

A LABOR MARKET SURVEY AND ANALYSIS
OF OKLAHOMA STATE UNIVERSITY
UNDERGRADUATES

By

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UNDERGRADUATES

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CHAPTER I

INTRODUCTION

In recent years many new college-aid programs have been created in order to help students get a college education. Some of these programs providing aid for higher education are The Economic Opportunity Act of 1964 (college work-study programs), The Higher Education Act of 1958, and The National Defense Education Act. Various university organizations and a host of private agencies also provide scholarships in order to help finance college expenses. These programs have supplied millions of dollars in loans, grants, and scholarships to students throughout the nation.

Students today seem to have greater alternatives for financial support than students of earlier years. Before the recent increase in student financial aid programs, the only way for many students to attend college was to be employed. However, today with the increased availability of loans, grants, and scholarships, through the above mentioned programs, a student has a wider choice. The student is now faced with a decision as to whether to borrow money at low rates, apply for a scholarship, take a part-time job, or to utilize some combination of these in order to meet college expenses.

One question this study answered related to the influence of the increase in governmental and private financial assistance on the willingness of students to work part-time while attending college. The

specific hypothesis tested was the following: due to the increased availability of funds, Oklahoma State University undergraduates were less willing to take a part-time job in 1967 than in 1955.

Another question considered in this study was the possible change in attitudes of students with regard to working part-time while attending college as a result of increased affluence of the population and increasing demands of academic and co-curricular activities.

Purpose of the Study

In an attempt to answer these and other questions, an intensive mail questionnaire survey and statistical analysis of the Oklahoma State University student part-time labor market in the city of Stillwater, Oklahoma, was conducted during the 1967-68 school term. X The initial purpose of this research was to obtain information on current conditions in the student part-time labor market in Stillwater. A second purpose was to test by examining persons who received a bachelors degree in 1955 the hypothesis that student labor market conditions and work attitudes had changed significantly in the last thirteen years.

More specifically, this research project had six major objectives:

1. to determine the number and characteristics of Oklahoma State University students who worked part-time in Stillwater, Oklahoma, both for undergraduates enrolled for the fall 1967 semester and for those who graduated in 1955,
- ✓ 2. to determine the type of jobs that students held and the wages earned and hours worked,
- ✓ 3. to determine student attitudes regarding part-time employment,
4. to see if student labor market conditions and work attitudes had changed significantly in the last thirteen years,

5. to see if increased availability of governmental and private aid may have affected work patterns and attitudes,
6. to analyze relationships between selected variables and part-time employment.

Findings

It is appropriate at this point to present the findings and conclusions of this study. These results were derived from material presented in Chapters IV and V.

Part-Time Work and Non-Parental Financial Assistance

One of the initial purposes of this research was to investigate the impact of governmental and private financial assistance programs on the percentage of students working part-time. This study found that the proportion of students working part-time in Stillwater in 1967 was significantly less than the proportion of undergraduates working in 1955. Sixty-two per cent of the 1955 graduates and only 37.5 per cent of current undergraduates indicated they had worked part-time in Stillwater while carrying at least six semester hours. (The six semester hour criteria was used to define a student and also to eliminate full-time employees from the study.) The fact that the same proportion of 1955 graduates and current undergraduates received at least one source (from governmental, business, or private organizations) of non-parental financial assistance does not support the hypothesis that recent student assistance programs have had a significant effect on the proportion of OSU students that worked part-time in Stillwater.

In examining 1955 graduates and current undergraduates who received financial assistance, the results of this study indicated: even though

median financial assistance levels (in real terms) received by students had increased by about 60 per cent in the last thirteen years, the funds made available by various governmental and private organizations have not been distributed in such a manner as to increase the proportion of 1967 undergraduates who received at least some non-parental financial assistance. Furthermore, the composition of assistance has changed significantly in the last thirteen years such that the increase in the percentage of respondents receiving assistance through loans and scholarships has had a tendency to offset the decline in the percentage receiving assistance through the GI Bill.

If increased financial assistance was not a cause of the decrease in the percentage of students working part-time (as indicated by this study), what were some alternative explanations indicated by respondents? There were at least two other reasons that merit consideration. First, a smaller percentage of students may work today because of increased demands of academic or extracurricular activities. In fact, 60 per cent of 1967 undergraduates and only 30 per cent of 1955 graduates indicated they did not work because they thought it would interfere with academic or co-curricular activities. Possibly because of increased academic loads, students in 1967 had less time to devote to part-time employment.

② A second reason a fewer percentage of students work today stems from the rising income and affluence of the family. With income levels of families higher today, a larger percentage of their income can be devoted to higher education; and with increased parental assistance, students may find it unnecessary to work part-time in order to meet college expenses.

100% increase
in classroom
on 12

70% increase
in 1967

Attitudes Toward Part-Time Employment

Several of the variables that were hypothesized to be highly influential in determining the willingness of students to work part-time were not found to be significantly different between 1955 graduates and the current undergraduates. Two such variables were: (1) the percentage of respondents that had thought of working before coming to college and (2) the percentage of respondents that had looked for a part-time job in Stillwater.

In the first instance, even though a smaller percentage of current students were working part-time, the general inclination or propensity of students to work part-time had not decreased in the last thirteen years. Sixty per cent of both 1955 graduates and current undergraduates indicated they had thought of working part-time before attending college. The same percentage of students today as in 1955 had favorable attitudes toward working part-time before coming to college; but after adjusting to the demands of college life, a significant proportion of the current undergraduates decided not to work part-time.

In the second instance, 40 per cent of both graduates and undergraduates looked for a part-time job in Stillwater.

Another variable found to be the same between 1955 graduates and the current undergraduates was the reason for part-time employment. There was no difference between the two groups in the proportion that worked to meet school expenses and the proportion that worked to provide funds for leisure activities (at the .05 significance level).

In terms of the willingness of 1955 graduates and current undergraduates to work at specific jobs, a significant difference was found to exist. The 1955 graduates were more willing to work at

"lower status" jobs than the current undergraduates. A larger proportion of graduates indicated they were willing to work at such jobs as washing dishes, waiting tables, or doing janitor work.

Work and Academic Achievement

Those respondents in both groups who worked part-time did not have significantly lower grade point averages than those who did not work part-time. This would suggest that many students are capable of working without it having negative effects of their academic performance. In fact, more than two-thirds of both working graduates and undergraduates indicated that working part-time had provided educational experiences that they thought would be of value to them in later life.

Conclusions

The fact that real non-parental financial assistance during the last thirteen years increased by about 60 per cent and real wages increased by only 7 per cent may have had some serious implications in terms of methods used to obtain money for college expenses. It would seem highly advantageous for a student today to obtain finances in some other manner (loans or scholarships) than through part-time work.

Adding some weight to the above argument was the finding that increases in real wage rates of students attending OSU have not kept pace with the increases in real educational costs at OSU.

Considering the impact of inflation on earnings, expenses, and financial assistance over the past thirteen years, the data from this research indicate that many students of 1967 have made rational decisions in preferring not to work part-time.

In Chapter II several studies relative to this thesis are discussed. Chapter III describes the methodology used in this study and the statistical tests that were performed. In Chapter IV the results of the sample of undergraduates are presented and, finally, in Chapter V graduates of 1955 and undergraduates of 1967 are compared with respect to various variables used in this study.

CHAPTER II

REVIEW OF LITERATURE

In this chapter several research studies will be reviewed in order to acquaint the reader with some general topics relative to college part-time employment. The college part-time labor markets at these institutions will be discussed: Brooklyn College, The University of Washington, an unidentified mid-western, state-supported university, Indiana University, and finally, Oklahoma Agricultural and Mechanical College in 1950 (now Oklahoma State University).

Brooklyn College

One of the most recent studies of undergraduate part-time employment was conducted by Dr. Archie MacGregor at Brooklyn College, Brooklyn, New York, in 1964 (1). He investigated the part-time work habits of 2,000 Brooklyn College undergraduates. His 1964 report was the fifth in a series of surveys that have been conducted every year since 1959. These yearly surveys have given Dr. MacGregor a very complete picture of part-time student employment conditions and attitudes at Brooklyn College in terms of why students work, the type of students that work, the type of work performed, the number of hours worked, and wages received by students.

Dr. MacGregor reported (1, p. 132) that more than half of the students at Brooklyn College took part-time jobs at some point in

in their college careers. About a fifth of the students worked for three or four years, but running contrary to this trend was a tendency which also influenced a large number not to work during the lower college years. Typically, the student workers averaged between ten and twenty hours a week. They usually performed clerical services or did sales work. More than half of the students had not earned less than \$1.25 per hour. Almost half managed to earn wages of \$2.00 or more an hour.

Students performed services to provide for leisure time activities, to give them a feeling of independence, or to a lesser extent to meet school expenses. In general they did not feel that this work was hurting their grades and they did feel that it had value for postgraduate living in offering practical experience and association with business people. For some students part-time work did mean reduced participation in co-curricular activities.

University of Washington

A study by Carl Dickinson and Betty Newbegin (2), "Can Work and College Mix?" was conducted at the University of Washington in 1957. They investigated how work conditions of students affected their scholastic performance. Entrance tests and overall grade point averages were used, respectively, to evaluate the students' potential and actual performance. Their study examined the effect of outside work on a student's relative achievement and the interrelationships between the amount of work, relative achievement, and a number of other variables. Dickinson and Newbegin used mail questionnaires to obtain the necessary information from a sample of 1,025 students who had been freshmen in

1954 and for whom grade predictions were obtainable through use of multiple regression procedures. By using a follow-up technique, responses from 88 per cent of their original sample were obtained. Two of their findings seem particularly important (2, p. 316). First of all, they found that older and married students tended to be over-achievers; that is, they did better than had been predicted. This would lead one to believe that motivation is a key factor in college success. Secondly, they found that students who carried both a near normal credit load and an outside job were doing better than they were expected to do, indicating that such a program was feasible for many.

An Unidentified Mid-Western, State-Supported University

A study by Lee E. Isaacson and Louise C. Amos (3), "Participation in Part-Time Work by Women College Students," investigated the extent and nature of participation in part-time work by women students in a mid-western, state-supported university that was not named in their research. The population selected for this study consisted of all undergraduate women students living on campus during the fall semester of the 1954-55 school year. The data for the study were secured by using mail questionnaires. The respondents were selected from residence halls and sorority houses, and a 76 per cent return was obtained from the sample. Isaacson and Amos found (3, p. 446) that over 30 per cent of the total women students responding were currently engaged in some type of part-time work. This ranged from a low of 12.5 per cent of the freshmen women to a high of 50 per cent for the senior women. The part-time jobs were classified into four major categories: routine housework, student staff, sales and clerical, and other. The most frequent

reasons given for working was either to pay for school expenses or for extra spending money.

Indiana University

"Effects of Employment on Academic Achievement," a study by Dennis L. Trueblood (4) was undertaken at Indiana University in 1953 to investigate the relationship between part-time work and scholarship. Registration cards for the 1,711 Indiana University students who were employed at least part-time during the first semester of 1952-53 were inspected and information on the number of hours worked was obtained. A sample of 658 of the 1,711 students was examined with respect to age, sex, class standing, enrollment by school, and previous work experience. The most significant result of this study was that within limits of the study, working part-time could not be said to have a significant adverse or positive effect upon the academic achievement of Indiana University students (4, p. 114).

Oklahoma Agricultural and Mechanical College

A Masters thesis by Ward Blocker (5), "A Study of Student Wages at Oklahoma Agricultural and Mechanical College," (1950) examined student wages and employment patterns of eight selected schools in the mid-west. He compared these institutions in terms of types of jobs and wage scales. He found that Oklahoma A & M had one of the lowest wage scales of any of the schools surveyed. In 1950 the minimum wage rate at Oklahoma A & M was about 30 cents per hour and the maximum was about 50 cents per hour. Mr. Blocker used both questionnaires and personal interviews in obtaining his information.

CHAPTER III

METHODOLOGY AND STATISTICAL TESTS

In this chapter the overall methodology and statistical tests used in this study will be discussed.

The procedures used to obtain the necessary labor market information consisted of two forms. First of all, several personal interviews were conducted in order to obtain both background information and specific data from university administrators and other individuals. Secondly, individual questionnaires were used to obtain necessary labor market information from undergraduates and graduates.

A random sampling technique was employed in obtaining names and addresses of undergraduates and graduates. Also a digital computer was used to handle the large amounts of data collected in this study. The computer performed statistical tests to determine significant differences between undergraduates and graduates with respect to many items in the questionnaire.

Personal Interviews

Among those interviewed were the Dean of Men and the Assistant Dean of Men. The Dean of Men's office was very helpful in supplying initial enrollment and classification information and discussing problems of obtaining a population of students from which to sample. The OSU Alumni Association was very cooperative in providing information on

on the Class of 1955. The Registrar's office was also contacted in order to determine the amount and type of information that was available from that office.

Individual Questionnaires

The second information-gathering procedure to be employed in this study was an individual questionnaire. This questionnaire (Figure 1) was carefully constructed with suggestions from professional staff members of the Economics, Sociology, and Psychology Departments. It was designed to obtain information as to the student's age, classification, sex, college, marital status, nationality and race, family income, father's occupation, the respondent's feeling toward part-time employment, and other selected topics. In addition to the above information, data concerning whether or not the student was employed part-time or full-time, the number of hours worked and wages for each job held, if the student had sought employment and the kind of work wanted, and the number, type, and amount of any non-parental financial assistance received were obtained (Figure 1). Before the questionnaire was circulated, it was pre-tested using a group of 50 students and then corrected in order to eliminate vague or ambiguous questions.

Sampling Techniques

One group that received a copy of the questionnaire was a random sample of the student body enrolled at Oklahoma State University for the fall 1967 semester. This sample was obtained from the student directory, which was the most comprehensive list of students available at that time. Every thirty-second name in the directory was to appear

Figure 1.

Questionnaire for Labor Market Survey
of OSU Undergraduates

Instructions: Fill in the blanks or circle the appropriate number (s).

Name: _____

Age: _____

✓ Sex/Marital Status:

<u>Male</u>	<u>Status</u>	<u>Female</u>
0	Single	5
1	Married	6
2	Widowed	7
3	Separated	8
4	Divorced	9

✓ College:

1. Agriculture
2. Arts and Science
3. Business
4. Education
5. Engineering
6. Technical Inst.
7. Home Economics
8. Graduate
9. Vet. Medicine

✓ Classification:

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Special
6. Graduate

Nationality:

1. U.S. Citizen
2. Non U.S. Citizen

Race:

1. Caucasian (White)
2. Negro
3. Indian (aboriginal American race)
4. Oriental (Chinese, Japanese, Mongolian)
5. Other Non-White (Polynesian, Malaysian, Hawaiian, Filipino, etc., natives of India, Pakistan, etc.)
6. Spanish-American (persons of Spanish or Latin-American origin, e.g. Cuban, Mexican, Puerto Rican)
7. All others

As an undergraduate, have you ever worked in Stillwater while carrying at least 6 semester hours?

1. No
2. Yes - Full-time
3. Yes - Part-time

If you were employed part-time as an undergraduate in Stillwater, which one of the following best states the reason for your employment during your college years?

1. Provide funds for school expenses
2. Funds for leisure
3. For a feeling or sense of independence
4. Save for graduate school
5. Self-support
6. Family support
7. Other (Specify) _____
8. Not applicable

Figure 1. (Continued)

If you were not employed part-time as an undergraduate in Stillwater, which one of the following best states the reason for your not working during your college years?

1. Felt it would interfere with academic or co-curricular work
2. Parental opposition
3. Not inclined to work, and could manage without the income
4. Could not find work
5. Earned enough during the summer
6. Other (Specify) _____
7. Not applicable

Have you ever worked part-time in any city or community other than Stillwater while an undergraduate as OSU? (Do not include summer)

1. Yes
2. No

As an undergraduate, have you ever looked for a part-time job in Stillwater?

1. Yes
2. No

If you looked for a job, what one specific type of part-time work were you seeking?

1. Clerical
2. Semi-skilled or unskilled
3. Sales
4. Tutor
5. Any type
6. Other (Specify) _____

If you have worked part-time in Stillwater as an undergraduate, which one of the following helped you most in getting or finding employment?

1. Some University office or department (Specify) _____
2. Talking to employers
3. Friends or relatives
4. Local employment office
5. Classified advertisements
6. Other (Specify) _____
7. Not applicable

Had you thought of working part-time before you came to school at OSU?

1. Yes
2. No

What is your overall undergraduate grade point average? _____

What is your father's occupation? _____

Which one of the following is most descriptive of your father's occupation?

0. Professional, technical or kindred worker
1. Farmer or farm manager
2. Manager, official or proprietor, except farm
3. Clerical, sales, or kindred worker
4. Craftsman, foreman, or kindred worker
5. Operator or kindred worker
6. Private household worker
7. Service worker, excluding private household
8. Laborer, including farm and mine
9. Other

Figure 1. (Continued)

Which one of the following best represents the average amount of money you received per semester from the sources indicated in the previous question?

1. Less than \$100
2. \$100 to \$199
3. \$200 to \$299
4. \$300 to \$399
5. \$400 to \$499
6. \$500 or more
7. Not applicable

How many of your five closest friends as undergraduates worked part-time?

