data were gathered from 159 (74 per cent) predominately white institutions, 84 (53 per cent) of which reported some involvement in programs for high-risk students. Seventy-five reported no involvement at all. Of the total, 20 have drawn extensively from the array of possible supportive components--recruiting, lower entrance requirements, financial aid, counseling and guidance, lightening of course loads, transitional year programs, pre-freshman summer programs, tutoring, five-year degree programs, separate classes, remedial courses, special housing arrangements, year-round programs, and redesigned curricula. And of those institutions using most of these compensatory practices, no more than six or eight are working with students who are of unquestionably high risk. The latter few institutions are pursuing the limits of higher education in areas where American colleges have never before dared to venture. They are, in effect, trying to determine how far they can reach until their resources and knowledge are insufficient to transmit education of acceptable quality. Michigan State University is one of these institutions.

Michigan State University addressed itself to the problem of educating minority group students in 1963, at the direction of Gordon A. Sabine, the Vice-President for Special Projects:

In the Fall of 1963, 22 disadvantaged high school graduates (Project Ethyl) with the potential for college success were admitted to Michigan State University. They were provided with financial aid, remedial courses, tutoring, and individual counseling. Nine, or 41% of the 22 students graduated on time in 1967, compared to a national average of 40% of all college freshmen graduating on time. In the Fall of 1967, 70 high risk students were admitted to M.S.U. from inner-city high schools in what was called the Detroit Project. Of the 66 students in this group who were black, 27 returned in 1968, a year in which M.S.U. admitted 357 black freshmen, in a total campus enrollment of 1,007. There was a tendency on campus to identify all black freshmen as high academic risks, but only 25 of the 357 students were actually admitted with records that would not have qualified them regular admission. Since 1969, M.S.U. has accelerated its drive to attract black students in general and able black students in particular. But some remaining problems include finding black high school graduates, especially those with a B or better academic grade average, the financing of these students, and getting the best prepared black student to attend Michigan State University (Schwartz, 1968).

Michigan State University's future commitment to the education of disadvantaged minority group students is reflected in a report to the President of Michigan State University from the Commission on "Admissions and Student Body Composition," 1971. The Commission recommended that:

19. Over the next five to ten years, the University should recruit and admit economically disadvantaged students into the Freshman class in sufficient numbers to achieve a more heterogeneous student body and to provide wider access to education, but the number of economically disadvantaged students to be admitted should be dependent upon the resources available to the University for their adequate support.
- . . . . .
21. Michigan State University should offer admission to its upper-division programs to interested educationally disadvantaged high school seniors contingent upon the satisfactory completion of basic requirements in a community college.
22. Michigan State University should continue to recruit and admit minority students into the freshman

class in sufficient numbers to (a) achieve a more representative student body within the next five years, (b) increase access to higher education, and (c) contribute to the improvement of the quality of life in Michigan communities. For the same purposes a concurrent and comparable effort should be made to admit minority juniors and graduate students (p. 35).

The above recommendations have far-reaching implications with regard to advising and support services for academically disadvantaged students. The Commission recommended:

45. The Counseling Center should continue to employ professional staff who have special skills and familiarity in a broad range of support services.
46. The Office of Developmental Programs, in cooperation with the designated individual in the Office of the Provost, should expand its activities to include special programs for all educationally disadvantaged students, and should be given prime responsibility for developing and implementing those programs (p. 38).

Many urban and campus problems can be prevented by competent counselors who have an astute perception of the special needs and life styles of minority students as well as those whose own experience gives them special empathy and understanding for these students.

Recognizing these needs, the Minority Counseling Program at Michigan State University moved closer to becoming a reality during the academic year 1970-71. The Minority Counseling Program was made possible through funds and support received from the University Counseling Center, the Dean's Office, Student Services Program, the Center for Urban Affairs, Equal Opportunity Programs, and the Ombudsman's Office. This program was established and designed to serve

a primary population of minority students, which included those students admitted in special projects. In addition to attention focused on the students admitted in special projects, other students who felt a need for the counseling services offered by the Minority Counseling Program were urged to avail themselves of the program.

A central purpose of the Minority Counseling Program has been to assist more minority students to remain in and complete college in the most enriching environment possible. The counseling staff in the Minority Counseling Program must possess a wealth of information about the total general operation of the University in order to properly assist and advise special students. Such things as (a) acquainting students with courses offered, expectations of the various professors, and nature of the work expected; (b) keying-in University requirements with high school background and personal interests; (c) familiarizing students with registration procedures and drop and withdrawal procedures; (d) balancing class schedules; and (e) relating the relevance of education to the individual's aspirations, etc. are all components of the advising process. The above-mentioned list is, of course, in addition to the personal, social, vocational, and emotional counseling and guidance provided. Specific objectives of the counseling component of the Special Services Program are:

1. To help special students utilize their potential.

2. To help students in their understanding of the University system, help them change their negative concepts of their academic abilities to positive concepts, and to help them overcome their fear of the academic system.
3. To provide personal, emotional, social, educational, and vocational counseling for the students.
4. To convey the sense of advocacy for the students.
5. To counsel students in the concept of bringing about constructive change within the system.
6. To effect behavioral and structural changes in the system.

In conclusion, the number of minority group students enrolled in institutions of higher education has increased over the past several years. Today we are witnessing a proliferation of programs (e.g., Developmental Program, Experimental Program in Higher Education, Transitional Year Program, New Opportunities Program, Upward Bound, "Project Open"--Opportunity Project for Education Now, etc.) for high-risk students. Michigan State University is one of the many institutions involved in the experiment to educate these students. The task that lies ahead is essentially to see that higher education makes the necessary financial, academic, administrative, and social response to insure that the sons and daughters of the black and poor have equal access to higher education.



### The Problem

The year 1966 marked the beginning of a major undertaking to incorporate members of ethnic minorities into the mainstream institutions of American higher education. Today, prodded by the Civil Rights revolution and concern for the disadvantaged, colleges and universities, from the most to the least selective, in all regions, profess a responsibility to meet the educational needs of minorities.

Black students tend to be the recipients of the strongest feelings toward minority students--both of good will and hostility. Because black students have been the path breakers, how the experiment in minority education is judged will largely be the question of how well black students do (HEW, 1969).

The problem facing universities in the education of low income, minority students is two-fold: (1) a disproportionately low number of these students gain entry into the universities, and (2) a disproportionately large number of them drop out of the university. Although statistics concerning the college dropout problem are less than precise, it is estimated that approximately 50 to 60 per cent of all students who enter four-year college degree programs fail to complete them (Proceedings of the Research Conference on College Dropouts, 1964; Carlson and Wagner, 1965). The situation for low income, minority group students, however, is even more disturbing. Available statistics estimate that approximately 70 to 90 per cent of

minority group students enrolled in institutions of higher education drop out before graduation (Harleston, 1965; Weber, 1968; University Bulletin, 1968). Such high dropout percentages gave rise to the term "high risk" for students for whom university officials could predict failure.

The terms "high risk" and "disadvantaged" designate students whose lack of money, low standardized test scores, erratic high school records, and race/class/cultural characteristics, taken together, place them at a disadvantage in competition with the preponderant mass of students in colleges they wish to enter (Edgerton, 1968).

To counter the special problems which confront the high-risk student, universities have begun to respond with special programs involving recruitment programs, special selection procedures, financial assistance, special education classes, tutoring, and counseling programs.

Edgerton's survey (1968) indicated that universities that have recently inaugurated programs for high-risk students are beginning to demonstrate that youngsters who did not meet traditional admissions criteria such as high SAT scores, "high" high school grades, as well as graduation from excellent academic programs can still survive in college if proper tutorial or support services are made available to them.

This study focuses on the counseling aspect of increasing low income minority group student enrollment and academic survival. It seems reasonable to assume that

counseling at the college level may not be a "cure all" for the problem. Prevention of the problems which interfere with college-level achievement at an earlier stage may be more fruitful. On the other hand, counseling may have some important contributions to make to the total educational process. Counseling may bring about a new or different awareness of the educational process necessary to achieving a college degree, and bring about changes in those aspects of the student's self-concept that interfere with academic success.

#### Purpose

It is the purpose of this investigation to compare the outcomes of systemic and traditional counseling techniques with a group of minority students considered by university authorities to be academically disadvantaged. In recent years, the number of minority students admitted to Michigan State University has increased, and with these new students come new problems that are unique to the traditional counseling program.

#### Need

The need for this research had its genesis in the counseling crisis facing college counselors working with the culturally different student.

Counseling practices which deal with "special client populations" have demonstrated the inability of traditional counseling practices to meet the needs of disadvantaged,

alienated, and ethnic groups. These special groups have perceptions of life that are different from those of the majority group white society, and they often do not see as helpful the services offered through the traditional counseling system (Green, 1971). The counselor's task, then, is to assist the student in coping with the institutional demands and to overcome the alienating effect of the impersonal, white, middle class institution. As a consequence of this concern, the present study attempts to facilitate the understanding of systemic counseling and its effectiveness as a new and different approach to solving the problem of academic survival.

### Research Hypotheses

In this study the following hypotheses will be tested.<sup>1</sup>

1. Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques.
2. Student grade point averages will differ, within each treatment condition, as a result of counselor assignment.
3. Male students exposed to treatment conditions will achieve higher grade point averages and cumulative credits than female students.
4. Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques who will, in turn, achieve higher grade point averages than the no-contact control group.

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<sup>1</sup>The hypotheses are restated in testable form in Chapter III.

5. A positive relationship exists between student performance (GPA) and the sex of the student (exploratory).
6. A positive relationship exists between the sex of the counselor and the sex of the student (exploratory).
7. The self-concept of students exposed to Systemic Counseling techniques will exceed that of students exposed to traditional counseling techniques.
8. The sense of control of the environment of students exposed to systemic counseling techniques will exceed that of students exposed to traditional counseling techniques.
9. Students exposed to systemic counseling techniques will exhibit greater motivation toward further education than students exposed to traditional counseling techniques.
10. Students exposed to treatment conditions will outperform students in the no-contact control group on measures of self-concept, sense of control of the environment, and motivation.

### Overview of the Thesis

A frame of reference for the entire study was developed in Chapter I. Included were the introduction, background, the problem, purpose, the need, and the basic hypotheses.

In Chapter II, a review of the critical literature is presented. Four main topics are discussed: (1) present approaches to counseling, (2) establishing rapport in counseling, (3) establishing rapport with the black client, and (4) a new, innovative approach is recommended.

Chapter III contains the experimental design and research methodology. Information in this chapter includes population sample, treatment group, procedure, the

instrumentation, design, rationale and hypotheses, treatment of the data, and assumptions.

The analysis of the data is presented in Chapter IV. The results are divided into two sections: findings related to objective measures and findings related to subjective measures.

In Chapter V, a summary of the study, conclusions, discussion, limitation, and implications for further research are presented.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### Introduction

Approaches to counseling with low income, minority group college students is presently a matter for conjecture. Research directly devoted to this problem is almost nonexistent. The purpose of this chapter is to discuss some of the problems confronting college counselors whose clients happen to be members of a minority group. This review focuses on the black student, with the expectation that most comments can be generalized to other minority group students from similar socioeconomic backgrounds. Evidence is also presented to point up the need for new, innovative approaches in counseling. It appears that the theoretical concepts posed in the systemic counseling model may prove to be effective with this population.

In any helping profession, three factors seem to be important ingredients to a successful outcome. One is the technique employed by the professional. Second, the extent to which the counselor is able to establish positive rapport with the client and finally, the nature of the life experience of the client. Therefore, the following review is presented in four principal sections. The first deals with literature related to current schools of counseling. Next,

literature related to the facilitative dimension of counseling, or what Rogers termed the interpersonal relationship in counseling, is discussed. The third section focuses on literature related to the perceptions, attitudes, and values of black college students. The final section deals with the need for new, innovative approaches. The systemic counseling model is presented as a viable alternative to traditional counseling methods.

### Present Approaches to Counseling

There presently exists a large number of schools of counseling and psychotherapy, all of which make various claims of success and general relevance. One theorist (London, 1964) suggested that the activities of psychotherapists are efforts to implement either of only two gross kinds of therapeutic operations, one of which characterizes what may be called insight therapies, and the other, which may be called action therapies.

As stated by London:

Through the instrument of conversation, the insight therapist turns the client's attention to his inner feelings and motives, hoping that he will ultimately move toward greater self-understanding. The action therapist, employing reinforcement and conditioning, seeks to help clients discard bad habits, overcome unrealistic fear and anxiety, and remove whatever symptoms inhibit their self-expression and social adjustment (p. 16).

Insight therapy includes the psychoanalytic school of Freud, the neo-Freudian schools of Adler, Jung, Horney, and Sullivan, and nondirective or client-centered school of



Carl Rogers, and the existential school. Action therapy includes two schools based on the classical conditioning of Pavlov and the operant conditioning of Skinner. Among some of the more prominent theorists, researchers, and practitioners associated with action therapy schools are Wolpe, Eysevck, Stampfl, Bandura, and Krasner. A closer look at the similarities within and differences between these two broad categories may best be accomplished by taking a closer look at the techniques employed by both; i.e., to look at what psychotherapists do or say they do. Techniques are much simpler to describe accurately than theories or philosophies, being relatively more concrete, and more relevant indices of what actually goes on in therapy. "For it is technique, not theory, that is actually imposed on people" (London, p. 26).

Concerning technique, London pointed out two gross commonalities among all the insight therapies, one positive and one negative, which dwarf both their many differences and all their other likenesses:

1. The single allowable instrument of the therapy is talk, and the therapeutic sessions are deliberately conducted in such a way that, from start to finish, the patient, client, analysand, or counselee does most of the talking and most of the deciding of what will be talked about.
2. The therapist operates with a conservative bias against communicating to the patient important or detailed information about his own life, that is to say, the therapist tends to hide his personal life from the patient (p. 45).

Insight therapists also share similar theoretical views. The most important similarity is that insight

therapists are less concerned with symptoms and more concerned with underlying causes and motives. Symptoms are seen as the product of underlying causes and as attempts to satisfy some need. Thus, therapy focuses on helping the patient or client develop insight into his underlying motives, and become aware of and know himself.

In contrast to insight therapies, the most important common thread running through action therapies is a relative indifference to the origin of the symptoms they treat, and a concomitant concern with specifying the goals of their treatment. Common general techniques of action therapies include:

1. The action therapist attempts to manipulate behaviors rather than passively await the introspection of the patient.
2. The therapist assumes a much greater influence over the detailed conduct of the treatment sessions, and possibly over the outside life of the patient, than the insight therapists would.
3. The therapist assumes a much more responsible position for the outcome of treatment, that is for whatever changes take place in the patient, than insight therapists.

