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6000

TRAINING DURATION  
FOR ACQUIRING ACADEMIC DEGREES  
FOR UNITED STATES CITIZENS  
AND  
FOREIGN NATIONALS SPONSORED BY  
THE AGENCY FOR INTERNATIONAL DEVELOPMENT

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## DURATION OF ACADEMIC TRAINING

### EXECUTIVE SUMMARY

The Agency for International Development funds approximately 9,000 foreign nationals in academic programs in the United States each year. These students are enrolled in degree programs ranging from the Associate of Arts to the Phd. In order to insure that students are able to complete their degree objectives, funding for the entire program of study must be committed at the beginning of each program. This means that the A.I.D. Missions must do a fairly accurate estimate of the time necessary for a student to complete his/her program.

Currently estimates are made based on generally accepted rules of thumb: an Associate Degree will require two years; a Bachelors Degree will require four years; a Masters Degree will require two years, and a Phd will require three years. The numbers of requests for extensions of programs has demonstrated that these estimates are too general to be applied to the A.I.D. student population as a whole.

The main purpose of this study is to provide actual experience information that will allow more accurate estimates of how much time it takes A.I.D. sponsored foreign nationals to obtain academic degrees in the United States based on prior experience of other A.I.D. funded participants. A corollary purpose was to investigate the length of time required by U.S.

citizens to obtain degrees.

The findings for A.I.D. funded students varied significantly by region and country. Students from Latin America take considerably less time to obtain the various degrees except for the Masters where the difference is only half a month less than Asia and 2.2 months less than Africa. The difference for Doctorates is over 10 months less than for both Asia and Africa. For Bachelors degrees, there is a significant difference among all three regions: Asia, 48.3 months; Africa, 38.9 months; Latin America, 23.1 months.

In general the study suggests that the time needed for acquiring a Bachelors degree is around 4 years plus or minus 1 year. Masters degrees averaged a little over 2 years, plus or minus 1 year. Doctorates took close to 4 years, plus or minus 1 year. Variation can be attributed to the student's English language capabilities, prior educational training and field of study. This study did not explore prior training and language capability but the data would seem to point to a correlation. The data provided by country in the report will allow A.I.D. Missions to estimate the time needed to obtain degrees in the U.S. on the basis of previous experience for that country, region of the world, sex, degree being sought, and major academic area.

Only one source of information was found regarding the amount of time for U.S. citizens to obtain Bachelors degrees. An analysis of data collected by the National Longitudinal

Surveys (NLS) of the High School Class of 1972 showed that a substantial percentage (49%) of students from that cohort who graduated from college did so within four years of their high school graduation. Another 7% completed the degree in four years but did not start right after high school graduation.

There was no data available that indicated how long it actually took U.S. citizens to obtain Masters degrees. In the opinion of knowledgeable individuals interviewed, fully qualified students with full support so that they could carry course load should be able to complete the Masters degree in one calendar year. In practice estimates were that it would take 2 to 3 years because most Masters candidates were restricted to part time study because of the need to support themselves and their families.

U.S. citizen Doctorates took from 6.5 years (Chemistry) to 15.7 years (Education) from the time the Bachelors degree was obtained (data from Summary Report 1986 Doctorate Recipients from United States Universities). The time spent actually registered at a university was 5.5 years for Chemistry and 7.8 years for Education. All Doctorates averaged 7.1 years registered time. The time used by U.S. citizens in obtaining Doctorate degrees (and for that matter Masters and Bachelors) is heavily influenced by the intensity of the work. If a person, fully qualified was able to work full time toward a Doctorate, the time used would probably be 3.5 years plus or minus .5 years.

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## INTRODUCTION

This study was conducted for A.I.D. in response to a request to obtain information about the amount of time required by A.I.D. sponsored foreign nationals to obtain various degrees in the United States. The study consists of two major sections: one, how long it takes A.I.D. sponsored foreign nationals to obtain degrees, and, two, how long it takes U.S. students to obtain degrees.

A.I.D. data from its data base on supported students was used to accomplish the first section. The data was requested from the Participant Training Office and supplied on computer disks. It included degree recipients between 1980 through 1987. Analyses were done on the data to allow comparisons of time required for degrees. Data elements included the following:

Sex;

Country;

Region;

Institution Attended;

Degree;

Major Field;

The inquiry regarding length of time for U.S. students established that there was little data available. In fact, there were only two sources which could provide data. One, the National Longitudinal Surveys (NLS), provided estimates for Bachelors degrees. This survey provided data for six broad academic areas. The other, the National Research Council's (NRC) report on Doctorates included information about Doctoral degrees. There was no systematic data regarding Masters Degrees. The NRC data also included information on non-U.S. citizens receiving Doctorates. This latter data did not differentiate between A.I.D. sponsored individuals and non-sponsored foreign students. The NRC data broke the information on Doctorates down into 24 academic fields and 7 major areas.

## CHAPTER I

### The AID Data Base

One of the main purposes of this study is to determine the average length of time used by AID-sponsored students to obtain various degrees. To do this called for using information contained in the AID data base called the "Participant Training Information System" (PTIS).

The PTIS began as a manual system in 1944, was automated in 1960, revised in 1969, and reprogrammed into its present form in 1982. The data elements included in the system are

1. Participant Biographical Data
2. Participant Training Management Data
3. Training Facility Data
4. Health and Accident Coverage Data
5. Visa Data

For purposes of this study, the first two elements were pertinent. Data was requested for participants who had completed their degrees from 1980 to the present.

Initially, the contractor requested printout data from the PTIS. However, it quickly became clear that the inability of the system to do anything more than to provide literal printouts of certain data elements or to provide simple frequency data would result in the need for overwhelming hand tabulation and calculation. It also was clear that a considerable consumption of time would be required for each printout requested. As a result, it was decided to ask for a dump of the pertinent data elements onto disks so that the contractor could do its own data

manipulation. This was done and resulted in a total number of cases much lower than previous printouts contained.

A printout provided by AID titled "Summary of Terminated Participants by Academic Degree Objective Since FY 80 to Present- as of 9-30-87 (U.S. Training Only)" showed a total for all degrees: Associate, Bachelors, Masters, and Ph.D. of 8,718. The total on the first set of disks obtained was under 3,000. A request was made to recheck the criteria for including participants and provide a revised set of disks. This revision resulted in a total number of cases of 3,055. The greatly reduced number is attributed to two factors: One, those who terminated without completing their degree were included in the 9-30-87 printout but not in the data on the disks which called for completion of the degree objective and, two, the elimination of a considerable number of fields of study in compliance with the directive from AID to examine only ten major fields.

The selection of the ten fields was done using the data from the 9-30-87 printout of terminations by major field. It resulted in the selection of fields as seen in Table I -1. The overriding criterion for selection was the total number of cases for each field. As can be seen, Agriculture and Education were broken down into more than one field because of the differences in the subfields within each.

The fields and subfields were determined in consultation with AID Participant Training staff, Department of Agriculture staff, University Deans, and Association staff.

With the major fields established, it was decided to present

the data in the following way:

Table I -2       Frequencies by:

- a. Sex;
- b. Country;
- c. Last facility attended;
- d. Degree obtained;
- e. Subfield;
- f. Major Field.

Table I -3       Average time in months to complete Associate, Bachelors, Masters, and Doctorate degrees by countries included in the file.

Table I -4       Average time in months to complete above degrees by major field.

Table I -5       Average time in months for each country to complete degrees by major field.

Table I -6       Average time in months for each sex to complete degrees by major field.

Table I -7       Average time in months to complete degrees by area of the world: Asia, Africa, Latin America.

Each of the tables is preceded by a discussion of the information which it contains. Code lists, identifying country and subfield of major field are presented as appendices A and B. It should be pointed out that the code numbers for academic fields were being changed at the time this study was being done. As a result, it was somewhat difficult to communicate exactly the data from which fields was being requested. The data from AID provided for the study contained some fields not requested and ignored others that were. A close look at these discrepancies showed that they were insignificant in terms of generalizations that might be drawn from the data. For whatever reason and despite assurances that the PTIS would only produce data from developing countries, the

information included data on Italy (#145), Norway (#148), and others that are not the concern of this study. Again, the numbers are so small (Italy included a total of 8 students out of the total of 3,055) that the effects on total averages are insignificant. These aberrations (presence of unwanted field, absence of requested field, and presence of countries not in the Developing Country category) however, do point out the necessity, almost the requirement that any future studies using PTIS be conducted by concerns having total access to the data and full understanding of its limitations. We have no reason to believe that we would not have had such access if we had requested it, but by the time we knew we needed it, the resources of this study prevented our proceeding in that way.

In the following tables, information is presented as means, standard deviations and counts. The means and standard deviations refer to months required to obtain the degrees indicated and the counts refer to the numbers of such degrees obtained between 1980 and the end of 1987.

The mean is simply the arithmetic average of months to complete the degree. The standard deviation is a measure of the average spread of the months taken to complete away from the mean. One standard deviation below the mean will always contain 34% of the degrees obtained as will one standard deviation above the mean. More than one standard deviation below the mean contains 16% and more than one above also 16%. Thus, if we had 200 obtained degrees for a country with a mean of 36 months and a standard deviation of 12 months, we could interpret that

information as follows:

16% or 32 degrees took less than 24 months (2 years);

34 % or 68 degrees took between 24 and 36 months (2-3 years);

34% or 68 degrees took between 36 and 48 months (3 to 4 years);

16% or 32 degrees took more than 48 months (4 years).

We could also say that 84% or 168 degrees took 4 years or less for completion..

TABLE I -1

MAJOR FIELDS OF STUDY INCLUDED IN STUDY

1. Agriculture-Agronomy  
Number of cases: B-146, M-623, D-200  
Subfields:
  - Agronomy Field Crops
  - Horticulture (including ornamental)
  - Soil Science
  - Plant Pathology and Physiology
2. Agriculture-Animal  
Number of cases: B-83, M-163, D-66  
Subfields:
  - Animal science (husbandry)
  - Dairy Science
  - Poultry Science
3. Agriculture-Business  
Number of cases: B-94, M-391, D-126  
Subfields:
  - Agricultural Economics
  - Agricultural Business
  - Agricultural Credit and Marketing
4. Educational-Vocational  
Number of cases: B-77, M-130, D-21  
Subfields:
  - Physical Education
  - Health Education
  - Agricultural Education
  - Business Education
  - Distributive Education
  - Home Economics Education
  - Industrial Arts, Vocational and Non-Vocational
  - Adult Education
5. Education-Administration  
Number of Cases: B-14, M-299, D-24  
Subfields:
  - Educational Administration
  - Elementary Education
  - Secondary Education
6. Physical Sciences  
Number of Cases: B-52, M-149, D-67  
Subfields:
  - Astronomy
  - Earth Science
  - Meteorology
  - Geology
  - Geodetics
  - Geophysics

Oceanography  
Metallurgy  
Chemistry  
Chemical Biology  
Chemical Pharmacology  
Physics  
Physical Biology

7. Biological Sciences  
Number of Cases: B-74, M-247, D-98  
Subfields:
  - Anatomy, Histology
  - Bacteriology
  - Biochemistry
  - Biology, General
  - Biophysics
  - Botany
  - Entomology
  - Food Science, Nutrition
  - Genetics
  - Pathology
  - Physiology
  - Zoology
8. Public Administration  
Number of Cases: B-146, M-480, D-41  
Subfield:
  - Public Administration
9. Health  
Number of Cases: B-18, M-291, D-9  
Number of Subfields:
  - Hospital Administration
  - Public Health
10. Business  
Number of Cases: B-87, M-70, D-20  
Subfields:
  - Business
  - Accounting
  - Insurance and Banking
  - Business and Commerce
11. Engineering  
Number of Cases: B-238, M-227, D-80  
Subfields:
  - Agricultural Engineering
  - Civil Engineering
  - Hydraulic Engineering
  - Irrigation Engineering
  - Public Health Engineering
  - Sanitary Engineering
  - Engineering, General

12. Economics  
Number of Cases: B-47, M-276, D-78  
Subfields:  
Economics  
Economics, Industrial Relations

13. Mathematics and Computer Science  
Number of Cases: B-191, M-240, D-86  
Subfields:  
Computer Science  
Electrical Engineering  
Mathematics, Statistics

Note: "B" = Bachelors degrees, "M" = Masters degrees, and "D" =  
Doctoral degrees.

