A TYPOLOGY OF EXPRESSED NEEDS OF ADULT STUDENTS PRIOR TO ENTRY AND FOLLOWING TWO TERMS OF STUDY AT MICHIGAN STATE UNIVERSITY DURING THE 1974-1975 ACADEMIC YEAR

By

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ABSTRACT

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Purpose

The major purpose of the research was to identify the expressed needs of the population of adult students attending Michigan State University in academic 1974-75 and to determine if and to what extent these expressed needs were altered during two terms of study.

Methodology

A 51-item questionnaire including 2 open-ended responses was administered to 775 newly admitted and readmitted students over twenty-six years of age. The target population included males, females, undergraduates, and graduates, who had enrolled for at least one credit course on campus in September 1974. Questionnaire I (Fall 1974) yielded 463 usable responses. Questionnaire II (Spring 1975), containing identical questions, was mailed to the

463 respondents to the first questionnaire. A total of 348 paired responses completed the sample. The demographic data were catalogued, analyzed, reported graphically and tested for statistical significance with the Chi Square Test. The Pearson Product Moment Correlation was utilized to test linear relationships between the two questionnaires. The open-ended responses were classified and discussed within the study.

Research Questions

The research questions were divided into two categories; those describing the population demographically, and those concerned with testing statistical relationships.

Question I.--What are the characteristics of the adult students entering Michigan State University in 1974-1975?

The majority of respondents were graduate students, male, between the ages of 26 and 30 years, married, studying education, social science, or business on the master's level. They indicated a continuous pattern of learning with less than two years elapsing since their last formal education. Although the demographic data correlates with other research reviewed, the findings do not indicate high ratios of students in their 30s and 40s returning to Michigan State University.

Question II.--Is there a significant linear relationship between the expressed problems in Fall term 1974 (Questionnaire I) and expressed problems in Spring term 1975 (Questionnaire II)?

There was a positive correlation at the .05 level of significance to answer Question II affirmatively. The pre-entry needs including admissions, financial aids, and selecting a major field and classes all decreased in the interim from Fall 1974 to Spring 1975. There were marked increases in expressed problems in scheduling classes, utilizing the library, time to study, parking, meeting other adult students, and receiving information about academic and social activities. No problem was completely alleviated during the two term interim.

Question III.--Are there significant differences between the expected frequencies and the obtained frequencies of the problem variables expressed by groups varying in demographic characteristics?

In comparing demographic groups, forty-six of the Chi Square tests were significant at the .05 level. A second set of Chi Square tests was performed to take into consideration the small numbers in a proportion of the cells. The results on tests of combined groups were reported in Appendix C of the research. Thirty-two tests were significant for the combined groups.

General Conclusions

The major problem variables expressed by at least 40 percent of the subjects were time to study, parking on campus, scheduling classes to fit available time, library skills, selecting classes, financial aid for both tuition and personal needs, and reading skills. Problems appear to be evenly dispersed throughout age and sex groups, with younger students reporting slightly higher skills and financial problems, and older students pointing out lack of confidence and difficulty in taking examinations as problem areas. In summarizing data concerning educational background and classification, undergraduates and master's candidates expressed the greatest number of problems. Community college graduates indicated the greatest financial and time concerns. In studying groups by the curriculum divisions, it was noted that problems expressed related directly to the college or area of study; admissions problems for medical students, lack of evening classes for business students, and lack of day classes for education students. The open-ended responses were of great interest to the researcher. Representive responses and suggestions were reported within the research.

The typology of needs resulting from the study of adult students at Michigan State University has been presented to update and statistically analyze data on the adult student population, to

consider possible solutions to the problems expressed by adult students, and to accurately describe the present situation as perceived by adult students returning to higher education. It is sincerely hoped that the research will contribute constructive solutions to problems confronting all students in higher education.

DEDICATION

This work stands dedicated to all those who have touched my life so closely during its completion--

---To my husband, Ed, who is secure enough in himself to encourage me to grow.

---To my children, Leslie, Laurel, Ward, Eric and Ethan who have dealt so patiently with the demands of research and study.

---To my mother, Gertrude Davidson, whose encouragement has helped so much in completing the work.

---To my major professor, Russell Kleis, whose special friendship and inspirational teaching have made the profession of continuing education the highest of callings.

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CHAPTER I

PURPOSE AND ORGANIZATION

Introduction

In the mid-1970s, the adult learner is becoming a common sight on American campuses. Older students are no longer considered educational anomalies by professors and younger students. Prestigious task forces and lengthy commission reports discuss problems and programs for lifelong learners, but often without consulting the recipients of the concern. Before beneficial changes can be conceived within any system, the individual members must be polled and information systematically gathered about their perceived concerns. On the basis of such information, changes can be considered which might better serve the students.

The Task Force on Lifelong Education at Michigan State University has said:

> Lifelong education implies for all colleges and universities a responsibility to recognize, anticipate, and assist in meeting the needs of individuals and groups.[1]

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[1] Task Force on Lifelong Education, Michigan State University, The Lifelong University (East Lansing, Michigan: Board of Trustees, 1973), p. 6.

It is in the spirit of recognizing, anticipating, and assisting in meeting needs that the following dissertation has been undertaken. The typology presented is a beginning in the assessment of educational needs of adult students in higher education in the 1970s.

Purpose of the Study

The major purpose of the research is to identify the expressed needs of the population of adult students attending Michigan State University in academic 1974-1975 and to test if and to what extent these expressed needs may be altered during two terms of study. The study sets three tasks: 1) identify the adult students returning to the university setting by age, sex, curriculum, and problems; 2) classify problems perceived by the adult students according to category and level of difficulty prior to entry and after two terms of study; and 3) report changes which occur in the expressed problems during two terms within the university structure.

The topic has been selected as the result of the researcher's increasing awareness of problems faced by adult students. The awareness has developed through the researcher's personal experiences in teaching reading and learning skills to adults, assisting with courses in the Evening College, and observing adult students at Michigan State University over the past decade. In addition, after

extensive reading and study in the field of higher education, the researcher believes a needs assessment is required before overt action can be initiated to solve the problems of the population represented here.

Rationale for the Study

The rationale for the study is indicated in recent research reports and statements by authorities in higher and continuing education. Statistical reports from U.S. government sources note that increasing numbers of older-than-average students are returning to higher education or beginning totally new fields of study for the first time. The Bureau of Census recently reported a 30.1 percent increase (between 1973 and 1974) in part-time enrollments in degree programs at colleges and universities for students over 35 years of age. The report also states that the over-35 group now constitutes 11.6 percent of the total enrollments in colleges and universities.[2]

An earlier report from the Department of Health, Education, and Welfare, Perspectives of Adult Education in the United States and a Projection for the Future, states;

> The education of adults is a rapidly expanding area in American education. Thus adult and continuing education

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[2]U.S. Bureau of Census Survey as reported in the Chronicle of Higher Education, Vol X, No. 4 (March 17, 1975), p. 1.

education is becoming a major field of research in a number of leading universities.[3]

A U.S. Department of Labor survey, reported in the Monthly Labor Review, points out that 1.5 million adults 35 years of age and over were enrolled in or attending school in October 1972. "Somewhat over half were enrolled in college, including graduate schools (780,000)."[4]

In the American Council on Education's research report, "Older Freshmen": Do They Differ from "Typical Undergraduates"?, Holmstrom states: "The number of students who delay college entry seems to be steadily increasing." Holmstrom projects declining percentages of students aged 18 to 21 enrolling in college with increasing numbers of older students, an inverse relationship to past trends in higher education.[5]

The preceding studies are cited to emphasize the growing trend toward increasing numbers of older-than-average students in colleges and universities in the United States. Further awareness

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[3]U.S. Department of Health, Education, and Welfare, Perspectives of Adult Education in the United States and a Projection for the Future (Washington, D.C.: U.S. Government Printing Office, 1972), p. 30.

[4]Anne M. Young, "Going Back to School at 35," Monthly Labor Review (October 1973), p. 39.

[5]Engin I. Holmstrom, "Older Freshmen": Do They Differ from "Typical Undergraduates"?, ACE Research Reports, Vol. 8, No. 7 (October 1973), Office of Research, American Council on Education, University of Calif., Los Angeles, p. 1.

of the increasing numbers and needs of such students is illustrated by recent studies of Cross and Valley,[6] Hesburgh, Miller, and Wharton,[7] and Gould.[8] These and other leaders in the field of continuing education have sensed this growth and have spoken to the issue. Glass and Harshberger discuss the issue of growing numbers:

> Increasingly, however, we find adults in their middle years forsaking their traditional roles in society and returning to the higher education classroom full-time, and for extended periods of time.[9]

Cyril Houle, Professor of Continuing Education, University of Chicago, characterizes the future:

> A swing away from acculturation of the young as a major goal of higher education, and a powerful thrust toward life-long learning . . . . A swelling of the number of middle-aged or older citizens who seek broader and more liberal forms of education.[10]

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[6]Patricia Cross and John Valley and Associates, Planning Non-Traditional Programs (San Francisco: Jossey-Bass Co., 1974).

[7]Theodore M. Hesburgh, Paul A. Miller, and Clifton R. Wharton, Jr., Patterns for Lifelong Learning (San Francisco: Jossey-Bass Co., 1973).

[8]Samual Gould, Diversity by Design (San Francisco: Jossey-Bass Co., 1973).

[9]J. Conrad Glass, Jr., and Richard F. Harshberger, "The Full-Time, Middle-Aged Student in Higher Education," Journal of Higher Education, Vol. XLV, No. 3 (March 1974), p. 211.

[10]John Valentine, "The Liberal Arts College and the Experienced Learner," Adult Leadership (February 1975), p. 239.

The Carnegie Commission is even more positive that the age of mass higher education is here and its problems cannot be shunted off to the future. Reform on Campus states:

> The student community is now highly diverse in ability, in achievement, in ethnic and political orientation, in age, and in academic and occupational interests--and it is becoming more so. This requires more variety of courses and programs, and differentiation in standards of performance. The age of mass education is here.[11]

Wharton, President of Michigan State University, relates expanding adult education directly to that institution when he states his belief that lifelong education will eventually become as important as undergraduate education is today. "Michigan State University, and other universities, can no longer afford to concentrate primarily on the 18-24-year-old population. We must take the ceiling off the college age."[12]

The fact that there are increasing numbers of adult students in higher education is one important rationale for this study. Equally important is the fact that, traditionally, adult learners have been processed through the university structure in almost exactly the same manner as, and often with less assistance than,

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[11]Carnegie Commission, Reform on Campus (New York: McGraw-Hill Co., June 1972), p. 23.

[12]Roger Rickliffs, "Wooing the Adult Student," Change (March 1974), p. 23.

regularly enrolled college students. Rauch decries the rigidity of the university system:

> We have found, by experience, that the "traditional" methods which were developed for children and youth, rarely suit the needs of adults. This is as true of basic literacy programs as it is of undergraduate and graduate academic programs. Adult continuing education people on the college and university level have only recently become interested in specific needs of the adult learner. Prior to the end of World War II, there was rarely such a thing as an adult on a college campus. In the early fifties, when adult higher education students were beginning to be noticed, they still were subject to the academic rigors of freshman week, compulsory physical education (that was not only unsuitable but possibly dangerous), ROTC and other requirements originally established for youth . . . . As the number of campus adults grew, they organized themselves to protest . . . . Mature adults, they pointed out, needed a different kind of learning situation . . . . Ideas for different formats for older students gradually developed.[13]

Knowles, the author of many texts on adult learning, has labeled the growing adult student population a "Neglected Species."[14] He believes that "the primary and immediate mission of every adult educator is to help individuals satisfy their needs and achieve their goals."[15] Knowles states the imperative for continuous re-diagnosis and assessment when he says:

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[13]David B. Rauch, "Open for Discussion," Adult Leadership (November 1974), p. 157.

[14]Malcolm Knowles, The Adult Learners, A Neglected Species (Houston, Texas: Gulf Publishing Co., 1973).

[15]Malcolm Knowles, The Modern Practice of Adult Education (New York: Association Press, 1971), p. 23.

> I should like to add a fifth dimension which springs directly from the fundamental conception of adult education as continuing education--rediagnosis of learning needs. If every learning experience is to lead to further learning, as continuing education implies, then every evaluation process should include some provision for helping the learners re-examine their models of desired competencies and reassess the discrepancies between the model and their newly developed levels of competencies. Thus repetition of the diagnostic phase becomes an integral part of the evaluation phase.[16]

The rationale for diagnosing learning needs becomes apparent when one considers that the marketplaces of higher education have changed drastically during the past decade. In 1965 there were increasing numbers of youth consumers, vast federally supported programs, and a general over-abundance in every respect. In 1975 there are a diminishing birth rate, an austere outlook in federal funding, and a radical change in public response to education. Colleges and universities no longer can cater exclusively to the youth market. Economic survival requires that new markets be developed, and the trend in 1975 is toward higher education as a lifelong process which need not necessarily be completed during the first two decades of life.

> The ultimate issue confronting higher adult education in the 1970's is that of survival. The pressure of societal need for massive, relevant, and dynamic programs for the continuing education of adults is becoming so great that if it cannot be satisfied within our institutions of higher education, it will be satisfied

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[16]Knowles, The Adult Learner, A Neglected Species, p. 122.

> outside them. University adult educators are increasingly apprehensive over competition from big business.
>
> Clearly, the survival of higher adult education as a university function is threatened unless university policy-makers successfully resolve the issues now confronting them.[17]

This is the conclusion of the American Council on Education's Report, Higher Education in the U.S. The ideas of survival related to our rapidly changing society and the need for educational efficiencies are combined in Simons's thinking:

> With our material civilization changing rapidly, and also with rapid changes in the social, economic, and political patterns of society, the education of adults to adjust and carry on this civilization must change or at least be flexible enough to change. It should be continually re-evaluated. Its objectives, as well as its techniques and methods of operation, should be continually examined. Educational efficiencies need to be improved and present administrative practices require drastic changing.[18]

In the words of the writers quoted here, there is an imperative for continuous assessment and re-evaluation of needs and resources in order to keep pace with the 1970s demands in higher education. We are becoming a "learning society," and this has implications for future generations of adult learners. Walton has recognized that

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[17]Malcolm Knowles, Higher Education in the U.S. (Washington, D.C.: American Council on Education, 1969), p. 46.

[18]Joseph Simons, Problems of the American University (Boston: Christopher Publishing House, 1967), p. 44.

"learning in the society at large is a way of life, all through life, and will become more so." He goes on to say:

> Adults have numerous needs to be met in education. Conditions of careers and occupations are changing rapidly: prerequisites to employment, requisites of continued employment, refresher-study and retraining to keep up, even the concept of gainful employment itself. Engineers, executives, and professors have to prepare for new occupations in midcareer; women, to have a proportionate share of the available jobs, even on college campuses, must prepare in larger numbers to compete on equal terms with men. Constructive use of leisure time too becomes more important, and for more years, as life-span creeps upward.[19]

As Walton points out, it is not only the needs for career and vocational education that will motivate adult learning, but also the desire for personal growth and fulfillment which will lure older students to return to higher education. It is also the diversity of the demands of this group which highlights the rationale for needs assessment.

In conclusion, the rationale for the study has been illustrated by research reports on the increasing numbers of older-than-average students, by authorities citing the move toward lifelong learning, and by the literature in the field which calls for more flexibility and increased programming for adult learners. The

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[19]Wesley W. Walton, "New Paths for Adult Learning" in Planning Non-Traditional Programs, Cross and Valley, eds. (San Francisco: Jossey-Bass Co., 1974), p. 95.

rapidly changing pace of society is also considered a reason for expanding and evaluating present programs. Much of this decades' research points to the need for universities to become more sensitive to the requirements of students in order to survive as well as to better serve the clientele. Bennis has pointed out the humanistic aspects of the situation:

> It isn't only for economic reasons that this "new clientele" should be encouraged. (At the present time it is anything but encouraged; try calling your local college or university to ask how to register as a part-time student in order to take one graduate course during the day.) It's just possible that "older people" (over twenty-five) may enrich and animate our campuses in a way that hasn't occurred since the golden days of the G.I. Bill of Rights. It's just possible that people with work experience, plus commitment to learning, will turn out to be the best students we've ever had. It's just possible that age diversity may be as exciting as ethnic and religious diversity (and perhaps more so--I suspect that there will be far greater integration among the ages than has yet arrived among the races) . . . . In sum, I believe that changes in higher education during the Seventies will come about not merely for the sake of change but rather for the sake of humanity.[20]

It is clear that adult education will continue to grow in importance, and in order to meet the new and changing demands that educators will face, it would be most useful--indeed, essential--to define the needs of the population.

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[20]Warren Bennis, "The University Leader," Saturday Review (December 9, 1972), p. 50.

Research Questions

In order to fully understand the purposes of the research, it is useful to divide the research questions into two categories. The first deals with the descriptive nature of the research, that is, the demographic relationships, including age, sex, marital status, curriculum, classification, educational level, and previous formal education.

QUESTION I: What are the characteristics of the adult students entering Michigan State University in 1974-1975?

A. What age groups are represented?

B. What is the sex ratio between men and women?

C. What percentage is married? What percentage is single?

D. What percentage is represented in each curriculum grouping?

E. Into which class levels are the subjects divided (for example, freshman, sophomore, junior, senior, graduate?

F. What is the previous educational experience of the respondents (college or university, community college, business school)?

G. How many years have elapsed since the last formal education experience?

The second category of information gathered in the research concerns the statistical data which were tested to determine levels of significance.

QUESTION II: Is there a significant linear relationship between the expressed problems in Fall term 1974 (Questionnaire I) and the expressed problems in Spring term 1975 (Questionnaire II)?

The Pearson Product Moment Correlation will be used to test the linear relationship between Questionnaire I and Questionnaire II. The correlations will determine the degree of relationship between the two questionnaires at the .05 level of significance.

QUESTION III: Are there significant differences between the expected frequencies and the obtained frequencies of the problem variables expressed by groups varying in demographic characteristics?

The Chi Square Test will be utilized in testing differences of each variable as perceived by each subgroup within the sample. The significant tests at the .05 level will be reported, accompanied by a description of the variation within the groups.

The major purpose of all testing completed on the data is to describe the population under study as thoroughly as possible. In summary, Question I will consider the demographic description of the subjects, Question II will describe the changes in responses between Questionnaire I and Questionnaire II, and Question III will describe the relationships between the problems and the demographic differences within the population.

The findings related to the research questions will be reported in Chapter IV, and the conclusions will be reported in Chapter V.

Limitations of the Study

The major limitations of the study include those related to the diversity of the group, the setting of the institution, and the general factors involved in survey research. A major drawback of the present study is that it constitutes a measure of a particular group of students at one point in time. Due to the great diversity of this group and the fact that many students are part-time, the basic nature of the group may change from year to year.

It should be understood that the population studied here is representative of a large, midwestern, public university. Many of the conclusions may be relevant only to the setting of the study. It is possible that the types of problems indicated in the research also might be found in similar populations in other types of educational institutions, but this conclusion is not assumed.

The data which determined the population to be studied were based on computer tabulations of the Admissions Office and Registrar's Office records at Michigan State University. The number and the

demographic information are limited to the validity of the computer printouts obtained from these sources.

The limiting factors placed on a mailed questionnaire have been the subject of much research. Due to the size of the population this limitation was essential. Allen defends the use of a questionnaire format for gathering data:

> Of course, data from a questionnaire may not be reliable, but the same could be said for data collected by any other method if improper collection techniques were used. On the other hand, data may be extremely reliable when collected by using a properly designed, pretested, and properly administered questionnaire.[21]

Borg also speaks to the issue of the design and use of questionnaires in compiling educational research data:

> Among the various methods of descriptive research, the questionnaire survey is by far the most widely used in education. The questionnaire survey can be a very valuable technique in helping us to understand the current situation in some particular educational area . . . . Few graduate students embarking upon a questionnaire survey realize the difficulties involved in planning and carrying out a satisfactory study of this type.[22]

The researcher is fully aware of the limitations of survey research, but due to the size of the population, this method was essential.

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[21]George R. Allen, The Graduate Students' Guide to Theses and Dissertations (San Francisco: Jossey-Bass Co., 1973), p. 52.

[22]Walter R. Borg, Educational Research, An Introduction (New York: David McKay Co., 1965), pp. 204-205.

It is assumed that the limitations of the study include the parameters set by the diversity of the group, the setting of the institution, the validity of the data tabulations, and the constrictions placed on survey research by the nature of the instrument.

Definition of Terms

Certain terminology is used in the research in a specific sense. To avoid confusion and enhance clarity, some of the terms will be defined and discussed.

"Typology" is defined in Webster's Third New International Unabridged Dictionary as "a doctrine or theory of types . . . a study based on types . . . a classification or hierarchy to be used in relationship to the 51 variables being tested.

The most controversial term used in the study is "adult." The literature is divided on a definition, and conflict is most evident in attempts to establish age criteria. The American College Dictionary states: "adult"--having attained full size and strength, grown up, mature." The definition goes on to distinguish between the common law age distinction of 21 years and the civil law

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[23] Webster's Third New International Unabridged Dictionary (Springfield, Mass.: G. and C. Merriam Co., 1964), p. 2477.

definition of 14 years for males and 12 years of age for females.[24] (The common law age is now 18.) The American Heritage Dictionary adds another dimension with "noun: one who has gained maturity or legal age; adj. [1]fully developed, mature, [2]pertaining to befitting or intended for mature persons: adult education."[25]

Within the field of adult education there is considerable controversy over a precise definition. The Handbook of Adult Education deals with the problem of age delineation from several perspectives: Verner defines adults as those "under forty," while Johnstone and Rivera label everyone "over twenty-one" as adult and define adult participants as those under 40 who have completed high school.[26] Houle defines adults as anyone over 18 years of age.[27] Erickson presented strong arguments for using 26 years of age as the best cut-off point in her research on adult students. At this

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[24]Clarence, Barnhart (ed.), The American College Dictionary (New York: Harper & Brothers, 1970), p. 17.

[25]William Morris (ed.), The American Heritage Dictionary of the English Language (Boston: Houghton-Mifflin, 1969), p. 18.

[26]Robert M. Smith, et al., Handbook of Adult Education (New York: Macmillan Co., 1970), p. 39.

[27]Cyril O. Houle, "Lifelong Learning in the Near Future," Address before the State Meeting of Community School Directors, Community College Personnel, and Adult Education Personnel, Grand Rapids, Michigan, May 14, 1974.

age, the adult undergraduate would have been away from formal education for as long as eight years.[28]

In addition to Erickson's cogent argument, the decision to use 26 years of age as the cut-off point in this study was based on a review of Michigan State University admissions data available on the general student population as defined by ages. Despite the fact that the present research includes graduate students who may not have been away from schooling for an extended period, the researcher believes those 26 and over will present a complete picture of adult students attending Michigan State University. Specific age divisions will be studied to compare differences in problems between age groups.

"Expressed needs" refer to those indicated on the questionnaire responses. (See Appendix A.) Generally, these needs have been defined within the context of the practical necessities for relative success within the system. The particular list used here is based on a review of past research, recommendations of the researcher's advisory committee, and personal experience in working with adult students at Michigan State University.

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[28]Mildred B. Erickson, "An Analysis of Selected Characteristics and Needs of Adult Undergraduate Students Attending Michigan State University, Fall Term 1966" (Unpublished doctoral dissertation, Michigan State University, E. Lansing, Michigan), p. 19.

"Prior to Entry" refers to the period September 3 to September 30, 1974 during which time participants were requested to return their responses. The criterion was designed to give the students an opportunity to respond after they had completed registration procedures, but many of them returned the completed questionnaires before registering and thus were unable to mention any problems encountered during registration.

At Michigan State University, a "term" is a ten-week period of course work. In academic year 1974-1975, Fall term extended from September 25 to December 6, 1974, Winter term from January 3 to March 15, 1975, and Spring term from March 25 to June 6, 1975. A lapse of two terms would include a span of time from September 25, 1974 to March 15, 1975. "Questionnaire I" in the discussion refers to the questionnaire mailed on September 3, 1974. "Questionnaire II" indicates an identical questionnaire (without demographic questions) mailed on March 3, 1975.

"Students" are defined as males or females over 26 years of age enrolled for any credit course at Michigan State University. Both undergraduates and graduate students are included to give a broader picture of the adult student population. No differentiation is made between full- and part-time students or degree and nondegree status.

An Overview

Chapter I has focused on the general structure of the research. The purpose and rationale of the study have been illustrated with supportive data and statements from authorities in the field. The scope, limitations, and setting of the research have been described, and pertinent terms have been defined and discussed.

Chapter II includes a thorough review of critical and scientific research and literature. The survey includes those materials available prior to April 1, 1975.

Chapter III describes the population studied, the research design, and the procedures utilized in interpreting the data.

Chapter IV contains the statistical tables and analyzes the data gathered in the study. Each table is accompanied by a brief discussion.

Chapter V summarizes the results of the research, offers suggestions for future research, and discusses the implications of the study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Chapter II encompasses a review of the literature concerning the problems and characteristics of adult learners as they relate to the field of higher continuing education. In categorizing the research in the field, the framework suggested by Bryson defines two types of thinking:

> One, which can best be described as "scientific," is marked by the fact that it is devoted to one value only, the verifiable truth. The other, which we will call the "critical," is devoted to the persuasive expression of well-founded opinion; in this critical writing other values, in addition to scientific truth, are taken into account . . . . Good critical writers are scholars who are as scrupulous as any scientist in sticking to the facts when facts are involved; their interpretations and opinions are thoroughly logical. And many scientists exercise their right as human beings to draw opinions from their knowledge.[29]

Bryson's distinctions will be utilized in presenting the review of literature. The first section, "Critical Literature," will

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[29]Lyman Bryson (ed.) An Outline of Man's Knowledge of the Modern World (New York, McGraw-Hill Book Company, Inc., 1960), p. 5.

include a brief discussion of the development of adult programs in higher education, the needs of adults as perceived by leaders in the field, and commission reports containing projections for future programs and study, including university reports relating specifically to Michigan State University. The second section, "Scientific Literature," will discuss dissertation research and funded projects which focus on the problems of adult learners.

It is impractical to attempt to include all literature in the area of higher adult education in one review. With this in mind, the researcher has attempted to discuss a representative sample of the field.

Critical Literature

> The need for research and sound theory in American adult education was recognized by such leaders as Lindeman and Overstreet in the 1920's and 1930's.

Although adult education was a recognized need over forty years ago, limited funding and lack of trained leadership delayed the development of the theoretical base of adult higher education until the early 1950s. In 1951 the Adult Education Association was organized, and the Fund for Adult Education was established with support from the Ford Foundation. In addition, the Center for the Study of

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[30]Smith, et al., op. cit., p. 137.

Liberal Education for Adults was founded at Syracuse University in 1951 and became the philosophical center of the adult learning movement. Many of the leaders in university continuing education participated in the activities of the center. The late John B. Schwertman, one of the intellectual leaders of CSLEA in the 1950s, gave two basic reasons for college level interest in adult education. First, adult education has become crucially important in the economic survival of the American university, and adult students bring in needed funds. Second, on a higher plane, adults present a great intellectual challenge in a college setting. "The role of adult education in our kind of society has the greatest implications for conditions under which we work, live, and teach. As a respectable field of intellectual inquiry, adult education can well demand a professional commitment from at least some college teachers."[31]

In one CSLEA paper, Horn spoke to the issue of why adults require continuing education:

> Rapid changes in technology and in the nature of job requirements resulting therefrom, will require almost constant continuing formal study regardless of occupation. Job tenure or success in the future will depend upon keeping up with advances being made in the particular vocational specialty, whether it is accounting

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[31]Marilyn V. Miller, On Teaching Adults: An Anthology, CSLEA, Notes and Essays on Education for Adults, No. 32, Chicago, 1960, p. 3.

> or salesmanship, teaching or social work, law or medicine.
>
> The conditions of contemporary living which almost drive adults to turn to educational institutions for knowledge, understanding and help are aggravated by two other characteristics of our society which enforce the need and the desire for continuing education. These are greater leisure and greater longevity.[32]

Carey, another CSLEA contributor, illustrates the humanistic approach evident in much of the research of the Center.

> Institutions no matter how complex and monolithic they may be are made up of people, and if their attitudes toward what is important are crucial, one can at least conceive of circumstances which might change the basic attitudes.[33]

The work of the Center for the Study of Liberal Education for Adults marks the beginning of a philosophic base for adult education in universities. From this beginning, the field moved into empirical research and substantially funded commission studies, such as those conducted by the Carnegie Commission.

The Carnegie Commission on Higher Education has devoted six years to an in-depth analysis of higher education facilities and

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[32]Francis H. Horn, Promoting High Standards of Professional Excellence CSLEA Occasional Paper No. 9, 1964, pp. 4-5.

[33]James T. Carey, Forms and Forces in University Adult Education (Chicago: Center for the Study of Liberal Education for Adults, 1961), p. 23.

projections for the future.[34] The New Students and New Places portion of the Carnegie reports addresses the issue of adult students in higher education:

> Along with the continuation of recent trends, we anticipate a new type of development as perhaps the predominant characteristic of the last three decades of the present century--a movement away from participation in formal institutional higher education in the years immediately following high school toward a more free-flowing pattern of participation spread over a broader span of years, perhaps well into middle age and beyond.[35]

Much of the Carnegie research reflects similar ideas that education will become a lifetime process and that high school graduates will move away from the pattern of continuous schooling from kindergarten through college.

One portion of the Carnegie series focuses specifically on higher education and the adult learner; Less Time, More Options sets forth basic recommendations to change the general flow of students into and through the formal structure of higher education

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[34]Carnegie Commission, Priorities for Action: Final Report of the Carnegie Commission on Higher Education (New York: McGraw-Hill Book Co., 1973).

[35]Carnegie Commission, New Students and New Places (New York: McGraw-Hill Book Co., October 1971), p. 39.

in the United States.[36] It states that "opportunities for higher education and the degrees it affords should be available to persons throughout their lifetimes and not just immediately after high school."[37] All of the report's recommendations point to greater flexibility, less emphasis on credentials, and more lifelong learning patterns. The section entitled "Possibilities of Improvement" suggests that educational opportunities could be made more appropriate to lifelong interests.

> We suggest more chances for reentry by adults into formal education, more short-term programs leading to certificates, and generally, more stress on lifelong learning. We oppose the sharp distinctions now made among full-time students, part-time students and adult students. Education should become more a part of all of life, not just an isolated part of life. An educational interlude in the middle ranges of life deserves consideration.[38]

Another portion of Carnegie funded research was completed by the Commission on Non-Traditional Study, chaired by Samuel Gould.[39] As the result of his work, Gould stresses the special needs of the "new student" and the concepts of modern technology in education.

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[36]The Carnegie Commission on Higher Education, Less Time, More Options, Education Beyond the High School (New York: McGraw-Hill Book Co., January 1971).

[37]Ibid., p. 1

[38]Ibid., p. 11.

[39]Samuel B. Gould, Diversity by Design (San Francisco: Jossey-Bass, 1973).

He calls for recurrent and continuous education accompanied by continuous evaluation of programs and resources. He admonishes educators:

> We should have learned by now that the key to education for the future is a sense of individual responsibility in each student for choosing, with guidance when necessary, the type of education which will benefit him or her most.[40]

The Commission on Non-Traditional Study focuses on the needs of adult learners in both formal and nonformal settings. Gould has been quoted as saying that "higher education today is clearly not meeting the needs of a changing social structure or a vast population of unaffiliated students--veterans, housewives, or older citizens."[41]

The research of the Carnegie Commission has contributed significantly to the theoretical knowledge about adult learners and their problems and programs. A major contribution has been the focus on adult learners as a group worthy of study and assistance.

In addition to efforts such as those of the Carnegie Commission, university-based research has contributed valuable insights and recommendations. Michigan State University has been the center

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[40] Ibid., p. 38.

[41] Educational Testing Service, "Commission on Non-Traditional Study Develops Action Program," ETS Developments, Vol. XVIII, No. 3 (Spring 1971), p. 1.

of several major commission studies which have contributed to the body of knowledge on problems of adult learners. A 1967 study related to the present research was conducted by a committee of faculty members spanning all departments on the undergraduate level.[42] One section of the report, "For Future Study," recognizes the needs of the "more mature students":

> The education of men and women who, for a number of reasons, cannot register for regular university programs is a matter of concern on many campuses. Employment and family responsibilities restrict some interested people to slow progress; some may enroll only for courses offered in the evening. Yet many people who live within commuting distance of the university are sincerely interested in a college education and wish to earn the degree which will provide them with increased abilities to offer their employers, as well as the personal satisfaction they have previously been unable to achieve. To serve this group adequately one must be concerned not only with the instructional needs of the more mature student, but also with special problems associated with facilitating their advising and enrollment in periods when the university offices normally are not open. In particular it is necessary to provide faculty office hours, advising facilities and course offerings several evenings per week and perhaps on Saturday mornings as well.[43]

It should be noted that the report focuses only on undergraduate problems, although it does include concerns of mature students.

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[42]Report of the Committee on Undergraduate Education, Improving Undergraduate Education, Michigan State University 1967 (East Lansing, 1967).

[43]Ibid., p. 126.

The W. K. Kellogg study, funded in 1971, has resulted in two volumes concerning the needs of adult students in the university setting. The first of these, a Task Force report entitled The Lifelong University, was published as an "in-house" report by the Michigan State University Board of Trustees.[44] The report attempts to define lifelong learning and to make substantial recommendations. The Task Force, composed of 22 deans and professors and a multitude of resource persons, stated that "the educational needs of a large segment of our present population are not now being met by the existing formal educational system."[45] The report offered 67 separate recommendations, including expanded admissions criteria, more flexible registration procedures, supportive services, improved parking facilities, a special orientation program for nonconventional students, more flexibility in credit transfer, more ease in scheduling and access to facilities at nontraditional times (evenings, weekends, summers), time options for degree completion, and credit for past "life experiences." The report also mandates information and assistance centers, aid and information concerning university services, financial aid, and special advising for the lifelong learner.[46]

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[44]Task Force on Lifelong Education, op. cit.

[45]Ibid., p. 16.

[46]Ibid., pp. 18-61.

A major contribution to the literature, The Lifelong University is a carefully structured, practical manual for changes which would facilitate the progress of adult learners. It is important to note that The Lifelong University has been published in its entirety as a section of a triuniversity effort entitled Patterns for Lifelong Learning.

Patterns for Lifelong Learning presents the approaches of three different institutions to the problems of lifelong learners.[47] It deals with many of the changing educational needs of adults as they progress through life: "The changing nature of our society requires virtually all citizens to gain new skills and intellectual orientations throughout their lives."[48] One of the key ideas in the book is that each university should renew its commitments as well as identify the resources necessary to meet its responsibility to lifelong learning. It is a well-written treatise on higher education theory and practice.

The review of the critical literature has attempted to follow the thread of development from the CSLEA studies of the 1950s through the commission and task force studies of the mid-1970s. The references reflect the problems of adult learners in the higher

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[47]Theodore M. Hesburgh, Paul A. Miller, and Clifton R. Wharton, Jr., Patterns for Lifelong Learning (San Francisco: Jossey-Bass, 1973).

[48]Ibid., p. 3.

education setting in a general sense, and it was upon this theoretical work that much of the empirical research discussed next was based.

Scientific Literature

National research studies and dissertations relating to the characteristics and needs of adult students will be discussed in this section. The studies included in the review were completed between 1965 and 1974.

National Survey Research

Johnstone and Rivera's Volunteers for Learning stands as one of the monoliths in survey research on adult learners. The 1961-1962 study was funded by the National Opinion Research Center and attempted to present a comprehensive study of the educational pursuits of American adults.[49] The authors defined the typical participant as young, urban, middle class, and fairly well educated.[50] The main reasons respondents gave for not participating in adult education activities were lack of financing, time, and

[49]John W. C. Johnstone and Ramon J. Rivera, Volunteers for Learning (Chicago: Aldine Publishing Co., 1965).

[50]Ibid., p. 21.

energy. A great number of enrollees in continuing education programs surveyed indicated a certain level of dissatisfaction with the programs. The researchers stated:

> The most important conclusion to be derived from this study is that America is likely to experience an adult education explosion during the next few decades . . . . Even very conservative projections suggest that within two decades the population will contain as many as 64 percent more adults who have been to college, 59 percent more who have attended high school, and by contrast, some 15 percent fewer with only a grade-school education. It should be abundantly clear, then, that the potential audience for adult education is increasing at a much faster rate than the population as a whole. Just as in the fifties and sixties the regular school system had to tool up rapidly to accomodate the greatly increased numbers of young persons in the population, so too in the seventies and eighties adult education will be subject to greatly increased demands as this group moves into the social categories where greatest uses are made of adult education.[51]

Johnstone and Rivera combined questionnaire and interview techniques to gather data. Their sampling was thorough and carefully tested. In retrospect their projections were slightly optimistic, since the three major problems they noted remain problems for the students in 1975. For this reason, and because they used similar demographic characteristics, the Johnstone and Rivera research is most relevant to the present study.

One of the most current and comprehensive scientific studies of adult needs was prepared by Cross and Valley (and

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[51] Ibid., pp. 19-20.

Associates) for the Commission on Non-Traditional Study.[52] The commission was established under the joint auspices of The College Entrance Examination Board and Educational Testing Service with a grant from the Carnegie Corporation of New York. In their survey of learners (N = 1207) and would-be learners (N = 3001), the researchers asked specific questions about what kept adults away from education. The majority of "would-be-learners" indicated the following reasons for lack of participation,

1. Cost, including books, learning materials, child care, and transportation as well as tuition (53 percent);
2. Not enough time (46 percent);
3. No desire to attend school full time (35 percent);
4. Home responsibilities (32 percent); and
5. Job responsibilities (28 percent).[53]

The researchers describe the learners as equally divided among men and women, younger than the general population (40 percent under age thirty), more nonmarried than married, urban rather than rural, and relatively well educated (42 percent had at least some postsecondary education).[54] The Cross and Valley descriptive data support the

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[52] K. Patricia Cross, John R. Valley, and Associates, Planning Non-Traditional Programs (San Francisco: Jossey-Bass Series, 1974), p. 227.

[53] Ibid., p. 46.

[54] Ibid., p. 217.

findings of Johnstone and Rivera and are in accord with the data gathered on adult students at Michigan State University in 1975.

In reflecting on the results of their work, Cross and Valley stated:

> The likelihood that over three-quarters of American adults are interested in some form of new learning, and almost a third of them participated in some kind of formal or informal learning within the past year (1972), based on a national probability sample of almost 1900 respondents, has major implications for planners of non-traditional programs. Translated into numbers, some eighty million Americans between the ages of eighteen and sixty who are not studying full-time are probably interested in continuing their learning, and some thirty-two million adults have most likely recently engaged in learning.[55]

The Commission on Non-Traditional Study found that adults do have numerous needs to be met in education. These include career and occupational change, retraining and upgrading, constructive use of leisure time, and continuing adaptation. Walton, an associate of Cross and Valley, made the following commentary:

> Despite the welcome increase in the number of non-traditional programs offered by the higher institutions, when viewed in the context of eighty million would-be learners, these programs fall far short of meeting the need. Wanted programs offered by colleges are out of reach of much of the market.[56]

In evaluating the Cross and Valley research, it should be kept in mind that the problems of both would-be learners and

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[55] Ibid., p. 49.

[56] Ibid., p. 96.

learners were structured responses with one open-ended response at the end of a list of 24 closed-ended ones. The structured responses could have slanted the results. A major contribution of the study which relates to the present research is the following:

> The broader experience of adults, their motivations for learning, and their freedom from compulsory schooling not only distinguish them from younger students, but, together with the distinctive educational problems of adults, may call for specialized guidance and counseling. Yet there are separate counseling and advisement services for adults in less than ten percent of the surveyed institutions (N = 1185).[57]

The Cross and Valley research stands out as a competent piece of research in the field of non-traditional study.

A 1971 study completed by the Women's Bureau of the U.S. government surveyed the needs and services required by women in continuing education. The needs listed for this group were:

1. Limited course loads in degree and nondegree programs;
2. Flexible scheduling;
3. Liberal provisions for transfer credits;
4. Educational and employment counseling;
5. Financial assistance for part-time study;
6. Nursery services; and

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[57] Ibid., p. 58.

7. Job placement or referral services.[58]

The needs represented in the Women's Bureau study are somewhat different from those resulting from studies of both men and women.

Dissertation Research

The dissertations relevant to this study are divided into two classifications: 1) those dealing with the problems of women students; and 2) those dealing with the problems and characteristics of a total segment of the college population.

I. Studies of Mature Women Students

Hunt studied the anxiety and success patterns of women students at Lansing Community College in 1964. Two of her most important findings were that after two terms of success mature women show a high level of confidence, and there is a need for specialized adult counseling and child care facilities.[59] Hunt's conclusions centered around the need for control of time by the women students

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[58]U.S. Women's Bureau, Continuing Education Programs and Services for Women (Washington, D.C.: U.S. Government Printing Office, 1971).

[59]Beverly Hunt, "Characteristics, Perceptions, and Experiences of Married Women Students at Lansing Community College" (Unpublished dissertation, Michigan State University, 1965).

surveyed. "Over half of the women felt that a shortage of time was their greatest single problem in combining school and home responsibilities."[60] Child care and financial aid also constituted major problems for the sample of married women enrolled in Lansing Community College. Hunt's study combined questionnaires and interviews and included 149 subjects.

In 1970, Tate analyzed adult women students at Genesee Community College and developed a list of needs perceived by these women as fulfilled or unfulfilled by the college structure.[61] The study surveys 259 women students, all over the age of 20. The major problems mentioned were financial difficulties, child care, and home responsibilities. The researcher recommended improved child care facilities, counseling services geared to adult women, better dissemination of materials and information, improved parking facilities, and more flexible transfer credit systems.

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[60] Ibid., p. 108.

[61] Mildred C. Jackson Tate, "An Analysis of the Relationship Between Selected Personnel Socio-Economic Characteristics of a Random Sample of Adult Women and Their Reasons for Enrolling in an Urban Community College" (Unpublished dissertation, Michigan State University 1971).

II. Studies of Characteristics and Problems of Adult Students

Zelmer includes both men and women in her study of part-time students at the University of Alberta, Canada.[62] Zelmer's dissertation, in multimedia form, incorporates slides and taped interviews with part-time adult students. She points out conflicting time demands as a major stumbling block to adult progress. Zelmer uses three groups with sixteen subjects in each group as the sample for the research. The small sample size and the cumbersome form of the dissertation pose problems in assessing the value of the results.

A major contribution to the study of adult needs is Erickson's work, which deals with undergraduate adults over 26 years of age attending Michigan State University in Fall 1966.[63] Erickson found that adults do have special needs (differing from those of younger residential students). These needs include special scheduling of classes, more counseling and advising prior to entry, more

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[62]Amy Zelmer, "The Adult Part-time Student Role in Extension Programs at the University of Alberta, Canada--1970-71" (Unpublished dissertation, Michigan State University, 1973). (Multimedia; Vol. I-Bound, Vol. II Slide-tape collection in Main Library.

[63]Mildred Brinkmeier Erickson, "An Analysis of Selected Characteristics and Needs of Adult Undergraduate Students Attending Michigan State University--Fall Term 1966" (Unpublished doctoral dissertation, Michigan State University, 1968).

flexibility in course requirements, more financial aid, better parking facilities for commuting students, and more individualized attention. The research focused on two separate areas: the characteristics of the adult undergraduate and the needs of the students. The data on 494 respondents were collected by a questionnaire containing both closed and open-ended responses. Erickson included all undergraduate students above the age of 26 years in her study. It is important to note that Erickson recommended a continuing clientele analysis by institutions of higher learning.

Jeghelian characterizes adult students by their personality traits.[64] In her 1970 research conducted at Boston College, she states:

> Many of the traits which characterize men students in the Evening College also characterize women students. Thus there appear to be among them fewer of the expected personality differences between the sexes.[65]

The traits tested in the research were ambition, competitiveness, and aggressiveness. The study distinguished between "new-admits" and "re-admits" and found fewer adjustment problems among those respondents with prior college experience. Jeghelian found no correlation between financial status and success in Evening College

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[64]Alice Jeghelian, "Persistance in Adult Students and Its Relationship to Selected Psychological Factors" (Unpublished doctoral dissertation, Ph.D. degree, Boston College, Boston, Mass., 1971).

[65]Ibid., Abstract.

programs for credit. A bulletin based on her research and published by Boston College points out:

> It must be kept in mind, however, that the uniqueness or individuality of adult students still remains their outstanding feature . . . . In today's society greater personal freedom, "doing your own thing," and increased educational opportunities enable both sexes--and women in particular--to find expression and satisfaction in unique and individualistic ways. Education is a key "enabling" process.[66]

Jeghelian also noted the contribution adult students make in the Evening College.

Barney studied both the characteristics and the educational needs of adult students (over 24 years of age) at the University of Oklahoma.[67] The research included 295 male and 144 female undergraduate students. Barney listed the most frequent problems as registration, parking, unavailability to courses, time to study, teacher attitudes and methods, study habits, and lack of academic counseling.

Summary

The discussion of the scientific research has included both national studies sponsored by private and public organizations and

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[66]Boston College, "Evening College Students: What Makes Them Tick?," Boston College Bulletin (Chestnut Hill, March 1972).

[67]Anna Sue Barney, "Characteristics and Educational Needs of Adult Undergraduate Students at the University of Oklahoma,"

dissertations related to the problems of adult students. The calibre of the research cited appears to be scholarly and well-written. Although the literature surveyed proved useful lecting age criteria and delineating problems, no study was found which includes both graduate and undergraduate students of both sexes or which measures adult learners' needs in a university setting at two points in time. It is hoped that the present research will provide this needed perspective.

There is little doubt that adult education is and will continue to be of increasing importance. Before specific programs can be designed and policies instituted, it is necessary to discover the more precise needs of the mature student. It is with this purpose in mind that the present study was undertaken. In the following chapters the methodology used in determining the population, the research design, and data collection and interpretation will be presented.

(Dissertation for Doctor of Philosophy Degree, University of Oklahoma, 1972).

CHAPTER III

PROCEDURES AND METHODOLOGY

The Population

In this chapter the procedures for determining the population, selecting the research design, and collecting and interpreting the data will be discussed.

The population includes all adult students born prior to December 31, 1948, who had applied as new admissions or readmissions to Michigan State University by September 3, 1974. A student had to carry at least one course for college credit on campus to be considered within the population. Males, females, graduates, undergraduates, non-degree students, all colleges and curricula, and all classifications of students were included in the population. Students from foreign countries were excluded because of the difficulty in reaching them during the month prior to registration.

The demographic data requested from the Admissions Office, Michigan State University, concerning new admissions and from the Registrar's Office concerning readmissions included name, student number, home address, sex, marital status, curriculum, program

level, class level and status. Since this information was already available it was eliminated from the questionnaire, but will be included in the analysis.

For purposes of the research, it was determined that the entire population of new admissions and readmissions over 26 years of age, 1,287 subjects as reported from the official records, was a small enough number to be included in the initial inquiry. The second survey, mailed March 3, 1975, included only those 463 respondents who had completed usable responses to the first questionnaire.

Population age parameters for the study were defined previously as students born prior to December 31, 1948. Having established the parameters, further delimitation of the target population proved a difficult task. The fact that many of the original group were graduate students who had applied and been accepted at several graduate schools, and the fact that many students apply and then do not register for classes for one reason or another caused the original target population to diminish from 1,287 to 837. There were 837 adult students who had been accepted by September 3, 1974, who had actually enrolled for classes according to the official information from the data processing center at Michigan State University.

Of the original target population of 837 registered students, 463 responded to the first survey with usable responses. The 374 unusable responses included the following:

37 deleted due to lack of complete information,

33 returned by the U.S. Post Office as undeliverable,

62 attending off-campus College of Business programs in Warren, Michigan,

242 nonrespondents.

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374 unusable responses

463 usable responses

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837 total population.

The total return, as shown in Table 1, was 71.09 percent on the first inquiry. A total of 463, or 55.3 percent of the responses on the first questionnaire, were usable in the study. The second questionnaire was mailed to the 463 respondents to the first inquiry. Of that population, 348, 75.2 percent, responded to the second inquiry.

TABLE 1

POPULATION DISTRIBUTION IN STUDY

1287 letters and questionnaires were mailed on September 3, 1974.

837 of the original group actually registered for classes by September 28, 1974.