After summarizing the similarities within the respective polemical positions of the insight and action therapies, London also outlined differences between these two positions. Again, focusing on technique, London pointed to the handling

of symptoms as the major basic difference between insight and action therapies. He stated:

Regardless of the kind of therapist to whom they go, people only seek psychotherapy because they have some kind of symptoms, which means, for our purpose, that something is bothering them. Insight and action therapists could readily agree on this casual definition of a symptom, but they would differ over the relevance of the symptom to what they do about it. If the therapist is oriented towards insight methods, he will probably try to assail the ailment that lies beneath the symptom, bypassing the immediate problem. If he is an action therapist, he will try to remove it. From another angle, the insight therapist will try to help his patient with the reflected problem rather than the symptom, thus undermining the symptom or at least permitting the patient to understand the character of his symptom and its relationship to his life so that he can exercise better control over the latter, if not the former. The action therapist will try more directly to eliminate the symptom so that the patient will feel better, and it makes no difference to him what the patient does or does not understand about anything (p. 36).

Both approaches, then, can be potentially dangerous. One obvious danger in action therapy is that clients may be manipulated by the therapists who determine what behavior is unacceptable or inappropriate, or what constitutes a client's "bad" habits. On the other hand, some clients (i.e., black students) have no wish to engage in the introspective self-analysis which characterizes insight therapy; their problems are frequently more tangible, requiring the exploration and application of alternative substitutions (Vontress, 1970).

London concluded that therapeutic notes based exclusively on either insight or action techniques seem to be inadequate. The insight therapist can hardly ignore those symptomatic wounds which engulf his client's life, nor

can the action therapist ignore his client's misery and search for meaning in life.

Whether one chooses insight or action therapy as his "mode of operation," counseling or psychotherapy demands that the professional establish rapport with his client before he can begin to apply his skills. This is the most difficult area for the counselor, white or black, far more so than the technique he chooses to employ.

### Establishing Rapport in Counseling

There are presently two leading personalities associated with the process of establishing rapport in a counseling relationship. The major proponent of the "interpersonal relationship" is Carl Rogers. R. R. Carhuff seems to be the leading authority on the "facilitative dimension" of counseling. A review of both approaches would indicate that they are similar in more ways than dissimilar. Both approaches, however, express the view that a positive relationship is essential to effective counseling.

A clear definition of the facilitative conditions or core dimensions of the interpersonal process is necessary for two reasons: one, to provide a clear explanation of what is meant by the expression, "establishing positive rapport" in the counseling relationship, and two, how establishing rapport relates to the problems faced by the white and black professional counselor in attempting to establish a relationship with black college students.

According to Rogers (1962):

It is the quality of the interpersonal encounter with the client which is the most significant element in determining effectiveness. It is more important than his knowledge of tests and measurements, the adequacy of his record keeping, the theories he holds, the accuracy with which he is able to predict future behavior, or the university in which he received his professional training. A relationship characterized by sensitive and accurate empathy on the part of the counselor; by his high degree of congruence or genuineness and of regard, respect, and appreciation for the client; and by an absence of conditionality in that regard will in all probability be an effective, growth-promoting relationship (p. 12).

The clients of those counselors offering the highest levels of facilitative dimensions improve, while those of counselors offering the lowest levels deteriorate on a variety of indices; that is, those helping processes involving the highest levels of empathy, positive regard, genuineness, concreteness, and other dimensions elicit the greatest client "therapeutic process movement," and ultimately, the greatest constructive client gains (Carkhuff and Berenson, 1964).

### Congruence

In counseling relationships, personal growth is facilitated when the counselor is genuine and is without "front" or "facade."

A counselor who is genuine in a relationship must, as Rogers puts it, be aware of his own feelings. They must be available to him and he must be able to communicate them when appropriate.

Statements communicated by the therapist must reflect his true feelings. Barrett-Lennard (1962) suggested:

The degree to which one person is functionally integrated in the context of his relationship with another, such that there is an absence of conflict or inconsistency between his total experience, his awareness and his overt communication is his congruence in the relationship (p. 46).

Carkhuff and Berenson (1967) noted that genuineness must not be confused, as it is often done, with free license for the counselor to do what he will in counseling, especially to express hostility. When working with a very brittle client leading a very tenuous existence, for example, the counselor may withhold some very genuine responses. Nevertheless, he is continually working toward a more equalitarian, full-sharing relationship.

The counselor's task, then, is to know what he is doing and why; and to do so he must understand his own psychodynamics and cultural conditioning.

### Empathy

Empathy is defined by Rogers as existing when the counselor is experiencing an accurate empathic understanding of his client's private world, and is able to communicate some of the significant fragments of that understanding. He must be able to sense the client's personal meaning of this inner world as if it were his own, without ever losing the "as if" quality. Though the accuracy of such understanding is highly important, Rogers felt that the communication of intent to understand is also helpful.

Carlton (1969) indicated that as the counselor proceeds, with his client, to explore previously unexplored areas of "human living" and "human relationship," it is the communication of his "ever-growing awareness" of the client, and of himself in relation to the client, which provides the client with the "experiential base" for change.

The emphasis, then, is upon counselor movement to levels of feeling and experiencing, deeper than those communicated by the client, yet within a range of expression which the client can constructively employ for his own purposes.

Fox and Goldin (1964) and Katz (1970) noted that the therapist's ability to communicate at high levels of empathic understanding appears to involve the therapist's ability to allow himself to experience while suspending his own judgments, tolerating his own anxiety, and communicating this understanding to the client.

In summary, Allerand (1969) underscored the point that it is the manner of the counselor, not his theory or technique, which communicates understanding and fosters growth:

The therapist can best convey his understanding of the patient's situation by being fully human and not reacting mechanically by reflecting the patient's words or just intellectually understanding the problem (p. 12).

Cartwright and Learner (1963) cautioned that too much importance is placed on the technique (client-centered mode of reflection) used to communicate understanding. The

counselor in this instance is usually evaluating the client without real knowledge of the client's personal meaning. Thus, he avoids being truly open to the way of life that is experienced by another person, and consequently avoids being changed himself.

### Positive Regard

Rogers (1962) hypothesized that growth and change are more likely to occur the more that the counselor is experiencing a warm, positive, acceptant attitude toward what the client is. He prizes the client as a person, regardless of his particular behavior at the moment. Rogers' theory involves an open willingness for the client to experience whatever feelings are real in him at the moment, hostility or tenderness, rebellion or submissiveness, assurance or self-depreciation. It respects the other person as a separate individual, and does not possess him.

Carkhuff and Berenson (1967) stated that:

Respect or positive regard, in turn has its origin in the respect which the individual has for himself. He cannot respect the feelings and experiences of others if he cannot respect his own feelings and experiences. If the significant adult figures of his early environment did not communicate this respect, often the individual must, in his adult years, move through a process of therapeutic personality change involving the communication of respect to attain high self-regard. In addition, the communication of respect appears to shatter the isolation of the individual and establish a basis for empathy (p. 5).

The ultimate objective, as Rogers saw it, regarding positive regard toward others and respect for oneself as well, is what Rogers termed "unconditional positive regard." That



is, the counselor prizes the client in a total, rather than a conditional way. He does not accept certain feelings in the client and disapprove others. Rogers described this as an outgoing feeling "without reservation" and "without evaluation."

Positive regard can be communicated in many modalities. It is not always communicated in warm, modulated tones of voice. It may be communicated, for example, in anger. In the final analysis, it is the client's experience of the expression of feelings that counts, and the client may experience the counselor's attempt to share his own experience fully as an indication of the counselor's respect for the client's level of development.

#### Establishing Rapport and the Black Client

Thus far, we have briefly described current approaches to counseling, using Perry London's language and conception that counseling takes one of two forms--"insight" or "action" oriented therapy. To be effective, both insight and action therapists must establish rapport with the client. Three qualities of this interpersonal relationship were defined: congruence, empathy, and positive regard. These are necessary qualities the counselor must possess if he is to be an effective agent. This brings us to the heart of this review effort, and raises an all-important question. Can professional college counselors, using traditional counseling methods (insight and action therapy) be effective change

agents when counseling black college students?

As a subcultural group in our society, blacks have developed unique environmental perceptions, values, and attitudes which intrude in the counseling relationship, making it difficult for the counselor to establish and maintain a positive rapport with Negro clients. Both white and black counselors are faced with this difficulty when counseling persons whose life style is different from their own (Vontress, 1970, p. 4).

In this regard, Sewell (1967) felt the Negro client and the professional counselor are literally "worlds apart," especially in terms of how the ghetto individual perceives the professional. The black person anticipates, due to his conditioning in the ghetto, that the role of a counselor in a structured, middle-class setting is a fake one, not only because there has been an absence of caring for him in the slums, but also, if the client were really to tell the counselor about the almost insurmountable problems that he faces, the counselor would be powerless to do anything about them, or even worse, would just not care.

Although the counselor may be imbued with empathy, positive regard, unconditionality of this regard, and congruence, he is, in spite of himself, rendered professionally impotent if the client rejects him. A review, then, of the unique environmental perceptions, values, and attitudes developed by black students in America is important to establish a rationale for the alternatives to be recommended.

Two factors, self-disclosure in the counseling process and environmental vs. individual control, will be

discussed. The writer hypothesized that knowledge of these two factors will help explain the basic difficulty in utilizing traditional counseling methods with black college students.

In a discussion of the uniqueness of Negro psychological troubles, Grier and Cobbs (1968) indicated that:

There is nothing reported in the literature or in the experience of any clinician known to the authors that suggests that black people function differently psychologically from anyone else. Black men's mental functioning is governed by the same rules as that of any other group of men. Psychological principles understood first in the study of white men are true no matter what the man's color (p. 70).

Grier and Cobbs contended that it is the life experiences of black people in this country that are unique; the principles of psychological functioning are by definition universal.

Supporting Grier and Cobbs' premise that differences in minority students are a result of their unique experiences, Riessman (1962) made an important distinction between the environment, or conditions of life, of a group and the culture of that group. He conceived the culture to be the methods that have evolved for coping with the conditions of life. Thus, "culture" would include the traditions, values, and mores of a specific group. Values and attitudes may include the group's beliefs about punishment, authority, games, cooperation, competition, introspection, intellectuals, etc.

The first important barrier that interferes in the counseling relationship is the black student's reservation about self-disclosure (Journard, 1959). Self-disclosure is the most direct means by which one individual can make himself known to another. In the American culture, it appears that this phenomenon is directly related to how the individual has been treated in society. Individuals who have been treated harshly and have experienced hardships are reluctant to share their hurts with anyone, even their most intimate friends. This is especially true of blacks who feel their minority status so deeply that they are unwilling to bare their feelings even to each other (English, 1957).

Journard and Lasakow (1958) focused on four major groups: white females, white males, Negro females, and Negro males. The order in which they are mentioned is the order in which they enjoy the good life. That is, it is most easy to establish rapport with white females; next, with white males; then, Negro females; and it is most difficult with Negro males.

This evidence was supported by Riessman (1964), who noted that low-income males and young males in particular "frequently have a strong dislike for talk, especially talk that is isolated from experience. They are less introverted, and less concerned with self. They respond more to the external, to the outside, to action" (p. 23).

Milner (1953) observed that young Negroes reared in the North are overtly hostile or reserved in the counseling

relationship. Having grown up under the illusion of freedom that grows out of the more impersonal atmosphere there, and having been reared in all-black ghettos in which they develop a separate life of their own, Northern-born Negroes are more apt to "tell it like it is" than Southern-born Negroes. Having realized that freedom is an illusion, they are more hostile than Southern Negroes, who have yet to make it to the North and be disillusioned.

Lefcourt (1963) concluded that the Negro problem is similar in some ways to what has been called the "psychology of poverty." Economically deprived persons, who commonly have few successful experiences, tend to develop fatalistic, external-control perceptions. These perceptions, in turn, may overly determine further failure by increasing failure-avoidant and defensive behavior. "Be cool, man" or "keep a tight lip" are examples of such behavior.

Again, Milner (1952), studying the effects of personal stress situations (as a result of segregation) on the personality functioning and organization of the Negro student, concluded that he characteristically tends to develop, in response to this stress, a new behavior system. In a sense, an "adjusted" personality organization which serves to protect the core or ego aspects of personality and to maintain him at levels sufficient for psychologically adequate functioning. Being "cool" in the ghetto is therefore looked upon as acceptable behavior.

Harvey R. St. Clair (1951), observing Negro psychiatric patients over a three-year period in a Veterans Administration Hospital, concluded from personal interviews with some 200 adult males, most of whom were from lower socioeconomic backgrounds, that:

It would seem that psychotherapy is not different with Negro patients than with white in respect to general principles and techniques, but that the establishment of rapport, the use of the patient's agreeableness, the importance of dealing with hostility, and the use of promoting self-esteem are of special significance. Some features which have been recorded as clinical impressions are the frequency of functional illnesses, attitudes of suspiciousness and submissiveness, a constancy of race-consciousness, a difficulty in achieving expression of hostility toward the therapist, an agreeableness, an emphasis upon prestige for its security value, a tendency to "act out," a special emphasis upon hostility in individual psychodynamics, no racial differences in sexuality, an emphasis upon somatic complaints, and the importance of the therapist's recognizing socio-economic and cultural levels in individual patients (p. 8).

The above observations were made long before the Civil Rights movement of the 1960's and the "Black Is Beautiful" rhetoric of today. Many of these observations may be valid, but research is needed in this area before any definitive statement can be made in this regard.

Assuming the counselor is able to get the client to "open up," to disclose his true "self," he must understand how the black college student perceives his environment and the extent to which he feels he can influence that environment. Research utilizing the concept of internal-external control may prove useful in this regard.

The concept of internal-external control, originally used by Rotter and his associates in studying the effects of reinforcement in complex learning, has now gained prominence in many diverse areas of research. As defined by Rotter, internal control represents a person's belief that rewards follow from or are contingent upon his own behavior. Conversely, external control represents the belief that rewards are controlled by forces outside himself and thus may occur independently of his own actions (Rotter, 1966).

Social learning theory (Rotter, 1954) provides the general theoretical background for this conception of the nature and effects of reinforcement. In social learning theory, a reinforcement acts to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future. Once an expectancy for such a behavior-reinforcement sequence is built up, the failure of the reinforcement to occur will reduce or extinguish the expectancy. It follows, then, as a general hypothesis, that when the reinforcement is seen as not contingent upon the subject's own behavior, that its occurrence will not increase an expectancy as much as when it is seen as being contingent. Conversely, its nonoccurrence will not reduce an expectancy as much as when it is seen as contingent.

Measures of this concept have proved useful in explaining a variety of behaviors: risk-taking preferences, occupational and educational aspirations, planning and activity oriented to reaching goals, involvement and

persistence in achievement tasks, academic performance, attempts at mastering the environment, participation in social action, resistance to suggestion, and exertion of influence over others.

Particularly relevant to the questions raised in this research is the increasing popularity of this concept in studies of low-income and minority populations. For example, a number of studies of motivation and performance of Negro student populations suggest that Negro students, in comparison with whites, are less likely to hold strong beliefs in internal control. Social class and race probably interact so that lower-status Negroes stand out as particularly externally oriented. Internal control is a critical determinant of academic performance.

