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DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

by

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The Ohio State University
1963

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INTRODUCTION

Those of us living today will, in history, have been witnesses to the explosion of problems so serious as to drastically alter the course of our society if not tear it apart altogether. It is perhaps a tribute to the effectiveness of our repression as a people that until recently we were not even aware of the extent and depth of these problems. But now we have been forced, almost in spite of ourselves, by the turmoil of the past decade to confront the pressing social problems of our day and, in the process, to confront ourselves.

The time is past for the scientist, and especially the social scientist, to divorce himself from social problems in the name of some "higher" calling, rationalizing that the solution to such problems is the province of politicians anyway. The time has come for each person to be genuinely concerned and to lend his talents in some way to dealing with our social problems. Otherwise, sooner than he would like to believe, the society which he relies on so complacently may not be there to give him support. There is no question as to whether our society is going to change as a result of our pressing social problems; the last five years have
demonstrated that. The question now is: What roles are people, including social scientists, going to play in that change?

There are, of course, many problems in our society today, but one of the most urgent of these is poverty. Although this problem has existed for a long time, only recently has the country given it recognition. Now the focus is on doing something about poverty. Across the nation, programs, designed to help the poor man improve his lot in life, are in operation. While the need for interventions can only be emphasized, the question which immediately arises and must be given attention is the relative effectiveness of different types of intervention.

This question points up the necessity and the importance of research in the area of poverty if we are to systematize our knowledge and devise efficient and effective interventions to deal with the problem. Research in this area appears particularly relevant for the social scientist both in terms of his training and in terms of what he has to contribute to progressive change in our society.

Whatever his particular research interest, the investigator who works in this area will find himself faced again and again with contrasting views of poverty.

**Contrasting Views of Poverty**

The problem of poverty may be viewed as related primarily to characteristics of the individual, or alternatively,
as related primarily to characteristics of the environment. Thus, regardless of what has given rise to the widespread poverty in our society, it is possible to view its continued existence as primarily a function of either individual or environmental variables. For example, one can point to the lack of relevant skills in poor people resulting in inability to fulfill the demands of technical jobs and hold that this is responsible for maintaining their poverty. Or, one may point to the presence of attitudes of defeatism and helplessness resulting in a refusal to attempt to better one's situation as a primary component in maintaining poverty.

On the other hand, one can with equal ease relate poverty to environmental variables. Thus, one can point to the lack of appropriate job opportunities for poor people which results in the continued high unemployment rate. One can look at the discrimination in housing and services and relate this to an increase in slum conditions. One can point to the inequality of educational facilities and show the high correlation between this environmental variable and poor scholastic performance.

As in understanding poverty one can choose to relate its continued existence either primarily to individual variables or primarily to environmental variables, so in attempting to deal with the problem of poverty one can choose to design interventions which focus primarily on individual variables or primarily on environmental variables. For
example, one can intervene with job training programs or with various educational projects. The goal of such programs and projects would seem to be to increase the individual's assets and to remove barriers within him which prevent him from achieving at a level other than that of poverty.

In contrast with such interventions on primarily individual variables are interventions such as legislation and creation of jobs. Those interventions do not seek to change the individual directly but focus rather on changing conditions in his environment, conditions which presumably are partly responsible for his continued poverty. Thus, legislation against discrimination in housing, education, and employment has sought to break the constricting effect of discriminatory policies and to open up opportunities for the poor man to advance himself economically. By increasing the number of jobs available an intervention seeks to increase the number of opportunities in the area of employment, an area which many people feel is crucial with respect to poverty.

Although it might seem obvious that interventions geared primarily to increase the individual's assets ought to take certain environmental variables into consideration, this is not always done in practice. The result is that the effectiveness of interventions dealing with poverty is greatly curtailed. Thus, a job training program designed to teach young people specific job skills is of limited value if there are very few such jobs open to them either because they do
not exist or because of discriminatory hiring practices. By
the same token, it does little good to increase the number
of jobs available (intervention along environmental variable)
if nothing is done to help people become qualified for those
jobs.

Difficulty of Poverty Study in
the Community

Granted that it makes sense to consider both individual
and environmental variables in dealing with poverty, the
issue can still be raised as to the relative effectiveness
of interventions focusing primarily on individual variables
and interventions focusing primarily on environmental vari-
ables, assuming that one can agree on a particular definition
of poverty (for example, certain level of income) and goals
to be attained through the intervention (for example,
increasing family's financial status).

It bears repeating that this type of research question
is particularly pertinent for those interested in devising
interventions to deal with poverty.

Though the need for studies addressed to this question
is pressing, and though such studies hold promise of both
practical and theoretical value, the difficulty of conducting
them is formidable. The place to do such a study would
logically seem to be the community since that is where poverty
exists and that is where changes must occur if interventions
are going to deal effectively with poverty. Once having said
that, however, the problems one must face are enormous and varied: problems of roles and degree of involvement on the part of the investigator; problems of communication not only with people in the community but also with people in the power structure; problems of devising interventions which can be carried out within the existing structure of the community at large yet which seek to change that structure; and the massive logistical problems of collecting data. All of these types of problems are spelled with a capital "P" when one considers a study of poverty in the community. To cope with these problems successfully and to design and carry through a study of poverty in the community would require vast resources, energy, and expertise of a scope far beyond those of a single individual.

Alternatives to Study of Poverty

In the absence of such resources, energy, and expertise, one is faced with a number of alternatives. One of these is to abandon the idea of such a study entirely. One could maintain that in order for a study comparing different methods of intervention to have significant relevance for the problem of poverty it would have to be conducted in the community with poor people; and, undoubtedly, there are certain merits to this position. On the other hand, if this is not feasible and the investigator still considers the problem important enough to research, he will try to look for alternatives other than abandoning the idea altogether.
A second alternative would be a laboratory study. It would be possible, for example, to devise a laboratory problem whose solution could be approached through individual variables or through environmental variables. Thus, two comparable unstructured groups might be given the task of arriving at a consensus for rank ordering a number of items in terms of their importance for survival in outer space. A time limit for the task could be set at forty minutes and broken down in this way: During the first fifteen minutes each group would try to reach a consensus. Next, one group would take ten minutes in which to work out the interpersonal conflicts which have probably arisen. Then they would return for fifteen minutes to the task of reaching a consensus. The second group would follow the same procedure but with this difference. During the ten minute break this group would not discuss their feeling conflicts but rather would have access to resource people whom they would use anyway they pleased. This latter intervention would be considered along environmental variables in that it presents more resources or opportunities outside the individual for dealing with the problem at hand. In contrast, the first type of intervention focuses on processes inside the individual to the relative exclusion of environmental variables. In terms of outcome criterion, one could compare the two groups on time consumed in completing the task and on accuracy of rankings.

Such a laboratory study could apply tight controls to the systematic comparison of two methods of intervention.
designed to deal with the same problem. A major disadvantage, however, would probably occur in generalizing from such a study to the area of social problems such as poverty. The laboratory situation poses a problem which is very temporary and which is presented to the group from someone outside the group. On both of these points it is vastly different from the problem of poverty which is more permanent and which is intimately tied to conditions within the group. While a laboratory study, therefore, would allow for greater experimental control, its generalizability might be greatly hampered because of the difference between a problem posed in the laboratory and a real-life problem such as poverty.

Yet another alternative, the one chosen in the present study, is to find a problem and situation other than poverty which is similar on what one assumes are crucial dimensions and which, at the same time, is more manageable in terms of conducting the desired investigation. Underachievement of college students on academic probation might be considered such a problem.

At first glance the similarity between this problem, population, and situation to that of poverty may seem far-fetched, but they have at least the following important characteristics in common. First, both poverty and underachievement are real-life problems whose resolution or non-resolution have important implications for the individual's life. The poor man's problems usually last over a long period of time; while of shorter duration, the problem of
academic probation faced by the underachieving college student may last several months. The steps taken presently to deal with the problems of poverty or academic probation will decide to some extent whether or not the concerned individuals improve their lot in life.

A second similarity between poverty and academic probation is that they both can be considered behavioral problems insofar as the individual's performance in both instances falls below some minimally accepted standard. Thus, the college student on academic probation must achieve a grade point average above a certain standard or face expulsion from school. In like manner the poor person must achieve a certain level of income, for example, in order to feed, clothe, and house his family or face continued poverty, which, in effect, is an exclusion from the "good life" of our society.

A third similarity between students on academic probation and poor in the community has to do with their environment. The university is, in many ways, a microcosm of the larger community in which the poor live. It has its laws and regulations to which the student must adhere. It has its bureaucratic structures which make services more difficult to reach and use. The large university tends to make the student feel helpless as an individual to achieve changes in the system, a situation similar to the poor man's attitude about changing the political and economic systems which so control his life.
A fourth similarity stems from the possibility of viewing academic probation as related primarily to variables in the individual or primarily to variables in the environment, alternatives earlier mentioned with respect to poverty. Thus, one can maintain that academic probation is primarily a function of the size and impersonal nature of the university (environmental variables) or primarily a function of deficiency in ability, basic skills, or emotional problems (individual variables).

Finally, a fifth similarity between academic probation and poverty has to do with intervention. In both cases, intervention may focus primarily on environmental variables or primarily on individual variables. Examples of such interventions were given earlier in relation to poverty. With respect to academic probation, for example, it is possible to intervene by teaching the student basic skills (individual variable) or by reducing the size of classes (environmental variable), by focusing on emotional problems (individual variable) or by focusing on resources available in the university (environmental variable).

Despite these similarities, there are obviously important differences between the situation of academic probation in the university and that of poverty in the community. By the very fact that he is in college the student has certain assets of education which the poor man often lacks. He also has greater financial resources
available to him and more opportunities for achieving a satisfactory standard of living.

Without minimizing these differences it is suggested here that the similarities between academic probation and poverty make these situations somewhat comparable for the research purpose of comparing the effectiveness of different methods of intervention. These similarities were the basis for choosing the alternative of a study with college students on academic probation as opposed to a laboratory study.

Having decided upon this alternative, the problem then became one of designing a study to compare the effectiveness of different interventions with students on academic probation, interventions which would focus primarily either on individual variables or on environmental variables. An attempt was made to design two methods of intervention which would reflect two different models of behavioral change: an individual model and an individual-environment interaction model. A brief description of these models follows.

Models of Behavioral Problems and Change

The individual model has a long history in psychology. Reflecting the early theories and findings of Freud, this model holds that behavioral problems are produced and maintained by underlying emotional conflicts. Applying this to the student on academic probation, one would hold that some emotional problem is responsible for his poor performance.
The existence of emotional conflicts in the individual means that an unusual amount of psychic energy is concentrated on his maintaining control of those conflicts. This results in less energy being available to the individual to carry on more reality-oriented tasks such as effective studying. The reason for this is that the individual has a more or less fixed amount of psychic energy available for handling his psychological processes. Concentrating an unusual amount of this energy in one area is achieved usually at the expense of draining energy from another area. With less energy invested in achieving scholastically the student’s academic performance suffers and he does not work up to his potential.

Perhaps the key element in this model is the necessary connection between behavioral problems and underlying emotional conflicts. A behavioral problem always reflects an underlying emotional problem, and in order to deal effectively with the behavioral problem one must try to remedy the emotional problem. To deal with the behavioral problem apart from the emotional one will be less effective since it is the emotional problem which gives rise to and maintains the behavior (problem) in question.

Consistent with this model of behavioral problems and change, an effective intervention with students on academic probation would focus on resolving the emotional problems which are presumably responsible for their poor scholastic performance.
While this individual model has enjoyed a relatively long and popular history in psychology, the rise of individual-environment interaction models has been of more recent origin. This rise was influenced by a number of newer theoretical conceptualizations of human behavior which, while differing from each other along many specific dimensions, attributed in common a greater influence to environmental variables than did the older individual model outlined above. Thus, Sullivan's (1953) definition of psychological problems in terms of interpersonal relations and Horney's (1937) and Fromm's (1955) emphasis on the relationship between psychological problems and conditions in one's culture may be considered basic changes in psychoanalytic theory. These changes were in the direction of increased concern with the role of environmental variables in psychological disturbance.