62 of the 837 were "Eppley Center" Business graduate students off campus.

775 were the total population under study.

584 questionnaires were returned by December 15, 1974.

463 of the returned questionnaires were complete and valid.

348 of the 463 valid respondents completed and returned the second response by May 1, 1975.

Research Design and Methodology

The research instrument is a 51-item questionnaire with four quantitative responses: 1) No Problem; 2) Minor Problem; 3) Moderate Problem; and 4) Major Problem. In summarizing the data, zero is used to indicate no response.

The items in the questionnaire are a compilation of needs gleaned from previous studies, from experience in working with adult college students, and from suggestions of professors and committee members. The list was condensed from 87 to 51 for ease of completion. The items are divided into three general categories: pre-entry needs, skill needs, and personal needs. One question concerning financial aid is repeated at two different points within the questionnaire to test the internal validity of the instrument (Items I-11 and III-3).

The initial trial of the instrument was made in a graduate seminar in continuing education. Although the group responding was not new to the system, the comments and criticisms presented assisted in clarifying the questions and limiting the number of items. (N = 15 for the trial run with 11 respondents.)

In addition to the variables being tested, three items of demographic information were requested on the form. Since most of the data of interest already was available from the Admissions

Office, the information requested was: present educational status, type of institution attended prior to Michigan State University, and number of years since taking a college course for credit. The responses to the second question, type of institution attended, proved ambiguous and are not analyzed in the research.

The covering letters for the initial inquiry, follow-up, second inquiry, and follow-up, and the questionnaire are reproduced in Appendix A.

In addition to closed-item responses, two opportunities were presented for open responses at the end of the instrument. These comments were typed and classified and are discussed in Chapter IV.

The instrument was printed and mailed with the cover letter and a postage prepaid envelope to the entire population of interest (N = 1,287).

The research design calls for two types of analysis: The first utilizes the Pearson Product Moment Correlation and compares responses on Questionnaire I (Fall) and Questionnaire II (Spring) to test any linear relationship between the two questionnaires at different points in time. The second analysis tests the relationship between specific demographic variables and certain problem variables that obtained high percentages in the computer frequency count. A Chi Square Test was used for this data.

Collecting and Tabulating the Data

Each questionnaire was hand-tabulated on a Fortran coding sheet. From the coding sheets, computer cards were punched at the Computer Center, Michigan State University, and two sets of cards were developed for the two questionnaires. The 463 cards for the Questionnaire I (Fall) responses were analyzed separately for demographic data, frequency counts, and standard deviations. The Questionnaire II responses were also analyzed separately before being combined and tested with Questionnaire I.

Procedures for Interpreting the Data

A CISSR (Computer Institute for Social Science Research) program was utilized in interpreting the data. Computer tabulations were made and the data were correlated and charted on the basis of the print-out information.

Due to the sizable amounts of data collected, it was determined with the aid of the Research Consulting Service, College of Education, that the number of variables tested should include only those indicated as problems by at least 25 percent of the total population. Twenty-seven variables were included in the 25 percent criteria category. It is these variables that are studied and compared most comprehensively in the research. The remaining variables

will be discussed in contingency tables in Chapter IV, but will not be included in the analysis.

Two statistical measures are utilized to measure the difference in the variables.

The Pearson Product Moment Correlation

The Pearson Product Moment Correlation is the statistical measure used to test for a significant linear relationship between Questionnaire I (Fall 1974) and Questionnaire II (Spring 1975). It is important to note that the large size of the sample makes the Pearson valid only as a descriptive tool. With 348 matched responses, there would almost always be a significant correlation.

The steps in setting up the correlation are noted below. (1) The two sets of computer cards were paired for each subject. The card for Questionnaire I followed the card for Questionnaire II. (2) A program was designed from the CISSR system to test the paired data. (3) The program and matched set of data cards were processed through the computer (4) Each table was analyzed for linear relationships, changes in the direction of lesser problems, and changes in the direction of greater problems. (5) The Pearson r was found for each variable and squared.

Besides identifying the correlation, another reason for using this procedure was to describe the direction in which the change in problems moved during the two-term interim.

Downie and Heath present a thorough rationale for the use of the Pearson in Basic Statistical Methods.

> Correlation is basically a measure of relationship between two variables . . . . It should be noted here that these relationships do not necessarily imply that one is the cause of the other . . . . Most correlation coefficients tell us two things. First, we have an indication of the magnitude of the relationship . . . . [Second] when two variables are positively related, as one increases, the other also increases.[68]

The range of the correlation coefficient can run from a -1 to a +1 in its entirety.

One aspect to consider in studying the Pearson Correlation results is that the variation is limited due to the fact that each variable has only five levels. There is generally better correlation on the Pearson when a large number of variable levels is used.

The Z Test can be utilized to test the significance of the correlation. In this case:

$$Z = r\sqrt{N-1};$$

$$Z = 1.65 \text{ (the tabled value)};$$

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[68] N. M. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper & Row, 1959), p. 78.

N = 348 (the paired responses); and

r = the computerized correlation.

It follows that

the square root of 347 = 18.6279

and that

$$\frac{1.65}{18\ 6279} = .09$$

The use of the Z Test indicates that any value over .09 would be significant at the .05 level.

The r^2 factor in Table 61 presents the percentage of variation shared by the two variables.

In summary, the Pearson Product Moment Correlation was utilized to test the linear relationship existing between Questionnaire I and Questionnaire II. A significant relationship does exist for all 50 variables.

The Chi Square Test for Significant Difference

The Chi Square Test was utilized in analyzing the data to determine any statistical significance between the demographic variables (age, sex, class, curriculum, number of years since taking a class, and present educational status) and the problem variables.

The steps for setting up the Chi Square tests were:

1. The computer cards for Questionnaire I were used for the Chi Square tests. These cards (N = 463) contained both the demographic variables and the responses to Questionnaire I.

2. A program was designed from the CISSR system to test the variables.

3. Six individual computer tests were made; one for each of the demographic variables under consideration (Variable 3, marital status, was not included).

4. Each table printed was carefully analyzed for cell relationships and for the overall chi square for the variable.

5. Only the significant Chi Square tests were recorded for the research.

A controversy exists among statistical theorists concerning the importance of small cell size influencing results in the Chi Square tests. The researcher is interested in the problems expressed within the small cells in this research. In order to include the members in small cells, Chi Square tests were computed for each group. Upon completion of the research, a second set of

Chi Square tests was completed combining small cells to check the accuracy of the first tests. The results of the combined cell tests are reported in Appendix C.

Summary

A skeletal framework of design and processes has been presented in this chapter. Some discussion of the population selection was necessary to clarify the target group under study. The rather brief account of data interpretation will be expanded in Chapter IV.

CHAPTER IV

ANALYSIS OF DATA

Introduction

All data gathered on the population under study from September 3, 1974 to June 1, 1975 will be reported in this chapter, which is divided into three major sections. In Section I the researcher discusses the demographic information and frequency distributions related to the population. Reported in Section II is the statistical analysis of the correlations utilized in describing each variable. In Section III the writer catalogues and analyzes the open-ended responses included in the questionnaire.

Section I--Demographic Variables

The demographic variables selected for analysis here are those characteristics related directly to the student's status. They are: 1) age, 2) sex, 3) marital status, 4) curriculum, 5) class status, 6) present educational level (as of September 1974), and 7) number of years since taking a college course.

Statistics on the first five variables were provided by the data processing computer department in the Admissions Office and the Registrar's Office of Michigan State University. Information on variables six and seven was gathered directly from the participants on the first page of the initial questionnaire. All data were numerically coded.

Age

Table 2 indicates that the majority (60.26 percent) of students returning to Michigan State University in 1974 were in the age group 26 to 30 years. By adding the age group 31 to 40 years, 91.79 percent of the population of students over 26 years of age is represented. From these data it is surmised that the majority of returning students are in their middle 20s and 30s, with only a small percentage (7.99 percent) over 40. This demographic picture is representative of the university population as a whole based on the data gathered in the Office of Evaluation and Research, Michigan State University.

TABLE 2

POPULATION DISTRIBUTION BY AGE

Age	No. of Students in Study	Percentage
Group 1--26-30	279	60.26
Group 2--31-40	146	31.53
Group 3--41-50	29	6.26
Group 4--Over 50	8	1.73

Sex

A review of the literature indicates that the ratio of male to female students has remained at 60-40 in the general population of university students over the past decade. The data presented here support this ratio. Table 3 indicates that 280 males (60.48 percent) and 183 females (39.52 percent) responded to the initial inquiry. A random check of Michigan State University population reports reflects the same ratio.

TABLE 3

POPULATION DISTRIBUTION BY SEX

Sex	No. of Students in Study	Percentage
Male	280	60.48
Female	183	39.52

Marital Status

The marital status of the students studied was not correlated with the statistical analysis of the problems. It is reported in Table 4 as demographic information. At the time of the first contact in September 1974, 304 students were married, and 158 were single. (The computer records do not reflect divorces or widowed respondents, although 15 subjects did identify themselves in these categories in the open-ended responses.

Child care (Problem #43) and support from spouse and family (Problem #51) were the only two problems related directly to marital status, and these were considered as significant issues by less than 16 percent of the population.

TABLE 4

POPULATION DISTRIBUTION BY MARITAL STATUS

Marital Status	No. of Students in Study	Percentage
Married	304	65.66
Single	158	34.13

Curriculum

Data were gathered on specific curricula and by general curricula or college groups. Due to the small number of frequencies found in each cell when specific curricula were studied, the conclusions drawn about problems related to curriculum groups were based on the larger divisions. The university coding system for curriculum is both numerically and alphabetically based. For computer analysis of the data, it was necessary to recode curricula into all numerical classifications. The largest groups represented in the study are education (23.97 percent), the social sciences (17.28 percent), business (12.32 percent), and agriculture and urban studies (12.31 percent). A complete chi-square analysis of problems considered by each curriculum area appears later in this chapter.

TABLE 5

POPULATION DISTRIBUTION BY CURRICULUM

Department	No. of Students in Study	Total in College	Total Percentage
Arts and Letters			
University College--No Pref.	8		
Linguistics and Oriental and African Languages	1		
Arts and Letters	1		
Art	5		
German, Russian, English, Romance Languages	11		
History	3		
Music	5		
Philosophy	3		
Theater	3		
Total		40	8.64%
Agricultural, Ecology, and Urban Programs			
Agriculture and Nat. Resour.	13		
Human Ecology	18		
Urban Planning and Landscape Arch.	5		
Urban and Metropolitan Studies	2		
Agric. and Nat. Resour.--Graduate	19		
Total		57	12.31%
Business			
Accounting and Financial Admin.	14		
Hotel, Restaurant, and Instit. Mgt.	8		
Business Law, Insurance	6		
Bus. Administration	3		
Economics	3		
Marketing and Transportation	13		
Management	10		
Total		57	12.31%

Table 5 (cont'd.)

Department	No. of Students in Study	Total in College	Total Percentage
Engineering			
Chemical Engineering	1		
Civil Engineering	3		
Electrical Engineering	1		
Mechanical Engineering	5		
Engineering Sciences	2		
Total		12	2.6%
Social Science			
Labor and Industrial Rel.	6		
Social Science--Multidisciplinary	7		
Anthroplogy	3		
Political Science	10		
Psychology	12		
Sociology	7		
Criminal Justice	12		
Social Work	23		
Total		80	17.28%
Natural Science			
College of Natural Science	1		
Biochemistry	1		
Biological Science	16		
Physical Science	10		
Math and Stat.	6		
Nursing	3		
Preprofessional	8		
Total		45	9.74%
Human, Osteopathy, & Veterinary Medicine			
Human Medicine	24		
Osteopathic Medicine	6		
Preveterinary	2		
Total		32	6.91%

Table 5 (cont'd.)

Department	No. of Students in Study	Total in College	Total Percentage
Education			
Education--Non-Degree	11		
Elem. and Spec. Ed.	29		
Sec. Ed. and Curr.	22		
Health, Phys. Ed. & Rec.	11		
Adm. and Hgh. Ed.	14		
Coun., Pers. Ser., & Ed. Psych.	24		
Total		111	23.97%
Special Colleges			
James Madison College	1		
Justin Morrill College	2		
Total		3	.65%
Communication			
Advertising	2		
Journalism	3		
Television and Radio	7		
Communication	8		
Audiology and Speech Science	1		
Total		21	4.54%
Total			98.96%

Class Status

Class status refers to the level of each student based on the number of credit hours accumulated. It is interesting to note that only eleven respondents (2.38 percent) began college as freshmen in Fall 1974. The large majority of returning or continuing learners is found on the graduate levels: 236 (50.97 percent) in master's programs and 67 (14.47 percent) in doctoral programs; another 22 (4.76 percent) were in the colleges of Human and Osteopathic Medicine. A total of 70.20 percent of the responding group reentered school above the undergraduate level. Table 6 presents the total report of the findings related to class standing of the adult students represented in the study.

TABLE 6

POPULATION DISTRIBUTION BY CLASS STATUS

Class Status	No. of Students in Study	Percentage
Undergraduate		
1. Freshman - 1-39 credits	11	2.37
2. Sophomore - 40-84 credits	15	3.24
3. Junior - 85-129 credits	79	17.06
4. Senior - 130-up credits	25	5.40
5. Special Programs	8	1.73
Graduate		
6. Masters	236	50.97
7. Doctoral	67	14.47
8. 1st Year Human and Osteo. and Veterinary Medicine	21	4.54
9. 2nd, 3rd, 4th Year Human and Osteo. Medicine	1	.22

Present Educational Status

Respondents' replies to the question concerning their present educational status were of interest from the standpoint of the relationship between this status and the problems. The curve for this variable is skewed toward the upper end, which includes the college graduates (27.86 percent) and the graduate school students (46.55 percent), for a total segment of 74.51 percent of the respondent population reporting completion of college. Less than one percent of the group listed high school graduate as present status.

Table 7 presents the number and percentage of students in each level of education.

TABLE 7

POPULATION DISTRIBUTION BY PRESENT EDUCATIONAL STATUS

Present Educational Status	No. of Students in Study	Percentage
1. Graduate School	216	46.65
2. College Graduate	129	27.86
3. Business School Graduate	11	2.38
4. Community College Graduate	42	9.07
5. College Credits	59	12.74
6. High School Graduate	4	.86

Number of Years Since Taking a Course

The large majority of students surveyed had taken at least one course during the last two years (64.36 percent) with some students coming directly from undergraduate schools into graduate programs. A sizable number (17.49 percent) had been away from classes for two to five years, and 16.4 percent had not taken courses in the past five years

Table 8 groups respondents according to number of years since taking a course.

Class status, present educational status, and the number of years since taking a course will be correlated with the problem variables in a later section.

TABLE 8

POPULATION DISTRIBUTION BY NUMBER OF YEARS SINCE TAKING A COLLEGE COURSE

No. of Years Since Taking A College Course	No. of Students in Study*	Percentage
1. 2 Years--Now	298	64.36
2. 2-5 Years	81	17.49
3. 5-10 Years	42	9.07
4. 10-20 Years	30	6.48
5. 20-25 Years	2	.43
6. Never	2	.43

*Eight subjects did not answer.

Section II--Contingency Tables of Frequency Distributions of Problem Variables

Fifty-one variables were tested on a quantitative scale from 1 (No Problem) to 4 (Major Problem). (See Appendix A for survey instrument.) A zero response was recorded for either an empty cell with no response, an inapplicable, or for any other circumstances which did not fall in the categories designated by the four levels.

Variable II-2, reading skills, was discarded from the analysis because of confusion over whether or not it was a response or simply a division in the structure. The data on reading skill problems were collected on Questions 2a, 2b, and 2c concerning specific reading problems.

In order to fully describe the frequency data on the problem variables two approaches were used: The first is to graph the frequencies in Graphs 1 through 51 (Appendix B) to fully describe the results on both questionnaires. The second approach is to list a resume of the frequencies in the order of their occurrence. Table 9 presents a list of the variables in the order of their importance accompanied by the percentage of frequency and the direction of the change, increase or decrease, in the reported frequencies.

TABLE 9

VARIABLES CLASSIFIED BY ORDER OF FREQUENCY

Resume of Data from Graphs 1-51 (Appendix B)

Order of Frequency	Graph (Appendix B)	Variable	Problem on I	Problem on II	Direction of Change
1	35.	Time to study	49.68	59.19	Increase
2	42.	Parking on campus	49.24	53.16	Increase
3	16.	Scheduling classes to fit available time	48.59	52.29	Increase
4	30.	Library skills	45.78	47.70	Increase
5	15.	Selecting classes	44.28	43.10	Decrease
6	38.	Financial aid for personal & family needs	42.55	37.93	Decrease
7	25.	Reading skills: speed	42.55	37.08	Decrease
8	14.	Financial aid for tuition & academic needs	41.69	41.37	Decrease
9	5.	Academic counseling	39.31	37.64	Decrease
10	34.	Ability to type	36.07	39.36	Increase
11	46.	Meeting other adult students	30.45	33.33	Increase
12	32.	Ability to take tests and examinations	30.02	35.06	Increase
13	48.	Meeting faculty and advisors	30.45	34.48	Increase

TABLE 9 (cont'd.)

Order of Frequency	Graph (Appendix B)	Variable	Problem on I	Problem on II	Direction of Change
14	50.	Confidence in ability to do well in college	33.27	31.03	Decrease
15	47.	Gaining information about university functions	28.51	33.91	Increase
16	31.	Prerequisite knowledge for required courses	31.53	32.47	Increase
17	41.	Transportation around campus	32.62	30.75	Decrease
18	17.	Getting into desired classes	29.37	31.33	Increase
19	19.	Registration	29.80	29.31	Decrease
20	2.	Receiving information and forms	28.08	29.31	Increase
21	28.	Writing skills	27.00	30.47	Increase
22	3.	Choosing a major field	26.57	25.58	Decrease
23	20.	Books and supplies	19.88	31.33	Increase
24	31.	Speaking skills	25.70	24.43	Decrease
25	1.	Difficulty in being admitted	25.27	19.26	Decrease
26	37.	Full- or part-time employment	26.57	23.85	Decrease
27	40.	Transportation to campus	26.57	22.98	Decrease

TABLE 9 (cont'd.)

Order of Frequency	Graph (Appendix B)	Variable	Problem on I	Problem on II	Direction of Change
28	26.	Reading skills: comprehension	23.11	23.28	Increase
29	18.	Pre-registration for classes	22.68	22.14	Decrease
30	49.	Personal counseling	21.17	22.12	Increase
31	27.	Reading skills: vocabulary	22.67	20.40	Decrease
32	36.	Need for local housing	21.82	20.40	Decrease
33	21.	Locating class buildings and rooms	20.95	18.11	Decrease
34	4.	Difficulty in getting into chosen field	20.73	18.39	Decrease
35	6.	Credit evaluation of past college courses	18.15	19.54	Increase
36	22.	Dropping and adding classes	13.60	18.68	Increase
37	43.	Child care during class hours	17.06	17.54	Increase
38	39.	Vocational counseling	17.93	15.22	Decrease
39	45.	Lunch and dinner facilities	13.83	19.25	Increase
40	51.	Support from spouse and family	14.69	16.38	Increase
41	33.	Need for tutorial assistance	11.45	11.78	Increase

TABLE 9 (cont'd.)

Order of Frequency	Graph (Appendix B)	Variable	Problem on I	Problem on II	Direction of Change
42	44.	Locker space on campus	11.01	11.79	Increase
43	10.	Transferring other credits	10.37	8.90	Decrease
44	7.	Transferring credits	9.93	9.20	Decrease
45	11.	Transferring credits for courses taken many years ago	6.27	6.04	Decrease
46	13.	Credit by exam for required courses	5.18	5.75	Increase
47	23.	Understanding English language	5.40	2.88	Decrease
48	8.	Transferring business credits	2.59	4.02	Increase
49	12.	Transferring credits from non-accredited institutions	2.81	2.00	Decrease
50	9.	Transferring nursing credits	1.30	1.44	Increase

It should be noted in studying the resume (Table 9) that item numbers 28 through 50 were listed as problems by fewer than 25 percent of the population. These variables were not tested for statistical significance due to small frequencies.

Category I: Pre-Entry Needs

Category I includes 22 questions (Items 1-19 in Section I of the questionnaire responses, which are shown in Graphs 1-21 in Appendix B. Of these, eight were not tested for significance because fewer than 25 percent of the respondents considered these variables as problems.

The major problems in Category I, listed in the order of frequency, are: scheduling classes to fit time available, selecting classes, financial aid for tuition and academic needs, and academic counseling before choosing classes.

In considering the data on pre-entry needs, it should be noted that a decrease in this category could be due to the fact that after entry into the institution, pre-entry needs such as admission, transferring of credits, and registration are no longer considered problems by the subjects.

Category II: Skill Needs

Category II, illustrated by Graphs 23-35 (Appendix B), includes 13 questions (Items I-10 in Section II of the Questionnaire). Four questions were not tested for significance due to low frequencies.

The major problems in Category II, listed in order of importance, are: time to study, library skills, reading speed, and ability to type.

Category III: Personal Needs

Category III frequencies are reported in Graphs 36—51 (Appendix B) for the 16 questions concerning personal needs (Items 1-16 in Section III of the questionnaire). Seven of the personal need items were not tested due to the fact that less than 25 percent of the population considered them to be problems.

The major problems in Category III are: parking on campus, financial assistance for personal and family needs, and confidence in ability to do well in college.

Summary

In the discussion of frequency distributions the author has attempted to describe graphically the population under study. First, each group was described demographically; second, frequency distributions were described graphically in Appendix B; and third, a resume of the frequency distributions was presented in Table 9. Table 9 summarizes the data found in the graphs in Appendix B. Special attention is called to Appendix B for a detailed analysis of all responses to both questionnaires.

Section III--Correlation

The Pearson Product Moment Correlation was utilized to test linear relationships between the two questionnaires. The rationale for use of the Pearson is presented in Chapter III.

For purposes of the research the Pearson r was squared to determine common relationships between the two variables. Also reported is the direction of the change which took place between the administration of Questionnaire I (Fall 1974) and Questionnaire II (Spring 1975).

Table 10 lists the variables, their product moment correlation, the correlation squared, and the direction of the change.

TABLE 10

PEARSON PRODUCT MOMENT CORRELATIONS

	Variable	r	r^2	No Change	Change to Lesser	Change to Greater
I.	Pre-Entry Needs					
1.	Admission	.550	.300	267	51	28
2.	Information	.469	.220	233	55	59
3.	Choosing major field	.610	.370	264	48	32
4.	Admission to major field	.510	.260	263	50	32
5.	Academic coun.	.424	.179	194	82	64
6.	Credit eval.	.518	.268	254	52	38
7.	Transfer credits	.297	.088	211	72	20
	7a. Trans. business credits	.420	.170	227	72	10
	7b. Trans. nursing credits	.460	.211	233	71	4
	7c. Trans. other credits	.261	.063	192	86	23
8.	Trans. old credits	.310	.096	259	44	14
9.	Trans. non-accredited institution credits	.341	.116	239	53	4
10.	Credit by examination	.467	.218	239	44	13
11.	Fin. aid--tuition	.567	.321	187	98	52
12.	Selection of classes	.354	.125	195	79	69
13.	Scheduling classes	.479	.229	172	80	87
14.	Getting into classes	.312	.097	185	65	65
15.	Pre-registration	.240	.058	200	55	55
16.	Registration	.372	.138	183	67	63
17.	Books and supplies	.207	.043	183	48	80
18.	Locating building	.336	.113	244	49	32
19.	Drop and add class	.300	.090	189	35	52
II	Skill Needs					
1	Understanding English	.531	.282	318	20	40
2.	Reading skill	.238	.057	200	64	26
	2a Reading speed	.476	.227	193	92	56
	2b. Reading comprehension	.434	.188	239	58	39
	2c. Reading vocabulary	.418	.175	239	63	34
3.	Writing skill	.449	.202	250	48	48

TABLE 10 (cont'd.)

Variable	r	r^2	No Change	Change to Lesser	Change to Greater
II. Skill Needs (cont'd.)					
4. Speaking skill	.578	.334	255	55	33
5. Lib. skills	.425	.181	199	70	74
6. Pre-requisite skills	.281	.079	213	63	69
7. Examinations	.422	.178	231	50	62
8. Tutoring	.417	.174	264	34	26
9. Typing	.508	.258	243	56	49
10. Time	.524	.275	174	61	108
III. Personal Needs					
1. Housing	.569	.324	250	62	30
2. Part-time work	.424	.179	212	77	43
3. Fin. assistance	.535	.286	190	95	50
4. Vocational coun.	.335	.112	243	54	31
5. Trans. to campus	.457	.208	235	67	38
6. Trans. around campus	.299	.089	215	69	56
7. Parking	.469	.219	179	70	88
8. Child care	.648	.419	246	56	22
9. Lockers	.318	.101	241	47	24
10. Lunch and dinner facilities	.405	.164	250	42	37
11. Meeting other students	.442	.195	200	68	62
12. Information on univ. functions	.329	.108	197	63	72
13. Meeting faculty & advisor	.386	.149	195	64	72
14. Personal couns.	.222	.049	213	56	52
15. Confidence	.401	.161	220	71	54
16. Support from spouse and family	.350	.123	256	45	34

All relationships reported were positive, ranging from a low of .207 to a high of .648.

Table 10 presents each variable, the Pearson r, the r^2, the number of paired responses which tested no change (which indicated no correlation), the number of responses which moved from moderate, minor, or major problem to no problem or a lesser problem, and the number of responses which moved from no problem to some degree of problem.

In studying Table 10, it will be noted that scheduling of classes, registration, obtaining books and supplies, library skills, prerequisite skills, time, parking, information on university functions, and meeting faculty and advisors all increased significantly as problems during the time span September 1974 to March 1975.

Section IV--The Chi Square Test for Significant Differences

The Chi Square Test was selected to analyze the data for any statistical significance between the demographic variables and the problem variables. Each demographic variable under study was tested independently for significance.

Age, Variable 1

In the age category, selection of classes and registration for classes are the two problems which show a significant chi-square difference at the .05 level with 9 degrees of freedom. These results are presented in Table 11.

TABLE 11

AGE--TESTS FOR CHI-SQUARE SIGNIFICANCE

Variable #1--Age	Observed X^2	Theoretical X^2
1. Selection of Classes	17.382	16.919
2. Registration for Classes	19.695	16.919

Note: These two tests are significantly different at the .05 level with 9 degrees of freedom.

A major problem in considering the Chi Square tests on the four age groups was the small number of respondents in Group 4 (N=8). This small cell population tends to skew the tests and makes it difficult to study the significant differences in age. Significant tests on combined groups are reported in Appendix C.

In order to deal with the small cell size, several of the high frequency problems are listed, following this discussion, in Table 12. The percentages indicate that the younger students, those

TABLE 12

AGE DIFFERENCE ON HIGH FREQUENCY PROBLEMS

	Variable	Group I 26-30 (N=279)	Group II 31-40 (N=146)	Group III 41-50 (N=29)	Group IV Over 50 (N=8)
I-11.	Financial aid-- tuition	.50	.50	.37	.00
I-12.	Selection of classes*	.50	.43	.30	.30
I-13.	Scheduling	.50	.55	.45	.00
I-16.	Registration*	.37	.31	.44	.29
II-2a.	Reading speed	.50	.40	.50	.20
II-5.	Library skills	.48	.50	.47	.14
II-7.	Tests and exams	.30	.30	.43	.50
II-10.	Time to study	.50	.68	.54	.40
III-3.	Financial aid-- personal	.50	.42	.43	.00
III-7.	Parking	.52	.55	.58	.43
III-12.	Info. on univ. functions	.33	.28	.40	.14
III-15.	Confidence	.32	.38	.27	.43

Note: Percentages have been rounded.
*Significant on Chi-Square.

between 26 and 30 years of age, have more problems in financial aids, selecting and scheduling classes, and skill areas. The older students tend to list problems in tests and exams and lack of confidence.

The Chi Square tests indicate that there were no differences between groups for most needs.

In addition to the overall Chi Square Test on the age dimension, a brief description of actual differences within the groups will be made to indicate group percentages on variables with high frequencies.

Sex, Variable 2

The observed chi-squares for the sex variable are significant in five areas: scheduling of classes, getting into classes, reading comprehension, library skills, and information about university functions. On all other variables listed both sexes indicated similar levels of problems. The significant tests are reported in Table 13.

TABLE 13

SEX--TESTS FOR CHI-SQUARE SIGNIFICANCE

Variable #2--Sex	Observed X^2	Theoretical X^2
1. Scheduling of classes	13.794	7.815
2. Getting into classes	11.360	7.815
3. Reading comprehension	10.256	7.815
4. Library skills	8.798	7.815
5. Information on university functions	9.176	7.815

Note: These five tests are significantly different at the .05 level with 3 degrees of freedom.

Some of the problem variables in the higher frequencies are listed in Table 14.

TABLE 14

SEX DIFFERENCES ON HIGH FREQUENCY PROBLEMS

	Variable	Group I Men (N=280)	Group II Women (N=183)
I-11.	Financial aid--tuition	.46	.50
I-12.	Selecting classes	.44	.49
I-13.	Scheduling classes*	.45	.61
I-14.	Getting into classes*	.31	.38
II-2a.	Reading speed	.58	.53
II-2b.	Reading comprehension*	.26	.24
II-5.	Library skills*	.47	.49
II-9.	Typing	.42	.31
II-10.	Time to study	.48	.59
III-3.	Financial aid--personal	.48	.43
III-7.	Parking	.52	.56
III-12.	Information on university functions	.34	.26

Note: Percentages have been rounded.
*Statistically significant.

Curriculum, Variable 4

The curriculum study was done on the basis of dividing all students into ten groups which would permit a large enough cell size to draw conclusions about significance.

Nine tests are significantly different at the .05 level. They are: admission, financial aid, selecting classes, scheduling classes, getting classes, preregistration, registration, library skills, and prerequisite skills. The significant values are reported in Table 15.

Generally the ten curriculum classifications were amalgamated into large enough cell numbers to make the Chi Square Test normally distributed. One category, residential colleges, was smaller than the rest and presented a problem in interpreting the data.

In order to best illustrate the range of distribution the curriculum variable, Table 16 reports the distribution of problem variables for curriculum groups.

TABLE 15

CURRICULUM--TESTS FOR CHI-SQUARE SIGNIFICANCE

Variable #4--Curriculum	Observed X^2	Theoretical X^2
1. Admission	93.856	40.113
2. Financial Aid--Tuition	43.550	40.113
3. Selecting Classes	41.634	40.113
4. Scheduling Classes	40.332	40.113
5. Getting into classes	41.574	40.113
6. Pre-registration	42.194	40.113
7. Registration	40.180	40.113
8. Library Skills	49.107	40.113
9. Pre-requisite skills	50.054	40.113

These nine tests are significantly different at the .05 level with 27 degrees of freedom.

TABLE 16

CURRICULUM DIFFERENCES ON HIGH FREQUENCY PROBLEMS

Variable		Group 0 Arts and Letters (N = 40)	Group I Agriculture, Human Ecol., and Urban Studies (N = 57)	Group II Business (N = 57)	Group III Engi-neering (N = 12)	Group IV Social Science (N = 80)	Group V Natural Science (N = 45)	Group VI Medicine (N = 32)	Group VII Education (N = 111)	Group VIII Residential Colleges (N = 7)	Group IX Communi-cations (N = 21)
I-1.	Admission*	.25	.25	.22	.17	.26	.07	.66	.25	.15	.34
I-5.	Academic coun.	.43	.42	.42	.33	.44	.44	.25	.44	.15	.40
I-11.	Finan. Aid-tuition*	.62	.45	.26	.12	.45	.60	.66	.50	.44	.44
I-12.	Selecting classes*	.68	.47	.47	.25	.36	.54	.17	.52	.58	.45
I-13.	Scheduling classes*	.68	.58	.45	.34	.44	.47	.44	.68	.72	.55
I-14.	Getting into classes*	.31	.34	.36	.18	.33	.26	.11	.45	.33	.26
I-15.	Pre-regis.*	.30	.28	.30	.33	.18	.26	.04	.39	.00	.22
I-16.	Registration*	.41	.36	.37	.34	.30	.38	.15	.45	.17	.28
II-5.	Library skills*	.60	.60	.40	.50	.38	.40	.40	.58	.43	.25
II-6.	Pre-requis.*	.43	.45	.20	.20	.25	.35	.28	.30	.58	.40
III-11.	Meeting other students	.52	.24	.39	.17	.38	.30	.20	.37	.15	.20

(Note: Percentages have been rounded off.)

*Statistically significant.

Class, Variable 5

Nine variables proved to have significant differences on the class variable scale. The significant tests were admission, choosing a major field, scheduling classes, getting into classes, reading comprehension, reading vocabulary, writing skills, transportation across campus, and meeting other students. The data on significant tests are reported in Table 17.

Once again, the very small numbers in Row I (Freshmen--N=11), Row 5 (Special--N=7), and Row 9 (3rd and 4th year Medical and Osteopathic Medicine--N=1) tend to skew the test. The extremely high level of significance on Variable 1 (admission) could be explained by the wide ranges in the small cells. The respondents in small cells are of interest to the researcher and are included in the study. Refer to Appendix C for chi-square results on combined class groups.

The analysis in Table 18 considers those variables which indicate a large range of frequencies when studied by class groupings.

In studying the class groups it is interesting to observe the frequencies in Groups III, VI, and VII, which include the largest percentage of subjects.

TABLE 17

CLASS--TESTS FOR CHI-SQUARE SIGNIFICANCE

Variable #5--Class	Observed X^2	Theoretical X^2
1 Admission	142.826	36.415
2. Choosing Major Field	47.522	36.415
3. Scheduling Classes	39.221	36.415
4. Getting into Classes	48.075	36.415
5. Reading Comprehension	53.815	36.415
6. Reading Vocabulary	46.157	36.415
7. Writing Skills	54.372	36.415
8. Transportation Across Campus	44.348	36.415
9. Meeting Other Students	39.493	36.415

Note: These nine tests are significantly different at the .05 level with 21 degrees of freedom.

TABLE 18

CLASS DIFFERENCES ON HIGH FREQUENCY PROBLEMS

	Variable	Group I Freshmen (N = 11)	Group II Soph. (N = 15)	Group III Juniors (N = 79)	Group IV Seniors (N = 25)	Group V Special (N = 8)	Group VI Masters (N = 236)	Group VII Doctoral (N = 67)	Group VIII 1st and 2nd yr Med (N = 21)	Group IX 3 & 4 yr. Med (N = 1)
I-3.	Choosing major field*	.19	.54	.45	.28	.15	.27	.14	.00	.00
I-5.	Academic coun.	.46	.60	.42	.42	.15	.42	.43	.12	.00
I-12.	Selecting classes	.73	.67	.48	.52	.72	.47	.49	.05	.00
I-13.	Scheduling classes*	.70	.80	.64	.56	.58	.49	.44	.15	.00
I-14.	Getting into classes*	.70	.53	.32	.39	.67	.33	.26	.05	.33
I-16.	Registration	.75	.30	.30	.40	.34	.39	.34	.10	.00
II-2b.	Reading Comp.*	.45	.46	.35	.22	.25	.25	.13	.15	.00
II-2c.	Reading Vocab.*	.45	.31	.32	.26	.25	.25	.11	.25	.00
II-3.	Writing skills*	.55	.43	.30	.28	.38	.30	.17	.10	.00
II-5.	Library skills	.55	.80	.43	.44	.50	.50	.49	.29	.00
III-3.	Fin. assistance	.23	.40	.53	.50	.30	.40	.53	.75	.00
III-6.	Transport. across campus*	.55	.43	.54	.36	.25	.25	.29	.52	1.00
III-11.	Meeting other students*	.30	.54	.41	.55	.25	.72	.45	.22	.05

(Note: Percentages are rounded off.)

*Statistically significant.

Present Educational Status,
Variable 6

Six of the same variables which tested as significantly different when measuring class status against problems also were significant in measuring present educational status against problems. A total of nine tests were observed as significant when present educational status (high school graduate to graduate student) was measured The nine include: choosing a major field, scheduling classes, getting into classes, reading comprehension, writing skills, examinations, transportation to campus, transportation around campus, and confidence. The results of these tests are reported in Table 19.

In observing the frequencies by groups in Table 20 it should be noted that students in the sample entering the university as community college graduates appear to have higher than average financial problems and time concerns.

The very small numbers in Groups III and VI make it difficult to generalize about the variable. The one conclusion which can be drawn is that the frequencies for present education status seem to group into the same categories as problems on the class status and problems on the number of years since taking a class variable.

TABLE 19

PRESENT EDUCATIONAL STATUS--TESTS FOR CHI-SQUARE SIGNIFICANCE

Variable #6--Present Educational Status	Observed X^2	Theoretical X^2
1 Choosing a Major Field	32.017	24.996
2. Scheduling Classes	43.813	24.996
3 Getting into Classes	26.721	24.996
4. Reading Comprehension	39.938	24.996
5 Writing Skills	37.067	24.996
6. Examinations	26.936	24.996
7. Transportation to Campus	25.478	24.996
8. Transportation around Campus	38.813	24.996
9 Confidence	32.426	24.996

Note: These nine tests are significantly different at the .05 level with 15 degrees of freedom.

TABLE 20

PRESENT EDUCATIONAL STATUS DIFFERENCES ON HIGH FREQUENCY PROBLEMS

	Variable	Group I Graduate School (N=216)	Group II College Graduate (N=129)	Group III Business School Graduate (N=11)	Group IV Community College Graduate (N=42)	Group V College Credits (N=59)	Group VI High School Graduate (N=4)
I-3.	Choosing a major field*	.20	.23	.45	.38	.45	.50
I-6.	Academic counseling	.41	.40	.70	.38	.42	.25
I-11.	Financial Aid--Tuition	.52	.48	.20	.53	.58	.25
I-13.	Scheduling classes*	.44	.50	.10	.33	.58	.75
I-14.	Getting into classes*	.33	.28	.44	.32	.43	.33
II-2b.	Reading comprehension*	.18	.28	.43	.33	.38	.75
II-3.	Writing skills*	.21	.33	.33	.29	.39	.50
II-4.	Speaking skills	.20	.35	.45	.30	.30	.50
II-7.	Ability to take exams*	.27	.30	.50	.31	.43	.75
II-10.	Time to study	.45	.53	.50	.66	.66	.50
III-3.	Financial Aid--Personal	.48	.41	.20	.50	.54	.00
III-5.	Trans. to campus	.20	.22	.20	.43	.40	.00
III-6.	Trans. around campus	.31	.26	.45	.62	.44	.25
III-15.	Confidence*	.25	.35	.50	.55	.41	.75

Note: Percentages have been rounded off.
*Statistically significant.

Years Out of College, Variable 7

Twelve tests on the variable years out of college were significantly different. These were: admission, selection of classes, getting into classes, preregistration, registration, reading comprehension, reading vocabulary, prerequisite skills, examinations, transportation to campus, transportation around campus, and lack of confidence. Table 21 presents the Chi Square tests for Variable 7.

It should be noted that very small numbers exist in Row 5 (20-25 years since taking a course--N=2) and Row 6 (Never--N=2). Refer to Appendix C for a report of combined groups. Table 22 reports the problems with high frequencies and the frequencies of Chi Square significance to assist in viewing the range of frequencies in all groups.

TABLE 21

YEARS SINCE TAKING A CLASS--TESTS FOR CHI-SQUARE SIGNIFICANCE

Variable #7-- Years Since Taking A Class	Observed X^2	Theoretical X^2
1. Admission	36.381	24.996
2. Selection of Classes	29.107	24.996
3. Getting into Classes	38.637	24.996
4. Pre-registration	34.832	24.996
5. Registration	47.330	24.996
6. Reading Comprehension	50.774	24.996
7. Reading Vocabulary	64.392	24.996
8. Pre-requisite Skills	33.790	24.996
9. Examinations	43.920	24.996
10. Transportation to Campus	33.052	24.996
11. Transportation around Campus	33.575	24.996
12. Confidence	26.667	24.996

Note: These twelve tests are significantly different at the .05 level with 15 degrees of freedom.

TABLE 22

YEARS SINCE TAKING A COURSE ON HIGH FREQUENCY PROBLEMS

	Variable	Group I 2-Now (N=298)	Group II 2-5 yrs. (N=81)	Group III 5-10 yrs. (N=42)	Group IV 10-20 yrs. (N=30)	Group V 20-25 yrs. (N=2)	Group VI Never (N=2)
I-1.	Admission*	.27	.24	.24	.25	.00	1.00
I-5.	Academic Counseling	.42	.42	.33	.36	.50	.50
I-11.	Fin. Aid--Tuition	.51	.46	.41	.25	1.00	.50
I-12.	Selecting classes*	.45	.48	.61	.29	.50	.50
I-13.	Scheduling classes	.51	.47	.63	.36	.50	1.00
I-14.	Getting into classes	.34	.23	.44	.24	1.00	1.00
I-15.	Pre-registration*	.26	.26	.31	.27	1.00	1.00
I-16.	Registration*	.44	.34	.41	.28	1.00	1.00
II-2a.	Reading speed	.46	.43	.47	.46	1.00	.50
II-2b.	Reading comp.*	.23	.25	.27	.30	1.00	1.00
II-2C.	Reading Vocabulary*	.25	.22	.25	.22	1.00	1.00
II-5.	Library skills	.48	.41	.41	.59	1.00	1.00
II-6.	Prereq. skills*	.31	.28	.43	.36	1.00	1.00
II-7.	Examinations*	.30	.31	.34	.30	1.00	1.00
II-10.	Time to study	.52	.44	.59	.59	1.00	.50
III-3.	Fin. Aid--Personal	.49	.48	.33	.29	.00	.00
III-5.	Trans. to campus*	.29	.22	.34	.14	1.00	.00
III-6.	Parking	.53	.52	.58	.46	1.00	.00
III-15.	Confidence*	.32	.35	.38	.52	1.00	.50

Note: Percentages have been rounded.
*Statistically significant.

Section V--Classification of Open-Ended Responses

Two sections of the questionnaire were designed to elicit open-ended responses and were included under "IV. OTHER NEEDS." The questionnaire stated: "Section A deals with your special needs or problems. Section B requests your comments."

There were a total of 299 open-ended responses given on Questionnaire I (Fall 1974) and a total of 172 on Questionnaire II (Spring 1975). Approximately 70 percent of all open-ended responses were elaborations of responses to the closed-ended questions. The majority of the elaborations concerned reiteration of financial needs, difficulties in scheduling, specific parking and commuting problems, and concerns over registration procedures. "Time" was also discussed as a major problem on the open-ended responses.

The open-ended responses were typed and classified as a part of the research. Abstracts are being forwarded to those students who requested a report of the research results.

Generally, the open-ended responses were clear and to the point of the questions raised in the first sections of the questionnaire. Approximately 10 percent of the open-ended responses contained specific suggestions for improvement of living and study conditions for the students involved. Another 15 percent introduced unique problems which had limited application to the population as

a whole. These included dealing with the high noise level in dormitories and housing units, the need for housing "300 pounds of dog," the restriction caused by the "on-campus" course requirements, need for higher ability teaching, and the need to adjust from a respected position in the community to that of a "low student status."

There is an interesting dichotomy posed by conflicting schedules of colleges within the university. Many (approximately 10 percent) of the open-ended responses criticized the lack of evening classes in business, political science, psychology, and social work. Another 5-7 percent expressed a concern about the lack of daytime courses for students in graduate education being a real hindrance to full-time students. This seems to indicate a need for more flexibility in scheduling throughout the various colleges.

The following quotations have been chosen from the open-ended responses as being particularly representative of the survey group or because of their special significance. The respondents will remain anonymous.

> I think one of the major problems confronting the adult student is, at times, justifying to himself the time spent in obtaining advanced degrees, etc. versus the financial rewards that might be obtained otherwise. Is it all worth it?

> Registration was a very difficult process. As a new student, I had not pre-registered according to the designated alphabetical order, I was one of the last to register. Many classes were closed. Several of

the classes I wanted to take were scheduled for the same time period. At the time of my registration I ended up with 2 classes. It was later necessary to switch sections for both of these classes in order to add two more to complete my schedule.

I'm different because I'm older. I look and dress differently. No one will sit with me at the Union or International Center. I feel very alone in this place of 40,000 people.

Financial problems are likely to occur next year when my savings are expended. We have three people in our family in college classes at this time--my husband, my daughter, and I are all attending full-time.

I applied to 14 Medical schools and I must say that M.S.U. is far and away the most helpful and informative to applicants.

Wish there was some way to give new students a chance to get their "feet wet" and discover their weaknesses before classes begin.

As an "atypical" student (Grandmother, age 48, handicapped with MS), my problems are mainly those of accessibility.

It seems that being a minority student helps in getting any (most) school problems taken care of. It seems as though I'm being hand-carried through the graduate programs.

My second comment concerns the zealousness of the campus police. The university policy stipulates that all vehicles must be registered and assigned to parking lots. Mull this over . . . you enroll for an advertised 100% evening curriculum . . . your core course is scheduled 4-6 P.M. and you, the full-time employee, part-time student are expected to dash out of the office, whiz down to Mt. Hope, park your car and catch a bus in time for class. (P.S. I pay taxes, too. I need close parking.)

Money and time (I am reasonably certain these problems are not unique for an adult student.) Financial help would be welcome as to corntinue my education I must hold down several full-time jobs. These include a home, a family, a job as a nurse's aid, and a student. If I did not have to work outside the home nearly forty hours could be added to the time to be divided among my other commitments.

At the doctoral level, one frequently encounters a disparity between one's former "status" in the community and the very low "status" as student. The "cultural shock" it seems to me can be very distracting, disheartening, and possibly discouraging. It took me most of the first quarter to stop feeling important and to recognize my proper place. One wonders about the "reentry" lagtime upon return to the real world.

Registration is one of the most hectic experiences I've had. So many things I needed to know, but discovered totally by accident.

I had attended M.S.U. for 2 years then left for 4 years. Upon returning, I received virtually no guidance or assistance from my department. The counselor said I should take whatever I wanted. What the hell kind of guidance is that for someone having been out of school for 4 years?

The registration system seems to me an unnecessary demand on one's time. Is it possible for graduate students to register by mail? I think that the possibility should be looked into as it may increase the number of students enrolling. Because of the great amount of time it takes to register, possibly working teachers could decide to not continue with the hassle.

I have found I am able to do a better job of college now than when I was 18. It has been very enjoyable and not too many problems have arisen that didn't have satisfactory solutions.

Noise pollution is a problem on this campus--dorms act like huge parabolic microphones--soak up street noise--take a DB meter and check sometimes.

I've been involved in 3 major universities now, and M.S.U. is the only one where I have been unable to attain any sense of belonging to an academic community.

I was fortunate to have a tremendous instructor who was very interested in helping an adult returning with a 22 year absence from a campus.

As a 40 year-old night-time student who works during the day (and who has sons in college also), I have had bad experiences at M.S.U. and one big hassle about everything. This is not geared to be a family college like LCC (Lansing Community College) is.

The education received now is so much more meaningful than undergrad education where there was little in the way of frame of reference. Am enjoying classes much more now, but finding it expensive and a slow process towards completing requirements.

Classes you need are never available. Drop/Adds take more work than a class itself. Frustrating enough to just quit school.

Discrepancy between last fall's response and these because then was admitted to non-degree status, now having difficulty gaining admission into desired program with 3.85 average in 10 hours of required work. Reasons: partially unethical if not illegal admission practices. I am in the process of doing battle. At age 55 would prefer to spend my energies otherwise. Lots of good support from fellow students.

Freedom to learn. I deeply regret having submitted to the unnecessary structure of my education. I would not do it again.

Been very interesting to fill this out as it has helped me focus on <u>real</u> problems in going back to school. Thanks and best of luck.

The preceding quotations were presented to indicate the range and flavor of the open-ended responses. It was difficult to choose the representative comments since almost all of the 471 responses were important and added to the study.

Summary

Chapter IV has attempted to present a thorough analysis of the data. First, frequency distributions were discussed and presented graphically. Second, a brief consideration of the problem variables preceded the tables presenting data describing the frequencies on both Questionnaire I and Questionnaire II. A resume of the data followed which listed the problems in order of frequency. Third, an explanation of the Pearson Product Moment Correlation utilized in testing the differences between the two questionnaires was reported. Fourth, the Chi-Square analysis was applied to the data and the results were computed. Specific frequencies were listed on selected variables to indicate the range of responses. Fifth, a brief report was included on the open-ended responses, with illustrative selected quotations.