A well-known example of relevance of this concept appears in the Coleman report on "Equality of Educational Opportunity" (Coleman, 1966). In the Coleman study, internal control proved in two ways to be unusually important for Negro students. It explained more of the variance in achievement for Negro than for white students. It explained more variance for Negro students than any other measure included in that nationwide survey of academic behavior.

One difficulty with the complex concept of internal-external control is a failure of writers to distinguish between the belief that internal or external controls operate "generally" in society and how this applies to one's own personal situation. It has been implicitly assumed in



the literature that a belief in internal control represents a person's evaluation of his own life experience, a feeling that he can influence the outcomes of situations through his own actions. Yet, questions in the Rotter Internal-External Control scale include two types of items that have not been distinguished, those which do refer explicitly to the respondent's own life situation and those which seem to tag beliefs about what causes success or failure for people generally (Gurin, 1970).

Gurin pointed to another implicit assumption in the way internal control has been interpreted, particularly with respect to poverty and minority groups. It has usually been assumed that internal beliefs represent a positive affirmation. Yet, internal orientation may also have negative implications. Where associated with success, an internal orientation can lead to feelings of competence and efficiency. When associated with failure, however, it can lead to self-derogation and self-blame.

This distinction between responsibility for success and responsibility for failure is the same contrast the Crandalls (1965) explored in their work on achievement of young children. They stated:

We wish to stress that this failure-success distinction should assume heightened significance whenever we are trying to understand the motivation and behavior of people who have a history of much failure and whose failures are tied to real external obstacles they have faced. We would expect it to be particularly helpful in studying the subgroup of Negro youth who have encountered social constraints associated not only with race but also with low-income and lower-class status.

For such young people, an internal orientation based on responsibility for their failures may be more reflective of intrapunitiveness than of efficacy. An internal response reflecting acceptance of blame for one's failures, which might be considered "normal" in the typical middle-class experience, may be extreme and intrapunitive for a Negro youngster growing up in poverty in the ghetto (p. 48).

Both Gurin and the Crandalls appear to be suggesting that black people or low-income groups experience many external obstacles, such as the operation of the labor market which can lead to layoffs over which individuals have no control, poor transportation facilities which reduce their possibilities in the job hunt, the tendency of employers to hire within the social network of those already on the payroll, and the factor of racial discrimination which operates above and beyond class constraints.

Low-income people, then, should not blame themselves but blame the system which causes their failure. Merton (1957), speaking to this issue, suggested that when people subordinated in a social system react with invidious self-deprecation rather than against the system, they accept a rationale for the existing system that serves to perpetuate their subordinate position. Merton's comments are supported by several writers, who suggest that perhaps the "cause" of black student behavior is more external than internal.

If black students prefer not to be introspective and disclose themselves to the counselor, what alternatives are open to the counselor? We concluded earlier that the counselor (insight or action therapist) focuses solely on the

symptoms of the client--on ignoring the symptoms to get to the "root" causes of the problem (insight), or ignoring the "root" causes to deal with the symptoms (action). Both are looking for causes and cures within the client. Today, several theorists are suggesting we look elsewhere for answers.

Gordon (1967) pointed out that our emphasis in counseling is almost solely concentrated on individual change, with the result that we attempt to change the way an individual handles his environment, while leaving the environment unchanged. Thus, we take behavior that is essentially adaptive (i.e., lower-class values in lower-class culture) and try to change it (i.e., middle-class values in a lower-class culture), leaving what is now maladaptive behavior or attitudes. By accepting the notion that the causes for problems lie in the individual rather than in conditions to which he is logically responding, we emphasize the individual's already predominant feeling of failure.

This point was further documented by Dr. William Weems, of the Psychology Department at Morehouse College. Weems (1972) studied black paranoids and white paranoids in Michigan state hospitals and compared them with black normals and white normals who were staying at the Veteran's Hospital at Allen Park and Ann Arbor. He concluded that is it normal for black adults to be more suspicious, more distrustful, and to feel more persecuted than whites.

Weems used a current theory about paranoia, which is that it is caused by a sense of powerlessness in childhood.

Powerlessness, as defined by Seeman (1959), can be conceived of as the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcomes, or reinforcements, he seeks. This concept has tremendous implications for persons attempting to understand the psychological origins of student behavior. The normal black child, and later adult, feels at the mercy of his environment, persecuted, helpless. For the paranoid, the persecution has no basis in fact.

The white paranoids Weems tested were more concerned about power than normal whites. Black paranoids were more concerned with power than white paranoids. The surprise was that normal blacks were more concerned about power, or the lack of it, than anyone else. They were more concerned than all the paranoids, and certainly more concerned than the normal whites. Weems suggested:

My guess is that the environment strips black people of power in much the same way the family may strip the white child. It produces the symptoms, but not the disease (p. 16).

Speaking to the issue of changing people versus changing the environment and concomitant implications for social programs, in an article entitled "Human Beings Are Not Very Easy to Change After All," Amitai Etzioni (1972) identified two methods used to change people. One approach is based on the assumption that people can be taught to change their habits. The second approach assumes that people need

not or will not change, and therefore that social scientists should alter their environment.

What is becoming increasingly apparent, according to Etzioni, is that to solve social problems by changing people is more expensive and usually less productive than approaches that accept people as they are and seek to mend not them but the circumstances around them. The authors cited above seem to suggest that counselors need to consider the effects the environment has on the individual's behavior before labeling that behavior inferior.

Another consideration for counselors in the changing attitudes of black students. William Banks (1970) surveyed the racial attitudes of black college students to determine changes in the acceptance or rejection of negative racial stereotypes. The results indicate that black students as a group accept more anti-white ideology and less anti-Negro ideology than a comparable group of students sampled in 1957. Students sampled in 1968 were significantly less authoritarian than the earlier group. Banks concluded that increased ethnic chauvinism parallels increased rejection and hostility toward the out-group. On the other hand, the black counselor should not become smug, thinking that his blackness will automatically put him in good stead with the client. If the Negro counselee perceives the white counselor as the enemy, he may see the Negro authority figure as something far worse, the collaborator with the enemy (Gochros, 1966).

### New, Innovative Approach

A number of problems seem to exist in the counseling relationship with black and other low-income minority group students. Vontress (1969) took the position that "cultural barriers" such as racial attitudes, counselor's ignorance of client's background, language barrier of poor people in general, client's lack of familiarity with counseling, and sex and race taboos, all make the task of counseling students whose life style is different from the counselor's more difficult. The counselor's own values or notions about desirable behavior often conflict with the culturally different student. Students in this situation often perceive the counselor as working against their best interests. Thus the counselor is rendered impotent as an effective change agent.

One might conclude from this review that counseling, as a profession, might be an easy task were it not for the counselor, the client, or the techniques used by the counselor. Efforts to ameliorate the counseling process seem to assume that any difficulty faced by the profession can be resolved by changing certain elements in one of these three parts. The counselor should change his self-image; the client could acquire middle-class values; or more systematic definitions of the techniques involved in counseling should be used to improve current approaches to counseling minority and majority group students. The author does not suggest that there is no room for improvement in these areas, but

rather than what is needed is new, and more innovative approaches to counseling.

The systemic counseling approach is a novel one and seems to be relevant to the needs of counseling minority group students in college. Dr. Thomas S. Gunnings, of Michigan State University, in "A Systemic Approach to Counseling" (a paper presented at the Third Annual Meeting of the Association of Black Psychologists, Miami, 1970), suggested that most of the problems faced by the black college student are caused by injustices and imperfections in our societal system, and that viable methods of bringing about changes in the system must be found. This approach differs from the traditional approach to counseling, in that it is not assumed from the beginning that there is something wrong with the individual. This is what Gunnings described as systemic counseling, i.e., counseling the system. The attempt is made to deal with the cause of the problem (the system) and not the symptom (the unfairly treated individual). The systemic approach does not look at the student clinically. This means that the counselor becomes an advocate of the student, his ally. He does not look upon the student as being maladaptive and possessing genetic deficiencies. The systemic approach presupposes the minority students generate a life style based on their struggle to negotiate their environment, to belong and to maintain a sense of competence and worthwhileness.

Gunnings' viewpoint was supported by a number of persons in the field. Vincent F. Calia, in "The Culturally Different Client: A Re-Formulation of the Counselor's Role," stated:

The counselor must plan with his client rather than do things to his client. The counselor's focus on client involvement via activities which are culturally meaningful is likely to precipitate a break with the client's tradition of deference to authority. But if the disadvantaged are to grow in ways that are developmentally meaningful (i.e., increased self-regard, autonomy and responsibility) then some change in the established order is inevitable (1966, p. 4).

Robert L. Williams (1971), a black psychologist at Washington University, St. Louis, Missouri, suggested that the counselor must decide to represent the student and not the institution. It is fully recognized that the counselor is an employee of the institution, but this fact alone does not necessarily force the counselor to identify with the organizational role. Too frequently, the counselor's task is one of a pacifier rather than one of confronting the institution that produced the problem. He also suggested that the counselor reject the "deficit model" which states that blacks have a weakness or deficiency based on genetic and environmental factors. He must employ the "difference model" conceptualization, which asserts that the differences noted between black and white life styles are not the result of pathology, deficiencies, faulty learning, or genetic inferiority. These differences are clearly manifestations of a viable black culture which employs them for survival purposes.



Accepting the notion that the causes for problems lie in the client rather than in the conditions to which the client is logically responding, we emphasize the individual's already predominant feeling of failure. Gordon (1967) stated:

If he sees his job as primarily working with the individual, so that he is presumably better able to take advantage of the limited opportunities that are available, the counselor will be doing only half his job, and that is the easier half, since it manipulates the weak, and powerless while leaving the dominant majority safe, unchanged, and protected in its preservation of the better opportunities for itself and its own children. . . . Only if the counselor sees himself as an agent of social change in the wider community of which he is a part can he take pride in carrying out the mandate of his profession (p. 87).

#### Summary

The majority group student in our society has had years to learn the intricacies of the academic institution and, in some cases, may not realize how complex it is. Its complexity derives from its loose structure, which aims at offering a multiplicity of choices to the knowledgeable student. The minority student, however, often lacks the understanding needed to negotiate the system. Although the institution's intent is to provide the greatest freedom of opportunity to students, its effects are not equalitarian, since those who benefit most are those who enter the situation with the most resources.

The counselor's function, then, is to equalize the resources that the black student needs in order to come to terms with the demands of the academic environment. It is

this "know-how" that the counselor must provide. Without the necessary information the black student will fail to grasp fully the nature of his role. Furthermore, he will be unaware of the kinds of sanctions the institution employs to enforce its demands, since both sanctions and demands are less than explicit in the college setting. Lacking such knowledge, the student may grossly misjudge what professors expect of him and prove inept in what has been cynically termed playing the game.

Counseling the student so that he is able to negotiate or "beat" the system is a fitting goal for the systemic counselor. He takes an "I'm OK . . . You're OK" (Harris, 1969) attitude with the student, and together they decide how to make the system more responsive to the needs of the student. If the counselor is truly committed to his client's freedom, then he must see his task as one of helping the black student make choices based on his own values, free of the reality of external evaluation and condemnation by the counselor for "wrong choices" (Kincaid, 1969).

Finally, externally oriented persons do not profit from insight-type therapies, with emphasis upon mobilizing the client's inner resources, no matter how much warmth or empathic understanding is offered the client (Vontress, 1970). The systemic counseling approach, then, is offered as a viable alternative to traditional counseling methods.

### CHAPTER III

#### DESIGN AND METHODOLOGY

This research project was designed to study the effects that systemic counseling techniques and traditional counseling techniques have on the academic achievement and certain attitudinal variables of a select population of students. Students participating in the study were chosen from those freshman students admitted to Michigan State University in the fall of 1971. They were "special" students in the sense of having been admitted through the Developmental Program. All did not meet normal admissions requirements.

Students were divided into three groups--two experimental groups and one control group. Two designs were used to study the variance among the three groups. One posttest item was used to assess the students' response to subjective variables not used in the first design. This instrument provided a method for gathering the data and a procedure for identifying and evaluating the data. Information which was gathered by using this procedure is reported and analyzed in Chapter IV.

### Population

The present investigation is a portion of a larger experimental program at Michigan State University (MSU) called the Developmental Program. The Developmental Program (DP) at MSU had its beginning in 1963. At that time, it was called Project Ethyl and later the term Detroit Project was used. When students were recruited from areas outside of Detroit, each group of students was identified by their home town, i.e., Flint Project, Grand Rapids Project, etc. One name was then chosen, Developmental Program, for the entire project.

The University endeavored to recruit and admit "educationally disadvantaged" minority group students who did not meet regular admissions standards. These were students whose high school records and college entrance examination scores were below that of the "average" student admitted to MSU. An "educationally disadvantaged" student was defined as:

MSU students who are admitted to MSU on special or provisional status (as indicated by the Admission Decision Code on the application tape) or on regular status but had a test score below the following levels:

- A. CQT total less than 125; or
- B. SAT total less than 1000; or
- C. ACT composite less than 22.

High school grade point averages below 2.7 on a four-point scale were also used to identify educationally disadvantaged students.

The program attempts to provide the student with needed supportive services and to assist him in achieving

his objectives. These services include financial aid, tutoring, academic advising, and individual counseling.

General objectives for the program include:

1. To provide a higher education opportunity at MSU for larger numbers of students from non-white minority group and/or from low-income families, who have assessed potential for success, but lack the prerequisite criteria for normal admissions.
2. To identify, recruit, and admit to MSU larger numbers of students from non-white minority groups and/or from low-income families, who have the assessed potential for success, but lack the prerequisite criteria for normal admissions.
3. To develop and coordinate a financial aid program for these students which will include as a minimum EOG, WS, NDSL, State Tuition Grants, and State Scholarship Grants and which will continue for no less than five academic years.
4. To provide a set of special programs designed to foster satisfactory progress through college programs by program students. These will be continuing programs focusing specifically upon program students.
5. To provide special access for these students to career-guidance and personal-social counseling by trained counselors which enrolled at MSU.

To date, approximately 1100 developmental students have been admitted to MSU. Approximately 10 per cent of these students have left the University through graduation, drop-outs, or transfers. Three hundred and thirty-four were admitted in the fall of 1971 (Johnson, 1971). The Academic Assistance Program and the Minority Counseling Program, under the direction of the Assistant Provost for Special Programs and the Assistant Director for Minority Counseling, were charged with the responsibility of providing the necessary supportive services and counseling for Developmental Program students.