- 0
- 1
- 2
- 3
- 4
- 5

Using the following coding system, please complete the following table for the two most recent part-time jobs that you have held as an undergraduate. (Include present job if applicable) Do not include summer jobs.

Year in School

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Special
6. Graduate

Employer

1. Stillwater business
2. OSU
3. Non-Stillwater business
4. Self-employed
5. Other

0. Professional or technical
1. Farm or farm related
2. Manager or proprietor
3. Clerical or Sales
4. Craftsman, foreman, or kindred
5. Operator or kindred
6. Private household worker
7. Service worker, excluding private household
8. Laborer, including farm and mine
9. Other

	<u>Year in School</u>	<u>Employer</u>	<u>Type of Work</u>	<u>Average Hrs./Wk.</u>	<u>Wage Rate (\$ per hr.)</u>
Present or last job					
Next to last job					

in the sample. If the name chosen was a special or graduate student, the first following undergraduate was then chosen. A sample size of 500 students was used. Each student in the sample received a copy of the questionnaire (Figure 1), a cover letter (Appendix B) briefly describing the study, and a business reply envelope for returning the questionnaire.

The other group that received a copy of the prepared questionnaire was the Oklahoma Agricultural and Mechanical College (now Oklahoma State University) graduating Class of 1955. This particular class was chosen for comparison with the student group for two reasons: (1) to reduce the effects of the GI Bill, and (2) to select a class that graduated before most of the recent aids to higher education came into effect. A listing of graduates from the Class of 1955 was obtained from the Oklahoma State University Alumni Association. This list, which included almost 1,200 names and addresses, represented over 90 per cent of the number that graduated in 1955. In obtaining the actual names and addresses for the sample, every third name from the list was chosen. Again a sample size of 500 was used. Also accompanying this questionnaire was an appropriate cover letter (Appendix B) and a business reply envelope. The questionnaire sent to the two groups was essentially the same; some adjustments had to be made in the graduate questionnaire in terms of verb tense. In addition, a question asking year of graduation was substituted for year in school (since all had supposedly graduated).

The writer talked with the staff of the University's Statistics Department about problems of obtaining a representative sample and of sample bias. One staff member thought that the non-response to the student questionnaire would be significant enough to warrant the use of

personal interviews. However, if personal interviews were used, the amount of time necessary to complete them would be beyond the scope of the writer. Furthermore, it would have been unfeasible to conduct personal interviews with those persons who graduated in 1955.

A follow-up procedure was used in order to reduce the problem of non-response to a minimum. Those persons who had not returned the questionnaire within two weeks were sent another questionnaire and a letter urging them to complete the questionnaire so that the research project could be completed. Using the follow-up procedure, responses were obtained from 349 undergraduates. This was an overall response rate of 70 per cent.

Questionnaires were returned by 165 graduates. However, due to problems encountered with the mailing list, only 151 were used. The other 14 respondents did not graduate in 1955. The overall response rate of graduates was 30 per cent. Sending the non-respondents a third letter (a second follow-up) would probably not have produced any substantial increase in the response rate for graduates. This idea seems quite logical because the response rate on the first follow-up for graduates was only about 14 per cent. With respect to the undergraduates, the response to the follow-up was about 50 per cent.

Use of Computers

A computer program was written in order to tabulate and analyze the large amount of information in each questionnaire and the large number of questionnaires. Initially, this program was written to be used with an IBM 1620 computer. However, as more and more items were included in the program, it became obvious that a larger computer would

be needed in order to handle all of the data.

The initial program was modified to use the University Computer Center's IBM 7040. A complete listing of the computer program appears in Appendix C. A simplified flow chart was included (Figure 2) in order to clarify the steps used in tabulation and analysis.

Essentially, the program caused data from cards to be read and stored on a magnetic computer tape. Next, one set of responses was read from the tape. At this point a test was performed to see if the respondent had certain characteristics, e.g., if he was a graduate, undergraduate, whether he worked or did not work, or any combination of characteristics. If the respondent had the desired characteristics, this information was stored and retained; but if the person did not meet the characteristics desired, another set of responses was read from the tape. This process continued until all respondents had been tested and analyzed. Next, the relevant statistical tests were performed. Finally, the results were printed, and the tape was rewound in order to permit sorting by some other characteristic.

Statistical Tests

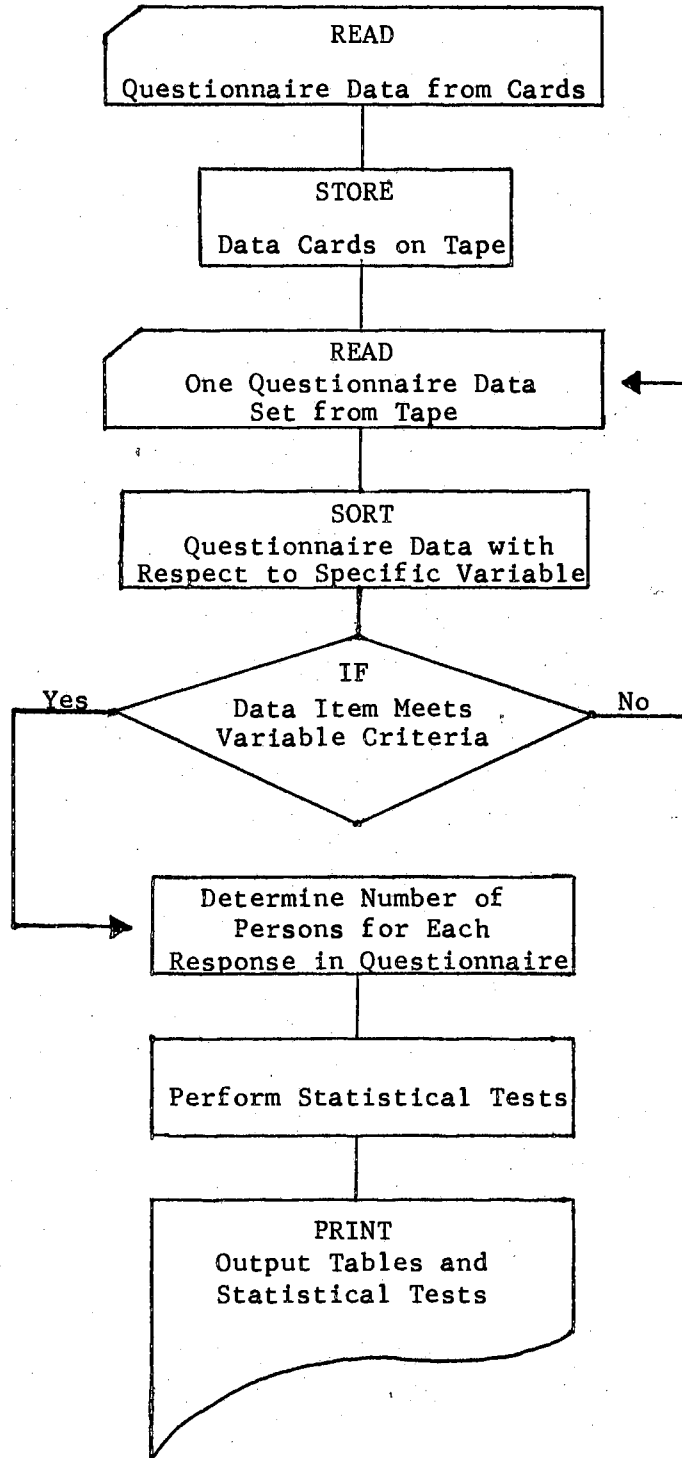
Among the statistical tests used in this study were the (1) t-test, (2) the chi-square test, and (3) the coefficient of correlation.

The t-test

The t-test was used to determine significant differences between average wages, hours, and grade point averages of the various sub-populations analyzed. Wages, hours, and grade point averages were measured on a ratio scale where the t-statistic was quite appropriate

Figure 2.

Flow Chart



for testing for significant differences. Furthermore, the sample size was fairly large and added to the validity of this test.

The Chi-Square Test

The chi-square test was used to determine significant differences between response questions measured on an interval or ordinal level. This included the questions dealing with income, occupation, amount of financial assistance, reasons for working, reasons for not working, and the proportion of school expenses provided by working part-time.

Also, the chi-square test was used to determine if the respondents classified by college and class were significantly different from their respective populations.

The Coefficient of Correlation

The coefficient of correlation was used to determine the strength and direction of the relationship between the amount of financial assistance and the respondents' net family income.

CHAPTER IV

RESULTS OF UNDERGRADUATE SAMPLE

The purpose of this study was to obtain labor market information for students who attended Oklahoma State University in 1955 and 1967 and worked part-time in Stillwater, Oklahoma, and to see if labor market conditions and work attitudes have changed in the last thirteen years. The results of the analysis of the undergraduate sample are presented in this chapter. In Chapter V data with respect to the graduate sample are presented and are compared with the undergraduate sample. All tables referred to in Chapter IV and V appear in Appendix A.

Presentation of findings in this chapter will follow the same order as the questionnaire in Figure 1. Some of the variables analyzed in this study were: age, marital status and sex, college and class, nationality and race, part-time employment, reason for working and not working, part-time employment in other cities, job-seeking activities of undergraduates, methods used in finding part-time employment, attitude toward work before coming to college, academic achievement, occupation of father, and effect of working on grade point average. Other variables examined were: proportion of school expenses earned by working part-time, educational experiences of part-time employment, willingness to work, family income, type and amount of non-parental financial assistance received, number of friends working part-time and, finally, part-time job history. Job history data were broken down by year in

school, employer, type of work, number of hours worked per week, and wage rate.

Sample Bias

Data were obtained from a total of 349 undergraduate students attending Oklahoma State University during the fall 1967 term. The chi-square test was used to determine if the sample respondents, classified by college and class, were significantly different from their respective populations. With respect to undergraduates classified by college, the chi-square test at the .05 probability level failed to indicate any significant difference between sample respondents and the total student body enrolled for the fall 1967 semester. (In all tests of significant difference in this study, the .05 probability level was used unless otherwise stated.)

A significant difference was found to exist with respect to class. Freshmen tended to be over-represented and juniors under-represented in the sample by about eight per cent each.

Another bias resulted from a tendency for working respondents to be more interested in the research study and, therefore, to return a higher proportion of questionnaires than non-working respondents.

Age, Marital Status, and Sex

no sig diff

The average age of all undergraduates was 20.2 years. No significant difference in terms of age was found between working and non-working undergraduates (Table I).

As indicated by Table II, a higher percentage of married undergraduates worked part-time; similarly, a larger percentage of

non-working undergraduates reported they were single.

Table II also indicates that there was no significant difference between men and women in their tendency to work part-time as undergraduates. The distribution by sex of working and non-working undergraduates was very similar; 59.5 per cent of the working undergraduates and 57.8 per cent of non-working undergraduates were males.

College and Class

Table III shows the distribution of undergraduates with respect to college. Excluding the Technical Institute and Veterinary Medicine (because of the extremely small proportion in the sample, 5 and 3, respectively) the highest tendency to work part-time was in the College of Business, with 44.5 per cent of that college working part-time. Second highest was the College of Agriculture with 39.3 per cent. Next in descending order were the Colleges of Education, Arts and Science, and Home Economics with 36.6, 35.1 and 33.4 per cent, respectively, of their students working part-time. The lowest percentage of students working was in the College of Engineering; only 29.8 per cent of its students worked part-time. One possible explanation for the low percentage of engineers that worked is the large number of hours required in order to obtain a bachelor's degree, which requires large course loads and leaves little time for work activities.

Upper-division undergraduates tended to work more often than lower-division undergraduates. Table IV indicates that only 12.7 per cent of the freshman class worked part-time; whereas, 40.9, 44.0, and 54.2 per cent, respectively, of the sophomore, junior and senior classes worked part-time.

Nationality and Race

Tables V and VI indicate that there was no significant difference between working and non-working undergraduates with respect to nationality or race. Approximately 98 per cent of the undergraduates in the sample were United States citizens. Furthermore, in terms of race, approximately 97 per cent of undergraduates were white.

Part-Time Employment and Reasons for Employment

Undergraduates employed part-time in Stillwater while carrying at least six semester hours composed 37.5 per cent of the total sample of undergraduates (Table VII). The 131 employed undergraduates listed school expenses most often as the reason for their employment. Table VIII indicates that 46.2 per cent of working undergraduates worked in order to meet school expenses. As shown in Table VIII, 23.9 per cent and 10.0 per cent listed funds for leisure and a sense of independence, respectively, as reasons for employment. Family support and self-support were next in order with 9.2 and 6.2 per cent.

Reasons for Not Working

Undergraduates who did not work indicated, as shown in Table IX, most often that they thought it would interfere with academic or co-curricular activities (57.8 per cent). Next in descending order were: "other" reasons (14.1 per cent), not inclined to work (12.7 per cent), and worked during the summer (12.7 per cent). Could not find work and parental opposition were given less than five per cent of the time as reasons for not working part-time (Table IX).

Part-Time Work in Other Cities

Using the chi-square test, no significant difference was found between working and non-working undergraduates in terms of the proportion that worked part-time outside the city of Stillwater. Adding those students who worked in other cities to those who worked in Stillwater, the results of this study indicate that almost 50 per cent of the total undergraduate sample worked either in Stillwater or in some other city.

Job-Seeking Activities of Undergraduates

In terms of job-seeking activities, 40.1 per cent of all undergraduates at some time looked for a part-time job in Stillwater. As might be expected, a significant difference did exist between working and non-working undergraduates with respect to job-seeking activities. Table XI indicates that 75.6 per cent of working undergraduates looked for a job; whereas, only 18.8 per cent of non-workers looked for work.

A significant difference was found to exist between working and non-working undergraduates with respect to the type of work sought. As indicated by Table XII, the greatest difference between the two groups (workers and non-workers) was in those seeking "any type" of work. Twenty-five per cent of non-working undergraduates and 46.7 per cent of working undergraduates looked for "any type" of work. Non-working undergraduates seemed to be more selective in their work-seeking activities.

Methods Used in Finding Part-Time Employment

For those undergraduates who worked, friends or relatives (35.9 per cent) and some university office or department (31.3 per cent) were rated highest in terms of the most important aid in finding employment (Table XIII). Talking to employers was reported by 23.4 per cent of the working undergraduates. No undergraduate used any local employment office, and only 1.6 and 7.8 per cent, respectively, used newspaper advertisements or some "other" method in finding employment.

Attitude Toward Work Before Coming to College

A significant difference was found to exist between working and non-working undergraduates with respect to their ideas of working before they came to school at Oklahoma State University. Seventy-three per cent of those students who worked indicated they thought of working before they came to school at OSU; whereas, for those who did not work, only 55 per cent had thought of working (Table XIV).

Academic Achievement

Using a t-statistic to determine significant differences between grade point averages, the sample evidence indicated, as presented in Table XV, no significant difference at the .05 probability level in terms of reported grade point averages between undergraduates who worked and those who did not work. The grade point average for the total undergraduate sample was 2.6 (based on 4.0).

Occupation of Father

The standard census classification was used for categorizing occupations (Figure 1 and Table XVI). With respect to the total undergraduate sample, 33.8 per cent reported their fathers were professional or technical workers, 28.4 per cent reported managers or proprietors, 13.2 per cent reported craftsman or foreman, 10.0 per cent reported farming or farm-related work, and 9.5 per cent reported their fathers' occupation as clerical or sales-related. The other five occupations were reported by less than six per cent of the total undergraduate population (Table XVI). No significant difference was found between workers and non-workers with respect to their fathers' occupation.

Effect of Working Part-Time on Grade Point Average

Over 42 per cent of working undergraduates reported that working had lowered their grade point averages (Table XVII). This finding does not seem consistent because the t-statistic indicated that those who worked did not have significantly lower grade point averages. These results indicate that undergraduates may have had a tendency to over-emphasize the detrimental impact of working on academic achievement.

Proportion of School Expenses Earned by Working Part-Time

Table XVIII shows the average proportion of school expenses provided by respondents working part-time. As indicated by this table, the median percentage of expenses earned by undergraduates was 20.0. School expenses were defined to include: books, room and board, fees, and recreation. Actual earnings of students will be examined later in this study.

Educational Experiences of Part-Time Work

In order to obtain some idea on the respondents' attitude toward the actual work experience encountered, a question was asked as to whether work experience had provided educational experiences that the respondents thought would be of value in later life. As presented in Table XIX, over 71 per cent of working undergraduates indicated beneficial aspects of part-time employment.

Willingness to Work

To determine what types of jobs students would accept, eight typical jobs available to students were listed in the questionnaire (Figure 1 and Table XX). The respondents were to indicate if they were willing to work at each of the eight jobs. Summing over all eight jobs; that is, counting each job as a separate item and summing the yes and no responses, a significant difference was found to exist between workers and non-workers. Table XX indicates that, summing all eight jobs, 47.7 per cent of the non-workers were willing to work; whereas, 55.5 per cent of the working undergraduates were willing to work. Inspection of each individual job will further explain the difference. In each case, the percentage willing to work at each of the eight jobs was higher for the undergraduates who worked than for those who did not work.