Based on the data analysis, Chapter V will offer a summary of the conclusions and suggestions for further research.

CHAPTER V

CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Introduction

Chapter V presents a summary of the conclusions of the study, recommendations for future research, implications of the study, and the concluding statement.

The purpose of the research project has been to take an in-depth view of one segment of the population, the adult learner, at one point in time at a single institution. Concisely, it has sought to identify the expressed needs of the population of adult students at Michigan State University during 1974-1975 and to test whether or not and to what extent these expressed needs are altered during two terms of study.

A review of the literature revealed that several studies have been completed on adult learners' problems, but no research was uncovered which compares problems at two points in time or which includes both graduate and undergraduate men and women. Generally, the dissertation literature on the subject presents information on one area of adult student body: mature women, adult undergraduates,

or evening college students. Much of the literature reviewed focuses on the problems of adult students returning to higher education. These studies were helpful in delineating problems and corroborating the findings of the present research with what was done in the past. The most common and frequent problem identified in studies of the Sixties and early Seventies remain as problems in 1975.

The target population for the study was 775 adult students who enrolled as new or readmitted students for at least one class on campus for credit during the Fall term of 1974. The responses on Questionnaire I totaled 584; of these, 463 were usable in the study. The 463 usable responses constituted the study sample, which was analyzed demographically and according to the problems indicated on the returned questionnaires. From the results of Questionnaire II (Spring 1975), 348 paired responses were matched and tested for significant correlations.

The Computer Institute for Social Science Research, Michigan State University, was utilized as a statistic resource service as well as in tabulating, programming, and computing the data. The information was transferred from hand-coded Fortran sheets to key punched computer cards. A total of 917 computer cards was used to test the data.

The collected and tabulated research was tested, evaluated, and correlated by a number of methods. A frequency study was

completed and graphed for Questionnaire I and Questionnaire II. Since demographic variables were contained only in the first questionnaire, these were catalogued separately. The frequencies can be found in Tables 2 through 20. In addition, research questions were established concerning the data. To answer the questions, responses were analyzed by a combination of frequency distributions, Pearson correlations, and Chi-Square tests.

Conclusions on Research Questions

The study asked three major research questions: 1) What are the characteristics of the adult students entering Michigan State University in 1974-1975? 2) Is there a significant linear relationship between the expressed problems in Fall term 1974 (Questionnaire I) and the expressed problems in Spring term 1975 (Questionnaire II)?; and 3) Are there significant differences between the expected frequencies and the obtained frequencies of the problem variables expressed by groups varying in demographic characteristics? The conclusion which can be drawn from the responses to these questions will be discussed below.

QUESTION I: What are the characteristics of the adult students entering Michigan State University in 1974-75?

A. What age groups are represented?

The results of the frequency distributions indicates that the majority of adult students (60.26 percent) returning to Michigan State University are between 26 and 30 years of age. This conclusion correlates with the research findings of Cross and Valley, Erickson, and Knowles. Students in the second group range in age from 31 to 40 years; 31.53 percent of the population falls within that band. Less than 10 percent of the population was over 40 years of age. In summary, the majority of the returning students are in the 26 to 30 age group and the problems are dispersed throughout the age groups.

B. What is the sex ratio between men and women?

The frequencies on the sexual composition of the study sample reflect the total distribution of adult students throughout the university as reported by the Office of Evaluation Research, Michigan State University. Of the adult returning students, 60.48 percent are male and 39.52 percent are female. In looking at the percentage distribution of problems by sex, females' problems are in the areas of selection of classes and registration procedures as well as parking and transportation around campus. The major problems for males are in the skills area and in gaining information about university functions. Generally, there is very little frequency difference between men and women on any of the tests. This leads the researcher

to conclude that the problems are similar across sexes in magnitude and frequency, and that approaches toward solving problems should be considered for both sexes. As has been noted, very few previous studies reviewed included both men and women as subjects. Including both sexes across all class levels in future studies might broaden the general knowledge of problems and contribute to an understanding of returning adult students.

C. What percentage of the population is married? What percentage is single?

The information on marital status was not found to be of great value in correlating problems. The two problems which would have related directly to marital status, child care (Variable #51) and support from spouse and family (Variable #59), were indicated by only 16 percent of the population as problems and dropped because of the 25 percent criterion.

The ratio of married to single students is 65.66 percent married versus 34.13 percent single for the group under study.

D. What percentage of the population is represented in each curriculum grouping?

Two classifications of curricula were recorded on each subject under study. The first was the specific curriculum as listed in the computer print-out from the Data Processing Department,

Michigan State University. There were 94 classifications in total, which provided too few subjects in a cell for statistical study.

The researcher divided all Michigan State University curricula into ten major groups and used these data for interpretation. Even though 463 subjects were spread over ten groups, there were still very small cells in Engineering (N=12), Residential Colleges (N=7), and Communications (N=21). These small cells influenced the Chi-Square distributions. The majority of students are enrolled in the Colleges of Education, Social Sciences, Business, and Agriculture. These ratios must be considered in light of the nature of the specific colleges and curricula. The problems encountered could be inherent within the specific division; for example the competitive nature of admission procedures for medical students, which means that certain solutions to expressed problems will affect only students within a particular field or college. Need for academic counseling is another problem which varies between colleges and curricula areas with unique relationship to the specific area.

Several interesting patterns of problems emerged from the data analysis. For example, 66 percent of the medical students listed admission problems; 40 percent of the education students indicated difficulty receiving information and forms, and 40 percent of all students (with the exception of medicine and residential colleges) listed a need for academic counseling. For over 40 percent

of the curriculum groups, except medical and business students, scheduling, registration, and financial aid presented problems. Nothing was found in previous studies reviewed which correlates curriculum with problems. As a new area of study, it provides an interesting contribution to the literature. It appears that the existence of problems in various colleges and departments is related to variables such as budget, size, faculty-student ratio, and physical facilities.

E. Into which class levels are the subjects divided (for example, freshman, sophomore, junior, senior, graduate)?

The graduate levels at Michigan State University appear to attract the great majority of students over 26 years of age: 70.20 percent of subjects in the study were above the undergraduate level.

Close inspection of the problem variables reveals that the distinction between problems is also divided between undergraduate and graduate levels: for example, 50 percent of undergraduates surveyed indicated a problem with choosing a major field, in contrast to 25 percent of the graduate students; 70 percent of the freshmen group indicated problems in selecting classes and registering, whereas 25-30 percent of the graduate students stated these were problems. (it is noted that the freshman group contained a very small N of 11.)

In the skill needs classification, the percentage of problems tends to diminish as the class level of the student increases. Inability to take examinations also diminishes as the class status rises. However, library skills were listed as problems by 50 percent of the freshmen, 80 percent of the sophomores, 40 percent of the juniors, 45 percent of the seniors, 50 percent of the Master's degree candidates, and 40 percent in the advanced areas.

It is a general conclusion that problems tend to diminish as one progresses up the academic ladder. This phenomenon could be attributed to experience within the system as well as higher motivation with higher educational levels.

A major question arises from this conclusion: do the problems actually diminish, or does the student become more adept at coping with the existing structure thereby perceiving the problems as less significant? The other side of the issue is that adult students who find the problems of returning to higher education insurmountable drop out of the system and are not available to respond to questions concerning their problems.

The answer to the question of class status of the adult students returning to Michigan State in 1974-75 indicates that the majority have had college experience and have completed undergraduate study.

F. What is the previous educational experience of the respondents (for example, college or university, community college, business school)?

It is obvious that present educational status correlates closely with the preceding discussion of the class level of students.

One additional conclusion should be added to the general one that problems seem to diminish with progression up the educational ladder. There appears to be a preponderance of problems among community college graduates (Group #4). These respondents indicated more financial problems, more difficulty in scheduling classes and registration, and more problems with lack of confidence and meeting other students. This would lead to the conclusion that the community college transfer student generally has a higher ratio of problems than the population as a whole. There are several possible explanations: These students may be more articulate in expressing their problems, the community college environment may be smaller and thus more supportive of students, or services provided to transfer students may be inadequate and should be improved.

G. How many years have elapsed since the last formal education experience?

The conclusions on this variable are influenced by the fact that a large percentage of respondents (64.36 percent) indicated that they had taken at least one course within the last two years.

A portion of this group reported moving directly from undergraduate to graduate school.

Analysis of responses to Question I enables the researcher to suggest the profile of an average adult student. He would be a married male, between 26 and 30 years of age. He would be enrolled in a Master's degree program in education, business, or agriculture, and he would have taken classes within the past two years. This composite student does not differ radically from the regular Michigan State University graduate school residential student less than 26 years old. This is an important point. Might not the problems and needs expressed by the population under study be representative of the needs of university students as a whole? This possibility will be expanded upon in the discussion of recommendations for future study.

QUESTION II: Is there a significant linear relationship between the expressed problems in Fall term 1974 (Questionnaire I) and the expressed problems in Spring term 1975 (Questionnaire II)?

The linear relationship between Questionnaire I and Questionnaire II was tested with the Pearson Product Moment Correlation. The Z test was used to establish the level of significance required for the Pearson, and it was determined that any r above .09 would be significant at the .05 level. The low r percentage was due to the large

number of variables being compared. On the basis of this tabulation, all variables were significantly related.

A second purpose in determining the Pearson Product Moment Correlation was to establish which variables increased or decreased in frequency between the two questionnaires. The findings indicate that receiving information, scheduling classes, need for library skills, need for prerequisite skills, time to study, parking, receiving information on university functions, and meeting faculty and advisors all increased in the level of difficulty between Questionnaire I and Questionnaire II. All other variables studied decreased or remained the same in the level of difficulty between the two questionnaires.

Measuring changes in the levels of the problems proved difficult in reviewing the Pearson data. The fact that many of the initial responses were made prior to entry into the institution may have influenced the emphasis placed on the problem variables. This fact poses a question as to whether the problem actually increased in severity or whether recognition of the problem increased after experience within the system.

In conclusion, the results of the Pearson Product Moment Correlation indicate a linear relationship between the two questionnaires applied to the problems of adult students. The Pearson does not

indicate which groups increased or decreased in level of problems, but does indicate that there was an increase on specific variables.

QUESTION III: Are there significant differences between the expected frequencies and the obtained frequencies of the problem variables expressed by groups varying in demographic characteristics?

The Chi Square Test was instrumental in testing differences between each variable as perceived by each subgroup with the sample, and differences were revealed at the .05 level of significance. The data presented in Tables 11, 13, 15, 17, 19 indicate significant levels of difference on 46 tests. The conclusions drawn are that there are fewer differences between age and sex groups, and greater differences between curriculum, class, and educational background.

In conclusion, it is noted that the Chi-Square Test is of limited value in comparing the data under study because the test is based on the assumption of more than five respondents in a cell. Although the value of the assumption is still debated by authorities in statistics, a cell of five or fewer does tend to affect the results. The researcher reports a second set of chi square scores based on the premise of an N=5 in Appendix C.

General Conclusions

The general conclusions drawn from the study go beyond the answers to the research questions. What actually were the major problems indicated by the population under study? Which groups seem to have the greatest number of problems? Did the problems change between measures? What possible causes might have brought about the change? These are all questions which occurred to the researcher while analyzing the data.

A. What were the major problems?

The answer to the question of what the major problems were is found (Table 60) in the resume of the data from the frequency graphs. More than 40 percent of the subjects indicated needs in the following order of importance: time to study, parking on campus; scheduling classes; library skills; selecting classes; financial assistance for personal needs; reading skills--speed; and financial aid for tuition and academic needs. These same needs were reported in previous studies of adults in the literature review: Cross and Valley indicate financial concerns and time restrictions as major obstacles to would-be learners in continuing their education; Erickson concludes that scheduling, counseling, financial aid, and parking are key issues for adult students; Jeghelian and Barney found lack of time is a prime concern. Hunt voices lack of confidence and need for

specialized counseling as major problems. The Kellogg study, The Lifelong University, makes concrete suggestions for greater flexibility, improved parking, easier scheduling, and more facilities for counseling and financial aid. The present study corroborates the same needs, and the researcher finds the major problems reported over the last decade in the research also remain as major problems in 1975. These problems do not show evidence of change over the past decade; a general conclusion is that the major needs remain unmet at Michigan State University and should be dealt with by the institution in the immediate future.

B. Which groups have the greatest numbers of problems?

The conclusions regarding problem levels within specific groups are described in Tables 12, 14, 16, 18, 20, and 22 in Chapter IV. In summarizing these results, the needs variables are evenly dispersed through all the age and sex groups. Problems were indicated by 50 percent of the respondents in generally all age categories, but a few stand out as different. For example, financial problems tend to diminish in the older groups, whereas lack of confidence and difficulty in taking examinations increase with age. Skill needs, selection and scheduling of classes, and finances are listed as problems by younger students. All groups feel that time to study and parking are major problems.

In summarizing the data by class levels of the respondents, it appears that undergraduates generally express more problems than graduate students, with the greatest percentage indicated by sophomores. Among the graduate students, master's candidates indicate relatively high percentages of problems, with very few problems mentioned by medical students. Fewer problems among medical students can be explained to a certain extent by the facts that there is a higher faculty-student ratio, more funds are available for student services, and the program is highly structured. Undergraduates and master's candidates are generally assimilated into the general university structure where fewer specialized services are available.

From the perspective of educational background, the problems were dispersed evenly among the groups. Business school graduates expressed few financial problems, but require more academic counseling and reading skills. Community college graduates expressed financial needs and the greatest need for more study time. A general conclusion related to the educational background variable is that more attention should be focused upon community college transfer students, accompanied by more opportunities for counseling and financial aid at the upper class, undergraduate level.

Again it should be emphasized that conclusions related to the groups of respondents are based on small numbers of undergraduates.

Due to the limited number, it is impossible to formulate generalizations related to the adult undergraduate student.

In considering the number of years since taking a class variable, it appears that the great majority of the subjects studied have had some type of continuing education up to the time they registered as students in Fall 1974. The problems were generally dispersed throughout the groups, although the small number of responses from those who had been away from education for more than ten years makes any type of generalization difficult. A general conclusion drawn from the study is that students who have had recent learning experiences indicate the same frequencies of problems as do those who have been away from formal education for some time.

Concerning the frequency of problems within curriculum groupings, it is noted that the problems expressed relate directly to the college or area of study. For example, medical students indicate admission as their greatest problem area; business students have difficulty in selecting and registering for classes, but have few financial problems; students in Arts and Letters generally have problems in all areas; and the problems of education students relate to financial aid, scheduling of classes, skill needs, and academic counseling.

C. Did the problems change between the administration of the two measures?

The knowledge that 22 variables increased as problems and that 18 decreased in frequency does not fully explain the data. It appears that changes occurred between categories. For example, the area of pre-entry needs diminished after the first measure, which can be explained when considering the nature of the variables relating to learning the route through the system; once a student has been admitted, admission is no longer a problem. What is interesting about the pre-entry problems is that many of them did increase following two terms of experience within the system. Receiving necessary information, scheduling classes, availability of books and supplies, and dropping and adding classes all increased in frequency between Fall term 1974 and Spring term 1975.

In the other areas, the changes in frequencies were slight for skill needs, but ability to take examinations showed a marked increase. Variables concerning personal needs increased somewhat, with parking, information about university functions, and meeting faculty and advisors all showing a marked increase. It is interesting to note that financial aid problems decreased slightly after two terms of experience. This might be explained by students uncovering sources they did not realize were available or by finding part-time jobs to aid them financially. It is also possible that some of the

nonrespondents to the second measure, who had responded to the first, dropped out of the university because of financial needs, which would alter the data.

In summary, there were changes in the responses between the two measures. The differences were not great, but they do reflect the conclusion that some problems decrease with experience as a student, while others increase. In no case was a problem totally alleviated after two terms. No new problems were uncovered as a result of the research, but it is a general conclusion that major problems confronting students do not diminish after two terms within the university system. Possible solutions will be considered in the following recommendations.

Recommendations Based upon the Results of the Research

The recommendations growing out of the present study encompass two areas: immediate changes necessary to alleviate the most frequent problems observed by the researcher, and the suggestions by the respondents for changes that will assist them as a group.

Researcher's Recommendations

The recommendations for changes will be considered in the order of importance of the problems expressed by the students.

1. Time to study.--The time to study need could be alleviated by counseling programs focused on teaching organizational skills and the management of time. A student center which would include personal as well as academic advisement in a central unit could assist students in developing priorities and strategies to control the use of their time. Since many of the students represented in the population hold full-time jobs, the need for a unit to assist them should include services offered at nontraditional times such as lunch and dinner hours, evenings, and weekends. In another vein, improving skills such as reading, writing, and typing could save the students time in the long run, and a skills center to assist in such areas could be made part of a general student center.

2. Parking on campus.--Parking has been a chronic problem at Michigan State University since the school's rapid growth in the 1950s. The need for more self-liquidating parking facilities close to the center of the campus, similar to those found at the University of Michigan and University of Toronto, could alleviate the problem. These facilities would not require a special use permit and would be available to anyone on a metered basis. In addition, more frequent

minibus service from outlying parking lots could facilitate movement across campus. If parking problems persist and grow in the future, it may be necessary to reconsider building additional parking facilities and to eliminate private vehicles from the inner campus area totally. Essentially, this has been the purpose of present driving and parking regulations, but inadequate enforcement, inequalities in issuance of permits, and limited numbers of facilities have produced chaos. If private vehicles are eliminated from the central areas, then a much improved transit system must be instituted to move students and staff across campus. Regardless of the solutions considered, parking remains a primary problem for students.

3. Scheduling classes.--The need for greater administrative flexibility in scheduling is reflected in the problems and comments of the population under study. More trained personnel in the area of admissions, easier access to admissions and registration facilities, and the possibility of registration-by-mail could be accomplished if planned in advance. The dollars now being spent on corrections in scheduling errors, drops and adds, and changes in class loads could be invested in a more efficient system of registration procedures. Simply cutting down the steps in the registration process would help. Another aspect of the scheduling problem is the discrepancies between colleges in the times when offerings are presented. For example, business classes are offered only during the day, while graduate

education classes are available almost entirely in the evening. Greater flexibility should be considered. Easier access to preregistration procedures for nontraditional students who cannot preregister during regular class hours might provide one solution.

4. Library Skills.--It seems that, due to size and dispersed resources, the library remains an enigma to many students. One comprehensive, printed guide and one knowledgeable resource person could be of great assistance in familiarizing students with the library system. Simply learning the fact that a resource should be explored in two or three different locations in a library can prevent students from becoming discouraged. Since the majority of subjects studied were graduate students, the need for accurate knowledge concerning library resources is vital.

5. Financial Aid.--A major problem in obtaining financial aid appears to revolve around where and what resources are available. A complete list of both public and private funds available to all students could help students in applying for assistance. Some type of centralized administration staffed by trained personnel with knowledge of campus-wide financial resources could be immensely useful. It appears that financial aid to all of higher education will continue to be a major problem.

Students' Suggestions

A second source of recommendations which must be seriously considered as a result of the research is a list compiled from the open-ended responses of the students surveyed. These have been categorized below according to the groups making the suggestions.

The physically handicapped students suggest:

(1) More restricted parking places close to class buildings.

(2) More accessibility and "barrier-free" design in buildings such as the M.S.U. Bookstore, the Union, Olin Health Center, and Morrill Hall.

(3) More "readers" for blind and partially sighted students.

Students who commute recommend:

(1) Better scheduling of buses from commuter lots during rush hours in the late afternoon and in the evening.

(2) Book stores and offices with evening hours, especially counseling offices.

(3) More liberal evening parking on campus.

(4) Lots placed closer to classroom facilities. These could be of the high-rise, self-liquidating type.

Single adult students would appreciate:

(1) Small, apartment-type housing for single graduate students.

(2) Alternative "meal ticket" plans in the graduate dormitory.

(3) More social functions for older, single students.

(4) A center on campus strictly for dealing with adult problems.

(5) More flexibility in scheduling classes (blocks of time, and so forth.

(6) More leniency for on-campus driving of automobiles.

Divorced students believe in the need for:

(1) Social and cultural activities for children of "one parent" families.

(2) Social and cultural activities for divorced and widowed adults who would like to meet other students.

(3) Counseling and support groups for "one parent" families.

(4) Low cost, high quality day care facilities of both short and long duration. Full-time students find it difficult to participate in cooperative nurseries.

(5) Reliable babysitting information for new students.

Summary

Although the students' recommendations speak to personal, subjective issues and are unaccompanied by statistical data, the preceding remarks convey an impression of the type and scope of problems which face them. Such impressionistic information can be a valuable guide in determining which areas are most in need of improvement.

Recommendations for Future Study

These recommendations for future study will suggest how this work could be improved upon if it were to be done again; what would have been done differently; and what should be done on an on-going basis.

The results of the study described the majority of the population as young, continuous learners who have had extensive college experience. Even though the population over 40 years of age proved to be smaller than anticipated, it would be recommended that future research scrutinize the older learners and study their problems in depth. A similar recommendation applies to problems of undergraduate students. Is there a difference between the problems of older undergraduates in contrast to graduate students? Are the undergraduates completing the degrees they initiate? Do they remain within the university system? The present system seems to be perpetuating the idea that continuing education is for those who have already been successful within the system. Intensive research is required to find ways to facilitate learning experiences for the students who have not completed college degrees. If the present research were to be replicated, the researcher would recommend an in-depth study of a smaller sample of all undergraduate students over 40 years of age to determine needs, motivations, and success patterns of older students.

The researcher would also reexamine the criteria for definition of "adult" in redoing the study. If the range of adult covers all human beings from 18 years of age, then problems uncovered in the study would apply to anyone beyond 18. One approach might be a comparative study of residential students 18-22 years of age and non-residential students 35-40 years old. Are the problems confronting the student body as a whole delineated by age distinctions, or does the life-style of the student determine the perception of problems? A study comparing expressed problems at different age levels might find that the problems are inherent in the system and not determined by the age of the students.

Another area of future study is follow-up research on adult students who apply and are accepted for admission, but do not appear for classes. Do they choose other institutions? Do they become discouraged by the registration process? Do other commitments hinder them? This type of research would be parallel to Cross and Valley's study of would-be learners.

Continued research on the needs of all students is essential if programs are to be improved and expanded. Sharing the results and conclusions with other institutions also seems important if progress is to be made.

A relatively unexplored area concerns the motivational drives of adult students in their struggle to overcome problems confronted

in the pursuit of education. How many of these students surmount their problems because the institution assists them, and how many survive through sheer determination in the face of institutional barriers?

Another aspect requiring investigation involves what institutions such as Michigan State University are doing today for students of all ages. Of real usefulness would be the cataloguing of all services available to students on various campuses. Partial lists containing helpful advice now are available through counseling offices, the library, and the special services divisions, but what is needed is a compendium which could be mass produced and easily disseminated to all students, and a volume more personalized than the General University Catalogue.

The potential for follow-up research on students returning to higher education appears to be endless. Is it the pattern of formal learning developed in college which influences the learners to continue education throughout life? A longitudinal study of learning patterns of returning students would add to our knowledge significantly.

One last area worthy of study might be the application of experimental research to the problems and possible solutions noted here. Setting up a control group which progresses through the system of higher education without assistance versus a pilot group which is

assisted with specific problems might be one approach. Does assistance make a difference?

In short, the possibilities for future research seem almost unlimited. What is important is that such work should and must be done. As the implications of this research suggest, progress has been too slow in the area of lifelong education.

Implications of the Study

The results of the study reveal no new or revolutionary needs expressed by the students in 1975. Utilization of time, parking, scheduling, counseling, and financial aid are all reported by respondents in 1975 as major problems much as they were reported by Hunt in 1965, by Erickson in 1968, by the Women's Bureau in 1971, and by Cross and Valley in 1974. What is distressing is that the literature shows the same needs existed over a decade ago, and no radical changes in the structure have been instituted to deal with them. If Michigan State University, for example, has a commitment to lifelong learning, and such an attitude was expressed in The Lifelong University, then needs assessments should lead to action to alleviate the problems. It is possible to go on describing and assessing for decades, but unless overt action is taken to correct problems, continual reassessments and recommendations are futile.

Another question the study raises is whether or not the present university environment does foster attendance by mature students. From the results of the research, very small numbers of students over 40 years of age appear to be returning to the higher levels of education. This contradicts research findings in general, as reflected in government reports and the Carnegie study. It would seem that if older students are indeed being encouraged to continue education, then a sample of 463 students over 26 years of age should contain more than 8 percent over 40. Perhaps the present system fosters students who conform to the traditional, residential, four-year mold.

Concluding Statement

To justify their existence, universities need students; people need universities to assist them in expanding their horizons; each can enrich the other. To facilitate this process, people and universities must be brought more closely together, first by diagnosing the needs of the recipients of learning and then by changing the structure to meet those needs. The analysis of expressed needs presented here speaks to the first issue, diagnosis, and it is hoped that this research will be a significant step toward realizing McGeorge Bundy's vision of academic utopia:

> By 1975, the greatest change wrought within the university during the previous fifteen years would be the fact that it is not merely a place of full-time effort by young students and old professors--it is also a home, for hours, or days, or weeks at a time for all highly civilized men.

---

[69]McGeorge Bundy, "A Report from an Academic Utopia," Harper's Magazine, CCXXIV, No. 1340 (January 1962), p. 15.

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APPENDICES

APPENDIX A

Appendix A includes sample copies of the four cover letters mailed to the subjects on September 3, 1974, November 29, 1974 (follow-up to Measure I), March 3, 1975, and March 26, 1975 (follow-up to Questionnaire II).

Appendix A also includes one copy of the questionnaire. An identical instrument was used for Questionnaire II with the exception of changes made on page 1, deleting demographic data.

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF ADMINISTRATION AND HIGHER EDUCATION
ERICKSON HALL

EAST LANSING • MICHIGAN • 48824

September 3, 1974

Welcome to Michigan State University:

This letter concerns you and your status as a new student or re-admitted student over twenty-six years of age.

With the current national and university interest in lifelong learning, your concerns and needs are becoming of greater significance now than ever before. I would like to enlist your assistance in gathering data about these needs. Hopefully, this research view of adult students may be used to aid in solving problems and improve student life for you and others.

The plan is to question you now with the enclosed survey and once more in March 1975 to discover your expressed needs and to determine if and how these needs change after two terms at Michigan State.

All information gathered is strictly confidential and will be treated with the greatest respect. If you wish to remain anonymous, leave your name off. If you would rather not answer certain questions, it is your choice. Please use this opportunity to discuss needs that really concern you. Your opinion is valuable. Your frank and honest responses will enhance the value of the study.

As a result of responding to the Adult Student Questionnaire, you will know at least one person at Michigan State. Please let me know if I can be of assistance to you in any way during your first term at M.S.U.

Please complete the attached questionnaire and return it in the self-addressed envelope as soon as possible. Your assistance in this project is greatly appreciated.

GOOD LUCK IN THE COMING YEAR!!!!!!!

Very sincerely,

Peggy A. Kline
Doctoral Candidate
Continuing Education
Michigan State University

Please respond to:

1123 Alton Road
East Lansing,
Mich. 48823

Phone: (517) 351-5251

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF ADMINISTRATION AND HIGHER EDUCATION
ERICKSON HALL

EAST LANSING • MICHIGAN • 48824

November 29, 1974

Dear Fellow Students:

This letter is written as a follow-up to one sent you in September regarding questions of deep concern to adult students at Michigan State University.

In case my first inquiry missed you while you were moving or was misplaced during registration, I am enclosing a second one accompanied with a postage-paid envelope for your convenience. Please respond!!!!!

After studying the first responses received this fall, it seems apparent that adult students do encounter some problems as they re-enter the formal education stream. Unless we are able to gather complete data on these needs and define them in precise terms, little can be done to solve the problems.

This is where you come in--please give this questionnaire your careful attention, complete it, and return it to me by December 15th.

If you have already responded, please tear off the bottom of this letter and return it in the enclosed envelope.

It is sincerely hoped that this study will reflect the needs of all adult students at Michigan State. I hope this means you.

Very sincerely,

Peggy A. Hine
Doctoral Candidate
Continuing Education
Michigan State University

To Peggy A. Hine
1123 Alton Road
E. Lansing, MI 48823

_____ *I have mailed my questionnaire to you.*

_____ *I have no problems and am not interested in responding to your questions.*

Name: _____

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF ADMINISTRATION AND HIGHER EDUCATION
ERICKSON HALL

EAST LANSING · MICHIGAN · 48824

March 3, 1975

Dear Fellow Students:

Hello, again.....I'm the graduate student who contacted you during Fall Term for information about your concerns as a student at Michigan State University. I hope these last two terms have gone well for you.

Your responses to my first inquiry have been exciting. Certain concerns appear to be universal and reflect basic needs--others are special and indicate unique problems. Whatever the case, each one has added a significant measure to this study. My sincere thanks for your cooperation.

Once again I am calling on your time and interest. The real value of this study will come from comparing those needs you expressed last fall to those you perceive at this time. The comparison will indicate which concerns are being satisfied within the existing structure and/or by experience within the system, and which needs have remained unmet.

If you are presently enrolled as a student at Michigan State, please complete this inquiry and return it to me by March 20, 1975 in the self-addressed, postage-paid envelope.

If you are no longer a student here or have changed your status and are not able to complete this second response, please tear off the bottom portion of this letter and return it in the enclosed envelope.

I would like to thank each one of you personally for your time, your honest responses, and your addition to my doctoral study. I hope it will make a real difference.

Very sincerely,

Peggy A. Hine
Doctoral Candidate
Higher and Continuing Education

- -

________ I am no longer a student at Michigan State University because

____

____

Name ______________________________

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ERICKSON HALL

EAST LANSING · MICHIGAN · 48824

March 26, 1975

Dear Lost, Strayed, and Otherwise Occupied:

If I told you you would win a million dollars, I'll bet you'd return this questionnaire!!! I can't say this, but it would be worth a million to me to receive your response.

The importance of this study is in looking at how problems and expectations change as people work within a system. This can be done only by comparing September and March responses to the same questions. Yours Are Very Important.

Let me reassure you that every response is treated with the greatest respect and confidentiality.

If you have already returned the response mailed to you on March 3rd, please disregard this letter.

If you are still taking courses at Michigan State University, please take a few minutes to fill out the attached inquiry and return it to me in the self-addressed envelope.

If you are not a student at M.S.U. this term, please complete the portion at the bottom of this letter and return it.

Whatever the case, I would greatly appreciate hearing from you. Thank you for your prompt response.

Very sincerely,

Peggy A. Hine
Doctoral Candidate
Higher and Continuing Education

- -

________ *I am no longer a student at Michigan State University because*

____

____

Name ______________________________

ADULT STUDENT QUESTIONNAIRE

Please Print

NAME _____
LAST FIRST

ADDRESS DURING THE 1974-75 SHCOOL YEAR

Street _____

City _____

State _____ Zip _____

PRESENT EDUCATIONAL STATUS

High School Graduate _____

College Credits _____

Junior College Graduate _____

Business or Vocational School Graduate _____

College Graduate _____

Graduate School Credits _____

Please check (✓) the statement which best describes you.

TYPE OF INSTITUTION ATTENDED PRIOR TO M.S.U.

Public _____ Private _____

University _____ Private Business or Trade School _____

Small College 0 - 1001 _____ Community College _____

Large College 1001 - 50,0000 _____ Other _____

NUMBER OF YEARS SINCE TAKING A COLLEGE COURSE FOR CREDIT:

Never _____ 20-25 years _____

10-20 years _____ 5-10 years _____

2-5 years _____ 2 yrs - now _____

QUESTIONS

Please check (✓) the response closest to the one which best suits you.

1. This is not a problem for me.
2. This is a minor problem for me.
3. This is a moderate problem for me.
4. This is a major problem for me.

I. PRE-ENTRY NEEDS	1-No Problem	2-Minor Prob.	3-Mod. Prob.	4-Major Problem
1. Difficulty in being admitted				
2. Receiving necessary information & forms				
3. Difficulty in choosing a major field				
4. Difficulty in getting into the chosen field or major				

Adult Student Questionnaire

Please (✓) the response closest to the one which best suits you.

I. PRE-ENTRY NEEDS (cont'd.)	1-No Problem	2-Minor Problem	3-Mod. Prob.	4-Major Problem
5. Academic counseling before choosing courses				
6. Credit evaluation of past college courses				
7. Transferring credits				
a. for business courses				
b. for nursing courses				
c. for other courses				
8. Transferring credits for courses taken many years ago				
9. Transferring credits for courses from non-accredited institutions				
10. Credit by examination for required courses				
11. Financial aid for tuition and academic needs				
12. Selecting classes				
13. Scheduling classes to fit available time				
14. Getting into desired classes				
15. Pre-registration for classes				
16. Registration				
17. Availability of books and supplies				
18. Locating class buildings and rooms				
19. Dropping and adding classes after registration				

ADULT STUDENT QUESTIONNAIRE (cont'd.)

Please (✓) the response closest to the one which best suits you.

II. SKILL NEEDS	1 - No Problem	2-Minor Problem	3-Mod. Prob.	4-Major Problem
1. Understanding the English language				
2. Reading skills:				
a. Speed				
b. Comprehension				
c. Vocabulary				
3. Writing skills				
4. Speaking skills				
5. Library skills-- knowing available sources				
6. Prerequisite knowledge for required courses				
7. Ability to take tests and examinations				
8. Need for tutorial assistance				
9. Ability to type				
10. Time to study				
III. PERSONAL NEEDS				
1. Need for local housing				
2. Full or part-time employment information				
3. Financial assistance for personal and family needs				
4. Vocational counseling				
5. Transportation to campus				

ADULT STUDENT QUESTIONNAIRE (cont'd.)

Please (✓) the response closest to the one which best suits you.

III. PERSONAL NEEDS (cont'd.)	1-No Problem	2-Minor Problem	3-Mod. Prob.	4-Major Problem
6. Transportation around campus				
7. Parking on campus				
8. Child care during class hours				
9. Locker space on campus				
10. Lunch and dinner facilities				
11. Meeting other adult students				
12. Gaining information about university functions (lectures, concerts. speakers)				
13. Meeting faculty and advisors				
14. Personal counseling				
15. Confidence in ability to do well in college				
16. Support from spouse and family				

IV. OTHER NEEDS--Please specify your needs which have not been listed above:

A. Your special needs or problems...

B. Your comments....

ADULT STUDENT QUESTIONNAIRE

Please print

NAME_____, _____
Last First

Student Number_____

ADDRESS DURING THE 1974-75 SCHOOL YEAR

Street_____

City_____

State_____

QUESTIONS

Please check (✓) the response closest to the one which best suits you.

1. This is not a problem for me.
2. This is a minor problem for me.
3. This is a moderate problem for me.
4. This is a major problem for me.

I. PRE-ENTRY NEEDS	1-No Problem	2-Minor Prob.	3-Mod. Prob.	4-Major Problem
1. Difficulty in being admitted				
2. Receiving necessary information & forms				
3. Difficulty in choosing a major field				
4. Difficulty in getting into the chosen field or major				

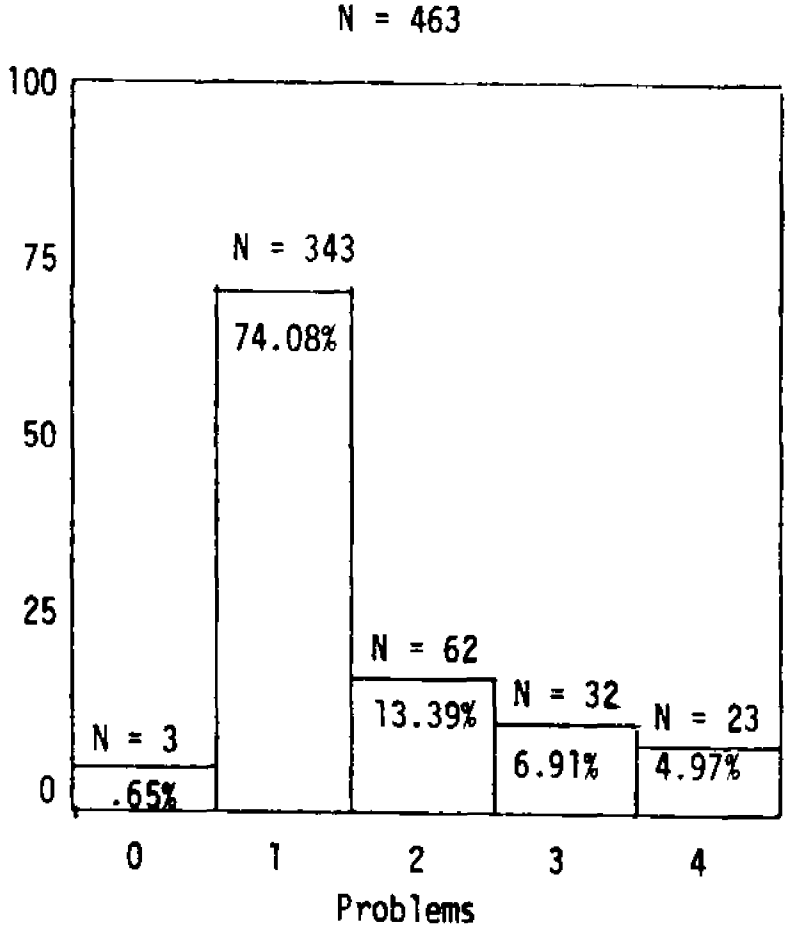
APPENDIX B

Appendix B includes a graphic description of the results of both questionnaires on each variable tested. The researcher considers the following section highly relevant to the dissertation in describing the actual results. A resume of these graphs is found in Table 9 on page 70.

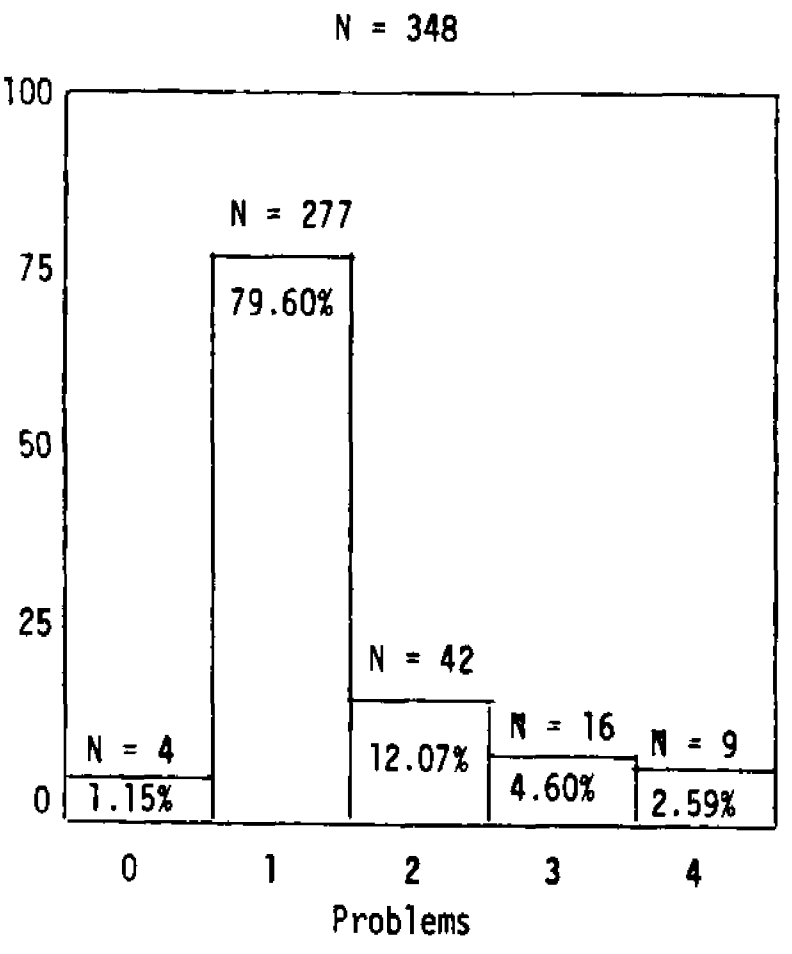
The graphs illustrate the numbers of respondents and the percentage of respondents on each question asked. In comparing the graphs on each page, the reader is provided with a visual image of the changes that occurred between Questionnaire I (Fall 1974) and Questionnaire II (Spring 1975).

GRAPH 1

DIFFICULTY IN BEING ADMITTED



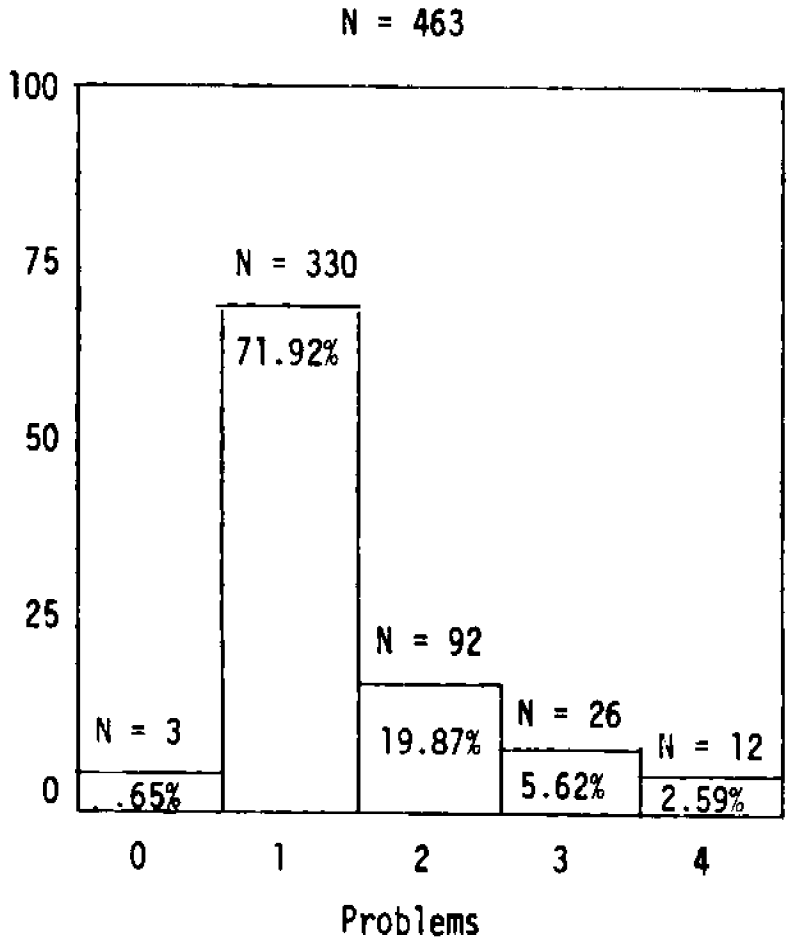
A problem for 25.27% of population
on Questionnaire I



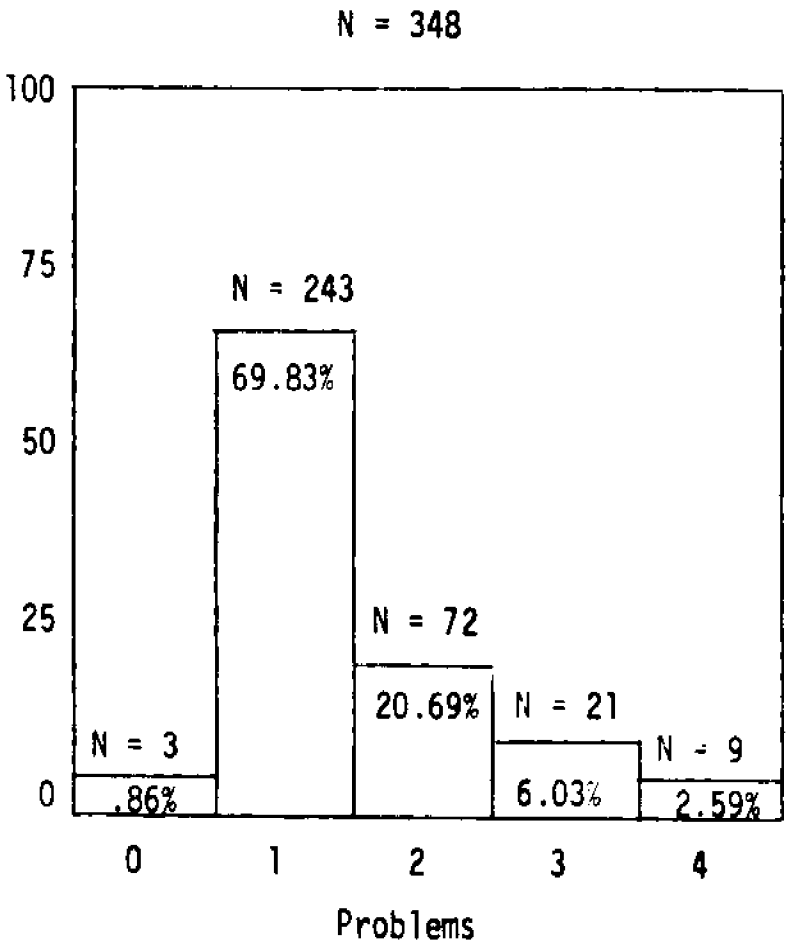
A problem for 19.26% of population
on Questionnaire II (Decrease)

GRAPH 2

RECEIVING NECESSARY INFORMATION AND FORMS



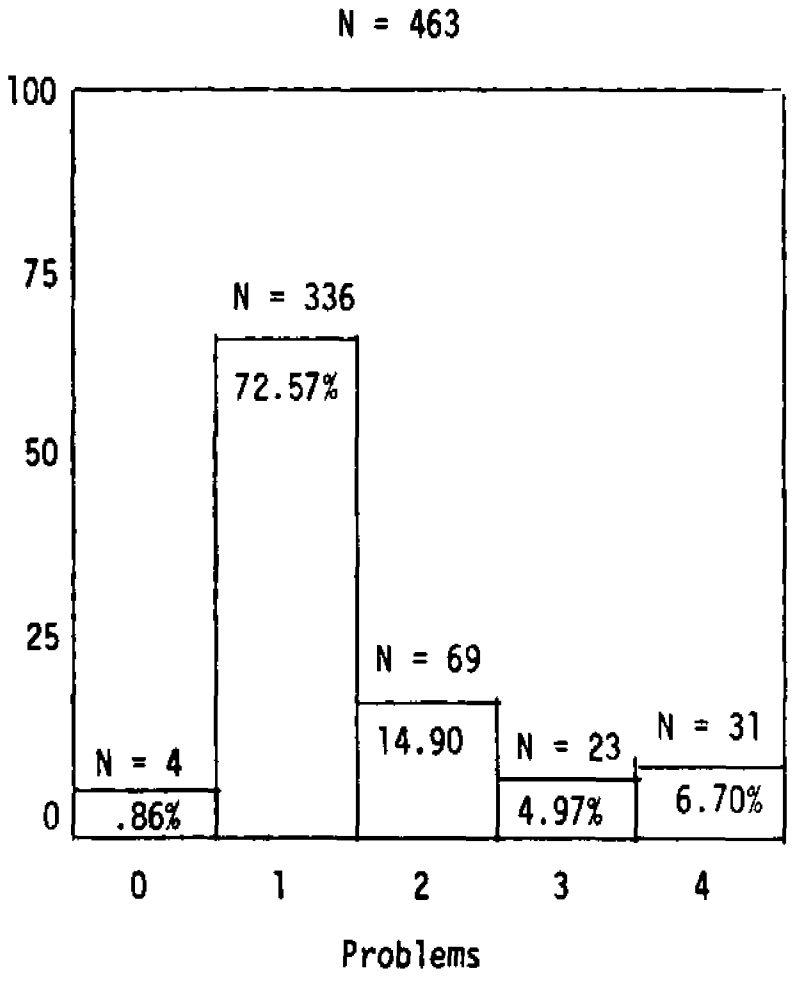
A problem for 28.08% of population
on Questionnaire I