### Sample

The group of students for this study was drawn from the total number of Developmental Program students (334) admitted to Michigan State University in the fall of 1971. The sample to be used consisted of a group of 96 students, 48 male and 48 female (see Appendix A). All Developmental Program students were contacted by the Minority Counseling Center's staff before they arrived on campus or not later than two weeks after their arrival. These students were contacted by phone and by letter. Also, at registration a Minority Information Booth was set up to inform students of the services available. Posters and radio reports were also used to acquaint students with the existence of the Minority Counseling Center. Students were encouraged to come in and discuss their problems, and were assured of a confidential and empathetic relationship.

Students were selected to participate in this research project according to the following criteria:

(1) fall, 1971 GPA--below 2.7; (2) number of credits earned fall term--minimum of six credits, maximum of twelve credits; and (3) SAT scores--1000 or below. Figure 1 indicates how students were selected to participate in the project.

1. Treatment groups, Systemic Counseling Technique (SCT), and Traditional Counseling Technique (TCT) consisted of those students who were offered counseling services (treatment) and wanted to participate.
2. Control group consisted of those students who were not offered counseling services (treatment) but wanted to participate.
3. Students who were offered counseling services (treatment), but did not want the service, and those

who were never offered and did not want counseling service (treatment), were not included in this research effort.

	Want Counseling	Don't Want Counseling
(1) Offered Counseling (Treatment Groups)	(A)	(B)
(2) Never Offered Counseling (Control Group)	(C)	(D)

Figure 1.--How students were selected.

Students contacted by the Minority Counseling Program staff were asked if they would like to participate in a special project. They were told that they would be assigned a special counselor winter and spring terms. No other details were given to the students at this point. Students who agreed to participate were randomly assigned (male-female) to one of two treatment groups. Those students who were not asked to participate were called and told about the special project under way, and asked if they would have participated had they been asked sooner. Those who wanted to participate were identified as members of the control group.

#### Counselors

The treatment group included eight counselors with different levels of education and experience. All were

black. Characteristics of all the participants in the treatment group are presented in outline form in Figures 2 and 3.

Participants	Education	Experience	Age
Counselor I	Ph.D.	6 years in public school and college setting	38
Counselor II <sup>a</sup>	Ph.D. Candidate	3 years public school setting	26
Counselor III	M.A.	2 years counselor	26
Counselor IV <sup>a</sup>	M.A. Candidate	1 year tutorial counseling program	24

<sup>a</sup>Females

Figure 2.--Graphic description of characteristics of counselors using systemic counseling techniques.

Participants	Education	Experience	Age
Counselor V <sup>a</sup>	Ph.D.	6 years college counselor	30
Counselor VI	Ph.D. Candidate	3 years public school counselor	27
Counselor VII <sup>a</sup>	M.A.	1 year supportive serv. & counseling	24
Counselor VIII	M.A. Candidate	2 years counselor	26

<sup>a</sup>Females

Figure 3.--Graphic description of characteristics of counselors using traditional counseling techniques.



### Systemic Counseling Approach

The systemic counseling approach attempts to deal with the cause of one's problem (the system) and not the symptom (the unfairly treated individual). The systemic approach does not look at the student clinically. This means that the counselor becomes an advocate of the student, his ally. He does not look upon the student as being maladaptive and possessing genetic deficiencies. The systemic approach presupposes the minority students generate a life style based on their struggle to negotiate their environment to belong and to maintain a sense of competence and worthwhileness. The following represent examples of the systemic counseling approach:

Situation--Student "A" explains to the counselor his belief that he is being discriminated against. On several occasions his instructor has made what he believes to be racial remarks. When he confronted the instructor, he was told to drop the class.

Systemic Counseling Approach--Both the counselor and the student leave the confines of his office to confront the instructor together. Along the way, the counselor further explores the details of the situation. The three attempt to resolve any differences.

Situation--A group of minority students have tried for several weeks now to get permission to use one of several large rooms for display. Many of them

have various forms of Black Art that they would like to share with their brothers and sisters.

**Systemic Counseling Approach--**The counselor is more familiar with the "power-politics" that exist on campus and is therefore able to share his knowledge with the students, providing them with the "know-how" necessary to get the space they desire to use.

**Situation--**Several teachers have complained to school administrators about the behavior of some of the minority group students in their classes. The teachers and administrators have been unable to cope with the situation.

**Systemic Counseling Approach--**The counselor, in this situation, acts as a consultant to the teachers and administrators. He does not attempt to advise the teacher in his field of expertise, but to serve as an agent to promote understanding and to change behavior and perceptions. He is sensitive to the needs of the teachers and students and attempts to help the teacher understand how he is perceived by his students, how the teacher's behavior affects the behavior patterns of students, and how the counselor can assist the teacher to better understand and deal with the attitudes and behavior of the students.

Thus, we can see from the preceding examples that the role of the systemic counselor is different from that of

the traditional counselor. The systemic counselor is an advocate of the student, a consultant, a change agent, one who is innovative and willing to take on the system. Unlike the action and insight therapist, the systemic approach deals more with causes than symptoms. It focuses its attention on the "maze" and not the "rat," for it is the external environment not the inner feelings of the individual that causes him to behave in ways considered maladaptive by those who created the system. Therefore, the systemic counselor must realize that the direction of the lives of minority-group youths depends on him, as he may be the only ally in a world of frustration, confusion, and injustice.

#### Procedure

Each counselor was randomly assigned eight students--four males and four females. Two male counselors used systemic counseling techniques (SCT) and two male counselors used traditional counseling techniques (TCT). Two female counselors used systemic counseling techniques (SCT), while two other female counselors used traditional counseling techniques (TCT).

Thirty-two students (male and female) were assigned to the no-contact control group. Because all developmental students are considered to be academically disadvantaged, no student was refused counseling services. Students in the no-contact control group were not offered special treatment services. Records were kept on those students in the control

group who had more than three contacts with a counselor, and they were not included in the final analysis.

### Treatment Period

The treatment period was divided into two parts--the first during winter term and the second during spring term. Each term lasted for ten weeks. The first treatment period was six weeks long; the second lasted through the seventh week of winter term. The second treatment period was divided in two, two-week follow-up periods; the first was the second and third weeks of spring term, and the second was the sixth and seventh weeks of spring term.

The treatment procedure in this study had five basic steps:

1. Tom Gunnings and Bill Gamble conducted a half-day (four hour) workshop with all counselors participating in the project. General guidelines to be followed were discussed in a joint session. Counselors were then divided into two groups, systemic and traditional counselors. Gunnings discussed and demonstrated the systemic approach to counseling, and Gamble covered important features of the traditional approach to counseling. Systemic counselors were told to place their emphasis, when counseling, on the systemic approach. The traditional counselors were instructed to do the same with traditional methods. The purpose here was to avoid the possibility of attempting a "pure" approach with either technique. Traditional counselors assumed, from the

beginning, that the "problem" was within the individual and used whatever method (insight, self-analysis, structured study habits, etc.) seemed appropriate. The systemic counselor was instructed to always assume from the beginning that the "problem" was not the student. His goal and that of the student, then, was trying to change the system to meet the needs of the student.

2. An appointment was made for the student and counselor to meet in Room #32 of the Union building or in the main Counseling Center.

3. Each counselor met with the eight students assigned to him (her) at least twice during the first treatment period and once each, during two follow-up treatment periods.

4. At the end of each interview, counselors were asked to make a note of the problem(s) discussed and outline steps agreed upon and steps taken to resolve the problem(s).

5. A posttest was administered to both treatment and control groups.

### Instrumentation

#### Post-Treatment Test

One test instrument was used in this investigation. The general purpose of this instrument was to assess the students in the study on a variety of subjective measures. Although the primary purpose of this investigation aimed at testing the differences between two counseling methods (i.e., systemic and traditional counseling techniques), an

attempt was made to determine if there were differences in certain "attitudinal factors" of students exposed to the two treatment conditions. These factors were the self-concept of the student, his sense of control of the environment, and his aspiration or motivation toward further education. A discussion of the test used will follow (Appendix B).

#### Attitudinal Survey Test

The test used was taken from the Coleman Report (1966) entitled "Equality of Educational Opportunity." Questions were chosen from the "College Survey Test--Seniors." The College Freshman Questionnaire is almost identical to the one for college seniors.

Three attitudinal factors were identified. The first was the counselee's sense of his own ability, his "self-concept." If a student's self-concept is low, if he feels he cannot succeed, then this will affect the effort he puts into the task and thus, his chance of success. Three questions were used to obtain an indication of the student's self-concept. These were:

1. How bright do you think you are in comparison with the other students in your class?
2. Agree or disagree: I sometimes feel that I just can't learn.
3. Agree or disagree: I would do better in school work if instructors didn't go so fast.

The second attitudinal factor that was dealt with in this investigation was the counselee's sense of control of his environment. If a student feels that his environment

is capricious, random, or beyond his ability to alter, then he may conclude that attempts to affect it are not worthwhile, and stop trying (Coleman, 1966). Students need to feel that they can alter their environment or make it more responsive to their needs. Three items from the questionnaire were used to measure the student's sense of control of his environment:

1. Agree or disagree: Good luck is more important than hard work for success.
2. Agree or disagree: Everytime I try to get ahead, something or somebody stops me.
3. People like me don't have much of a chance to be successful in life.

The final attitudinal factor concerned the student's motivation toward further education. Motivation is an elusive quantity that is not well-measured by responses to questionnaire items or other verbal responses (Coleman, 1966). Any conclusions drawn about factors affecting motivation were made tentatively. Two items from the questionnaire were used to measure motivation for further achievement:

1. I would make any sacrifice to get ahead in the world.
2. The tougher the job the harder I work.

### Design

The first design consisted of a two by four by two (2x4x2) multivariate analysis of covariance (MANCOVA) with one nested factor and four dependent measures. The next

consisted of four levels of counselors nested in the treatment condition (therapy). The design was not factorial in nature and subjects were exposed to only one experimental condition. The design was an orthogonal one with four subjects in each condition. A graphic description of the design of this investigation is indicated in Figure 4.

<u>Treatment</u>	<u>Counselors</u>	Sex	
		Male	Female
1-SCT	1	xxxx	xxxx
	2	xxxx	xxxx
	3	xxxx	xxxx
	4	xxxx	xxxx
2-TCT	1	xxxx	xxxx
	2	xxxx	xxxx
	3	xxxx	xxxx
	4	xxxx	xxxx

Code: 1-SCT = Systematic Counseling Techniques (Treatment)  
 2-TCT = Traditional Counseling Techniques (Treatment)  
 xxxx = SAT<sub>1</sub> (Verbal) SAT<sub>2</sub> (Math), cumulative credits  
 earned and cumulative GPA. Also, four stu-  
 dents were located in each cell.  
 1-4 = Counselors

Figure 4.--Graphic description of design 1 of the experiment.

The second design consisted of a one by three (1x3) analysis of covariance (ANCOVA) with three dependent measures.



This was a simple comparison of the three groups--systemic, traditional, and control. A graphic description of this design is indicated in Figure 5.

Treatment

1-SCT	32 students
2-TCT	32 students
3-NCCG	32 students

Code: 1-SCT = Systemic Counseling Technique (Treatment)  
 2-TCT = Traditional Counseling Technique (Treatment)  
 3-NCCG = No-Contact Control Group

Figure 5.--Graphic description of design 2 of the experiment.

The independent variables or variables that were expected to produce the experimental effect were:

1. Treatment--Systemic counseling techniques and traditional counseling techniques.
2. Counselors--2 Ph.D., 2 Ph.D. candidates, 2 M.A., and 2 M.A. candidates.
3. Sex--Sex of students.

The dependent variable or variables that acted as a measure of the experimental effects were the cumulative

credits earned winter and spring terms and cumulative grade point average winter and spring terms. Two covariates from Scholastic Aptitude Test scores (verbal and math) were also used. Three other dependent variable used to measure the experimental effects were self-concept, sense of control of the environment, and motivation. These were used in design number 2.

Grade point average as a measure of academic performance is by no means a perfect index. Many other variables, such as home environment, social-class status, income of parents, attitude toward education, etc., may greatly affect a person's performance. This research effort was conducted with this knowledge in mind.

### Rationale and Hypotheses

This research project was an attempt to study two types of data, objective and subjective. The objective data included the Scholastic Aptitude Test scores (verbal and math), the cumulative credits earned, and the cumulative grade point averages of students in the project for fall, winter, and spring terms. The subjective data included three measures: self-concept, sense of control of the environment, and motivation. These data were obtained by administering a posttest to all students near the end of the project.

The primary concern in this research was the effect the treatment would have on the two treatment groups in terms

of the objective variables stated above. The secondary concern in this research effort had to do with the differences in subjective opinions that might result after being exposed to the treatment conditions. Therefore, the hypothesis section is divided into two parts, the first dealing with objective variables and the second with the subjective variables.

### Objective Measures

This experiment was designed with three basic assumptions about the subjects, the experimental treatment, and sex of the students. The first assumption was that black students are perceptually more externally oriented (and would therefore show greater improvement when exposed to systemic counseling) than those black students who were exposed to traditional counseling. The second assumption suggested that a counselor's education, experience, or age has no effect on his ability to effectively counsel students with a given counseling technique. The final underlying assumption was based on the belief that no significant level of academic ability exists between "educationally disadvantaged" males or females.

The following research hypotheses were tested, based on the assumptions postulated above:

Hypothesis 1: Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques.

- Hypothesis 2: Student grade point averages will differ, within each treatment condition, as a result of counselor assignment.
- Hypothesis 3: Male students exposed to treatment conditions will achieve higher grade point averages and cumulative credits earned than female students.
- Hypothesis 4: Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques who will achieve higher grade point averages than the no-contact control group.
- Hypothesis 5: Students exposed to the systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques based on the sex of the students (exploratory).
- Hypothesis 6: A positive relationship exists between the sex of the counselor and the sex of the student (exploratory).

### Subjective Measures

Counseling, both systemic and traditional, increases the student's awareness of himself and his environment. The single allowable instrument of the counselor is talk. The systemic counselor talks about the system and how to change it. The traditional counselor usually talks about the person's behavior and how to change that behavior. Counselees frequently evaluate their true "selves" and often question the extent to which they or other forces have control over their lives. The student exposed to traditional counseling may feel he's "not OK" because the impact of the environment on self-concept is often underestimated. The student exposed to systemic counseling is more apt to feel that he

is "OK," because he is sensitized to the impact of an uncertain or unfavorable environment on his self-esteem. Consequently, one must attempt to control and change his behavior; the other must attempt to change the system. Thus, both counseling methods may have some effect on the student's self-concept, his sense of control of his environment, and the extent to which he is motivated. This rationale and assumption about the subjective nature of counseling led to the formulation of the following hypotheses:

- Hypothesis 7: The self-concept of students exposed to systemic counseling techniques will exceed that of students exposed to traditional counseling techniques.
- Hypothesis 8: The sense of control of the environment of students exposed to systemic counseling techniques will exceed that of students exposed to traditional counseling techniques.
- Hypothesis 9: Students exposed to systemic counseling techniques will exhibit greater motivation toward further education than students exposed to traditional counseling techniques.
- Hypothesis 10: Students exposed to treatment conditions will out-perform students in the no-contact control group on measures of self-concept, sense of control of the environment, and motivation.
- Hypothesis 11: Students exposed to the treatment conditions will not differ from those in the control group as measured by self-concept, sense of control of the environment, and motivation.