On the other hand, Hartmann's (1964) theoretical contributions may be viewed as developments rather than basic changes in orthodox analytic theory along lines which did not receive Freud's concentrated effort because of the constraints of time and the theoretical primacy of exploring unconscious processes. Those lines, however, were toward investigating the roles in the individual's adaptation of his conflict-free psychological processes and the specific environment in which he found himself. Thus, for Hartmann, difficulties in coping with one's environment could be related not only to processes within the individual but also to characteristics of the environment.
While the above trends toward greater consideration of environmental variables occurred within the framework of psychoanalytic theory, other trends in the same direction came from field theory and from learning theory. Thus, Lewin (1935, 1936) applied topological concepts to behavior and produced a theory which was noted for its attempt to relate behavior not merely to inner needs but also to the total situation as perceived and organized by the individual (Leeper, 1943).

From learning theory came the behavior therapy movement. This approach sought to treat behavioral problems by focusing on manipulation and control of environmental variables to the relative exclusion of dealing directly with the individual's feelings (Krasner and Ullman, 1955). This procedure is in marked contrast to that derived from the individual model which maintained that behavioral problems were treated by resolving underlying emotional conflicts.

Whereas the contributions of the neo-analysts (Sullivan, Horney, and Fromm) and ego psychologists were primarily directed toward a broader understanding of behavior in terms of the environment, the success of behavior therapy has pointed up the usefulness of intervening to change behavior along environmental variables.

These theoretical trends, taken as a whole, along with a host of research geared toward demonstrating the influence of environmental variables on behavior in such diverse areas
as psychopathology (Bowen, 1960; Jackson, 1963; Lidz, 1953; Wynne et al., 1958), everyday living (Barker and Gump, 1964) and architecture (University of Michigan Architectural Research Laboratory, 1955) were both expressions of and forces for a movement away from strictly individual models of behavior and toward individual-environment interaction models.

In the present study one such interaction model was used as a conceptual base for an intervention with students on academic probation which would contrast with an intervention derived from the individual model outlined earlier.

This particular interaction model assumes that there are seven variables of crucial importance in the interaction of an individual with his environment. Four of these variables, goals, assets, liabilities, and motivation, are primarily related to the individual. The other three variables, demands, restrictions, and opportunities, are primarily related to the environment. The existence of a behavior problem can be related to one or more of these variables depending on the individual case. Thus, with academic probation, for example, in one case the student's poor performance may be related primarily to his goals and motivation. Perhaps he does not want a college education but is in school to avoid the draft. Although he may have the ability (an asset) to do college work at a satisfactory level, he is not willing to put much effort into it (low motivation) and thus he may stay on probation or flunk out.
of school. On the other hand, another student's poor performance may be related primarily to his liabilities. His intellectual functioning may be below average, and thus he may be unable to meet the demands of the university. He, too, will likely remain on probation or have to drop out of school.

It is also possible that in a given case the individual's poor academic performance may be related to the demands and restrictions of the university. The student may feel that these interfere with his particular goals in education. Perhaps he would like to read extensively in a subject area, then have a discussion with his teacher; but the teacher may demand term papers which the student feels are a waste of time. He may also find the university's demand that he attend auditorium-size classes not to his liking. In that case he may skip them, miss the necessary material for his tests, and find himself on academic probation. On the other hand, if his goal of college education is very important and he is willing to endure frustration, he may attend the lectures anyway and do sufficiently well to avoid probation.

Just as one can relate a particular behavioral problem such as academic probation primarily to one or more of the individual or environmental variables in this model, so in seeking to deal with the problem of probation one can intervene along one or more of these variables. This is in marked contrast to the individual model which specifies
exactly where one should intervene, namely, on the emotional conflict level. In the interaction model, however, where and how one intervenes will be a function of which variables seem most promising for bringing about change and the resources one has at his disposal for designing and carrying through interventions.

With students on academic probation, therefore, it would be consistent with the interaction model to intervene by having students reassess their goals in school, by increasing their assets, by reducing their liabilities, or by attempting to motivate them to put more effort into improving their performance. Many different methods might be tried, but they would be focusing primarily on individual variables. By the same token, it would be consistent with the interaction model to intervene along environmental variables by changing the demands and/or restrictions of the university as they relate to academic probation or by increasing the opportunities available to students to get off probation.

In the present study it was decided for comparison purposes to design one intervention along an environmental variable since the other intervention, reflecting the individual model, would be along an individual variable. The issue, then, became one of deciding which environmental variable would be most appropriate. Intervening along the variables of demands and restrictions of the university was not possible since the investigator did not have the power
to change the existing demands and restrictions. That left the variable of opportunities.

This variable of opportunities seemed to offer a promising point of intervention. In a large university one might expect to find various resources and services (opportunities) available to students to help them deal with problems that arise during their stay in college. Since academic probation is a common problem, surely there would be resources on campus designed to help students improve their academic performance. Furthermore, these resources would probably be geared toward a wide range of problems which might possibly be involved in the student's poor performance and which, therefore, might be stumbling blocks to his getting off probation. Thus, there should be psychological services available for students whose poor academic performance was related to emotional problems, financial assistance available to students whose long working hours might be interfering with their studies, and remedial skills services available to students whose poor academic performance was a result of deficiency in basic study skills.

A quick canvass of the university indicated that such services did indeed exist. However, the question still remained as to whether students were aware of, or using, these opportunities to deal with their academic probation. An intervention focusing on these opportunities seemed to be appropriate to the problem at hand and, in addition, to reflect the interaction model outlined above.
Methods of Intervention

The specific method of intervention designed to reflect the interaction model of behavior change, was geared toward getting students in touch with and using opportunities available to them in their immediate environment. An effort would be made to have students contact resources available on campus, learn what these resources had to offer as well as what drawbacks they might have, and then come together in a group to exchange and discuss this information.

The second method of intervention, designed to reflect the individual model of behavior change, was geared toward having students focus on their emotional problems. After being instructed to think about any problems they might have in relation to their academic probation, students receiving this intervention would come together in a group for a discussion of these problems.

How these methods of intervention would compare for effectiveness in improving academic performance became the central question in the present study. The superiority of the intervention focusing on opportunities was predicted on the basis of a fundamental theoretical assumption and its practical implications.

The basic theoretical assumption of the investigator was that students could be on academic probation for any number of reasons: emotional problems, poor study skills, financial need. To intervene by focusing only on emotional
problems might be appropriate for some students, but for others it might not be relevant to their particular problems. The practical implication of this basic assumption, therefore, would seem to be to make one's interventions as relevant as possible to the problems of the particular students with whom one is dealing. By getting in touch with available resources students could readily discover those most relevant for their problems, then use them as much as necessary. With more members receiving help for their particular difficulties and assuming the help to be beneficial, the performance of these students as a group might be expected to surpass that of a group receiving help which is appropriate for only some of its student members.

Previous Work in this Area

Specific hypotheses relating to this expectation will be stated later. At this point it would seem most appropriate to review literature pertinent to the problem of intervening with students on academic probation.

Most of the work in this area has been conducted with students labeled "underachievers," that is, students in college not working up to the potential predicted for them on the basis of a test such as the ACT. A number of approaches have been utilized to intervene with such students in an effort to improve their academic performance. Individual counseling has been tried. Group counseling of various sorts has been tried. In a few instances comparisons of different
methods were made. Taken as a whole the results of these studies have been inconclusive as to the most effective method of intervention.

With respect to individual counseling Hogue (1965) found results favoring individual sessions though not to a degree to be statistically significant. In this study students were seen for eight sessions, the nature of which they dictated, spread over a nine month period. Hill and Grienoecks (1966) also found individual counseling to be effective but not to an extent picked up by the Point Hour Ratio (PHR).

Group counseling with underachievers has also turned up inconsistent and inconclusive results. For example, Goldstein and Crites (1961) compared three groups of students in a probationary summer program. Students were contacted by mail and urged to make use of counseling facilities. Of those contacted some came for counseling, and some did not. There was also a control group not contacted at all. This latter group had a significantly higher PHR than the other groups. A similar kind of result was that of Winborn and Schmidt (1962). Following six one-hour group counseling sessions over a two month period the mean PHR of the control group was significantly higher than that of the experimental group.

On the other hand, Dickenson and Truax (1966) found twice-a-week one-hour group sessions for twelve weeks related to improvement in PHR and to level of underachievement.
Furthermore, the group sessions were taped and rated for degree of "therapeutic conditions" existing in the group. Highest therapeutic conditions were found to be related to the greatest improvement in PHR.

Different types of group counseling have been studied by Chestnut (1955) and by Gilbreath (1957). Chestnut compared counselor-structured with group-structured sessions which met five to eight times for one and one-half hours each week. The counselor-structured group had a significantly greater rate of change in PHR than both the group-structured and the control groups immediately following the sessions. At this time, too, the group-structured group had a greater rate of change than the control group. The groups were compared again three months following treatment. At this time there was still a significant difference between the counselor-structured group and the control group. There was no significant difference between the counselor-structured and group-structured groups.

Gilbreath (1957) compared groups similar to those above, a directive leader-structured group and a non-directive group-structured group. The groups had eight sessions of one and one-half to two hours in length over the course of the academic term. The results showed different regression lines for the studied groups. The leader-structured group had a significantly greater rate of change in PHR than the control group. There was no significant difference between
the group-structured and control groups. Finally, the counseled groups had a mean PHR over the crucial 2.00 mark whereas the mean PHR for the control group was below this mark.

The above studies sought to evaluate the differential effect of different types of structure on underachievers in a counseling situation. Though the structure differed in groups, basically the same type of treatment was given. Two studies which have varied the treatment are those of Hart (1964) and Preus (1965).

Hart (1964) sought to compare two groups which would reflect the prevailing theories of underachievement. One view related underachievement to inadequate study skills. The group representing this theory were given counseling which focused on intellectual problem areas as opposed to personal problems. A second group reflected the theory that underachievement was primarily related to personality dynamics and personal problems. This group was counseled along these lines. Two experimenters with three groups each met for five to seven sessions which were held once a week. The mean PHR's showed a significant difference between the personal problem group and the control group, but no significant difference was found between the personal problem group and the intellectual problem group.

Preus (1965) compared four types of treatment on probationary students: individual counseling at the counseling
bureau; group counseling at the counseling bureau; remedial help in reading and study skills at the counseling center; and weekly interviews with college advisors. Although the students had 302 contact hours with the treatments, the correlation between number of contacts and grades for the quarter was not significantly different from zero. Furthermore, there was no significant difference between students referred to these treatments and a control group not referred.

Hypotheses

The present study was along the lines of those of Hart (1964) and Preus (1965) in that it sought to compare two methods of intervening with college students on academic probation: (1) group discussion focusing on personal problems related to academic probation; and (2) group discussion focusing on resources available to students on academic probation. The general expectation was that the resource oriented discussion would be more effective than personal problem oriented discussion in terms of two outcome variables: utilization of resources and Point-Hour Ratio (PHR). The basis for this expectation was the belief that resource oriented discussion would help more students get in touch with and use services having direct relevance to their particular problems and that using these services would help them improve their academic performance.
More specifically, the hypothesis relating to utilization of resources was the following:

1. The resource oriented group will utilize resources to a greater extent in terms of time over the quarter than will the personal problem oriented group.

With respect to PHR the following hypotheses were proposed:

2. The resource oriented group will show a higher PHR for spring quarter (quarter when treatments are presented) than will the personal problem oriented group.

3. The resource oriented group will show a greater improvement in PHR for spring quarter in comparison with the previous quarter than will the personal problem oriented group.

4. The resource oriented group will show a higher cumulative PHR at the end of spring quarter than will the personal problem oriented group.

5. The resource oriented group will have a greater proportion of students getting off academic probation at the end of the quarter than will the personal problem oriented group.

A sixth hypothesis is related to a comparison of the above groups (resource oriented and personal problem oriented) with a group merely receiving a list of available resources but no discussion and other control groups:

6. The resource oriented discussion group and the personal problem oriented discussion group will show higher performance on the above outcome variables (utilization of resources, PHR for spring quarter, cumulative PHR at end of the quarter, improvement in PHR for spring quarter, and proportion of students getting off probation) than will either a group merely receiving a list of available resources but no discussion or other control groups.
Although the superiority of the resource oriented discussion was predicted in the statement of the hypotheses, it should be emphasized that the investigator was more interested in determining the relative effectiveness of the two different methods of intervention than in demonstrating the superiority of one over the other.