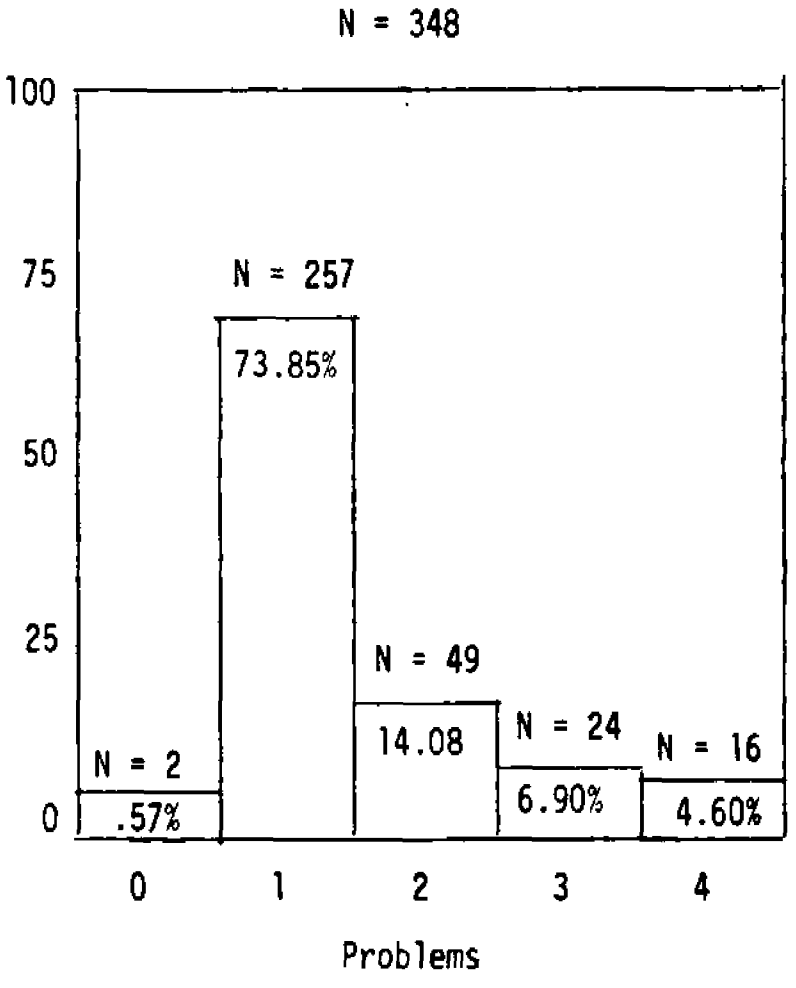
A problem for 29.31% of population
on Questionnaire II (Increase)

GRAPH 3

DIFFICULTY IN CHOOSING A MAJOR FIELD



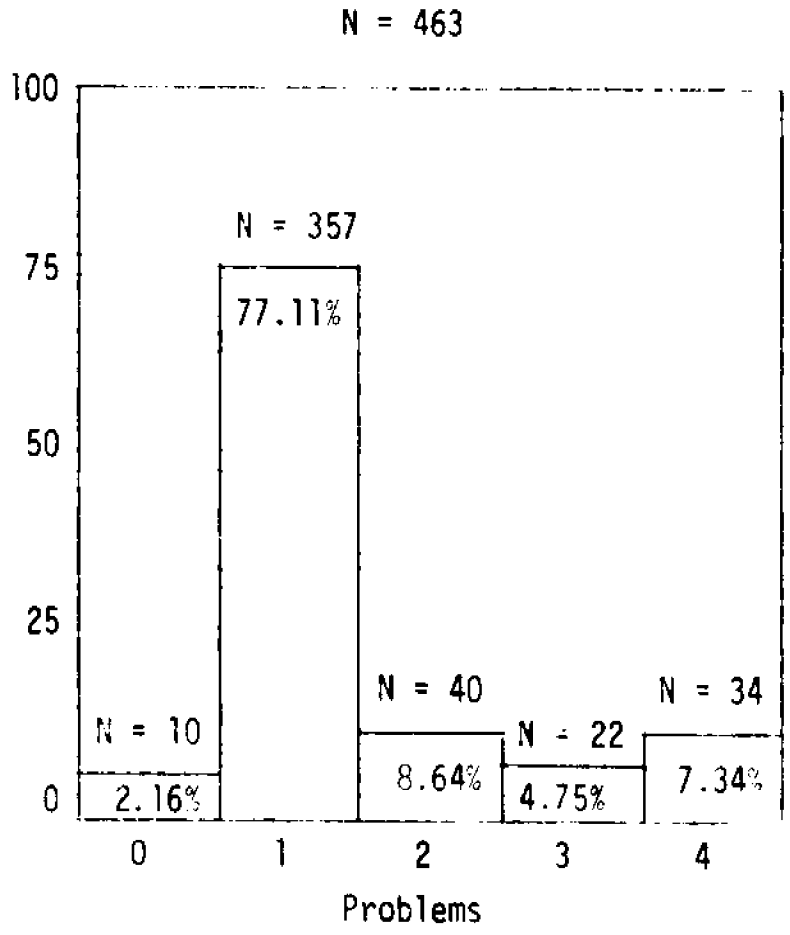
A problem for 26.57% of population
on Questionnaire I



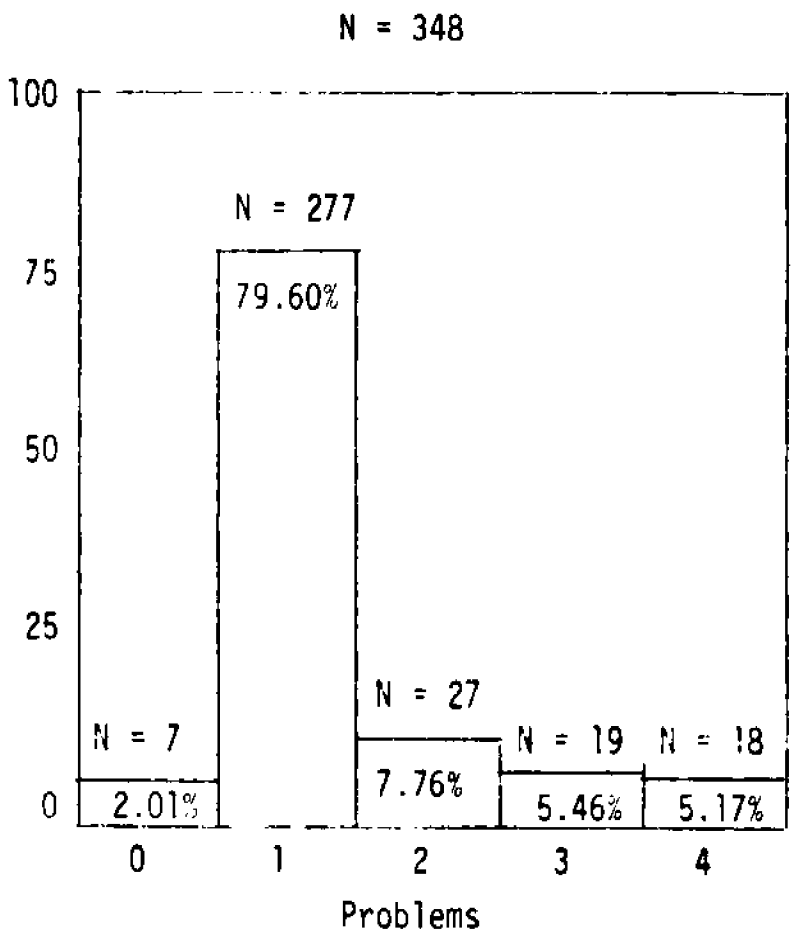
A problem for 25.58% of population
on Questionnaire II (Decrease)

GRAPH 4

DIFFICULTY IN GETTING INTO THE CHOSEN FIELD OR MAJOR



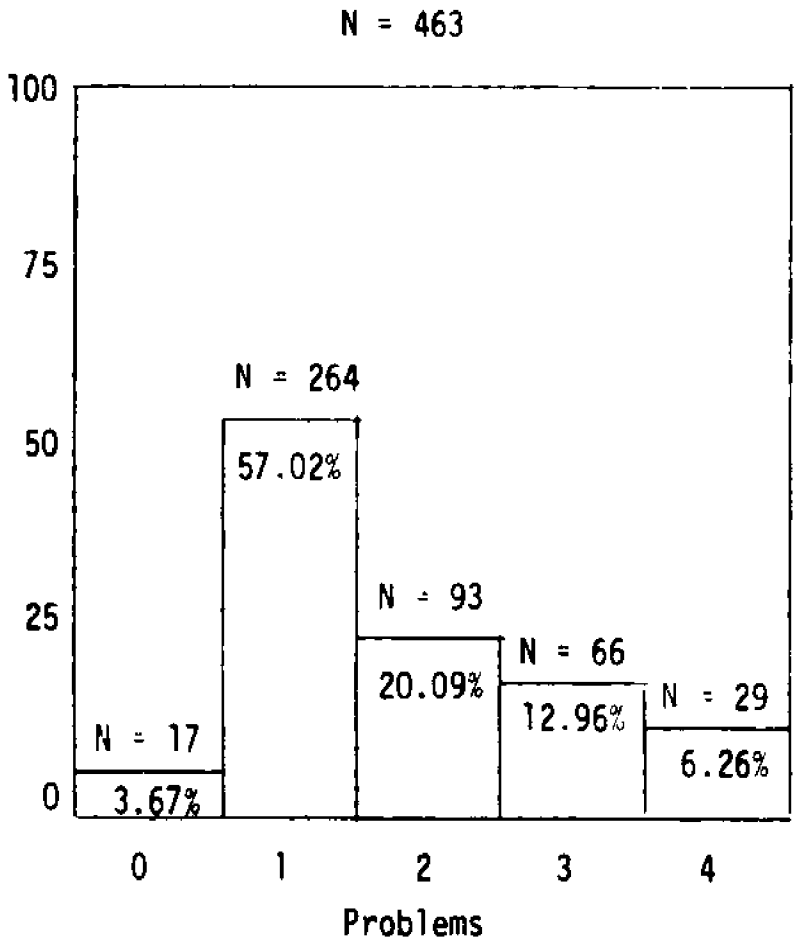
A problem for 20.73% of population
on Questionnaire I



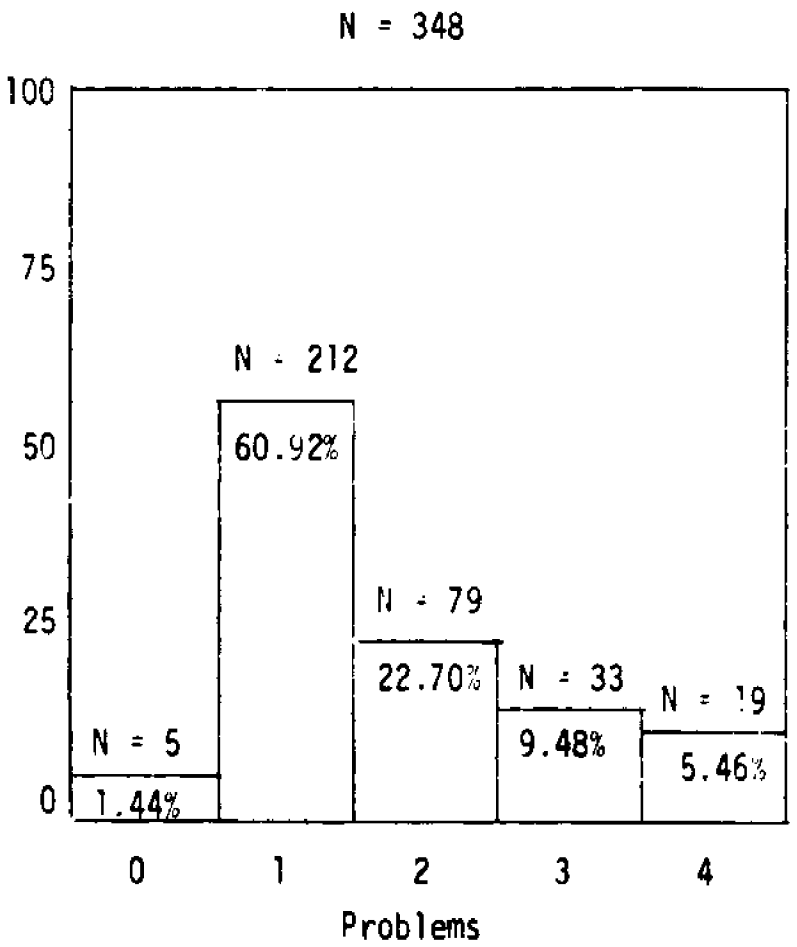
A problem for 18.39% of population
on Questionnaire II (Decrease)

GRAPH 5

ACADEMIC COUNSELING BEFORE CHOOSING COURSES



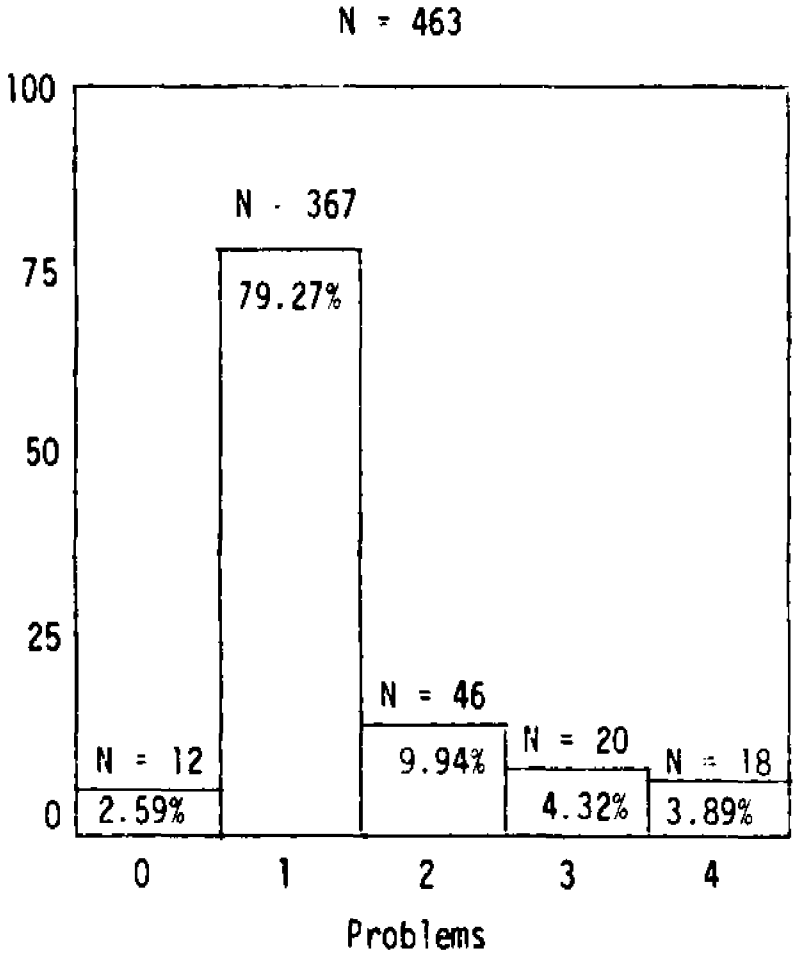
A problem for 39.31% of population
on Questionnaire I



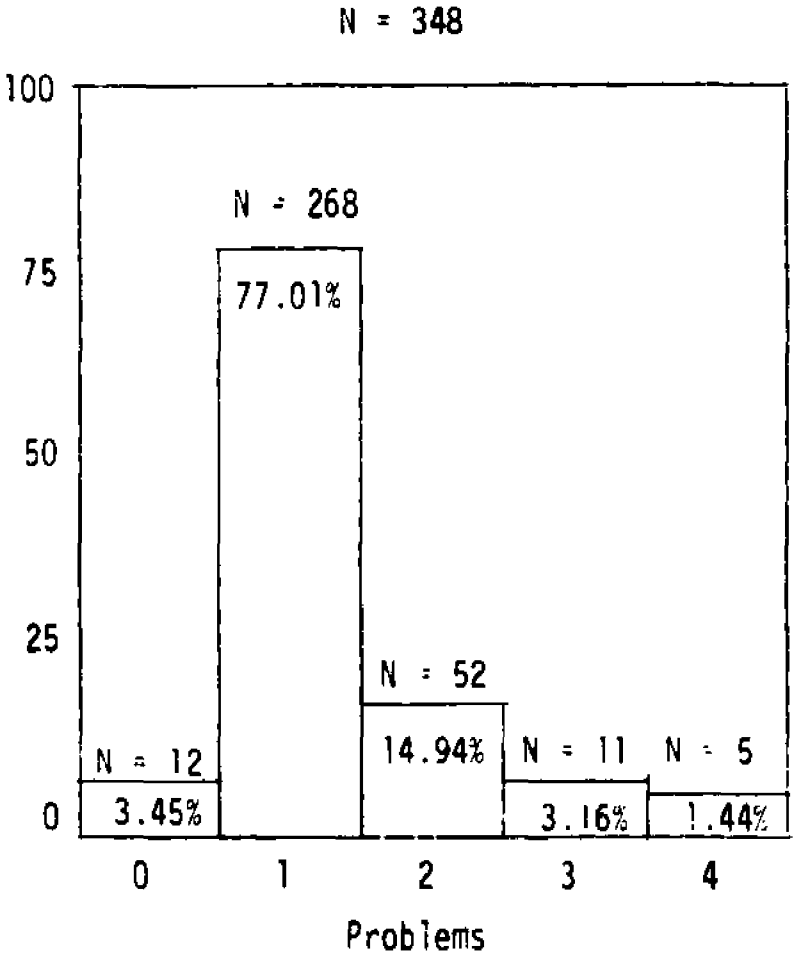
A problem for 37.64% of population
on Questionnaire II (Decrease)

GRAPH 6

CREDIT EVALUATION OF PAST COLLEGE COURSES



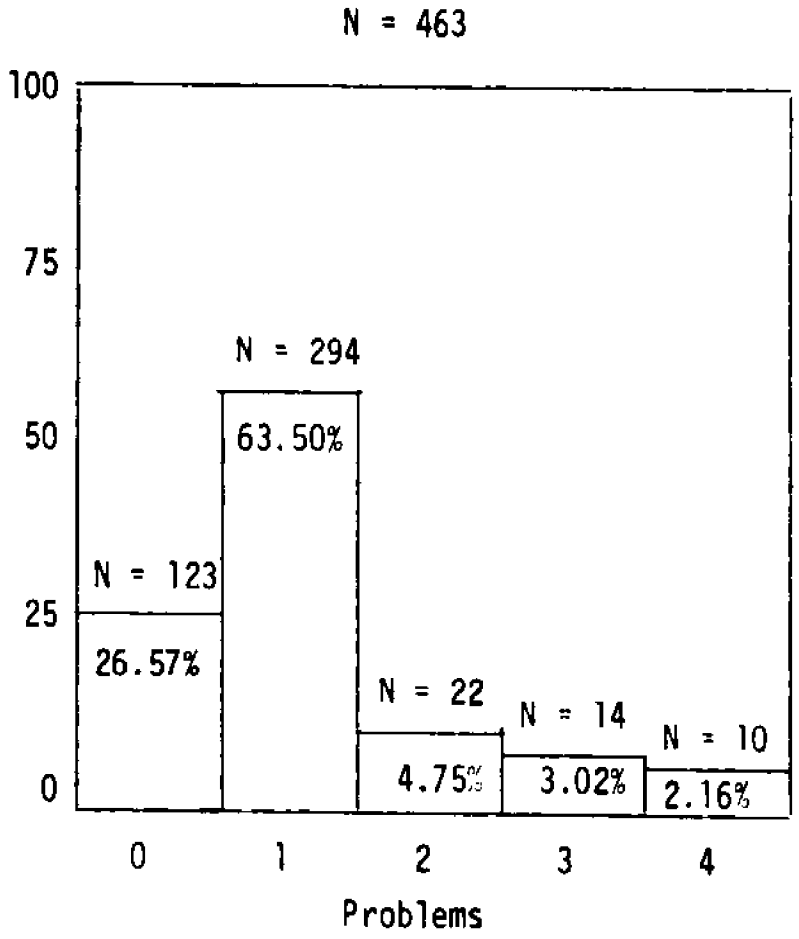
A problem for 18.15% of population
on Questionnaire I



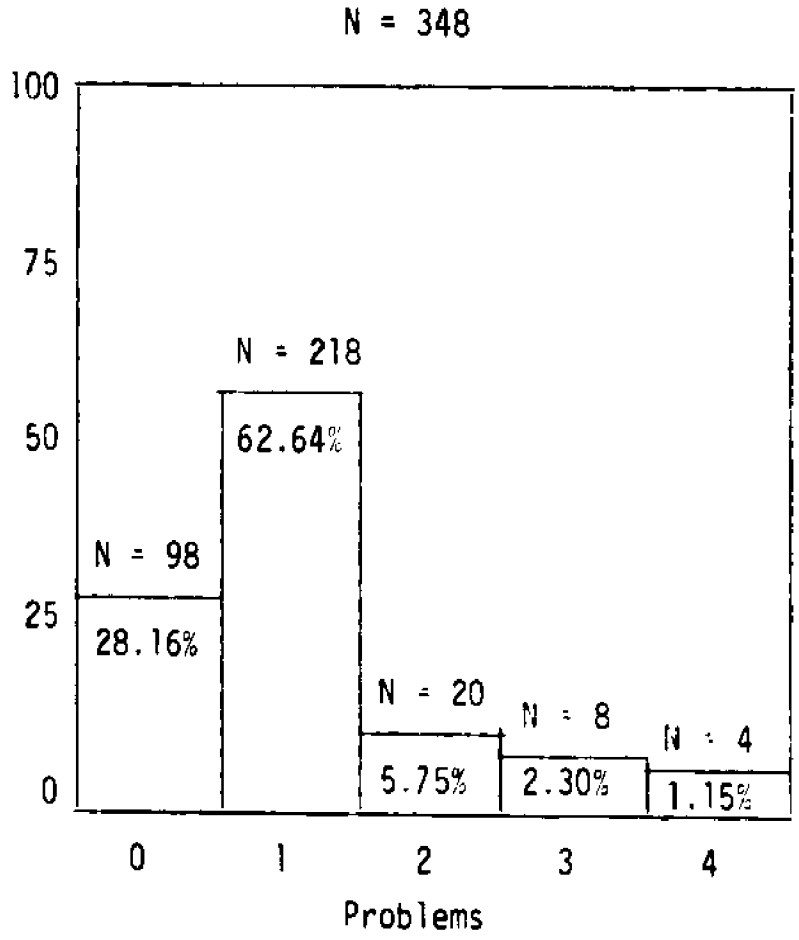
A problem for 19.54% of population
on Questionnaire II (Increase)

GRAPH 7

TRANSFERRING CREDITS



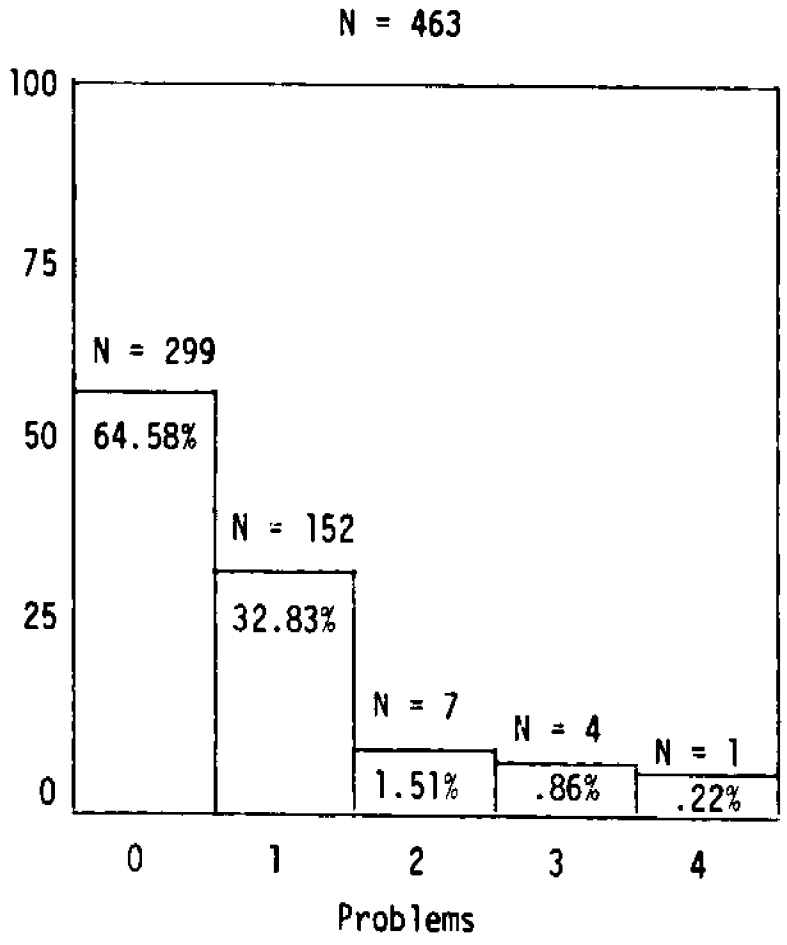
A problem for 9.93% of population
on Questionnaire I



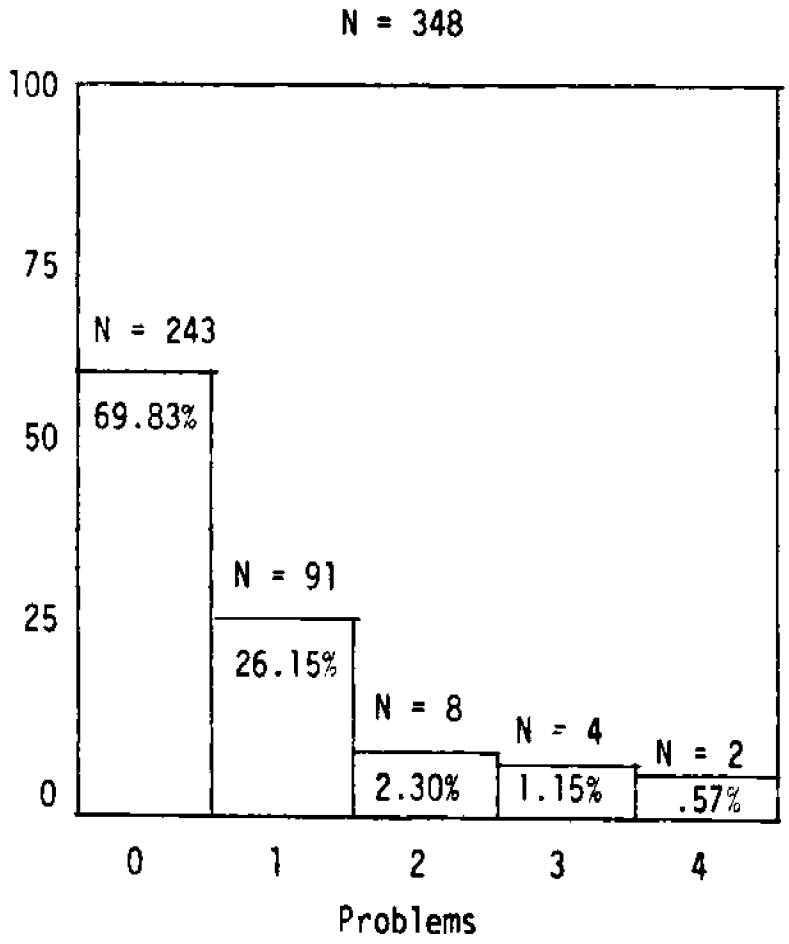
A problem for 9.20% of population
on Questionnaire II (Decrease)

GRAPH 8

TRANSFERRING CREDITS FOR BUSINESS COURSES



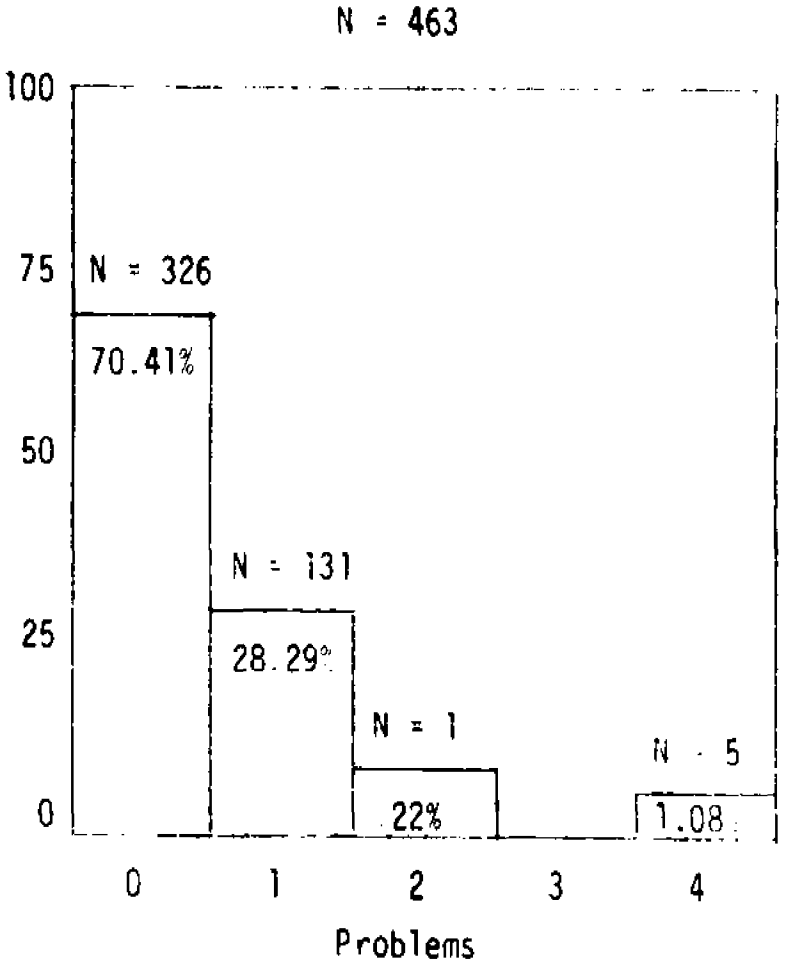
A problem for 2.59% of population
on Questionnaire I



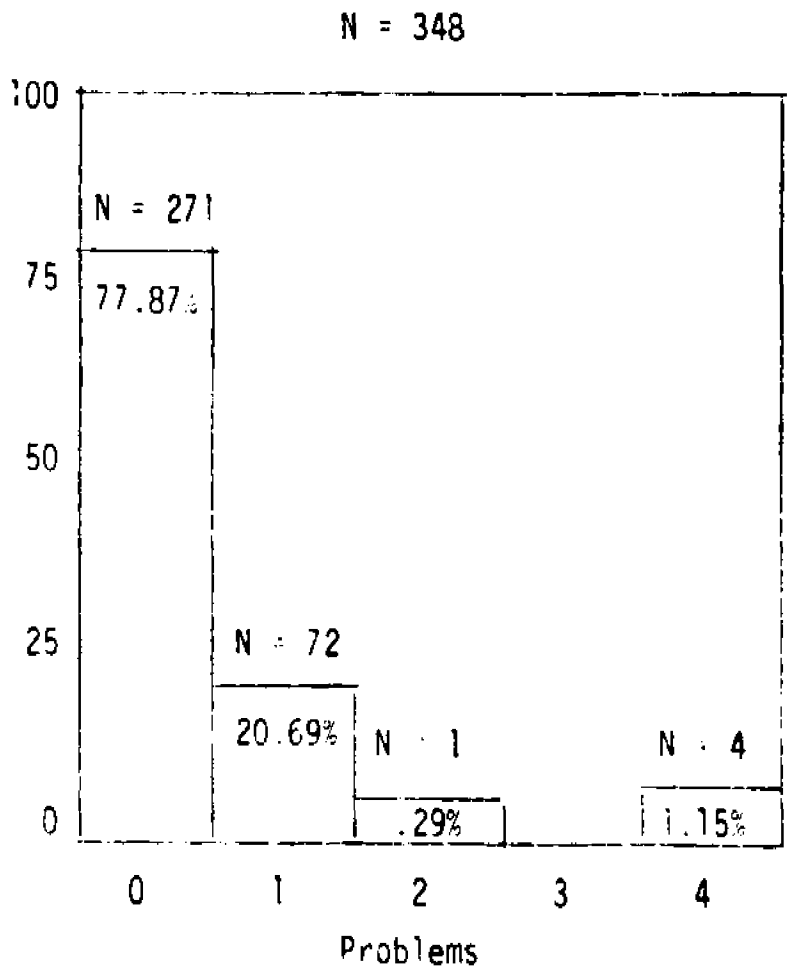
A problem for 4.02% of population
on Questionnaire II (Increase)

GRAPH 9

TRANSFERRING CREDITS FOR NURSING COURSES



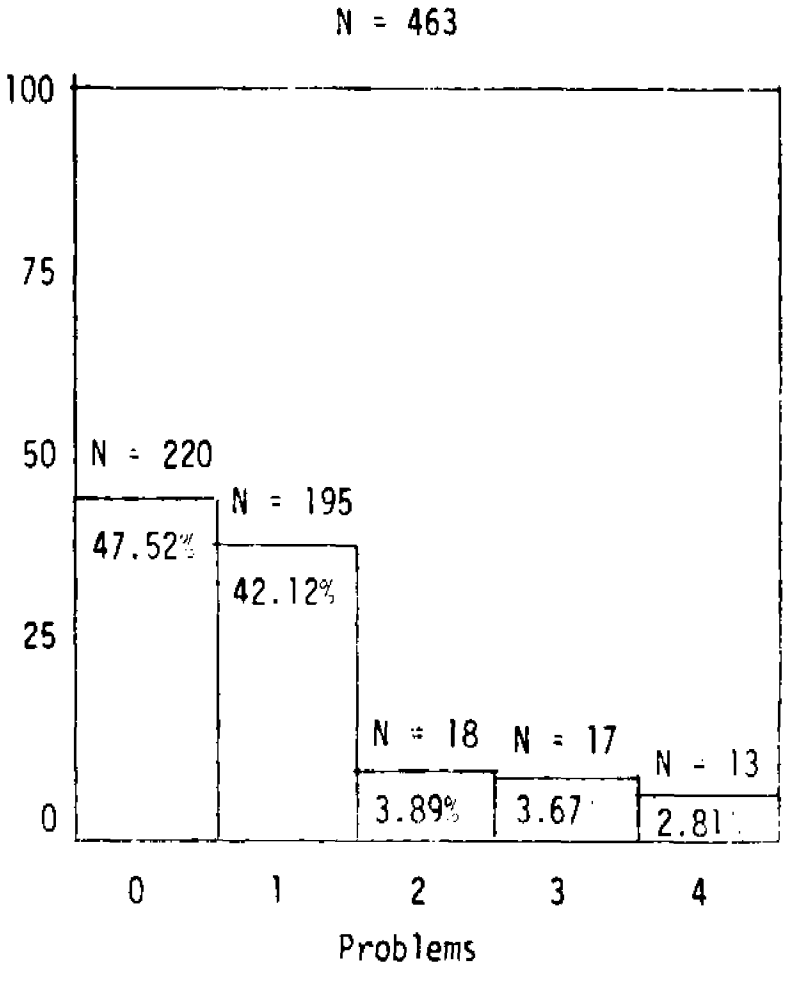
A problem for 1.3% of population
on Questionnaire I



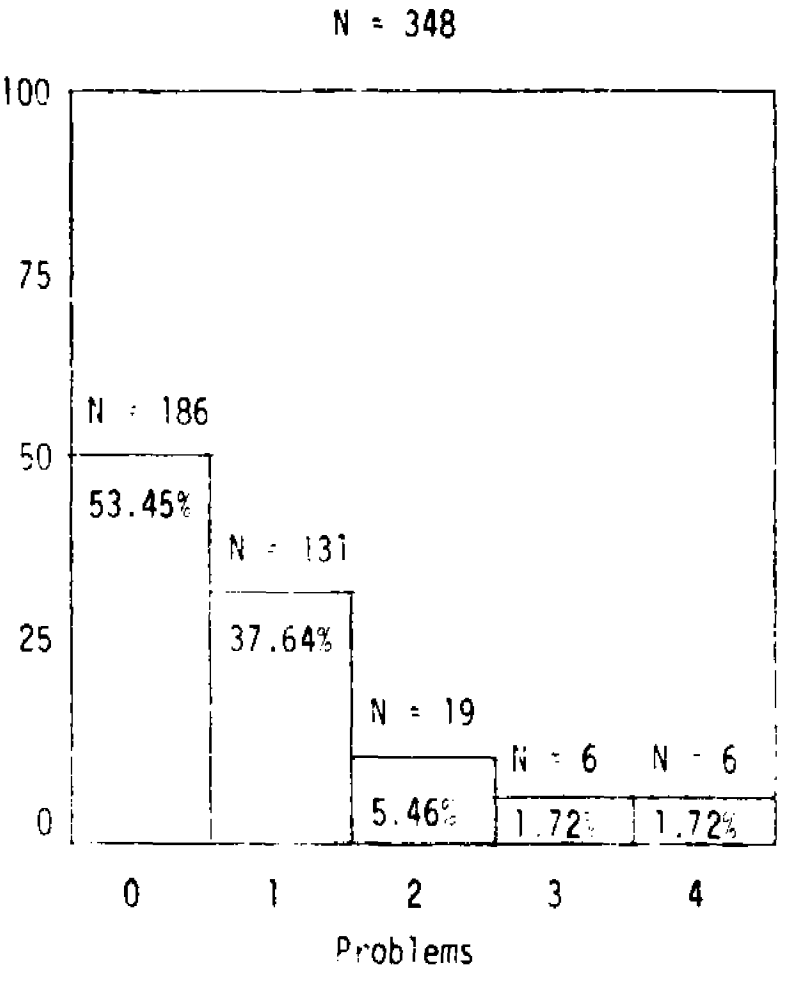
A problem for 1.44% of population
on Questionnaire II (Increase)

GRAPH 10

TRANSFERRING CREDITS FOR OTHER COURSES



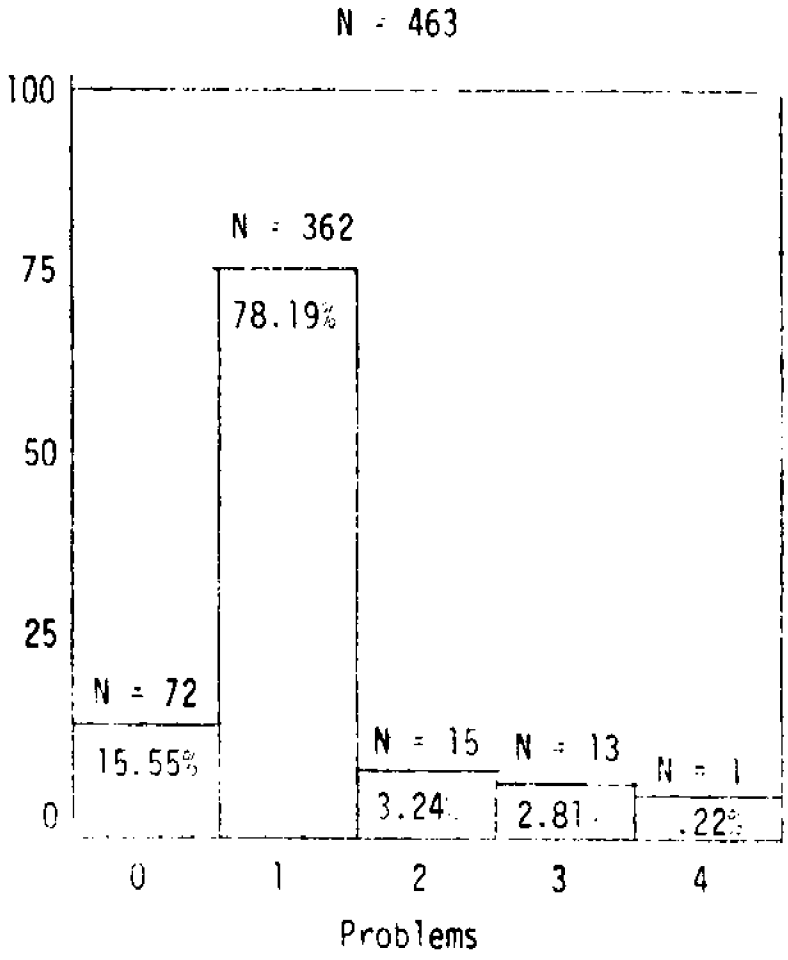
A problem for 10.37% of population on Questionnaire I



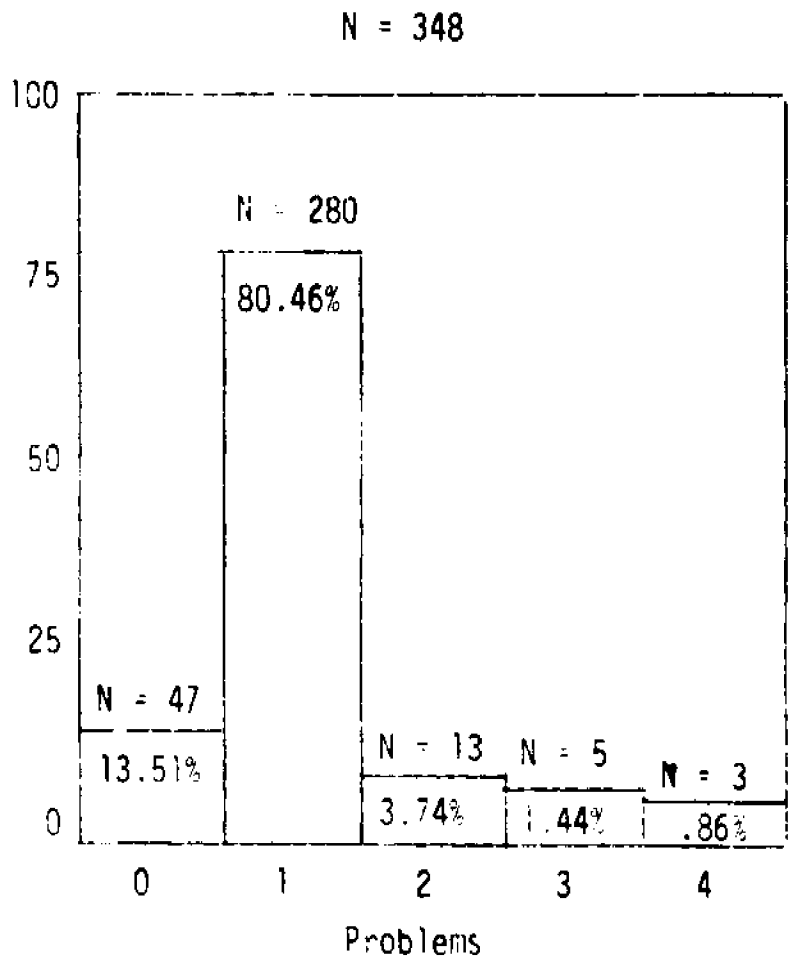
A problem for 8.90% of population on Questionnaire II (Decrease)

GRAPH 11

TRANSFERRING CREDITS FOR COURSES TAKEN MANY YEARS AGO



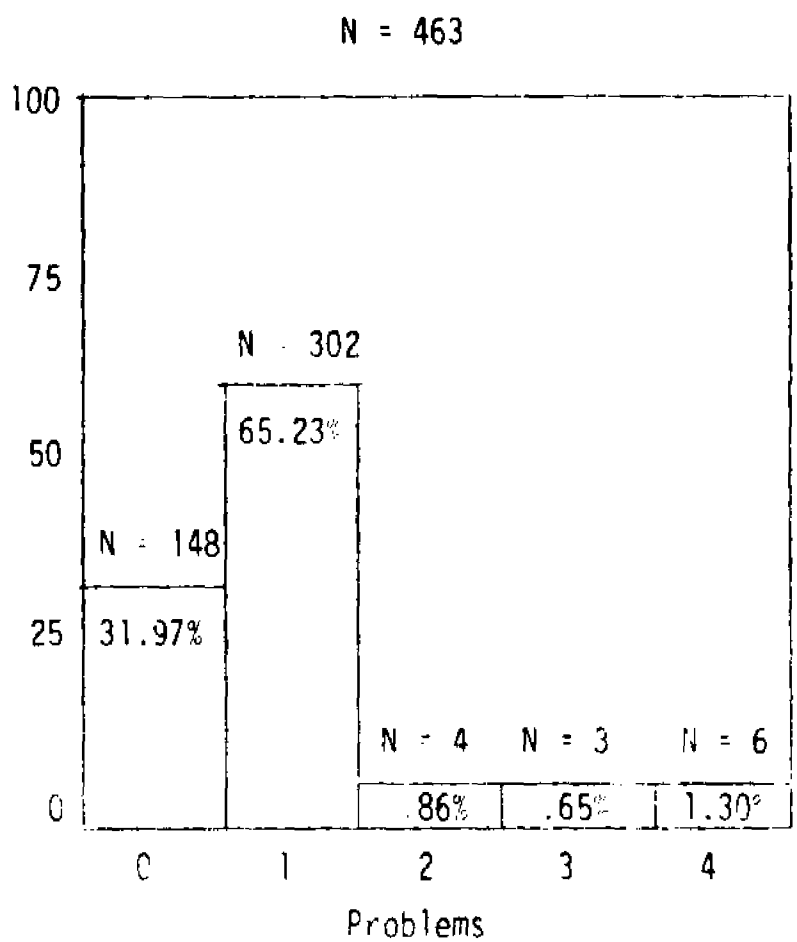
A problem for 6.27% of population
on Questionnaire I



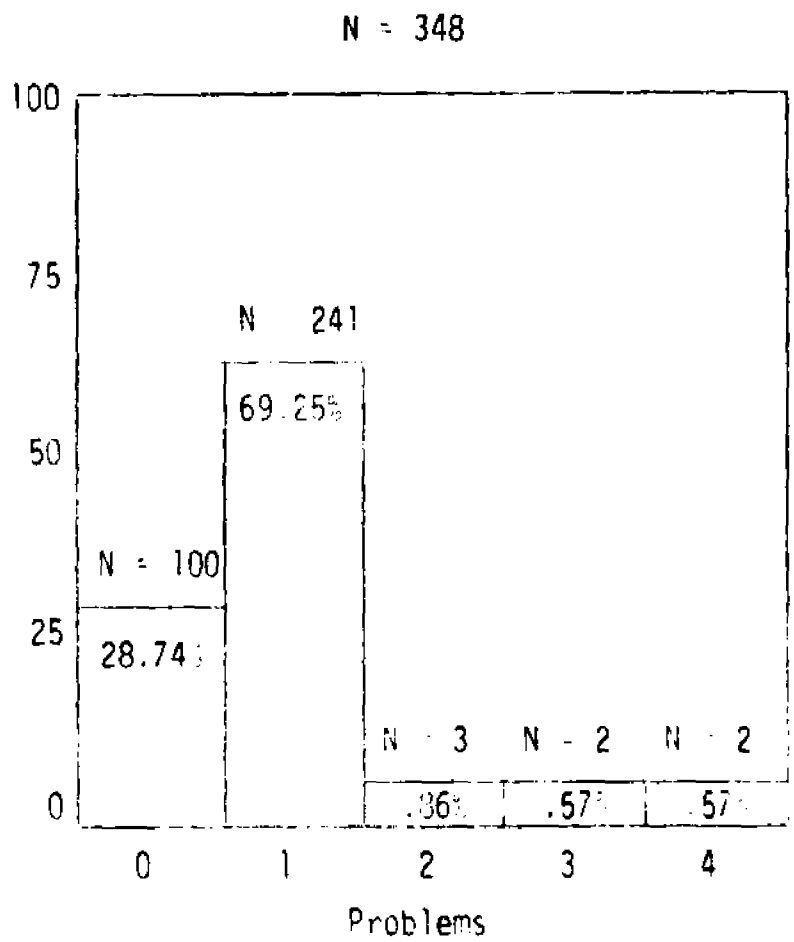
A problem for 6.04% of population
on Questionnaire II (Decrease)