Numbers of cases was derived from AID, PTIS Printout 9-30-87.

## TABLE EXPLANATIONS

Frequencies of certain characteristics of completers in the file are displayed in the subtables of Table I -2. Table I -2a shows the breakdown in the number of cases by sex. It should come as no surprise to those at all familiar with foreign students sponsored by AID that women comprise only 16% of the total.

Table I -2b provides counts of degrees by country. Appendix A contains a list of country code numbers both in numeric order and alphabetical by country. countries with the largest numbers include: Indonesia - 232, Kenya - 150, Botswana - 139, and Yemen -193.

Table I -2c indicates the last facility attended and presumably the institution from which the degree was obtained. That is not necessarily the case, but it should be in an overwhelming number of cases. The list shows a distribution of AID sponsored students through a large number of institutions without a concentration in a small number. It takes 40 institutions to cover 50% of the cases. The entire list contains 347 institutions each of which had at least one AID sponsored student in the years 1980 through 1987. No institution had as much as 3% of the total and only three had over 2%. The institution code list appears as Appendix C.

Table I -2d provides counts and percents for the subfields in which the degrees were attained. The largest number, 333, was in Public Administration with Agricultural Crop Sciences next with 285. Agricultural related fields comprised almost one third of the degrees awarded. Engineering majors were over twenty

percent of the total. Appendix B contains the code list for academic majors.

Table I -2e displays the frequency of kinds of degrees (Associate, Bachelors, Masters, and Doctorates). Masters Degrees comprising over 60% of the total is clearly the largest category.

Table I -2f contains the frequencies of the major areas in which the degrees were awarded in these tables it is identified as "New Major". There are thirteen of these major areas each of which contains two or more of the subfields listed in Table I -2d. The actual subfields in each of these major fields is shown in Table I -1. The 13 major fields are as follows:

1. Agriculture - Agronomy
2. Agriculture - Animal
3. Agriculture - Business
4. Education - Vocational Training
5. Education - Administration
6. Physical Sciences
7. Biological Sciences
8. Public Administration
9. Health - Administration
10. Business and Management
11. Engineering
12. Economics
13. Mathematics, Computer Sciences

The following is an explanation of the table entries:

1. Value: Refers to the particular characteristic with which the table deals.
2. Frequency: Indicates the actual count of individuals classified in the particular characteristic (value) being reported.
3. Percent: Indicates what the particular characteristic (value) represents of the entire population of cases.
4. Valid Percent: The percentage of the cases reporting for a particular value. Missing cases are excluded.
5. Cum. Percent: Indicates the accumulating percentage of each category of the total cases reporting for that value.
6. Valid Cases: The count of cases reporting for a particular value.

For example, if out of our total group of 3,055 cases, there was no response on 526 cases, as was the situation for Date of Birth, we would conclude that the number of "valid cases" was 2,529 (3055-526 = 2529). Thus, an entry regarding "date of birth" would appear as follows:

Value (date of birth)	Frequency	%	Valid %	Cum.%
1950	146	4.8	5.8	31.4

We would interpret this entry as meaning that 146 students who received degrees were born in 1950 and that this number constituted 4.8% of the total number of cases in the file (3,055) but 5.8% of the cases that reported on this particular value

(2,529). Finally, the Cumulative Percent means that 31.4% of the students were born by this year (1950) or earlier. In any instance that "Valid Percent" is given, it refers to the total cases that actually contained data for the particular value of that table.

TABLE I -2a FREQUENCY BY SEX  
SPSS/PC+

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SEX

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	F	487	15.9	16.0	16.0
	M	2566	84.0	84.0	100.0
		2	.1	MISSING	
	TOTAL	3055	100.0	100.0	
Valid Cases	3053	Missing Cases	2		

COUNTRY

5/3/88

	Value	Frequency	Percent	Valid Percent	Cum Percent
ITALY	145	8	.3	.3	.3
PORTUGAL	150	11	.4	.4	.6
CYPRUS	233	104	3.4	3.4	4.0
EGYPT	263	85	2.8	2.8	6.8
SYRIA	276	32	1.0	1.0	7.9
JORDAN	278	26	.9	.9	8.7
YEMEN ARAB	279	193	6.3	6.3	15.0
JORDAN-WEST	292	67	2.2	2.2	17.2
NEPAL	367	42	1.4	1.4	18.6
SRI LANKA	383	46	1.5	1.5	20.1
INDIA	386	1	.0	.0	20.1
BANGLADESH	388	10	.3	.3	20.5
PAKISTAN	391	45	1.5	1.5	21.9
BURMA	482	14	.5	.5	22.4
MALAYSIA	483	1	.0	.0	22.4
WESTERN SAMOA	491	2	.1	.1	22.5
PHILIPPINES	492	52	1.7	1.7	24.2
THAILAND	493	33	1.1	1.1	25.3
INDONESIA	497	232	7.6	7.6	32.9
BAHAMAS	501	1	.0	.0	32.9
GUYANA	504	3	.1	.1	33.0
BELIZE	505	15	.5	.5	33.5
ARGENTINA	500	1	.0	.0	33.5
BOLIVIA	511	7	.2	.2	33.7
BRAZIL	512	2	.1	.1	33.8
COLOMBIA	514	5	.2	.2	34.0
COSTA RICA	515	18	.6	.6	34.6
DOMINICAN REP	517	37	1.2	1.2	35.8
ECUADOR	518	18	.6	.6	36.4
EL SALVADOR	519	20	.7	.7	37.0
GUATEMALA	520	23	.8	.8	37.8
HAITI	521	22	.7	.7	38.5
HONDURAS	522	26	.9	.9	39.3
MEXICO	523	6	.2	.2	39.5
NICARAGUA	524	11	.4	.4	39.9
PANAMA	525	59	1.9	1.9	41.8
PARAGUAY	526	6	.2	.2	42.0
PERU	527	29	.9	.9	43.0
URUGUAY	528	1	.0	.0	43.0
JAMAICA	532	33	1.1	1.1	44.1
BARBADOS	534	7	.2	.2	44.3
ANTIGUA	541	5	.2	.2	44.5
DOMINICA	542	1	.0	.0	44.5
GRENADA	543	4	.1	.1	44.6
MONTSERRAT	544	1	.0	.0	44.7
ST. CHRIS	545	2	.1	.1	44.7
ST. LUCIA	546	5	.2	.2	44.9
ST. VINCENT	547	6	.2	.2	45.1
BRITISH VIRGIN	549	1	.0	.0	45.1
DJIBOUTI, DEM'	603	1	.0	.0	45.2
MOROCCO	608	117	3.8	3.8	49.0
ZAMBIA	611	57	1.9	1.9	50.9
MALAWI	612	45	1.5	1.5	52.3

## COUNTRY

ZIMBABWE	613	63	2.1	2.1	54.4
KENYA	615	150	4.9	4.9	59.3
UGANDA	617	13	.4	.4	59.7
NIGERIA	620	1	.0	.0	59.8
TANZANIA	621	91	3.0	3.0	62.7
SAHEL REGIONAL	625	3	.1	.1	62.8
CAMEROON	631	46	1.5	1.5	64.4
LESOTHO	632	69	2.3	2.3	66.6
BOTSWANA	633	139	4.5	4.5	71.2
GAMBIA, THE	635	27	.9	.9	72.0
SIERRA LEONA	636	18	.6	.6	72.6
GHANA	641	18	.6	.6	73.2
MAURITIUS	642	1	.0	.0	73.3
SWAZILAND	645	86	2.8	2.8	76.1
SOMALIA	649	44	1.4	1.4	77.5
SUDAN	650	51	1.7	1.7	79.2
EQUATORIAL GUINEA	653	1	.0	.0	79.2
CAPE VERDE	655	36	1.2	1.2	80.4
GUINEA-BISSAU	657	18	.6	.6	81.0
SAO TOME AND PRIN	658	1	.0	.0	81.0
ZAIRE	660	39	1.3	1.3	82.3
SEYCHELLES	662	1	.0	.0	82.3
TUNISIA	664	91	3.0	3.0	85.3
LIBERIA	669	49	1.6	1.6	86.9
NAMIBIA	673	4	.1	.1	87.0
SOUTH AFRICA, REP	674	50	1.6	1.6	88.7
GUINEA	675	17	.6	.6	89.2
CENTRAL AFRICAN REP	676	4	.1	.1	89.4
CONGO, REPUBLIC OF	679	10	.3	.3	89.7
BENIN (DAHOMY)	680	5	.2	.2	89.9
IVORY COAST	681	17	.6	.6	90.4
MAURITANIA	682	18	.6	.6	91.0
NIGER	683	38	1.2	1.2	92.2
SENEGAL	685	61	2.0	2.0	94.2
BURKINA	686	26	.9	.9	95.1
MADAGASCAR	687	6	.2	.2	95.3
MALI	688	82	2.7	2.7	98.0
SOUTHERN AFRICA	690	2	.1	.1	98.0
TOGO	693	27	.9	.9	98.9
BURUNDI	695	16	.5	.5	99.4
RWANDA	696	14	.5	.5	99.9
AFRICA REGIONAL	698	1	.0	.0	99.9
FIJI	882	1	.0	.0	100.0
TONGA	887	1	.0	.0	100.0
		-----	-----	-----	
TOTAL		3055	100.0	100.0	