Family Income of Respondents

In terms of median family income, as reported by respondents, a significant difference was determined between working and non-working undergraduates by use of the chi-square test. The median family income

of working undergraduates was \$8,452, while the median family income for non-working undergraduates was \$9,797 (Table XXI). This difference of \$1,345 was significant at the .10 level.

Amount and Type of Financial Assistance
Received by Undergraduates

In the prepared questionnaire, a respondent could indicate up to three different sources of non-parental financial assistance. Table XXII shows the percentage of respondents who received assistance from either one, two, or three sources. The distribution by type of assistance is given for only those respondents that received only one source of assistance and for the total of all three sources.

It is clear from Table XXII that there were significant differences in the proportion of undergraduates who received at least one source of assistance. Of the total non-working undergraduates, 43.5 per cent received at least one source of financial assistance; whereas, 55.6 per cent of the working undergraduates received at least one source of financial assistance. This difference was significant at the .05 level. The same relationship existed between the second and third source of assistance; that is, a significantly higher proportion of working undergraduates received assistance.

If all three sources of financial assistance are considered together, a significant difference was found between working and non-working undergraduates with respect to type (loans, scholarships, etc.) of assistance. However, if the work-study category is eliminated, no significant difference existed (at the .05 level) between the type of assistance received by working and non-working undergraduates. The difference was significant at the .25 probability level. This

difference was primarily due to the higher percentage of non-working undergraduates who received scholarships (Table XXII).

Elimination of the work-study category provided a more valid comparison of the differences in types of assistance. This was because in the work-study program a person is required to work and, therefore, by definition, a difference should be evident within this specific category. It is highly unlikely that an undergraduate could get work-study assistance without having to perform some working duties.

Non-working undergraduates received greater dollar amounts of financial assistance than the working undergraduates even though non-workers received fewer sources of assistance. The median assistance reported for working and non-working undergraduates was \$294 and \$404, respectively (Table XXIII). There was a significant difference at the .05 level between these two amounts of assistance.

Number of Five Closest Friends Working Part-Time

The number of friends working part-time was used as an indication of social group norms that supported working part-time. Undergraduates who worked had significantly more friends who worked part-time. In fact, as indicated by Table XXIV, 40.8 per cent of non-working undergraduates said none of their five closest friends worked part-time. Only 12.2 per cent of the working undergraduates reported that none of their five closest friends worked part-time.

Part-Time Job History

In the undergraduate questionnaire, space was provided to allow the respondent to indicate the present or most recent job and any

previous job held as an undergraduate. Job information was obtained with respect to year in school, employer, type of work, average hours per week, and wage rate.

Present or Most Recent Job

Job history information on the most recent job was obtained for 130 respondents. As was stated before, this was about 37 per cent of the total of 349 undergraduates in the sample. The job history for the most recent job is presented in Table XXV.

Year in School

In terms of the year in school of work, the present or most recent part-time employment was when the respondent was a junior. That is to say, 37.7 per cent of the working undergraduates reported that their present or most recent employment was when they were juniors. Table XXV indicates that a larger percentage of students worked as sophomores than when they were either seniors or freshmen.

Employer

The major employer of undergraduates was clearly Oklahoma State University, which employed 66.9 per cent of those students who had at one time worked part-time in Stillwater (Table XXV). Twenty per cent worked for Stillwater businesses. The remaining 13 per cent worked for non-Stillwater businesses (businesses in other cities), "other" employers, or were self-employed.

Type of Work Performed

Most of the undergraduates worked as service workers (30.8 per cent) or clerical or sales workers (26.2 per cent). Other job types receiving considerable responses were "other" and professional or technical (Table XXV).

Hours Worked and Wage Rate

Those undergraduates who worked part-time worked an average of 15.4 hours per week at an average wage of \$1.14 per hour. This was an average weekly rate of \$17.52. Allowing an average of 4.3 weeks per month, the average monthly earnings of employed undergraduates working part-time were \$75.86.

Previous Jobs

Seventy-two undergraduates indicated they had held more than one job as an undergraduate. Many undergraduates who listed a second job reported having the same job for more than one year. The characteristics of the second job listed were not much different than the first job (Tables XXV and XXVI). In terms of employer and type of work performed, the two were almost identical. However, the number of hours worked per week in the second job were slightly larger; but the wage rate was lower. Average hours and wages for the second job were 16.4 and \$1.12, respectively (Table XXVI).

Relation Between Family Income and Assistance

To determine if there was any relationship between a respondent's family income level and the amount of non-parental financial assistance

received, a correlation coefficient was computed between these two variables. For all undergraduates who listed their family income and received some assistance, the correlation was $-.09$ (based on 142 observations). The correlation coefficient for working undergraduates was $-.27$ (based on 59 observations), and for non-working undergraduates the coefficient was $.02$ (based on 83 observations). From this analysis, those students who worked and who had lower family incomes seemed to have received more financial assistance. The correlation coefficient should be negative if the governmental aid programs are working according to their design; that is, giving financial aid to those in the lower income brackets. The sign is correct in two of the above cases, but the relationship does not seem to be very strong.

CHAPTER V

COMPARISON OF GRADUATES AND UNDERGRADUATES

Chapter V of this study will deal with specific characteristics of students who graduated in 1955 and will compare them with the undergraduates enrolled for the fall 1967 semester. All of the variables considered in Chapter IV will not be discussed in this chapter. Only those that are particularly relevant to the objectives of this study will be discussed, however, the data with respect to these omitted variables has been included in the tables that appear in Appendix A.

The statements made with respect to graduates of 1955 need to be considered more carefully for several reasons. First, the number of respondents is much smaller, less than 50 per cent of the undergraduate respondents. Second, the problem of accuracy of response enters the picture. It may be that with the passage of time some distortion may have taken place in the graduate sample. An attempt was made, however, to reduce this factor by going back only thirteen years to obtain a sample of graduates.

Again, as in the undergraduate sample, the possibility of bias from working graduates having more interest in the study and returning a larger percentage of questionnaires may have existed.

Undergraduate College

As indicated by Table III, the proportion of graduates working

part-time by college was significantly higher than was the corresponding proportion of undergraduates (except for the College of Education). This was not surprising, because the overall work tendency was higher for graduates. Again eliminating the Technical Institute and Veterinary Medicine, the highest tendency to work for graduates was in the College of Home Economics, with 81.3 per cent of 1955 graduates of that college having worked part-time. Second highest was the College of Business with 74.1 per cent, followed closely by the Colleges of Arts and Science and Agriculture with 66.6 and 65.6 per cent, respectively, of their graduates in the sample working part-time. In fifth and sixth place were the Colleges of Engineering with 54 per cent and the College of Education with 23.8 per cent (Table III).

Part-Time Employment and Reasons for Employment

Based on the responses of 151 graduates, the proportion that worked part-time in Stillwater while carrying six semester hours was .603. This was significantly higher than proportion of undergraduates working part-time (.375).

In terms of their reasons for working, there was no significant difference between graduates and undergraduates at the .05 level; however, it was significant at the .13 level. Graduates of 1955 seemed to work more for school expenses, self-support and family support and less for funds for leisure than did the undergraduates in the sample (Table VIII).

Reasons for Not Working

The reasons for not working given by graduates were found to be

significantly different from those of undergraduates. Thirty per cent of graduates in the sample listed interference with academic or co-curricular activities or "other" reasons, 18.9 per cent said they were not inclined to work, 17 per cent said they worked summers and 1.9 per cent said they did not work because they could not find work or their parents objected to their working. Because of the high proportion in the "other" category, about all that can be definitely said, in terms of reasons for not working, is that the undergraduates thought working would interfere with their activities more often than did graduates of 1955 (Table IX). Another item that should be mentioned was the low percentage of respondents in both samples that said they could not find work (3.8 per cent for undergraduates and 1.9 per cent for graduates). This finding tends to support the idea that there has been no shortages of jobs in the college part-time labor market in Stillwater in the past thirteen years.

Job-Seeking Activities of Graduates

No significant difference was found between graduates and undergraduates in terms of the proportion that looked for a part-time job. However, a significant difference, at the .08 level, was found between working graduates and working undergraduates (Table XI).

Undergraduates indicated they sought more jobs in clerical and sales and less in the unskilled jobs than did graduates. Also a slightly larger per cent of those graduates looking for work would take almost any type of employment (Table XI).

Methods Used in Finding Part-Time Employment

For those respondents in both groups who worked in Stillwater, there was no significant difference in terms of the method used in finding part-time employment. However, undergraduates did rank friends higher and some university office or department lower than graduates (Table XIII).

Attitude Toward Work Before Coming to College

Both graduates and undergraduates indicated similar (again at the .05 level) responses with respect to whether they had thought of working before coming to school at OSU. Of those undergraduates in the sample, 61.6 per cent said they thought of working part-time, while 58.3 per cent of the graduate sample reported this response (Table XIV). This suggests that initial work attitudes with respect to part-time employment have not changed significantly over the past thirteen years. It may be that the reason students are working less today is the result of increased involvement in academic or extracurricular activities, which leaves them less time to devote to part-time employment.

Academic Achievement

The grade point averages reported by graduates were significantly higher than undergraduates as indicated by the t-test ($t = 6.53$). There was no significant difference between working and non-working graduates in terms of grade point averages ($t = 1.26$). Table XV shows the grade point averages for the respective samples. The fact that undergraduates indicated lower grade point averages tends to add weight to the proposition that college curriculums may be more difficult today.

This would have a tendency to reduce the proportion of students that worked part-time.

Occupation of Father

Graduates of 1955 reported that 33.1 per cent of their fathers were farmers or did farm-related work, and only 13.9 per cent were in professional or technical occupations. As indicated by Table XVI, the percentages were almost the reverse for undergraduates. The decline in the proportion of farming fathers in the two samples is a reflection of a large nationwide decline in the proportion of the labor force engaged in farming. This has been the result of a tremendous migration of persons out of the agriculture sector in the past decade.

Effect of Working Part-Time on Grade Point Average

When asked whether working had lowered their grade point average, a significantly larger percentage of graduates said that working did not lower their grade point averages. The percentage of graduates who indicated working did not lower their grade point averages was 79.6; whereas, it was 57.4 for undergraduates (Table XVII).

Proportion of School Expenses Earned by Working Part-Time

Graduates who worked provided significantly the same proportion of their school expenses as undergraduates (Table XVIII). Graduates reported providing a median percentage of 24.4 of their school expenses by working part-time.

Willingness to Work

A significantly higher proportion of graduates seemed more willing to work at the eight job alternatives listed in the questionnaire. As before, summing over all eight jobs, 59.5 per cent of the graduates indicated they were willing to work part-time; whereas, only 50.8 per cent of all undergraduates said they would be willing to work part-time. In examining each of the eight jobs, one finds that a larger per cent of graduates were willing to work in the "lower status" jobs. For instance, only 17.3 per cent of undergraduates were willing to wash dishes; but 44.3 per cent of the graduate sample indicated they would. The same is true with janitor work and waiting tables: 27.5 and 21.2 per cent, respectively, of undergraduates reported willing to work at these two types of jobs; but 45.7 and 46.4 per cent, respectively, of all graduates were willing to work as janitors or wait tables (Table XX).

Family Income of Respondents

The findings of this item should not seem strange to anyone. The family income levels of undergraduates and graduates (when they attended OSU) were significantly different. Again based on grouped data, the median family income level indicated by graduates when they were students was \$6,065. This was quite a bit lower than the \$9,310 median income indicated by the total undergraduate sample (Table XXI).

Amount and Type of Financial Assistance Received by Graduates

With respect to sources of financial assistance, an interesting finding was that there was no significant difference between graduates

and undergraduates in terms of the percentage of the total sample that received financial assistance. Of all the undergraduate students, as was mentioned earlier, 55.6 per cent received at least one source of financial assistance and 53 per cent of the class of 1955 reported receiving one source of assistance as undergraduates. However, looking into the types of specific aid, there were considerable differences (Table XXII). Basically, this resulted from the fact that certain of the alternatives listed did not exist in 1955 (work-study programs and National Defense Loans).

From the data presented in Table XXII, it would seem that graduates in 1955 received significantly more scholarships and fewer loans than undergraduates. The increased federal money going into higher education seems to have compensated for the declining impact of the GI Bill between 1955 and 1967. This has resulted in no overall difference in the percentage of students that received at least one source of financial aid. Even trying to select a year (1955) when the effects of the GI Bill would be at a minimum, 27.3 per cent of all assistance to graduates was from this source (Table XXII).

Part-Time Job History

As in the undergraduate questionnaire, space was provided for all graduates to indicate the present or most recent job and any previous job held as an undergraduate.

Present or Most Recent Job

Job history information on the most recent job was obtained for 77 respondents. This was seventeen less than the number working

part-time because some respondents failed to complete the job history part of the questionnaire.

No attempt was made to compare the year in school that graduates and undergraduates worked. This was because of the way the question on job history was stated. That is, the respondent was to list the last job held as an undergraduate. This would most likely be in the graduates later years of school. In fact, 84.4 per cent of the working graduates reported working as seniors.

Employer

In 1955, of those graduates listing their last part-time job as an undergraduate, 67.5 per cent said they were employed by Oklahoma State University. This was very close to the percentage of undergraduates of 1967 that were employed at some time by OSU (66.9). Again, the second major employer was some Stillwater business (16.9 per cent), followed by non-Stillwater businesses, and "other" (both with 6.5 per cent) and, finally, 2.6 per cent were self-employed. Based on the information reported, the employment patterns with respect to employer have not changes significantly in the last thirteen years (Table XXV).

Type of Work

With respect to the type of work, there was a significant difference between graduates and undergraduates in the type of work performed. Professional or technical work was reported by 28.6 per cent of working graduates, but working undergraduates reported only 15.4 per cent in this job category. About the same percentage of both graduates and undergraduates reported doing clerical or sales work, that is, 29.9

per cent for graduates and 26.2 for undergraduates. A rather unexpected result was the large difference between working graduates and undergraduates in terms of service work. Working graduates reported only 10.4 per cent did service type work, and undergraduates reported 30.8 per cent were doing service work. The only other major difference in the type of work was undergraduates listed "other" types more often-- 16.2 and 5.2 per cent for undergraduates and graduates, respectively.

Hours Worked and Wage Rate

Graduates that worked reported working an average of 17.9 hours per week at an average wage rate of 85 cents per hour. This was an average of \$15.22 per week. Again allowing 4.3 weeks per month, the average monthly earnings for students in 1955 were \$65.90. Using the t-test for comparison, a significant difference was found to exist between both the average number of hours worked and wages. In terms of average number of hours worked, graduates worked a higher ($t = 2.20$) number of hours per week, in fact an average of 2.5 hours per week more. Graduates earned less ($t = 4.22$) per hour. The difference in average wages between the two groups was 29 cents per hour.

Previous Jobs

When the second job listed by graduates was considered, this tended to diminish the difference in the type of employment between graduates and undergraduates. In the second job category, employment in service areas increased for graduates to 24.3 per cent and professional and technical employment declined to 13.5 per cent (Table XXVI).

The second job listed by graduates was almost identical to the

first job with respect to wages and hours. In this category graduates worked an average of 17.8 hours per week at an average hourly rate of 85 cents.

Relationship Between Family Income and Assistance

The relationship between all graduates reporting family income and assistance as indicated by a correlation coefficient of $-.12$ does not appear at all significant. In fact, when this is compared to all undergraduates (with a correlation coefficient of $-.09$), one can only say that the data seem to indicate no change in the very weak relationship over thirteen years. A more valid statement may be that no relationship existed for either group.

Adjustment for Inflation

In order to determine the real changes in family income, assistance levels, cost of education, and wage rates, an adjustment for inflation was used. The consumer price index was used as the means of adjustment for inflation. Using the base period 1957-59, the consumer price index was 93.3 in 1955 (6) and 118 in 1967 (7).

Family Incomes

Adjusted for price level changes using the above indices, one finds that over the thirteen year period real median family incomes of students had increased by about 20 per cent.

Cost of Education

Using cost of education data for Oklahoma State University in

1955 (8) and 1967 (9), one finds that real education costs (housing, board and room, books, and tuition) have increased by about 18 per cent in the last thirteen years.

Amount of Assistance

Median non-parental financial assistance (in real terms) received by respondents has increased by about 60 per cent in the last thirteen years.

Wage Rates

In the thirteen year period 1955-67, real wages of student part-time workers increased by only seven per cent.

Impact of Inflation

Considering the impact of inflation on costs of education, assistance levels, and wage rates, several things seem apparent. First, family incomes of students have increased at about the same rate as the cost of education at Oklahoma State University. That is to say, in real terms the share of family incomes going for college expenses is about the same today as it was thirteen years ago. Second, the increase in real wages has lagged far behind the increase in real incomes or assistance levels. Third, it does seem quite evident that both federal and private financial assistance programs have been quite effective in making more money available to students to finance their college educations. This conclusion is supported by the fact that in the last thirteen years median assistance levels received by students at Oklahoma State University have increased by about 60 per cent.