GRAPH 12

TRANSFERRING CREDITS FOR COURSES FROM NON-ACCREDITED INSTITUTIONS



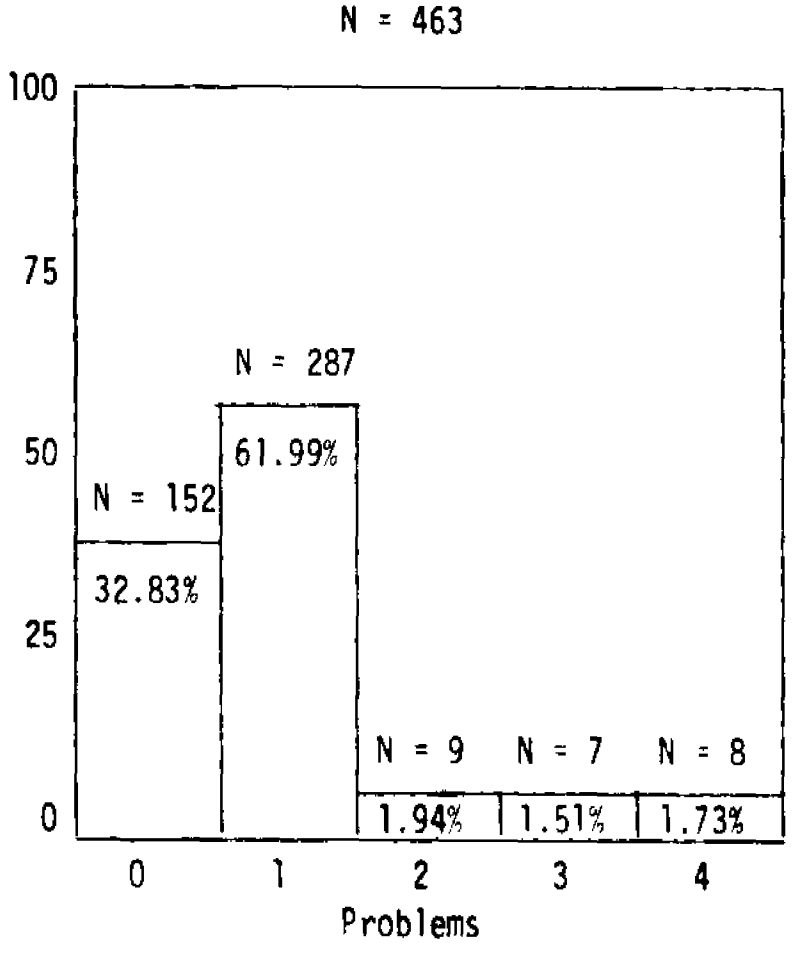
A problem for 2.81% of population
on Questionnaire I



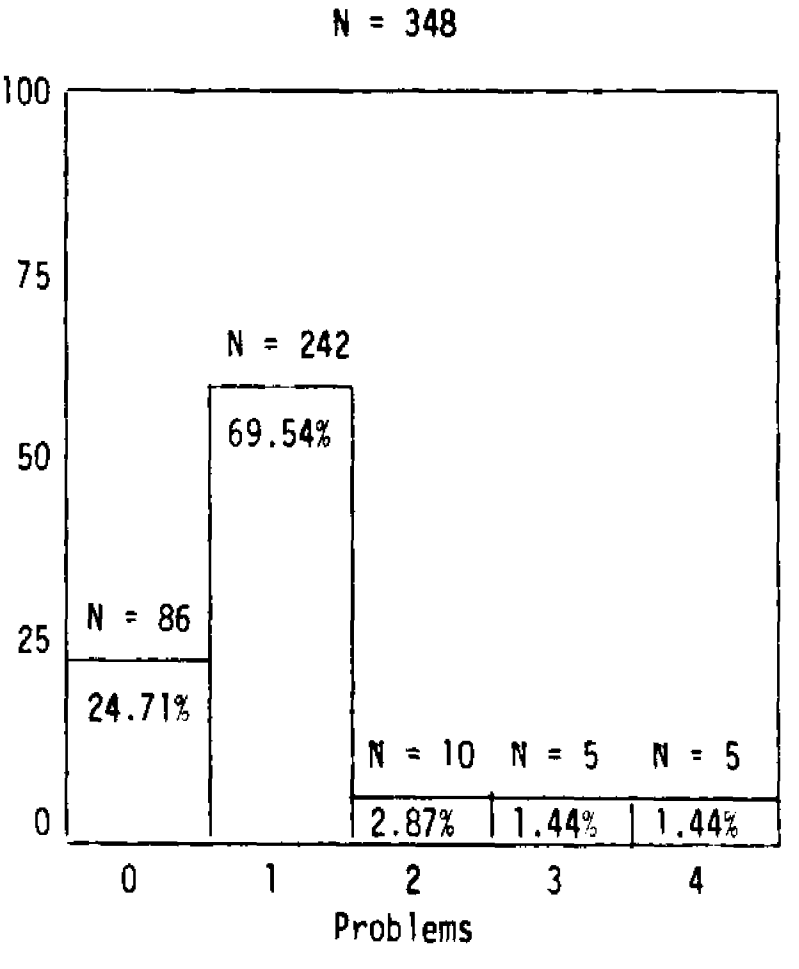
A problem for 2.00% of population
on Questionnaire II (Decrease)

GRAPH 13

CREDIT BY EXAMINATION FOR REQUIRED COURSES



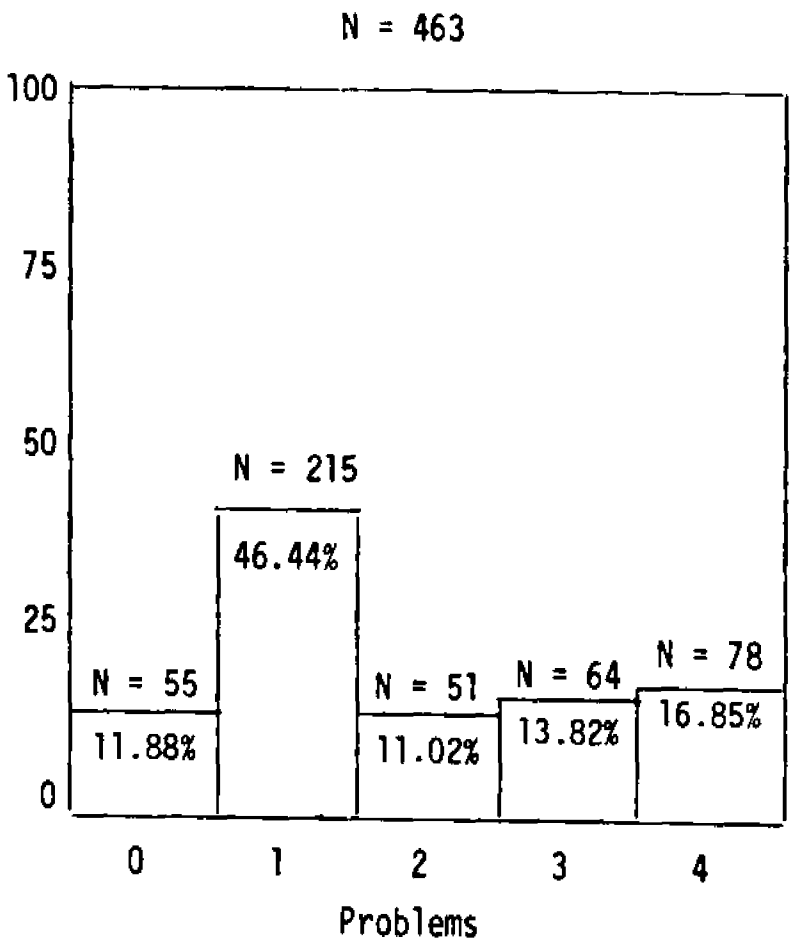
A problem for 5.18% of population
on Questionnaire I



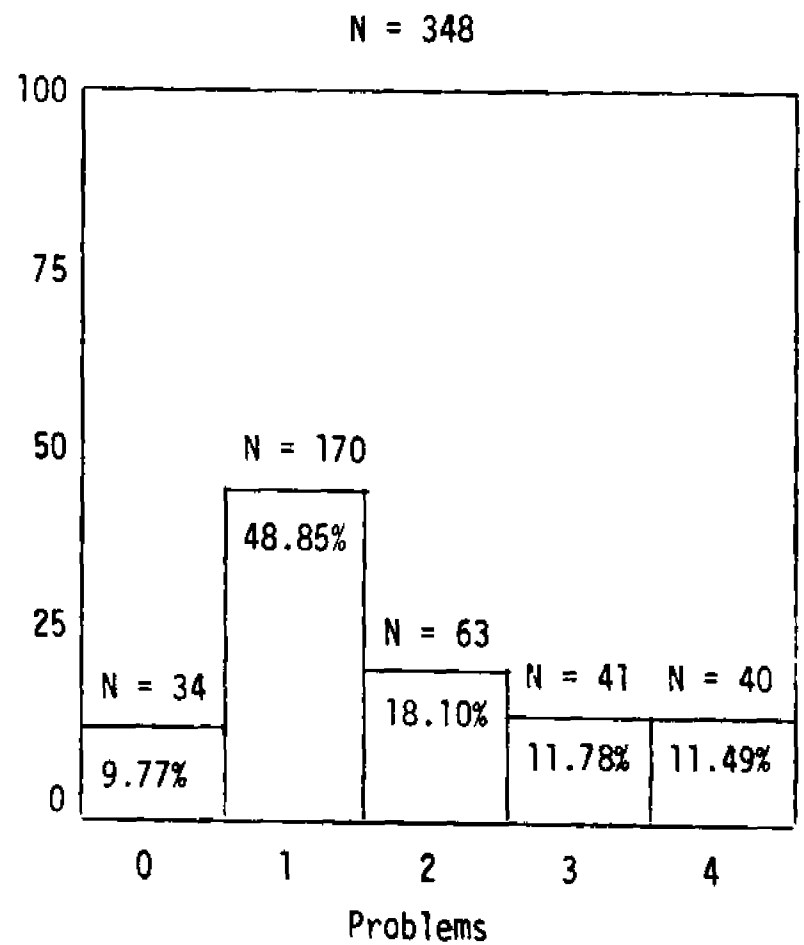
A problem for 5.75% of population
on Questionnaire II (Increase)

GRAPH 14

FINANCIAL AID FOR TUITION AND ACADEMIC NEEDS



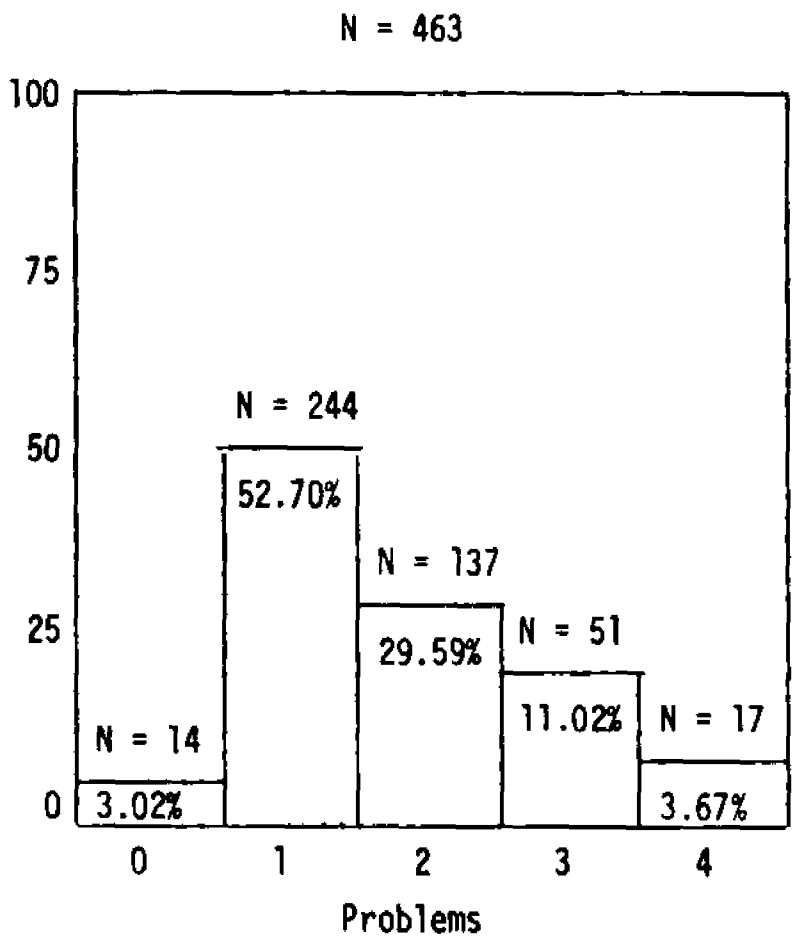
A problem for 41.69% of population
on Questionnaire I



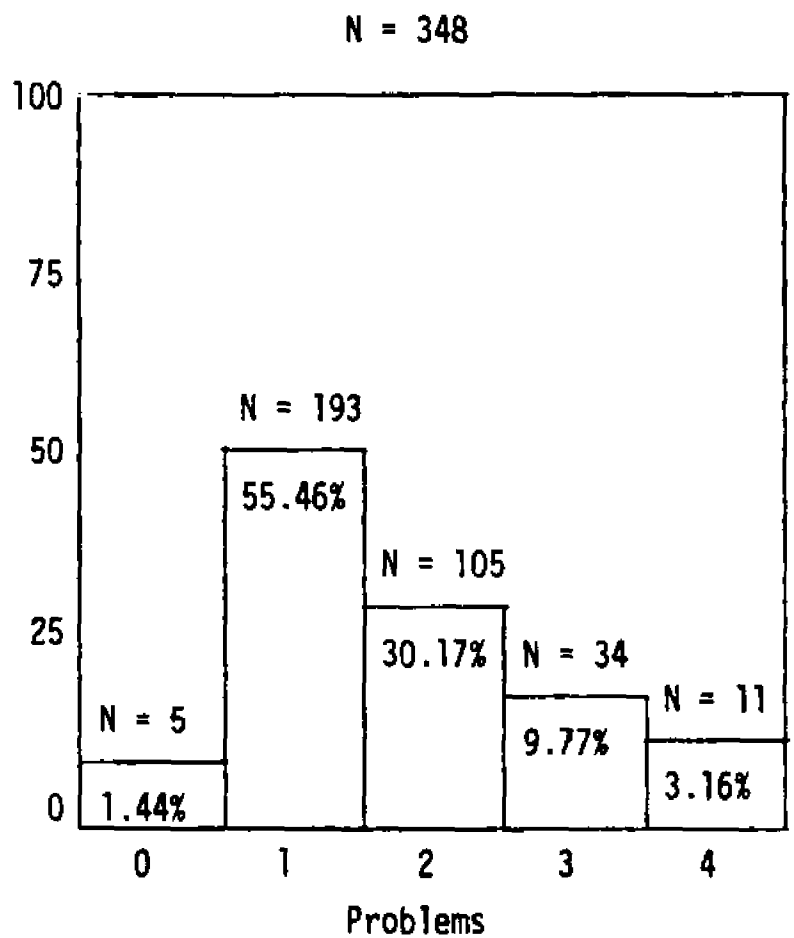
A problem for 41.37% of population
on Questionnaire II (Decrease)

GRAPH 15

SELECTING CLASSES



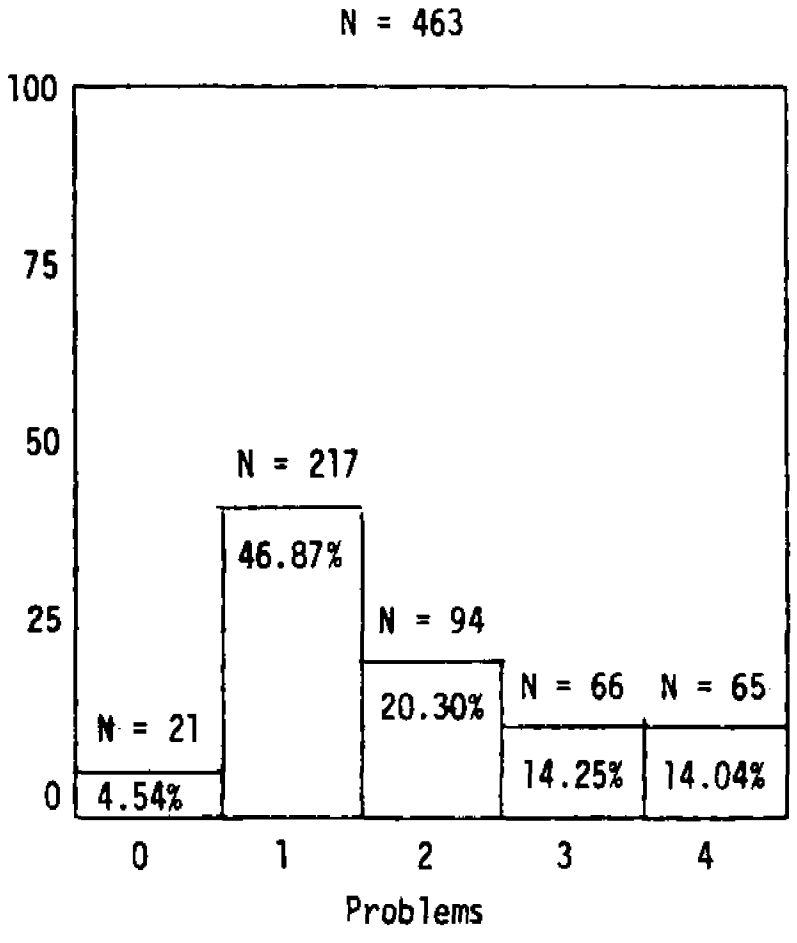
A problem for 44.28% of population
on Questionnaire I



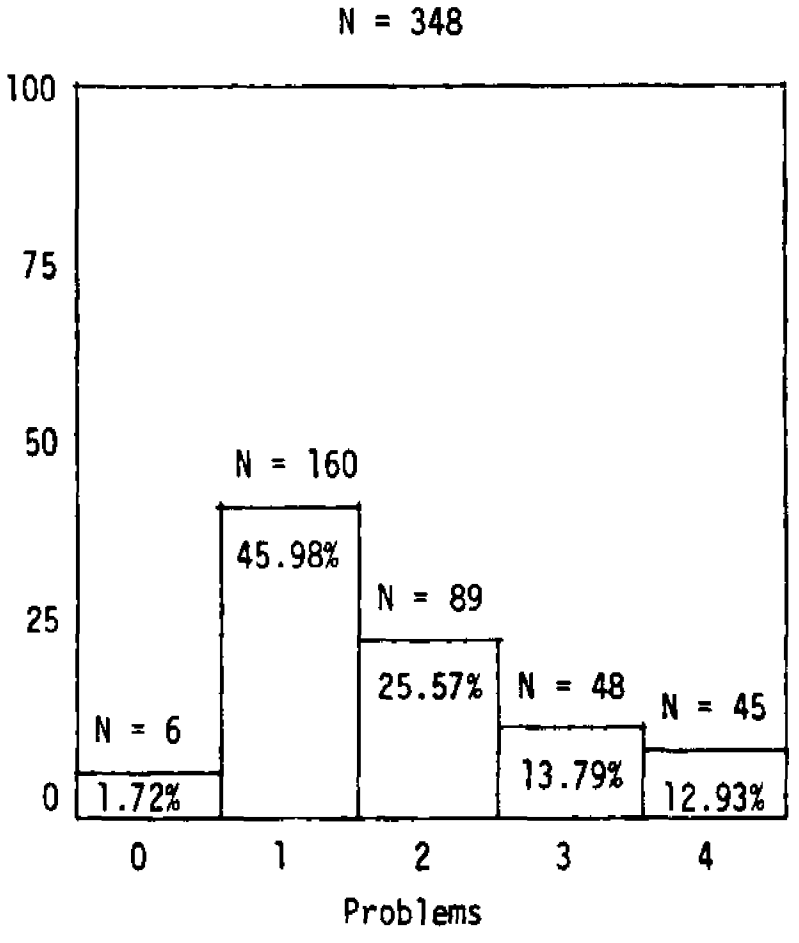
A problem for 43.10% of population
on Questionnaire II (Decrease)

GRAPH 16

SCHEDULING CLASSES TO FIT AVAILABLE TIME



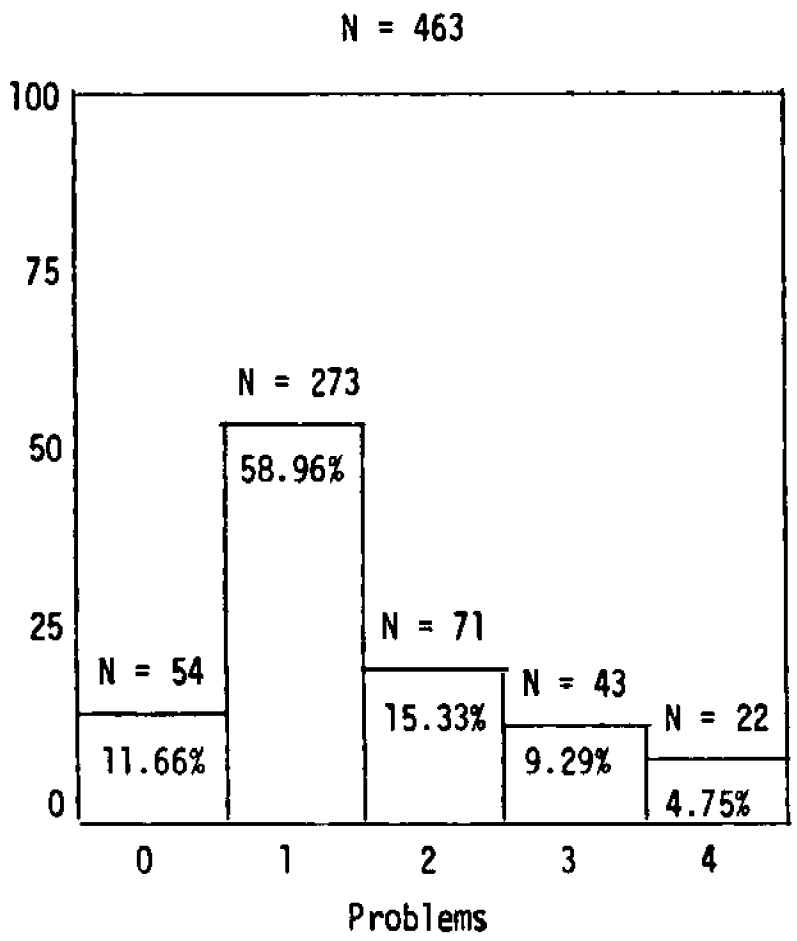
A problem for 48.59% of population
on Questionnaire I



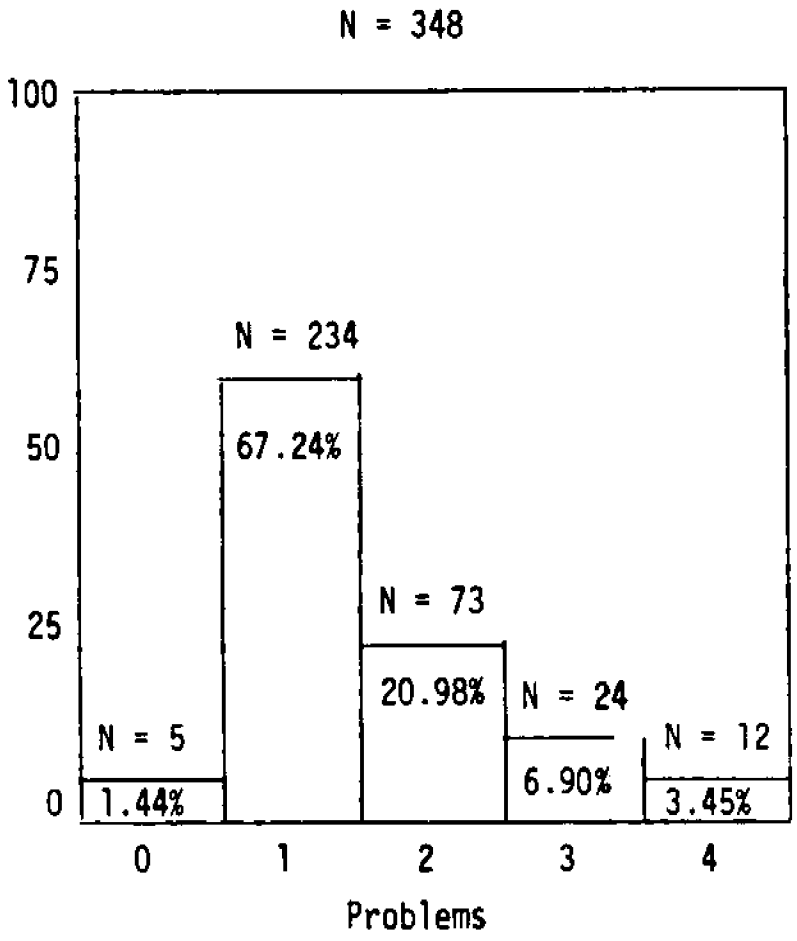
A problem for 52.29% of population
on Questionnaire II (Increase)

GRAPH 17

GETTING INTO DESIRED CLASSES



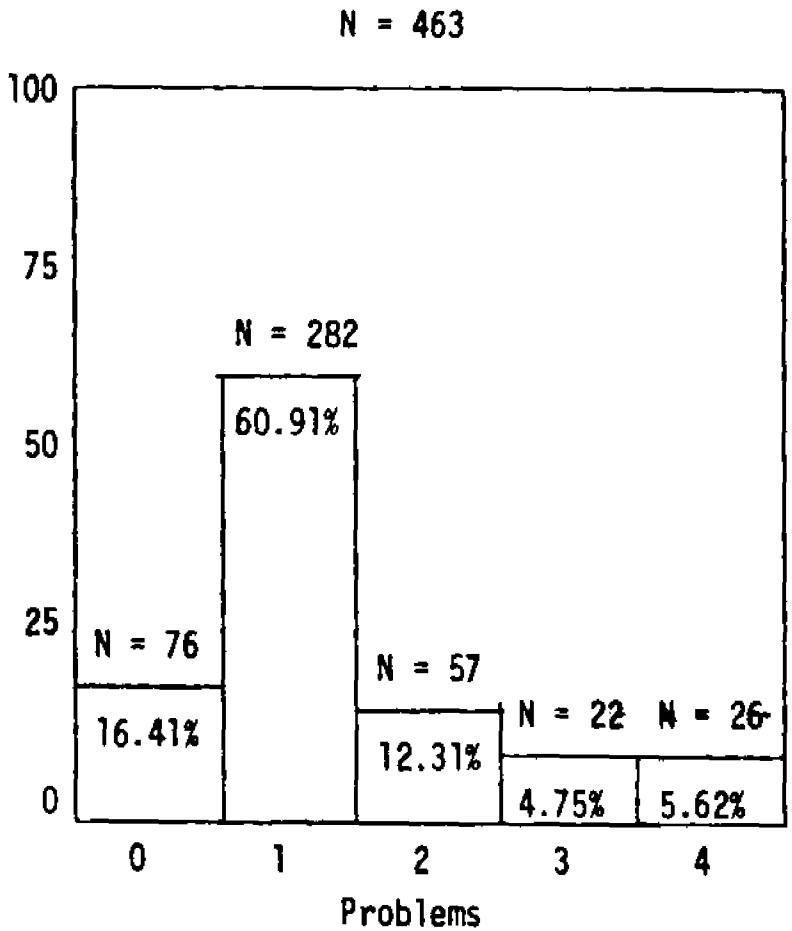
A problem for 29.37% of population
on Questionnaire I



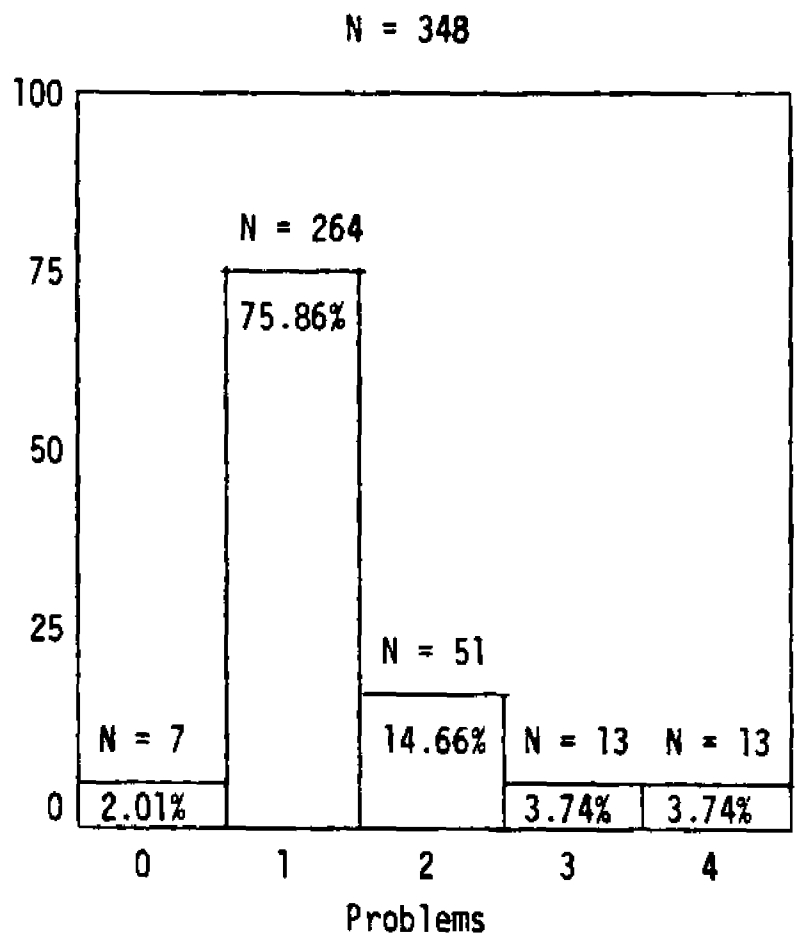
A problem for 31.33% of population
on Questionnaire II (Increase)

GRAPH 18

PRE-REGISTRATION FOR CLASSES



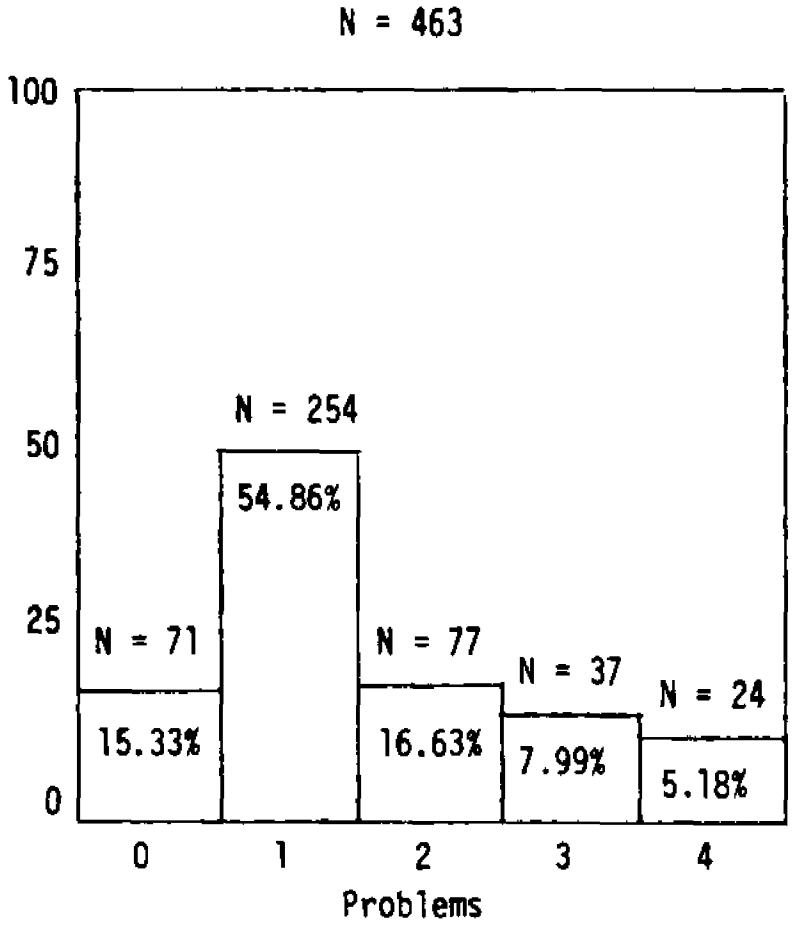
A problem for 22.68% of population
on Questionnaire I



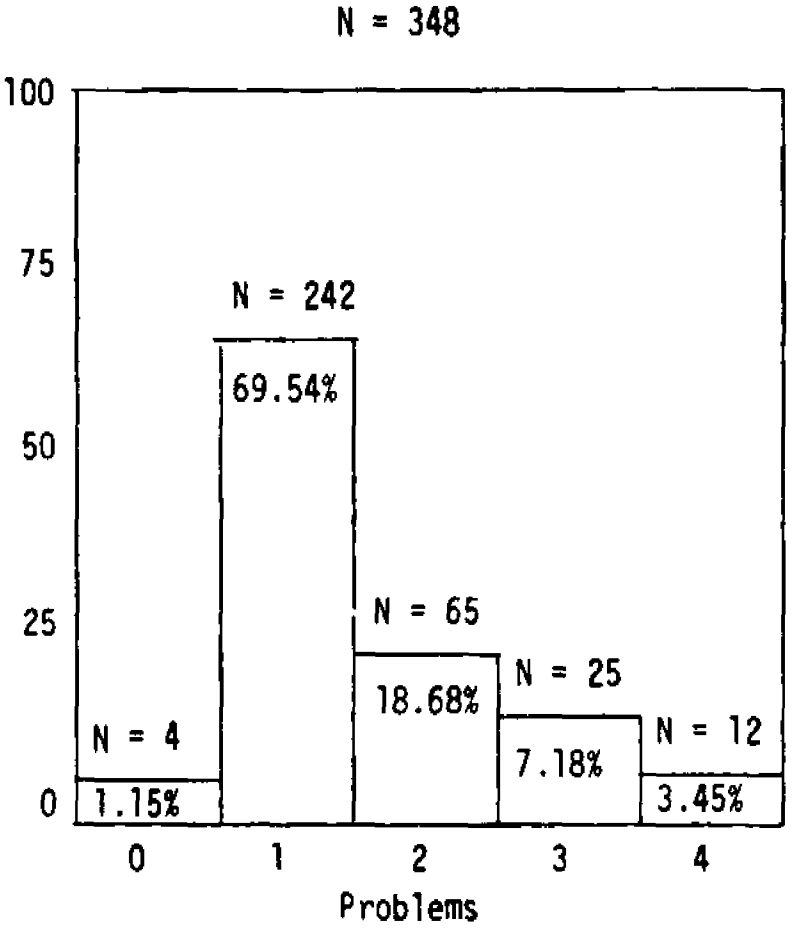
A problem for 22.14% of population
on Questionnaire II (Decrease)

GRAPH 19

REGISTRATION



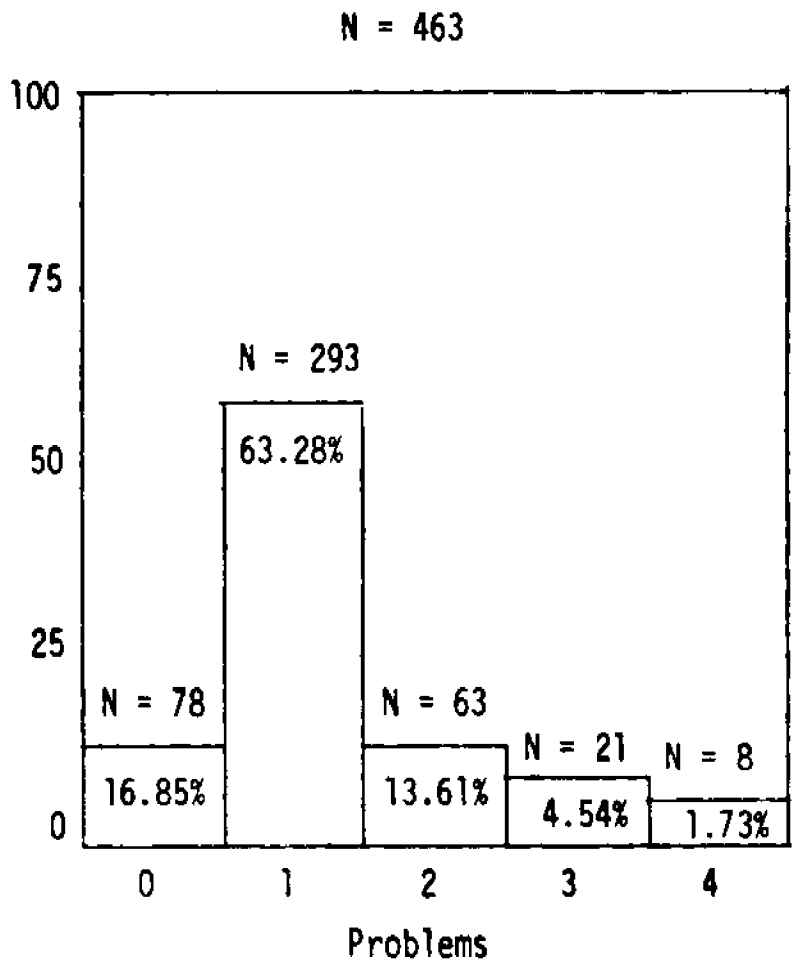
A problem for 29.80% of population
on Questionnaire I



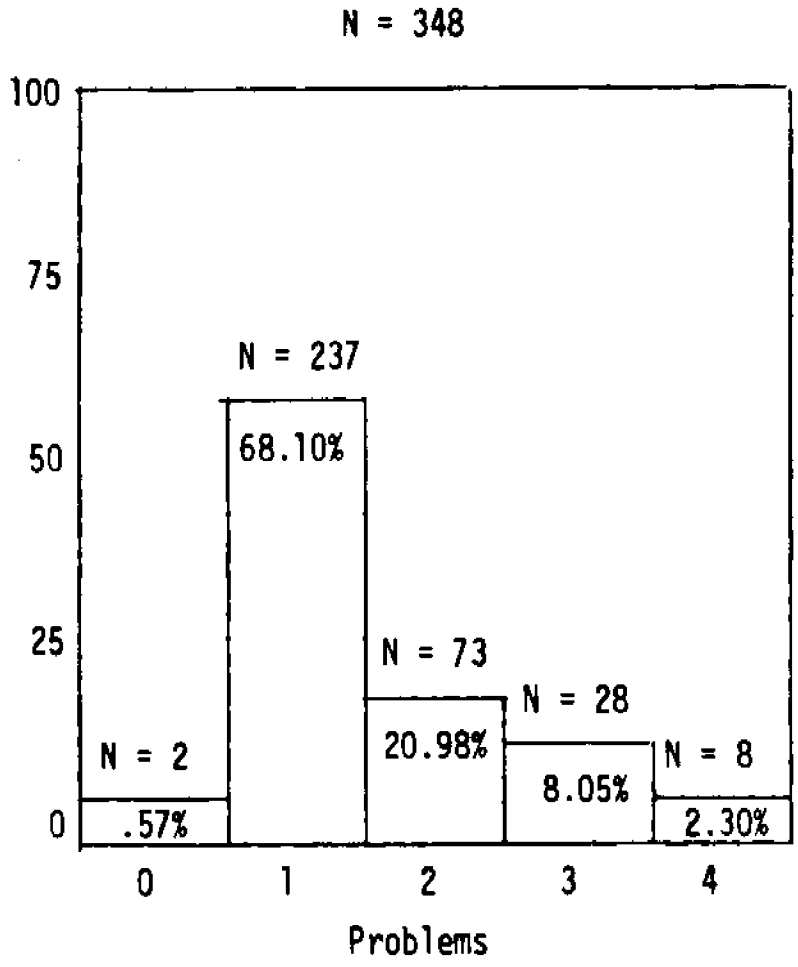
A problem for 29.31% of population
on Questionnaire II (Decrease)

GRAPH 20

AVAILABILITY OF BOOKS AND SUPPLIES



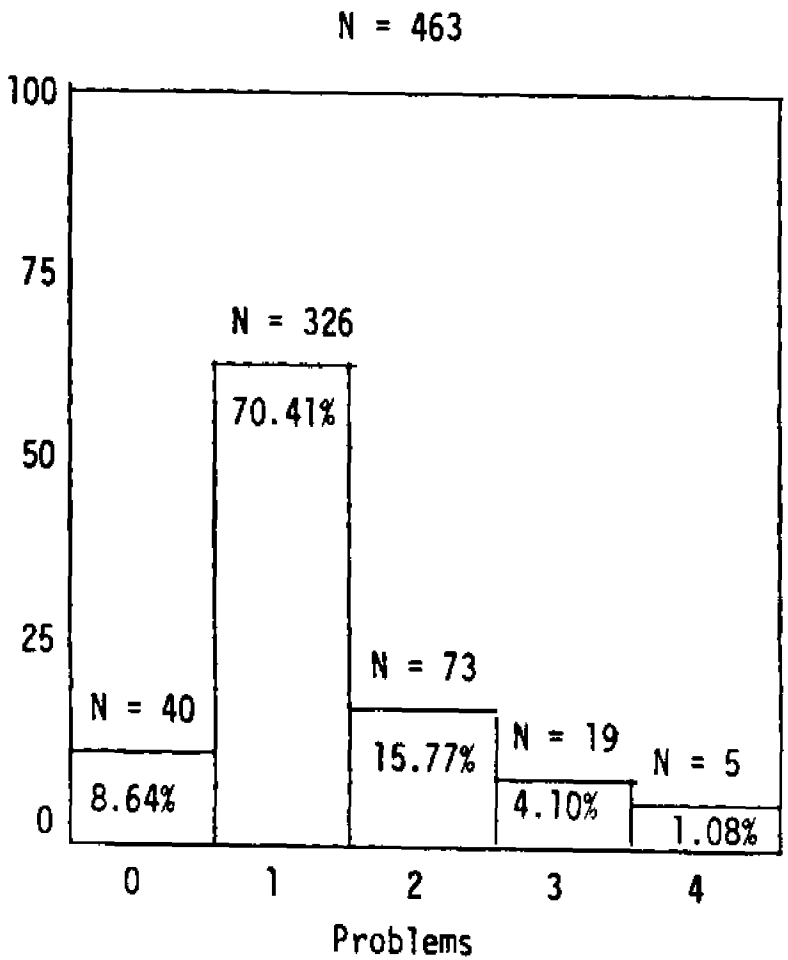
A problem for 19.88% of population
on Questionnaire I



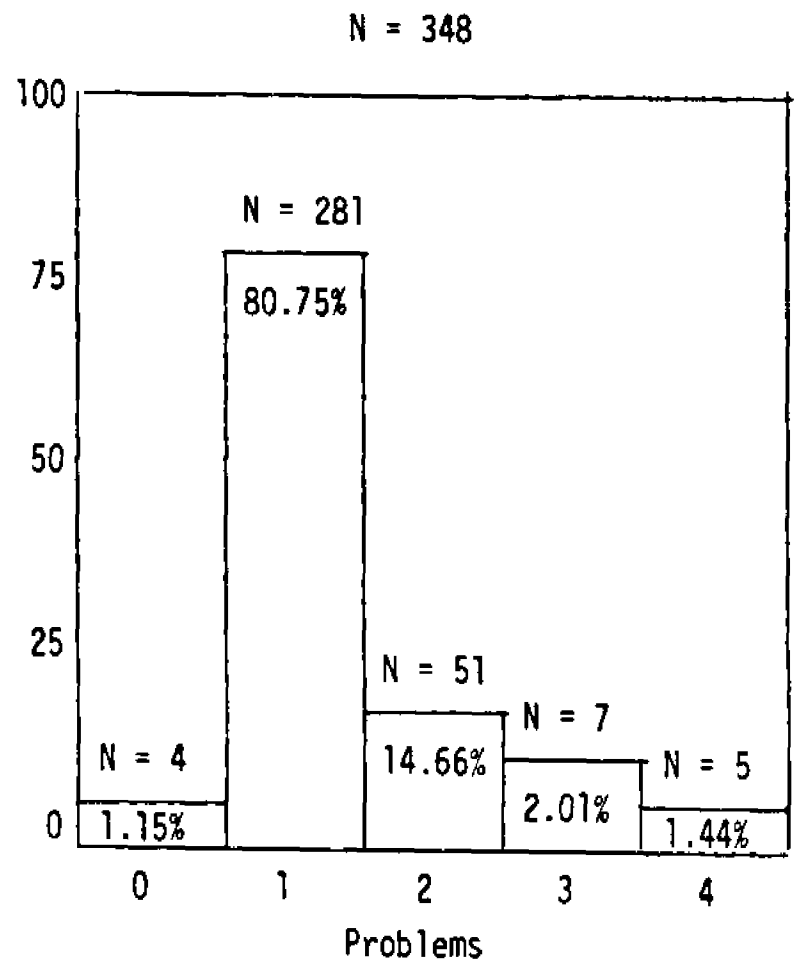
A problem for 31.33% of population
on Questionnaire II (Increase)

GRAPH 21

LOCATING CLASS BUILDINGS AND ROOMS



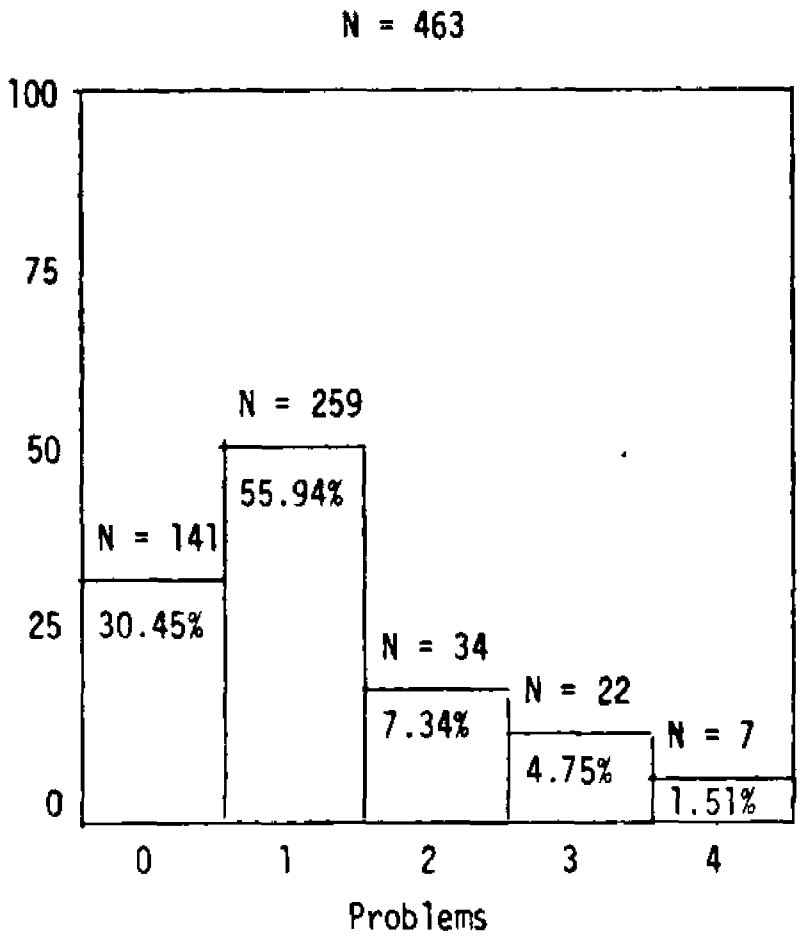
A problem for 20.95% of population on Questionnaire I



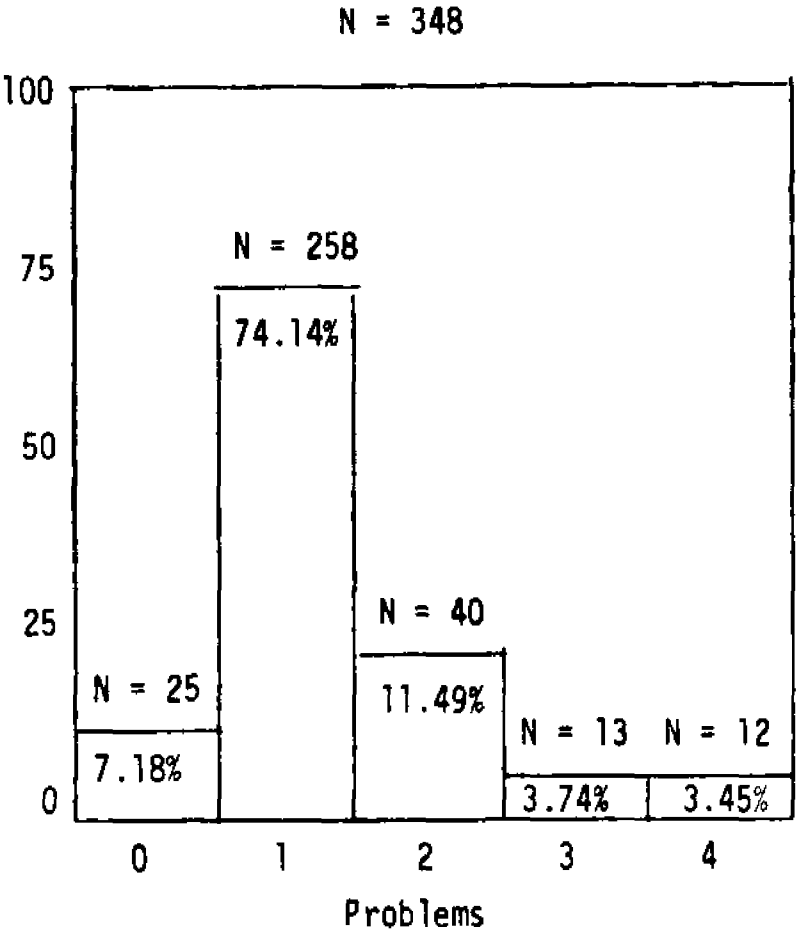
A problem for 18.11% of population on Questionnaire II (Decrease)