Valid Cases

3055

Missing Cases

0

TABLE I -2c FREQUENCY BY INSTITUTION  
SPSS/PC+

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LASTFAC

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0027900	1	.0	.0	.0
	0049200	1	.0	.0	.1
	0110100	15	.5	.5	.6
	0110300	2	.1	.1	.6
	0110800	2	.1	.1	.7
	0110900	17	.6	.6	1.2
	0111000	7	.2	.2	1.5
	0111100	3	.1	.1	1.6
	0179800	1	.0	.0	1.6
	0310100	1	.0	.0	1.6
	0310200	2	.1	.1	1.7
	0310300	57	1.9	1.9	3.6
	0319900	5	.2	.2	3.7
	0320400	1	.0	.0	3.8
	0376300	2	.1	.1	3.8
	0410800	13	.4	.4	4.3
	0410900	2	.1	.1	4.3
	0472900	2	.1	.1	4.4
	0510300	2	.1	.1	4.5
	0510700	6	.2	.2	4.7
	0510900	15	.5	.5	5.1
	0511100	1	.0	.0	5.2
	0511200	2	.1	.1	5.2
	0511400	2	.1	.1	5.3
	0511600	4	.1	.1	5.4
	0511700	7	.2	.2	5.7
	0511800	5	.2	.2	5.8
	0512500	4	.1	.1	6.0
	0515200	2	.1	.1	6.0
	0515600	8	.3	.3	6.3
	0515700	11	.4	.4	6.7
	0515900	21	.7	.7	7.3
	0516200	8	.3	.3	7.6
	0516300	2	.1	.1	7.7
	0516500	6	.2	.2	7.9
	0516600	2	.1	.1	7.9
	0516800	1	.0	.0	8.0
	0516900	1	.0	.0	8.0
	0517100	41	1.3	1.3	9.3
	0517200	1	.0	.0	9.4
	0517300	1	.0	.0	9.4
	0521900	1	.0	.0	9.4
	0530000	1	.0	.0	9.5
	0536300	1	.0	.0	9.5
	0545400	1	.0	.0	9.5
	0546200	1	.0	.0	9.6
	0597300	4	.1	.1	9.7
	0598000	1	.0	.0	9.7
	0599000	2	.1	.1	9.8
	0610300	1	.0	.0	9.8
	0610400	29	.9	1.0	10.8
	0611000	18	.6	.6	11.4
	0611100	4	.1	.1	11.5

LASTFAC

0611200	9	.3	.3	11.8
0620300	1	.0	.0	11.8
0670800	12	.4	.4	12.2
0680400	1	.0	.0	12.3
0710300	1	.0	.0	12.3
0710900	4	.1	.1	12.4
0711100	7	.2	.2	12.6
0711200	9	.3	.3	12.9
0711300	1	.0	.0	13.0
0711500	2	.1	.1	13.0
0711600	2	.1	.1	13.1
0810100	9	.3	.3	13.4
0810200	3	.1	.1	13.5
0872500	1	.0	.0	13.5
0910200	8	.3	.3	13.8
0910400	9	.3	.3	14.1
0910500	7	.2	.2	14.3
0910700	63	2.1	2.1	16.4
0910800	11	.4	.4	16.7
0910900	3	.1	.1	16.8
0911100	5	.2	.2	17.0
0920700	5	.2	.2	17.2
0920900	1	.0	.0	17.2
0978200	1	.0	.0	17.2
0980600	1	.0	.0	17.3
0982400	1	.0	.0	17.3
0983700	2	.1	.1	17.4
1010200	7	.2	.2	17.6
1010300	4	.1	.1	17.7
1010400	5	.2	.2	17.9
1010700	5	.2	.2	18.1
1011700	35	1.1	1.1	19.2
1020200	2	.1	.1	19.3
1110200	1	.0	.0	19.3
1110300	32	1.0	1.0	20.3
1110400	7	.2	.2	20.6
1110500	2	.1	.1	20.6
1210400	6	.2	.2	20.8
1310800	1	.0	.0	20.9
1312000	4	.1	.1	21.0
1312200	3	.1	.1	21.1
1312400	4	.1	.1	21.2
1312600	38	1.2	1.2	22.5
1312700	1	.0	.0	22.5
1312900	2	.1	.1	22.6
1313000	4	.1	.1	22.7
1313100	38	1.2	1.2	24.0
1313200	13	.4	.4	24.4
1313600	1	.0	.0	24.4
1313700	1	.0	.0	24.4
1396300	2	.1	.1	24.5
1410100	15	.5	.5	25.0
1410800	2	.1	.1	25.1
1410900	9	.3	.3	25.4
1411000	2	.1	.1	25.4
1411100	22	.7	.7	26.1
1411200	32	1.0	1.0	27.2

LASTFAC

1411600	2	.1	.1	27.3
1411700	1	.0	.0	27.3
1510700	49	1.6	1.6	28.9
1511400	8	.3	.3	29.2
1511700	9	.3	.3	29.5
1519900	4	.1	.1	29.6
1610500	42	1.4	1.4	31.0
1610800	9	.3	.3	31.3
1610900	5	.2	.2	31.4
1620300	10	.3	.3	31.7
1710200	1	.0	.0	31.8
1710800	1	.0	.0	31.8
1711100	45	1.5	1.5	33.3
1711200	4	.1	.1	33.4
1810200	2	.1	.1	33.5
1810500	38	1.2	1.2	34.7
1810900	1	.0	.0	34.8
1811100	1	.0	.0	34.8
1811200	14	.5	.5	35.3
1811400	51	1.7	1.7	36.9
1811500	5	.2	.2	37.1
1829900	3	.1	.1	37.2
1891800	3	.1	.1	37.3
1910500	6	.2	.2	37.5
2010100	1	.0	.0	37.5
2010600	15	.5	.5	38.0
2010800	8	.3	.3	38.3
2011300	1	.0	.0	38.3
2011400	9	.3	.3	38.6
2011900	6	.2	.2	38.8
2030000	1	.0	.0	38.8
2030200	14	.5	.5	39.3
2081000	1	.0	.0	39.3
2110100	1	.0	.0	39.4
2110300	1	.0	.0	39.4
2110500	1	.0	.0	39.4
2110600	20	.7	.7	40.1
2110800	3	.1	.1	40.2
2110900	2	.1	.1	40.2
2111500	2	.1	.1	40.3
2111600	20	.7	.7	41.0
2111900	6	.2	.2	41.2
2112100	1	.0	.0	41.2
2112200	10	.3	.3	41.5
2112900	4	.1	.1	41.6
2113000	22	.7	.7	42.4
2113300	1	.0	.0	42.4
2113700	9	.3	.3	42.7
2121300	2	.1	.1	42.8
2121800	1	.0	.0	42.8
2121900	13	.4	.4	43.2
2143700	1	.0	.0	43.3
2180200	3	.1	.1	43.3
2181300	4	.1	.1	43.5
2210200	3	.1	.1	43.6
2210400	45	1.5	1.5	45.1
2210800	80	2.6	2.6	47.7

LASTFAC

2211100	2	.1	.1	47.7
2211300	1	.0	.0	47.8
2211400	28	.9	.9	48.7
2211500	9	.3	.3	49.0
2211600	3	.1	.1	49.1
2212100	1	.0	.0	49.1
2220700	1	.0	.0	49.1
2310300	2	.1	.1	49.2
2310900	1	.0	.0	49.2
2311000	1	.0	.0	49.3
2311800	50	1.6	1.6	50.9
2410100	1	.0	.0	51.0
2410300	2	.1	.1	51.0
2410400	26	.9	.9	51.9
2410600	4	.1	.1	52.0
2410800	2	.1	.1	52.1
2411000	2	.1	.1	52.1
2510300	1	.0	.0	52.2
2510700	1	.0	.0	52.2
2511200	3	.1	.1	52.3
2511300	53	1.7	1.7	54.0
2511500	8	.3	.3	54.3
2521100	1	.0	.0	54.3
2580100	2	.1	.1	54.4
2610200	2	.1	.1	54.5
2610300	9	.3	.3	54.8
2610500	1	.0	.0	54.8
2710400	1	.0	.0	54.8
2710500	32	1.0	1.0	55.9
2871500	1	.0	.0	55.9
2920300	1	.0	.0	55.9
3010400	2	.1	.1	56.0
3010700	1	.0	.0	56.0
3011300	15	.5	.5	56.5
3011400	1	.0	.0	56.6
3011600	1	.0	.0	56.6
3080500	1	.0	.0	56.6
3080800	1	.0	.0	56.7
3110100	1	.0	.0	56.7
3110500	50	1.6	1.6	58.3
3110600	3	.1	.1	58.4
3110900	1	.0	.0	58.5
3202100	2	.1	.1	58.5
3203400	1	.0	.0	58.6
3210100	7	.2	.2	58.8
3210200	1	.0	.0	58.8
3210600	1	.0	.0	58.8
3210800	3	.1	.1	58.9
3210900	3	.1	.1	59.0
3211000	1	.0	.0	59.1
3211200	1	.0	.0	59.1
3211500	8	.3	.3	59.4
3211600	4	.1	.1	59.5
3211700	28	.9	.9	60.4
3211800	1	.0	.0	60.5
3211900	3	.1	.1	60.6
3212000	2	.1	.1	60.6

LASTFAC

3212100	2	.1	.1	60.7
3213100	2	.1	.1	60.7
3213900	12	.4	.4	61.1
3214000	7	.2	.2	61.4
3214200	14	.5	.5	61.8
3214500	12	.4	.4	62.2
3215000	1	.0	.0	62.3
3215600	15	.5	.5	62.7
3215800	1	.0	.0	62.8
3215900	21	.7	.7	63.5
3216800	1	.0	.0	63.5
3216900	1	.0	.0	63.5
3217400	16	.5	.5	64.1
3217600	1	.0	.0	64.1
3217800	4	.1	.1	64.2
3222800	3	.1	.1	64.3
3222900	1	.0	.0	64.4
3226400	1	.0	.0	64.4
3226500	1	.0	.0	64.4
3230800	1	.0	.0	64.4
3310100	1	.0	.0	64.5
3310200	1	.0	.0	64.5
3310300	3	.1	.1	64.6
3310500	4	.1	.1	64.7
3311000	1	.0	.0	64.8
3311200	17	.6	.6	65.3
3311300	4	.1	.1	65.5
3311400	18	.6	.6	66.1
3311600	1	.0	.0	66.1
3311800	1	.0	.0	66.1
3312000	13	.4	.4	66.5
3312300	1	.0	.0	66.6
3312400	1	.0	.0	66.6
3410500	13	.4	.4	67.0
3410700	1	.0	.0	67.1
3510400	2	.1	.1	67.1
3510500	1	.0	.0	67.2
3510600	8	.3	.3	67.4
3510800	1	.0	.0	67.5
3510900	1	.0	.0	67.5
3511200	3	.1	.1	67.6
3511400	4	.1	.1	67.7
3511900	34	1.1	1.1	68.8
3512000	20	.7	.7	69.5
3512100	2	.1	.1	69.6
3512300	5	.2	.2	69.7
3512500	6	.2	.2	69.9
3513000	1	.0	.0	70.0
3514100	1	.0	.0	70.0
3583500	4	.1	.1	70.1
3583900	1	.0	.0	70.2
3610200	1	.0	.0	70.2
3611000	25	.8	.8	71.0
3611300	1	.0	.0	71.0
3611400	2	.1	.1	71.1
3670700	1	.0	.0	71.1
3676300	1	.0	.0	71.2