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APPENDIX A

TABLES

TABLE I
AVERAGE AGE OF RESPONDENTS

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Average age (years)	20.2	20.6	20.0	36.3	37.7	37.1
Standard deviation	2.7	1.9	3.1	4.3	2.8	6.1
Variance	7.4	3.7	9.5	18.9	7.6	36.8
Sample size	349	131	218	151	94	57

TABLE II
MARITAL STATUS AND SEX OF RESPONDENTS
(Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Marital status						
Single	86.2	80.2	90.0	3.3	3.2	3.5
Married	13.5	19.8	10.4	92.6	93.6	91.2
Widowed	.3	0.0	.5	.7	1.1	0.0
Separated	0.0	0.0	0.0	.7	0.0	1.8
Divorced	0.0	0.0	0.0	2.7	2.1	3.5
Sex						
Male	58.5	59.5	57.8	66.9	72.3	57.9
Female	41.4	40.5	42.2	33.1	27.7	42.1
Sample size	349	131	218	151	94	57

^aPercentages may not add to 100% due to rounding.

TABLE III
 PERCENTAGE OF RESPONDENTS WORKING PART-TIME BY COLLEGE

	Undergraduates		Graduates	
	Per cent working	Sample size	Per cent working	Sample size
<i>Math & Sciences</i>				
Agriculture	39.3	28	65.6	32
Arts and Science	35.1	114	66.6	27
Business	44.5	72	74.1	27
Education	36.6	41	23.8	21
Engineering	29.8	47	54.0	24
Technical Institute	60.0	5	0.0	0
Home Economics	33.4	39	81.3	16
Veterinary Medicine	100.0	3	100.0	4

TABLE IV
 PERCENTAGE OF UNDERGRADUATES WORKING
 PART-TIME BY CLASS

	Per cent working	Sample size
Freshman	12.7	87
Sophomore	40.9	88
Junior	44.0	100
Senior	54.2	72

TABLE V
 NATIONALITY OF RESPONDENTS
 (Per Cent of Respective Sample)

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
U. S. citizen	97.7	97.7	97.7	100.0	100.0	100.0
Non U. S. citizen	2.3	2.3	2.3	0.0	0.0	0.0
Sample size	349	131	218	151	94	57

TABLE VI
 RACE OF RESPONDENTS
 (Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Caucasian (white)	96.9	97.7	96.3	97.4	97.9	96.5
Negro	.6	.8	.5	1.3	0.0	3.5
Indian (American)	.9	0.0	1.4	1.3	2.1	0.0
Oriental	.6	0.0	.9	0.0	0.0	0.0
Other non-white	.6	0.0	.9	0.0	0.0	0.0
Spanish-American	.6	1.5	0.0	0.0	0.0	0.0
All others	0.0	0.0	0.0	0.0	0.0	0.0
Sample size	349	131	218	151	94	57

^aPercentages may not add to 100% due to rounding.

TABLE VII

RESPONDENTS WORKING PART-TIME IN STILLWATER WHILE
CARRYING AT LEAST SIX SEMESTER HOURS

	Total Undergraduates	Total Graduates
Per cent employed part-time	37.5	62.3
Sample size	349	151

TABLE VIII

REASON FOR EMPLOYMENT
(Per Cent of Respective Sample)^a

	Working Undergraduates	Working Graduates
School expenses	46.2	53.2
Funds for leisure	23.9	16.0
Sense of independence	10.0	3.2
Graduate school	.8	0.0
Self-support	6.2	11.7
Family support	9.2	12.8
Other	3.9	3.2
Sample size	131	94

^aPercentages may not add to 100% due to rounding.

TABLE IX
 REASON FOR NOT WORKING
 (Per Cent of Respective Sample)^a

	Non-working Undergraduates	Non-working Graduates
Interference with academic or co-curricular work	57.8	30.2
Parental opposition	.9	1.9
Not inclined to work and could manage without the income	12.7	18.9
Could not find work	3.8	1.9
Earned enough during the summer	10.8	17.0
Other	14.1	30.2
Sample size	218	57

^aPercentages may not add to 100% due to rounding.

TABLE X
 RESPONDENTS WORKING PART-TIME IN OTHER CITIES
 (Per Cent of Respective Sample)

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Worked part-time in other cities	14.3	18.3	11.9	11.9	10.6	14.0
Sample size	349	131	218	151	94	57

TABLE XI
 JOB-SEEKING ACTIVITIES OF RESPONDENTS
 (Per Cent of Respective Sample)

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Looked for a part-time job in Stillwater as an undergraduate	40.1	75.6	18.8	42.4	64.9	5.3
Sample size	349	131	218	151	94	57

TABLE XII
 TYPE OF WORK SOUGHT BY RESPONDENTS
 (Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Clerical	20.5	21.9	17.9	11.4	9.4	33.3
Semi-skilled or unskilled	13.7	10.5	19.6	15.7	14.1	33.3
Sales	8.1	4.8	14.3	2.9	3.1	0.0
Tutor	1.9	1.0	3.6	1.4	1.6	0.0
Any type	39.1	46.7	25.0	55.7	59.4	16.7
Other	16.8	15.2	19.6	12.9	12.5	16.7
Sample size	161	105	56	70	64	6

^aPercentages may not add to 100% due to rounding.

TABLE XIII
METHODS OF FINDING PART-TIME EMPLOYMENT USED BY RESPONDENTS
(Per Cent of Respective Sample)^a

	Working Undergraduates	Working Graduates
Some university office or department	31.3	40.7
Talking to employers	23.4	23.1
Friends or relatives	35.9	26.4
Local employment office	0.0	2.2
Classified advertisements	1.6	1.1
Other	7.8	6.6
Sample size	131	94

^aPercentages may not add to 100% due to rounding.

TABLE XIV
RESPONDENTS WHO THOUGHT OF WORKING PART-TIME
BEFORE COMING TO SCHOOL AT OSU
(Per Cent of Respective Sample)

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Thought of working part-time	61.6	73.3	54.6	58.3	70.2	38.6
Sample size	349	131	218	151	94	57

TABLE XV
 OVERALL UNDERGRADUATE GRADE POINT AVERAGES OF RESPONDENTS
 (Based on 4.0)

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Average grade point	2.6	2.6	2.6	2.9	2.9	3.0
Standard deviation	.6	.6	.6	.4	.4	.4
Variance	.3	.3	.3	.2	.2	.2
Sample size	349	131	218	151	94	57

TABLE XVI
 OCCUPATION OF FATHER WHEN RESPONDENT WAS AN UNDERGRADUATE
 (Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Professional or technical	33.8	33.6	33.9	13.9	13.8	14.0
Farm or farm related	10.0	13.0	8.3	33.1	28.7	40.4
Manager or proprietor	28.4	27.5	28.9	23.2	23.4	22.8
Clerical or sales	9.5	8.4	10.0	9.3	11.7	5.3
Craftsman or foreman	13.2	13.0	13.3	11.3	12.8	8.8
Operator	1.7	1.5	1.8	3.3	3.2	3.5
Private household worker	0.0	0.0	0.0	0.0	0.0	0.0
Service, excluding private household	1.2	1.5	.9	0.0	0.0	0.0
Laborer, including farm and mine	1.2	.8	1.4	1.3	1.0	1.8
Other	1.2	.8	1.4	4.6	5.3	3.5
Sample size	349	131	218	151	94	57

^a Percentages may not add to 100% due to rounding.

TABLE XVII
EFFECT OF WORKING PART-TIME ON GRADE POINT AVERAGE
(Per Cent of Respective Sample)

	Working Undergraduates	Working Graduates
Working part-time lowered grade point average	42.6	20.4
Sample size	131	94

TABLE XVIII
AVERAGE PROPORTION OF SCHOOL EXPENSES PROVIDED
BY RESPONDENTS WORKING PART-TIME
(Per Cent of Respective Sample)^a

	Working Undergraduates	Working Graduates
None	9.2	6.4
Less than 25 per cent	51.2	44.7
25 to 49 per cent	29.8	31.9
50 to 75 per cent	6.9	8.5
More than 75 per cent	3.1	8.5
Median percentage ^b	20.0	24.4
Sample size	131	94

^aPercentages may not add to 100% due to rounding.

^bBased on grouped data

TABLE XIX
EDUCATIONAL EXPERIENCES OF PART-TIME WORK
(Per Cent of Respective Sample)

	Working Undergraduates	Working Graduates
Working part-time did provide educational experiences of value in later life	71.3	68.2
Sample size	131	94

TABLE XX
PERCENTAGE OF RESPECTIVE SAMPLE WILLING TO WORK AT SPECIFIC JOBS

	Undergraduates			Graduates		
	Total	Working	Non-working	Total	Working	Non-working
Waiting tables in						
Student Union	21.2	26.0	18.1	46.4	50.0	39.6
Washing dishes	17.3	22.1	14.2	44.3	47.8	37.5
Cashier in bookstore	77.3	84.0	73.0	80.7	78.3	85.4
Sales work	77.6	81.7	75.0	73.6	71.7	77.1
Secretary or						
bookkeeper	56.4	58.8	54.9	52.9	55.4	47.9
Laboratory assistant	69.6	76.3	65.2	73.6	79.4	62.5
Tutor	59.4	63.4	56.9	58.6	62.0	52.1
Janitor	27.5	32.1	24.5	45.7	53.3	31.3
Summation of all jobs	50.8	55.5	47.7	59.5	62.2	54.2
Sample size	335	131	204	140	92	48

TABLE XXI
NET ANNUAL FAMILY INCOME OF RESPONDENTS AS UNDERGRADUATES
(Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non-working	Total	Working	Non-working
Less than \$3,000	4.0	5.3	3.2	12.6	17.0	5.3
\$3,000 to \$5,000	10.6	16.0	7.3	19.2	22.3	14.0
\$5,001 to \$7,500	15.2	14.5	15.6	20.5	20.2	21.1
\$7,501 to \$10,000	16.6	16.0	17.0	17.9	17.0	19.3
More than \$10,000	37.3	32.1	40.4	15.2	12.8	19.3
Do not know	16.3	16.0	16.5	14.6	10.6	21.1
Median family income ^b	\$9310	\$8452	\$9797	\$6065	\$5526	\$6917
Sample size	349	131	218	151	94	57

^a Percentages may not add to 100% due to rounding.

^b Based on grouped data

TABLE XXII

NON-PARENTAL FINANCIAL ASSISTANCE RECEIVED BY RESPONDENTS

	Undergraduates			Graduates		
	Total	Working	Non-working	Total	Working	Non-working
Per cent of total sample receiving one source of assistance	48.1	55.6	43.5	53.0	62.8	36.8
Distribution of first source by type ^a						
Loan	28.6	30.1	27.4	17.5	22.0	4.8
Federal grant	10.7	10.9	10.5	0.0	0.0	0.0
National Defense						
Loan	16.1	21.9	11.6	0.0	0.0	0.0
Scholarship	30.4	23.3	35.8	41.4	37.3	52.5
GI Bill	1.8	2.7	1.5	28.8	27.1	33.3
Work-study	2.4	4.1	1.5	0.0	0.0	0.0
Other	10.2	6.9	12.6	12.5	13.6	9.5
Per cent of total sample receiving two sources of assistance	18.6	26.7	13.8	11.9	16.0	5.3
Per cent of total sample receiving three sources of assistance	5.4	7.6	4.1	.7	1.1	0.0
Distribution of total sources of assistance by type ^a						
Loan	19.1	18.6	19.4	15.2	18.7	4.2
Federal grant	8.3	6.8	9.7	0.0	0.0	0.0
National Defense						
Loan	20.2	22.0	18.7	0.0	0.0	0.0
Scholarship	30.2	22.9	36.6	37.4	34.7	45.8
GI Bill	3.2	5.1	1.5	27.3	26.7	29.2
Work-study	7.5	12.7	3.0	0.0	0.0	0.0
Other	11.5	11.9	11.2	20.2	20.0	20.8
Sample size	349	131	218	151	94	57

^a Percentages may not add to 100% due to rounding.

TABLE XXIII

AMOUNT OF NON-PARENTAL FINANCIAL ASSISTANCE
RECEIVED PER SEMESTER BY RESPONDENTS
(Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
Less than \$100	7.2	8.3	6.3	32.9	33.9	30.0
\$100 to \$199	17.4	20.8	14.7	24.1	23.7	25.0
\$200 to \$299	18.0	22.2	14.7	11.4	10.2	15.0
\$300 to \$399	15.0	16.7	13.7	5.1	5.1	5.0
\$400 to \$499	13.2	11.1	14.7	15.2	18.6	5.0
\$500 or more	29.3	20.8	35.8	11.4	8.5	20.0
Median assistance ^b	\$350	\$294	\$404	\$171	\$168	\$180
Sample size	168	73	95	79	59	20

^a Percentages may not add to 100% due to rounding.

^b Based on grouped data

TABLE XXIV

NUMBER OF FIVE CLOSEST FRIENDS AS UNDERGRADUATES
THAT WORKED PART-TIME
(Per Cent of Respective Sample)^a

	Undergraduates			Graduates		
	Total	Working	Non- working	Total	Working	Non- working
None	30.1	12.2	40.8	22.5	12.8	38.6
One	19.8	16.8	21.6	17.9	16.0	21.1
Two	22.1	24.4	20.6	17.2	16.0	19.3
Three	14.9	18.3	12.8	24.5	28.7	17.5
Four	6.3	13.7	1.8	8.0	11.7	1.8
Five	6.9	14.5	2.3	9.9	14.9	1.8
Sample size	349	131	218	151	94	57

^a Percentages may not add to 100% due to rounding.

TABLE XXV

PART-TIME JOB HISTORY -- PRESENT OR LAST JOB
 (Per Cent of Respective Sample)^a

	Undergraduates	Graduates
Distribution by year in school		
Freshman	16.9	1.3
Sophomore	24.6	5.2
Junior	37.7	9.1
Senior	20.8	84.4
Distribution by employer		
Stillwater business	20.0	16.9
Oklahoma State University	66.9	67.5
Non-Stillwater business	5.4	6.5
Self-employed	.8	2.6
Other	6.7	6.5
Distribution by type of work		
Professional or technical	15.4	28.6
Farm or farm related	2.3	6.5
Manager or proprietor	1.5	0.0
Clerical or sales	26.2	29.9
Craftsman or foreman	0.0	3.9
Operator	1.5	3.9
Private household worker	.8	2.6
Service, excluding private household	30.8	10.4
Laborer, including farm and mine	5.4	9.1
Other	16.2	5.2
Average hours per week	15.4	17.9
Average wage rate (\$/hour)	1.14	.85
Sample size	130	77

^aPercentages may not add to 100% due to rounding.

TABLE XXVI

PART-TIME JOB HISTORY -- ANY PREVIOUS JOB
(Per Cent of Respective Sample)^a

	Undergraduates	Graduates
Distribution by year in school		
Freshman	29.2	2.7
Sophomore	36.1	8.1
Junior	27.8	81.1
Senior	6.9	8.1
Distribution by employer		
Stillwater business	20.8	18.9
Oklahoma State University	54.2	51.4
Non-Stillwater business	11.1	13.5
Self-employed	1.4	2.7
Other	12.5	13.5
Distribution by type of work		
Professional or technical	12.5	13.5
Farm or farm related	2.8	5.4
Manager or proprietor	0.0	2.7
Clerical or sales	31.9	18.9
Craftsman or foreman	0.0	8.1
Operator	2.8	5.4
Private household worker	0.0	0.0
Service, excluding private household	33.3	24.3
Laborer, including farm and mine	5.6	10.8
Other	11.1	10.8
Average hours per week	16.4	17.8
Average wage rate (\$/hour)	1.12	.85
Sample size	72	37

^aPercentages may not add to 100% due to rounding.

APPENDIX B

COVER LETTERS FOR LABOR
MARKET QUESTIONNAIRE

UNDERGRADUATE COVER LETTER

November 20, 1967

Dear (Student's first name):

I am currently a graduate student in Economics doing research for a masters thesis on labor market conditions of undergraduates in Stillwater, Oklahoma. I am interested in finding current data on work attitudes, wage rates, and the number of hours worked.

The enclosed questionnaire was designed to obtain current information on labor market conditions and attitudes of undergraduates. Your name on the questionnaire will be used only to determine who has not returned a questionnaire.

Your cooperation in completing this questionnaire and returning it to me in the enclosed envelope will be greatly appreciated. All responses will be considered confidential.

Sincerely,



David R. Selby
Manpower Research and Training Center
Oklahoma State University
Stillwater, Oklahoma 74074

Enclosures

GRADUATE COVER LETTER

February 17, 1968

Dear OSU Graduate:

I am currently a graduate student in Economics doing research for a masters thesis on labor market conditions of undergraduates in Stillwater, Oklahoma. I am interested in finding data on work attitudes, wage rates, and the number of hours worked.

The enclosed questionnaire was designed to obtain information on labor market conditions and attitudes when you were an undergraduate. Your name on the questionnaire will be used only to determine who has not returned a questionnaire.

Your cooperation in completing this questionnaire and returning it to me in the enclosed envelope will be greatly appreciated. All responses will be considered confidential.