GRAPH 22

DROPPING AND ADDING CLASSES AFTER REGISTRATION



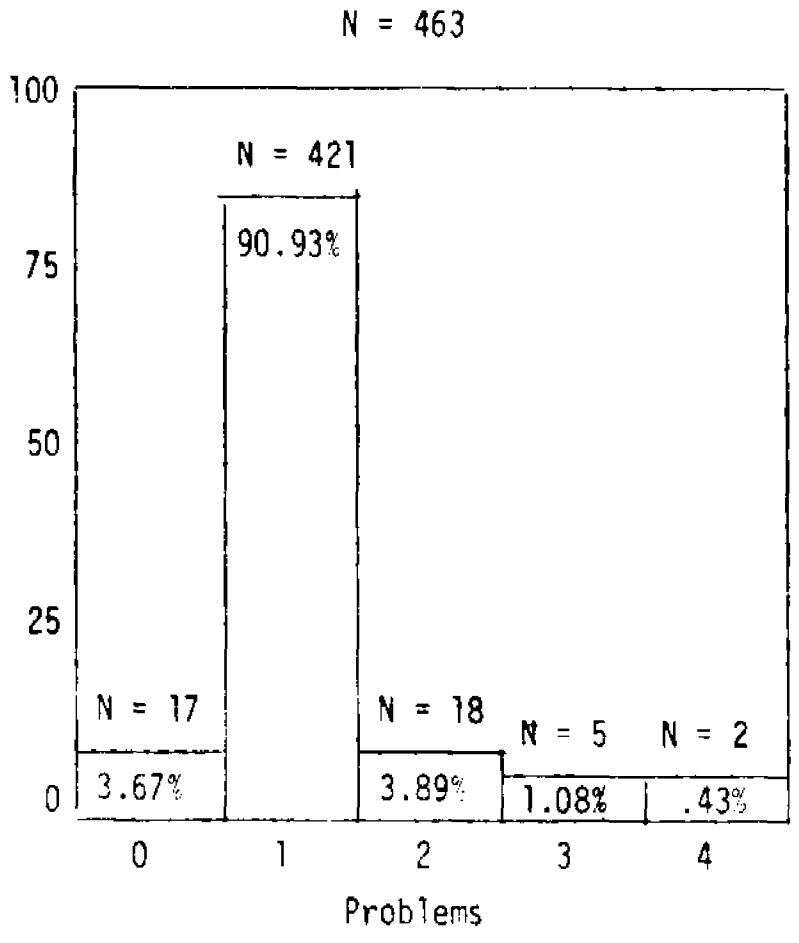
A problem for 13.60% of population
on Questionnaire I



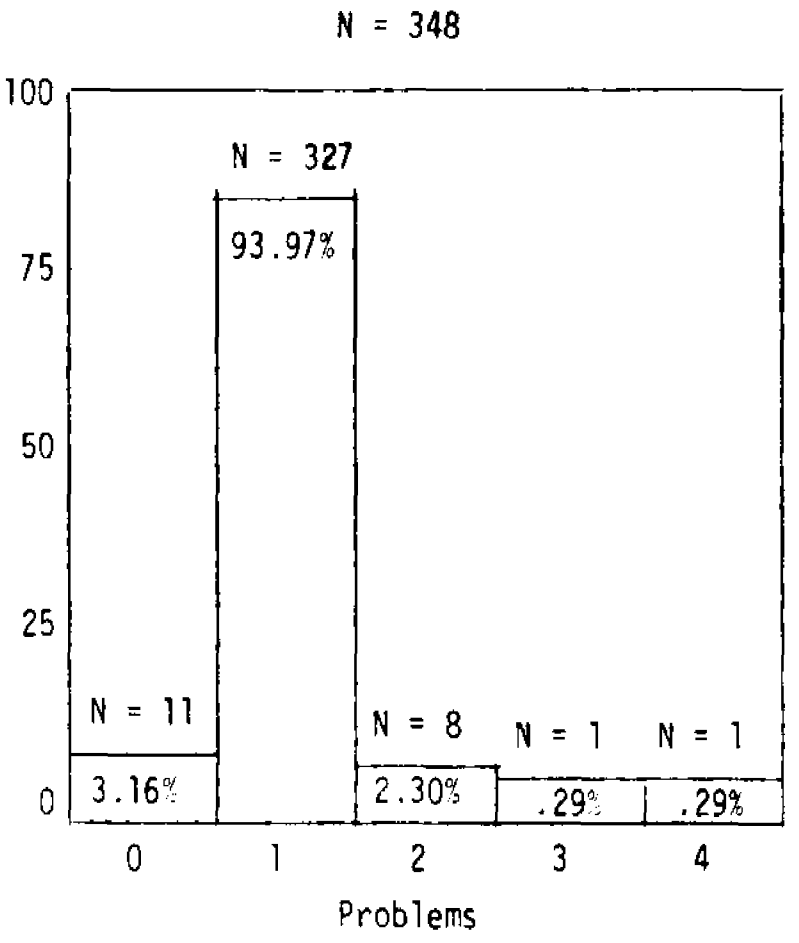
A problem for 18.68% of population
on Questionnaire II (Increase)

GRAPH 23

UNDERSTANDING THE ENGLISH LANGUAGE



A problem for 5.40% of population on Questionnaire I



A problem for 2.88% of population on Questionnaire II (Decrease)

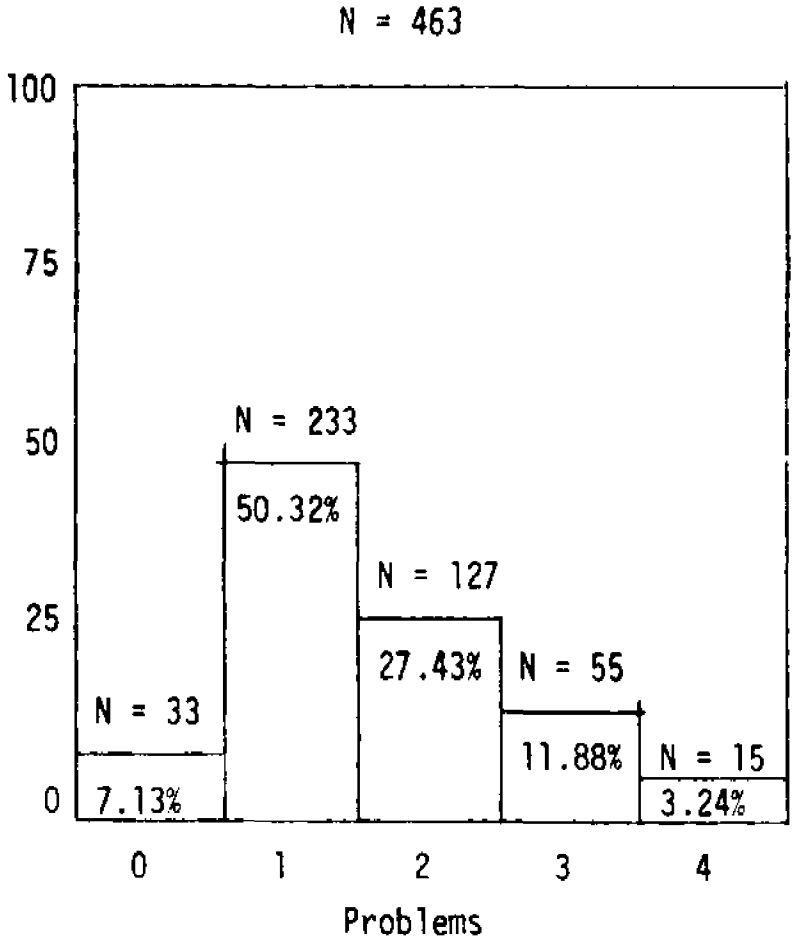
GRAPH 24

READING SKILLS

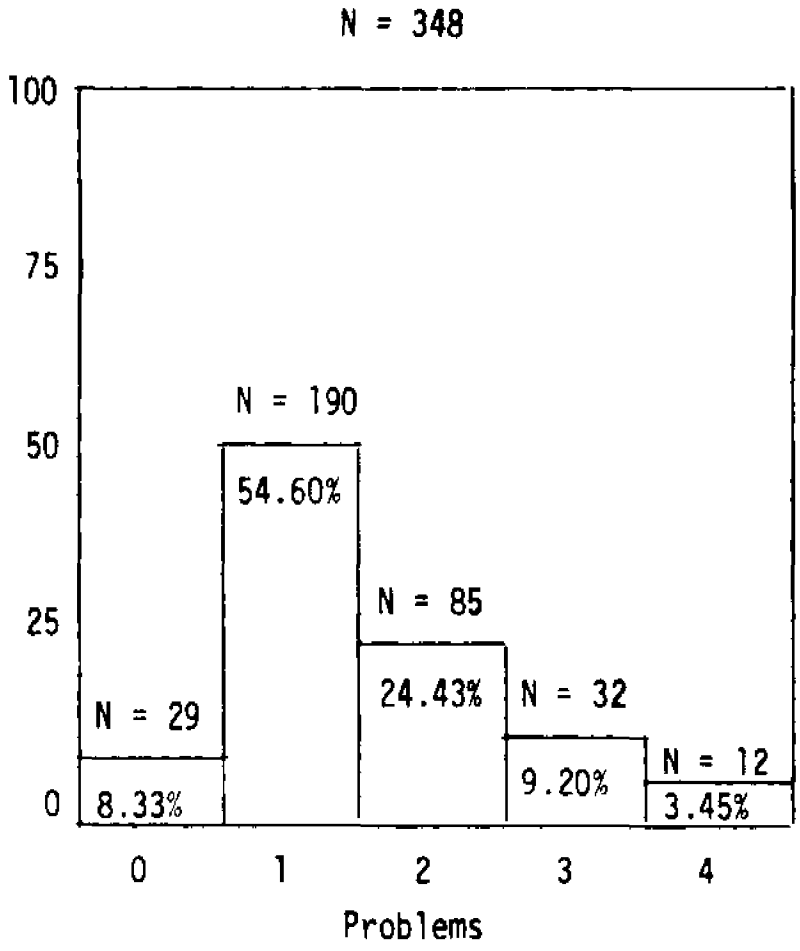
The data on Variable 32 was not graphed because of poor responses due to confusion by respondents as to whether #32 was a problem or merely a division within the questionnaire.

GRAPH 25

READING SKILLS: SPEED



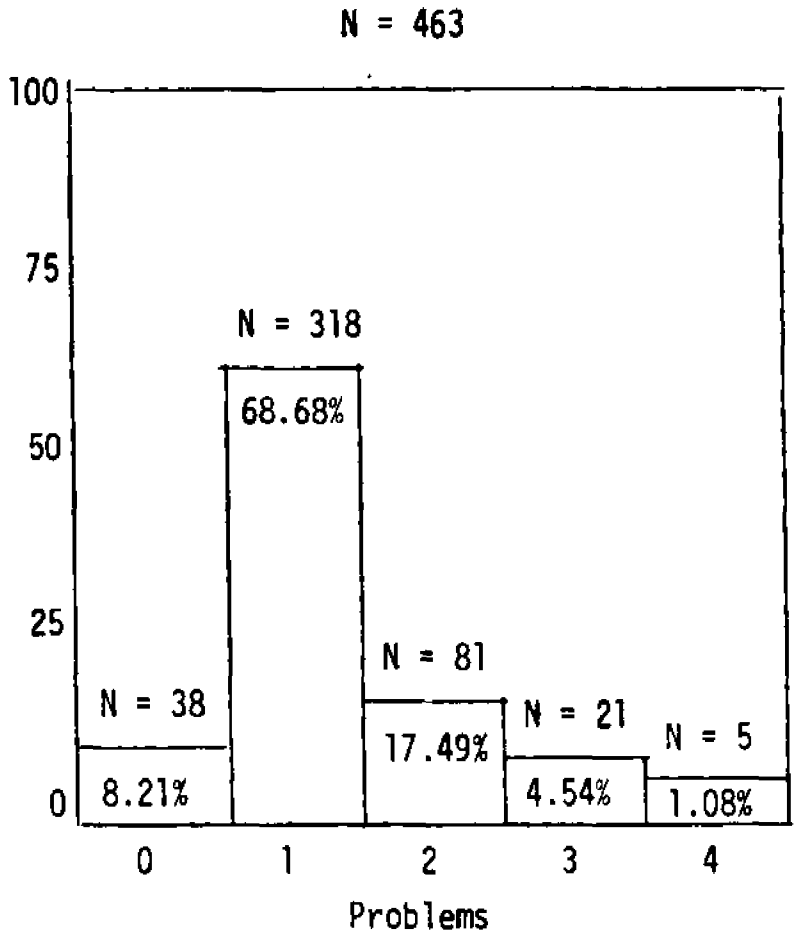
A problem for 42.55% of population on Questionnaire I



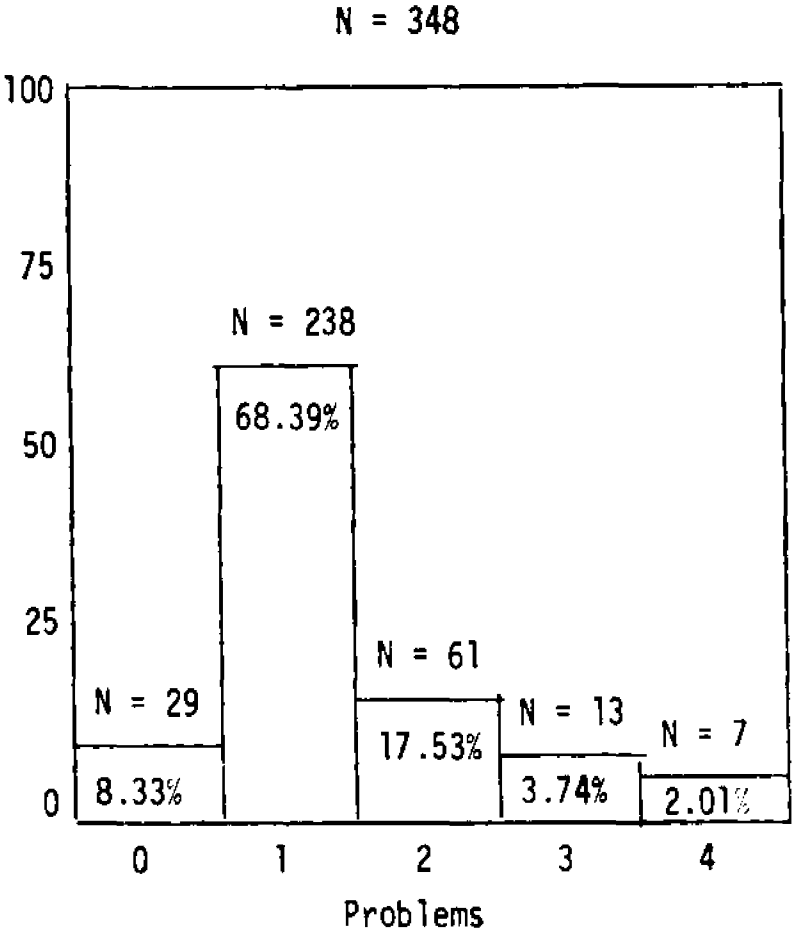
A problem for 37.08% of population on Questionnaire II (Decrease)

GRAPH 26

READING SKILLS: COMPREHENSION



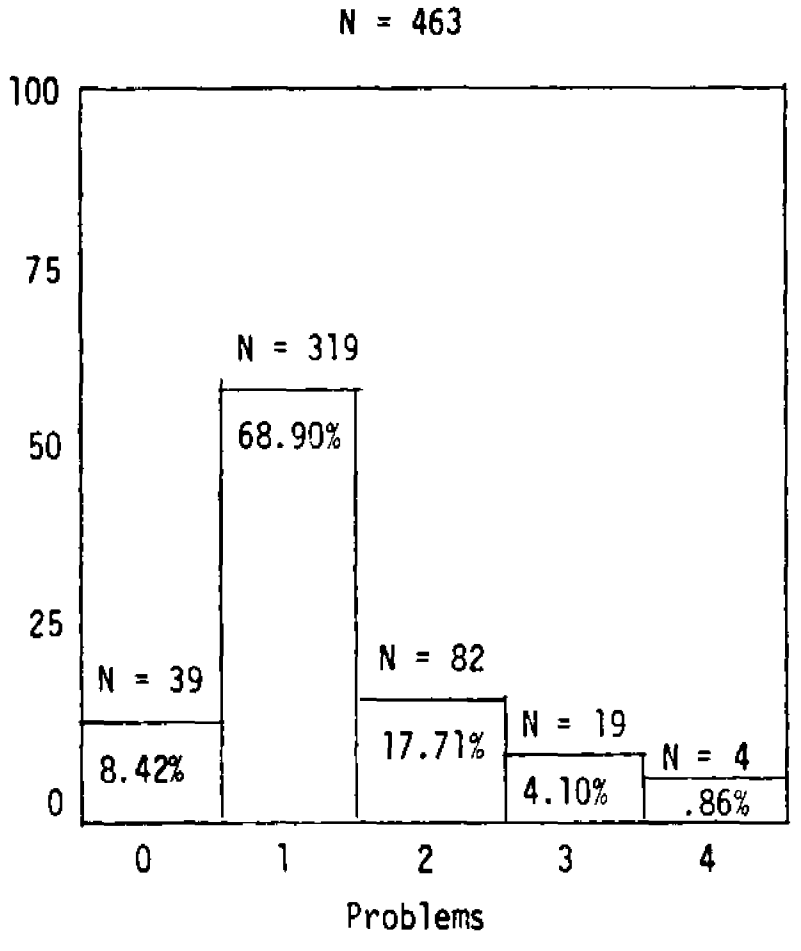
A problem for 23.11% of population
on Questionnaire I



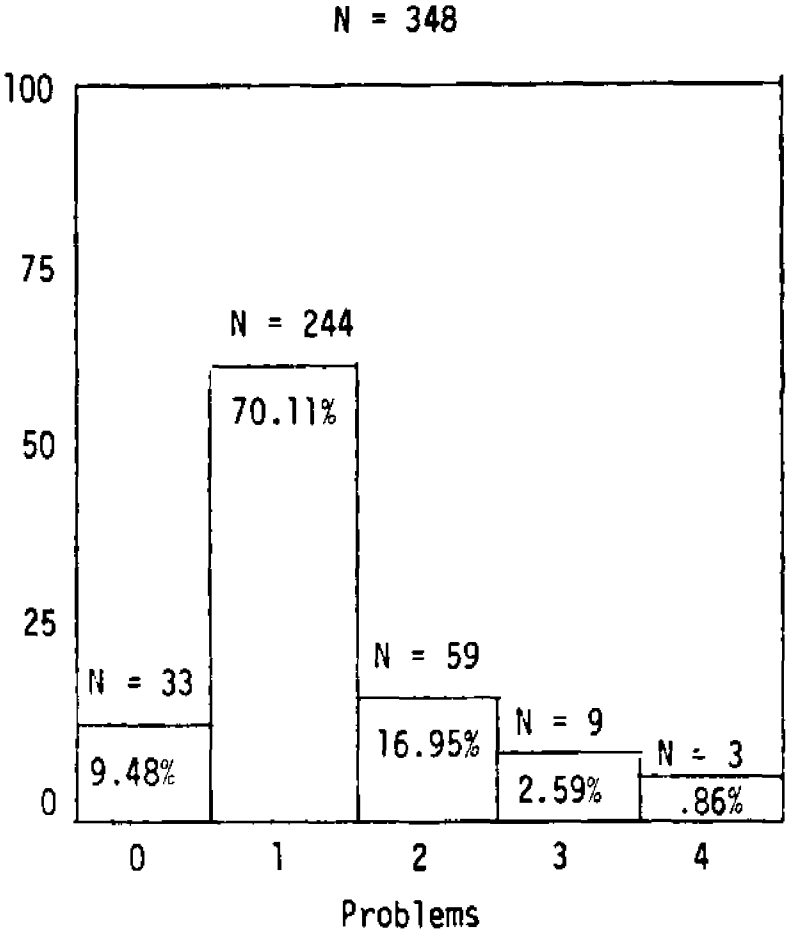
A problem for 23.28% of population
on Questionnaire II (Increase)

GRAPH 27

READING SKILLS: VOCABULARY



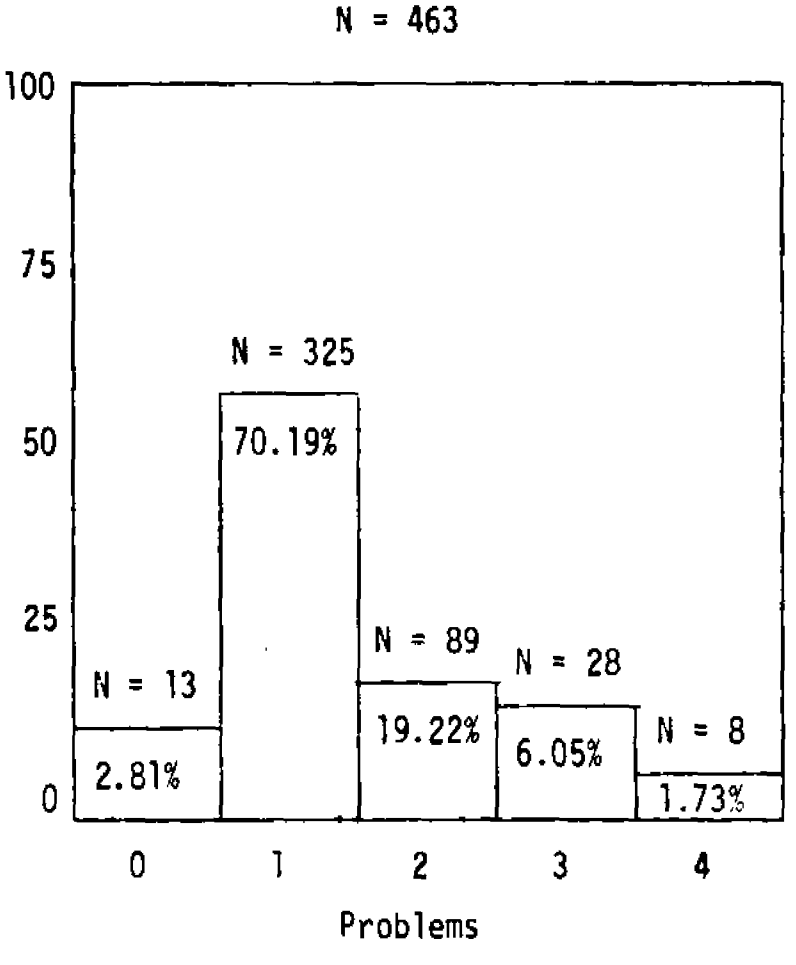
A problem for 22.67% of population
on Questionnaire I



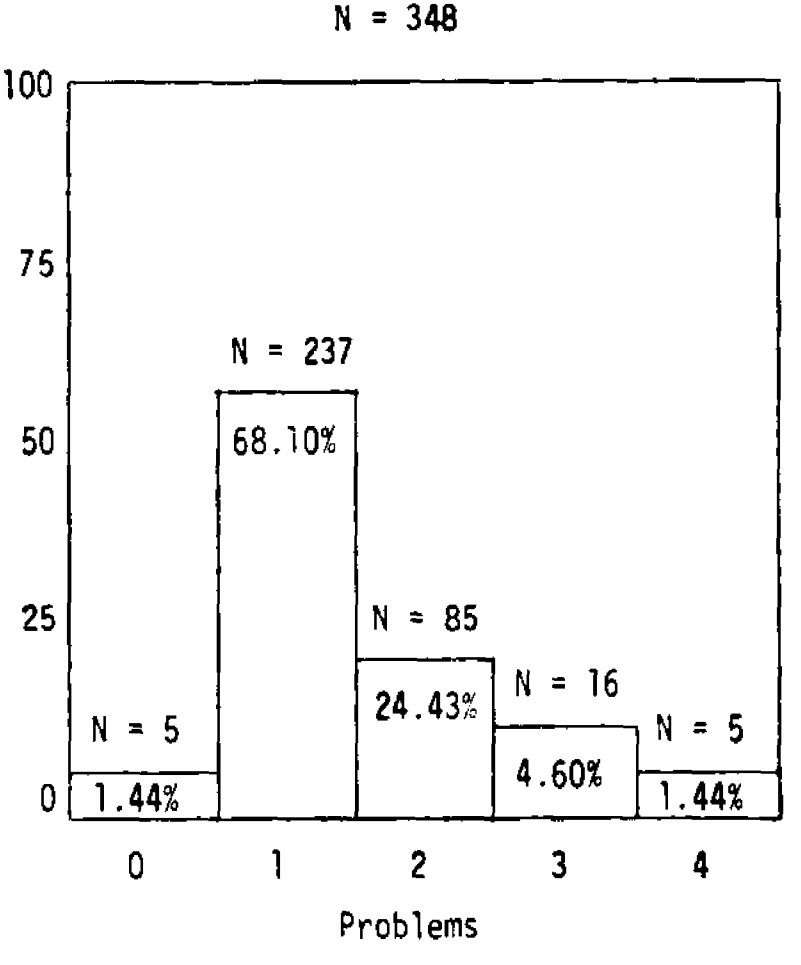
A problem for 20.40% of population
on Questionnaire II (Decrease)

GRAPH 28

WRITING SKILLS



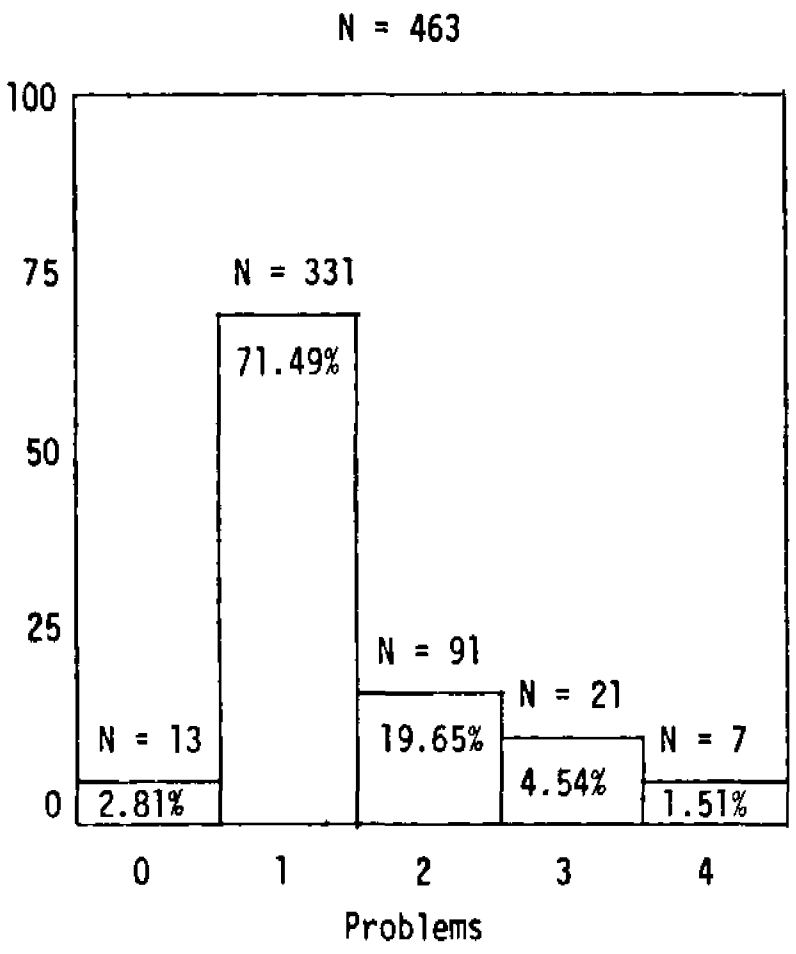
A problem for 27.00% of population
on Questionnaire I



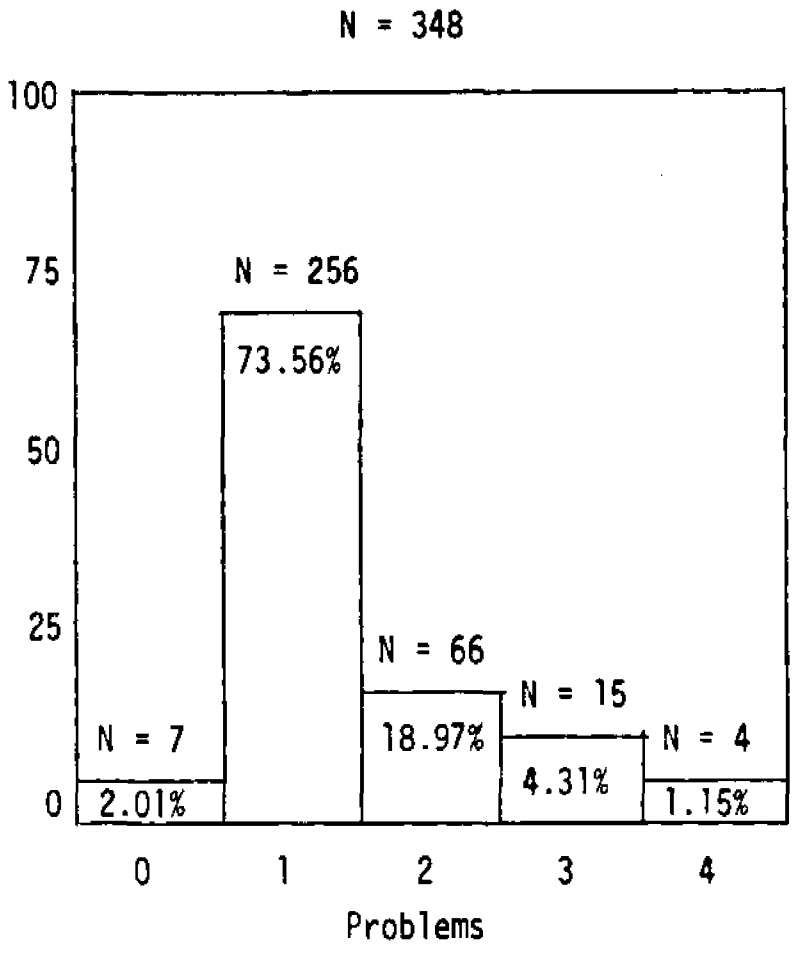
A problem for 30.47% of population
on Questionnaire II (Increase)

GRAPH 29

SPEAKING SKILLS



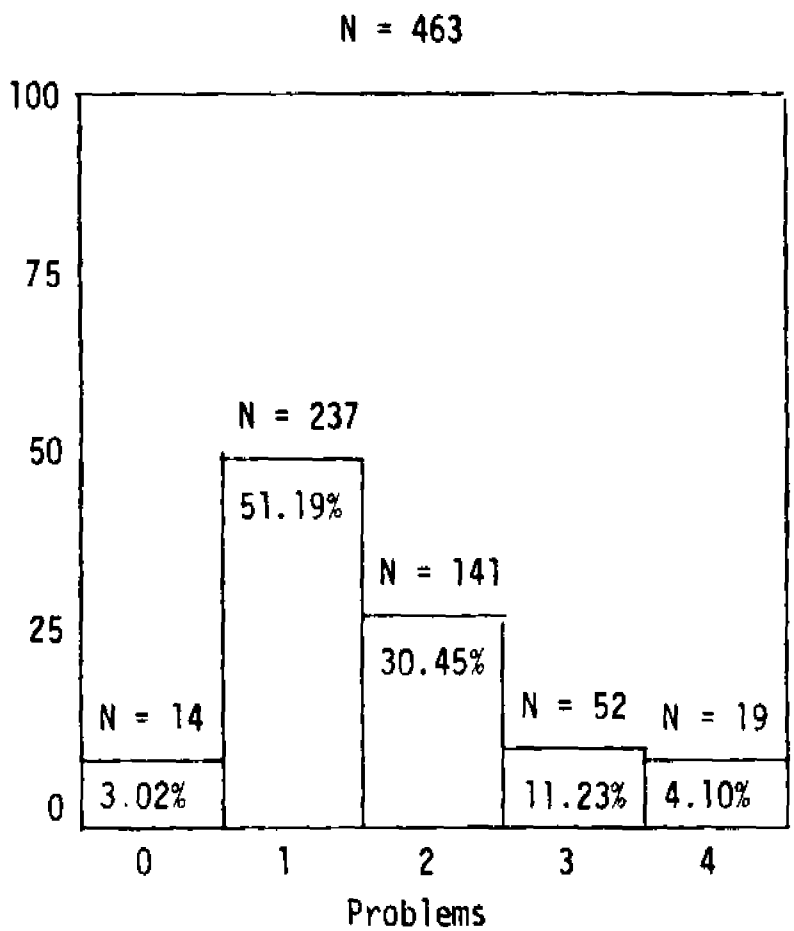
A problem for 25.70% of population
on Questionnaire I



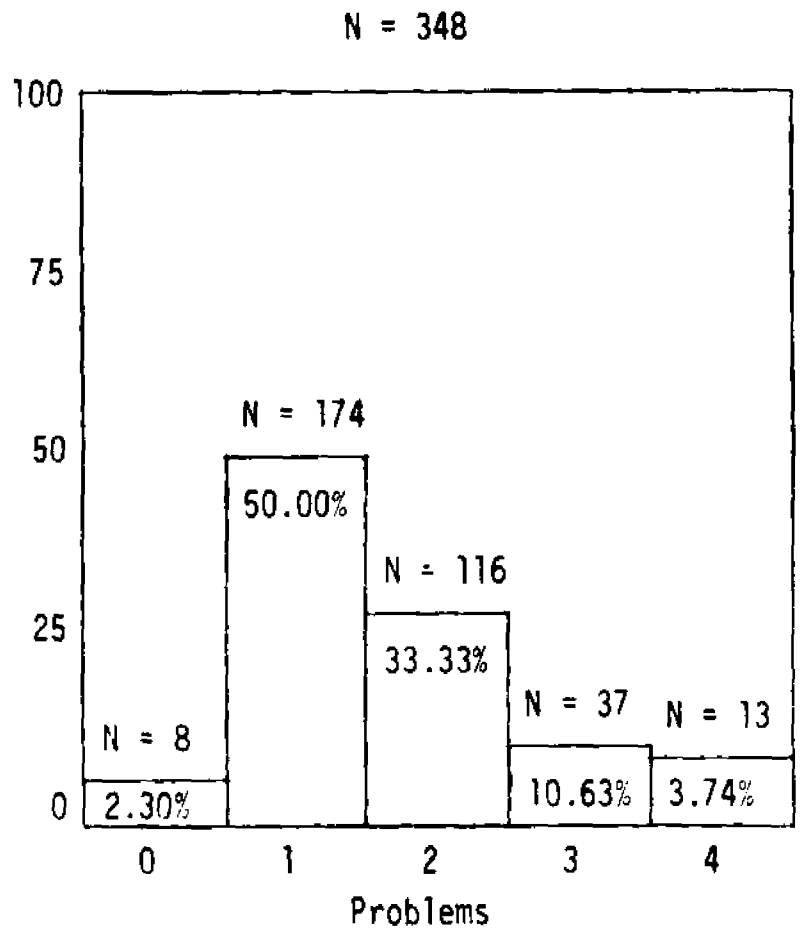
A problem for 24.43% of population
on Questionnaire II (Decrease)

GRAPH 30

LIBRARY SKILLS--KNOWING AVAILABLE SOURCES



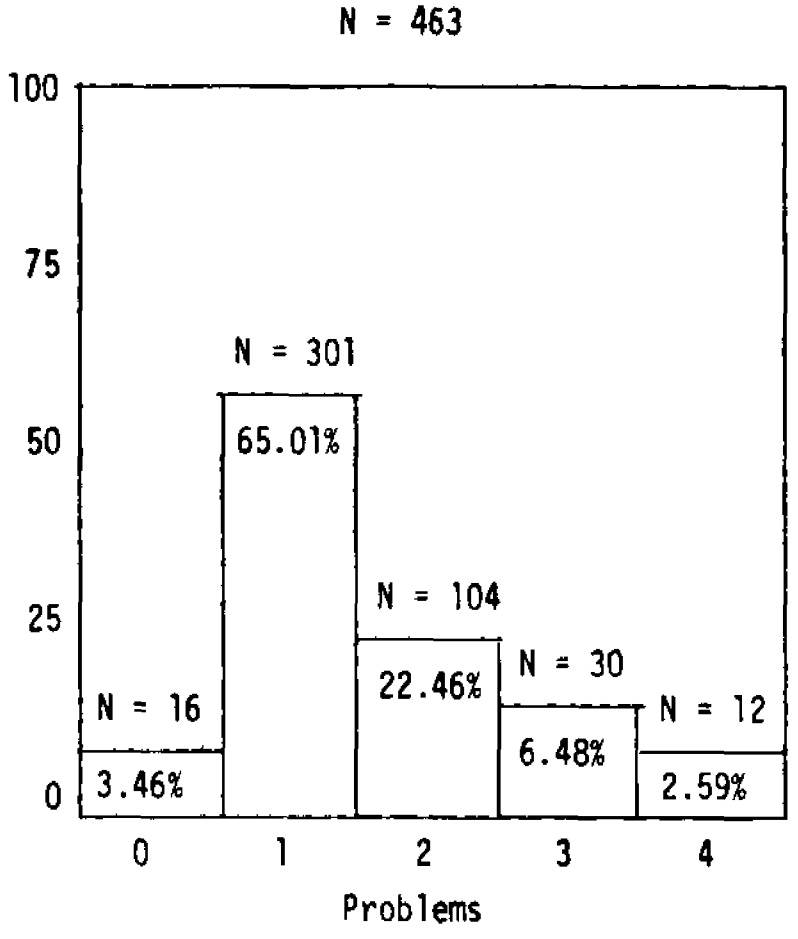
A problem for 45.78% of population
on Questionnaire I



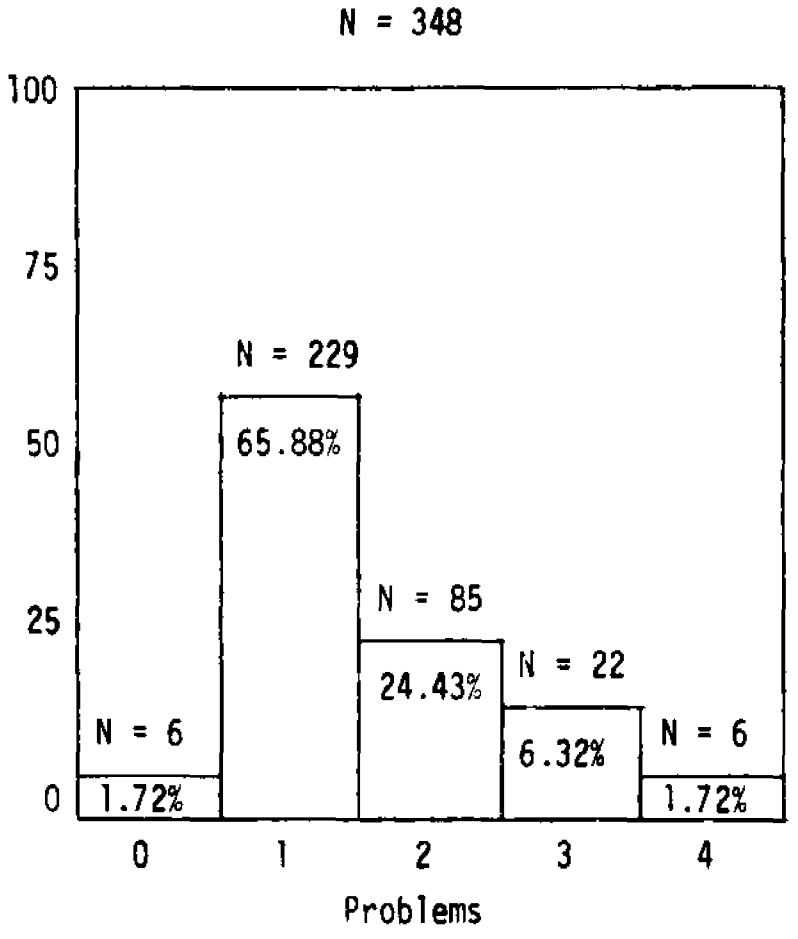
A problem for 47.70% of population
on Questionnaire II (Increase)

GRAPH 31

PREREQUISITE KNOWLEDGE FOR REQUIRED COURSES



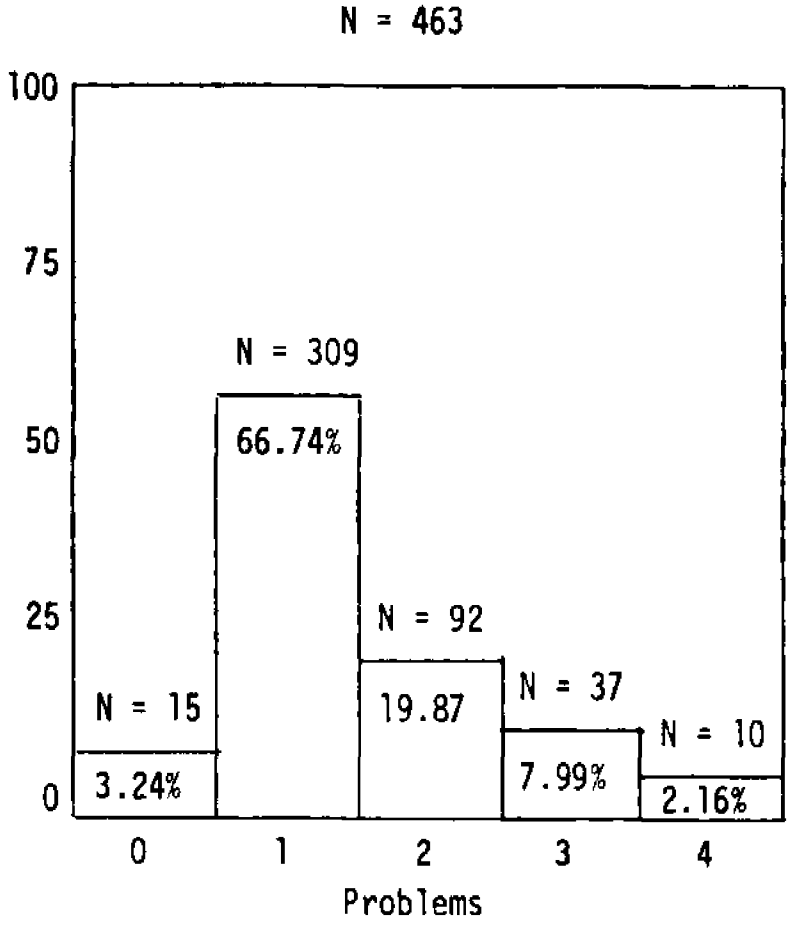
A problem for 31.53% of population on Questionnaire I



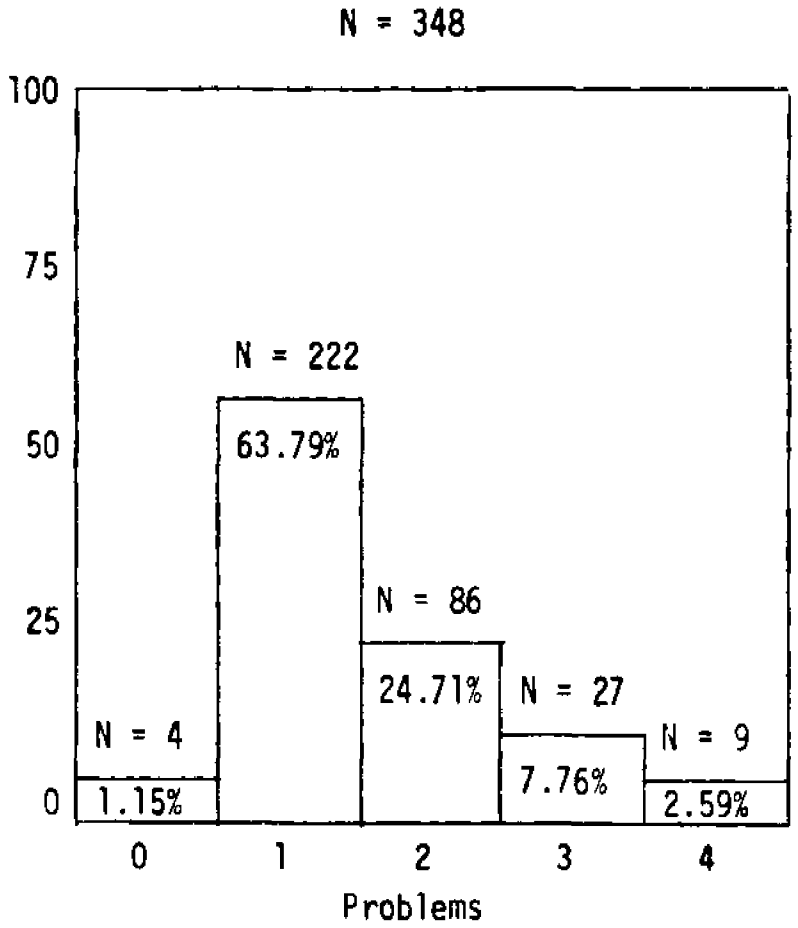
A problem for 32.47% of population on Questionnaire II (Increase)

GRAPH 32

ABILITY TO TAKE TESTS AND EXAMINATIONS



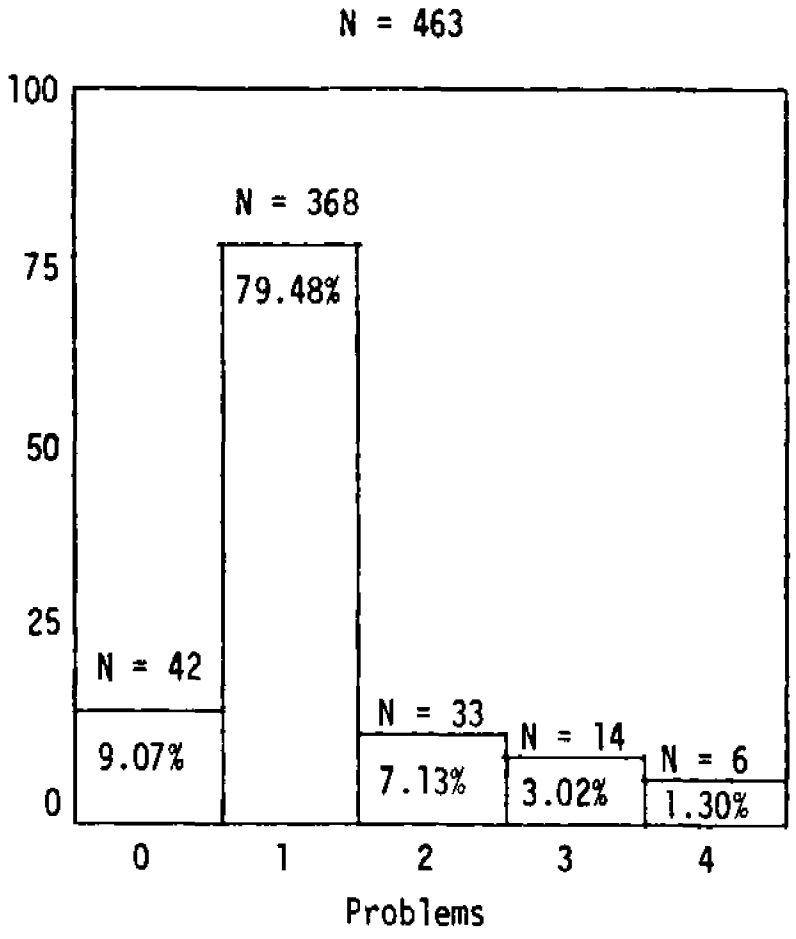
A problem for 30.02% of population
on Questionnaire I