LASTFAC

3676400	1	.0	.0	71.2
3676800	13	.4	.4	71.6
3710500	1	.0	.0	71.7
3710600	43	1.4	1.4	73.1
3710900	2	.1	.1	73.1
3711300	2	.1	.1	73.2
3711400	1	.0	.0	73.2
3770300	1	.0	.0	73.3
3810400	1	.0	.0	73.3
3810600	5	.2	.2	73.5
3810700	2	.1	.1	73.5
3811000	1	.0	.0	73.6
3811700	1	.0	.0	73.6
3812300	4	.1	.1	73.7
3813000	23	.8	.8	74.5
3813200	2	.1	.1	74.5
3813700	14	.5	.5	75.0
3813800	46	1.5	1.5	76.5
3815500	1	.0	.0	76.5
3815600	8	.3	.3	76.8
3821800	5	.2	.2	77.0
3821900	1	.0	.0	77.0
3823500	1	.0	.0	77.0
3885400	1	.0	.0	77.1
3885500	1	.0	.0	77.1
3887400	1	.0	.0	77.1
3910100	1	.0	.0	77.2
3910500	4	.1	.1	77.3
3920200	1	.0	.0	77.3
4010100	7	.2	.2	77.6
4010500	7	.2	.2	77.8
4110400	1	.0	.0	77.8
4110500	9	.3	.3	78.1
4110600	13	.4	.4	78.5
4110700	4	.1	.1	78.7
4171900	2	.1	.1	78.7
4210200	1	.0	.0	78.8
4210300	2	.1	.1	78.8
4210600	1	.0	.0	78.9
4210800	1	.0	.0	78.9
4211100	3	.1	.1	79.0
4211300	7	.2	.2	79.2
4211500	2	.1	.1	79.3
4211600	32	1.0	1.0	80.3
4279000	2	.1	.1	80.4
4310400	1	.0	.0	80.4
4310900	1	.0	.0	80.5
4311100	9	.3	.3	80.8
4311200	2	.1	.1	80.8
4311300	13	.4	.4	81.3
4311400	3	.1	.1	81.4
4311500	1	.0	.0	81.4
4311900	50	1.6	1.6	83.0
4312100	2	.1	.1	83.1
4312200	1	.0	.0	83.1
4312400	30	1.0	1.0	84.1
4312700	1	.0	.0	84.1

LASTFAC

4313100	5	.2	.2	84.3
4313300	8	.3	.3	84.6
4313500	14	.5	.5	85.0
4314200	1	.0	.0	85.1
4321400	2	.1	.1	85.1
4333800	1	.0	.0	85.2
4388700	8	.3	.3	85.4
4410100	1	.0	.0	85.5
4410300	2	.1	.1	85.5
4410400	30	1.0	1.0	86.5
4410500	3	.1	.1	86.6
4510100	1	.0	.0	86.6
4510300	2	.1	.1	86.7
4520100	1	.0	.0	86.7
4610300	3	.1	.1	86.8
4610800	1	.0	.0	86.9
4610900	1	.0	.0	86.9
4611200	1	.0	.0	86.9
4611400	4	.1	.1	87.1
4611700	23	.8	.8	87.8
4611800	5	.2	.2	88.0
4620700	1	.0	.0	88.0
4678900	5	.2	.2	88.2
4679000	1	.0	.0	88.2
4682000	1	.0	.0	88.2
4710400	4	.1	.1	88.4
4710500	51	1.7	1.7	90.0
4710800	1	.0	.0	90.1
4721000	2	.1	.1	90.1
4781000	1	.0	.0	90.2
4811000	41	1.3	1.3	91.5
4910400	1	.0	.0	91.5
4910600	2	.1	.1	91.6
4910900	1	.0	.0	91.6
4911100	3	.1	.1	91.7
4911300	2	.1	.1	91.8
4911500	2	.1	.1	91.9
4911700	2	.1	.1	91.9
4911800	66	2.2	2.2	94.1
4911900	1	.0	.0	94.1
4977700	1	.0	.0	94.2
4978200	8	.3	.3	94.4
4978500	2	.1	.1	94.5
5010200	3	.1	.1	94.6
5110100	37	1.2	1.2	95.8
5110200	5	.2	.2	96.0
5110300	4	.1	.1	96.1
5110500	1	.0	.0	96.1
5110600	30	1.0	1.0	97.1
5110700	4	.1	.1	97.2
5110800	17	.6	.6	97.8
5110900	16	.5	.5	98.3
5120400	1	.0	.0	98.4
5121200	1	.0	.0	98.4
5121600	1	.0	.0	98.4
5121800	1	.0	.0	98.5
5130000	8	.3	.3	98.7

ASTFAC

5130200	13	.4	.4	99.1
5134200	1	.0	.0	99.2
5173800	1	.0	.0	99.2
5194400	6	.2	.2	99.4
5220600	9	.3	.3	99.7
5300000	3	.1	.1	99.8
6020300	1	.0	.0	99.8
9999700	3	.1	.1	99.9
9999900	2	.1	.1	100.0
	3	.1	MISSING	
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TOTAL	3055	100.0	100.0	

Valid Cases 3052

Missing Cases 3

MAJOR

	Value	Frequency	Percent	Valid Percent	Cum Percent
Economics	1400	187	6.1	6.1	6.1
Economics, Industrial Rel	1510	6	.2	.2	6.3
Agricultural Economics	1530	265	8.7	8.7	15.0
Physical Sciences, Gen	2000	1	.0	.0	15.0
Atmosphere and Earth Sci	2200	29	.9	.9	16.0
Meteorology	2230	3	.1	.1	16.1
Geology	2240	22	.7	.7	16.8
Oceanography	2261	3	.1	.1	16.9
Metallurgy	2262	2	.1	.1	17.0
Anatomy	2310	2	.1	.1	17.0
Botany	2320	9	.3	.3	17.3
Entomology	2340	52	1.7	1.7	19.0
Genetics	2350	4	.1	.1	19.1
Bacteriology	2372	9	.3	.3	19.4
Nutrition	2380	5	.2	.2	19.6
Physiology	2410	1	.0	.0	19.6
Zoology	2440	4	.1	.1	19.8
Chemistry	2500	35	1.1	1.1	20.9
Chemical Biology	2550	7	.2	.2	21.1
Mathematics	2600	28	.9	.9	22.1
Mathematics-Statistics	2680	41	1.3	1.3	23.4
Physics	2700	16	.5	.5	23.9
Physical Biology	2840	1	.0	.0	24.0
Engineering, General	3000	52	1.7	1.7	25.7
Civil Engineering	3010	218	7.1	7.1	32.8
Sanitary Engineering	3020	23	.8	.8	33.6
Public Health Engineering	3041	14	.5	.5	34.0
Electrical Engineering	3100	6	.2	.2	34.2
	3170	128	4.2	4.2	38.4
	3172	4	.1	.1	38.5
Agricultural Engineering	3180	2	.1	.1	38.6
Irrigation Engineering	3181	68	2.2	2.2	40.8
Computer Science	3400	22	.7	.7	41.5
Computer Science, Systems An	3450	97	3.2	3.2	44.7
Business, Accounting	3570	1	.0	.0	44.7
Business Industry Insurance	3700	57	1.9	1.9	46.6
Business Commerce	3730	5	.2	.2	46.8
Public Health	4600	62	2.0	2.0	48.8
Hospital Administration	4650	137	4.5	4.5	53.3
Public Administration	4900	15	.5	.5	53.8
Education, General	5000	333	10.9	10.9	64.7
Elementary Education	5071	49	1.6	1.6	66.3
Secondary Education	5072	39	1.3	1.3	67.6
Agricultural Education	5091	6	.2	.2	67.8
Business Education	5093	59	1.9	1.9	69.7
Home Economics Ed	5095	22	.7	.7	70.4
Trade and Industry Ed	5098	6	.2	.2	70.6
Health Education	5110	9	.3	.3	70.9
Adult Education	5150	10	.3	.3	71.2
Educational Admin	5290	15	.5	.5	71.7
Foods and Nutrition	5650	30	1.0	1.0	72.7
Agricultural Mar	6051	83	2.7	2.7	75.4
		31	1.0	1.0	76.4

## MAJOR

Agricultural Credit	6054	12	.4	.4	76.8
Agricultural Crop Sci	6101	285	9.3	9.3	86.2
Plant Pathology	6112	35	1.1	1.1	87.3
Plant Physiology	6113	18	.6	.6	87.9
Horticulture	6140	56	1.8	1.8	89.7
Soil Science	6160	100	3.3	3.3	93.0
Animal Husbandry	6200	134	4.4	4.4	97.4
Animal Husbandry, Poultry	6220	24	.8	.8	98.2
Animal Husbandry, Dairy	6250	15	.5	.5	98.7
	6710	32	1.0	1.0	99.7
	9245	9	.3	.3	100.0
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TOTAL		3055	100.0	100.0	
Valid Cases	3055				
Missing Cases		0			

TABLE I -e FREQUENCY BY DEGREES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	ASSOCIAT	65	2.1	2.1	2.1
	BACHELOR	726	23.8	23.8	25.9
	MASTER	1858	60.8	60.8	86.7
	PH.D	406	13.3	13.3	100.0
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	TOTAL	3055	100.0	100.0	
valid Cases	3055	Missing Cases	0		

TABLE I -2f FREQUENCY BY MAJOR FIELD  
SPSS/PC+

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NEWMAJOR

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
		203	6.6	6.6	6.6
	01	494	16.2	16.2	22.8
	02	173	5.7	5.7	28.5
	03	308	10.1	10.1	38.6
	04	121	4.0	4.0	42.5
	05	75	2.5	2.5	45.0
	06	118	3.9	3.9	48.8
	07	86	2.8	2.8	51.7
	08	333	10.9	10.9	62.6
	09	152	5.0	5.0	67.5
	10	124	4.1	4.1	71.6
	11	380	12.4	12.4	84.0
	12	193	6.3	6.3	90.3
	13	295	9.7	9.7	100.0
		-----	-----	-----	
	TOTAL	3055	100.0	100.0	
Valid Cases	3055	Missing Cases	0		

Table I -3

Table I -3 illustrates the length of time taken to acquire the various degrees, Associate, BA/BA, MS/MA, Doctorate) in months for the entire population in the file and separately for each country. Thus, for example, country number 279, Yemen Arab Republic, had students who performed as follows:

1 Associate Degree that required 21 months;

105 Bachelors Degrees that averaged 48.5 months;

79 Masters Degrees that averaged 26.5 months;

8 Doctoral Degrees that averaged 46.9 months;

The standard deviation figure for each degree describes the spread of time required for acquiring the degree. A single standard deviation may be thought of as constituting 34% of the cases above or below the mean (average) shown. Thus, we could say for Yemen that of the 105 Bachelors degrees received by its citizens in the U.S. under AID sponsorship, the following amounts of time were required to obtain that degree.

Less than 3 years (less than 36 months)--17 cases;

3 to 4 years (36-48 months)--35 cases;

4 to 5 years (48-60 months)--36 cases;

Over 5 years (over 60 months)--17 cases.

The average (mean) number of months for all Yemen bachelor degrees was 48.5 or just over 4 years. It would seem that on the whole (68%) Yemen Bachelor degree candidates are getting their degrees in right around the expected time for U.S. students of about 4 years. At the same time, however, a significant number (16%) took over 5 years. The same number (16%) of course, took

less than 3 years.

Interpreting the data for Yemen for Masters degrees follows exactly the same procedures as for the Bachelors degrees:

Total degrees--79;

Mean (average) time--26.5 months (2.2 years);

One Standard Deviation time--10.8 months (0.9 years.