A control group was included in the study to determine how other developmental program students performed academically, who were not exposed to the treatment conditions. A posttest questionnaire was administered to the students in the control group to see if there were

differences in their attitudes toward the three subjective variables mentioned above. Results will be discussed in the Analysis section.

### Data Analysis

An analysis of variance technique was used to test the research hypotheses of this study. The design and sample met the assumptions for analysis of variance (ANOVA).

1. Randomization--Students were randomly assigned.
2. Independence--Independence between and within cells and units within cells.
3. Normalcy--The population is normally distributed. ANOVA is robust to the assumption of normalcy if the independence variables are fixed.
4. Equality of Variance--ANOVA is robust to the assumption of equality of variance as long as there is an equal number in each cell.

The design of the study also equates with design 6 in Campbell and Stanley (1966), which controls for all sources of internal invalidity and certain sources of external invalidity (allowing for a degree of generalizability of the research findings). A symbolic illustration of design 6 appears on the following page.

### Basic Assumptions

The design of this study was formulated on the basis of the following assumptions:

1. Black students enrolled at Michigan State University are representative of black freshmen at other large, predominately white institutions.

2. College GPA is an adequate measure of academic success.

3. Counselors and students will perform all tasks assigned to insure completion of the research project.

4. Underachievement arises not from incapacity to achieve, but rather is an expression of the student's choice.

	<u>Observation</u>	<u>Treatment</u>	<u>Observation</u>
Design 1	R <sub>1</sub>	X <sub>1</sub>	0
	R <sub>2</sub>	X <sub>1</sub>	0
	R <sub>3</sub>	X <sub>1</sub>	0
	R <sub>4</sub>	X <sub>1</sub>	0
	R <sub>1</sub>	X <sub>2</sub>	0
	R <sub>2</sub>	X <sub>2</sub>	0
	R <sub>3</sub>	X <sub>2</sub>	0
	R <sub>4</sub>	X <sub>2</sub>	0
	<u>Observation</u>	<u>Treatment</u>	<u>Observation</u>
Design 2	R	X <sub>1</sub>	0
	R	X <sub>2</sub>	0
	R		0

Code: R = Random assignment to counselor.

X<sub>1</sub> = Treatment one (SCT)

X<sub>2</sub> = Treatment two (TCT)

### Summary

This chapter included a detailed description of the methodology of this study, so that the reader might have a basis for judging the findings which are found in Chapter IV.

The population was defined and included a description of the sample and how it was selected. A description of the counselors' education, experience, and age was included. One instrument was used as a posttest. All hypotheses were stated with a general rationale given for

each one. This section was divided into two parts, objective and subjective hypotheses. The chapter concluded with a brief description of how the data were to be analyzed.



## CHAPTER IV

### ANALYSIS OF THE RESULTS

The purpose of this chapter is to report the findings of this investigation. The analysis of results is divided into three sections: (1) Hypotheses and Exploratory Questions, (2) Results, and (3) Summary.

The multivariate analysis of variance (see Appendix C) was used to analyze the study's ten hypotheses. The first six hypotheses were designed to examine the effects of treatment, counselors, and sex on the performance of students. Hypotheses 5 and 6 were exploratory and not as critical to the study as the others. Two dependent measures, cumulative credits earned and cumulative grade point average for winter and spring terms, were defined as "objective" measures for these hypotheses. The next four hypotheses were designed to examine the effects of treatment on three "subjective" dependent variables (self-concept, sense of control of the environment, and motivation). The mean grade point averages and the mean number of credits earned are reported in Appendix E. The differences were judged as significant when they reached the .05 level of confidence.

### Hypotheses

The hypotheses in this section will be presented in research form for clarity and simplicity. The research hypotheses tested are as follows.

#### Objective Measures

Null hypothesis: No difference will be found in the grade point averages of students exposed to systemic counseling and traditional counseling techniques.

Symbolically:  $H_{01}: M_1 = M_2$

Legend:  $M_1$  = Systemic group's mean grade point average

$M_2$  = Traditional group's mean grade point average

Alternate hypothesis: Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques.

Symbolically:  $H_{a1}: M_1 > M_2$

Legend:  $M_1$  = Systemic group's mean grade point average

$M_2$  = Traditional group's mean grade point average

Null hypothesis: No difference will exist in student performance, within each treatment condition, as a result of counselor assignment.

Symbolically:  $H_{02}: M_3 = M_4$

Legend:  $M_3$  = Systemic group's mean grade point average

$M_4$  = Traditional group's mean grade point average

Alternate hypothesis: Student grade point averages will differ, within each treatment condition, as a result of counselor assignment.

Symbolically:  $H_{a1}: M_3 > M_4$

Legend:  $M_3$  = Systemic group's mean grade point average

$M_4$  = Traditional group's mean grade point average

Null hypothesis: No difference will be found in the performance (grade point average and credits earned) of male and female students exposed to treatment conditions.

Symbolically:  $H_{o3}: M_5 = M_6$

Legend:  $M_5$  = Male student mean grade point average and credits earned.

$M_6$  = Female student mean grade point average and credits earned.

Alternate hypothesis: Male students exposed to treatment conditions will achieve higher grade point averages and credits earned than female students.

Symbolically:  $H_{a3}: M_5 > M_6$

Legend:  $M_5$  = Male student mean grade point average and credits earned.

$M_6$  = Female student mean grade point average and credits earned.

Null hypothesis: No difference will be found in the performance (grade point average and credits earned) of the systemic group, the traditional group, and the control group.

Symbolically:  $H_{o4}: M_7 = M_8 = M_9$

Legend:  $M_7$  = Systemic group mean grade point average and credits earned.

$M_8$  = Traditional group mean grade point average and credits earned.

$M_9$  = Control group mean grade point average and credits earned.

Alternate hypothesis: Students exposed to systemic counseling techniques will out-perform (grade point average and credits earned) students exposed to traditional counseling techniques who will out perform students in the no-contact control group.

Symbolically:  $H_{a4}: M_7 > M_8 > M_9$

Legend:  $M_7$  = Systemic group mean grade point average and credits earned.

$M_8$  = Traditional group mean grade point average and credits earned.

$M_9$  = Control group mean grade point average and credits earned.

Null hypothesis: No difference will be found in the performance (grade point average and credits earned) of the systemic group and the traditional group based on the sex of the student (exploratory).

Symbolically:  $H_{o5}: M_{10} = M_{11}$

Legend:  $M_{10}$  = Systemic group mean grade point average and credits earned.

$M_{11}$  = Traditional group mean grade point average and credits earned.

Alternate hypothesis: Students exposed to systemic counseling techniques will out-perform (grade point average and credits earned) students exposed to traditional counseling techniques based on the sex of the student (exploratory).

Symbolically:  $H_{a5}: M_{10} > M_{11}$

Legend:  $M_{10}$  = Systemic group mean grade point average and credits earned.

$M_{11}$  = Traditional group mean grade point average and credits earned.

Null hypothesis: No difference will be found in the performance (grade point average and credits earned) of the students based on the sex of the counselor (exploratory).

Symbolically:  $H_{o6}: M_{12} = M_{13}$

Legend:  $M_{12}$  = Student performance (grade point average and credits earned).

$M_{13}$  = Sex of the counselor.

### Subjective Measures

Null hypothesis: No difference will be found in the self-concept as measured by average test performance between the systemic group and the traditional group.

Symbolically:  $H_{o7}: M_{14} = M_{15}$

Legend:  $M_{14}$  = Systemic group mean

$M_{15}$  = Traditional group mean

Alternate hypothesis: The self-concept of students exposed to systemic counseling techniques as measured by average test performance will exceed that of students exposed to traditional counseling techniques.

Symbolically:  $H_{a7}: M_{14} > M_{15}$

Legend:  $M_{14}$  = Systemic group mean

$M_{15}$  = Traditional group mean

Null hypothesis: No difference will be found in the sense of control of the environment as measured by average test performance between the systemic group and traditional group.

Symbolically:  $H_{o8}: M_{16} = M_{17}$

Legend:  $M_{16}$  = Systemic group mean

$M_{17}$  = Traditional group mean

Alternate hypothesis: The sense of control of the environment of students exposed to systemic counseling techniques as measured by average test performance will exceed that of students exposed to traditional counseling techniques.

Symbolically:  $H_{a8}: M_{16} > M_{17}$

Legend:  $M_{16}$  = Systemic group mean

$M_{17}$  = Traditional group mean

Null hypothesis: No difference will be found in the motivation toward further education as measured by average test performance between the systemic group and the traditional group.

Symbolically:  $H_{o9}: M_{18} = M_{19}$

Legend:  $M_{18}$  = Systemic group mean

$M_{19}$  = Traditional group mean

Alternate hypothesis: The motivation toward further education of students exposed to systemic counseling techniques as measured by average test performance will exceed that of students exposed to traditional counseling techniques.

Symbolically:  $H_{a9}: M_{18} > M_{19}$

Legend:  $M_{18}$  = Systemic group mean

$M_{19}$  = Traditional group mean

Null hypothesis: No difference will be found in the self-concept, sense of control of the environment, and motivation toward further education as measured by average test performance between the treatment group and the no-contact control group.

Symbolically:  $H_{o10}: M_{20} = M_{21}$

Legend:  $M_{20}$  = Treatment group mean

$M_{21}$  = Control group mean

### Results

The results are presented in the following order: Hypotheses 1, 2, 3, 5, and 6 were tested using design 1. Three independent variables--treatment, counselor-treatment, and sex--and two dependent measures--cumulative grade point average and cumulative credits earned winter and spring term--were included in this design and referred to as objective measures.

Hypotheses 7, 8, 9, and 10 were tested using design 2. One independent variable--treatment--and three dependent variables--self-concept, sense of control of the environment, and motivation--were included in this design and referred to as subjective measures.

#### Findings Related to Objective Measures

Design 1.--A regression analysis with two covariates, SAT-Verbal and SAT-Math, was completed to determine whether the two covariates correlated with the two dependent variables (cumulative credits earned and cumulative grade point average). The results (Table 1) show that cumulative credits earned account for 0.0086 per cent of the variation and the obtained cumulative credits correlate 0.0930 with the predicted score. Cumulative grade point average accounts for 0.0406 per cent of the variation and the obtained cumulative grade point average correlates 0.2015 with the predicted score. The two covariates did not account for a significant proportion of the variation in

in the design, but were retained for whatever contribution they could make toward increasing the precision of the analysis of the dependent variables.

Table 1.--Regression analysis with two covariates for design 1: cumulative credits and grade point average.

	Square Mult. R	Mult. R
1. Cumulative Credits	0.0086	0.0930
2. Cumulative GPA	0.0406	0.2015

Data analysis consisted of three-way multivariate analysis of variance. Results (Table 2) indicate that none of the design variables account for any significant portion of variation in the dependent measures.

Table 2.--Multivariate analysis of covariance for design 1.

Source of Variation	DF	Multivariate F	p less than
H <sub>1</sub> Treatment	2	.7636	.4720 (NS) <sup>a</sup>
H <sub>2</sub> Counselor:Treatment	12	1.7741	.0646 (NS)
H <sub>3</sub> Student Sex	2	.9426	.3972 (NS)
H <sub>5</sub> Treatment x Sex	2	2.2858	.1134 (NS)
H <sub>6</sub> Counselor x Sex	12	.9583	.4942 (NS)

<sup>a</sup>NS = Not significant

Hypothesis 1--Treatment does not account for any significant difference in performance ( $F_{2, 45} = .7636$ ;  $p < .05$ ).



Hypothesis 2--Counselor:treatment does not account for any significant difference in performance ( $F_{12, 90} = 1.7741$ ;  $p < .05$ ).

Hypothesis 3--Student sex does not account for any significant difference in performance ( $F_2, 45 = .9426$ ;  $p < .05$ ).

Hypothesis 5--Treatment x sex does not account for any significant difference in performance ( $F_2, 45 = 2.2858$ ;  $p < .05$ ).

Hypothesis 6--Counselor x sex does not account for any significant difference in performance ( $F_{12, 90} = .9583$ ;  $p < .05$ ).

Design 2.--A regression analysis with two covariates, SAT-Verbal and SAT-Math, was completed to determine whether the two covariates correlated with the two dependent variables (cumulative credits earned and cumulative grade point average) in design 2. The results (Table 3) show that cumulative credits earned account for 0.0095 per cent of the variation and the obtained cumulative credits correlate 0.00974 with the predicted score. Cumulative grade point average accounted for 0.0155 per cent of the variation and the obtained cumulative grade point average correlated 0.1244 with the predicted score. The two covariates did not account for any significant proportion of the variance in the design, but were retained.

Data analysis consists of one-way analysis of variance for design 2. Results (Table 4) indicate that treatment

made no significant difference in variation in the dependent measures ( $F_4, 180 = .5251; p < .05$ ).

Table 3.--Regression analysis with two covariates for design 2: cumulative credits and grade point average.

Variable	Square Mult. R	Mult. R
1. Cumulative Credits	0.0095	0.0974
2. Cumulative GPA	0.0155	0.1244

Table 4.--Multivariate analysis of covariance for design 2.

Source of Variation	DF	Multivariate F	p less than
Between Treatment	4	.5251	.7174 (NS) <sup>a</sup>
Within Treatment	180		

<sup>a</sup>NS = Not significant

Hypothesis 4--Treatment does not account for any significant difference in performance between treatment groups and control group ( $F_4, 180 = .5251; p < .05$ ).

#### Findings Related to Subjective Measures

Design 1.--In order to test Hypotheses 5, 6, and 7, a data analysis consisting of a one-way multivariate analysis of variance was performed. Results (Table 5) indicate that the design variable (treatment) accounts for a significant portion of variation in the dependent measures ( $F_3, 53 = 48.06; p < .001$ ).

Table 5.--Summary of multivariate three-way analysis of variance for design 1.

Source of Variation	DF	Multivariate F	p less than
Between Treatment	3	48.06	0.00009
Within Treatment	53		

An examination of univariate F (Table 6) indicates that all of the variables are significant:

Hypothesis 5--Treatment accounts for a significant difference in sense of control of the environment ( $F_1, 55 = 65.04$ ;  $p < .001$ ).

Hypothesis 6--Treatment accounts for a significant difference in self-concept ( $F_1, 55 = 54.71$ ;  $p < .001$ ).

Hypothesis 7--Treatment accounts for a significant difference in motivation ( $F_1, 55 = 78.36$ ;  $p < .001$ ).

Table 6.--Post-hoc univariate tests for design 1.