The following procedure was utilized to compare the proposed two methods of intervention, resource oriented discussion and problem oriented discussion, with students on academic probation.
CHAPTER II

PROCEDURE

For this study it was decided to utilize students on academic probation in the College of Education of Ohio State University. This college is the second largest at the university and accounts for approximately one-fifth of its enrollment. In order to control for intellectual ability and to increase likelihood of homogeneity of professional interest only those students in the Professional Division of education were accepted as Ss. The Professional Division comprises the final two years of college preparation for becoming a teacher. In order to be admitted to this division a student must have a cumulative PHR of at least 2.25 on all previous college work. Once accepted into the Professional Division a new cumulative PHR is computed representing only those hours of credit attained in the Professional Division. If this cumulative PHR falls below 2.25 at any time, the student is placed on academic probation.

During winter quarter, 1968, there were 3,010 students in the Professional Division representing a little over 40% of the enrollment in the College of Education. Of these 3,010 students, 132 went on academic probation at the end of
winter quarter. Those students comprised the pool of Ss for the present study.

The original design of the study called for these 132 Ss to be divided into five groups of equal size, three experimental groups and two control groups. However, several factors contributed to a substantial reduction in the size of this population. For logistical reasons students enrolled at branch campuses of the university were ruled out for study. Students not enrolled for the spring quarter, the quarter concerned with the study, could not participate. A few students whose extreme age or number of credit hours might adversely affect the variance of groups on these control variables were eliminated. In addition, during the course of the quarter a number of students who had participated at the beginning of the study either dropped out of school or transferred out of the Professional Division of the College of Education, thus deselecteding themselves from the initial pool of Ss. The combination of these various factors reduced the number of Ss figuring in the analysis of this study to 56.

Background information on these Ss, compiled from their college office records, was comprised of the following: age and sex; number of hours and PHR for winter quarter; cumulative number of hours and cumulative PHR in the Professional Division before the start of spring quarter; and the number of hours being carried during spring quarter. This information indicated that all 56 Ss serving in this study were between
ages 20 and 25 and had between 10 and 40 credit hours in the Professional Division before spring quarter. Of these 66 Ss, 21 were male and 45 were female.

In the original design Ss in three of five groups were to be mailed a letter (Appendix A) expressing the investigator's interest in helping them with respect to their academic probation and asking them to call for an appointment before a certain date. This was to be done during the first week of classes in spring quarter. The two remaining groups were not to receive such a letter.

During the second week of classes Ss in Treatment Group #1 (TG1) were to meet with the investigator for an initial session during which they would be given the I-E Scale (Rotter, 1965) and a checklist of resources (Appendix B) available on campus on which they were to put the number of hours they may have used each resource in the previous week. The purpose of this was to get a base rate of utilization of resources. The purpose of the I-E Scale was to collect additional information about students on academic probation which might have some relevance to their use of resources or improvement in academic performance. At the end of this initial session Ss in TG1 were to be told to check into the resources on the list given them and to return the following week for a discussion about those resources: what they had to offer, the procedure involved in using them, and the possible problems involved in using them.
Students in Treatment Group # 2 (TG₂) were to follow the same procedure as TG₁ with the difference that at the end of the initial session these Ss were to be told to think about any problems they had with respect to their probation. The following week they were to return to discuss those problems with someone who had experience in this area.

Students in Group # 3 (G₃) were to receive only the initial session with no instructions to return. In a sense this group (G₃) served as a control for giving a list of resources to both TG₁ and TG₂.

Toward the end of spring quarter all of the above groups (TG₁, TG₂, G₃) were to be contacted to check on their use of resources over the quarter. At this time Ss in one other group (G₄), not contacted at the beginning of the quarter, were to be contacted for their use of resources. This group was designed as a control for the effect of contacts between the investigator and Ss at the beginning of the quarter on the use of resources over the quarter.

A fifth group (G₅) was to be comprised of Ss who received no contact whatsoever from the investigator during the quarter but whose PHR for the quarter would be compared with those of the other groups.

During the course of the study it became necessary to modify this relatively straightforward arrangement of treatment and control groups because of the number of Ss available and the responses of some Ss to the study.
The first modification occurred at the beginning of the study and arose from the relatively small number of Ss available for the study. Whereas in the original design only $\frac{3}{5}$ (60%) of Ss were to be contacted by letter at the beginning of the quarter, in actual fact 50 of the eventual 55 Ss figuring in the study were so contacted. This represented 90% of Ss and left what eventually amounted to only 5 Ss available for groups not contacted at the beginning of the quarter. Though unfortunate, this modification was made on the basis of two considerations. One of these was that, at the time letters were being mailed, it appeared likely there would eventually be more than 5 Ss available for the two non-contacted groups, additional Ss coming from a number of students on academic probation and registered for spring quarter whose addresses were not available for mailing purposes. A second reason for the modification was to maximize the number of Ss in the treatment groups. This was considered more important than maintaining one of the non-contacted groups should it turn out that there were not enough Ss available for two such groups. The group considered expendable was ($G_4$), that is, the group designed to control for the effect on the use of resources of contacts between the investigator and Ss at the beginning of the quarter. The second non-contacted group ($G_5$), designed to control for the effect on academic performance (PHR) of any contact whatsoever during the quarter, was believed more crucial to the study. Since enough additional Ss
for the formation of two non-contacted groups did not materialize, all non-contacted Ss were put into Gj, thus dropping G4 as such from the study.

Other modifications in the sizes and compositions of the groups in this study resulted from the responses of Ss as the study progressed. These changes will be noted at the point in the procedure where they occurred.

At present let us follow the procedure from the beginning for those Ss who figured in the analysis of this study.

Of the 60 Ss contacted by letter urging them to call for an appointment during the first week of the quarter, some called and some did not. In either case all Ss were also contacted by phone. The investigator told Ss in his conversation that "we are getting together with students on academic probation to give them some information and discuss some things that should help them improve their academic performance." In addition, Ss were told there would be one or perhaps two meetings at the most, each lasting an hour or less. Any questions Ss had were answered on the phone. The time and place of the first meeting was given to Ss, and all were strongly urged to come.

Of the 60 Ss contacted by letter and phone, 22 Ss refused to participate either verbally (by saying they would not attend) or behaviorally (by not attending the first meeting after saying they might or would attend). This group was labeled "R2" and kept track of for the remainder of the study.

Of the remaining 38 Ss 15 came for the initial session, were instructed to return for a second session as part of a
resource oriented discussion (TG\_1) or a personal problem oriented discussion (TG\_2) but refused behaviorally by not showing up for the second session. This group was labeled "3\_1" and kept track of during the remainder of the study. The remaining 23 Ss were randomly assigned to one of three groups (TG\_1, TG\_2 or G\_3). The procedure with each of these groups follows.

During the second week of the spring quarter 8 Ss in TG\_1 (resource oriented discussion group) met with the investigator for an initial session in which they were told the purpose of the meetings was to help them improve their academic performance. They were then asked to fill out the I-E Scale which was presented as helpful for future work with students on academic probation. Next, the investigator told Ss he had compiled a list of resources which were available for students on academic probation. He presented each S with two identical lists. On one sheet Ss were instructed to check off the number of hours in the previous week they had used any of the resources. This served as a base rate for the use of resources. The investigator then explained that during the next week Ss were to check into the resources listed on the paper, finding out what they had to offer, what were the procedures involved in using them, and what problems one might run into in using them. (In order to insure that all resources were covered Ss were asked to volunteer for checking into specific resources.) The investigator then told Ss to take
home the second list of resources and instructed them to return for a final meeting next week during which they would discuss the available resources with someone in this work.

The following week, the third of the quarter, Ss returned for the second session, at the beginning of which they were introduced by the investigator to a fourth year graduate student in clinical psychology who would discuss the resources with them. The investigator then left the room and returned after about fifty minutes. At this point the discussion was brought to an end. (This second session was tape-recorded for later checking on whether the discussion focused on resources as opposed to personal problems.)

Before leaving this final session Ss were asked if they would take home the Opinion, Attitude, and Interest Scale (OAIS), an MMPI-like inventory tapping, among other things, dimensions labeled "achiever personality". They were instructed to fill out this inventory and return it to a particular office within a week. If Ss asked about the results of this inventory, they were assured they could receive feedback from the investigator after the quarter was over. The purpose of this inventory was to collect additional data on Ss which might be relevant to their academic probation.

The 7 Ss in the second treatment group, TG2; (personal problem oriented discussion group) followed the same procedure as Ss in TG1 with this difference. At the end of the initial
session Ss in TG2 were instructed that, during the following week, they were to think about any problems they had with respect to academic probation. At the end of the week they were to return for a second session during which they could discuss these problems with someone who had experience in this area.

The following week this group returned and engaged in a discussion which focused on personal problems relating to academic probation. This discussion was led by a fourth year graduate student in clinical psychology.

The third group, G3 comprised of 15 Ss, followed the same procedure as TG1 and TG2 during the initial session with this difference. They were not instructed to return for a second session and received the OALIS after the initial session.

In this study there were two discussion leaders, both fourth year graduate students in clinical psychology. It was originally planned to have each of these lead a resource oriented discussion group and a personal problem oriented discussion group. Due to circumstances, it turned out that one of them led the discussion of the entire personal problem oriented group and the discussion of part of the resource oriented group. The other graduate student led the discussion in the remaining part of the resource oriented group.

Previous to leading the discussions, the investigator in the study had spent time with these graduate students explaining their roles in the discussion sessions. He also
engaged in some role playing to illustrate the difference in focus between the resource oriented and the personal problem oriented groups. The role of the graduate students was to stimulate discussion in both groups, keeping it focused on resources and away from personal problems in the resource oriented group and vice versa in the personal problem oriented group.

Returning now to procedure, during the ninth week of the quarter Ss in the three above groups (TG₁, TG₂, and G₃) were contacted by phone to check on their use of resources during the spring quarter. Ss in the two special groups (R₁ and R₂) were also contacted at this time. After introducing himself on the phone the investigator read down the list of resources and asked Ss to say how many hours they had used each over the course of the quarter. They were also asked how many hours they used each resource during the previous week. This was to allow the investigator to compare this week with the one on which he assessed base rates at the beginning of the quarter.

Information gained during this phone contact represented the effect of the experimental treatments on one of the two outcome variables in this study, use of resources during spring quarter.

Information on the second outcome variable, academic performance during spring quarter, was taken from Ss' PHR's for spring quarter as recorded in the College of Education.
CHAPTER III

RESULTS

Data collected on the two outcome variables (use of resources and PHR) was subjected to one or more of three different analyses: Analysis of Covariance, Chi-Square, or Point Biserial Correlation, depending on which was most appropriate for checking the particular hypothesis under consideration. The analysis of covariance used throughout was the EXDO4V Program (June 17, 1964 version) of the Health Sciences Computing Facility of UCLA.

The presentation of results in this section will follow this form: First, the particular hypothesis being checked will be stated. Next, the data relevant to that hypothesis will be presented in a summary table. Finally, the results of the analysis conducted on the data will be presented.

With respect to each hypothesis results will be presented for all groups for which data was collected in the study. Thus, results will be given for the treatment groups (TG1, resource oriented discussion group; and TG2, personal problem oriented discussion group); for the control groups (G3, group receiving initial session but no discussion; and G5, group receiving no contact during the spring quarter);
and for the special groups (R₁, group refusing to return after the first session; and R₂, group refusing to participate in the study at all).

Hypothesis 1, related to the use of resources over the spring quarter, stated:

The resource oriented group will utilize resources to a greater extent in terms of time over the quarter than will the personal problem oriented group.

Table 1 presents the observed and adjusted means of resource use, expressed as hours over the quarter, for these two treatment groups. In addition, the corresponding means for two other groups (G₃ and R₁) are presented as well as the base rate means (hours of resource use during the first week of the quarter).