Time to acquire Masters Degree:

Less than 1.3 years--13 cases;

1.3 to 2.2 years--26 cases;

2.2 to 3.1 years--37 cases;

Over 3.1 years--13 cases.

For Masters degrees, Yemen students are averaging slightly over 2 years with a sizable number (13 out of 79, 16.5%) taking over 3 years.

Doctoral degrees for Yemen students took an average of 47 months or just about 4 years.

Before applying the same analysis to the Doctoral degrees that was done for Bachelors and Masters, it should be pointed out that there were only 8 cases involved. With such a low number, it is possible for only one or two extreme cases, in terms of time to completion, to distort the averages for the group. For example, if 6 of the students completed their degrees in 3 years, and one took 6.5 years and another 7, the average for the whole group would be over 47 months or just about 4 years. When in actuality, 75% of the group was accomplishing the goal in 3 years. Once the total number of cases becomes relatively low, dealing with means and standard deviations can be misleading. If

the total is low, say 10 or less, it would be wise to examine the data for extreme deviations and to make adjustments (such as dropping the extremes) to avoid distortions in the averages.

Nevertheless, the following is the analysis of the Doctoral degrees from Yemen:

Total degrees--8

Mean (average) time--47 months

One Standard Deviation (time)--20 months

Time to Acquire Doctoral Degree:

Less than 2.3 years--1.3 cases;

2.3 to 4.0 years--2.7 cases;

4.0 to 5.6 years--2.7 cases

Over 5.6 years--1.3 cases.

As can be seen the numbers of cases in the categories become very small and can no longer be rounded. Someone trying to plan from such data does not really have much choice but to use the mean of 4 years. If, however, the individual data for each case is examined for extremes or extenuating circumstances, a much better estimate might be made for an individual candidate.

When a person looks at data such as that from Yemen, a certain pattern appears that looks like the following:

Bachelors Degree--4 years;

Masters Degree--2 years;

Doctoral Degree--4 years.

The question must arise to the observer of whether there might be a self-fulfilling prophecy going on.

Table I -3 illustrates the time used to acquire the various degrees for each country in the file and for the file in total. Thus, for all 726 Bachelors degrees in the file, the average time needed to obtain the degree was 38.52 months or a little over 3 years. The standard deviation of 14.66 months shows that there was a wide spread in the time used. Using the same pattern as in the previous table, we can state the following:

Total Bachelors Degrees--726  
Average (mean) months to complete--38.52  
Standard Deviation--14.66  
Approximate Time to Complete  
    Less than 2 years--117 (16%)  
    2 to 3 years--246 (34%)  
    3 to 4 years--246 (34%)  
    More than 4 years--117 (16%).

Thus, for planning purposes, without any more specific information than that presented above, we could expect that 68% of AID sponsored students will complete their Bachelors degrees in 3 years plus or minus 1 year. To identify for planning purposes the 32% of students falling outside of that range, it would be necessary to look at individual characteristics such as:

Previous work transferable to the degree program;

Need for English language training;

Need for improvement in basic skills in order to do college work;

Health problems;

Special characteristics of the program that would cause shorter or longer times.

However, we do have more specific information that will allow us to be more precise. Individual countries deviate from the above averages by considerable amounts. The following

information from Table I -3 illustrates the differences:

Kenya, #615

Total Bachelors Degrees--80

Average (mean) time, months--27.8

Standard Deviation, months--9.1

Approximate Time to Complete--

Less than 1.6 years--13 (16%)

1.6 to 2.3 years--27 (34%)

2.3 to 3.1 years--27 (34%)

More than 3.1 years--13 (16%)

Botswana, #633

Total Bachelors Degrees--82

Average (mean) time, months--40.2

Standard Deviation, months--13.3

Approximate Time to Complete--

Less than 2.2 years--13 (16%)

2.2 to 3.4 years--28 (34%)

3.4 to 4.5 years--28 (34%)

More than 4.5 years--13 (16%)

Thus for all countries, 84% of students complete Bachelors degrees in under 4 years. In Botswana it took 4.5 years and in Kenya just over 3 years for 84% of their students to obtain Bachelors degrees.

TABLE I -3 TIME TO COMPLETE DEGREES  
SPSS/PC+

5/3/88

Summaries of MONTH  
by levels of DEGREE

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			31.9067	14.5774	3055
DEGREE	ASSOCIAT		21.9538	6.7533	65
DEGREE	BACHELOR		38.5234	14.6615	726
DEGREE	MASTER		26.7944	10.5822	1858
DEGREE	PH.D		45.0640	17.5813	406
Total Cases =					3055

Summaries of MONTH  
By levels of COUNTRY  
DEGREE

Variable	Mean	Std Dev	Cases
For Entire Population	31.9067	14.5774	3055
COUNTRY DEGREE 145 ITALY			
DEGREE MASTER	13.3750	1.9955	8
	13.3750	1.9955	8
COUNTRY DEGREE 150 PORTUGAL			
DEGREE MASTER	22.7273	5.3309	11
DEGREE PH.D	23.5000	4.9272	10
	15.0000	0.0	1
COUNTRY DEGREE 233 CYPRUS			
DEGREE BACHELOR	31.2212	12.9555	104
DEGREE MASTER	35.4247	12.5243	73
	21.3226	7.4538	31
COUNTRY DEGREE 263 EGYPT			
DEGREE MASTER	36.0353	21.0885	85
DEGREE PH.D	22.5000	14.1676	44
	50.5610	17.3307	41
COUNTRY DEGREE 276 SYRIA			
DEGREE BACHELOR	72.0000	17.3986	32
DEGREE MASTER	72.0000	0.0	1
DEGREE PH.D	59.0000	36.7696	2
	72.8966	16.5515	29
COUNTRY DEGREE 278 JORDAN			
DEGREE MASTER	24.8077	10.4078	26
DEGREE PH.D	22.2609	6.5659	23
	44.3333	15.2753	3
COUNTRY DEGREE 279 YEMEN ARAB REPUBLIC			
DEGREE ASSOCIAT	39.2694	16.3248	193
DEGREE BACHELOR	21.0000	0.0	1
DEGREE MASTER	48.4762	12.7023	105
DEGREE PH.D	26.4937	10.7904	79
	46.8750	19.6936	8
COUNTRY DEGREE 292 JORDAN-WEST BANK			
DEGREE BACHELOR	34.6567	16.1776	67
DEGREE MASTER	39.0000	2.8284	2
DEGREE PH.D	22.3871	7.3061	31
	45.5882	14.4560	34
COUNTRY DEGREE 367 NEPAL			
DEGREE MASTER	24.9524	6.7497	42
DEGREE PH.D	24.6250	6.6359	40
	31.5000	7.7782	2
COUNTRY DEGREE 383 SRI LANKA			
DEGREE MASTER	38.5870	21.7272	46
DEGREE PH.D	21.5769	7.8444	26
	60.7000	11.2442	20
COUNTRY DEGREE 386 INDIA			
DEGREE MASTER	25.0000	0.0	1
	25.0000	0.0	1
COUNTRY DEGREE 388 BANGLADESH			
DEGREE MASTER	19.8000	11.9796	10
	14.3750	3.8149	8

DEGREE	PH. D		SPSS/PC+			5/3/8
			41.5000	3.5355		2
COUNTRY	391	PAKISTAN				
DEGREE	MASTER		25.5556	12.8480		45
DEGREE	PH. D		26.3171	13.1500		41
			17.7500	5.1235		4
COUNTRY	482	BURMA				
DEGREE	MASTER		23.2857	7.3320		14
			23.2857	7.3320		14
COUNTRY	483	MALAYSIA				
DEGREE	MASTER		34.0000	0.0		1
			34.0000	0.0		1
COUNTRY	491	WESTERN SAMOA				
DEGREE	MASTER		27.0000	5.6569		2
			27.0000	5.6569		2
COUNTRY	492	PHILLIPPINES				
DEGREE	MASTER		31.7308	15.1633		52
DEGREE	PH. D		20.2222	5.6182		27
			44.1600	12.0197		25
COUNTRY	493	THAILAND				
DEGREE	MASTER		21.4848	10.4974		33
DEGREE	PH. D		20.2903	8.5992		31
			40.0000	24.0416		2
COUNTRY	497	INDONESIA				
DEGREE	MASTER		27.3060	13.2576		232
DEGREE	PH. D		23.8426	9.5143		197
			46.8000	14.5477		35
COUNTRY	501	BAHAMAS				
DEGREE	BACHELOR		28.0000	0.0		1
			28.0000	0.0		1
COUNTRY	504	GUYANA				
DEGREE	BACHELOR		24.3333	3.5119		3
DEGREE	MASTER		28.0000	0.0		1
DEGREE	PH. D		24.0000	0.0		1
			21.0000	0.0		1
COUNTRY	505	BELIZE				
DEGREE	ASSOCIAT		21.9333	5.1612		15
DEGREE	BACHELOR		19.5714	3.7796		7
DEGREE	MASTER		23.1667	6.0800		6
DEGREE	PH. D		24.0000	0.0		1
			29.0000	0.0		1
COUNTRY	510	ARGENTINA				
DEGREE	PH. D		44.0000	0.0		1
			44.0000	0.0		1
COUNTRY	511	BOLIVIA				
DEGREE	MASTER		27.4286	7.8498		7
			27.4286	7.8498		7
COUNTRY	512	BRAZIL				
DEGREE	ASSOCIAT		20.0000	5.6569		2
DEGREE	MASTER		16.0000	0.0		1
			24.0000	0.0		1
COUNTRY	514	COLOMBIA				
DEGREE	ASSOCIAT		14.4000	4.8270		5
DEGREE	MASTER		12.0000	0.0		3
DEGREE	PH. D		13.0000	0.0		1
			23.0000	0.0		1
COUNTRY	515	COSTA RICA				
DEGREE	ASSOCIAT		25.5000	4.2322		18
			24.0000	0.0		8