Sincerely,



David R. Selby
Manpower Research and Training Center
Oklahoma State University
Stillwater, Oklahoma 74074

Enclosures

APPENDIX C

COMPUTER PROGRAM USED IN LABOR
MARKET SURVEY AND ANALYSIS

COMPUTER PROGRAM USED IN CONNECTION WITH AN IBM 7040 COMPUTER

AT OKLAHOMA STATE UNIVERSITY, STILLWATER, OKLAHOMA, MAY, 1968

\$JOB C-0001 DAVID SELBY 2308-40015
\$JOB DAVID SELBY 2308-40015
\$IBJOB NAMEPR MAP
\$IBFTC DCKNAM NODECK
C MAIN PROGRAM
C PROGRAM FOR TABULATION OF QUESTIONNAIRES
100 FORMAT (I2,1X,13I1,F5.2,4I1,1X,14I1,1X,3I1,I2,F4.2,1X,3I1,I2,F4.2)
101 FORMAT (72A1)
102 FORMAT (32X,72A1)
110 FORMAT (11X,18F6.2,1X,F6.2)
111 FORMAT (50X,29HPERCENTAGFS 100 PER CENT =,F8.2)
115 FORMAT (56X,19HNUMBER OF RESPONSES)
120 FORMAT (53X,26HPER CENT OF TOTAL RESPONSE)
126 FORMAT (10A1)
131 FORMAT (61X,5HTABLE,1X,5A1/1H0)
200 FORMAT (1H)
201 FORMAT (57X,16HAGE DISTRIBUTION)
202 FORMAT (1H0)
203 FORMAT (1H1/32X,72A1/1H0)
204 FORMAT (1H1)
205 FORMAT (14X,2H17,4X,2H18,4X,2H19,4X,2H20,4X,2H21,4X,2H22,4X,2H23,
24X,2H24,4X,2H25,4X,2H26,4X,2H27,4X,2H28,4X,2H29,4X,2H30,4X,2H31,
34X,2H32,4X,2H33,4X,2H34,4X,2H35+)
206 FORMAT (11X,19F6.0)
207 FORMAT (20X,16HMEAN AGE ,5X,F8.4,10X,18HSTANDARD DEVIATION,
25X,F10.4,10X,8HVARIANCE,F15.4)
208 FORMAT (54X,22HMARITAL STATUS AND SEX)
209 FORMAT (8X,1H0,8X,1H1,8X,1H2,8X,1H3,8X,1H4,8X,1H5,8X,1H6,8X,1H7,
28X,1H8,8X,1H9,8X,4HMALE,5X,6HFFEMALE,5X,5HTOTAL)
210 FORMAT (4X,10(F6.0,3X),2X,F6.0,3X,F6.0,6X,F6.0)
211 FORMAT (62X,7HCOLLEGE)
212 FORMAT (20X,2HAG,8X,2HAS,8X,2HBU,8X,2HED,8X,2HEN,8X,2HTI,8X,2HHE,
28X,2HGR,8X,2HVM,8X,5HTOTAL)
213 FORMAT (12X,9(4X,F6.0),6X,F6.0)
214 FORMAT (58X,14HCLASSIFICATION)
215 FORMAT (29X,2HFR,10X,2HSO,10X,2HJR,10X,2HSR,10X,2HSP,10X,2HGR,10X,
25HTOTAL)
216 FORMAT (20X,6(16X,F6.0),8X,F6.0)
217 FORMAT (59X,11HNATIONALITY)
218 FORMAT (40X,10HUS CITIZEN,10X,14HNON US CITIZEN,10X,5HTOTAL)
219 FORMAT (40X,F6.0,18X,F6.0,13X,F6.0)
220 FORMAT (63X,4HRACE)
221 FORMAT (2X,5HWHITE,7X,5HNEGRO,9X,17HINDIAN (AMERICAN),5X,8HORIENTA
2L,9X,15HOTHER NON-WHITE,4X,16HSPANISH-AMERICAN,6X,10HALL OTHERS,
37X,5HTOTAL)
222 FORMAT (1X,F6.0,5X,F6.0,14X,F6.0,13X,F6.0,16X,F6.0,13X,F6.0,12X,
2F6.0,8X,F6.0)
223 FORMAT (15X,10SHAS AN UNDERGRADUATE HAVE YOU EVER WORKED PART-TIME
2 IN STILLWATER WHILE CARRYING AT LEAST 6 SEMESTER HOURS)
224 FORMAT (25X,2HNO,20X,8HFULLTIME,20X,9HPART-TIME,20X,5HTOTAL)
225 FORMAT (19X,F6.0,22X,F6.0,23X,F6.0,21X,F6.0)
226 FORMAT (55X,21HREASON FOR EMPLOYMENT)
227 FORMAT (3X,15HSCHOOL EXPENSES, 8X,7HLEISURE,6X,12HINDEPENDENCE, 5X,

211HGRAD SCHOOL,4X,12HSELF-SUPPORT,5X,11HFAM SUPPORT,5X,5HOTHER,
38X,5HTOTAL)
228 FORMAT (8X,F6.0,5(10X,F6.0),8X,F6.0,8X,F6.0)
230 FORMAT (54X,22HREASON FOR NOT WORKING)
231 FORMAT (2X,12HINTERFERENCE,6X,17HPARENT OPPOSITION,6X,16HNOT INC
2TO WORK,6X,13HNOT FIND WORK,6X,14HWORDED SUMMERS,7X,5HOTHER,7X,
35HTOTAL)
232 FORMAT (6X,F6.0,15X,F6.0,14X,F6.0,13X,F6.0,14X,F6.0,11X,F6.0,
27X,F6.0)
235 FORMAT (24X,83HHAVE YOU EVER WORKED PART-TIME IN ANY OTHER CITY OR
2 COMMUNITY OTHER THAN STILLWATER)
236 FORMAT (47X,3HYES,15X,2HNO,15X,5HTOTAL)
237 FORMAT (44X,F6.0,11X,F6.0,14X,F6.0)
240 FORMAT (29X,75HAS AN UNDERGRADUATE, HAVE YOU EVER LOOKED FOR A PAR
2T-TIME JOB IN STILLWATER)
241 FORMAT (47X,3HYES,15X,2HNO,15X,5HTOTAL)
242 FORMAT (44X,F6.0,11X,F6.0,14X,F6.0)
245 FORMAT (26X,79HIF YOU LOOKED FOR A JOB, WHAT ONE TYPE OF PART-TIME
2 WORK WERE YOU MOST SEEKING)
246 FORMAT (11X,8HCLERICAL,9X,9HUNSKILLED,9X,5HSALES,9X,5HTUTOR,
29X,8HANY TYPE,9X,5HOTHER,12X,5HTOTAL)
247 FORMAT (11X,F6.0,12X,F6.0,8X,F6.0,8X,F6.0,11X,F6.0,13X,
2F6.0)
250 FORMAT (18X,100HIF YOU WORKED PART-TIME IN STILLWATER WHICH OF THE
2 FOLLOWING HELPED YOU MOST IN FINDING EMPLOYMENT)
251 FORMAT (6X,12HUNIV. OFFICE,6X,17HTALK TO EMPLOYERS,6X,7HFRIENDS,
26X,14HEMPLY. OFFICE,8X,14HADVERTISEMENTS,5X,5HOTHER,9X,5HTOTAL)
252 FORMAT (8X,F6.0,16X,F6.0,10X,F6.0,11X,F6.0,16X,F6.0,8X,F6.0,10X,
2F6.0)
256 FORMAT (33X,69HAD YOU THOUGHT OF WORKING PART-TIME BEFORE YOU CAM
2E TO SCHOOL AT OSU)
257 FORMAT (47X,3HYES,15X,2HNO,15X,5HTOTAL)
258 FORMAT (44X,F6.0,11X,F6.0,14X,F6.0)
260 FORMAT (46X,40HWHAT IS YOUR OVERALL GRADE POINT AVERAGE)
261 FORMAT (10X,16HMEAN GRADE POINT,5X,F8.4,10X,18HSTANDARD DEVIATION,
2F15.4,10X,8HVARIANCE,F15.4)
265 FORMAT (50X,31HWHAT IS YOUR FATHERS OCCUPATION)
266 FORMAT (3X,9HPROFESSOR,3X,9HFARM MGRS,3X,9HMGRS PROP,3X,9HCLER SAL
2E,3X,9HCRAFTSMEN,3X,9HOPERATORS,3X,9HMSLD WORK,3X,9HSERVICE ,3X,
39HLABORERS ,6X,9HOTHER ,3X,5HTOTAL)
267 FORMAT (4X,F6.0,9(6X,F6.0),5X,F6.0)
270 FORMAT (12X,107HIF YOU HAD WORKED PART-TIME AS AN UNDERGRADUATE IN
2 STILLWATER, DO YOU FEEL THAT IT LOWERED YOUR GRADE POINT)
271 FORMAT (39X,3HYES,15X,2HNO,15X,5HTOTAL)
272 FORMAT (35X,F6.0,11X,F6.0,11X,F6.0,15X,F6.0)
285 FORMAT (7X,119HWHICH OF THE FOLLOWING REPRESENTS THE AVERAGE PROPD
2RTION OF TOTAL SCHOOL EXPENSES THAT YOU PROVIDE BY WORKING PART-TI
3ME)
286 FORMAT (15X,4HNONE,11X,12HLESS THAN 25,11X,7H25 - 49,11X,7H50 - 75
2,11X,12HMORE THAN 75,11X,5HTOTAL)
287 FORMAT (12X,F6.0,14X,F6.0,12X,F6.0,14X,F6.0,15X,F6.0)
290 FORMAT (5X,124HIF YOU WORKED PART-TIME AS AN UNDERGRADUATE, DO YOU
2 FEEL THAT IT HAS PROVIDED EDUCATIONAL EXPERIFNCES OF VALUE IN LAT
3ER LIFE)
291 FORMAT (39X,3HYES,15X,2HNO,15X,5HTOTAL)
292 FORMAT (34X,F6.0,11X,F6.0,11X,F6.0,16X,F6.0)
300 FORMAT (24X,83HLISTED BELOW ARE SEVERAL JOBS, INDICATE IF YOU WOUL
2D BE WILLING TO WORK AT EACH JOB)
301 FORMAT (79X,3HYES,15X,2HNO,15X,5HTOTAL)

302 FORMAT (10X,31HWAITING TABLES IN STUDENT UNION,6X,19HNUMBER OF RES
2PONSES,10X,F6.0,11X,F6.0,14X,F6.0)

303 FORMAT (39X,27HPER CENT OF TOTAL RESPONSES,11X,F7.2,10X,F7.2,13X,
2F7.2)

304 FORMAT (10X,27HWASHING DISHES IN CAFETERIA,10X,19HNUMBER OF RESPON
2SES,10X,F6.0,11X,F6.0,14X,F6.0)

305 FORMAT (10X,20HCASHIER IN BOOKSTORE,17X,19HNUMBER OF RESPONSES,
210X,F6.0,11X,F6.0,14X,F6.0)

306 FORMAT (10X,30HSALESMAN OR SALESLADY IN STORE,7X,19HNUMBER OF RESP
2ONSES,10X,F6.0,11X,F6.0,14X,F6.0)

307 FORMAT (10X,23HSECRETARY OR BOOKKEEPER,14X,19HNUMBER OF RESPONSES,
210X,F6.0,11X,F6.0,14X,F6.0)

308 FORMAT (10X,20HLABORATORY ASSISTANT,17X,19HNUMBER OF RESPONSES,
210X,F6.0,11X,F6.0,14X,F6.0)

309 FORMAT (10X,5HTUTOR,32X,19HNUMBER OF RESPONSES,10X,F6.0,11X,F6.0,
214X,F6.0)

310 FORMAT (10X,7HJANITOR,30X,19HNUMBER OF RESPONSES,10X,F6.0,11X,
2F6.0,14X,F6.0)

311 FORMAT (76X,45(1H-))

312 FORMAT (41X,25HTOTAL NUMBER OF RESPONSES,10X,F6.0,11X,F6.0,14X,
2F6.0)

315 FORMAT (22X,90HAS AN UNDERGRADUATE, WHICH OF THE FOLLOWING BEST RE
2PRESENTS YOUR FAMILYS NET ANNUAL INCOME)

316 FORMAT (4X,15HLESS THAN \$3000,6X,11H\$3000-\$5000,6X,11H\$5001-\$7500,
26X,12H\$7501-\$10000,6X,16HMORE THAN \$10000,6X,11HDO NOT KNOW,6X,5HT
3OTAL)

317 FORMAT (7X,F6.0,12X,F6.0,12X,F6.0,12X,F6.0,15X,F6.0,12X,F6.0,9X,
2F6.0)

320 FORMAT (31X,72HAS AN UNDERGRADUATE DID YOU RECEIVE ASSISTANCE FROM
2 ANY OF THE FOLLOWING)

321 FORMAT (5X,9HNO ASSIST,6X,4HLOAN,6X,9HFED GRANT,6X,12HNAT DEF LOAN
2,6X,11HSCOLARSHIP,6X,7HGI BILL,6X,10HWORK-STUDY,6X,5HOTHER,6X,
31HTOTAL ASST.)

322 FORMAT (8X,F6.0,4X,F6.0,9X,F6.0,10X,F6.0,9X,F6.0,8X,F6.0,10X,F6.0,
27X,F6.0,6X,F6.0,3X,3HPNE)

323 FORMAT (8X,F6.0,4X,F6.0,9X,F6.0,10X,F6.0,9X,F6.0,8X,F6.0,10X,F6.0,
27X,F6.0,6X,F6.0,3X,3HTWO)

324 FORMAT (8X,F6.0,4X,F6.0,9X,F6.0,10X,F6.0,9X,F6.0,8X,F6.0,10X,F6.0,
27X,F6.0,6X,F6.0,1X,5HTHREE)

325 FORMAT (8X,F6.0,4X,F6.0,9X,F6.0,10X,F6.0,9X,F6.0,8X,F6.0,10X,F6.0,
27X,F6.0,6X,F6.0,3X,3HALL)

340 FORMAT (4X,126HWHICH OF THE FOLLOWING BEST REPRESENTS THE AVERAGE
2AMOUNT OF MONEY YOU RECEIVED PER SEMESTER FROM THE SOURCES INDICAT
3TED ABOVE)

341 FORMAT (7X,14HLESS THAN \$100,7X,9H\$100-\$199,7X,9H\$200-\$299,7X,
29H\$300-\$399,7X,9H\$400-\$499,7X,12H\$500 OR MORE,10X,5HTOTAL)

342 FORMAT (11X,F6.0,12X,F6.0,10X,F6.0,10X,F6.0,10X,F6.0,11X,F6.0,13X,
2F6.0)

345 FORMAT (31X,72HOW MANY OF YOUR FIVE CLOSEST FRIENDS AS UNDERGRADU
2ATES WORKED PART-TIME)

346 FORMAT (23X,4HNONE,10X,3HONE,10X,3HTWO,10X,5HTHREE,10X,4HFOUR,10X,
24HFIVE,10X,5HTOTAL)

347 FORMAT (21X,F6.0,7X,F6.0,7X,F6.0,9X,F6.0,8X,F6.0,8X,F6.0,9X,F6.0)

C

501 FORMAT (1H////)

502 FORMAT (1H1,22X,70HA LABOR MARKET SURVEY AND ANALYSIS OF OSU UNDER
2GRADUATES AND GRADUATES///65X,2HRY//59X,14HDAVID R. SFLBY)

503 FORMAT (1H0)

512 FORMAT (5X,10(F7.2,2X),2X,F7.2,2X,F7.2,5X,F7.2)

514 FORMAT (14X,9(3X,F7.2),5X,F7.2)

516 FORMAT (21X,6(5X,F7.2),8X,F7.2)

518 FORMAT (41X,F7.2,17X,F7.2,12X,F7.2)

520 FDRMAT (2X,F7.2,4X,F7.2,13X,F7.2,12X,F7.2,15X,F7.2,12X,F7.2,9X,
2F7.2,9X,F7.2)

522 FORMAT (20X,F7.2,21X,F7.2,22X,F7.2,20X,F7.2)

524 FORMAT (6(9X,F7.2),7X,F7.2,7X,F7.2)

526 FORMAT (7X,F7.2,14X,F7.2,13X,F7.2,12X,F7.2,13X,F7.2,9X,F7.2,
27X,F7.2,4X,F7.2)

528 FORMAT (45X,F7.2,10X,F7.2,13X,F7.2)

530 FORMAT (45X,F7.2,10X,F7.2,13X,F7.2)

532 FORMAT (12X,F7.2,11X,F7.2,7X,F7.2,7X,F7.2,10X,F7.2,7X,F7.2,12X,
2F7.2)

534 FORMAT (9X,F7.2,15X,F7.2,9X,F7.2,10X,F7.2,15X,F7.2,7X,F7.2,9X,
2F7.2)

536 FORMAT (45X,F7.2,10X,F7.2,13X,F7.2)

538 FORMAT (10(5X,F7.2),4X,F7.2)

540 FORMAT (37X,F7.2,10X,F7.2,10X,F7.2,13X,F7.2)

542 FORMAT (13X,F7.2,13X,F7.2,13X,F7.2,11X,F7.2,13X,F7.2,14X,F7.2)

544 FORMAT (37X,F7.2,10X,F7.2,10X,F7.2,13X,F7.2)

550 FORMAT (11X,F7.2,8X,F7.2,11X,F7.2,11X,F7.2,14X,F7.2,11X,F7.2,8X,
2F7.2)

552 FORMAT (9X,F7.2,3X,F7.2,8X,F7.2,9X,F7.2,8X,F7.2,7X,F7.2,9X,F7.2,
26X,F7.2,5X,F7.2)

554 FORMAT (12X,F7.2,11X,F7.2,9X,F7.2,9X,F7.2,9X,F7.2,10X,F7.2,12X,
2F7.2)

556 FORMAT (22X,F7.2,6X,F7.2,6X,F7.2,8X,F7.2,7X,F7.2,7X,F7.2,8X,F7.2)

560 FORMAT (10X,115H-----
2-----
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575 FORMAT (54X,11HJOB HISTORY,10X,5HJOB 1)