From Table 1 it can readily be seen that the results of the study do not support hypothesis 1, that the resource oriented group (TG₁) would utilize resources to a greater extent than would the personal problem oriented group (TG₂). Indeed, the results in Table 2 show the opposite to be true in that the personal problem oriented group utilized resources to a greater extent over the quarter. Even more striking, perhaps, is the result that the resource oriented group shows the lowest resource use of all the groups for which this data was collected.

Even when the means are adjusted to take into consideration differences between groups on the covariate (base rate use of resources), the above relationships still
TABLE 1

MEANS IN HOURS OF BASE RATE RESOURCE USE AND OBSERVED AND ADJUSTED MEANS OF RESOURCE USE OVER SPRING QUARTER

<table>
<thead>
<tr>
<th>Group</th>
<th>( X ) Base Rate</th>
<th>( \bar{X} ) Over Quarter</th>
<th>( \bar{X} ) Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group ( TG_1 )</td>
<td>2.312</td>
<td>8.975</td>
<td>10.397</td>
</tr>
<tr>
<td>Group ( TG_2 )</td>
<td>4.214</td>
<td>42.000</td>
<td>38.778</td>
</tr>
<tr>
<td>Group ( G_3 )</td>
<td>1.458</td>
<td>10.800</td>
<td>14.282</td>
</tr>
<tr>
<td>Group ( R_1 )</td>
<td>3.350</td>
<td>14.707</td>
<td>13.595</td>
</tr>
</tbody>
</table>
hold. This would indicate that the observed differences in the use of resources over the quarter are not just a function of the pre-treatment differences between the groups on the base rate use of resources.

In order to check these observed differences between groups on use of resources for significance an analysis of covariance was run. Base rate use of resources served as the covariate. The results of this analysis are presented in Table 2.

The $F$ value of 4.733 obtained in the covariance analysis is above that required for significance at the .01 level for 3 and 33 degrees of freedom. Thus, the analysis indicates a treatment effect on the use of resources over the quarter. However, some of this effect is spurious as the following considerations will indicate.

By far the greatest use of resources occurred in the personal problem oriented group. The mean for this group was 42.00 hours whereas the means for the other groups ranged from 10.39 hours to 14.23 hours. However, what is not evident in the summary table is the fact that one 3 in the personal problem oriented group accounted for between 1/3 and 1/2 of the group's total use of resources. This, in itself, would not be sufficient reason for considering this group's high performance on resource use spurious. There is an additional consideration. The individual in question achieved his high score on resource use mainly through the
TABLE 2

ANALYSIS OF COVARIANCE ON THE USE OF RESOURCES OVER THE QUARTER USING THE BASE RATE USE OF RESOURCES AS COVARIATE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>YY</th>
<th>SS Due</th>
<th>SS About</th>
<th>df</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment (Between)</td>
<td>3</td>
<td>525.771</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error (Within)</td>
<td>34</td>
<td>1061.102</td>
<td>196.277</td>
<td>864.825</td>
<td>33</td>
<td>26.207</td>
</tr>
<tr>
<td>Treatment + Error</td>
<td>37</td>
<td>1586.874</td>
<td>349.557</td>
<td>1237.307</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

Difference for testing adjusted treatment means 372.482 3 124.161

$F_{table} .05 (3,33) = 2.90$

$F_{obtained} = 4.738, p < .01$
use of one resource, a study skills course in which he was enrolled. That this involvement was not a result of treatment effects is substantiated by the fact that he was already enrolled in this course before the treatments were administered. Accordingly, it would be inappropriate to ascribe use of this resource to the experimental intervention received by this S.

When this S's use of resources is eliminated from the personal problem oriented group's total use of resources, this group's mean is reduced to 27.30, a value which is higher than the corresponding mean of any other group in Table 1. Using this mean for the personal problem oriented group, an additional analysis of covariance produced an F value (3.14) significant beyond the .05 level. A t-test on the difference between the means of the resource oriented group and the personal problem oriented group produced a value of 4.03 which is significant beyond the .05 level.

Thus, the analyses reveal that the personal problem oriented group used resources over the quarter to a significantly greater extent than did the resource oriented group, a finding which contradicts hypothesis 1.

Hypotheses 2 and 3 were related to academic performance of spring quarter. More specifically, hypothesis 2 was concerned with PHR for spring quarter and stated:

The resource oriented group will show a higher PHR for spring quarter (quarter when treatments
### Table 3

<table>
<thead>
<tr>
<th>Group</th>
<th>Winter PHR</th>
<th>Spring PHR</th>
<th>Improvement S-W</th>
<th>Adjusted X's Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG₁</td>
<td>1.8725</td>
<td>2.3550</td>
<td>0.4937</td>
<td>2.3820</td>
</tr>
<tr>
<td>TG₂</td>
<td>1.7466</td>
<td>2.7271</td>
<td>0.9814</td>
<td>2.8125</td>
</tr>
<tr>
<td>G₃</td>
<td>1.8462</td>
<td>2.4812</td>
<td>0.5350</td>
<td>2.5433</td>
</tr>
<tr>
<td>R₁</td>
<td>1.8867</td>
<td>2.5033</td>
<td>0.5157</td>
<td>2.5279</td>
</tr>
<tr>
<td>R₂</td>
<td>2.1000</td>
<td>2.5945</td>
<td>0.4950</td>
<td>2.5413</td>
</tr>
<tr>
<td>G₅</td>
<td>2.1567</td>
<td>2.3483</td>
<td>0.1900</td>
<td>2.2770</td>
</tr>
</tbody>
</table>
Hypothesis 3 focused on improvement in PHI and stated:

The resource oriented group will show a greater improvement in PHI for spring quarter in comparison with the previous quarter than will the personal problem oriented group.

In relation to these hypotheses Table 3 presents the mean PHI for winter quarter, the observed and adjusted PHI's for spring quarter, and the mean improvement in PHI from winter to spring.

From Table 3 it is evident that hypothesis 2 was not supported by the results of the study. Indeed, the only group with a lower PHI than the resource oriented group was group Cy, the control group which received no contact during the spring quarter. On the other hand, the personal problem oriented group achieved the highest PHI for spring quarter of all the groups participating in the study. This finding is more striking when one realizes that this group had the lowest PHI of all groups for winter quarter, thus indicating that this group showed the greatest improvement in PHI from winter to spring quarters.

This outcome contradicts hypothesis 3 which predicted that the resource oriented group would show the greatest improvement in PHI. Again, the only group showing less improvement than the resource oriented group was the group receiving no contact during the quarter. Furthermore, these
relationships hold following statistical adjustment of means with covariates.

One more important observation can be made with respect to the results summarized in Table 3. Whereas all groups had a PHI below the crucial 2.25 mark for winter quarter, for spring quarter all groups achieved a PHI above 2.25, thus indicating substantial improvement on the part of all groups.

In order to check the observed differences between groups on PHI for spring quarter an analysis of covariance was conducted using winter PHI and cumulative PHI before spring as the covariates. The results of this analysis are presented in Table 4.

The F value (0.561) resulting from the analysis in Table 4 is not sufficiently large to be significant even at the .05 level, indicating that the groups in this study did not differ significantly on PHI achieved in spring quarter.

Thus, with respect to hypothesis 2, it can be concluded that although the personal problem oriented group had the highest PHI for spring quarter, treatment effects on spring PHI were not statistically significant.

The observed difference between the groups on improvement was also subjected to an analysis of covariance using the same covariates as in the analysis on spring PHI. The results of this covariance analysis are presented in Table 5.
**TABLE 4**

**ANALYSIS OF COVARIANCE ON PHR FOR SPRING QUARTER USING PHR FOR WINTER QUARTER AND CUMULATIVE PHR BEFORE SPRING AS COVARIATES**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>YY</th>
<th>SS</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
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<tbody>
<tr>
<td>Treatment (Between)</td>
<td>5</td>
<td>0.8068</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error (Within)</td>
<td>60</td>
<td>20.9155</td>
<td>1.5549</td>
<td>19.0808</td>
<td>58</td>
<td>0.3290</td>
</tr>
<tr>
<td>Treatment + Error (Total)</td>
<td>65</td>
<td>21.7224</td>
<td>1.5541</td>
<td>20.1603</td>
<td>63</td>
<td></td>
</tr>
</tbody>
</table>

**Difference for testing adjusted treatment means**

<table>
<thead>
<tr>
<th>df</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0.2175</td>
</tr>
</tbody>
</table>

\[ F \text{ table } .05 (5,58) = 2.37 \]

\[ F \text{ obtained } = 0.651, \ p > .05 \]
### TABLE 5

**ANALYSIS OF COVARIANCE ON IMPROVEMENT IN PHR IN SPRING QUARTER USING CUMULATIVE PHR BEFORE SPRING AND WINTER PHR AS COVARIATES**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>YY</th>
<th>SS Due</th>
<th>SS About</th>
<th>df</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment (Between)</td>
<td>5</td>
<td>2.2851</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error (Within)</td>
<td>60</td>
<td>24.0488</td>
<td>5.0300</td>
<td>19.0183</td>
<td>57</td>
<td>0.3279</td>
</tr>
<tr>
<td>Treatment + Error (Total)</td>
<td>65</td>
<td>26.3339</td>
<td>6.2136</td>
<td>20.1203</td>
<td>63</td>
<td></td>
</tr>
</tbody>
</table>

**Difference for testing adjusted treatment means**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.1015</td>
<td>5</td>
<td>0.2203</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F table .05 (5,58) = 2.37

F obtained = 0.672, p > .05
The F value (0.572) resulting from the covariance analysis on improvement in PHR is not statistically significant and indicates that the various groups did not differ significantly on the amount of improvement from winter to spring quarters. With respect to hypothesis 3, therefore, it can be said that the treatment effects were not significantly different from control conditions on improvement in PHR though the personal problem oriented group did show more improvement than any other group in the study.

The above analysis was concerned with the amount of improvement in PHR as it related to various treatments and groups. Another way of viewing improvement, however, is in terms of the proportion of Ss in each group increasing in PHR from winter to spring quarters. Thus, the question may be raised as to whether the groups differed significantly on these proportions. Table 6 addresses this question and presents for each group the number and percentage of Ss improving and not improving the PHR in spring quarter.

From Table 6 it is evident that with the exception of the control group (G_5) which received no contact during the quarter all groups had a greater proportion of Ss improving than not improving PHR in spring quarter. Furthermore, it can be seen that the two treatment groups (TG_1 and TG_2) had the highest percentage (100%) of Ss improving in PHR. The lowest percentage (50%) was achieved by the non-
TABLE 6

NUMBER AND PERCENTAGE OF Ss IN EACH GROUP IMPROVING AND NOT IMPROVING PHR IN SPRING QUARTER

<table>
<thead>
<tr>
<th>Group</th>
<th>Improving</th>
<th>Not Improving</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG₁</td>
<td>8 (100.00%)</td>
<td>0 (0.00%)</td>
<td>8 (100%)</td>
</tr>
<tr>
<td>TG₂</td>
<td>7 (100.00%)</td>
<td>0 (0.00%)</td>
<td>7 (100%)</td>
</tr>
<tr>
<td>G₃</td>
<td>7 (87.50%)</td>
<td>1 (12.50%)</td>
<td>8 (100%)</td>
</tr>
<tr>
<td>R₁</td>
<td>12 (80.00%)</td>
<td>3 (20.00%)</td>
<td>15 (100%)</td>
</tr>
<tr>
<td>R₂</td>
<td>15 (66.18%)</td>
<td>7 (33.82%)</td>
<td>22 (100%)</td>
</tr>
<tr>
<td>G₅</td>
<td>3 (50.00%)</td>
<td>3 (50.00%)</td>
<td>6 (100%)</td>
</tr>
</tbody>
</table>

Totals | 52 (73.79%) | 14 (21.21%) | 66 (100%) |
contacted control group (G5). The total number of Ss across groups improving was 52 which represents 73.7% of all Ss in the study. The percentage of total Ss not improving was 21.2%.

In order to check whether groups differed significantly on the proportion of Ss improving PHIR a $X^2$ analysis was conducted on the frequencies presented in Table 6. The obtained $X^2$ equaled 0.773, a value below the 11.07 required for significance at the .05 level. Thus, it can be concluded that the groups participating in the study did not differ significantly on the proportion of Ss improving PHIR in spring quarter.