			SPSS/PC+		
DEGREE	MASTER				
DEGREE	PH. D		25.5000	5.5291	5/3/88
			31.5000	.7071	8
					2
COUNTRY	517	DOMINICAN REPUBLIC			
DEGREE	BACHELOR		28.8108	8.5727	37
DEGREE	MASTER		41.0000	0.0	1
DEGREE	PH. D		28.5455	8.1742	33
			27.6667	13.2791	3
COUNTRY	518	ECUADOR			
DEGREE	BACHELOR		26.8333	6.7932	18
DEGREE	MASTER		23.0000	1.4142	2
DEGREE	PH. D		26.7333	6.9124	15
			36.0000	0.0	1
COUNTRY	519	EL SALVADOR			
DEGREE	ASSOCIAT		24.5000	6.7395	20
DEGREE	BACHELOR		19.8000	5.8481	5
DEGREE	MASTER		27.6667	2.3094	3
			25.6667	7.1266	12
COUNTRY	520	GUATEMALA			
DEGREE	ASSOCIAT		25.3043	8.6310	23
DEGREE	BACHELOR		20.1429	4.8107	7
DEGREE	MASTER		30.5000	9.1924	2
			27.1429	9.3138	14
COUNTRY	521	HAITI			
DEGREE	BACHELOR		27.5455	8.6889	22
DEGREE	MASTER		16.5000	.7071	2
DEGREE	PH. D		30.0000	7.6080	18
			16.5000	2.1213	2
COUNTRY	522	HONDURAS			
DEGREE	ASSOCIAT		21.7692	7.3120	26
DEGREE	BACHELOR		20.6667	4.4121	6
DEGREE	MASTER		21.6000	11.0574	10
			22.6000	3.7178	10
COUNTRY	523	MEXICO			
DEGREE	MASTER		18.6667	6.5320	6
			18.6667	6.5320	6
COUNTRY	524	NICARAGUA			
DEGREE	MASTER		28.1818	5.3818	11
			28.1818	5.3818	11
COUNTRY	525	PANAMA			
DEGREE	ASSOCIAT		26.4576	9.2779	59
DEGREE	BACHELOR		17.5000	4.4284	10
DEGREE	MASTER		23.0000	7.5498	3
DEGREE	PH. D		27.2683	7.7428	41
			39.8000	11.7132	5
COUNTRY	526	PARAGUAY			
DEGREE	ASSOCIAT		25.3333	1.6330	6
DEGREE	MASTER		24.0000	0.0	1
			25.6000	1.6733	5
COUNTRY	527	PERU			
DEGREE	BACHELOR		27.1379	11.5595	29
DEGREE	MASTER		37.0000	1.4142	2
DEGREE	PH. D		24.2727	11.3523	22
			35.8000	8.4083	5
COUNTRY	528	URUGUAY			
DEGREE	ASSOCIAT		26.0000	0.0	1
			26.0000	0.0	1

Variable			Mean	Std Dev	Cases
COUNTRY	532	JAMAICA			
DEGREE	BACHELOR		18.0909	6.9613	33
DEGREE	MASTER		20.8667	8.2537	15
DEGREE	PH.D		16.0000	4.8088	17
			12.0000	0.0	1
COUNTRY	534	BARBADOS			
DEGREE	ASSOCIAT		21.2857	6.6762	7
DEGREE	BACHELOR		24.0000	0.0	1
DEGREE	MASTER		12.0000	0.0	1
			22.6000	6.4265	5
COUNTRY	541	ANTIGUA			
DEGREE	BACHELOR		18.6000	14.7580	5
			18.6000	14.7580	5
COUNTRY	542	DOMINICA			
DEGREE	MASTER		15.0000	0.0	1
			15.0000	0.0	1
COUNTRY	543	GRENADA			
DEGREE	BACHELOR		18.0000	6.9282	4
			18.0000	6.9282	4
COUNTRY	544	MONTSERRAT			
DEGREE	BACHELOR		12.0000	0.0	1
			12.0000	0.0	1
COUNTRY	545	ST. CHRIS. & NEVIS			
DEGREE	BACHELOR		16.5000	4.9497	2
DEGREE	MASTER		13.0000	0.0	1
			20.0000	0.0	1
COUNTRY	546	ST. LUCIA			
DEGREE	BACHELOR		18.0000	7.8422	5
DEGREE	MASTER		17.7500	9.0323	4
			19.0000	0.0	1
COUNTRY	547	ST. VINCENT			
DEGREE	ASSOCIAT		12.1667	.4082	6
DEGREE	BACHELOR		12.0000	0.0	1
DEGREE	MASTER		12.0000	0.0	4
			13.0000	0.0	1
COUNTRY	549	BRITISH VIRGIN ISLANDS			
DEGREE	BACHELOR		12.0000	0.0	1
			12.0000	0.0	1
COUNTRY	603	DJIBOUTI, DEM. REPUB.			
DEGREE	MASTER		12.0000	0.0	1
			12.0000	0.0	1
COUNTRY	608	MOROCCO			
DEGREE	BACHELOR		30.5641	8.3091	117
DEGREE	MASTER		35.0000	16.9706	2
DEGREE	PH.D		28.2 14	7.3205	58
			32.7719	8.4895	57
COUNTRY	611	ZAMBIA			
DEGREE	BACHELOR		31.1053	9.1372	57
DEGREE	MASTER		31.9286	11.7176	14
DEGREE	PH.D		28.6286	6.6292	35
			40.5000	8.1591	8

Variable			Mean	Std Dev	Cases
COUNTRY	612	MALAWI			
DEGREE	BACHELOR		33.4444	13.4326	45
DEGREE	MASTER		29.7500	10.8436	4
DEGREE	PH.D		28.1724	9.6328	29
			47.4167	12.7383	12
COUNTRY	613	ZIMBABWE			
DEGREE	ASSOCIAT		39.5079	13.4427	63
DEGREE	BACHELOR		37.0000	0.0	1
DEGREE	MASTER		48.7297	7.3396	37
DEGREE	PH.D		25.4348	7.9591	23
			32.0000	7.0711	2
COUNTRY	615	KENYA			
DEGREE	BACHELOR		27.5933	8.8235	150
DEGREE	MASTER		27.7875	9.1246	80
DEGREE	PH.D		24.6667	5.3951	60
			43.6000	5.0155	10
COUNTRY	617	UGANDA			
DEGREE	BACHELOR		27.5385	6.9954	13
DEGREE	MASTER		26.5000	3.5355	2
DEGREE	PH.D		29.0000	6.6165	10
			15.0000	0.0	1
COUNTRY	620	NIGERIA			
DEGREE	PH.D		55.0000	0.0	1
			55.0000	0.0	1
COUNTRY	621	TANZANIA			
DEGREE	ASSOCIAT		26.1099	11.0347	91
DEGREE	BACHELOR		28.3333	2.5166	3
DEGREE	MASTER		35.1176	5.5664	17
DEGREE	PH.D		21.5254	9.5310	59
			35.3333	11.7808	12
COUNTRY	625	SAHEL REGIONAL			
DEGREE	MASTER		16.0000	6.0828	3
DEGREE	PH.D		12.5000	.7071	2
			23.0000	0.0	1
COUNTRY	631	CAMEROON			
DEGREE	BACHELOR		33.0870	9.0966	46
DEGREE	MASTER		41.4000	10.6442	5
DEGREE	PH.D		32.3684	8.5248	38
			28.3333	8.6217	3
COUNTRY	632	LESOTHO			
DEGREE	BACHELOR		30.4783	14.7754	69
DEGREE	MASTER		44.1786	11.7633	28
			21.1220	7.5239	41
COUNTRY	633	BOTSWANA			
DEGREE	ASSOCIAT		33.8561	13.7954	139
DEGREE	BACHELOR		25.0000	0.0	1
DEGREE	MASTER		40.1829	13.2731	82
DEGREE	PH.D		23.7170	7.2996	53
			43.0000	9.0000	3
COUNTRY	635	GAMBIA, THE			
DEGREE	BACHELOR		32.2222	11.1815	27
			38.5385	8.3827	13

Variable			Mean	Std Dev	Cases
DEGREE	MASTER		26.3571	10.4042	14
COUNTRY	636	SIERRA LEONA			
DEGREE	MASTER		29.5000	6.2521	18
DEGREE	PH.D		28.3529	4.0457	17
			49.0000	0.0	1
COUNTRY	641	GHANA			
DEGREE	ASSOCIAT		36.2222	16.8856	18
DEGREE	BACHELOR		24.5000	.7071	2
DEGREE	MASTER		41.5000	4.9497	2
DEGREE	PH.D		33.3000	16.9905	10
			46.7500	21.3288	4
COUNTRY	642	MAURITIUS			
DEGREE	MASTER		29.0000	0.0	1
			29.0000	0.0	1
COUNTRY	645	SWAZILAND			
DEGREE	ASSOCIAT		27.1163	11.6583	86
DEGREE	BACHELOR		25.0000	0.0	1
DEGREE	MASTER		31.0196	12.9437	51
			21.3235	6.1630	34
COUNTRY	649	SOMALIA			
DEGREE	ASSOCIAT		30.0455	6.8096	44
DEGREE	BACHELOR		33.0000	0.0	1
DEGREE	MASTER		28.0000	0.0	1
DEGREE	PH.D		30.4634	6.4191	41
			12.0000	0.0	1
COUNTRY	650	SUDAN			
DEGREE	BACHELOR		31.4118	13.6340	51
DEGREE	MASTER		27.0000	0.0	1
DEGREE	PH.D		26.4324	6.7640	37
			45.9231	18.1955	13
COUNTRY	653	EQUATORIAL GUINEA, REP.			
DEGREE	BACHELOR		53.0000	0.0	1
			53.0000	0.0	1
COUNTRY	655	CAPE VERDE			
DEGREE	ASSOCIAT		52.1389	10.1732	36
DEGREE	BACHELOR		38.0000	0.0	1
DEGREE	MASTER		53.8788	8.5248	33
			30.5000	7.7782	2
COUNTRY	657	GUINEA-BISSAU			
DEGREE	ASSOCIAT		47.0000	12.1316	18
DEGREE	BACHELOR		36.0000	8.1854	3
DEGREE	MASTER		51.3077	11.1758	13
			35.5000	.7071	2
COUNTRY	658	SAO TOME AND PRINCIPE			
DEGREE	BACHELOR		57.0000	0.0	1
			57.0000	0.0	1
COUNTRY	660	ZAIRE			
DEGREE	MASTER		31.2564	10.9345	39
DEGREE	PH.D		30.6579	10.4138	38
			54.0000	0.0	1
COUNTRY	662	SEYCHELLES			
DEGREE	MASTER		26.0000	0.0	1
			26.0000	0.0	1

COUNTRY	664	TUNISIA			
DEGREE	BACHELOR		48.0659	16.8884	91
DEGREE	MASTER		49.2727	11.4288	11
DEGREE	PH.D		46.5172	19.2292	58
			51.5455	11.6812	22
COUNTRY	669	LIBERIA			
DEGREE	BACHELOR		26.0816	9.3516	49
DEGREE	MASTER		36.0000	14.0238	4
DEGREE	PH.D		24.5000	7.4711	42
			35.0000	17.0587	3
COUNTRY	673	NAMIBIA			
DEGREE	BACHELOR		47.2500	4.9917	4
			47.2500	4.9917	4
COUNTRY	674	SOUTH AFRICA, REPUB. OF			
DEGREE	BACHELOR		32.9400	12.6981	50
DEGREE	MASTER		41.8462	10.9752	26
DEGREE	PH.D		23.3043	5.1912	23
			23.0000	0.0	1
COUNTRY	675	GUINEA			
DEGREE	BACHELOR		37.7647	14.3811	17
DEGREE	MASTER		24.0000	0.0	1
DEGREE	PH.D		37.1667	9.9985	12
			43.0000	25.2058	4
COUNTRY	676	CENTRAL AFRICAN REPUB.			
DEGREE	MASTER		36.7500	3.7749	4
			36.7500	3.7749	4
COUNTRY	679	CONGO, REPUB. OF			
DEGREE	MASTER		34.0000	9.3571	10
			34.0000	9.3571	10
COUNTRY	680	BENIN (DAHOMAY)			
DEGREE	MASTER		38.6000	7.9875	5
DEGREE	PH.D		40.0000	6.9282	3
			36.5000	12.0208	2
COUNTRY	681	IVORY COAST			
DEGREE	MASTER		32.3529	6.8551	17
DEGREE	PH.D		33.6250	4.5589	16
			12.0000	0.0	1
COUNTRY	682	MAURITANIA			
DEGREE	BACHELOR		43.3839	16.2377	18
DEGREE	MASTER		54.2500	15.4249	8
DEGREE	PH.D		35.0000	11.7792	9
			32.0000	0.0	1
COUNTRY	683	NIGER			
DEGREE	BACHELOR		38.2632	14.1033	38
DEGREE	MASTER		42.5789	12.4558	19
DEGREE	PH.D		36.2941	13.6233	17
			14.0000	0.0	2
COUNTRY	685	SENEGAL			
DEGREE	BACHELOR		33.0820	12.9181	61
DEGREE	MASTER		40.2222	14.1225	9
DEGREE	PH.D		30.8431	10.2086	51
			83.0000	0.0	1
COUNTRY	686	BURKINA			
DEGREE	BACHELOR		34.2692	9.9662	26
DEGREE	MASTER		30.0000	0.0	1
			32.5455	8.2850	22