576 FORMAT (54X,11HJOB HISTORY,10X,5HJOB 2)

579 FORMAT (49X,11HJOB HISTORY,10X,15HTOTAL OF 2 JOBS)

580 FORMAT (39X,53HJOB HISTORY OF OSU UNDERGRADUATES (MAXIMUM OF 2 JOB
2S))

581 FORMAT (11X,2HFR,15X,2HSD,15X,2HJR,15X,2HSR,15X,2HSP,15X,2HGR,
214X,5HTOTAL)

582 FORMAT (8X,F6.0,5(11X,F6.0),12X,F6.0)

583 FORMAT (7X,10HSTILL BUSS,7X,10HOKLA STATE,7X,10HNON ST BUS,7X,10HS
2ELF EMPED,10X,5HOTHER,9X,10H*****,10X,5HTOTAL)

584 FORMAT (9X,F7.2,5(10X,F7.2),11X,F7.2)

585 FORMAT (8X,8HCLERICAL,10X,5HSALES,8X,11HMAINTENANCE,6X,9HCAFETERIA
2,9X,7HLABORER,11X,5HOTHER,12X,5HTOTAL)

590 FORMAT (51X,34H*****YEAR IN SCHOOL*****)

591 FORMAT (54X,28H*****EMPLOYER*****)

592 FORMAT (52X,32H*****TYPE OF WORK*****)

600 FORMAT (10X,13HJOB 1 AVG HRS,F10.4,10X,18HSTANDARD DEVIATION,F15.4
1,10X,14HJOB 1 VARIANCE,F15.4)

601 FORMAT (10X,13HJOB 2 AVG HRS,F10.4,10X,18HSTANDARD DEVIATION,F15.4
1,10X,14HJOB 2 VARIANCE,F15.4)

610 FORMAT (10X,15HJOB 1 AVG WAGES,F8.4,10X,18HSTANDARD DEVIATION,7X,
2F8.4,10X,14HJOB 1 VARIANCE,F15.4)

611 FORMAT (10X,15HJOB 2 AVG WAGES,F8.4,10X,18HSTANDARD DEVIATION,7X,
2F8.4,10X,14HJOB 2 VARIANCE,F15.4)

612 FORMAT (10X,15HJOB 1 WK EARN\$,F10.4)

614 FORMAT (10X,15HJOB 2 WK EARN\$,F10.4)

776 FORMAT (I3)

777 FORMAT (2(I2,2X))

778 FORMAT (1H0,10HT-VALUES ,I2,
22H--,I2,6X,10HJOB1 HOURS,5X,10HJOB2 HOURS,5X,10HJOB1 WAGES,5X,10HJ

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30B2 WAGES,5X,10HGRADE PT.,5X,10HWK EARN 1,5X,10HWK EARN 2)
779 FORMAT (1H ,20X,7(F10.4,5X))
800 FORMAT (10X,70HCORRELATION COEFFICIENT BETWEEN FAMILY INCOME AND AS
2SISTANCE (COR) = ,F15.4,5X,3HN =,F8.0)
805 FORMAT (1H1,54X,12HSAMPLE SIZES)
806 FORMAT (1H0,34X,11HMEAN NUMBER,10X,4HJOB1,10X,4HJOB2,10X,10HGRADE
2 PT.)
807 FORMAT (1H0,38X,I2,13X,F6.0,8X,F6.0,10X,F6.0)
815 FORMAT (1H1,56X,19HCHI SQUARE ANALYSIS/45X,12HEXPECTED = ,I2,10X
2,12HOBSERVED = ,I2//)
816 FORMAT (1H0,4X,3A6,5X,11(1X,F8.2))
817 FORMAT (12A6)
818 FORMAT (1H0,27X,10(1X,I7,1X),5HTOTAL)
825 FORMAT (22(I2,1X))
950 FORMAT (10X,5HTGPA=,10X,F15.4,10X,4HGPA=,10X,F15.4)
955 FORMAT (10F8.0)
960 FORMAT (1H1,55X,19HMANN-WHITNEY U TEST//)
961 FORMAT (1H0,25X,4OHTEST FOR DIFFERENCE IN FAMILY INCOMES ,6X,
23HZ = ,F15.4)
962 FORMAT (1H0,25X,46HTEST FOR DIFFERENCE IN AMOUNT OF ASSISTANCE
23HZ = ,F15.4)
966 FORMAT (1H ,25X,3HS =,F15.4)
965 FORMAT (1H ,25X,3HU =,F15.4)
3001 FORMAT (34X,27HPER CENT OF TOTAL RESPONSES,18X,3HYES,15X,2HNO,
215X,5HTOTAL)
3002 FORMAT (10X,31HWAITING TABLES IN STUDENT UNION,33X,F7.2,10X,F7.2,
213X,F7.2)
3004 FORMAT (10X,27HWASHING DISHER IN CAFETERIA,37X,F7.2,10X,F7.2,13X,
2F7.2)
3005 FORMAT (10X,20HCASHIER IN BOOKSTORE,44X,F7.2,10X,F7.2,13X,F7.2)
3006 FORMAT (10X,30HSALESMAN OR SALESLADY IN STORE,34X,F7.2,10X,F7.2,
213X,F7.2)
3007 FORMAT (10X,23HSECRETARY OR BOOKKEEPER,41X,F7.2,10X,F7.2,13X,F7.2)
3008 FORMAT (10X,20HLARDRATORY ASSISTANT,44X,F7.2,10X,F7.2,13X,F7.2)
3009 FORMAT (10X,5HTUTOR,59X,F7.2,10X,F7.2,13X,F7.2)
3010 FORMAT (10X,7HJANITOR,57X,F7.2,10X,F7.2,13X,F7.2)
3012 FORMAT (15X,5HTOTAL,54X,F7.2,10X,F7.2,13X,F7.2)
DIMENSION XY(10)
DIMENSION BGCL(3,10),BGCI(3,10)
DIMENSION NAM(50,10)
DIMENSION AG(20),AM(20),ACOL(10),ACLAS(10),ANA(5),ARAC(10),
2AQ8(5),AQ9(10),AQ10(10),AQ11(5),AQ12(5),AQ13(10),AQ14(10),
3AQ15(5),AQ17(20),AQ18(5),AQ19(10),AQ20(5),AQ21(10,3),LQ21(10)
DIMENSION AMP(20),ACOLP(10),ACLASP(10),ANAP(5),ARACP(10),
2AQ8P(5),AQ9P(10),AGP(20),AQ10P(10),AQ11P(5),AQ12P(5),AQ13P(10),
3AQ14P(10),AQ15P(5),AQ17P(20),AQ18P(5),AQ19P(10),AQ20P(5),
4AQ21P(10,3)
DIMENSION AQ24(10),AQ24P(10),AQ25(10),AQ25P(10)
DIMENSION AQ26A1(10),AQ26A2(10),AQ26A3(20)
DIMENSION A26A1P(10),A26A2P(10),A26A3P(20)
DIMENSION AQ231(10),AQ232(10),AQ233(10),AQ23T(10),AQ23TP(10)
DIMENSION AQ221(10),AQ22P(10)
DIMENSION AQ26B1(10),AQ26B2(10),AQ26B3(20),A26B1P(10),A26B2P(10),
2A26B3P(20)
DIMENSION LABEL(72)
DIMENSION TSDJ1H(200),TSDJ2H(200),TSDJ1W(200),TSDJ2W(200)
DIMENSION SDJ1H(200),SDJ2H(200),SDJ1W(200),SDJ2W(200),AMJ1H(25),
2AMJ2H(25),AMJ1W(25),AMJ2W(25),SSJ1H(25),SSJ2H(25),SSJ1W(25),
3SSJ2W(25),C(25),C1(25),C2(25)

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DIMENSION AMGPA(25),SDVGP(200),TSDVGP(200),SSVGP(25)
DIMENSION Z(22,10,20)
DIMENSION LQNAME(22,3),OB(10,10)
DIMENSION NOCLLS(22)
DIMENSION AA(10),BB(10)
DIMENSION AMWK1(25),AMWK2(25),SS1(25),SS2(25),TSDW1(25),TSDW2(25),
2SDWK1(25),SDWK2(25)
INDEX = 1
PRINT 502
CONTINUE
DO 2 M=1,20
AG(M) = 0.0
AM(M) = 0.0
AQ17(M) = 0.0
AGP(M) = 0.0
AMP(M) = 0.0
AQ17P(M) = 0.0
AQ26A3(M) = 0.0
AQ26B3(M) = 0.0
A26A3P(M) = 0.0
A26B3P(M) = 0.0
CONTINUE
DO 3 M=1,10
ACOL(M) = 0.0
ACLAS(M) = 0.0
ARAC(M) = 0.0
AQ9(M) = 0.0
AQ10(M) = 0.0
AQ13(M) = 0.0
AQ14(M) = 0.0
AQ19(M) = 0.0
LQ21(M) = 0
AQ22(M) = 0.0
AQ231(M) = 0.0
AQ232(M) = 0.0
AQ233(M) = 0.0
AQ23T(M) = 0.0
AQ24(M) = 0.0
AQ25(M) = 0.0
ACOLP(M) = 0.0
ACLASP(M) = 0.0
ARACP(M) = 0.0
AQ9P(M) = 0.0
AQ10P(M) = 0.0
AQ13P(M) = 0.0
AQ14P(M) = 0.0
AQ22P(M) = 0.0
AQ23TP(M) = 0.0
AQ24P(M) = 0.0
AQ25P(M) = 0.0
AQ26A1(M) = 0.0
AQ26A2(M) = 0.0
AQ26B1(M) = 0.0
AQ26B2(M) = 0.0
A26A1P(M) = 0.0
A26A2P(M) = 0.0
A26B1P(M) = 0.0
A26B2P(M) = 0.0
DO 3 N=1,3

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AQ21P(M,N) = 0.0
AQ21(M,N) = 0.0
3 CONTINUE
DO 9 M=1,5
ANA(M) = 0.0
AQ8(M) = 0.0
AQ11(M) = 0.0
AQ12(M) = 0.0
AQ15(M) = 0.0
AQ18(M) = 0.0
AQ20(M) = 0.0
ANAP(M) = 0.0
AQ8P(M) = 0.0
AQ11P(M) = 0.0
AQ12P(M) = 0.0
AQ15P(M) = 0.0
AQ18P(M) = 0.0
AQ19P(M) = 0.0
AQ20P(M) = 0.0
9 CONTINUE
TGPA = 0.0
TSAQ16 = 0.0
LAGT = 0
TSUMA2 = 0.0
B = 0.0
CT = 0.0
SUMX = 0.0
SUMY = 0.0
SUMX2 = 0.0
SUMY2 = 0.0
SUMXY = 0.0
TA26AW = 0.0
TA26BW = 0.0
TA26AH = 0.0
TA26BH = 0.0
SS26AW = 0.0
SS26BW = 0.0
SS26AH = 0.0
SSWK1 = 0.0
SSWK2 = 0.0
WKTA1 = 0.0
WKTA2 = 0.0
SS26BH = 0.0
READ 101,LABEL
IF (INDEX-2114,5001,5001
14 DD 12 N=1,50
12 READ 126,(NAM(N,K),K=1,10)
DO 17 I=1,22,4
K=I +3
IF (K .GT. 23)K=22
READ (5,817) ((LQNAME(J,L),L=1,3),J=I,K)
17 CONTINUE
READ (5,825) (NOCLLS(I),I=1,22)
READ (5,955) ((BGCL(I,J),J=1,10),I=1,2)
READ (5,955) ((BGCI(I,J),J=1,10),I=1,2)
4 READ 100,LAGE,LMS,LCOLL,LCLASS,LNAT,LRACE,LQ8,LQ9,LQ10,LQ11,LQ12,
2LQ13,LQ14,LQ15,AQ16,LQ17,LQ18,LQ19,LQ20,(LQ21(I),I=1,8),LQ22,
3LQ231,LQ232,LQ233,LQ24,LQ25,JBA1,JBA2,JBA3,JBAHR,A26AW,JBB1,JBB2,
4JBB3,JBBHR,A26BW

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5000 WRITE (1) LAGE,LMS,LCOLL,LCLASS,LNAT,LRACE,LQ8,LQ9,LQ10,LQ11,
2LQ12,LQ13,LQ14,LQ15,AQ16,LQ17,LQ18,LQ19,LQ20,(LQ21(I),I=1,8),LQ22,
3LQ231,LQ232,LQ233,LQ24,LQ25,JBA1,JBA2,JBA3,JBAHR,A26AW,JBB1,JBB2,
4JBB3,JBBHR,A26BW
GO TO 13
5001 READ (1) LAGE,LMS,LCOLL,LCLASS,LNAT,LRACE,LQ8,LQ9,LQ10,LQ11,
2LQ12,LQ13,LQ14,LQ15,AQ16,LQ17,LQ18,LQ19,LQ20,(LQ21(I),I=1,8),LQ22,
3LQ231,LQ232,LQ233,LQ24,LQ25,JBA1,JBA2,JBA3,JBAHR,A26AW,JBB1,JBB2,
4JBB3,JBBHR,A26BW
13 IF (LAGE-99)1000,9998,9998
C PLACE IN PROGRAM TO INSERT IF STATEMENTS IN ORDER TO CROSS CLASSIFY
1000 GO TO (6,1013,1014,1019,1020,1021,1018,774,1050),INDEX
1001 IF (LCOLL-1)5001,6,5001
1002 IF (LCOLL-2)5001,6,5001
1003 IF (LCOLL-3)5001,6,5001
1004 IF (LCOLL-4)5001,6,5001
1005 IF (LCOLL-5)5001,6,5001
1006 IF (LCOLL-6)5001,6,5001
1007 IF (LCOLL-7)5001,6,5001
1008 IF (LCLASS-1)5001,6,5001
1009 IF (LCLASS-2)5001,6,5001
1010 IF (LCLASS-3)5001,6,5001
1011 IF (LCLASS-4)5001,6,5001
1013 IF (LQ8 .EQ. 1 .AND. LCLASS .LT. 6)GO TO 6
GO TO 5001
1014 IF (LQ8 .EQ. 3 .AND. LCLASS .LT. 6)GO TO 6
GO TO 5001
1015 IF (LQ11-1)5001,6,5001
1016 IF (JBA2-2)5001,6,5001
1017 IF (JBB2-2)5001,6,5001
1018 IF (LCLASS-JBA1 .EQ. 0 .AND. LCLASS .LT. 6)GO TO 6
GO TO 5001
1019 IF (LCLASS -6)5001,6,5001
1020 IF (LQ8 .EQ. 3 .AND. LCLASS .EQ. 6)GO TO 6
GO TO 5001
1021 IF (LQ8 .EQ. 1 .AND. LCLASS .EQ. 6)GO TO 6
GO TO 5001
C ENO OF SORTING SECTION
6 IF (LCLASS .EQ. 6 .AND. INDEX .EQ. 1)GO TO 4
B = B +1.0
A26AH = JBAHR
A26BH = JBBHR
S26AH = A26AH**2
S26BH = A26BH**2
S26AW = A26AW**2
S26BW = A26BW**2
SS26AH = SS26AH +S26AH
SS26BH = SS26BH +S26BH
SS26AW = SS26AW +S26AW
SS26BW = SS26BW +S26BW
TA26AH = TA26AH +A26AH
TA26BH = TA26BH +A26BH
TA26AW = TA26AW +A26AW
TA26BH = TA26BH +A26BH
WKEA1 = A26AH*A26AW
WKEA2 = A26BH*A26BW
WKTA1 = WKTA1 +WKEA1
WKTA2 = WKTA2 +WKEA2
SSWK2 = SSWK2 +WKEA1**2