The fact that a relatively large percentage of the total number of Ss in the study improved PHIR raises the question as to whether this percentage represents a value significantly different from what might be expected on the basis of chance. In order to answer this question by $X^2$ analysis a 50-50 split of column totals was used to obtain the expected frequencies in the various cells. Using this format the resulting $X^2$ was 27.30 which, with 5 degrees of freedom, is significant beyond the .001 level (Table $X^2$ at .001 = 20.52). Thus, it is possible to conclude that significantly more Ss in the study improved PHIR in spring quarter than did not improve.

One question remains unanswered so far with respect to the number of Ss improving. This has to do with which
groups specifically had a significantly greater proportion of Ss improving in PHR. In order to answer this question \( X^2 \)'s were run on each group. The obtained \( X^2 \)'s for each group as well as the Table values for 5 degrees of freedom at the .01 and .05 levels of significance are presented in Table 7.

Table 7 shows that the proportion of Ss improving PHR in both the resource oriented treatment group (TG₁) and in the personal problem oriented treatment group (TG₂) was significant beyond the .01 level. The two groups participating only in the initial session (G₃ and G₁) had proportions improving which proved significant beyond the .05 level. Finally, the proportion of Ss improving in the two groups not participating in any sessions (G₂ and G₃) were not sufficiently large to be significant at the .05 level.

Thus, it can be concluded that the proportions of Ss improving PHR in all groups participating in one or more sessions of the study were significantly different from chance at either the .01 or .05 levels. The proportion of Ss improving in the two groups not participating in any sessions was not large enough to be statistically significant at the .05 level.

Hypothesis 4 was related to cumulative PHR following spring quarter and stated:

The resource oriented group will show a higher cumulative PHR at the end of spring quarter than will the personal problem oriented group.
TABLE 7

$X^2$ VALUES FOR PROPORTION OF Ss IMPROVING PHR IN EACH GROUP AND $X^2$ TABLE VALUES FOR 5 df

<table>
<thead>
<tr>
<th>Group</th>
<th>Observed $X^2$</th>
<th>Table $X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG₁</td>
<td>8.00</td>
<td>6.64 - .01</td>
</tr>
<tr>
<td>TG₂</td>
<td>7.00</td>
<td>6.64 - .01</td>
</tr>
<tr>
<td>G₃</td>
<td>4.50</td>
<td>3.84 - .05</td>
</tr>
<tr>
<td>R₁</td>
<td>5.40</td>
<td>3.84 - .05</td>
</tr>
<tr>
<td>R₂</td>
<td>2.90</td>
<td>3.84 - .05</td>
</tr>
<tr>
<td>G₅</td>
<td>0.00</td>
<td>3.84 - .05</td>
</tr>
</tbody>
</table>
Table 8 presents the observed and adjusted mean cumulative PHI's for all groups after spring quarter and the mean cumulative PHI's for all groups before spring quarter.

It can be seen in Table 8 that the resource oriented group achieved a higher cumulative PHI following spring quarter than did the personal problem oriented group. However, it should be noted immediately that the cumulative PHI of the resource oriented group before spring quarter was also higher than the corresponding PHI for the personal problem oriented group. Thus, without further analysis the higher cumulative PHI of the resource oriented group after spring quarter cannot be ascribed to the differential effect of experimental treatments. Indeed, when means are adjusted with covariates, the personal problem oriented group achieves a higher cumulative PHI after spring than the resource oriented group.

With respect to the other groups in the study it is interesting to note that Group $S_2$ achieved the highest observed cumulative PHI after spring quarter. This was the group of $S_3$ which refused to participate at all in the study. The fact that their pre-spring cumulative is also relatively high (2.040) might suggest a reason for their refusal to participate, namely, a feeling that they did not need the help offered. It is impossible to judge what their cumulative PHI after spring might be if they had
**TABLE 8**

MEAN CUMULATIVE PHR'S BEFORE SPRING QUARTER AND OBSERVED AND ADJUSTED CUMULATIVE PHR'S AFTER SPRING QUARTER

<table>
<thead>
<tr>
<th>Group</th>
<th>Cum. PHR before spring</th>
<th>Cum. PHR after spring</th>
<th>Adjusted X's</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG₁</td>
<td>2.0112</td>
<td>2.1737</td>
<td>2.1578</td>
</tr>
<tr>
<td>TG₂</td>
<td>1.8543</td>
<td>2.1300</td>
<td>2.2301</td>
</tr>
<tr>
<td>G₃</td>
<td>1.8350</td>
<td>2.0575</td>
<td>2.1608</td>
</tr>
<tr>
<td>R₁</td>
<td>1.9573</td>
<td>2.1547</td>
<td>2.1831</td>
</tr>
<tr>
<td>R₂</td>
<td>2.0400</td>
<td>2.2205</td>
<td>2.1532</td>
</tr>
<tr>
<td>G₅</td>
<td>2.0500</td>
<td>2.1533</td>
<td>2.0839</td>
</tr>
</tbody>
</table>
participated, but their relatively high performance as indicated in Table 3 could be interpreted as support for their feeling that they did not need the preferred interventions in order to improve their academic performance. It is also interesting to note that when means are adjusted, the non-contacted control group (G5) received the lowest mean cumulative PHR after spring.

In order to determine whether or not the observed differences in cumulative PHR of groups after spring were significant, an analysis of covariance was conducted using the cumulative PHR before spring and winter as covariates. The results of this analysis are presented in Table 9.

The F value (0.324) in Table 9 is far below that required for significance at even the .05 level. The interpretation, therefore, of this covariance analysis is that the groups in this study did not differ to a statistically significant degree on cumulative PHR after spring quarter. Accordingly, with regard to hypothesis 4, the results of the study do not show treatment conditions to be significantly more effective on cumulative PHR than control conditions.

Hypothesis 5 was related to the proportion of Ss getting off probation at the end of the spring quarter. This hypothesis stated:

The resource-oriented group will have a greater proportion of students getting off academic
## TABLE 9

**ANALYSIS OF COVARIANCE ON CUMULATIVE PHR AFTER SPRING QUARTER USING THE PRE-SPRING CUMULATIVE PHR AND WINTER PHR AS COVARIATES**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS Due</th>
<th>SS About</th>
<th>df</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment (Between)</td>
<td>5</td>
<td>0.1599</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error (Within)</td>
<td>50</td>
<td>5.4591</td>
<td>2.9038</td>
<td>58</td>
<td>0.0141</td>
</tr>
<tr>
<td>Treatment + Error</td>
<td>55</td>
<td>5.5291</td>
<td>3.0025</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Difference for adjusted treat:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>means</td>
<td></td>
<td>0.0713</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$F_{table} .05 (5, 58) = 2.37$

$F_{obtained} = 0.324, p > .05$
probation at the end of the quarter than will the personal problem oriented group.

In relation to this hypothesis Table 10 presents for each group the number and percentage of Ss getting off probation and the number and percentage of Ss remaining on probation at the end of the spring quarter.

Comparing the proportions of the resource oriented group (TG1) and the personal problem oriented group (TG2) which got off probation following spring quarter it can be seen that 3/3 (33.33%) of the resource oriented group got off probation as compared to 2/7 (28.57%) of the personal problem oriented group.

However, before ascribing the observed difference to the experimental treatments, it should be noted that while one control group (G3, which received the list of resources at the beginning of the quarter but did not participate in any discussion) had a smaller proportion (2/6 or 33.3%) getting off probation, the second control group (G2, which received no contact during spring quarter) had 2/6 or 33.33% getting off probation, a proportion falling between those of the resource oriented group and the personal problem oriented group. Furthermore, R1, the group which participated in one session, but did not return for a second session as instructed, had 40.00% of Ss getting off probation; and R2, the group refusing to participate at all, had 31.58% getting off probation.
<table>
<thead>
<tr>
<th>Group</th>
<th>On Probation</th>
<th>Off Probation</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG1</td>
<td>5 (63.50%)</td>
<td>3 (36.50%)</td>
<td>8 (100%)</td>
</tr>
<tr>
<td>TG2</td>
<td>5 (71.43%)</td>
<td>2 (28.57%)</td>
<td>7 (100%)</td>
</tr>
<tr>
<td>G3</td>
<td>6 (75.00%)</td>
<td>2 (25.00%)</td>
<td>8 (100%)</td>
</tr>
<tr>
<td>R1</td>
<td>9 (60.00%)</td>
<td>6 (40.00%)</td>
<td>15 (100%)</td>
</tr>
<tr>
<td>R2</td>
<td>10 (45.45%)</td>
<td>12 (54.55%)</td>
<td>22 (100%)</td>
</tr>
<tr>
<td>G5</td>
<td>4 (55.56%)</td>
<td>2 (44.44%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Totals</td>
<td>39 (59.10%)</td>
<td>27 (40.90%)</td>
<td>66 (100%)</td>
</tr>
</tbody>
</table>
Thus, the two special groups showed the highest proportions of $S$s getting off probation at the end of the quarter.

In order to check for significance of differences between groups with respect to proportion of $S$s getting off probation at the end of spring quarter, a $\chi^2$ analysis was done on the data in Table 10. With 5 degrees of freedom this $\chi^2$ turned out to be 3.036, far below the 11.07 required for significance at the .05 level. Thus, with respect to hypothesis 5, one can conclude that the groups in this study did not differ significantly on the proportion of $S$s getting off probation at the end of the spring quarter. Furthermore, treatment groups did not have the highest proportions of $S$s getting off probation.

In computing the above $\chi^2$ observed frequencies were used as the basis for the expected frequencies in the various cells. The resulting analysis showed that the groups did not differ significantly on the proportion of $S$s getting off probation or, alternatively, that the treatments in the study were not differentially effective to a significant degree. However, since all $S$s in the study were on probation at the beginning of the quarter and since some of those got off probation at the end of the quarter, the question can be raised as to whether the number getting off was significantly different from the number remaining on probation.
To answer this question by $\chi^2$ analysis a 50-50 split of the column totals was used as the expected frequencies in the various cells. This $\chi^2$, with 5 degrees of freedom, came out to be 3.22, a value below the 11.07 required for significance at the .05 level. Thus, while a greater percentage of Ss remained on probation (59.10%) than got off (40.90%) at the end of spring quarter, the difference did not prove to be statistically significant.

In addition to the above analyses it was decided to check the relationship between improvement in academic performance (PH) and getting off probation. In order to do this a point biserial correlation ($r_{pb}$) was computed. Improvement in PH served as the continuous variable and on-off probation served as the dichotomous variable. The resulting $r_{pb}$ equaled .45, a value statistically significant beyond the .001 level. Thus, as might be expected, there was a significant relationship between improvement in PH and getting off probation.

The final hypothesis in this study was related to the comparison of the treatment groups with the control groups and with the special groups on the outcome variables. It stated:

The resource oriented discussion group and the personal problem oriented discussion group will show higher performances on the above outcome variables (utilisation or resources, PH for spring quarter, cumulative PH at end of the quarter, improvement in PH for spring quarter, and proportion of students
getting off probation) than will either a group merely receiving a list of available resources but no discussion or other control groups.

As can be seen from a quick review of the relevant tables presented earlier the above hypothesis was not supported. Although one of the treatment groups (personal problem oriented group) scored highest on some of the outcome measures, on no single measure did the performances of both treatment groups outrank the performances of every non-treatment group in the study.

Thus, on the use of resources all groups for which data was collected on the average used resources less than did the personal problem oriented group, but they also used them more than the resource oriented group. With respect to PHR for spring quarter and improvement in PHR from winter to spring all groups again performed lower than the personal problem oriented group, but only one group (G5, the control group not receiving any contact during the quarter) scored lower than the resource oriented group. The highest cumulative PHR following spring quarter was achieved by neither one of the treatment groups but by G2, the group refusing to participate in the study at all. However, when means were adjusted, the personal problem oriented group received a higher cumulative PHR after spring than any other group in the study but the resource oriented group received the second lowest cumulative PHR. Finally, with regard to the proportion
of Ss in each group getting off probation, both the group refusing to participate at all (R₂) and the group refusing to participate after the first session (R₁) had higher proportions (54.54% and 40.30%, respectively) getting off probation than any of the treatment (T₁ and T₂) or control (C₃ and C₅) groups.