Variable			Mean	Std Dev	Cases
DEGREE	PH.D		48.3333	13.5031	3
COUNTRY	687	MADAGASCAR			
DEGREE	MASTER		28.1667	5.3072	6
			28.1667	5.3072	6
COUNTRY	688	MALI			
DEGREE	BACHELOR		33.7317	7.7588	82
DEGREE	MASTER		46.0000	18.0831	3
DEGREE	PH.D		32.8052	6.3867	77
			51.0000	2.8284	2
COUNTRY	690	S.AFRICA REGION-OSARAC			
DEGREE	BACHELOR		35.5000	2.1213	2
DEGREE	MASTER		37.0000	0.0	1
			34.0000	0.0	1
COUNTRY	693	TOGO			
DEGREE	MASTER		34.7407	10.2754	27
DEGREE	PH.D		33.2308	6.7664	26
			74.0000	0.0	1
COUNTRY	695	BURUNDI			
DEGREE	BACHELOR		27.3125	9.4567	16
DEGREE	MASTER		36.0000	0.0	1
			26.7333	9.4903	15
COUNTRY	696	RWANDA			
DEGREE	BACHELOR		31.0714	13.2750	14
DEGREE	MASTER		18.0000	0.0	1
DEGREE	PH.D		25.5556	7.5517	9
			46.7500	11.6440	4
COUNTRY	698	AFRICA REGIONAL			
DEGREE	MASTER		40.0000	0.0	1
			40.0000	0.0	1
COUNTRY	882	FIJI			
DEGREE	MASTER		50.0000	0.0	1
			50.0000	0.0	1
COUNTRY	887	TONGA			
DEGREE	MASTER		42.0000	0.0	1
			42.0000	0.0	1
Total Cases =					3055

Table I -4 involves a grouping of academic fields into 13 major areas, called NEWMAJOR in the tables. Each of these major areas is identified by numbers 01 through 13. They are identified as follows:

- 01 Agriculture - Agronomy
- 02 Agriculture - Animal Husbandry
- 03 Agriculture - Business
- 04 Education - Vocational Teaching
- 05 Education - Administration
- 06 Physical Sciences
- 07 Biological Sciences
- 08 Public Administration
- 09 Health - Administration
- 10 Business - Management
- 11 Engineering
- 12 Economics
- 13 Mathematics - Computer Science

The academic fields contained in each of these major areas is shown in Table I -1.

Data in the table is presented by level of degree (Associate, BA/BS, MA/MS, Doctorate) for each major area. Some 203 cases could not be matched with major areas. The same technique for analyzing the data can be applied to this table as in the previous table and the earlier general discussion of the tables. Some major differences in time to degrees can be seen as the data is presented. For example, it took an average of 51

months for Doctorates in the Physical Sciences (#06) and only 33 in Economics. Masters degrees take distinctly different time depending on the major field as illustrated below:

Science Type Fields	Time
01 Agriculture	31.2
02 Agriculture	30.7
03 Agriculture	28.6
06 Physical Science	25.1
07 Biological Science	30.7
11 Engineering	29.5
13 Mathematics	27.9
Other Fields	
04 Education	23.8
05 Education	19.1
08 Public Administration	24.6
09 Health	18.8
10 Business	25.7
12 Economics	24.6

Business is the only one of the "Other Fields" that overlaps with any of the "Science Type Fields". The shortest time of 18.8 months was taken for the 137 Masters degrees in the Health area which consists of majors in Public Health and Hospital Administration. The longest average time, 31.2 months, was for Agriculture - Agronomy with 286 degrees obtained. Standard deviations for the two are not greatly different. Thus, the approximately one year difference for these two fields should be

considered as quite significant in terms of planning and budgeting. It is important to note that there may be reasons for differences that are obvious to missions in a country that are not revealed by the data in the system. The data in Table I -4 tells us that planning should consider the major area (NEWMAJOR) in considering what amount of time and money to budget for individuals studying for degrees in the U.S. The data in Table I -4 provides a basis for making estimates on the basis of the Major Field (NEW MAJOR) and the level of degree.

TABLE I -4 TIME TO COMPLETE BY MAJOR FIELD  
SPSS/PC-

5/3/88

Summaries of MONTH  
By levels of NEWMAJOR  
DEGREE

Variable		Mean	Std Dev	Cases
For Entire Population		31.9067	14.5774	3055
EWMAJOR				
DEGREE	ASSOCIAT	34.4384	15.7797	203
DEGREE	BACHELOR	21.3333	4.6188	3
DEGREE	MASTER	42.9583	12.1427	48
DEGREE	PH.D	26.8824	8.8281	119
		50.4848	21.5336	33
EWMAJOR	01 AG. AGRONOMY			
DEGREE	ASSOCIAT	34.5769	12.8498	494
DEGREE	BACHELOR	27.2857	8.4205	7
DEGREE	MASTER	36.5169	14.4373	89
DEGREE	PH.D	31.2063	8.7809	286
		42.0982	16.5404	112
EWMAJOR	02 AG. ANIMAL			
DEGREE	ASSOCIAT	31.7457	10.8988	173
DEGREE	BACHELOR	22.7500	3.9476	4
DEGREE	MASTER	30.8125	11.0601	48
DEGREE	PH.D	30.7527	9.2662	93
		37.9286	13.8883	28
NEWMAJOR	03 AG. BUSINESS			
DEGREE	ASSOCIAT	31.9935	12.0249	308
DEGREE	BACHELOR	24.0000	0.0	2
DEGREE	MASTER	34.1579	13.1730	57
DEGREE	PH.D	28.6329	7.9330	207
		46.0000	16.1834	42
NEWMAJOR	04 ED. VOC. TCHNG.			
DEGREE	ASSOCIAT	25.8512	10.2873	121
DEGREE	BACHELOR	28.0000	0.0	1
DEGREE	MASTER	27.0833	12.0508	36
DEGREE	PH.D	23.8108	8.5073	74
		36.3000	9.8551	10
NEWMAJOR	05 ED. ADMIN.			
DEGREE	BACHELOR	19.6400	5.8694	75
DEGREE	MASTER	12.5714	1.5119	7
DEGREE	PH.D	19.8594	5.0328	64
		28.5000	9.5394	4
EWMAJOR	06 PHYS. SCI.			
DEGREE	BACHELOR	33.5593	17.5974	118
DEGREE	MASTER	39.3810	13.9981	21
DEGREE	PH.D	25.0857	11.8710	70
		51.0000	18.2272	27
NEWMAJOR	07 BIO. SCI.			
DEGREE	BACHELOR	35.9302	13.1934	86
DEGREE	MASTER	40.5385	13.6785	13
DEGREE	PH.D	30.7455	9.6881	55
		48.4444	13.0799	18
EWMAJOR	08 PUB. ADMIN.			
DEGREE	ASSOCIAT	28.4294	12.2403	333
		19.4000	6.7676	5

Variable		Mean	Std Dev	Cases
DEGREE	BACHELOR			
DEGREE	MASTER	37.4028	12.8684	72
DEGREE	PH.D	24.5840	8.7076	238
		45.8889	16.4849	18
NEWMAJOR	09 HEALTH ADMIN.			
DEGREE	ASSOCIAT	21.0197	9.4058	152
DEGREE	BACHELOR	37.0000	0.0	1
DEGREE	MASTER	41.0000	12.0370	10
DEGREE	PH.D	18.8321	6.0519	137
		42.0000	11.6905	4
NEWMAJOR	10 BUSINESS			
DEGREE	ASSOCIAT	29.1371	12.4066	124
DEGREE	BACHELOR	29.3333	15.0111	3
DEGREE	MASTER	33.0750	16.1490	40
DEGREE	PH.D	25.7600	8.0217	75
		45.0000	10.6207	6
NEWMAJOR	11 ENGINEERING			
DEGREE	ASSOCIAT	38.8947	16.8038	380
DEGREE	BACHELOR	22.7857	3.2858	14
DEGREE	MASTER	45.8720	13.5683	164
DEGREE	PH.D	29.4581	14.2260	155
		50.4681	17.4379	47
NEWMAJOR	12 ECONOMICS			
DEGREE	BACHELOR	26.9223	12.3520	193
DEGREE	MASTER	36.1304	16.0179	23
DEGREE	PH.D	24.6533	10.5277	150
		33.3500	13.7392	20
EWMAJOR	13 MATH-COMP. SCI.			
DEGREE	ASSOCIAT	34.4237	18.1966	295
DEGREE	BACHELOR	18.5600	5.2526	25
DEGREE	MASTER	41.1531	14.0759	98
DEGREE	PH.D	27.8963	16.0341	135
		51.1351	21.2147	37
Total Cases =				3055

Summaries of By levels of	MONTH COUNTRY DEGREE NEWMAJOR		Mean	Std Dev	Cases
Variable					
For Entire Population			31.9067	14.5774	3055
COUNTRY	145 ITALY				
DEGREE	MASTER		13.3750	1.9955	8
NEWMAJOR	03		13.3750	1.9955	8
NEWMAJOR	06		12.0000	0.0	1
NEWMAJOR	12		14.7500	2.0616	4
NEWMAJOR	13		12.0000	0.0	1
			12.0000	0.0	2
COUNTRY	150 PORTUGAL				
DEGREE	MASTER		22.7273	5.3309	11
NEWMAJOR			23.5000	4.9272	10
NEWMAJOR	01		17.5000	.7071	2
NEWMAJOR	03		27.0000	4.2426	2
NEWMAJOR	04		26.6667	4.6188	3
NEWMAJOR	08		24.0000	0.0	1
NEWMAJOR	12		24.0000	0.0	1
			18.0000	0.0	1
DEGREE	PH.D		15.0000	0.0	1
NEWMAJOR	01		15.0000	0.0	1
COUNTRY	233 CYPRUS				
DEGREE	BACHELOR		31.2212	12.9555	104
NEWMAJOR			35.4247	12.5243	73
NEWMAJOR	06		35.0000	0.0	1
NEWMAJOR	08		34.6000	11.5239	5
NEWMAJOR	10		37.5000	11.4773	12
NEWMAJOR	11		30.8889	17.4889	9
NEWMAJOR	12		27.5000	11.0324	8
NEWMAJOR	13		36.4000	13.6125	5
			37.8182	11.6417	33
DEGREE	MASTER		21.3226	7.4538	31
NEWMAJOR			19.5000	3.5355	2
NEWMAJOR	04		29.5000	10.6066	2
NEWMAJOR	05		14.5000	2.1213	2
NEWMAJOR	06		36.0000	0.0	1
NEWMAJOR	08		25.2000	11.9875	5
NEWMAJOR	10		19.1667	3.7639	6
NEWMAJOR	11		20.5000	5.7446	4
NEWMAJOR	12		17.6000	4.0373	5
NEWMAJOR	13		21.7500	5.8523	4
COUNTRY	263 EGYPT				
DEGREE	MASTER		36.0353	21.0885	85
NEWMAJOR			22.5000	14.1676	44
NEWMAJOR	01		20.3333	7.7675	3
			39.0000	0.0	1