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```

SSWK1 = SSWK1 + WKEA1**2
SUMA2 = LAGE**2
TSUMA2 = TSUMA2 + SUMA2
LAGT = LAGT + LAGE
SAQ16 = AQ16**2
TSAQ16 = TSAQ16 + SAQ16
TGPA = TGPA + AQ16
IF (LAGE-17)18,5,5
5 IF (LAGE-34)10,10,7
7 AG(19) = AG(19) +1.0
GO TO 20
8 AG(1) = AG(1) +1.0
GO TO 20
10 AG(LAGE-16) = AG(LAGE-16) +1.0
20 AM(LMS+1) = AM(LMS+1) +1.0
25 ACOL(LCOLL) = ACOL(LCOLL) +1.0
30 ACLAS(LCLASS) = ACLAS(LCLASS) +1.0
35 ANA(LNAT) = ANA(LNAT) +1.0
40 ARAC(LRACE) = ARAC(LRACE) +1.0
45 AQ8(LQ8) = AQ8(LQ8) +1.0
50 AQ9(LQ9) = AQ9(LQ9) +1.0
55 AQ10(LQ10) = AQ10(LQ10) +1.0
60 AQ11(LQ11) = AQ11(LQ11) +1.0
65 AQ12(LQ12) = AQ12(LQ12) +1.0
70 AQ13(LQ13) = AQ13(LQ13) +1.0
75 AQ14(LQ14) = AQ14(LQ14) +1.0
80 AQ15(LQ15) = AQ15(LQ15) +1.0
90 AQ17(LQ17+1) = AQ17(LQ17+1) +1.0
95 AQ18(LQ18) = AQ18(LQ18) +1.0
99 AQ19(LQ19) = AQ19(LQ19) +1.0
104 AQ20(LQ20) = AQ20(LQ20) +1.0
118 AQ22(LQ22) = AQ22(LQ22) +1.0
135 AQ231(LQ231) = AQ231(LQ231) +1.0
136 AQ232(LQ232) = AQ232(LQ232) +1.0
138 AQ233(LQ233) = AQ233(LQ233) +1.0
IF (LQ21(1)-0)139,170,139
139 CONTINUE
DO 155 I=1,8
NN = LQ21(I)
AQ21(I,NN) = AQ21(I,NN) +1.0
155 CONTINUE
DO 156 I=1,8
AQ21(I,3) = AQ21(I,1) +AQ21(I,2)
156 CONTINUE
170 AQ24(LQ24) = AQ24(LQ24) +1.0
175 AQ25(LQ25+1) = AQ25(LQ25+1) +1.0
IF (JBA1-0)400,2000,400
400 AQ26A1(JBA1) = AQ26A1(JBA1) +1.0
405 AQ26A2(JBA2) = AQ26A2(JBA2) +1.0
410 AQ26A3(JBA3+1) = AQ26A3(JBA3+1) +1.0
2000 IF (JBB1-0)415,1490,415
415 AQ26B1(JBB1) = AQ26B1(JBB1) +1.0
420 AQ26B2(JBB2) = AQ26B2(JBB2) +1.0
425 AQ26B3(JBB3+1) = AQ26B3(JBB3+1) +1.0
1490 IF (LQ22-6)1500,430,430
1500 IF (LQ24-7)1505,430,430
1505 CONTINUE
CT = CT +1.0
X = LQ22

```

```

Y = LQ24
SUMX= SUMX+X
SUMX2= SUMX2+X**2
SUMY2= SUMY2+Y**2
SUMY= SUMY+Y
SUMXY= SUMXY+X*Y
430 IF (INDEX-2)299,5001,5001
299 GO TO 4
9998 CONTINUE
PRINT 203
9999 AGE = LAGT
AAGE = AGE/(B)
VAR = ((TSUMA2)-(AGE**2/B))/(B-1.0)
AGPA = TGPA/(B)
VARGP = ((TSAQ16)-(TGPA**2/B))/(B-1.0)
AQ9(8) = 0.0
AQ10(7) = 0.0
AQ13(7) = 0.0
AQ14(7) = 0.0
AQ18(3) = 0.0
AQ20(3) = 0.0
AQ24(7) = 0.0
DO 11 I=1,19
AG(20) = AG(20) +AG(I)
11 CONTINUE
DO 21 I=1,5
AM(11) = AM(11) +AM(I)
21 CONTINUE
DO 22 I=1,10
AM(13) = AM(13) +AM(I)
22 CONTINUE
AM(12) = AM(13) -AM(11)
DO 26 I=1,9
ACOL(10) = ACOL(10) +ACOL(I)
26 CONTINUE
DO 31 I=1,6
ACLAS(7) = ACLAS(7) +ACLAS(I)
31 CONTINUE
DO 36 I=1,2
ANA(3) = ANA(3) +ANA(I)
36 CONTINUE
DO 41 I=1,7
ARAC(8) = ARAC(8) +ARAC(I)
41 CONTINUE
DO 46 I=1,3
AQ8(4) = AQ8(4) +AQ8(I)
46 CONTINUE
DO 51 I=1,7
AQ9(8) = AQ9(8) +AQ9(I)
51 CONTINUE
DO 56 I=1,6
AQ10(7) = AQ10(7) +AQ10(I)
56 CONTINUE
DO 61 I=1,2
AQ11(3) = AQ11(3) +AQ11(I)
61 CONTINUE
DO 66 I=1,2
AQ12(3) = AQ12(3) +AQ12(I)
66 CONTINUE

```

```

DO 71 I=1,6
AQ13(7) = AQ13(7) +AQ13(I)
71 CONTINUE
DO 76 I=1,6
AQ14(7) = AQ14(7) +AQ14(I)
76 CONTINUE
DO 81 I=1,2
AQ15(3) = AQ15(3) +AQ15(I)
81 CONTINUE
DO 86 I =1,10
AQ17(11) = AQ17(11) +AQ17(I)
AQ26A3(11) = AQ26A3(11) +AQ26A3(I)
AQ26B3(11) = AQ26B3(11) +AQ26B3(I)
86 CONTINUE
DO 91 I=1,2
AQ18(3) = AQ18(3) +AQ18(I)
91 CONTINUE
DO 96 I=1,5
AQ19(6) = AQ19(6) +AQ19(I)
96 CONTINUE
DO 98 I=1,2
AQ20(3) = AQ20(3) +AQ20(I)
98 CONTINUE
DO 125 I=1,6
AQ26A1(7) = AQ26A1(7) +AQ26A1(I)
AQ26A2(7) = AQ26A2(7) +AQ26A2(I)
AQ26B1(7) = AQ26B1(7) +AQ26B1(I)
AQ26B2(7) = AQ26B2(7) +AQ26B2(I)
125 CONTINUE
AVH26A = TA26AH/AQ26A1(7)
AVH26B = TA26BH/AQ26B1(7)
AVW26A = TA26AW/AQ26A1(7)
AVW26B = TA26BW/AQ26B1(7)
VA26AH = ((SS26AH)-(TA26AH**2/AQ26A1(7)))/(AQ26A1(7)-1.0)
VA26BH = ((SS26BH)-(TA26BH**2/AQ26B1(7)))/(AQ26B1(7)-1.0)
VA26AW = ((SS26AW)-(TA26AW**2/AQ26A1(7)))/(AQ26A1(7)-1.0)
VA26BW = ((SS26BW)-(TA26BW**2/AQ26B1(7)))/(AQ26B1(7)-1.0)
STDDGP = SQRT(VARGP)
STDDAG = SQRT(VAR)
SD26AH = SQRT(VA26AH)
SD26AW = SQRT(VA26AW)
SD26BH = SQRT(VA26BH)
SD26BW = SQRT(VA26BW)
COR = (SUMXY-SUMX*SUMY/CT)/SQRT((SUMX2-SUMX**2/CT)*(SUMY2-SUMY**2/
2CT))
AMJ1H(INDEX) = TA26AH/AQ26A1(7)
AMJ2H(INDEX) = TA26BH/AQ26B1(7)
AMJ1W(INDEX) = TA26AW/AQ26A1(7)
AMJ2W(INDEX) = TA26BW/AQ26B1(7)
AMGPA(INDEX) = TGPA/B
AMWK2(INDEX) = WKTA2/AQ26B1(7)
AMWK1(INDEX) = WKTA1/AQ26A1(7)
SSJ1H(INDEX) = VA26AH
SSJ2H(INDEX) = VA26BH
SSJ1W(INDEX) = VA26AW
SSJ2W(INDEX) = VA26BW
SSVGP(INDEX) = VARGP
SSI(INDEX) = SSWK1
SS2(INDEX) = SSWK2

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```

DO 130 I=1,6
AQ22(7) = AQ22(7) +AQ22(I)
130 CONTINUE
DO 141 I=2,8
AQ231(9) = AQ231(9) +AQ231(I)
AQ232(9) = AQ232(9) +AQ232(I)
AQ233(9) = AQ233(9) +AQ233(I)
141 CONTINUE
DO 151 I=2,9
AQ23T(I) = AQ231(I) +AQ232(I) +AQ233(I)
151 CONTINUE
DO 157 J=1,3
DO 157 I=1,8
AQ21(9,J) = AQ21(9,J)+AQ21(I,J)
157 CONTINUE
DO 171 I=1,6
AQ24(7) = AQ24(7) +AQ24(I)
171 CONTINUE
DO 176 I=1,6
AQ25(7) = AQ25(7) +AQ25(I)
176 CONTINUE
DO 77 I=1,20
AGP(I) = (AG(I)/AG(20))*100.0
AMP(I) = (AM(I)/AM(13))*100.0
AQ17P(I) = (AQ17(I)/AQ17(11))*100.0
A26A3P(I) = (AQ26A3(I)/AQ26A3(11))*100.0
A26B3P(I) = (AQ26B3(I)/AQ26B3(11))*100.0
77 CONTINUE
DO 72 I=1,5
ANAP(I) = (ANA(I)/ANA(3))*100.0
AQ8P(I) = (AQ8(I)/AQ8(4))*100.0
AQ11P(I) = (AQ11(I)/AQ11(3))*100.0
AQ12P(I) = (AQ12(I)/AQ12(3))*100.0
AQ15P(I) = (AQ15(I)/AQ15(3))*100.0
AQ18P(I) = (AQ18(I)/AQ18(3))*100.0
AQ20P(I) = (AQ20(I)/AQ20(3))*100.0
Z(4,I,INDEX) = ANA(I)
Z(6,I,INDEX) = AQ8(I)
Z(9,I,INDEX) = AQ11(I)
Z(10,I,INDEX) = AQ12(I)
Z(13,I,INDEX) = AQ15(I)
Z(15,I,INDEX) = AQ18(I)
Z(17,I,INDEX) = AQ20(I)
72 CONTINUE
DO 74 I=1,10
ACOLP(I) = (ACOL(I)/ACOL(10))*100.0
ACLASP(I) = (ACLAS(I)/ACLAS(7))*100.0
ARACP(I) = (ARAC(I)/ARAC(8))*100.0
AQ9P(I) = (AQ9(I)/AQ9(8))*100.0
AQ10P(I) = (AQ10(I)/AQ10(7))*100.0
AQ13P(I) = (AQ13(I)/AQ13(7))*100.0
AQ14P(I) = (AQ14(I)/AQ14(7))*100.0
AQ19P(I) = (AQ19(I)/AQ19(6))*100.0
AQ22P(I) = (AQ22(I)/AQ22(7))*100.0
AQ23TP(I) = (AQ23T(I)/AQ23T(9))*100.0
AQ24P(I) = (AQ24(I)/AQ24(7))*100.0
AQ25P(I) = (AQ25(I)/AQ25(7))*100.0
A26A1P(I) = (AQ26A1(I)/AQ26A1(7))*100.0
A26A2P(I) = (AQ26A2(I)/AQ26A2(7))*100.0

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```

A26B1P(I) = (AQ26B1(I)/AQ26B1(7))*100.0
A26B2P(I) = (AQ26B2(I)/AQ26B2(7))*100.0
Z(1,I,INDEX) = AM(I)
Z(2,I,INDEX) = ACDL(I)
Z(3,I,INDEX) = ACLAS(I)
Z(5,I,INDEX) = ARAC(I)
Z(7,I,INDEX) = AQ9(I)
Z(8,I,INDEX) = AQ10(I)
Z(11,I,INDEX) = AQ13(I)
Z(12,I,INDEX) = AQ14(I)
Z(14,I,INDEX) = AQ17(I)
Z(16,I,INDEX) = AQ19(I)
Z(19,I,INDEX) = AQ22(I)
Z(20,I,INDEX) = AQ23T(I)
Z(21,I,INDEX) = AQ24(I)
Z(22,I,INDEX) = AQ25(I)

```

```

DO 74 J=1,3
AQ21P(I,J) = (AQ21(I,J)/AQ21(I,3))*100.0
Z(18,J,INDEX) = AQ21(9,J)

```

```
CONTINUE
```

```

74 PLACE IN PROGRAM TO INSERT PRINT STATEMENTS
C PART 2 PRINT STATEMENTS DAVID SELBY
C

```

```

PRINT 203,LABEL
PRINT 131,(NAM(1,K),K=1,5)
PRINT 201
PRINT 202
PRINT 205
PRINT 202
PRINT 206,(AG(J),J=1,19)
PRINT 202
PRINT 207,AAGE,STDOAG,VAR
PRINT 503
PRINT 111,AG(20)
PRINT 202
PRINT 205
PRINT 202
PRINT 110,(AGP(J),J=1,19)
PRINT 503
PRINT 131,(NAM(2,K),K=1,5)
PRINT 208
PRINT 202
PRINT 209
PRINT 202
PRINT 115
PRINT 200
PRINT 210,(AM(J),J=1,13)
PRINT 202
PRINT 120
PRINT 200
PRINT 512,(AMP(J),J=1,13)
PRINT 203,LABEL
PRINT 131,(NAM(3,K),K=1,5)
PRINT 211
PRINT 202
PRINT 212
PRINT 202
PRINT 115
PRINT 200
PRINT 213,(ACOL(J),J=1,10)

```

```

PRINT 202
PRINT 120
PRINT 200
PRINT 514,(ACOLP(J),J=1,10)
PRINT 503
PRINT 131,(NAM(4,K),K=1,5)
PRINT 214
PRINT 202
PRINT 215
PRINT 202
PRINT 115
PRINT 200
PRINT 216,(ACLAS(J),J=1,7)
PRINT 202
PRINT 120
PRINT 200
PRINT 516,(ACLASP(J),J=1,7)
PRINT 203,LABEL
PRINT 131,(NAM(5,K),K=1,5)
PRINT 217
PRINT 202
PRINT 218
PRINT 202
PRINT 115
PRINT 200
PRINT 219,(ANA(J),J=1,3)
PRINT 202
PRINT 120
PRINT 200
PRINT 518,(ANAP(J),J=1,3)
PRINT 503
PRINT 131,(NAM(6,K),K=1,5)
PRINT 220
PRINT 202
PRINT 221
PRINT 202
PRINT 115
PRINT 200
PRINT 222,(ARAC(J),J=1,8)
PRINT 202
PRINT 120
PRINT 200
PRINT 520,(ARACP(J),J=1,8)
PRINT 203,LABEL
PRINT 131,(NAM(7,K),K=1,5)
PRINT 223
PRINT 202
PRINT 224
PRINT 202
PRINT 115
PRINT 200
PRINT 225,(AQ8(J),J=1,4)
PRINT 202
PRINT 120
PRINT 200
PRINT 522,(AQ8P(J),J=1,4)
PRINT 503
PRINT 131,(NAM(8,K),K=1,5)
PRINT 226

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```
PRINT 202
PRINT 227
PRINT 202
PRINT 115
PRINT 200
PRINT 228,(AQ9(J),J=1,8)
PRINT 202
PRINT 120
PRINT 200
PRINT 524,(AQ9P(J),J=1,8)
PRINT 203,LABEL
PRINT 131,(NAM(9,K),K=1,5)
PRINT 230
PRINT 202
PRINT 231
PRINT 202
PRINT 115
PRINT 200
PRINT 232,(AQ10(J),J=1,7)
PRINT 202
PRINT 120
PRINT 200
PRINT 526,(AQ10P(J),J=1,7)
PRINT 503
PRINT 131,(NAM(10,K),K=1,5)
PRINT 235
PRINT 202
PRINT 236
PRINT 202
PRINT 115
PRINT 200
PRINT 237,(AQ11(J),J=1,3)
PRINT 202
PRINT 120
PRINT 200
PRINT 528,(AQ11P(J),J=1,3)
PRINT 203,LABEL
PRINT 131,(NAM(11,K),K=1,5)
PRINT 240
PRINT 202
PRINT 241
PRINT 202
PRINT 115
PRINT 200
PRINT 242,(AQ12(J),J=1,3)
PRINT 202
PRINT 120
PRINT 200
PRINT 530,(AQ12P(J),J=1,3)
PRINT 503
PRINT 131,(NAM(12,K),K=1,5)
PRINT 245
PRINT 202
PRINT 246
PRINT 202
PRINT 115
PRINT 200
PRINT 247,(AQ13(J),J=1,7)
PRINT 202
```