From the above considerations it can be concluded that on no outcome measure did the performances of the resource oriented group and that of the personal problem oriented group both outrank the corresponding performance of every other group in the study, thus indicating that hypothesis 6 was not supported by the results.

In summarizing the results presented in this section it can be said that the hypotheses in this study were not supported and in one case (use of resources) contradicted to a statistically significant degree.

Thus, a comparison of treatment methods reveals that the resource oriented group, predicted to be superior to the personal problem oriented group on all outcome measures, was superior to this group on only two measures: observed cumulative P̂ I after spring quarter and proportion of Ss getting off probation after spring quarter, and on one of these (cumulative P̂ I after spring) it was not superior when means were adjusted with covariates. The observed differences, moreover, were not statistically significant. In addition, it is important to note that the highest
performance on both of these outcome measures was achieved by the group of Ss which refused to participate in the study at all.

On the three remaining outcome measures (use of resources, spring PHR, and improvement in PHR) the results showed that the personal problem oriented group was superior to both the resource oriented group (thus failing to support the hypotheses related to these measures) and all other groups. In addition its use of resources was significantly greater than that of the resource oriented group. The performance of the resource oriented group on these outcome measures fell either below or between the performances of the control and special groups.

With respect to improvement in PHR it was seen that all groups participating in the study were below the probationary standard of 2.25 for winter quarter but above it for spring quarter. The proportion of Ss improving versus not improving was significantly different from chance in four of the six groups. The difference was not significant in the group which refused to participate at all (G2) and in the control group which received no contact during the quarter (Gc). Groups did not differ significantly on the proportion of Ss improving versus not improving according to $X^2$ analysis.

With respect to getting off probation the two highest proportions of Ss occurred in the group refusing
to participate at all (R₂) and in the group refusing to participate after the initial session (R₁). These proportions represented 54.54% and 40.00% of the Ss in these respective groups. There were no significant differences between groups on the proportion of Ss getting off probation, and the proportions of Ss getting off and remaining on probation at the end of spring quarter were not significantly different from what would be expected on the basis of chance.

Finally, the relationship between improvement in PHR and getting off probation as measured by point biserial correlation was +.46, a value beyond the .001 level of significance.
In this section discussion will first focus on the results of the study as they relate to the hypotheses stated in the first chapter. Next, discussion will move to the possible conclusions one may draw from the results of the study. Finally, attention will be directed toward the implications of the present study.

As was pointed out in summarizing the results in the previous section, the hypotheses in this study were not supported and in one case (use of resources) contradicted to a statistically significant degree. First, let us consider the hypothesis related to the use of resources.

Not only did the resource oriented group not surpass (as predicted) the personal problem oriented group on use of resources over the quarter, its average use of resources was below the averages of every other group in the study for which this data was collected. This not only contradicts hypothesis 1; it flies in the face of the reasoning behind the hypothesis. The greater use of resources in the resource oriented group was predicted on the ground that getting Ss in touch with available resources would result in their using them to a greater extent than other
other groups. It was suggested that by contacting resources early in the quarter Ss could readily discover which ones were most appropriate for dealing with their particular problems and then use them as much as they needed to. The fact that results of the study did not support the hypothesis raises the question as to what was responsible for the unexpected outcome.

Two possible reasons as to why the hypothesis was not supported relate to the relatively small number of Ss in treatment groups and the fact that the treatments might be too weak. However, these standard responses are undercut by the fact that the direction, and not just the degree, of difference in use of resources failed to support the hypothesis. Increasing strength of treatments and/or number of Ss, therefore, would probably serve to further contradict the hypothesis. Thus, one must turn to other possibilities in evaluating this unexpected result on the use of resources.

One such possibility is that the discussion in the personal problem oriented group may have confronted Ss with their academic probation as a problem by focusing on the personal elements involved. This confrontation may have forced Ss to consider what they personally contributed to their poor performance; and, alternatively, it may have made them feel more responsible and willing to do something constructive about their academic probation. The fact that their PR for the quarter just then ended (winter) was the lowest of any group may also have been a motivating factor.
If the focus on personal elements in the discussion did increase motivation for improving academic performance, then this motivation could be turned into action by contacting and using available resources. This, in turn, could account for this group's relatively high use of resources over the quarter.

On the other hand, applying this paradigm to the resource oriented group, one might maintain that by focusing on the environment Ss in this group isolated themselves from considering what role they as individuals played in their getting on probation. Alternatively, the question as to their personal responsibility for doing better may have been completely by-passed. Not feeling this responsibility for personal action, Ss might not be willing to take it upon themselves to contact and use various resources available on campus. Instead, they might choose to rely on standard procedures of doing what they've always done in relation to academic performance and hoping their performance improves as a result.

The above possibilities involve some intricate speculation in making sense of the differences in use of resources observed between the resource oriented and personal problem oriented groups in the present study. There may be a much more simple explanation of the outcome.

It could be that in checking into the available resources at the beginning of the quarter Ss in the resource
oriented group found that they were not relevant or not helpful. Finding this out early in the quarter should result in their not using them very much during the remainder of the quarter. On the other hand, other groups might spend more time during the quarter checking into resources since they may not have done this at the beginning of the quarter. The time spent over the quarter in checking into the resources may account for these groups achieving higher average scores on use of resources over the quarter than the resource oriented group. The high score of the personal problem oriented group might reflect a greater willingness on the part of this group to use available resources because of this group's relatively low academic performance for the previous quarter.

While it is true that the personal problem oriented group used resources to a significantly greater extent than did the resource oriented group, in general resources were used relatively little over the quarter by all groups in the study. The highest mean use of resources over the quarter was 27.300 hours (in Group TG₂). Considering that there are approximately ten weeks in a quarter, this means that the highest average use of resources per week by an individual was less than 2.8 hours. Such a small amount of time spent in using resources raises questions with respect to how relevant and/or helpful they are perceived
by students on academic probation. If their use of them is an accurate reflection, it can be said that they do not feel they are very relevant or helpful.

It is also interesting to note that several resources were not used at all over the quarter. Among these were speech and hearing services, career planning services, psychological consultation services, psychological clinic, psychiatric services, and counseling services.

One can understand why speech and hearing services and career planning services might not be used. The first of these is directed toward a relatively specific problem, the frequency of which one would not expect to be high, especially in the final two years of college. That career planning services might not be used is understandable in light of the fact that all 50 had chosen to enroll in the Professional Division of the College of Education, thus setting their careers on teaching.

What is not clearly understandable, however, is the complete non-participation in any of the psychological, psychiatric, or counseling services. Again, the question of relevancy comes up; and, though it cannot be answered by the present study, the results of this study suggest that this matter be looked into.

One might wonder whether the non-use of these particular services indicates an absence of corresponding problems in students on academic probation or whether,
alternatively, it is a reflection of the services' ineffectiveness or inaccessability. On the other hand, students may feel reluctant to use these kinds of resources irrespective of whether or not they could be helped by them. Perhaps they feel they would be stigmatized in using them or that their standing at the university might be jeopardized as a result of involvement with them. At this point it is unclear just why these resources are not used.

While the resources just mentioned were not used at all during the quarter, some of the remaining sixteen resources were used much more frequently than others. Indeed, the three resources used most frequently (language and music listening laboratories, appointments with course instructors, and library special services, in that order) accounted for over 50% of the total use of resources. Most of the remaining resources were used relatively little.

The use of language and music listening laboratories was a direct function of the requirements of specific courses. Library special services, too, might be considered along this dimension since most hours spent using this resource were spent working on term papers. Appointments with course instructors is the only resource of the three resources most used which might be viewed as not demanded by the "system," though it is impossible to say how many appointments were initiated by the instructor as opposed
to the student. It would appear, then, that the use of resources is primarily a function of the demands of the system and not a function of the individual's initiative.

One possible interpretation of the above findings is that the available resources were probably not relevant or helpful to students on academic probation. A second interpretation might be that students were reluctant to use resources irrespective of their relevancy and helpfulness. Another interpretation, however, would raise the question as to whether the resource oriented intervention was appropriate in the first place.

It just may be that this type of intervention is inappropriate for the kind of students participating in the present study. If students tend to rely primarily on their own resources (and do improve their academic performance), it may be that they relate improvement to personal effort as opposed to helps from the environment. There are reasons to believe that this is the case. First, consider who these students are. All of them had at least two years of college work prior to this study. Their cumulative performance on this work was more than satisfactory; otherwise, they would not have been admitted to the Professional Division of the College of Education which requires a cumulative GPA of 2.25 (as opposed to the university's standard of 2.00) for entrance into the program. Thus, these students had a solid basis for believing that they as individuals had the capacity to perform
above a probationary level. It should not be surprising that when faced with probation, their primary response would be more personal effort rather than a turning to resources in the environment. Indeed, this supposition was supported by several of the students who refused to participate in the study at all. A common response of these students was that they knew what got them on probation (not studying, involvement in too many activities, etc.) and they knew what they had to do to get off probation (study harder). Furthermore, they seemed quite confident that they could do this on their own.

Additional considerations also question the relevancy of the resource oriented intervention. Having been around college for at least two years, the students in this study may have come into contact with various resources and decided that they were not of much help. Furthermore, by the time students get to their junior year in college their particular study habits are probably well entrenched. Unless these study habits already include using the resources available on campus, it is unlikely that getting them in touch with them will greatly alter their usual approach to academic problems. In other words, third year college students faced with academic probation are likely to cope with it by doing what they have done in the past to improve their academic performance. From the relatively little use of resources in the present study it
would appear that the usual response of such students is to rely primarily on their own effort and to ignore resources on campus. If this procedure is successful (as indeed it was to a certain extent in the present study), then one might well question the appropriateness of the resource intervention utilized in the present study.

Granted that such an intervention might be inappropriate for third year students on academic probation, the question might still be raised as to whether results would have been any different had other students (for example, freshman and sophomores) been used in the study. It could be maintained that these latter students would be more amenable to such resources since their study habits would be expected to be less entrenched and their adjustment problems perhaps more pressing. While the present study cannot answer this question directly, another study currently under way by the investigator should shed light on this issue. The same treatments as in the present study have been applied to freshman and sophomores who were selected on the basis of three criteria: a feeling on their part that they were not working up to their academic potential for whatever reason; dissatisfaction with this situation; and interest in doing something constructive about the situation. These students were not necessarily on academic probation; so they are not exactly comparable to students in the present study on this dimension.
However, it should be interesting to see whether these students use resources to a greater extent than the students in the present study. At that time a more definite conclusion should be reached with respect to the appropriateness of the resource oriented intervention.

For the present, let us return to a consideration of the hypotheses as they related to academic performance.

The results in the previous section indicated that the hypotheses relating to this outcome variable (PHD) were not supported. The hypotheses predicted the superiority of the resource oriented group to the personal problem oriented group on four measures: spring PHD, improvement in PHD from winter to spring, cumulative PHD after spring quarter, and the proportion of Ss getting off probation at the end of spring quarter.

The resource oriented group did out-perform the personal problem oriented group on cumulative PHD after spring and on the proportion of Ss getting off probation. However, when means were adjusted with covariates (including cumulative PHD before spring), the performance of the resource oriented group on cumulative PHD after spring was below that of the personal problem oriented group. On the other two PHD measures (PHD for spring quarter and improvement in PHD from winter to spring) the personal problem oriented group out-performed the resource oriented group, thus failing to support the hypotheses.
A comparison of the treatment groups with each other and with control groups indicated that the observed differences on these four measures of academic performance were not statistically significant. The question then arises as to possible reasons for this unexpected outcome.

Again, the issues of small number of Ss in groups and weakness of treatments can be put forward. Increasing the number of Ss and strength of treatments might possibly result in the hypotheses on academic performance being supported. On the other hand, the results might still fail to support, or even contradict, the hypotheses. In any case, increasing number of Ss and strength of treatments should afford a more adequate test of these hypotheses.

Despite the limitations of number of Ss and strength of treatments in the present study, there is some evidence to suggest that improvement in academic performance was related to a variable other than the particular treatments received. This variable is need deficit in terms of the standards of the academic system to which the students had to adapt.

This suggested relationship between need deficit and improvement is based on a number of comparisons not directly evident in the results section.