Variable	Univariate F	p less than
1. Sense of Control	65.04	.0001
2. Self-Concept	54.71	.0001
3. Motivation	78.36	.0001

Table 7 presents the mean scores for the systemic group and the traditional group, including the standard deviation for each measure. On the variable, sense of control of the environment, with a possibility of 9.000, the

systemic group's mean score was 8.38, while the traditional group's mean score was 6.15. The standard deviation was 1.05. On the variable, self-concept, with a possibility of 11.000, the systemic group's mean score was 10.31 and the traditional group's mean score was 8.22. The standard deviation was 1.07. The final variable, motivation, with a possible 6.000, showed the systemic group's mean score to be 5.59 and the traditional group's mean score to be 3.83. The standard deviation was .76.

Table 7.--Group means and standard deviation for design 1.

Treatment Groups	Sense of Control	Self-Concept	Motivation
1. Systemic group (N = 29)	8.38	10.31	5.59
2. Traditional group (N = 28)	6.15	8.22	3.83
3. Standard Deviation	1.05	1.07	.76

To test Hypothesis 8, a one-way analysis of variance was carried out. Results (Table 8) indicated that the design variable (treatment) accounts for a significant portion of the variation in the dependent measures ( $F_{6, 150} = 18.20$ ;  $p < .001$ ).

An examination of univariate F (Table 9) indicates that the variables, sense of control of the environment, self-concept, and motivation were all significant ( $p < .001$ ).

Table 8.--Multivariate one-way analysis of variance for design 2.

Source of Variation	DF	Multivariate F	p less than
Between Treatment	6	18.20	0.0009
Within Treatment	150		

Table 9.--Univariate tests for design 2.

Variable	Univariate F	p less than
1. Sense of Control	39.81	.0001
2. Self-Concept	20.34	.0001
3. Motivation	39.37	.0001

Table 10 lists the mean scores for the systemic group, the traditional group, and the no-contact control group. On the variable, sense of control of the environment, with a possibility of 9.000, the systemic group's mean score was 8.38, the traditional group's mean score was 6.15, and the control group's mean score was 8.18. The standard deviation was 1.03. The variable, self-concept, with a possible score of 11.000, shows the systemic group's mean score was 10.31, the traditional group's mean score was 8.22, and the control group's mean score was 9.000. The standard deviation was 1.26. The variable, motivation, with a possible score of 6.000, shows the systemic group's mean score to be 5.59, the traditional group's mean score to be 3.83, and the control group's mean score to be 5.40. The standard deviation was .81.

Table 10.--Group means and standard deviation for design 2.

Groups	Sense of Control	Self-Concept	Motivation
1. Systemic Group	8.38	10.31	5.59
2. Traditional Group	6.15	8.22	3.83
3. Control Group	8.18	9.00	5.40
Standard Deviation	1.03	1.26	.81

### Summary

Table 11 presents a summary of this chapter. The design and test analysis are presented, along with the hypotheses tested and the significance level for each.

Table 11.--Summary of analysis of results chapter.

	Objective Measures	Subjective Measures
	Test--MANOVA	Test--MANOVA
	2 x 4 x 2	1 x 2 (no covariate)
Design 1	Ho <sub>1</sub> = NS	Ho <sub>7</sub> : p<.001
	Ho <sub>2</sub> = NS	Ho <sub>8</sub> : p<.001
	Ho <sub>3</sub> = NS	Ho <sub>9</sub> : p<.001
	Ho <sub>5</sub> = NS	
	Ho <sub>6</sub> = NS	
	Test--One-way ANCOVA	Test--One-way ANCOVA
Design 2	1 x 3	1 x 3 (no covariate)
	H <sub>4</sub> = NS	Ho <sub>10</sub> : p<.001

Design 1 = A two by four by two (2x4x2) multivariate analysis of covariance (MANCOVA) with one nested factor and four dependent measures. The nest consisted of four levels of counselors nested in the treatment condition (therapy).

Design 2 = A one by three (1x3) analysis of covariance (ANCOVA) with three dependent measures. This was a simple comparison of the three groups--systemic, traditional, and control.

Objective Measures = (1) Independent variables--treatment, counselor:treatment, and sex. (2) Dependent variables--cumulative grade point average and cumulative credits earned winter and spring terms.

Subjective Measures = (1) Independent variable--treatment. (2) Dependent variables--self-concept, sense of control of the environment, and motivation.

Ho<sub>1</sub> = Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques.

Ho<sub>2</sub> = Student grade point averages will differ, within each treatment condition, as a result of counselor assignment.

Ho<sub>3</sub> = Male students exposed to treatment conditions will achieve higher grade point averages and cumulative credits earned than female students.

Ho<sub>4</sub> = Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques who will achieve higher grade point averages than the no-contact control group.

Ho<sub>5</sub> = Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques based on the sex of the students (exploratory).

Ho<sub>6</sub> = A positive relationship exists between the sex of the counselor and the sex of the student (exploratory).

Ho<sub>7</sub> = The self-concept of the students exposed to systemic counseling techniques will exceed that of students exposed to traditional counseling techniques.

Ho<sub>8</sub> = The sense of control of the environment of students exposed to systemic counseling techniques will exceed that of students exposed to traditional counseling techniques.

Ho<sub>9</sub> = Students exposed to systemic counseling techniques will exhibit greater motivation toward further education than students exposed to traditional counseling techniques.

Ho<sub>10</sub> = Students exposed to treatment conditions will outperform students in the no-contact control group on measures of self-concept, sense of control of the environment, and motivation.

NS = Not significant

p = Probability less than



## CHAPTER V

### SUMMARY AND CONCLUSIONS

#### Summary

The purpose of this investigation was to compare the outcomes of systemic and traditional counseling techniques with a group of minority students who were considered by university authorities to be academically disadvantaged. The need for this research had its genesis in the counseling crisis facing college counselors working with the culturally different. Counseling practices which deal with "special client populations" have demonstrated the inability of traditional counseling techniques to meet the needs of disadvantaged, alienated, and ethnic groups. This research project was designed to compare the effects that systemic counseling techniques and traditional counseling techniques had on the academic performance, self-concept, sense of control of the environment, and motivation of a select population of students.

The review of the literature covered four main areas. The first reported literature related to current schools of counseling. The next section contained a discussion of literature related to the facilitative dimension of counseling or what Rogers termed the interpersonal relationship in counseling. The third section dealt with literature related

to perceptions, attitudes, and values of black college students. And the final section dealt with the need for new, innovative approaches in counseling culturally different students. The systemic counseling model was presented as a viable alternative to traditional counseling methods.

### Methodology

The population used in this study consisted of 334 black freshman students at Michigan State University. All were special admission students who did not meet regular University admission standards. They were a part of a larger experimental program at Michigan State University called the Developmental Program. The sample, selected according to grade point average, credits earned, and SAT scores, included 96 male and female students who were in need of counseling.

The counselors who participated in the study included four female and four male counselors with different levels of education and experience. Specifically, the counselors included the following:

1. Two Ph.D. counselors, one male and one female.
2. Two Ph.D. candidates, one male and one female.
3. Two M.A. counselors, one male and one female.
4. Two M.A. candidates, one male and one female.

The study included the following procedures:

(1) Each counselor was randomly assigned eight students, four male and four female. (2) The treatment period was divided into two parts--one six-week period winter term and two, two-week follow-up periods spring term. Counselors

were asked to meet with each student two or more times during the first treatment period and once each for the two follow-up periods. (3) Systemic counselors heavily emphasized systemic techniques and traditional counselors heavily emphasized traditional counseling techniques. (4) Posttests were administered to both treatment and control groups.

The data were analyzed by using the analysis of variance technique to test the eight hypotheses and two exploratory questions. Two designs,  $2 \times 4 \times 2$  and  $1 \times 3$ , were used in the study.

The first four hypotheses were designed to analyze the effects of treatment, counselor (within treatment), and sex on the academic performance of students. The fourth hypothesis was designed to analyze the effects of treatment-no treatment on the academic performance of students in the treatment and control groups. Hypotheses 7, 8, and 9 were designed to analyze the effects of treatment on three dependent measures--sense of control of the environment, self-concept, and motivation. The tenth hypothesis was designed to analyze the effects of treatment-no treatment on three dependent measures--sense of control of the environment, self-concept, and motivation.

The differences were judged as significant when they reached the .05 level of confidence.

## Results

The findings are presented in two sections. The first section contains a report of the research findings

arrived at in accordance with the objective criterion measures. The second section reports the findings related to subjective criterion measures.

Objective Variables.--An analysis of variance technique was used to test the first six hypotheses. The dependent measures used in these hypotheses and questions were cumulative credits earned and cumulative grade point average for winter and spring terms. The six hypotheses were not accepted. They are:

- Ho<sub>1</sub>: No difference will be found in the grade point averages of students exposed to systemic counseling and traditional counseling techniques. (accepted)
- Ha<sub>1</sub>: Students exposed to systemic counseling techniques will achieve higher grade point averages than students exposed to traditional counseling techniques. (not accepted)
- Ho<sub>2</sub>: No difference will exist in student performance, within each treatment condition, as a result of counselor assignment. (accepted)
- Ha<sub>2</sub>: Student grade point averages will differ, within each treatment condition, as a result of counselor assignment. (not accepted)
- Ho<sub>3</sub>: No difference will be found in the performance (grade point average and credits earned) of male and female students exposed to treatment conditions. (accepted)
- Ho<sub>4</sub>: No difference will be found in the performance (grade point average and credits earned) of the systemic group, the traditional group, and the control group. (accepted)
- Ha<sub>4</sub>: Students exposed to systemic counseling techniques will out-perform (grade point average and credits earned) students exposed to traditional counseling techniques who will out-perform students in the no-contact control group. (not accepted)

- Ho<sub>5</sub>: No difference will be found in the performance (grade point average and credits earned) of the systemic group and the traditional group based on the sex of the student. (exploratory; accepted)
- Ha<sub>5</sub>: Students exposed to systemic counseling techniques will out-perform (grade point average and credits earned) students exposed to traditional counseling techniques based on the sex of the student. (exploratory; accepted)
- Ho<sub>6</sub>: No difference will be found in the performance (grade point average and credits earned) of the students based on the sex of the counselor. (exploratory; accepted)

These findings point out that the independent variables--treatment, counselors, and sex--had no significant impact on the performance of the students winter and spring terms. An examination of the systemic counseling group and the traditional counseling group's mean cumulative grade point average (see Appendix B) suggests that a larger N might have produced more favorable results. A number of reasons for the negative results are reported in the discussion section.

Subjective Variables.--An analysis of variance technique was used to test Hypotheses 7 through 10. Three dependent measures were used--sense of control of the environment, self-concept, and motivation. Coleman's Attitudinal Survey Test was administered as a posttest instrument to obtain data necessary to test the hypotheses. All four were accepted. They are:

- Ho<sub>7</sub>: No difference will be found in the self-concept as measured by average test performance between the systemic group and the traditional group. (significant at the .001 level of confidence)

- Ha<sub>7</sub>: The self-concept of students exposed to systemic counseling techniques as measured by average test performance will exceed that of students exposed to traditional counseling techniques. (significant at the .001 level of confidence)
- Ho<sub>8</sub>: No difference will be found in the sense of control of the environment as measured by average test performance between the systemic group and the traditional group. (significant at the .001 level of confidence)
- Ha<sub>8</sub>: The sense of control of the environment of students exposed to systemic counseling techniques as measured by average test performance will exceed that of students exposed to traditional counseling techniques. (significant at the .001 level of confidence)
- Ho<sub>9</sub>: No difference will be found in the motivation toward further education as measured by average test performance between the systemic group and the traditional group. (significant at the .001 level of confidence)
- Ha<sub>9</sub>: The motivation toward further education of students exposed to systemic counseling techniques as measured by average test performance will exceed that of students exposed to traditional counseling techniques. (significant at the .001 level of confidence)
- Ho<sub>10</sub>: No difference will be found in the self-concept, sense of control of the environment, and motivation toward further education as measured by average test performance between the treatment group and the no-contact control group. (significant at the .001 level of confidence)

These findings point out that there is a significant difference in the sense of control of the environment, self-concept, and motivation of students exposed to treatment conditions. Perhaps this is an indication that the students gained some coping skills as a result of exposure to the treatment conditions. Their positive responses on the post-test items might be the first sign that they are better able to cope with the demands of the academic community, even though their grades were on the low end of the ability scale.

### Discussion

Students who participated in this study could be characterized as a homogenous group. As indicated in Appendix A, the mean age for the group was 18, most lived in a city (not a suburb) with a population of more than one million, and most indicated their parental family income to be about \$8,500 per year. In addition to these demographic measures, all of the students had combined SAT scores below 1,000, which, according to Michigan State University Admissions Decision code, places them in the educationally disadvantaged student category. Although high school grade point averages were not directly used in this study, all students in the population had high school GPS's below 2.7, which is the necessary high school GPA for regular admission students at Michigan State University.

The sample (96), taken from the population described above, adequately met the criteria for a homogenous group in terms of academic ability based on past performance. To further test the ability level of the total population, the treatment period did not begin until winter term. That is, all of the students were given the opportunity, without special treatment, to meet the demands of their first term in college. Because they were all Developmental Program students, regular counseling services as well as special supportive services were available to all. Those students achieving grade point averages of 2.7 or above fall term had proven, for one term at least, that they could succeed

in college and were, therefore, not included in the final sample. Again, the sample included students with poor high school records, low SAT scores, and low fall term college grade point averages. Matching students according to SAT and GPA ability level was done on the assumption that:

(1) Ability level is the most crucial variable on which subjects can be matched; and (2) Differences in performance level will be a product of the treatment effects, if, in fact, the treatments are effective. However, the analysis of results indicates that this reasoning is somewhat naïve. None of the predictions made in Hypotheses 1 through 4 was statistically significant. There are a number of factors that may have contributed to the findings of no differences between any of the groups on objective measures. Some of these factors are:

1. The treatment period was short. It appears that a ten-week treatment period is too short to significantly affect the academic performance measures. A longer treatment might have produced significant results (Appendix D).

2. A factor to be considered is the cultural shock encountered by the subjects. Cultural shock refers to the psychological and physiological stress encountered by individuals when entering a cultural environment that differs in significant ways from one to which they are most accustomed. It seems quite possible that students from predominately black, inner-city, low socioeconomic backgrounds encounter more stress when entering a predominately white,



middle-class environment of the university than other students, and the difference in demands on the two groups is apt to be reflected in their respective academic performance.

3. Systemic counseling techniques and traditional counseling techniques used may not be powerful enough. All of the students in this study have a history of low academic achievement. Counseling of any kind cannot be the whole answer to increasing the academic success of students from low-income, inner-city environments. If success is to be achieved with this particular student population, an intensified and complex program including changes in the existing university system may be required. The use of tutoring, classes in language and reading skills, and greater contact with the environmental milieu of the academic community might also be researched as a means of facilitating desired change.