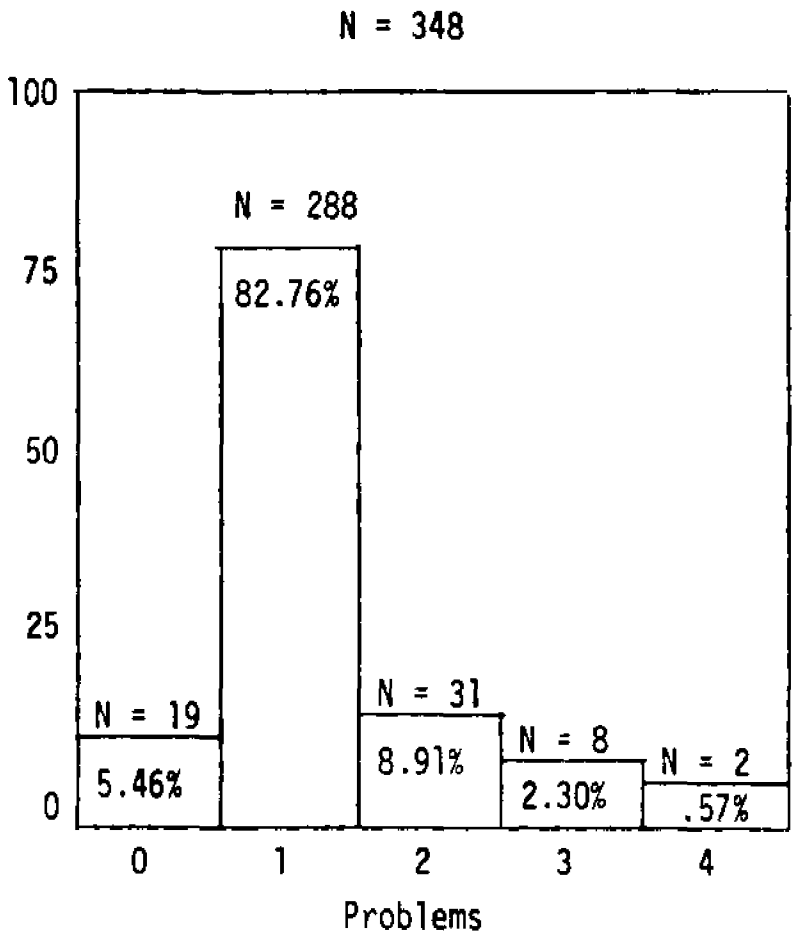
A problem for 35.06% of population
on Questionnaire II (Increase)

GRAPH 33

NEED FOR TUTORIAL ASSISTANCE



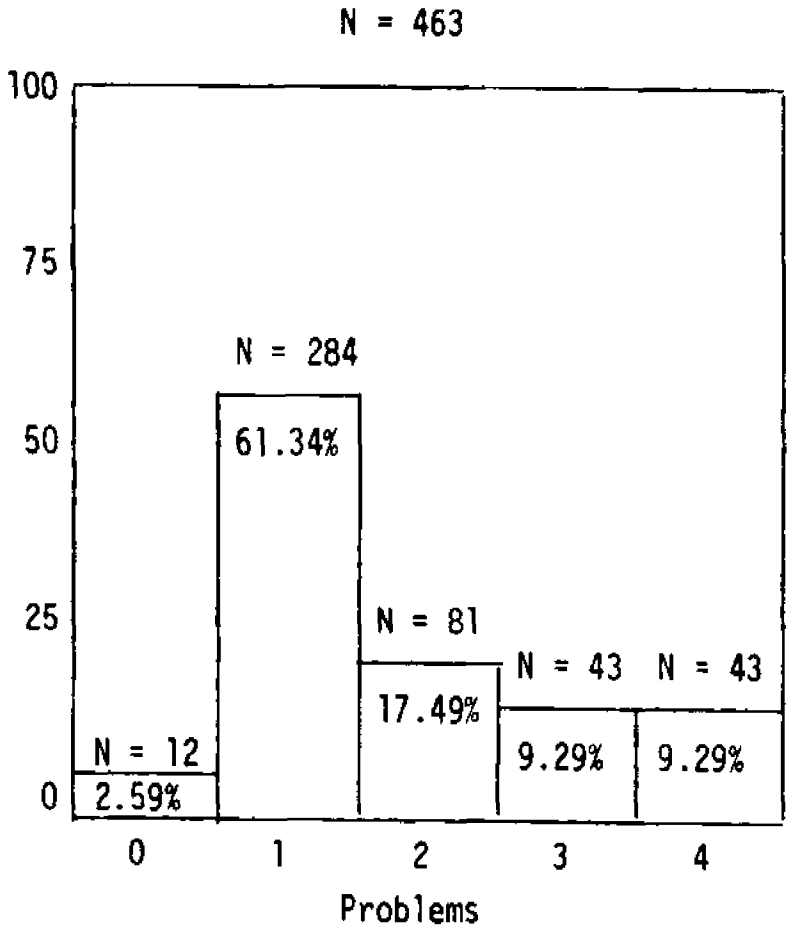
A problem for 11.45% of population
on Questionnaire I



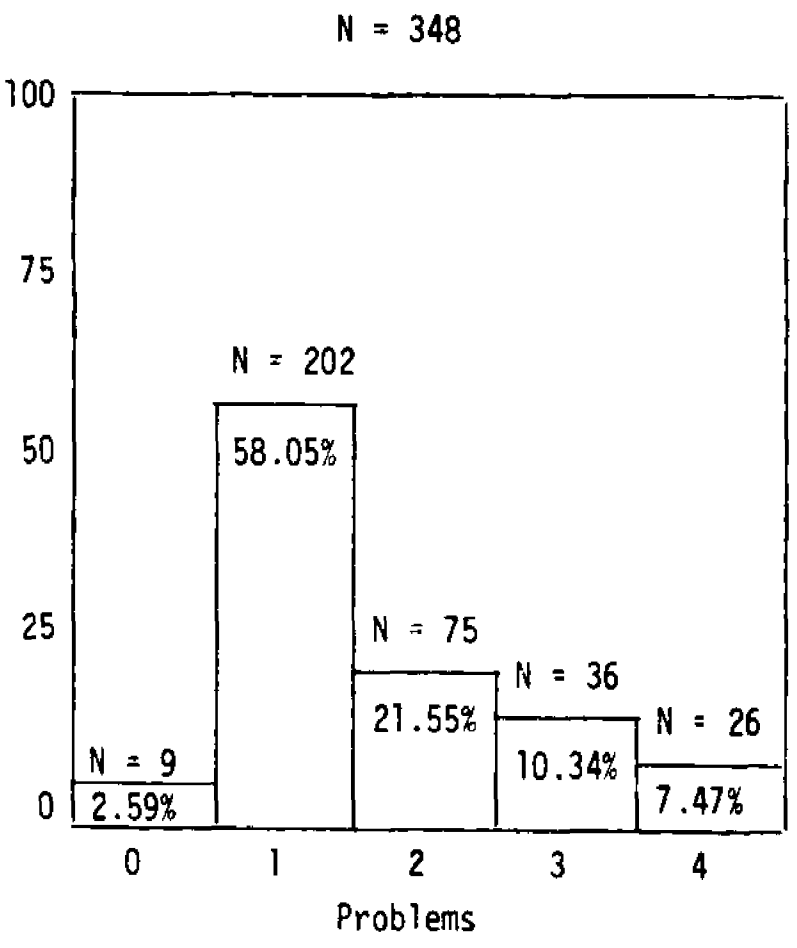
A problem for 11.78% of population
on Questionnaire II (Increase)

GRAPH 34

ABILITY TO TYPE



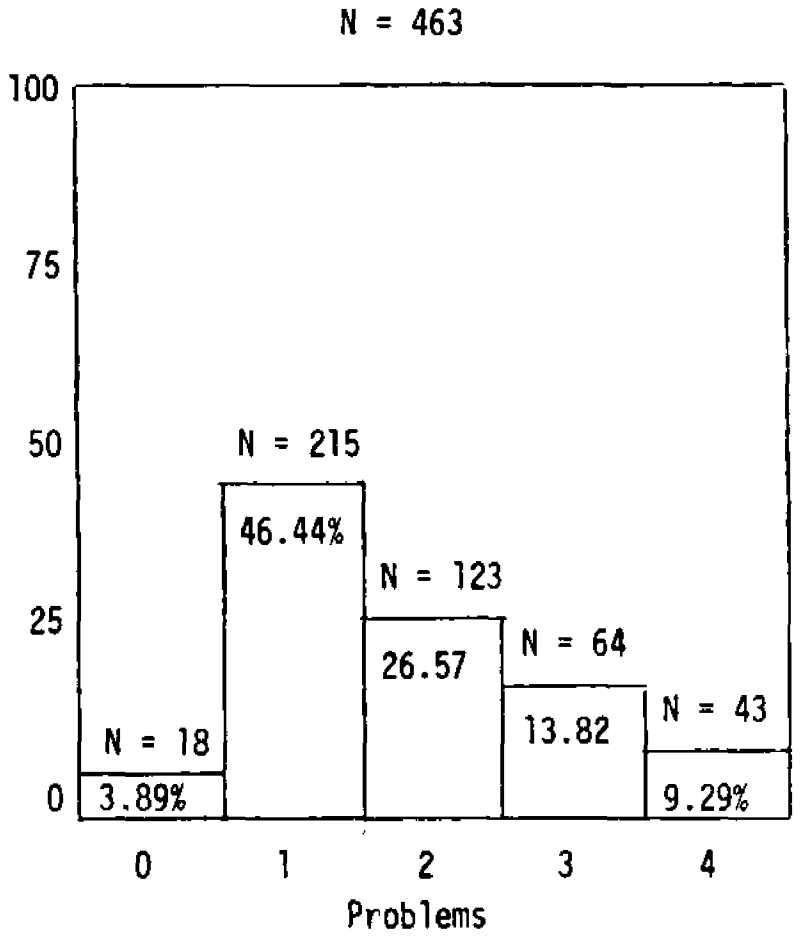
A problem for 36.07% of population on Questionnaire I



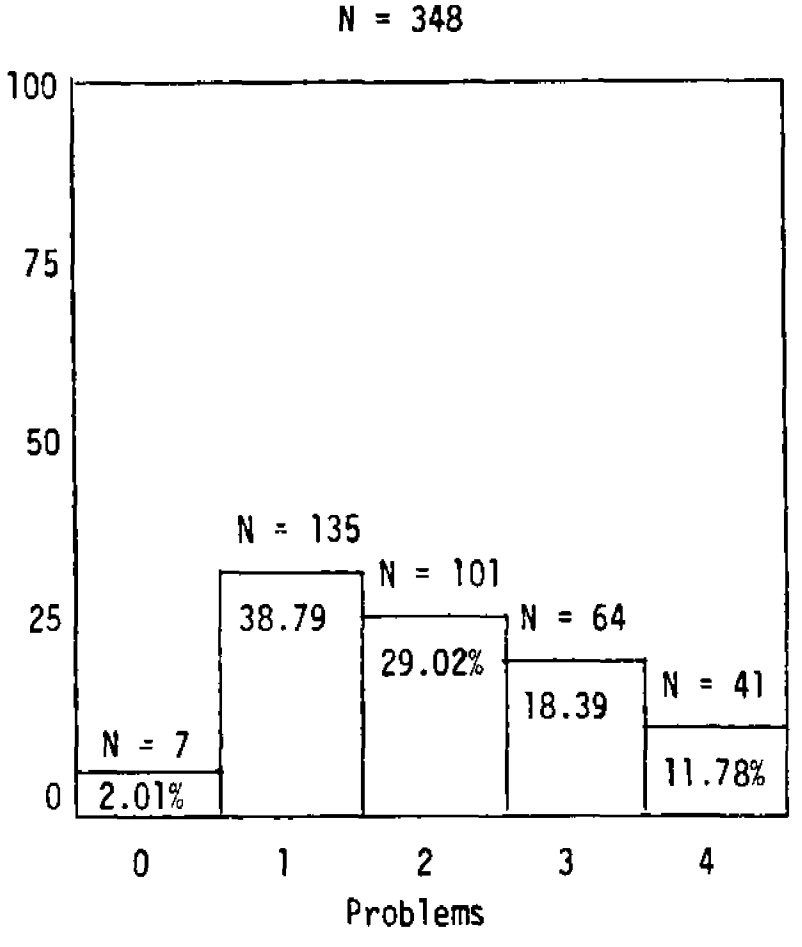
A problem for 39.36% of population on Questionnaire II (Increase)

GRAPH 35

TIME TO STUDY



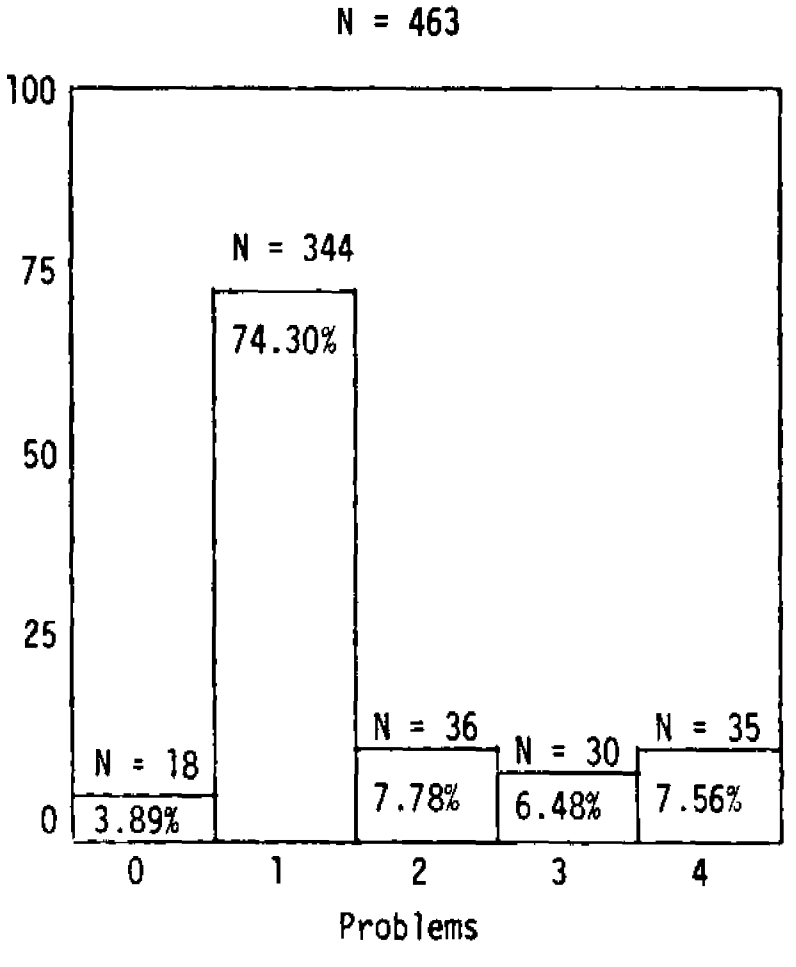
A problem for 49.68% of population on Questionnaire I



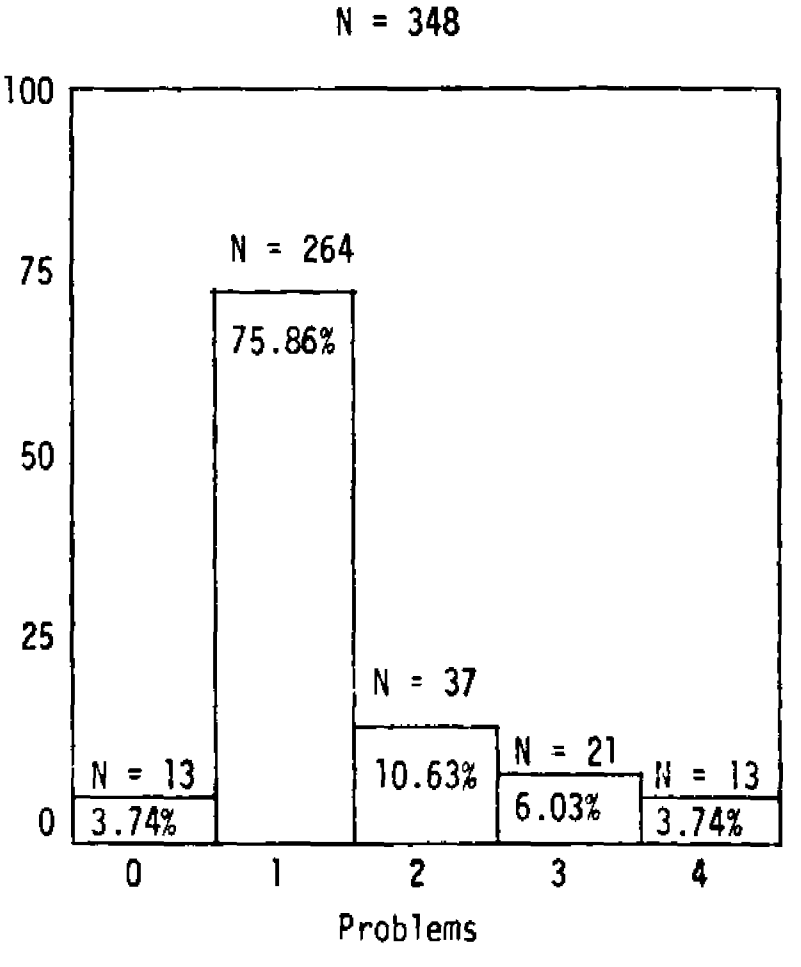
A problem for 59.19% of population on Questionnaire II (Increase)

GRAPH 36

NEED FOR LOCAL HOUSING



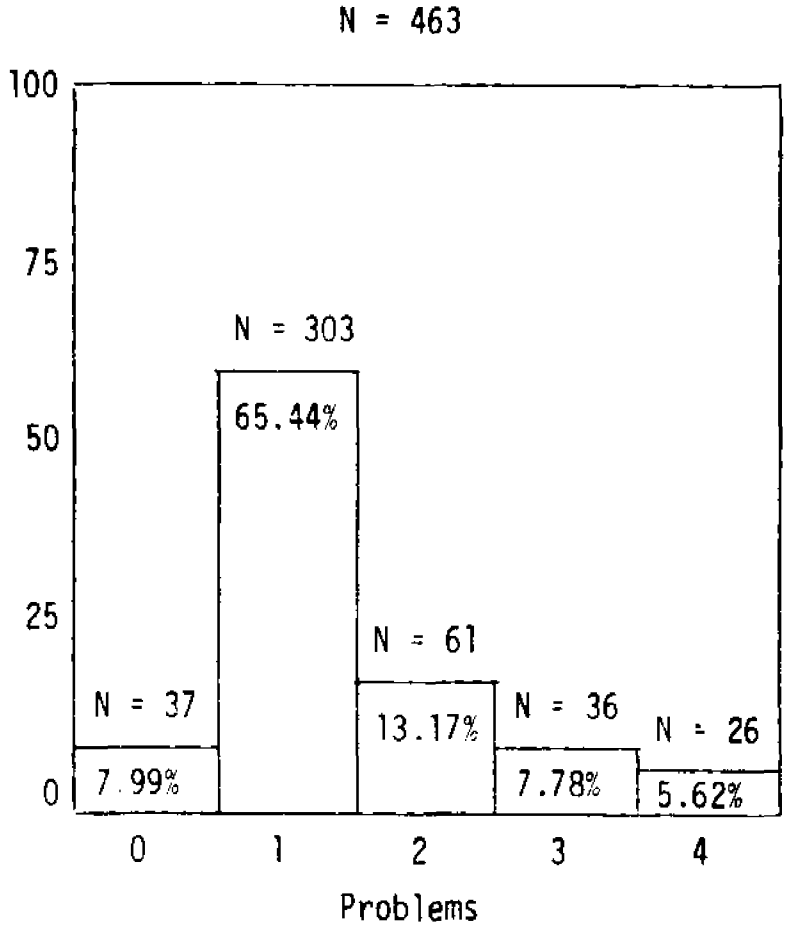
A problem for 21.82% of population
on Questionnaire I



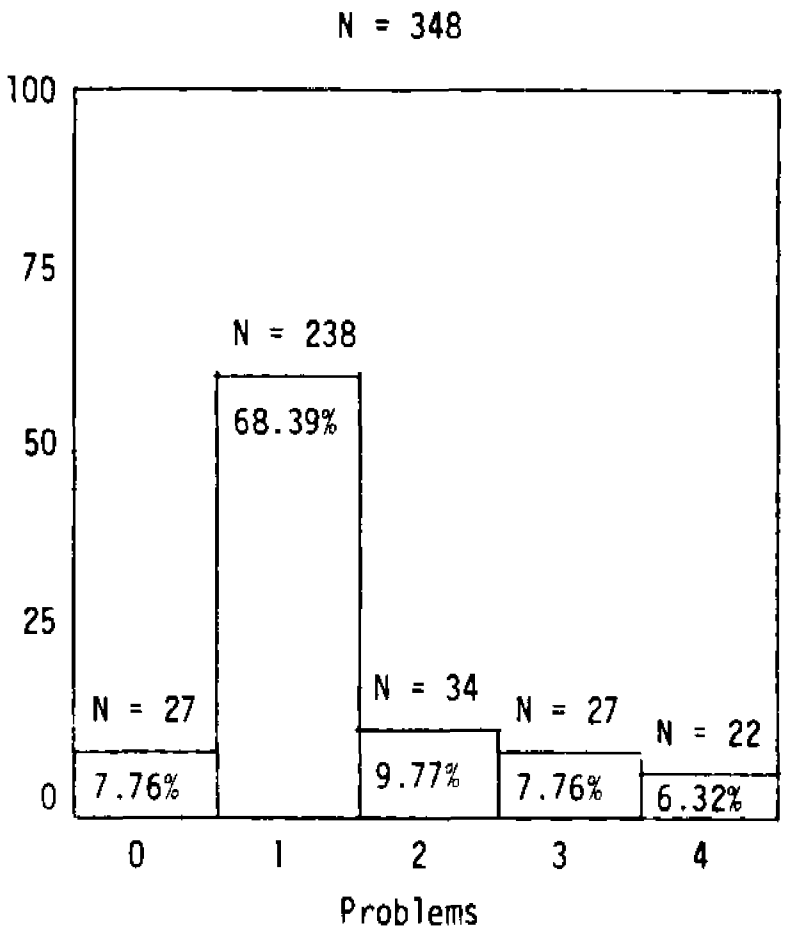
A problem for 20.40% of population
on Questionnaire II (Decrease)

GRAPH 37

FULL OR PART-TIME EMPLOYMENT INFORMATION



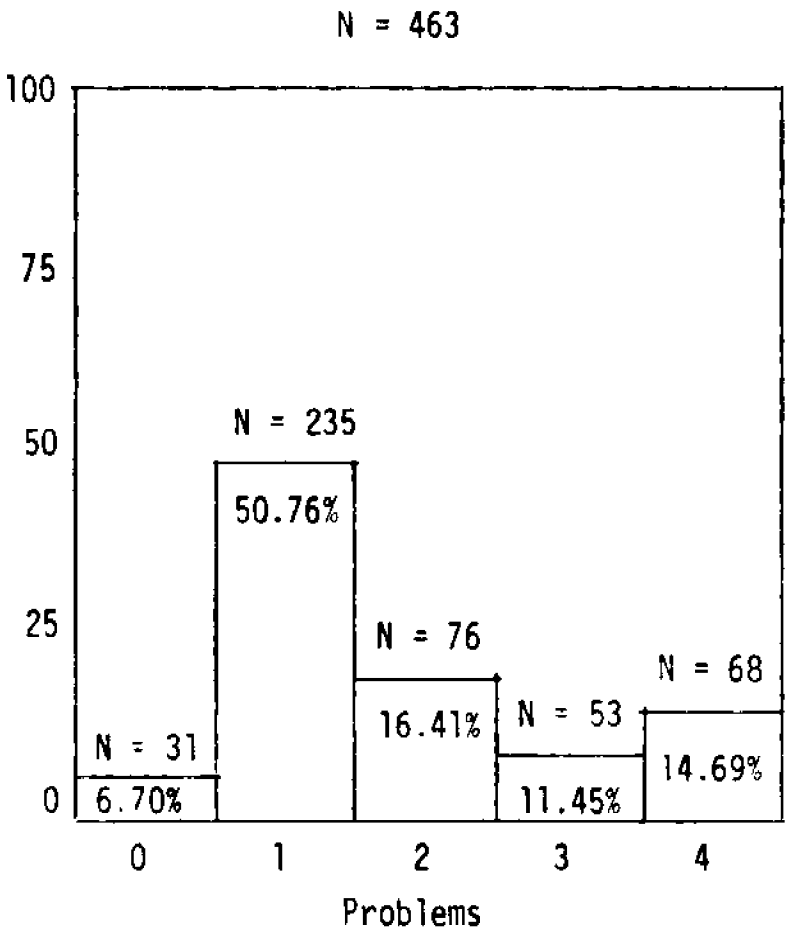
A problem for 26.57% of population
on Questionnaire I



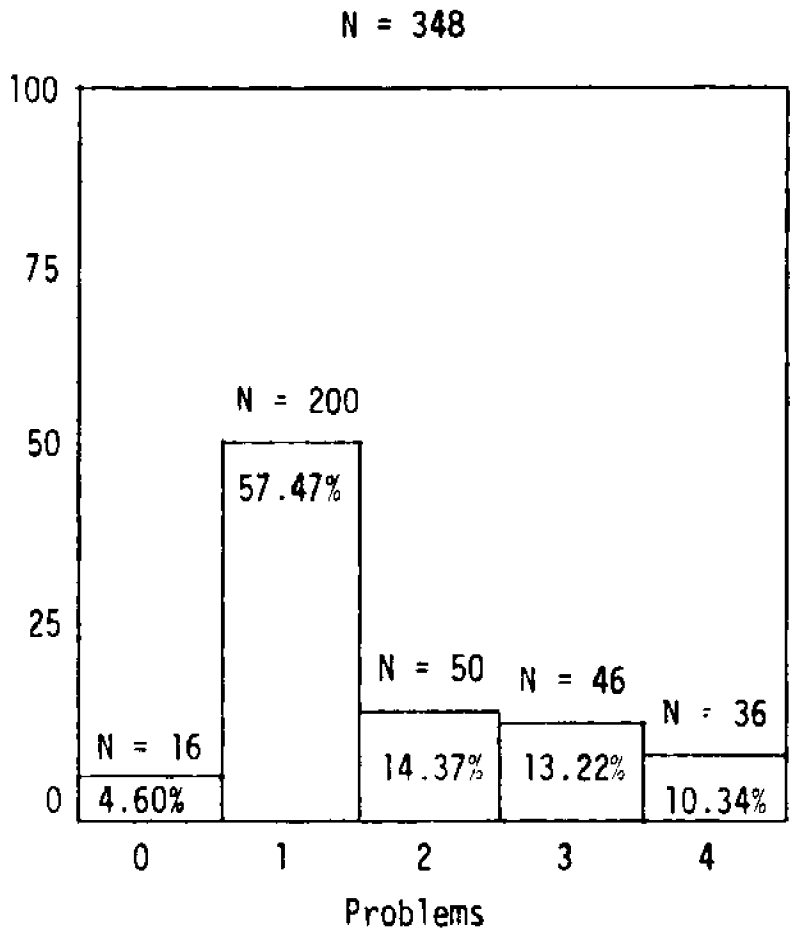
A problem for 23.85% of population
on Questionnaire II (Decrease)

GRAPH 38

FINANCIAL ASSISTANCE FOR PERSONAL AND FAMILY NEEDS



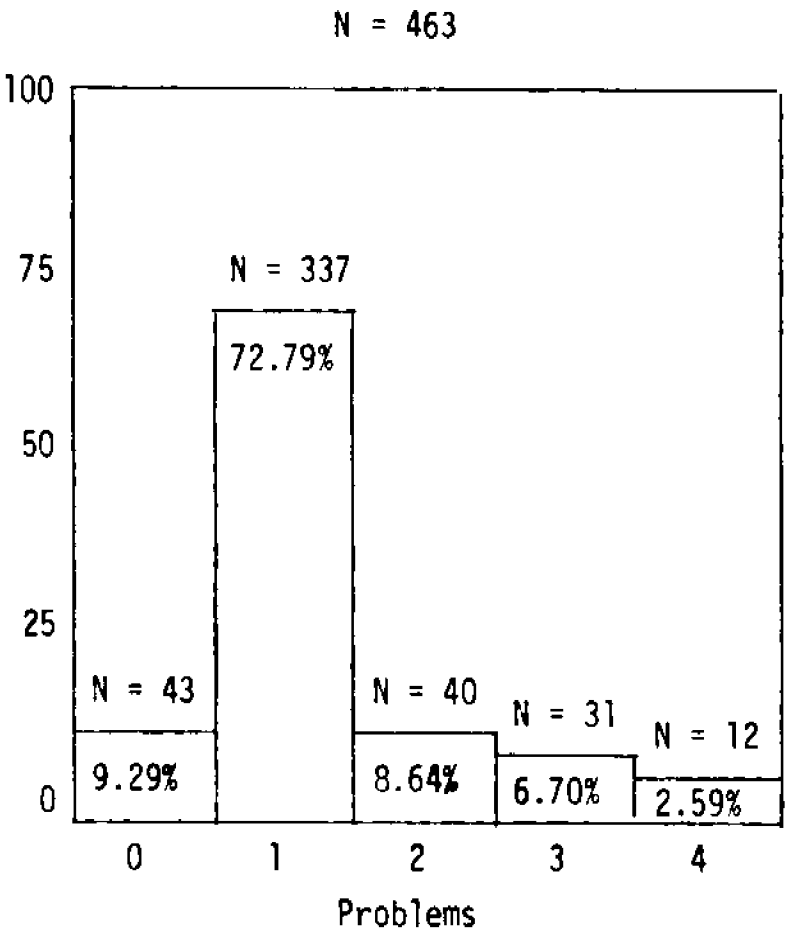
A problem for 42.55% of population on Questionnaire I



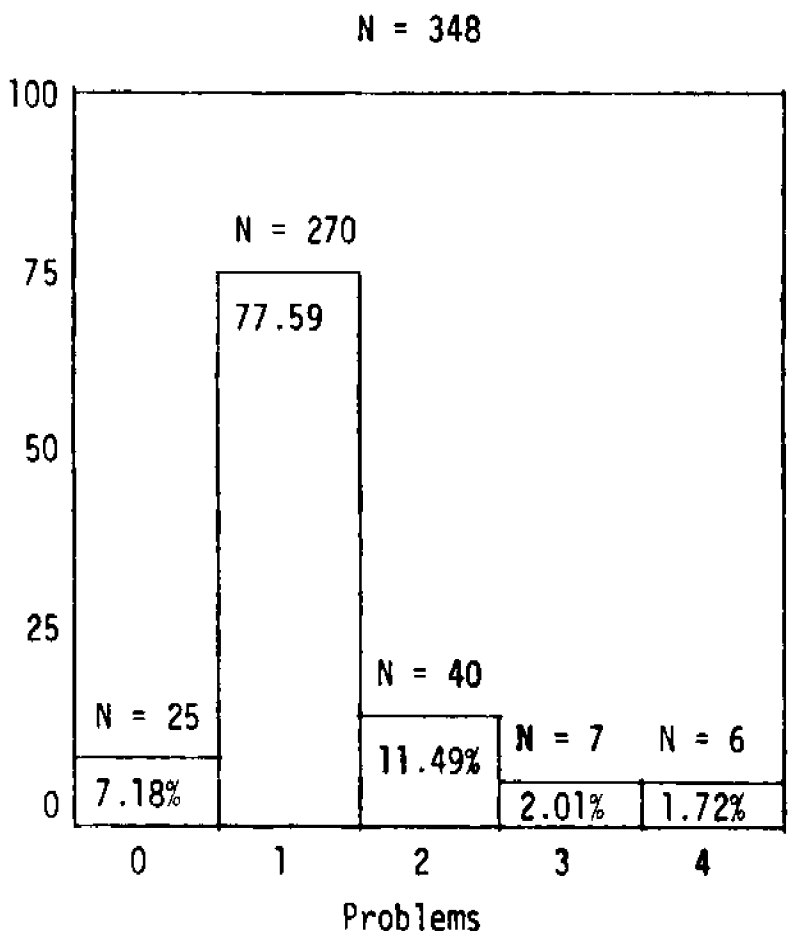
A problem for 37.93% of population on Questionnaire II (Decrease)

GRAPH 39

VOCATIONAL COUNSELING



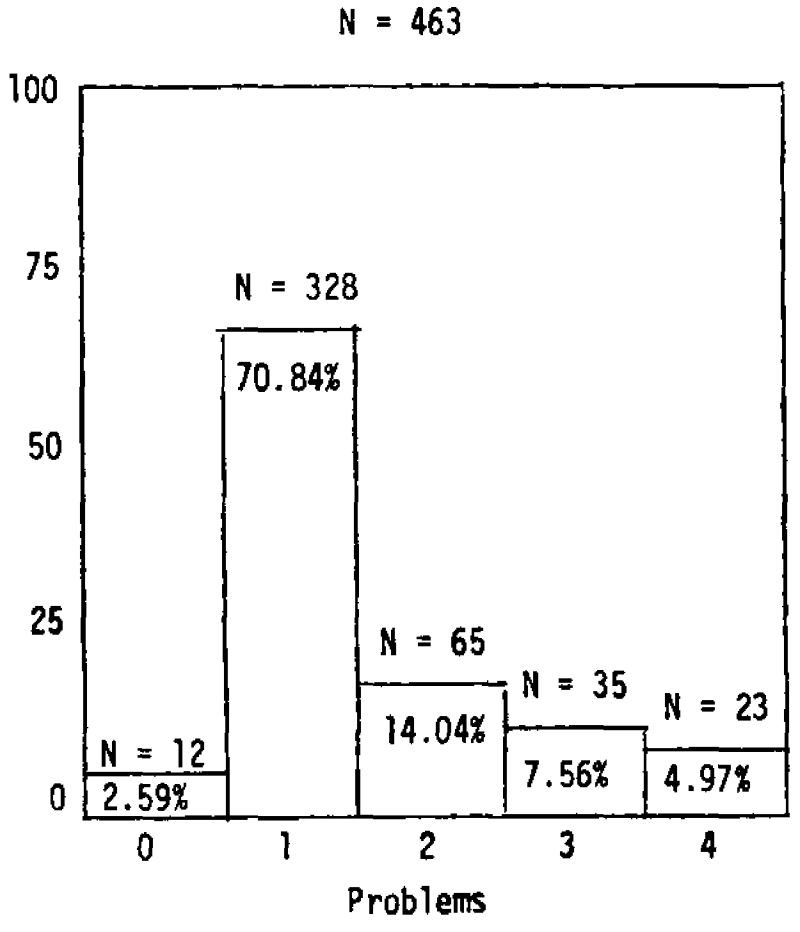
A problem for 17.93% of population
on Questionnaire I



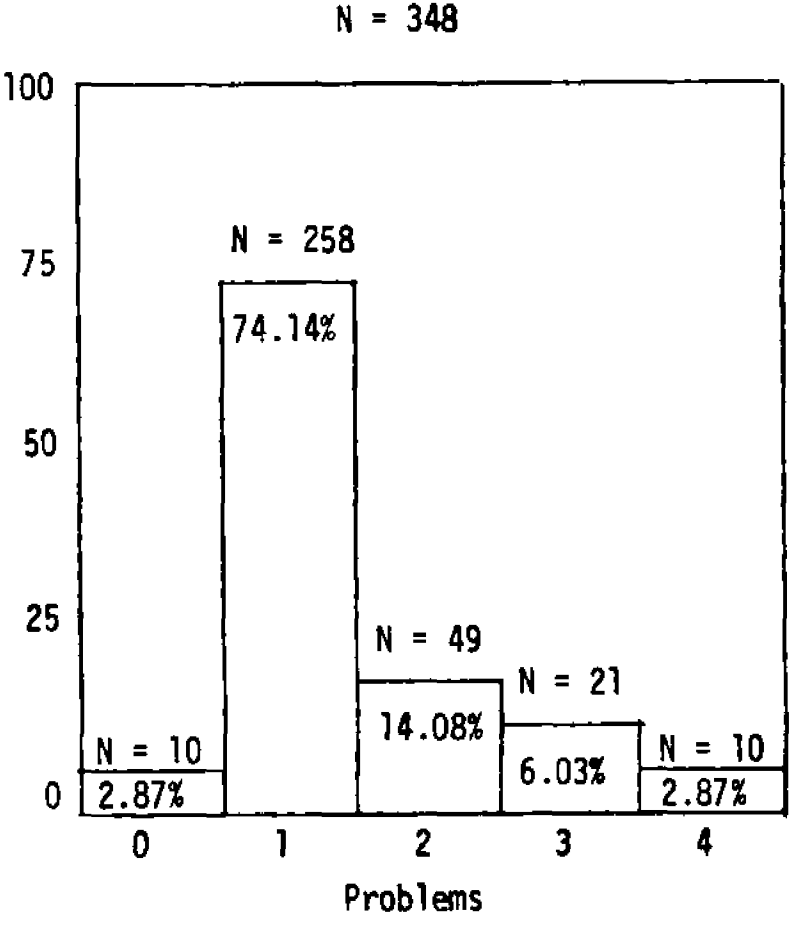
A problem for 15.22% of population
on Questionnaire II (Decrease)

GRAPH 40

TRANSPORTATION TO CAMPUS



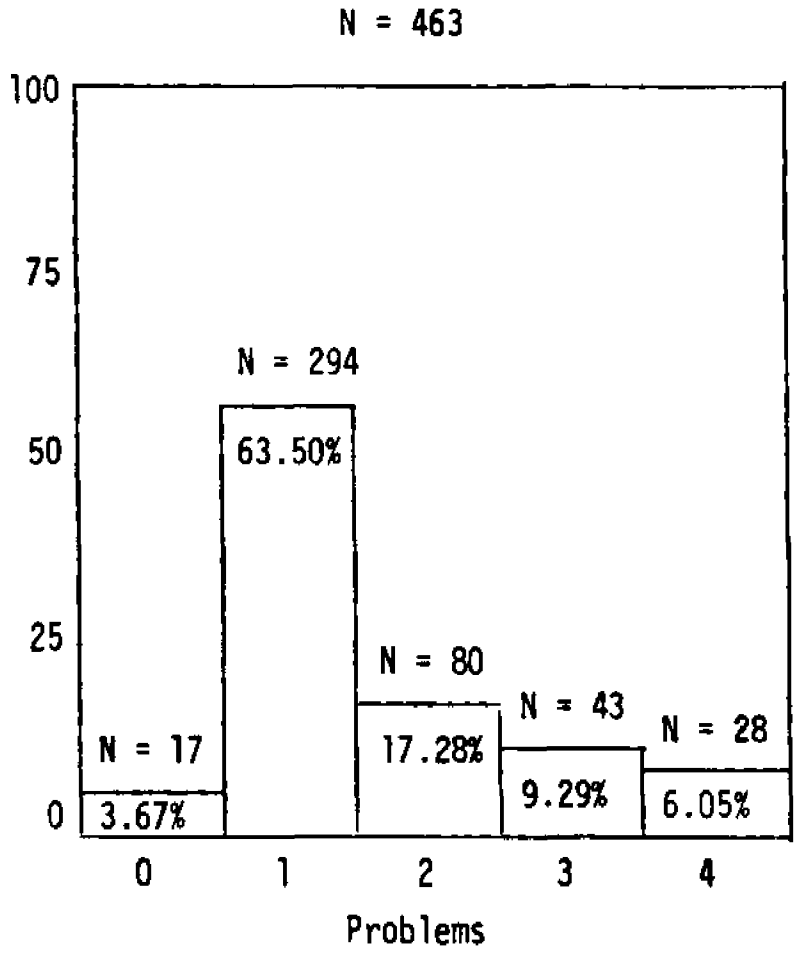
A problem for 26.57% of population
on Questionnaire I



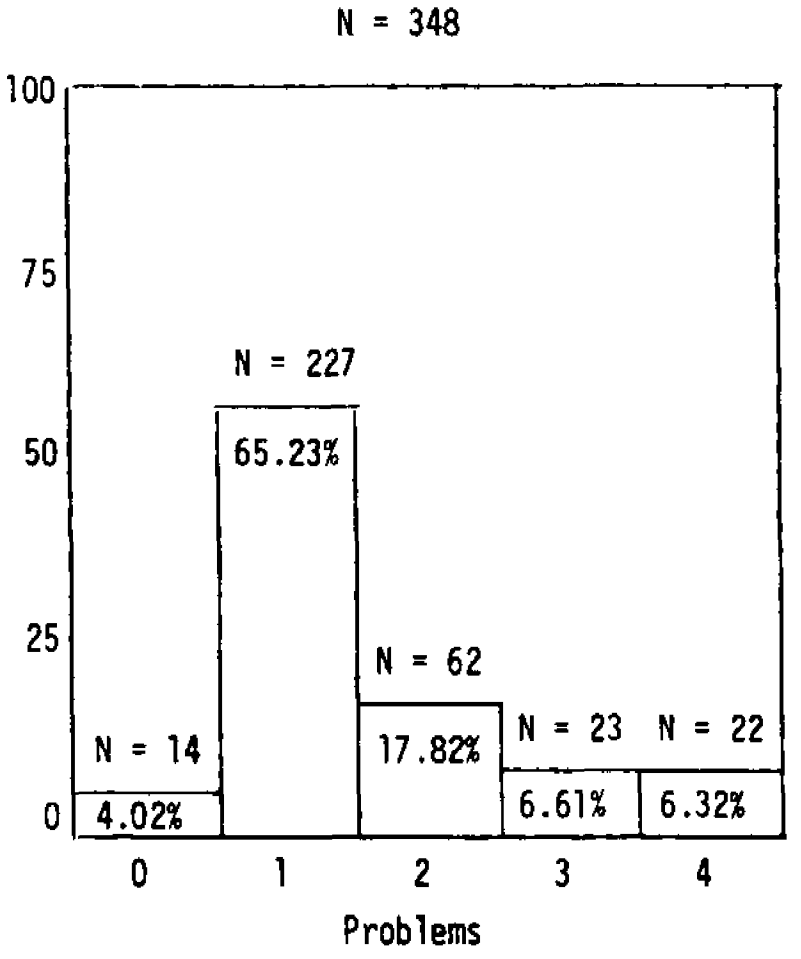
A problem for 22.98% of population
on Questionnaire II (Decrease)

GRAPH 41

TRANSPORTATION AROUND CAMPUS



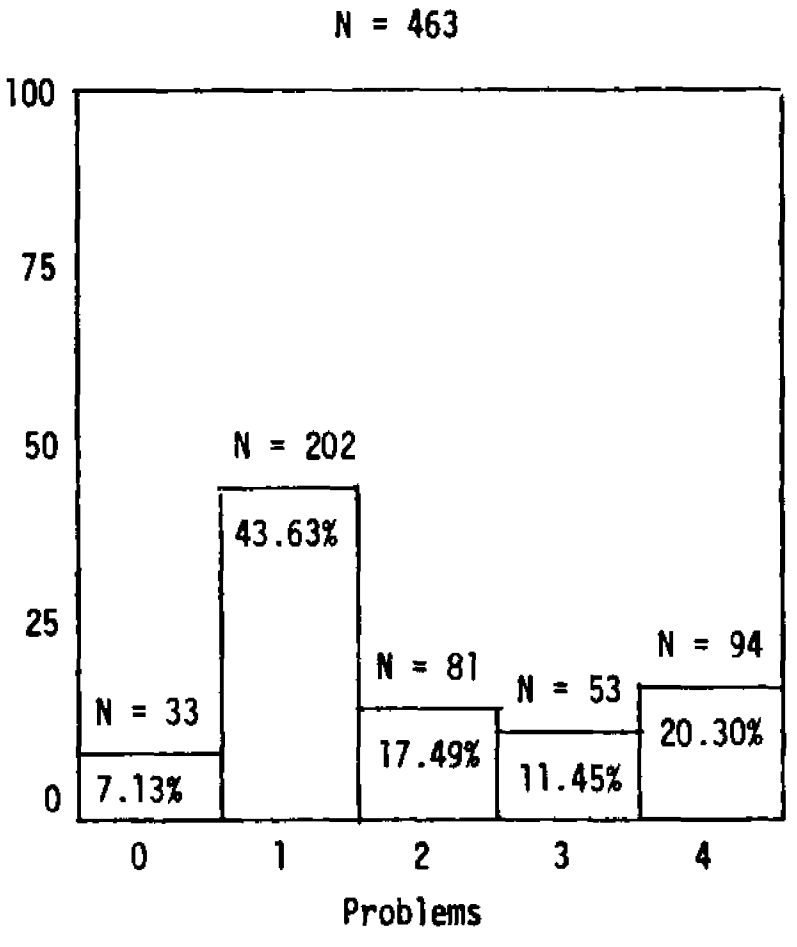
A problem for 32.62% of population
on Questionnaire I



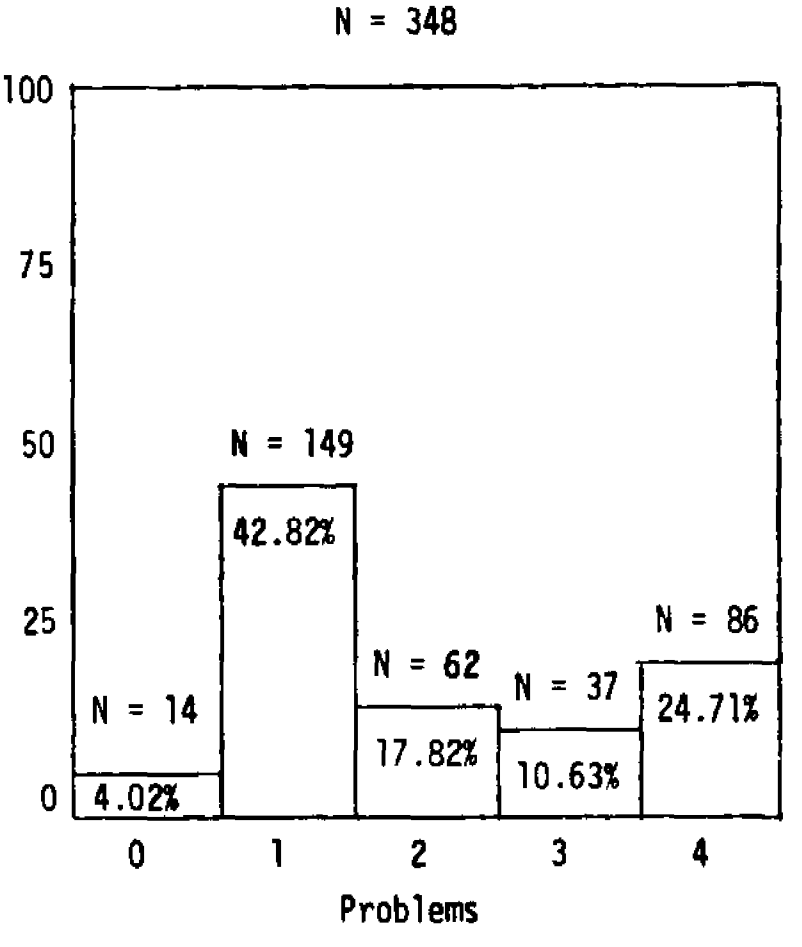
A problem for 30.75% of population
on Questionnaire II (Decrease)