If one compares groups on the cumulative PHR before spring quarter, he will find that the personal problem oriented group had the second lowest cumulative PHR of all
groups in the study. Since the standard for getting off probation (2.25) was the same for all groups, it follows that the personal problem oriented group had a greater deficit than most groups and, thus, a greater amount of improvement required in order to get off probation. Results indicate that this group improved more than any other group in the study, thus supporting a direct relationship between deficit and amount of improvement.

This relationship between need deficit and actual performance in the personal problem oriented group is corroborated by a similar relationship found in other groups. Thus, the three groups with the lowest cumulative PAR's before spring (T3, G3, and R1) showed the highest degrees of improvement from winter to spring. Alternatively, the three groups with the highest cumulative PAR's before spring (T1, R2, and G2) showed the smallest degrees of improvement from winter to spring. Still another finding is that the two groups with the highest performance in winter PAR (T2 and G2) had the lowest proportion of Ss improving from winter to spring.

Thus, from these comparisons it can be seen that groups performing at a higher PAR level before spring show less improvement than groups performing at a lower PAR level before spring. The greater improvement of the groups having a lower PAR before spring makes sense when one realizes that they must improve more in order to achieve
the same level as the other groups by the end of spring. Assuming that these students had the capacity and desire to meet the standards of the system, it seems logical that they would put more effort into improving because of their greater deficit.

Two additional comparisons reinforce the suggested relationship between actual performance and demands of the system. The first of these comparisons involve PPI's for winter and spring quarter. Whereas each group's winter PPI was below the 2.25 standard of the Professional Division of the College of Education, each group's spring PPI was above this standard which may be interpreted as improved performance spurred by the pressure of academic probation.

The second comparison involves cumulative PPI's before and after spring. Before spring each group's cumulative PPI was below the 2.25 standard. In addition, however, the pre-spring cumulative PPI of each of three groups (T2, G3, and R1) was below 2.00. This is an important distinction, for the 2.00 mark is the probationary standard of the university as a whole as opposed to the Professional Division of the College of Education. In other words, students with a cumulative PPI below 2.25 but above 2.00 are in danger of dismissal from the Professional Division of the College of Education but are still in a position to transfer in good standing to other areas of the university. Students in the Professional
Division of Education whose cumulative PHI falls below 2.00 are in danger of dismissal not only from the Professional Division of Education but also from the university.

Thus, the three groups mentioned above as having pre-spring cumulative PHI's below 2.00 must improve not only to remain in Professional Division but even to remain in the university. On the other hand, the three groups whose pre-spring cumulative was above 2.00 had to worry only about dismissal from Professional Education. Even if these groups did not improve (but did maintain) their pre-spring cumulative PHI level, they could still remain at the university. In a very serious sense, then, the three groups below 2.00 had a greater need to improve than the three groups above 2.00.

The results of the study show that the three groups whose pre-spring cumulative PHI fell below the university standard of 2.00 did indeed improve their PHI's more than the three groups whose pre-spring cumulative PHI's fell above the 2.00 standard. In addition, it should be noted that their improvement was sufficient to raise their cumulative PHI's after spring above the crucial 2.00. Thus, while all groups in the study were still on academic probation in the Professional Division of the College of Education after spring quarter, all groups were in good standing according to the university's 2.00 standard.
Finally, the suggested relationship between need deficit and amount of improvement is supported by the Pearson product moment correlation (across all 3s in the study) between pre-spring cumulative PHR and amount of improvement in PHI from winter to spring quarters. This r equaled -.29 which is significant beyond the .05 level.

The above considerations would seem to support the contention that, in the present study at least, improvement in academic performance was a function not of the particular treatment conditions but rather of the deficit present in the groups and the demands of the (university) system to which they had to adapt.

If this is indeed the case, then one may legitimately question the appropriateness of the interventions used in the present study to the problem of academic probation. This question has already been addressed to the resource oriented intervention, and its appropriateness seemed doubtful. It is difficult to say definitely whether or not the personal problem oriented intervention was any more appropriate.

On the one hand, its effects on academic performance were not significantly different from those of the resource intervention or from the control conditions. On the other hand, the group receiving the personal problem intervention tended to perform higher on outcome measures than any of the other groups. As pointed out earlier, however,
this higher performance might more plausibly be related to need for improvement than to the particular treatment received. So far, therefore, the implication would seem to be that the appropriateness of the second intervention is also questionable.

While this implication may prove correct, there is some evidence to suggest that the intervention along personal problems may have been more appropriate than the resource intervention. Insofar as the discussion focused on personal problems as they related to academic probation, it may have instilled a sense of personal responsibility for being on probation and for getting off probation. It may have increase motivation to make a greater personal effort to improve one's academic standing. If, as suggested earlier, motivation is the key factor, then the personal problem oriented discussion might have a greater probability of influencing this variable than would the resource oriented discussion since the latter avoided dealing with personal variables.

Accordingly, it might be possible to consider the personal problem oriented intervention as somewhat more appropriate than the resource oriented intervention to the problem of academic probation insofar as it focused on the individual as opposed to the environment. However, it still did not deal directly with the variable which subsequently seemed most relevant to the problem. This, coupled with
the fact that its effects on outcome measures of academic performance were not statistically significant, would question its being very appropriate as an effective intervention.

Conclusions

The foregoing discussion on hypotheses and interventions leads to some tentative conclusions with respect to results of the present study. Clearly, across both outcome variables, the hypotheses were not supported and in one case (use of resources) contradicted to a statistically significant degree. Both methods of intervention in the study proved relatively ineffective in improving academic performance. This unexpected outcome may be a function of formal characteristics of the study, such as the small number of Ss in treatment groups or the relative weakness of treatment conditions.

However, a more plausible conclusion would seem to that the ineffectiveness of the interventions was a reflection of their inappropriateness to the problem of academic probation. Neither of them focused directly on the variable which subsequently appeared most relevant to the problem. This was the variable of individuals' motivation to put more effort into achieving at a level of which, on the basis of past experience, they were quite capable.
The inappropriateness of the interventions may have been a function of their being derived from theoretical models apart from any attempt to discover concretely what variables were most relevant for dealing with students on academic probation.

The results of this study would suggest that students on academic probation similar to that in the present study rely primarily on their own resources (as opposed to those available in the immediate environment) to improve their performance and that they improve more or less depending on the amount required to satisfactorily meet the university's demands for good standing within the system.

Implications

Given the results and conclusions of the present study, what are the implications? They are of two kinds: implications for studies similar to the present one, that is, studies comparing different interventions with students on academic probation; and implications for further research on the problem of academic probation in general.

With respect to similar studies, the implications of the present study are that selection procedure and approach to students may be key factors which too often are overlooked.

With respect to selection procedures, some of the "unexplainable" results of past studies may be clarified by
viewing students' refusal to take advantage of offered help as a variable directly relevant to academic performance and in all probability having a non-random effect on outcome measures. Thus, Goldstein and Crites' (1961) finding that "control" students (those students not taking advantage of counseling) did better than counseled students might reflect that these students are more willing and capable of improving their academic performance than students who come for help. This interpretation is supported by the present study in which, of all groups contacted, the group of students refusing to participate had the second highest cumulative PHR before spring quarter, the highest cumulative PHR after spring quarter, and the highest proportion of students getting off probation at the end of the quarter.

Thus, the variable of refusal to participate would seem to be very important with respect to academic performance; and treating students who refuse help as controls for those who accept it would seem to be inappropriate. Disregard for this consideration will probably result in biased selection procedures.

The second implication for studies similar to the present one concerns the approach taken by the investigator in involving students. The approach taken in the present study was a mistake as the following considerations should make clear.
In the present study a letter was sent to students at the beginning of the quarter expressing the investigator's feeling that academic probation was probably an upsetting experience for the student and offering his help to the student to deal with his problem.

It was strictly a presumption on the part of the investigator that academic probation constituted a "problem" for the students to whom a letter was sent. In a sense, the investigator labeled the students as having a problem completely apart from any consideration about their own perception of the situation. Many students strongly reacted to this on the phone, expressing the feeling that academic probation was "no problem" for them. It did not help, of course, that the letter happened to be sent through the Psychology Department. This seemed to be interpreted by students as an indication that the investigator was telling them they needed some kind of "therapy." For their part, many students saw their problem as related to lack of sufficient attention to academic matters during the previous quarter and were not about to be told it was anything more than that.

Not only did the investigator tell the students that they had a problem, by offering help he probably gave the message that he presumed to know the answer for their problems. Given this as the nature of the initial contact, it is not surprising that approximately one-third of the students contacted refused to participate in the study.
It cannot be emphasized too much that this reaction on the part of some students was well-founded. Apart from the fact of the personal judgment involved in labeling academic probation a problem there was also the issue of a double standard for probation. Thus, even if one appealed to the system's definition of students as having a problem, the question could be raised as to which system. Clearly, the investigator was taking the Professional Education standard of 2.25 as the criterion for defining students with problems, but maybe students did not put as much value in this criterion as in the university standard of 2.00. The distinction is an important one. If one takes 2.00 standard as the basis for defining students having a problem of academic probation, many students in the present study whose cumulative GPA was below 2.25 but above 2.00 would not fall in this category. As a matter of fact, the group of students who refused to participate had a pre-spring cumulative GPA above the 2.00 mark. This fact, coupled with the sort of messages given in the letter, could possibly explain the relatively high percentage of students refusing to participate in the study.

If the interventions compared in the present study were considered worthwhile enough to warrant another similar study, a different approach to students should be utilized. Instead of presuming that he knows the answer to a situation he presumes constitutes a problem for the students, the investigator might tell students outright that he is conducting
research on improving academic performance. He might then explain the amount of time involved and ask students if they would be willing to participate. This approach should not differentially influence the effects of treatments and would probably significantly reduce the suspicions aroused in students by embellished approaches such as the one used in the present study. Having a more clear idea of what they were getting into, more students would probably participate in the study. In this way, a more adequate test of the hypotheses could be carried out.

While the above considerations would be very important if one were to attempt a more adequate comparison of the interventions tried in this study, the more important question is whether such a study would be worthwhile or appropriate. This question leads to the second kind of implications of the present study, namely, those directed to the problem of academic probation in general.

It will be recalled that the appropriateness of the resource oriented and the personal problem oriented discussions to the problem of academic probation was called into question earlier in this section. Since these were students who had demonstrated their ability to perform for two years above a probationary level and whose study habits were probably well entrenched, it makes sense that they would rely primarily on their own assets and effort to improve their academic performance. The fact that they could thus
improve their performance might reinforce the contention that intervention with environmental resources might be somewhat irrelevant. Furthermore, there is the question as to how helpful those resources could be even if used.

The key variable related to academic improvement seemed to be one of motivation engendered by a greater need to improve in order to meet the demands of the academic system. Thus, the most appropriate intervention would seem to be one directed at this variable. While the personal problem oriented discussion was closer to this than the resource oriented discussion, it did not directly focus on such matters as the potential of students to do better and the need to put more effort into improving their academic performance. Thus, the personal problem oriented intervention does not seem to be the most appropriate either.

One possible implication of this is that studies comparing a priori designed interventions with students on academic probation may be premature. Whether the particular interventions are designed to reflect different models of behavioral change (as in the present study) or whether they are relatively divorced from theory is somewhat irrelevant. In either case, such interventions presume that students on academic probation have a problem and, secondly, assume they have an answer for that problem.

It is my feeling as a result of the present study that a very different orientation needs to be considered. Instead
of approaching students on academic probation with answers (that is, interventions) I would suggest that they be approached with questions: questions directed toward finding out some basic information about these students. Thus, I would like to know how, exactly, do students view their academic probation. What do they think and feel about it? To what variables do they ascribe their probation? Individual or environmental, and, in either case, to which variables specifically? What, if anything, do they want and/or plan to do about their academic probation? How exactly are they going to go about coping with the situation? Are they interested in setting some goals; and, if so, what are these goals? Would they be interested in help along these lines, and, if so, what kind of help? If not, why not?

When these and other like questions were answered specifically and in detail, then one would be in a better position to intervene with students on academic probation. What kind of intervention would be tried? This would not so much be dictated by a priori theory but would rather be suggested by the information attained from the above questions.