```
PRINT 120
PRINT 200
PRINT 532,(AQ13P(J),J=1,7)
PRINT 203,LABEL
PRINT 131,(NAM(13,K),K=1,5)
PRINT 250
PRINT 202
PRINT 251
PRINT 202
PRINT 115
PRINT 200
PRINT 252,(AQ14(J),J=1,7)
PRINT 202
PRINT 120
PRINT 200
PRINT 534,(AQ14P(J),J=1,7)
PRINT 503
PRINT 131,(NAM(14,K),K=1,5)
PRINT 256
PRINT 202
PRINT 257
PRINT 202
PRINT 115
PRINT 200
PRINT 258,(AQ15(J),J=1,3)
PRINT 202
PRINT 120
PRINT 200
PRINT 536,(AQ15P(J),J=1,3)
PRINT 203,LABEL
PRINT 131,(NAM(15,K),K=1,5)
PRINT 260
PRINT 202
PRINT 261,AGPA,STDDGP,VARGP
PRINT 503
PRINT 131,(NAM(16,K),K=1,5)
PRINT 265
PRINT 202
PRINT 266
PRINT 202
PRINT 115
PRINT 200
PRINT 267,(AQ17(J),J=1,11)
PRINT 202
PRINT 120
PRINT 200
PRINT 538,(AQ17P(J),J=1,11)
PRINT 503
PRINT 131,(NAM(17,K),K=1,5)
PRINT 270
PRINT 202
PRINT 257
PRINT 202
PRINT 115
PRINT 200
PRINT 258,(AQ18(J),J=1,3)
PRINT 202
PRINT 120
PRINT 200
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```

PRINT 536,(AQ18P(J),J=1,3)
PRINT 203,LABEL
PRINT 131,(NAM(18,K),K=1,5)
PRINT 285
PRINT 202
PRINT 286
PRINT 202
PRINT 115
PRINT 200
PRINT 287,(AQ19(J),J=1,6)
PRINT 202
PRINT 120
PRINT 200
PRINT 542,(AQ19P(J),J=1,6)
PRINT 503
PRINT 131,(NAM(19,K),K=1,5)
PRINT 290
PRINT 202
PRINT 257
PRINT 202
PRINT 115
PRINT 200
PRINT 258,(AQ20(J),J=1,3)
PRINT 202
PRINT 120
PRINT 200
PRINT 536,(AQ20P(J),J=1,3)
PRINT 203,LABEL
PRINT 131,(NAM(20,K),K=1,5)
PRINT 300
PRINT 202
PRINT 301
PRINT 202
PRINT 302,(AQ21(1,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(1,J),J=1,3)
PRINT 200
PRINT 304,(AQ21(2,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(2,J),J=1,3)
PRINT 200
PRINT 305,(AQ21(3,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(3,J),J=1,3)
PRINT 200
PRINT 306,(AQ21(4,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(4,J),J=1,3)
PRINT 200
PRINT 307,(AQ21(5,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(5,J),J=1,3)
PRINT 200
PRINT 308,(AQ21(6,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(6,J),J=1,3)
PRINT 200
PRINT 309,(AQ21(7,J),J=1,3)
PRINT 200

```

```

PRINT 303,(AQ21P(7,J),J=1,3)
PRINT 200
PRINT 310,(AQ21(8,J),J=1,3)
PRINT 200
PRINT 303,(AQ21P(8,J),J=1,3)
PRINT 200
PRINT 311
PRINT 202
PRINT 312,(AQ21(9,J),J=1,3)
PRINT 202
PRINT 303,(AQ21P(9,J),J=1,3)
PRINT 203,LABEL
PRINT 131,(NAM(21,K),K=1,5)
PRINT 315
PRINT 202
PRINT 316
PRINT 202
PRINT 115
PRINT 200
PRINT 317,(AQ22(J),J=1,7)
PRINT 202
PRINT 120
PRINT 200
PRINT 550,(AQ22P(J),J=1,7)
KZZ = 7
KZA = 1
CALL MEDIAN (KZZ,AQ22,KZA,BGCL,BGCI)
PRINT 503
PRINT 131,(NAM(22,K),K=1,5)
PRINT 320
PRINT 202
PRINT 321
PRINT 202
PRINT 115
PRINT 200
PRINT 322,(AQ23I(J),J=1,9)
PRINT 202
PRINT 323,(AQ232(J),J=1,9)
PRINT 202
PRINT 324,(AQ233(J),J=1,9)
PRINT 200
PRINT 560
PRINT 202
PRINT 115
PRINT 200
PRINT 325,(AQ23T(J),J=1,9)
PRINT 202
PRINT 120
PRINT 200
PRINT 552,(AQ23TP(J),J=1,9)
PRINT 203,LABEL
PRINT 131,(NAM(23,K),K=1,5)
PRINT 340
PRINT 202
PRINT 341
PRINT 202
PRINT 115
PRINT 200
PRINT 342,(AQ24(J),J=1,7)

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```
PRINT 202
PRINT 120
PRINT 200
PRINT 554,{AQ24P(J),J=1,7}
KZZ = 7
KZA = 2
CALL MEDIAN (KZZ,AQ24,KZA,BGCL,BGCI)
PRINT 503
PRINT 131,{NAM(24,K),K=1,5}
PRINT 345
PRINT 202
PRINT 346
PRINT 202
PRINT 115
PRINT 200
PRINT 347,{AQ25(J),J=1,7}
PRINT 202
PRINT 120
PRINT 200
PRINT 556,{AQ25P(J),J=1,7}
PRINT 203,LABEL
PRINT 131,{NAM(25,K),K=1,5}
PRINT 200
PRINT 575
PRINT 202
PRINT 590
PRINT 200
PRINT 581
PRINT 200
PRINT 115
PRINT 200
PRINT 582,{AQ26A1(J),J=1,7}
PRINT 200
PRINT 120
PRINT 200
PRINT 584,{A26A1P(J),J=1,7}
PRINT 200
PRINT 202
PRINT 591
PRINT 200
PRINT 583
PRINT 200
PRINT 115
PRINT 200
PRINT 582,{AQ26A2(J),J=1,7}
PRINT 200
PRINT 120
PRINT 200
PRINT 584,{A26A2P(J),J=1,7}
PRINT 202
PRINT 592
PRINT 200
PRINT 266
PRINT 200
PRINT 115
PRINT 200
PRINT 267,{AQ26A3(J),J=1,11}
PRINT 200
PRINT 120
```

```
PRINT 200
PRINT 538,{A26A3P(J),J=1,11}
PRINT 501
PRINT 600,AVH26A,SD26AH,VA26AH
PRINT 202
PRINT 610,AVW26A,SD26AW,VA26AW
PRINT 202
PRINT 612,AMWK1(INDEX)
PRINT 203,LABEL
PRINT 131,{NAM(26,K),K=1,5}
PRINT 200
PRINT 576
PRINT 202
PRINT 590
PRINT 200
PRINT 581
PRINT 200
PRINT 115
PRINT 200
PRINT 582,{AQ26B1(J),J=1,7}
PRINT 200
PRINT 120
PRINT 200
PRINT 584,{A26B1P(J),J=1,7}
PRINT 200
PRINT 202
PRINT 591
PRINT 200
PRINT 583
PRINT 200
PRINT 115
PRINT 200
PRINT 582,{AQ26B2(J),J=1,7}
PRINT 200
PRINT 120
PRINT 200
PRINT 584,{A26B2P(J),J=1,7}
PRINT 202
PRINT 592
PRINT 200
PRINT 266
PRINT 200
PRINT 115
PRINT 200
PRINT 267,{AQ26B3(J),J=1,11}
PRINT 200
PRINT 120
PRINT 200
PRINT 538,{A26B3P(J),J=1,11}
PRINT 501
PRINT 601,AVH26B,SD26BH,VA26BH
PRINT 202
PRINT 511,AVW26B,SD26BW,VA26BW
PRINT 202
PRINT 614,AMWK2(INDEX)
PRINT 203,LABEL
PRINT 800,COR,CT
C(INDEX) = B
C1(INDEX) = AQ26A1(7)
```

```

C2(INDEX) = A026B1(7)
REWIND 1
INDEX = INDEX +1
GO TO 1
774 READ 776,NOTS
PRINT 203,LABEL
LCTT = 1
780 DO 790 IJK=1,NOTS
READ 777,NUMB,MUMB
SDJ1H(IJK) = SQRT((SSJ1H(NUMB)/C1(NUMB))+(SSJ1H(MUMB)/C1(MUMB)))
SDJ2H(IJK) = SQRT((SSJ2H(NUMB)/C2(NUMB))+(SSJ2H(MUMB)/C2(MUMB)))
SDJ1W(IJK) = SQRT((SSJ1W(NUMB)/C1(NUMB))+(SSJ1W(MUMB)/C1(MUMB)))
SDJ2W(IJK) = SQRT((SSJ2W(NUMB)/C2(NUMB))+(SSJ2W(MUMB)/C2(MUMB)))
SDVGP(IJK) = SQRT((SSVGP(NUMB)/C(NUMB))+(SSVGP(MUMB)/C(MUMB)))
SDWK1(IJK) = SQRT((SSI(NUMB)/C1(NUMB))+(SSI(MUMB)/C1(MUMB)))
SDWK2(IJK) = SQRT((SS2(NUMB)/C1(NUMB))+(SS2(MUMB)/C1(MUMB)))
TSDJ1H(IJK) = ABS(AMJ1H(NUMB)-AMJ1H(MUMB))/SDJ1H(IJK)
TSDJ2H(IJK) = ABS(AMJ2H(NUMB)-AMJ2H(MUMB))/SDJ2H(IJK)
TSDJ1W(IJK) = ABS(AMJ1W(NUMB)-AMJ1W(MUMB))/SDJ1W(IJK)
TSDJ2W(IJK) = ABS(AMJ2W(NUMB)-AMJ2W(MUMB))/SDJ2W(IJK)
TSDVGP(IJK) = ABS(AMGPA(NUMB)-AMGPA(MUMB))/SDVGP(IJK)
TSDW1(IJK) = ABS(AHWK1(NUMB)-AHWK1(MUMB))/SDWK1(IJK)
TSDW2(IJK) = ABS(AHWK2(NUMB)-AHWK2(MUMB))/SDWK2(IJK)
IF (LCTT .GT. 16)GO TO 799
GO TO 798
799 PRINT 203,LABEL
LCTT = 1
798 PRINT 778,NUMB,MUMB
PRINT 779,TSDJ1H(IJK),TSDJ2H(IJK),TSDJ1W(IJK),TSDJ2W(IJK),
2TSDVGP(IJK),TSDW1(IJK),TSDW2(IJK)
LCTT = LCTT +1
790 CONTINUE
PRINT 805
PRINT 806
NNN = INDEX-1
DO 820 I=1,NNN
820 PRINT 807,I,C1(I),C2(I),C(I)
IR = 2
READ (5,776) NCHISQ
DO 890 LL=1,NCHISQ
READ 777,LCHIE,LCHIO
WRITE (6,960)
DO 981 J=1,2
IF (J .EQ. 1)MANN = 19
IF (J .EQ. 2)MANN = 21
IF (J .EQ. 1)NC = 5
IF (J .EQ. 2)NC = 6
DO 980 I=1,NC
AA(I) = Z(MANN,I,LCHIE)
BB(I) = Z(MANN,I,LCHIO)
980 CONTINUE
CALL UTFEST (AA,BB,NC,U,ZSCORE,S)
IF ( J .EQ. 2)GO TO 985
WRITE (6,961) ZSCORE
WRITE (6,965) U
WRITE (6,966) S
GO TO 981
985 WRITE (6,962) ZSCORE
WRITE (6,965) U

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WRITE (6,966) S
CONTINUE
DO 890 L=1,22
DO 891 M=1,10
OB(1,M) = Z(L,M,LCHIE)
OB(2,M) = Z(L,M,LCHIO)
891 CONTINUE
IF (L .EQ. 1 .OR. L .EQ. 18)GO TO 910
GO TO 915
910 WRITE (6,815) LCHIE,LCHIO
915 IC = NOCLLS(L)
CALL ACHISQ (OB,LCHIE,LCHIO,LQNAME,L,IR,IC)
890 CONTINUE
1050 CALL EXIT
END
$1BFTC NAME 1
SUBROUTINE ACHISQ (OB,LCHIE,LCHIO,LQNAME,L,IR,IC)
100. FORMAT (1H ,10X,21HDEGREES OF FREEDOM = ,F5.0,10X,14HPROBABILITY =
2 ,F10.4)
110 FORMAT (1H0,15HRESERVED VALUES/(1H ,11F10.4))
120 FORMAT (1H0,15HEXPECTED VLLUES/(1H ,11F10.4))
115 FORMAT (1H0,11F10.4)
816 FORMAT (1H0,4X,3A6,5X,11(1X,F8.2))
DIMENSION OB(10,10),EX(10,10),TROW(10),TCOL(10)
DIMENSION CHI(3,11),LQNAME(22,3)
TT = 0.0
ICC = IC +1
DO 4 I=1,3
DO 4 J=1,11
4 CHI(I,J) = 0.0
DO 5 I=1,10
TROW(I) = 0.0
TCOL(I) = 0.0
DO 5 J=1,10
5 EX(I,J) = 0.0
DF = (IR-1)*(IC-1)
DO 15 I=1,IR
DO 15 J=1,IC
TROW(I) = TROW(I) +OB(I,J)
TCOL(J) = TCOL(J) +OB(I,J)
15 TT = TT +OB(I,J)
C COMPUTE EXPECTED VALUES AND CHI SQUARE
DO 25 I=1,IR
DO 25 J=1,IC
EX(I,J) = TROW(I)*TCOL(J)/TT
DIF = ABS(OB(I,J) -EX(I,J))
IF (DF .EQ. 1.0 .AND. EX(I,J) .LT. 5.0)DIF = DIF-.5
CHI(I,J) = DIF**2/EX(I,J)
CALL DVCHK(10)
IF (10 .EQ. 1)CHI(I,J) = 0.0
25 CONTINUE
DO 30 I=1,IR
DO 30 J=1,IC
CHI(I,IC+1) = CHI(I,IC+1) +CHI(I,J)
CHI(IR+1,IC+1) = CHI(IR+1,IC+1) +CHI(I,J)
CHI(IR+1,J) = CHI(IR+1,J) +CHI(I,J)
30 CONTINUE
WRITE (6,816) (LQNAME(I,K),K=1,3),(CHI(IR+1,M),M=1,ICC)
P = PRBF(DF,1000.0,CHI(IR+1,IC+1)/DF)

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WRITE (6,100) DF,P
RETURN
END
$IBFTC NAME 2
FUNCTION PRBF(DA,DB,FR)
PRBF = 1.0
IF (DA*DB *FR .EQ. 0.0)RETURN
IF (FR .LT. 1.0)GO TO 5
A = DA
B = DB
F = FR
GO TO 10
5 A = DB
B = DA
F = 1.0/FR
10 AA = 2.0/(9.0*A)
BB = 2.0/(9.0*B)
Z=ABS(((1.0-BB)*F**0.333333-1.0+AA)/SQRT(BB*F**0.666667+AA))
IF (B .LT. 4.0)Z = Z*(1.0+0.08*Z**4/B**3)
PRBF = 0.5/(1.0+Z*(0.196854+Z*(0.115194+Z*(0.000344+Z*0.019527))))
Z**4
IF (FR .LT. 1.0)PRBF = 1.0-PRBF
RETURN
END

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$IBFTC NAME 4
SUBROUTINE UTEST (A,B,NC,U,ZSCORE,S)
DIMENSION A(10),B(10),R(10)
120 FORMAT (1H0,3F15.4)
C = 1.0
FN1 = 0.0
FN2 = 0.0
R1 = 0.0
Z = 0.0
TS = 0.0
DO 10 I=1,NC
R(I) = (C +A(I)+B(I))/2.0
TS = TS +(((A(I)+B(I))*3)-A(I)*B(I))/12.0
R1 = R1 +A(I)*B(I)
FN1 = FN1 +A(I)
FN2 = FN2 +B(I)
10 C = A(I) +B(I) +1.0
FNX = FN1*FN2
FN = FN1 +FN2
UP = FNX+FN1*(((FN1+1.0)/2.0)-R1)
U = FNX -UP
IF (UP-U)20,30,30
20 U = UP
30 IF (FN1-20.0)80,50,50
50 S = SQRT((FNX/(FN*(FN-1.0)))*(((FN*FN*FN-FN)/12.0)-TS))
ZSCORE = (ABS(U)-FNX*.5)/S
80 RETURN
END

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$IBFTC NAME 3
SUBROUTINE MEDIAN (LZT,XX,MNO,BGCL,BGCI)
960 FORMAT (1H0,54X,15HMEDIAN VALUE =$,F10.2/)
REAL MDIAN
DIMENSION BGCL(3,10),BGCI(3,10),XX(10),YY(10)
DO 5 I=1,LZT
YY(I) = XX(I)

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5 CONTINUE
IF (MNO .EQ. 1)GO TO 20
GO TO 10
20 LZT = LZT -1
YY(LZT) = YY(LZT+1) -YY(LZT)
10 BMDA = 0.0
BMDD = YY(LZT)/2.0
LZZ = LZT -1
DO 25 I=1,LZZ
BMDA = BMDA +YY(I)
IF (BMDA .LT. BMDD .AND. (BMDA +YY(I+1)).GT. BMDD)GO TO 35
IF (BMDA .EQ. BMDD)GO TO 30
25 CONTINUE
35 MDIAN = BGCL(MNO,I+1) +((BMDD-BMDA)/(YY(I+1)*BGCI(MNO,I))
GO TO 40
30 MDIAN = BGCL(MNO,I+1)
40 WRITE (6,960) MDIAN
$ENTRY
$IBSYS

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VITA

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