An analysis of the results on subject measures was significant in spite of the low academic performance of the students. In other studies (Coleman, 1966; Brookover, 1965) on academic achievement and self-concept, black students score high on measures of self-concept even though they failed to achieve high academic ratings. Their sense of control of the environment is usually lower than that of white students. Students exposed to systemic counseling achieved higher mean scores on the variable, sense of control of the environment, than students exposed to traditional

counseling. However, the mean score for the systemic group was barely above that of the no-contact control group on the same measure. The same was true with respect to the variable, motivation.

Significant difference on the subjective variables tested could be a product of the environmental milieu the students found themselves in at MSU. By applying and being admitted to a special program, the student evinces a commitment to what Rainwater (1966) called the life strategy of career success. That is, the student accepts the idea that life can be rewarding and goals can be achieved.

Optimism, as evidenced by the level of significance on the three subjective variables, may reflect a student's desire to succeed when the objective data indicate that he is not yet doing so.

In conclusion, the efforts of educators to develop viable programs to educate low-income, minority group students in predominately white universities across the country is far from over. More research is needed if we are to identify the ingredients that seem to help some students succeed when all the evidence suggests that they shouldn't. Drastic changes in the system are no doubt necessary, but perhaps what is needed in addition to these changes is a closer look (research) at other institutions working with the same population of students. Black colleges have been in the business of educating "high risk" students for years.

Perhaps some knowledge may exist within these institutions that can shed light on this complex problem.

Finally, as stated earlier, counseling alone cannot get the job done. It may be that counseling, regardless of the methods or techniques used, is not powerful enough to produce changes in the academic performance measures. It may be that the one-to-one counseling approach is too narrow. A broader environmental approach designed to change attitudes and values, facilitate cultural adjustment, improve learning skills and coping skills, and raise one's self-concept may be needed.

#### Limitations of the Study

This study had several limitations: (1) The short duration of the treatment period makes it difficult for any counseling technique to be effective. More time is needed if the treatment is to have a significant impact. (2) Ability level may serve as an important determining factor in the results of this study. All participants were at the low end of the academic scale. Therefore, the findings should only be generalized to other projects of low academic ability students. (3) The participants in the study were all black students. Other minority group students (American Indians, Mexican-Americans, Puerto Ricans) have their perceptions of the forces operating within their own cultural experiences and the external forces operating in the society at large which hinder their efforts to be successful

in an academic community. (4) Finally, no attempt was made to choose students within a given major. Therefore, the number of credits taken, the difficulty of the courses taken, or the number of courses repeated may have influenced the results of this study.

#### Implications for Further Research

The systemic counseling approach is a novel one; therefore, much research is needed to determine its effectiveness. Studies should be conducted with other minority groups. Students of various ability levels, including high and low achievers, need to be exposed to this approach. Research designed to determine the important factors necessary for a counselor to possess or develop to be considered effective with this approach should be conducted. Other research efforts need to concentrate on factors which interfere with effective academic performance. Replications of this study with reduced variances among treatment groups should be made. Variance could be reduced by selecting a matched group of students on ability level who are enrolled in the same courses. Finally, instruments need to be developed to distinguish more clearly systemic counseling from other approaches.

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## APPENDICES

APPENDIX A

AMERICAN COUNCIL ON EDUCATION SURVEY

## AMERICAN COUNCIL ON EDUCATION SURVEY

Entering freshmen (1971) at Michigan State University participated in a national study conducted by the American Council on Education. Twenty-nine of the 96 students used in this research project completed the ACE questionnaire during the summer orientation program. Selected questions are taken from the ACE questionnaire and reported in chart form on the following pages. The information reported includes personal background, college goals, beliefs, self-ratings, and expectations. No attempt is made in this study to compare these students with the total MSU freshman population on the national sample. The information is included to provide demographic data on the sample used in the study. Of the 29 students, 17 are female and 15 are male.

## Personal Background

Value	Questions	Per Cent
<hr/>		
	<u>Age</u>	
1	17	25.0
2	18	53.5
3	19	21.4
	Mean	1.9
	<u>Average Grade in High School</u>	
2	B+	10.7
3	B	10.7
4	B-	35.7
5	C+	39.2
6	C	3.5
	Mean	4.1
	<u>First Time Enrolled in College as Freshman</u>	
	Yes	100.0
	<u>Highest Academic Degree You Intend to Obtain</u>	
2	B.A.	26.9
3	M.A.--M.S.	30.7
4	Ph.D.--Ed.D.	23.0
5	M.D.--D.D.S. or D.V.M.	7.6
6	LLB	11.5
	Mean	3.4
	<u>Number of Miles M.S.U. Is From Home Town</u>	
2	11-50	3.5
3	51-100	89.2
4	101-500	7.1
	Mean	3.0
	<u>Highest Level of Formal Edu- cation Obtained by Parents</u>	
1	Some High School	38.4
2	High School Graduate	34.6
3	Some College	11.5
4	College Degree	15.3
	Mean	2.0

## Personal Background--continued

Value	Questions	Per Cent
	<u>Estimate Total</u>	
	<u>Parental Income</u>	
1	\$ 4,000- 5,999	13.0
2	6,000- 7,999	13.0
3	8,000- 9,999	30.4
5	12,500-14,999	34.7
6	15,000-19,999	4.3
7	20,000-	4.3
	Mean	3.6

## College Goals

Value	Questions	Per Cent
	<u>In deciding to go to college, how important to you was each of the following reasons?</u>	
1	My parents wanted me to go	
1	Very important	71.4
2	Somewhat important	28.5
	Mean	1.2
	To be able to contribute more to my community	
1	Very important	80.0
2	Somewhat important	20.0
	Mean	1.2
	To be able to get a better job	
1	Very important	83.3
2	Somewhat important	16.6
	Mean	1.1
	To gain a general education and appreciation of ideas	
1	Very important	60.0
2	Somewhat important	40.0
	Mean	1.4
	To improve my reading and study skills	
1	Very important	77.2
2	Somewhat important	22.7
	Mean	1.2
	There was nothing better to do	
1	Very important	7.1
2	Somewhat important	89.2
3	Not important	3.5
	Mean	1.9
	To make me a more cultured person	
1	Very important	45.4
2	Somewhat important	54.5
	Mean	1.5
	To be able to make more money	
1	Very important	76.9
2	Somewhat important	14.2
	Mean	1.1

## College Goals--continued

Value	Questions	Per Cent
	To learn more about things that interest me	
1	Very important	85.7
2	Somewhat important	14.2
	Mean	1.1
	To meet interesting people	
1	Very important	81.2
2	Somewhat important	18.7
	Mean	1.1
	To prepare myself for graduate or professional school	
1	Very important	76.9
2	Somewhat important	23.0
	Mean	1.2



## Self-Rating

Value	Questions	Per Cent
<u>Self-rating--on each of the following traits</u>		
Academic Ability		
1	Above average	46.1
2	Average	53.8
	Mean	1.5
Athletic Ability		
1	Above average	30.4
2	Average	39.1
3	Below average	26.0
4	Lowest 10 percent	4.0
	Mean	2.0
Artistic Ability		
1	Above average	7.0
2	Average	23.0
3	Below average	50.0
4	Lowest 10 percent	19.2
	Mean	2.8
Cheerfulness		
1	Above average	65.0
2	Average	30.0
3	Below average	5.0
	Mean	1.4
Defensiveness		
1	Above average	27.2
2	Average	68.1
3	Below average	4.5
	Mean	1.7
Drive to Achieve		
1	Above average	73.6
2	Average	26.3
	Mean	1.2
Leadership Ability		
1	Above average	45.8
2	Average	50.0
3	Below average	4.1
	Mean	1.5

## Self-Rating--continued

Value	Questions	Per Cent
<hr/>		
	Mathematical Ability	
1	Above average	20.0
2	Average	40.0
3	Below average	28.0
4	Lowest 10 percent	12.0
	Mean	2.3
	Mechanical Ability	
1	Above average	11.5
2	Average	26.9
3	Below average	30.7
4	Lowest 10 percent	30.7
	Mean	2.8
	Originality	
1	Above average	
2	Average	
3	Below average	
	Political Conservatism	
2	Average	40.7
3	Below average	22.2
4	Lowest 10 percent	37.0
	Mean	2.9
	Political Liberalism	
1	Above average	26.0
2	Average	47.8
3	Below average	21.7
4	Lowest 10 percent	4.3
	Mean	2.0
	Popularity	
1	Above average	36.0
2	Average	64.0
	Mean	1.6
	Popularity with the Opposite Sex	
1	Above average	40.0
2	Average	60.0
	Mean	1.6

## Self-Rating--continued

Value	Questions	Per Cent
	Public Speaking Ability	
1	Above average	30.7
2	Average	46.1
3	Below average	15.3
4	Lowest 10 percent	7.6
	Mean	2.0
	Self-Confidence (Intellectual)	
1	Above average	66.6
2	Average	29.1
3	Below average	4.1
	Mean	1.3
	Self-Confidence (Social)	
1	Above average	57.6
2	Average	38.4
3	Below average	3.8
	Mean	1.4
	Sensitivity to Criticism	
1	Above average	33.3
2	Average	55.5
3	Below average	3.7
4	Lowest 10 percent	7.4
	Mean	1.8
	Stubbornness	
1	Above average	23.0
2	Average	46.1
3	Below average	19.2
4	Lowest 10 percent	11.5
	Mean	2.1
	Understanding of Others	
1	Above average	66.6
2	Average	33.3
	Mean	1.3
	Writing Ability	
1	Above average	26.9
2	Average	57.6
3	Below average	11.5
4	Lowest 10 percent	3.8
	Mean	1.9

## Past Experiences

Value	Questions	Per Cent
<u>General list of things students sometimes do. Indicate ones you did in past years.</u>		
	Demonstrated for a change in racial or ethnic policy	
1	Frequently	33.3
2	Occasionally	66.6
	Mean	1.6
	Demonstrated for a change in some military policy	
1	Frequently	10.7
2	Occasionally	89.2
	Mean	1.8
	Demonstrated for a change in some administrative policy	
1	Frequently	35.7
2	Occasionally	64.2
	Mean	1.6
	Asked a teacher for advice after class	
1	Frequently	86.6
2	Occasionally	13.3
	Mean	1.1
	Had vocational counseling	
1	Frequently	52.0
2	Occasionally	48.0
	Mean	1.4

## Beliefs

A.	Question	Per Cent
	The Federal government is not doing enough to control environmental pollution.	
	1. Agree somewhat	61.5
	2. Disagree somewhat	30.7
	3. Disagree strongly	7.6
	Mean	1.4
	The Federal government is not doing enough to protect the consumer from faulty goods and services.	
	1. Agree somewhat	88.2
	2. Disagree somewhat	5.8
	3. Disagree strongly	5.8
	Mean	1.1
	The Federal government is not doing enough to promote school desegregation.	
	1. Agree somewhat	43.7
	2. Disagree somewhat	31.2
	3. Disagree strongly	25.0
	Mean	1.8
	There is too much concern in the courts for the rights of criminals.	
	1. Agree somewhat	25.0
	2. Disagree somewhat	37.5
	3. Disagree strongly	37.5
	Mean	2.1
	The death penalty should be abolished	
	1. Agree somewhat	35.7
	2. Disagree somewhat	42.8
	3. Disagree strongly	21.4
	Mean	1.8
	The activities of married women are best confined to the home and family	
	1. Agree somewhat	15.0
	2. Disagree somewhat	50.0
	3. Disagree strongly	35.0
	Mean	2.2

## Beliefs--continued

A.	Question	Per Cent
	The "generation gap" between me and my parents is so great that we can barely communicate.	
	1. Agree somewhat	20.0
	2. Disagree somewhat	24.0
	3. Disagree strongly	56.0
	Mean	2.3
	Marijuana should be legalized.	
	1. Agree somewhat	41.6
	2. Disagree somewhat	25.0
	3. Disagree strongly	33.3
	Mean	1.9
	Parents should be discouraged from having large families.	
	1. Agree somewhat	19.0
	2. Disagree somewhat	19.0
	3. Disagree strongly	61.9
	Mean	2.4
	Women should receive the same salary and opportunities for advancement as men in comparable positions.	
	1. Agree somewhat	75.0
	2. Disagree somewhat	25.0
	Mean	1.2
	Everybody should be given an opportunity to go to college regardless of past performance or aptitude test scores.	
	1. Agree somewhat	63.6
	2. Disagree somewhat	27.2
	3. Disagree strongly	9.0
	Mean	1.4
	Realistically, an individual person can do little to bring about changes in our society.	
	1. Agree somewhat	45.8
	2. Disagree somewhat	29.1
	3. Disagree strongly	25.0
	Mean	1.7

## Beliefs--continued

B.	Question	Per Cent
	College officials have the right to regulate student behavior off campus.	
	1. Agree somewhat	15.3
	2. Disagree somewhat	11.5
	3. Disagree strongly	73.0
	Mean	2.5
	The chief benefit of a college education is that it increases one's earning power.	
	1. Agree somewhat	47.6
	2. Disagree somewhat	38.0
	3. Disagree strongly	14.2
	Mean	1.6
	Faculty promotions should be based in part on student evaluations.	
	1. Agree somewhat	65.0
	2. Disagree somewhat	30.0
	3. Disagree strongly	5.0
	Mean	1.4
	College grades should be abolished.	
	1. Agree somewhat	31.5
	2. Disagree somewhat	63.1
	3. Disagree strongly	5.2
	Mean	1.7
	Colleges would be improved if organized sports were de-emphasized.	
	1. Agree somewhat	16.6
	2. Disagree somewhat	50.0
	3. Disagree strongly	33.3
	Mean	2.1
	Student publications should be cleared by college officials.	
	1. Agree somewhat	9.5
	2. Disagree somewhat	57.1
	3. Disagree strongly	33.3
	Mean	2.2
	College officials have the right to ban persons with extreme views from speaking on campus.	
	1. Agree somewhat	4.1
	2. Disagree somewhat	25.0
	3. Disagree strongly	70.8
	Mean	2.6

## Beliefs--continued

B.	Question	Per Cent
	Students from disadvantaged social backgrounds should be given preferential treatment in college admissions.	
	1. Agree somewhat	61.1
	2. Disagree somewhat	22.2
	3. Disagree strongly	16.6
	Mean	1.5
	Most college officials have been too lax in dealing with student protests on campus.	
	1. Agree somewhat	12.0
	2. Disagree somewhat	64.0
	3. Disagree strongly	24.0
	Mean	2.1
	Open admissions (admitting anyone who applies) should be adopted by all publicly supported colleges.	
	1. Agree somewhat	30.0
	2. Disagree somewhat	45.0
	3. Disagree strongly	25.0
	Mean	1.9
	Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students.	
	1. Agree somewhat	35.7
	2. Disagree somewhat	50.0
	3. Disagree strongly	14.2
	Mean	1.7



## Expectations

Question	Per Cent
<u>What is your best guess as to the chances that you will:</u>	
Change major field?	
1. Some chance	47.6
2. Very little chance	42.8
3. No chance	9.5
Mean	1.6
Change career choice?	
1. Some chance	51.8
2. Very little chance	33.3
3. No chance	14.8
Mean	1.6
Fail one or more courses?	
1. Some chance	18.5
2. Very little chance	66.6
3. No chance	14.5
Mean	1.9
Need extra time to complete your degree requirements?	
1. Some chance	50.0
2. Very little chance	42.3
3. No chance	7.6
Mean	1.5
Seek vocational counseling?	
1. Some chance	64.7
2. Very little chance	17.6
3. No chance	17.6
Mean	1.5
Seek individual counseling on personal problems?	
1. Some chance	38.0
2. Very little chance	47.6
3. No chance	14.2
Mean	1.7
Get tutoring help in specific courses?	
1. Some chance	80.9
2. Very little chance	14.2
3. No chance	4.7
Mean	1.2

## Expectations--continued

Question	Per Cent
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Be more successful after graduation  
than most students attending this  
college?