With respect to form of intervention, the following might be tried. In collaboration with the investigator students on academic probation could set up specific goals for themselves to be achieved at various points during the quarter with an over-all goal set for the end of the quarter. Specific procedures would then be outlined for achieving
these goals. Progress toward the goals would be evaluated at certain intervals. Depending on this evaluation procedures and goals might remain the same or become altered in one way or another.

At the end of the quarter an assessment of the entire process could take place. Were the goals set at the beginning of the quarter relevant to the problem at hand? Were the procedures consistent with the goals? Were the procedures carried out as specified? If so, were the goals accomplished? If the procedures were altered, why were they altered and how did this affect the achievement of the goals? If the goals were achieved, was it the particular pre-set procedures or some other variables that was mainly responsible? If the goals were not achieved, what variables were responsible? If the goals were achieved, was the problem successfully dealt with? If not, why not? The answers to these questions should give some important information on intervening with students on academic probation, information having relevance for determining what variables and kind of interventions are most promising in dealing with academic probation.

In the above model of intervention students would be given a much greater say and involvement in the design and carry through of particular interventions. They would be treated less as guinea pigs or sick people than in previous studies, including the present one. Involving students in the design and evaluation of interventions should reinforce
the desirable feeling that they are people capable of effectively evaluating and changing their life situation. This, in turn, could be translated into greater effort in the academic area especially under the impetus of goals and procedures which they themselves set. Given the importance which motivation and demands of the system (goals) seemed to play in the present study, such effort would probably result in substantial improvement in the academic area.

Given the above considerations, the implication of the present study for further research is not that we need "more of the same, more tightly controlled." The implication is that a different orientation needs to be taken with respect to interventions with students on academic probation.

Instead of interventions presuming that these students have certain kind of problems and imposing an answer derived from a priori theory, a more appropriate approach would seem to be interventions geared toward asking certain questions about students on probation and involving students in the design and carry through of interventions which incorporate specific and relevant goals, procedures, and periodic evaluations. Until this kind of "basic" research is done, we can look forward to more studies showing interventions to be relatively ineffective with students on academic probation.

On the other hand, if this kind of research is carried out systematically, it may turn up the most relevant variables
for dealing with academic probation. This would be a major step forward, setting the groundwork for more adequate tests of different interventions as the following considerations would indicate.

If one's intervention on a relevant variable proves ineffective in dealing with a problem, then one can focus on the procedures as probably being responsible for the outcome. If, on the other hand, one's variable is not particularly relevant to the problem, then an ineffective intervention may be a function of either the procedures or the variables or both. The confounding which results makes adequate tests of different interventions next to impossible.

In conclusion, the implication is that more energy needs to be devoted to discovering key variables related to academic probation before designing interventions geared to deal with the problems.

The final issue in this discussion section concerns the relation of the present study to the problem of poverty. In the first chapter it was suggested that, in the absence of resources necessary to conduct a study of poverty in the community, one could give up the idea of such a study altogether, do a laboratory study comparing the kind of interventions one was interested in, or find another real life problem and situation which appeared similar to poverty on some crucial dimensions and study it. This third alternative was chosen, and this was the basis for conducting a study in the area of academic probation.
Now that the results of the study are analyzed, questions arise as to whether the choice was appropriate and whether the study has any implications for the study of poverty. It is my feeling that the answer to both of these questions is "yes."

Although the comparison between college students on academic probation with poor people in the community may seem farfetched, the similarities of what occurred in the present study to what might be expected in the community are amazing. The very procedure of the study seemed to mirror what often happens with programs designed to deal with poverty in the community.

First, the change-agent approaches the population without being invited, and without even asking for their opinion labels them as having "problems." He, then, offers help (a program or, in this case, a method of intervention) which assumes that he knows more about the situation (poverty or academic probation) than the people involved in it. Furthermore, his presentation of a one-sided (his side) designed "treatment" suggests a feeling that he knows better than the individuals concerned what is the answer to their "problems." All of this the people, whether students or poor in the community, have probably heard before. Their reaction to the "help-giver" and his program is one of hostility, skepticism, or apathy: hostility at being so presumptuously labeled as having problems and in need of help from a
professional help-giver; skepticism that a program designed completely apart from consideration of their feelings and ideas could be of help to them; and apathetic about putting effort into something they feel will not be appropriate or helpful anyway.

While most of the population go about doing things the way they always have and do not participate in the "program," some participate more, perhaps, because it was "strongly suggested" than on the basis of any feeling that it might be helpful in improving their position; but there are a few who feel that they might benefit.

Having thus captured his population, what does the change-agent tell them? He tells some of them that there are relevant resources available in their environment (community or university) which they should contact and use. By doing this they supposedly can improve their position. But, are the resources relevant, and are they helpful? The change-agent is assuming both of these to be the case. What has been the experience of the population? They may have checked into them already and found them relatively useless as helps to improving their situation. If this is the case, they already have evidence to support their feeling that the change-agent does not "understand" their situation and is naive with respect to appropriate ways for dealing with it. On the other hand, if they have not already checked into the resources but do so at the urging of the change-agent, only
to find them inappropriate for their particular problems, then, again, they will not follow through on utilizing them as much as the change-agent would like. Thus, the intervention designed without involving the population turns out to be no more effective than "no program" (control conditions).

The situation with the other intervention is similar. The change-agent tells the population that the crux of their situation is some "sickness" (underlying emotional problems) on which they must focus in order to improve their position. That the population may disagree with this assessment is not given a second thought. Again, the intervention turns out to be no better than "no program."

When, however, the interventions have been carried out and the results are analyzed, it is found that the situation may have improved somewhat. Though the problem (poverty or academic probation) is still around, the position of the groups concerned has improved. The improvement, of course, cannot be ascribed to the programs which were directed toward the problem since similar groups receiving no program improved to a similar degree. Moreover, the group having the highest proportion of individuals effectively eliminating the problem (getting out of poverty or off probation) is composed of individuals who have elected to "make it on their own," apart from the programs of the change-agent.
At the conclusion of the program it is not exactly clear what variables are most related to effectively dealing with the problem at hand though there are suggestions that intervention along a variable other than those tried would be more appropriate.

The lesson to be learned from the above experience, of course, might be that the change-agent (whether in the community or in the present study) is putting the cart before the horse by designing interventions without first doing some basic research to discover what are the most relevant and promising variables.

That the above mix-up occurred in the present study should be abundantly clear by now. That it also occurs in the community is equally clear to one who takes the time to look closely at national programs designed to deal with community problems. Applying ready-made programs to problems in the community may be premature at this stage. Of prior concern should be research devoted to discovering the crucial variables involved in these problems. A mix-up in these priorities will probably result in the continued proliferation of programs which "do not work."

In conclusion, then, this can be said: If the present study has any implication for interventions on the problem of poverty, it is that extensive basic research needs to be directed toward the question of which variables are most relevant and most promising for dealing with poverty. Then, with this as a solid base, interventions designed to deal with poverty might be more effective.
The present study was designed to compare two methods of intervention with college students on academic probation. Although the primary interest of the investigator was interventions on poverty in the community, the problem of academic probation was chosen for study because it seemed to represent a situation analogous to that of poverty under more manageable conditions.

The methods of intervention used in the present study reflected different models of behavioral problems and change: (1) a traditional individual model which relates behavioral problems to underlying emotional conflicts; and (2) an interaction model which relates behavioral problems to both environmental and individual variables. In the method of intervention reflecting the first model students on academic probation engaged in a discussion which focused on personal problems related to their probation. In the intervention reflecting the second model students engaged in a discussion focusing on resources available in the immediate environment. Hypotheses predicted the superiority of the resource oriented
intervention on two outcome variables: use of resources and academic performance (PHR).

Results of the study indicated that hypotheses were not supported and in one case (use of resources) contradicted to a statistically significant degree. In general, resources were used very little by students even when urged to do so; and those resources used appeared to be more a function of the demands of the system rather than a function of individual initiative. With respect to academic performance, improvement in PHR appeared to be more a function of need deficit in terms of the demands of the system rather than a function of treatment conditions.

Discussion of the results raised questions regarding the relevancy and/or helpfulness of campus resources for students on academic probation. The appropriateness of the particular interventions tried in this study was also called into question.

The major conclusion reached in the present study was that, before approaching students on academic probation with ready-made answers for problems which they are assumed to have, there is a prior need to determine which variables are most relevant and promising for dealing with academic probation. Research directed toward this question is badly needed.

The implications of the study for interventions on poverty were also discussed. Many of the conclusions
reached with respect to intervening with students on academic probation seemed equally applicable to interventions with poor people in the community.
APPENDICES
Dear Miss ______:

It has come to our attention that you are on academic probation this spring quarter. We well understand that this is probably an upsetting experience for you. We are interested in the problems faced by students on academic probation and in helping them do something constructive about their probationary status.

It is likely that students will receive maximum benefit from any help we can offer if they contact us at the beginning of the quarter. For this reason it is important to make arrangements for an appointment with you immediately. Please call by telephone as soon as possible after receiving this letter but definitely before Sunday evening, March 31, 1956. The number to call is 299-3720.

You may call anytime between 10:00 a.m. and 9:00 p.m. on Thursday, Friday, Saturday, or Sunday, March 26 to March 31.

We would strongly urge you to take advantage of this opportunity and to call for an appointment or further information as soon as possible.

Sincerely yours,

Patrick T. Quinn, M.A.
Psychology Department
407 Arps Hall
## APPENDIX B

### RESOURCES AVAILABLE TO STUDENTS ON ACADEMIC PROBATION

<table>
<thead>
<tr>
<th>Hours/week</th>
<th>Resource</th>
<th>Location</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>___1. ___</td>
<td>Appointments with course instructors</td>
<td>their offices</td>
<td></td>
</tr>
<tr>
<td>___2. ___</td>
<td>College-office counselors</td>
<td>1st floor in Arps Hall</td>
<td></td>
</tr>
<tr>
<td>___3. ___</td>
<td>Study skills, adjustment or related courses</td>
<td>Psychology Dept., Arps Hall</td>
<td></td>
</tr>
<tr>
<td>___4. ___</td>
<td>Faculty advisor</td>
<td>His or her off.</td>
<td></td>
</tr>
<tr>
<td>___5. ___</td>
<td>Student Health Service</td>
<td>Student Services Bl. 154 W. 12th Ave.</td>
<td></td>
</tr>
<tr>
<td>___6. ___</td>
<td>Student Employment Service</td>
<td>Student Employment Office, 201 Student Services Bldg.</td>
<td></td>
</tr>
<tr>
<td>___7. ___</td>
<td>Work-Study Programs</td>
<td>212 Student Services Bldg.</td>
<td></td>
</tr>
<tr>
<td>___9. ___</td>
<td>Religious Counseling</td>
<td>215 Student Services Bldg., Campus Area Churches</td>
<td></td>
</tr>
<tr>
<td>___10. ___</td>
<td>Library special services (e.g., xerox, reference help, etc.)</td>
<td>Main Library, Arps Library</td>
<td></td>
</tr>
<tr>
<td>___11. ___</td>
<td>Speech and Hearing Services (including laboratory)</td>
<td>Derby Hall</td>
<td></td>
</tr>
<tr>
<td>___12. ___</td>
<td>Orientation and Testing Center</td>
<td>Student Services Bl.</td>
<td></td>
</tr>
<tr>
<td>Hours/week</td>
<td>Resource</td>
<td>Location</td>
<td>Telephone</td>
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<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>13</td>
<td>Career Planning Services</td>
<td>Student Services Bl.</td>
<td></td>
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<tr>
<td>14</td>
<td>Reading and Learning Skills Service</td>
<td>Student Services Bl.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Psychological Consultation Services</td>
<td>Student Services Bl.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Language and Music Listening Laboratories</td>
<td>Union, Denny Hall, Main Library, some dormitories, fraternities and sorority houses</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Private Tutors</td>
<td>Lantern, Bulletin Boards, College Off.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Psychological Clinic</td>
<td>407 Arps Hall</td>
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<td>19</td>
<td>Psychiatric Services</td>
<td>Upham Hall</td>
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<td>20</td>
<td>Counseling Services</td>
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<tr>
<td>21</td>
<td>Other (specify)</td>
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<td></td>
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BIBLIOGRAPHY