GRAPH 42

PARKING ON CAMPUS



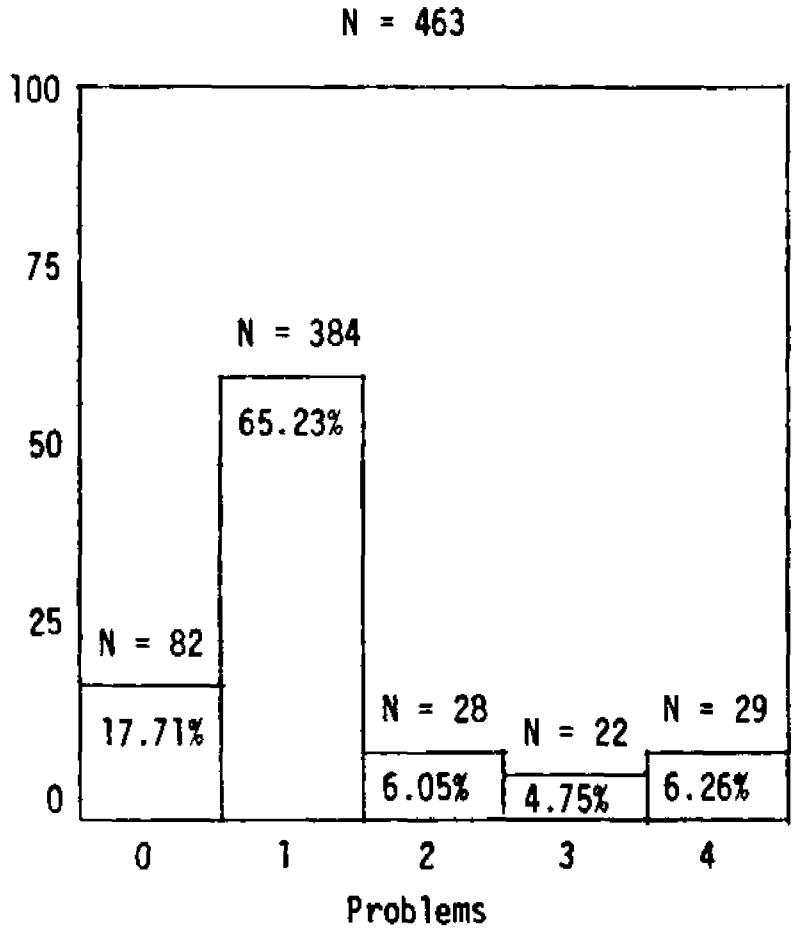
A problem of 49.24% of population on Questionnaire I



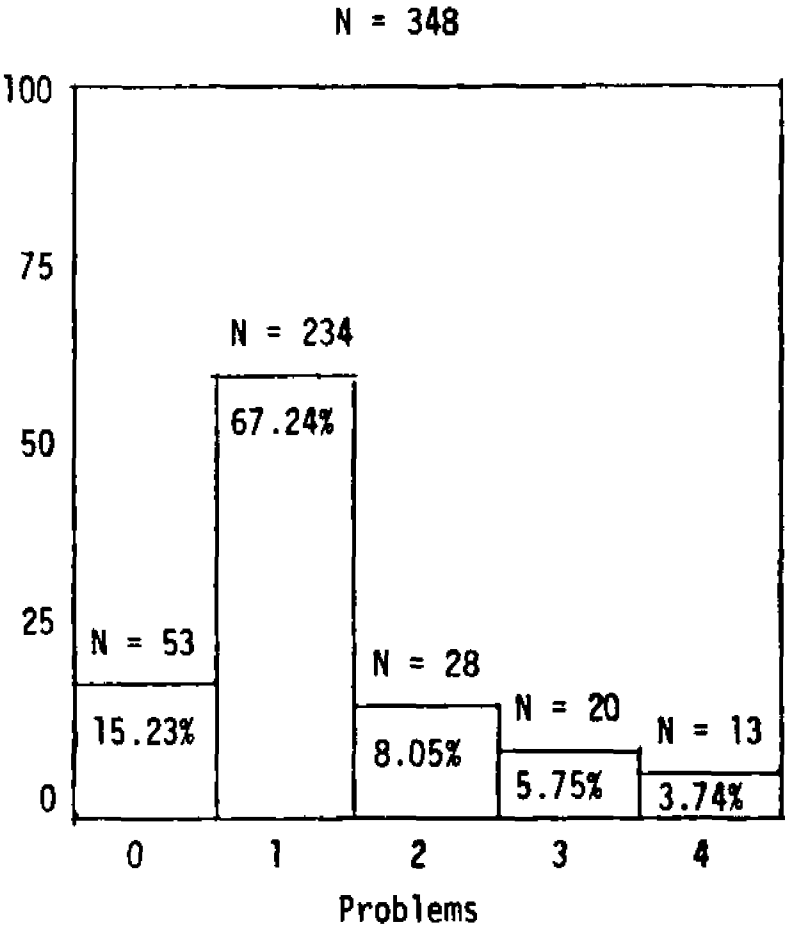
A problem for 53.16% of population on Questionnaire II (Increase)

GRAPH 43

CHILD CARE DURING CLASS HOURS



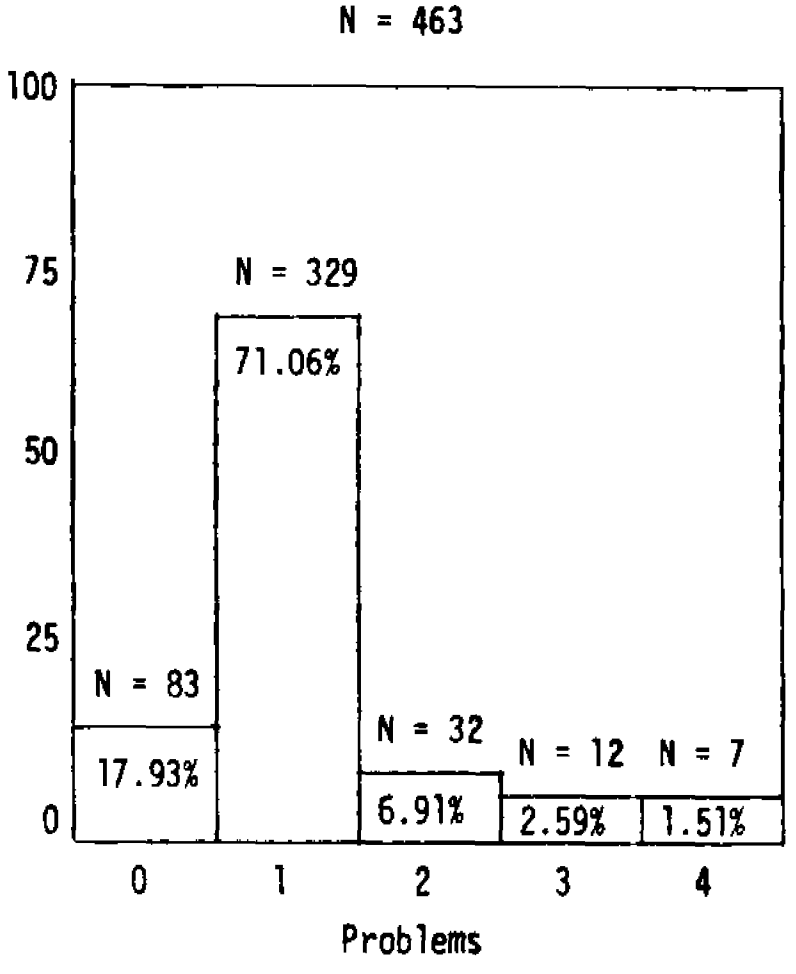
A problem for 17.06% of population
on Questionnaire I



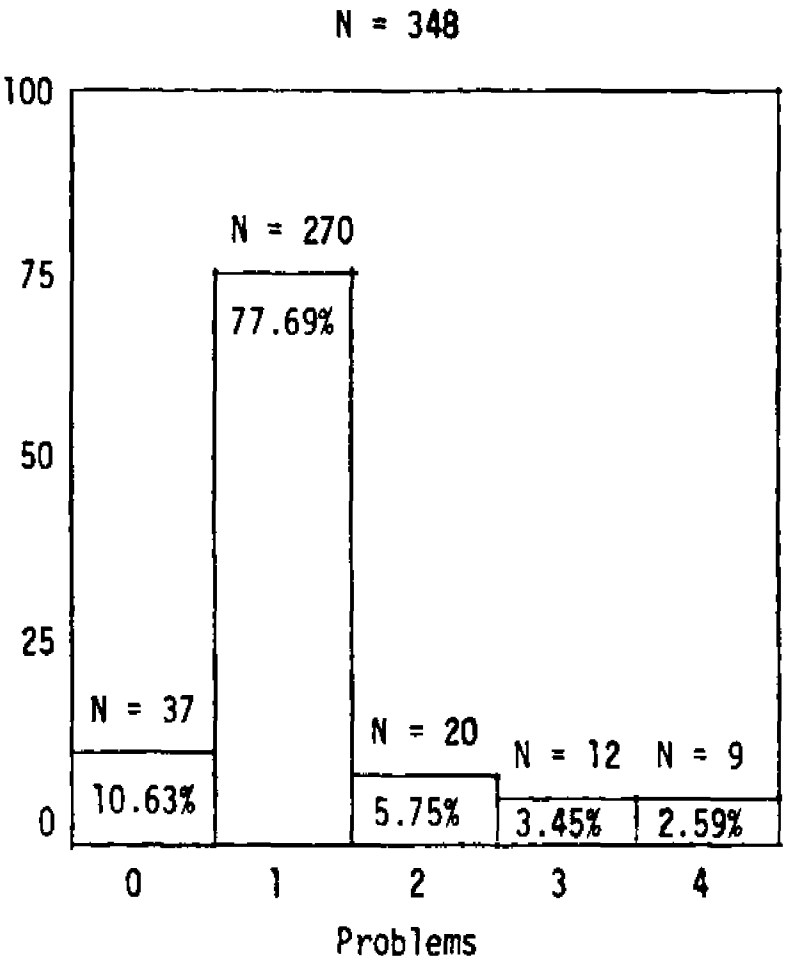
A problem of 17.54% of population
on Questionnaire II (Increase)

GRAPH 44

LOCKER SPACE ON CAMPUS



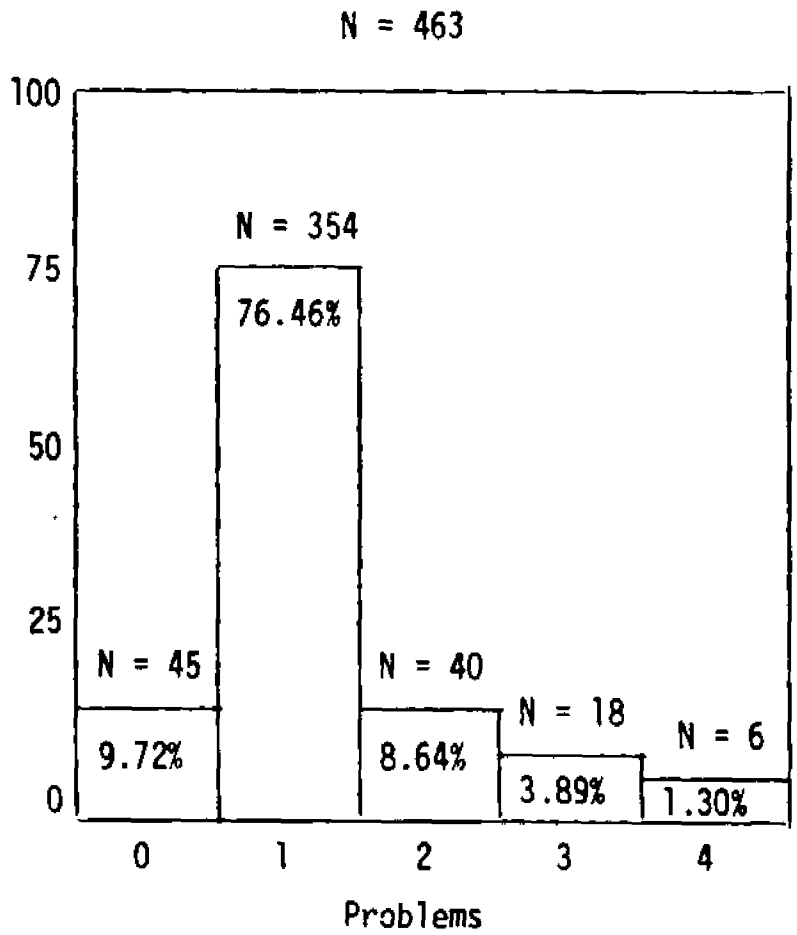
A problem for 11.01% of population on Questionnaire I



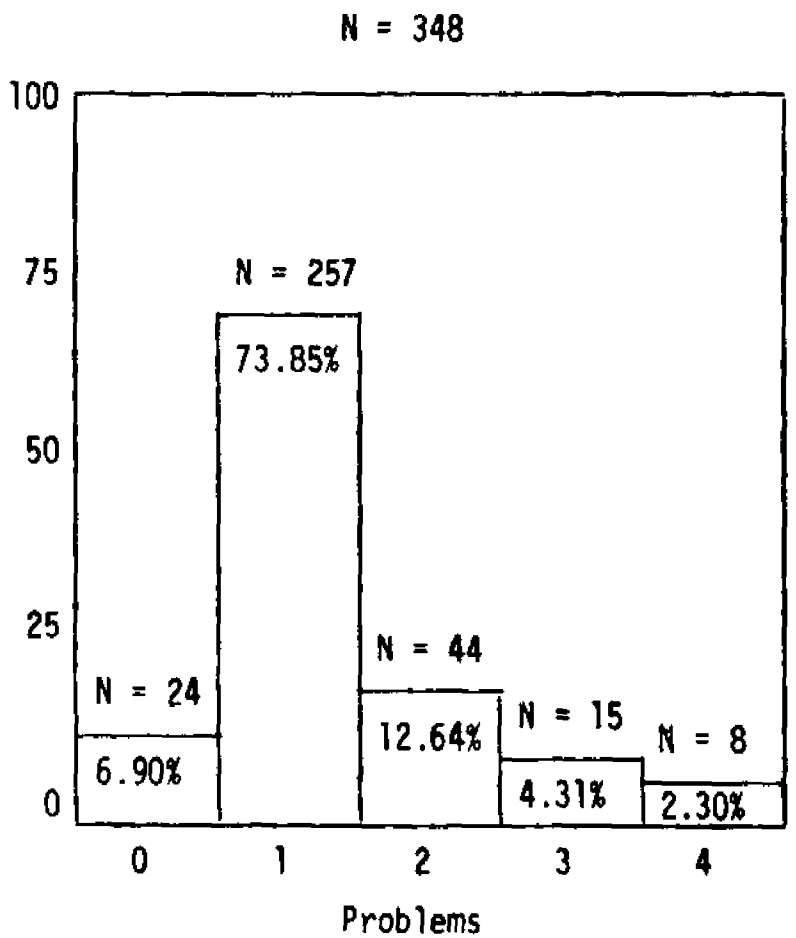
A question for 11.79% of population on Questionnaire II (Increase)

GRAPH 45

LUNCH AND DINNER FACILITIES



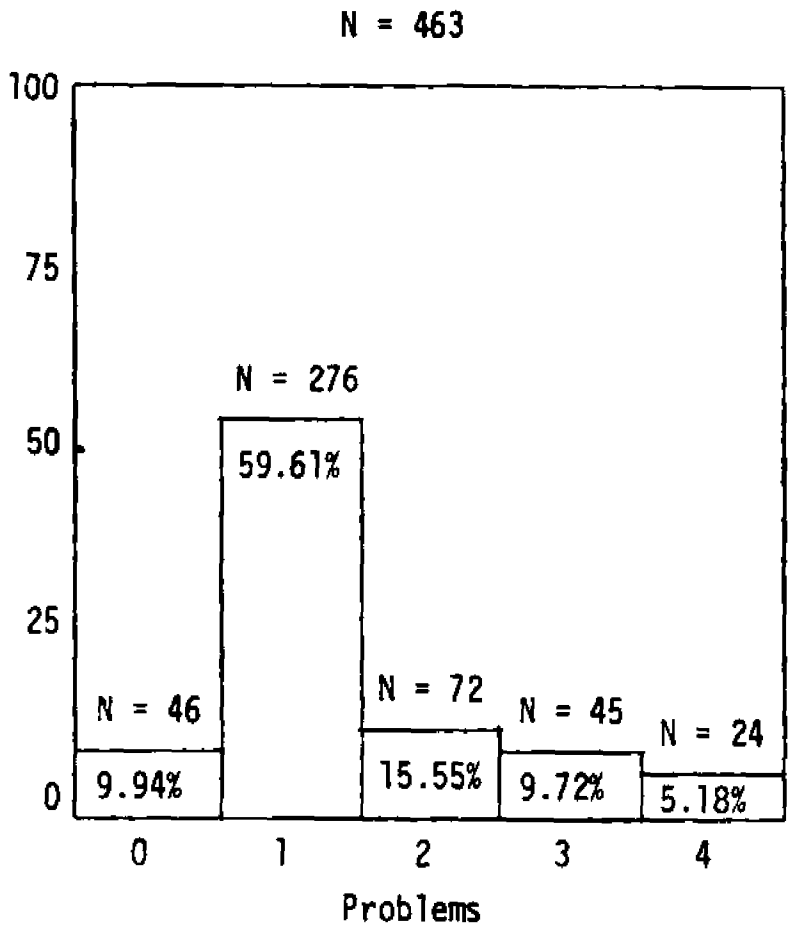
A problem for 13.83% of population on Questionnaire I



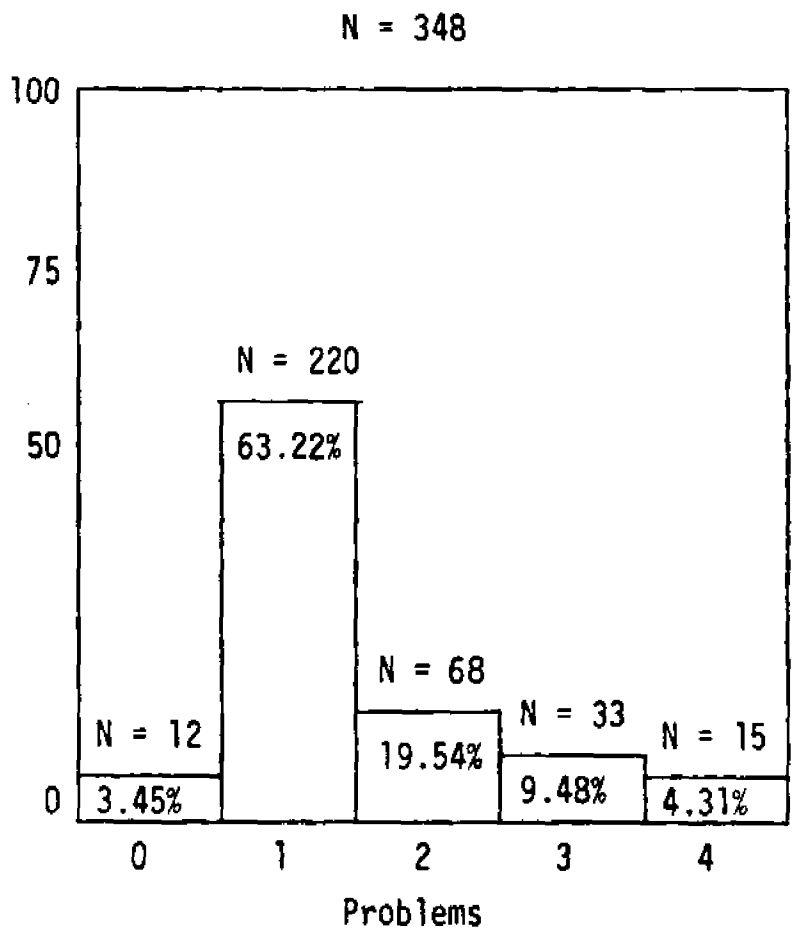
A problem for 19.25% of population on Questionnaire II (Increase)

GRAPH 46

MEETING OTHER ADULT STUDENTS



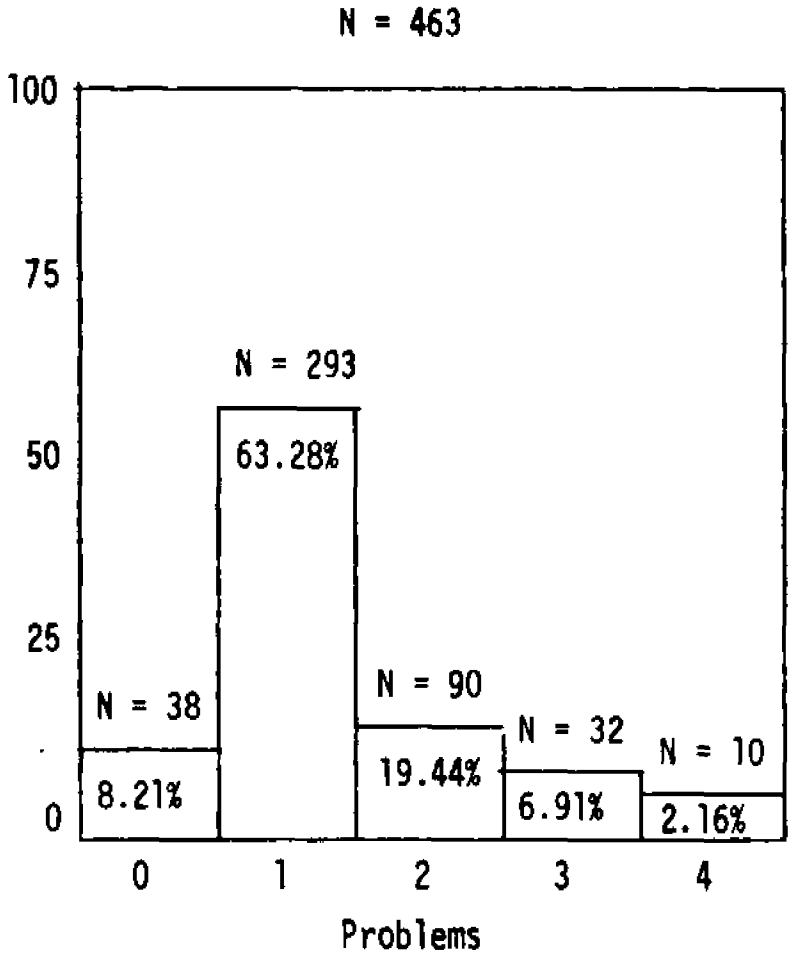
A problem for 30.45% of population on Questionnaire I



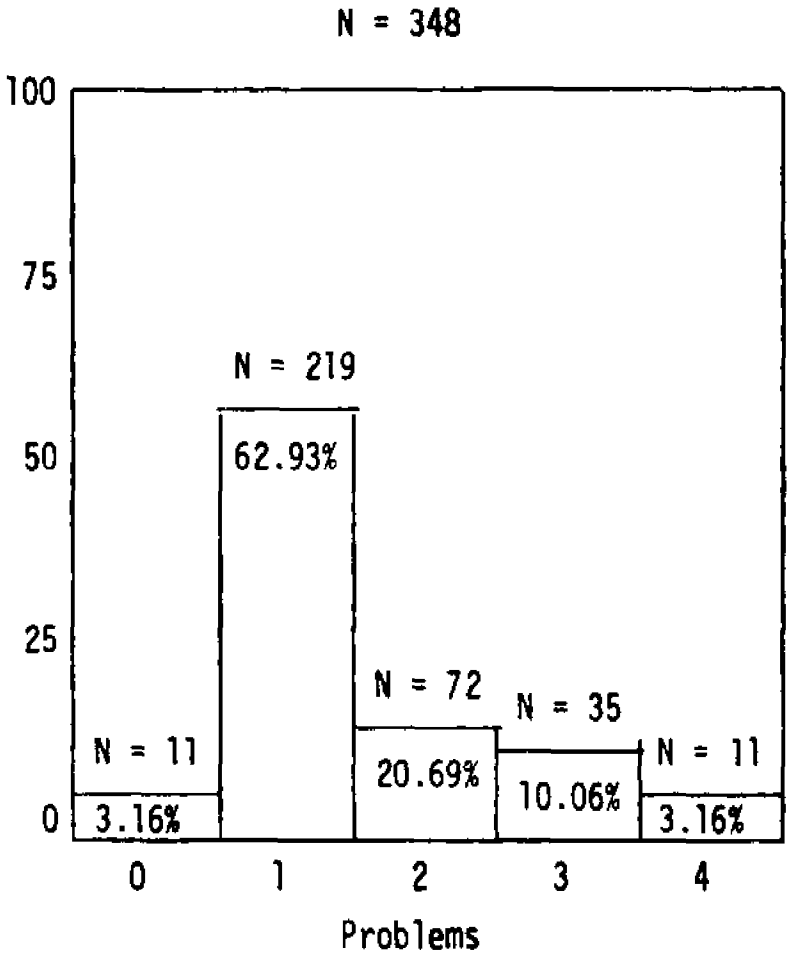
A problem for 33.33% of population on Questionnaire II (Increase)

GRAPH 47

GAINING INFORMATION ABOUT UNIVERSITY FUNCTIONS (LECTURES, CONCERTS, SPEAKERS)



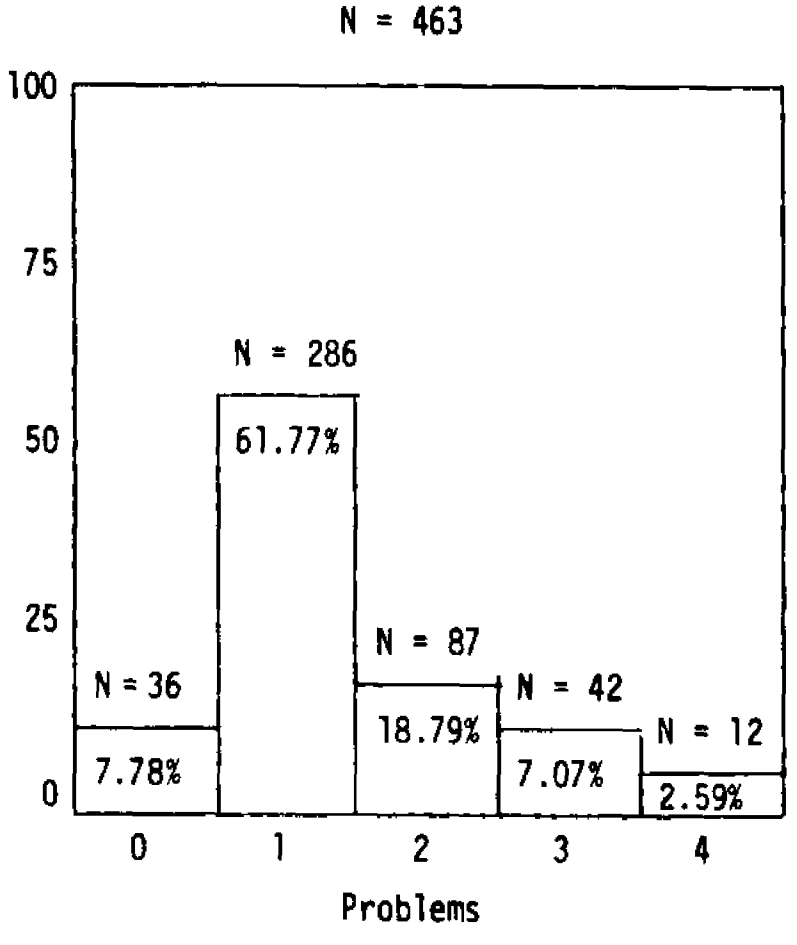
A problem for 28.51% of population
on Questionnaire I



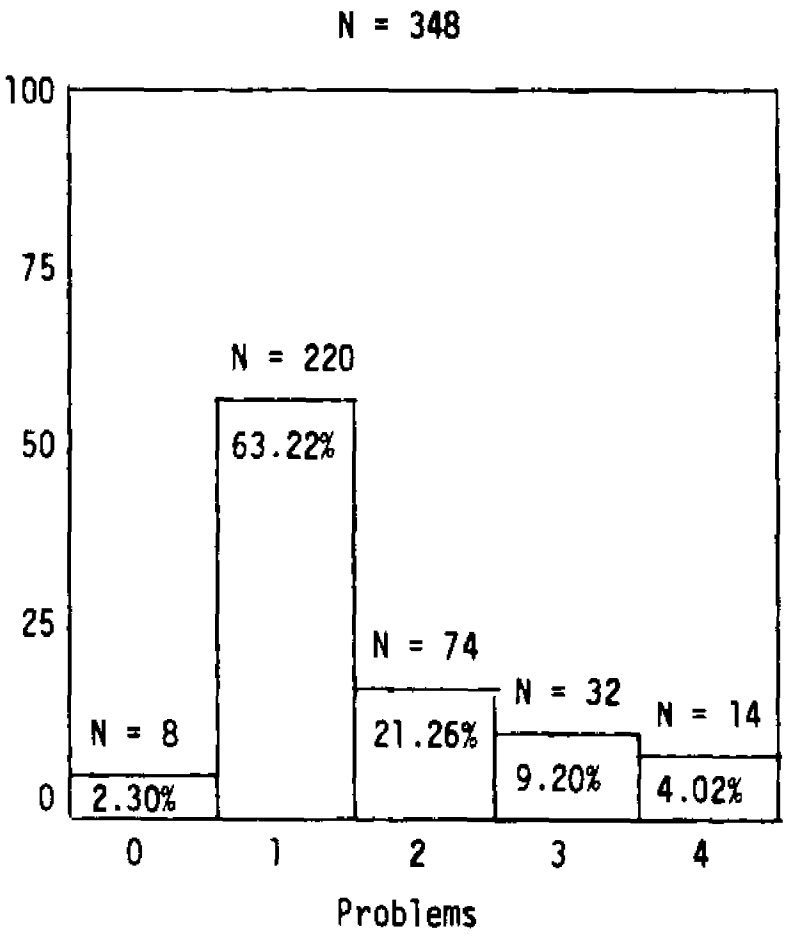
A problem for 33.91% of population
on Questionnaire II (Increase)

GRAPH 48

MEETING FACULTY AND ADVISORS



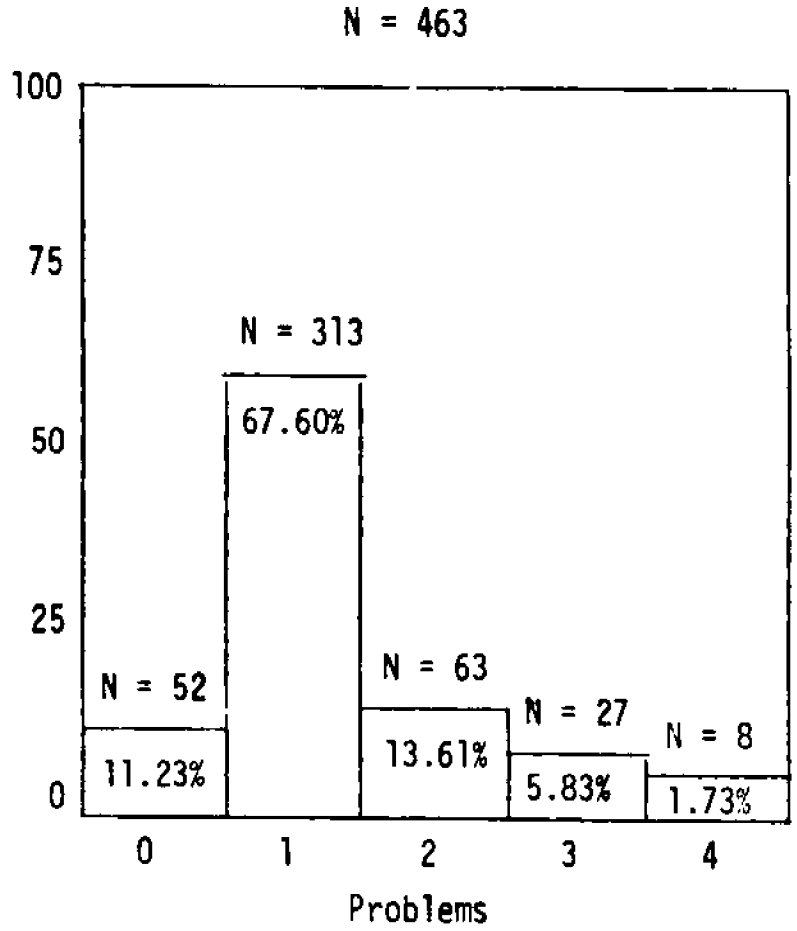
A problem for 30.45% of population
on Questionnaire I



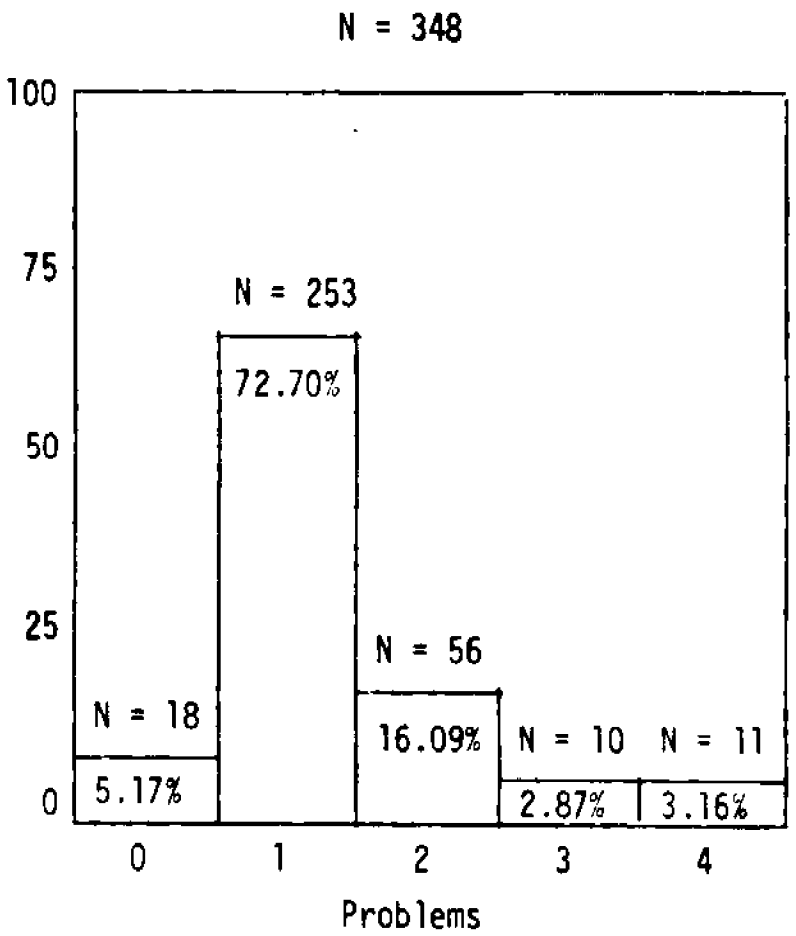
A problem for 34.48% of population
on Questionnaire II (Increase)

GRAPH 49

PERSONAL COUNSELING



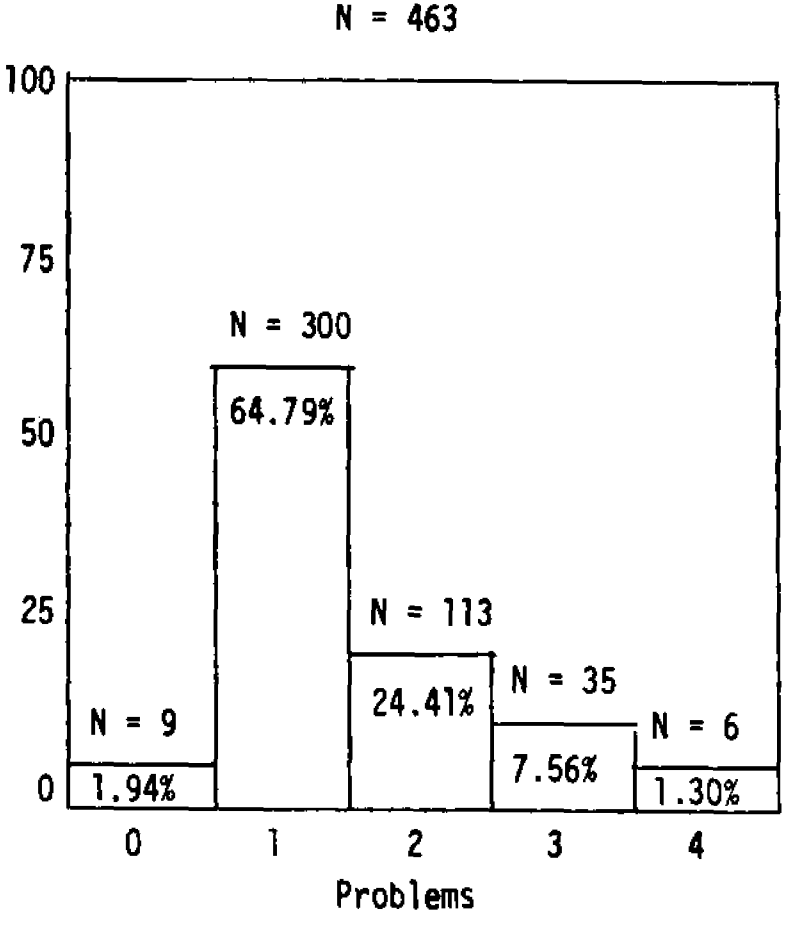
A problem for 21.17% of population on Questionnaire I



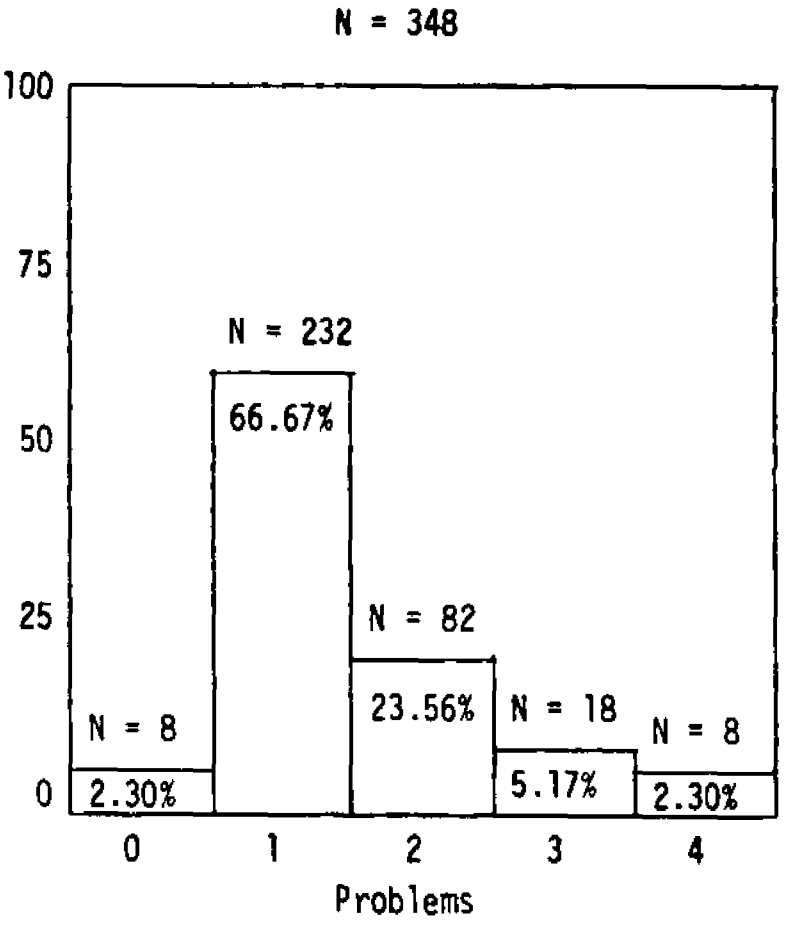
A problem for 22.12% of population on Questionnaire II (Increase)

GRAPH 50

CONFIDENCE IN ABILITY TO DO WELL IN COLLEGE



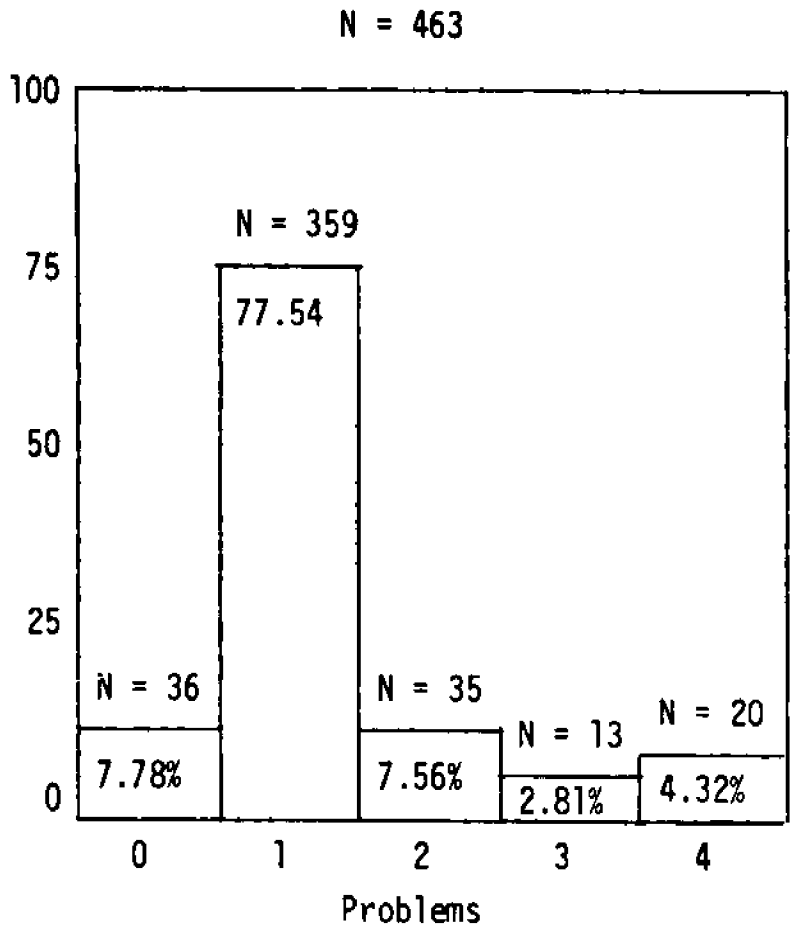
A problem for 33.27% of population on Questionnaire I



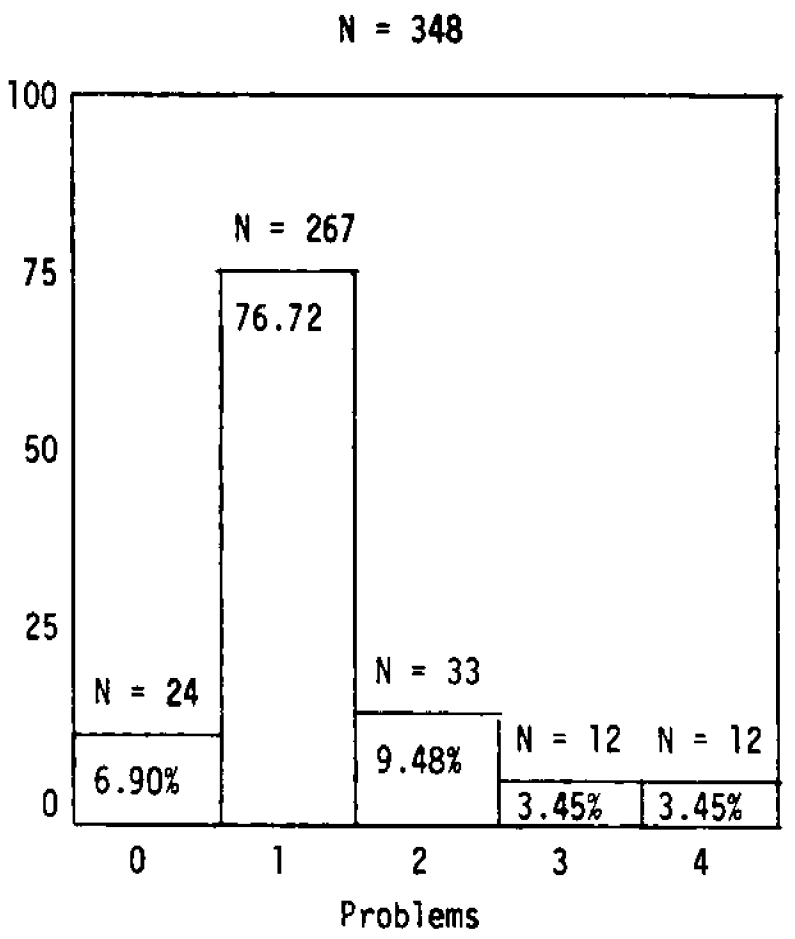
A problem for 31.03% of population on Questionnaire II (Decrease)

GRAPH 51

SUPPORT FROM SPOUSE AND FAMILY



A problem for 14.69% of population
on Questionnaire I



A problem for 16.38% of population
on Questionnaire II (Increase)

APPENDIX C

Appendix C has been included in the research to verify the validity of the use of the Chi Square Test on the data presented. Due to the controversy among statisticians concerning less than five subjects in a cell, it was necessary to group small cells together and re-test the data. The following results indicate that 32 of the tests computed on the combined groups proved different at the .05 level of significance. Forty-six of the original tests reported in the body of the research were significantly different at the .05 level. The researcher considers the data gathered from the small cells as highly relevant to the research and has presented both sets of results to clarify the issue.

APPENDIX C

TABLE 23

AGE--RESULTS OF SIGNIFICANT CHI SQUARE TESTS COMPLETED ON COMBINED GROUPS

The age groups combined in this series are Groups 3 and 4.

Group 1 - 26-30 Years of Age - N = 279

Group 2 - 31-40 Years of Age - N = 146

Combined Groups 3 and 4 -
- 41 Years of Age and Over - N = 37

Variable #1 - Age	Observed X^2	Theoretical X^2
Selection of Classes	15.568	12.592
Pre-Registration	13.400	12.592
Registration	16.594	12.592

Note: These three tests are significant at the .05 level with 6 degrees of freedom.

APPENDIX C

TABLE 24

CLASS--RESULTS OF SIGNIFICANT CHI SQUARE TESTS COMPLETED ON COMBINED GROUPS

The class groups combined in this series are (1) Freshman, (2) Sophomore, (3) Junior, (4) Senior, and (5) Special Programs, formulating one group of

Undergraduates - N = 138

Masters' Candidates - N = 236

and Combined Groups 7, 8, and 9 -- Advanced Graduate & Medical-Osteopathic - N = 89

Variable #5 - Class	Observed X^2	Theoretical X^2
Admission	30.704	12.592
Choosing Major Field	27.360	12.592
Selecting Classes	14.416	12.592
Scheduling Classes	22.600	12.592
Getting into Classes	20.192	12.592
Reading Comprehension	21.684	12.592
Reading Vocabulary	16.394	12.592

Note: These seven tests are significant at the .05 level with 6 degrees of freedom.

APPENDIX C

TABLE 25

PRESENT EDUCATIONAL STATUS--RESULTS OF SIGNIFICANT CHI SQUARE TESTS COMPLETED ON COMBINED GROUPS

The Present Educational Status Groups combined in this series are:

Group 1 - Graduate School - N = 216

Combined Groups 2 & 3 -
College Graduate
Business College Graduate - N = 140

Group 4 - Community College Graduate - N = 42

Combined Groups 5 & 6 -
High School Graduate
College Credits - N = 63

Variable #6 - Present Educational Status	Observed X^2	Theoretical X^2
Choosing Major Field	22.683	16.919
Scheduling Classes	25.652	16.919
Reading Comprehension	32.327	16.919
Writing Skills	32.746	16.919
Transportation to Campus	20.063	16.919
Transportation around Campus	28.189	16.919
Confidence	22.218	16.919

Note: These seven tests are significant at the .05 level with 9 degrees of freedom.

APPENDIX C

TABLE 26

NUMBER OF YEARS SINCE TAKING A COLLEGE COURSE--RESULTS OF SIGNIFICANT CHI SQUARE TESTS COMPLETED ON COMBINED GROUPS

The groups combined in this series are:

Group 1 -	2-Years - Now	- N = 298
Group 2 -	2 - Years	- N = 81
Group 3 -	5 - 10 Years	- N = 42

Combined Groups

4 -	10 - 20 Years	- N = 30
5 -	20 - 25 Years	- N = 2
6 -	Never	- N = 2

Variable #7--Number of Years Since Taking a College Course	Observed X^2	Theoretical X^2
Typing	20.050	16.919
Transportation around Campus	17.315	16.919

Note: These two tests are significant at the .05 level with 9 degrees of freedom.