1. Some chance	80.9
2. Very little chance	9.5
3. No chance	9.5
Mean	1.2

Drop out of this college temporarily  
(exclude transferring)?

1. Some chance	3.5
2. Very little chance	50.0
3. No chance	46.4
Mean	2.4

Be satisfied with your college?

1. Some chance	92.8
2. Very little chance	7.1
Mean	1.0

APPENDIX B

INSTRUMENT

## COLLEGE SURVEY TESTS

On each of the following items, answer (A) if you agree; answer (B) if you are not sure; and answer (C) if you disagree.

1. People who accept their condition in life are happier than those who try to change things.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
2. Good luck is more important than hard work for success.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
3. People like me don't have a very good chance to be successful in life.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
4. Every time I try to get ahead, something stops me.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
5. If a person is not successful in life, it is his own fault.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
6. Even with a good education, I will have a hard time getting the right kind of job.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
7. I would make any sacrifice to get ahead in the world.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
8. If I could change, I would be someone different from myself.  
(A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_

9. I sometimes feel that I just can't learn.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
10. I would do better in school work if teachers didn't go so fast.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
11. The tougher the job, the harder I work.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
12. I am able to do many things well.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
13. How bright do you think you are in comparison with the other students in your classes this year?
- (A) Among the brightest \_\_\_\_\_  
(B) Above average \_\_\_\_\_  
(C) Average \_\_\_\_\_  
(D) Below average \_\_\_\_\_  
(E) Among the lowest \_\_\_\_\_
14. People like me will never do well in school even though we try hard.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
15. I can do well in school if I work hard.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_
16. You have to be lucky to get good grades in this school.
- (A) Agree \_\_\_\_\_  
(B) Not sure \_\_\_\_\_  
(C) Disagree \_\_\_\_\_

## APPENDIX C

### MULTIVARIATE ANALYSIS OF VARIANCE AND COVARIANCE

## A Generalized Univariate and Multivariate Analysis of Variance, Covariance, and Regression Program<sup>1</sup>

This and the following chapters describe a computer program which is now in operation at the State University of New York at Buffalo, and elsewhere, which will perform much of the multivariate analysis reported in preceding sections. Multivariate will perform univariate and multivariate linear estimation and tests of hypotheses for any crossed and/or nested design, with or without concomitant variables. The number of observations in the subclasses may be equal, proportional, or disproportionate. The latter includes the extreme case of unequal group sizes involving null subclasses, such as might arise in the application of incomplete experimental designs.

The program performs an exact least-squares analysis by the method described by Bock (1963). It is logically divided into three phases: input, estimation, and what has been termed "analysis." The input phase allows for six

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<sup>1</sup>This chapter is a modified version of a paper by the same name presented at the annual meeting of SHARE (XXX), Houston, Texas, February 29, 1968.

The version of Multivariate presented in this manual was written and tested with the cooperation of the Computing Center of the State University of New York at Buffalo. The Center is partially supported by NIH Grant FR-00126 and NSF Grant GP-7318. Assistance with the programming of this version was provided by Mr. Fred Hockersmith. Several of the matrix subroutines were adopted and/or revised from those produced by the IBM Corporation (1966), and from Bock and Peterson (1967). The chi-square and F probability routines were written by Mr. Richard J. Sherin and appear in Clyde, Cramer, and Sherin (1966). Computations for the age x sex repeated measures design were performed by Mr. Roger Koehler.

possible forms of data, four controlled by variable format cards. The data may be punched as:

1. Raw unsorted data, each observation with its own cell identification information.
2. Raw data, sorted by cells, each cell with its own header card.
3. Raw data, no header cards, in order by cells.
- 4,5. Raw data to be read from an independently prepared binary tape.
6. Means, variance-covariance matrix, and cell frequencies.

The last option allows for reanalysis of data which may have been presented only in summary form, such as might be found in a text or journal article. The subclass frequencies may be highly unequal, and within the limits of the computer are not restricted in magnitude. No account need be made of null groups; the program will automatically detect them. Options are available for reading the data from nonsystem binary or BCD input devices.

A variety of common data transformations is provided. In addition, the program will accept a matrix transformation which can be used to obtain linear combinations of the original variates. The transformation matrix may itself be automatically generated, for the analysis of repeated measures designs. A program option allows for the orthonormalization of the transformation matrix. After transformations,



the observed means and standard deviations for each subclass are displayed.

The estimation and analysis phases are based entirely on the specification of single-degree-of-freedom planned contrasts. Rather than placing artificial restrictions on the sums of the group effects, Multivariate provides a solution for the model of deficient rank by having the user determine linear combinations of the group membership effects which are of interest to him. Five common sets of between-group contrasts are available, including orthogonal polynomials. Others include the comparison of all experimental groups to a control, comparing each subgroup to the mean of the subgroups, and Helmert contrasts. In addition, the program will accept arbitrary contrast matrices constructed by the user, for problems for which contrasts other than the five provided are of interest. The designation of the effects is through the use of coded "symbolic contrast vectors" which are described in the following sections.

The estimation phase of the program will estimate the magnitude of the effects and their standard errors. In addition, subclass means and residuals may be estimated, based upon the fitting of a model of user-determined rank. The observed and estimated subclass means may be combined across subclasses as desired. Means may be estimated for null subclasses when this is appropriate. The error sum of squares and cross products are estimated, and are adjusted to yield the variances and correlations of the variates.

This estimate of the population sum-of-squares and cross-products may be either the within-group term, the residual sum-of-products after fitting a given model to the data, or special effects which are user-determined. This feature allows for the analysis of any fixed, random, or mixed effects design. Only one of the possible error terms may be employed in any given run however, so that multiple runs are necessary for testing all effects in a model where more than one error term is needed.

The analysis phase may be repeated any number of times. It allows the user to select subsets of variables and covariates from his original input set and to perform the appropriate analyses. Designating more than one variable as a criterion measure will cause the program to consider them simultaneously and to apply appropriate multivariate test criteria. If some of the variables selected are designated as covariates, the program will perform a regression analysis prior to the analysis of covariance to determine the relationship between them and the dependent measures. The regression coefficients in raw and standardized form and their standard errors are estimated. If between-group contrasts, cell means, and residuals have been estimated, they will be adjusted for covariates and re-estimated. The partial correlations among the dependent measures, the adjusted variances and standard deviations, are calculated and displayed.

Tests of hypotheses concerning relationships between the two sets of variables are provided in three forms. The first of these is a univariate and step-down multiple correlation analysis, to determine the relationship between the independent variables and the individual dependent measures. Second, a stepwise univariate and multivariate multiple regression analysis is performed to determine the effects of the individual independent variables (or sets of independent variables; i.e. predictors may be entered into the regression equations singly or in groups). In all cases, the order of both sets of variables is determined by the user prior to the computer run. A third regression option is the calculation of the canonical correlations, the corresponding raw and standardized weights, the percent of variation in the dependent measures accounted for by each of the correlations, and finally tests of significance of them. This is the extent of the regression portion of the Multivariate program. The program may be used to perform specific individual analyses. These include the simpler univariate analysis, the estimation of between-group effects, multivariate regression analysis, or just canonical correlation analysis by itself.

If subjects have been grouped in a sampling design, the program will proceed with the appropriate orthogonal or exact nonorthogonal analysis of variance (or covariance, if covariates had been indicated). The contrasts established earlier are grouped for tests of hypotheses according to the

user's desires. For each contrast or each factor in the model, the program will perform univariate and/or multivariate tests of significance, and the step-down analysis. This latter feature is of particular value for the analysis of repeated measures designs.

If the user desires, a discriminant analysis may be performed for each contrast or set of contrasts. The variance of the discriminant function and the percentage of between-group variation attributable to it are computed by the program. In addition, the raw and standardized discriminant function weights are calculated, and the three tests of significance due to Roy, Hotelling, and Bartlett are carried out.

Finally, if the program is being employed to analyze a nonorthogonal design, the user may wish to reorder the between-group effects for subsequent hypothesis testing. Again the order must be determined by the user on an a priori basis. The program will easily allow for this reordering. An additional feature is of value for the analysis of incomplete designs. It often happens that in a complex design, or even simple designs which are based on survey data, a number of subgroups have no observations. It is therefore necessary when choosing a set of contrasts to be certain that they are estimable. The inestimable terms are frequently interactions and often difficult to locate by inspection. The current version of the Multivariate program includes the identification and location

of such terms so that they may be removed from the model by the user. An annotated list of the output available from Multivariance follows the user's manual.

The main program and all of its subroutines are coded in Fortran IV. Double precision is employed wherever accuracy may become a concern. Versions of the program will readily work on most 32K-word computers and larger. Instructions for adapting the program to a new system follow this manual. The programming technique which was used is somewhat unique. All labels, data, data matrices, intermediate, and final results are stored within a single singly-subscripted long vector within the program. Within this vector, all data are packed. That is, there are no unused core locations between the rows or columns of the matrices of a particular problem-run. In addition, there are no unused locations between matrices. This necessitates that the address of every matrix and of its elements be variable and adjusted to the particular problem. Only the nonzero portions of triangular matrices and half of symmetric matrices are kept in storage. Both are stored in packed form by rows (i.e.  $a_{11}$ ,  $a_{21}$ ,  $a_{22}$ ,  $a_{31}$ ,  $a_{32}$ ,  $a_{33}$ ,  $a_{41}$ , etc.). Only the principle elements of diagonal matrices are used, and are stored in vector form (i.e.  $a_{11}$ ,  $a_{22}$ , . . . ,  $a_{nn}$ ). Matrix operations on large matrices, such as the orthonormalization of a potentially very large basis, are segmented to that only portions of the matrix reside in core at any

one time. Elements corresponding to null subclasses are eliminated whenever possible.

The result of this "controlled storage mode" is that Multivariance has the flexibility to handle a variety of different sized problems. In each case, the amount of core needed is a function of the particular job. With all other parameters minimal (e.g. with 1 dependent variable), the program will accept problems of about 1000 subgroups of subjects, or, of about 100 dependent variables and covariates combined in a problem with very few subgroups (e.g. 1 or 2 groups, or in a regression analysis), with a 32K machine. A typical large problem would be about 100 cells and 20 variables. Multivariance is programmed in sections (not links) so that portions of it may be easily removed from core, allowing more space for the data vector, and thus for larger problems. There are no checks built into the program for exceeding the available storage memory. Guidelines for determining capacity are provided however, following the user's manual. In addition a list of removable sections and the options they contain is provided.

This version of Multivariance has incorporated within it a set of about 50 checks for errors that may be made in attempting to use the program. The user is referred to an appropriate point in this manual, which describes the source of the error. The program has been tested on a large number of problems. Yet, "bugs" are inevitable. The author would greatly appreciate being notified of any error that is discovered.

## APPENDIX D

### RAW DATA FOR THE TREATMENT GROUP SUBJECTS

# RAW DATA FOR THE TREATMENT GROUP SUBJECTS

## Systemic Group

Student	Sex of Client	Number of Interviews	Sex of Counselor
1	Female	6	Male
2	Female	5	Female
3	Male	4	Male
4	Male	4	Female
5	Male	4	Male
6	Female	6	Female
7	Female	4	Male
8	Male	8	Female
9	Female	4	Male
10	Female	5	Female
11	Female	9	Male
12	Male	4	Female
13	Male	4	Male
14	Female	6	Female
15	Male	4	Male
16	Male	5	Female
17	Male	8	Male
18	Female	4	Female
19	Male	4	Male
20	Female	9	Female
21	Female	4	Male
22	Male	6	Female
23	Female	6	Male
24	Male	4	Female
25	Male	5	Male
26	Female	5	Female
27	Male	4	Male
28	Female	4	Female
29	Female	7	Male
30 <sup>a</sup>	Male	2	Female
31	Female	9	Male
32	Male	6	Female
	Mean	5.50	

<sup>a</sup>Withdrew



## Traditional Group

Student	Sex of Client	Number of Interviews	Sex of Counselor
34	Female	4	Male
34	Female	9	Female
35	Male	6	Male
36	Male	5	Female
37	Male	4	Male
38	Female	7	Female
39	Female	4	Male
40	Female	5	Female
41	Female	6	Male
42	Female	4	Female
43	Female	8	Male
44 <sup>a</sup>	Male	1	Female
45	Male	4	Male
46	Female	6	Female
47	Male	4	Male
48	Male	5	Female
49	Male	7	Male
50	Female	4	Female
51	Male	6	Male
52	Female	5	Female
53	Female	9	Male
54	Male	5	Female
55	Female	3	Male
56	Male	6	Female
57	Male	3	Male
58	Female	4	Female
59	Male	3	Male
60	Female	4	Female
61	Female	8	Male
62	Male	6	Female
63	Female	9	Male
64	Male	4	Female
Mean		5.25	

<sup>a</sup> Withdrew

APPENDIX E

MEAN GRADE POINT AVERAGES AND MEAN CREDITS  
EARNED WINTER AND SPRING TERMS

Cell means--cumulative grade point average and cumulative credits earned winter and spring terms.

	M	F	M	F	M	F	M	F
Sys-temic Cum. GPA	1.76	1.97	1.91	2.46	1.89	2.51	1.81	1.96
Sys-temic Cum. Cr.	23.00	20.00	20.75	25.25	24.25	30.25	17.75	17.75
Tradi-tional Cum. GPA	1.96	1.58	1.92	1.97	2.19	1.81	1.78	2.18
Tradi-tional Cum. Cr.	22.25	15.25	23.75	23.00	32.25	20.00	16.50	22.25

Cell means--cumulative grade point average winter and spring terms.

	Males	Females	
Systemic Treatment	1.89	2.15	Cum. GPA
Traditional Treatment	1.96	1.88	Cum. GPA

Code: Cum. GPA = Cumulative grade point average winter and spring terms.  
 Cum. Cr. = Cumulative credits earned winter and spring terms.

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