Variable		Mean	Std Dev	Cases
NEWMAJOR	03			
NEWMAJOR	04	30.0000	1.0000	3
NEWMAJOR	06	20.7500	7.1356	4
NEWMAJOR	07	27.2500	28.5351	4
NEWMAJOR	08	15.6667	5.5076	3
NEWMAJOR	09	18.2000	3.5637	5
NEWMAJOR	10	17.7059	5.0468	17
NEWMAJOR	11	22.0000	0.0	1
NEWMAJOR	13	76.0000	0.0	1
		35.5000	31.8198	2
DEGREE	PH.D			
NEWMAJOR		50.5610	17.3307	41
NEWMAJOR	01	40.6667	28.0060	3
NEWMAJOR	02	48.1250	17.8521	8
NEWMAJOR	03	56.0000	0.0	1
NEWMAJOR	06	16.0000	0.0	1
NEWMAJOR	07	55.7500	11.4419	4
NEWMAJOR	08	48.7500	13.0480	4
NEWMAJOR	09	58.5000	24.0347	4
NEWMAJOR	10	51.0000	0.0	1
NEWMAJOR	11	48.3333	6.0277	3
NEWMAJOR	12	62.4286	12.0258	7
NEWMAJOR	13	24.0000	0.0	1
		46.2500	17.5000	4
COUNTRY	276 SYRIA			
DEGREE	BACHELOR	72.0000	17.3986	32
NEWMAJOR	11	72.0000	0.0	1
		72.0000	0.0	1
DEGREE	MASTER			
NEWMAJOR	11	59.0000	36.7696	2
		59.0000	36.7696	2
DEGREE	PH.D			
NEWMAJOR		72.8966	16.5515	29
NEWMAJOR	01	90.0000	4.2426	2
NEWMAJOR	02	79.0000	8.4853	2
NEWMAJOR	03	46.0000	43.8406	2
NEWMAJOR	06	79.0000	0.0	1
NEWMAJOR	07	78.5000	6.3509	4
NEWMAJOR	11	70.6667	3.5119	3
NEWMAJOR	13	75.8000	4.3243	5
		70.0000	18.3424	10
COUNTRY	278 JORDAN			
DEGREE	MASTER	24.8077	10.4078	26
NEWMAJOR		22.2609	6.5659	23
NEWMAJOR	02	20.6667	6.6583	3
NEWMAJOR	08	17.0000	0.0	1
NEWMAJOR	09	23.6667	7.8779	12
NEWMAJOR	11	25.0000	0.0	1
NEWMAJOR	12	23.5000	.7071	2
NEWMAJOR	13	18.6667	5.7735	3
		21.0000	0.0	1

Variable		Mean	Std Dev	Cases
DEGREE	PH.D			
NEWMAJOR	01	44.3333	15.2753	3
NEWMAJOR	08	31.0000	0.0	1
NEWMAJOR	12	41.0000	0.0	1
		61.0000	0.0	1
COUNTRY	279 JEMEN ARAB REPUBLIC			
DEGREE	ASSOCIAT	39.2694	16.3248	193
NEWMAJOR	11	21.0000	0.0	1
		21.0000	0.0	1
DEGREE	BACHELOR			
NEWMAJOR		48.4762	12.7023	105
NEWMAJOR	02	59.3333	11.6762	3
NEWMAJOR	03	33.5000	6.6332	8
NEWMAJOR	06	37.0000	0.0	3
NEWMAJOR	08	41.0000	0.0	1
NEWMAJOR	09	44.5000	6.4181	14
NEWMAJOR	10	58.0000	0.0	1
NEWMAJOR	11	47.2500	10.0457	4
NEWMAJOR	12	51.1897	12.8902	58
NEWMAJOR	13	30.0000	12.7279	2
		53.9091	11.7342	11
DEGREE	MASTER			
NEWMAJOR		26.4937	10.7904	79
NEWMAJOR	01	24.8333	5.8750	12
NEWMAJOR	03	43.0000	2.8284	2
NEWMAJOR	04	32.0000	0.0	1
NEWMAJOR	05	30.6667	7.5056	3
NEWMAJOR	06	19.9286	5.3950	28
NEWMAJOR	08	89.0000	0.0	4
NEWMAJOR	10	27.2500	11.4710	4
NEWMAJOR	11	31.0000	3.6968	7
NEWMAJOR	12	29.0000	11.4018	7
NEWMAJOR	13	28.9091	6.7150	11
		30.3333	2.8868	3
DEGREE	PH.D			
NEWMAJOR		46.8750	19.6936	8
NEWMAJOR	01	78.0000	0.0	1
NEWMAJOR	02	57.0000	0.0	1
NEWMAJOR	06	49.0000	0.0	1
NEWMAJOR	07	68.0000	0.0	1
NEWMAJOR	08	35.0000	0.0	1
NEWMAJOR	12	30.0000	0.0	1
		29.0000	11.3137	2
COUNTRY	292 JORDAN-WEST BANK			
DEGREE	BACHELOR	34.6567	16.1776	67
NEWMAJOR	13	39.0000	2.8284	2
		39.0000	2.8284	2
DEGREE	MASTER			
NEWMAJOR		22.3871	7.3061	31
		15.0000	0.0	1

Variable	Mean	Std Dev	Cases
NEWMAJOR 06			
NEWMAJOR 07	26.2857	4.6803	7
NEWMAJOR 10	32.0000	4.3589	3
NEWMAJOR 11	19.0000	0.0	1
NEWMAJOR 12	20.0000	6.6081	7
NEWMAJOR 13	15.0000	0.0	1
	20.4545	7.6467	11
DEGREE PH.D			
NEWMAJOR	45.5882	14.4560	34
NEWMAJOR 01	35.8333	8.2321	6
NEWMAJOR 04	60.0000	0.0	1
NEWMAJOR 06	37.0000	0.0	1
NEWMAJOR 08	48.6000	13.4594	10
NEWMAJOR 10	33.0000	0.0	1
NEWMAJOR 11	28.0000	0.0	1
NEWMAJOR 13	50.0000	9.5568	4
	49.1000	18.3815	10
COUNTRY 367 NEPAL			
DEGREE MASTER	24.9524	6.7497	42
NEWMAJOR	24.6250	6.6359	40
NEWMAJOR 01	20.0000	0.0	1
NEWMAJOR 02	29.2500	6.4544	12
NEWMAJOR 03	26.2500	2.6300	4
NEWMAJOR 04	29.5000	6.3640	2
NEWMAJOR 07	25.6667	2.0817	3
NEWMAJOR 09	28.0000	0.0	1
NEWMAJOR 11	17.0000	0.0	7
NEWMAJOR 12	23.8000	7.5631	5
NEWMAJOR 13	30.0000	0.0	1
	19.2500	4.2720	4
DEGREE PH.D			
NEWMAJOR 01	31.5000	7.7782	2
NEWMAJOR 12	26.0000	0.0	1
	37.0000	0.0	1
COUNTRY 383 SRI LANKA			
DEGREE MASTER	38.5870	21.7272	46
NEWMAJOR 01	21.5769	7.8444	26
NEWMAJOR 03	23.9286	6.0443	14
NEWMAJOR 04	17.5000	5.9161	4
NEWMAJOR 07	12.0000	0.0	1
NEWMAJOR 08	29.0000	0.0	1
NEWMAJOR 11	12.0000	0.0	1
	20.6000	11.9499	5
DEGREE PH.D			
NEWMAJOR	60.7000	11.2442	20
NEWMAJOR 01	60.2500	15.9452	4
NEWMAJOR 02	64.1250	9.4633	8
NEWMAJOR 03	61.0000	0.0	1
NEWMAJOR 11	58.2000	11.7771	5
NEWMAJOR 13	65.0000	0.0	1
	43.0000	0.0	1

Variable		Mean	Std Dev	Cases
COUNTRY	386 INDIA			
DEGREE	MASTER	25.0000	0.0	1
NEWMAJOR	06	25.0000	0.0	1
		25.0000	0.0	1
COUNTRY	388 BANGLADESH			
DEGREE	MASTER	19.8000	11.9796	10
NEWMAJOR	07	14.3750	3.8149	8
NEWMAJOR	08	13.0000	0.0	1
NEWMAJOR	09	15.0000	4.3589	3
NEWMAJOR	12	21.0000	0.0	1
NEWMAJOR	13	12.0000	0.0	2
		12.0000	0.0	1
DEGREE	PH.D			
NEWMAJOR	01	41.5000	3.5355	2
NEWMAJOR	11	44.0000	0.0	1
		39.0000	0.0	1
COUNTRY	391 PAKISTAN			
DEGREE	MASTER	25.1556	12.8480	45
NEWMAJOR	01	26.3171	13.1500	41
NEWMAJOR	02	32.2143	14.7762	14
NEWMAJOR	03	43.5000	20.5061	2
NEWMAJOR	06	25.2000	1.3038	5
NEWMAJOR	07	16.3333	6.6583	3
NEWMAJOR	08	39.5000	21.9203	2
NEWMAJOR	11	17.5556	5.4339	9
NEWMAJOR	12	23.5000	9.1924	2
NEWMAJOR	13	22.0000	0.0	1
		20.0000	9.6437	3
DEGREE	PH.D			
NEWMAJOR		17.7500	5.1235	4
NEWMAJOR	06	25.0000	0.0	1
NEWMAJOR	13	17.0000	0.0	1
		14.5000	2.1213	2
COUNTRY	482 BURMA			
DEGREE	MASTER	23.2857	7.3320	14
NEWMAJOR		23.2857	7.3320	14
NEWMAJOR	01	12.0000	0.0	1
NEWMAJOR	04	29.6667	2.9439	6
NEWMAJOR	06	18.0000	8.4853	2
NEWMAJOR	09	24.0000	0.0	1
		19.0000	5.2281	4
COUNTRY	483 MALAYSIA			
DEGREE	MASTER	34.0000	0.0	1
NEWMAJOR	07	34.0000	0.0	1
		34.0000	0.0	1
COUNTRY	491 WESTERN SAMOA			
DEGREE	MASTER	27.0000	5.6569	2
NEWMAJOR	01	27.0000	5.6569	2
NEWMAJOR	04	31.0000	0.0	1
		23.0000	0.0	1

Variable		Mean	Std Dev	Cases
COUNTRY	492 PHILIPPINES			
DEGREE	MASTER	31.7308	15.1633	52
NEWMAJOR	01	20.2222	5.6182	27
NEWMAJOR	02	27.5000	4.9497	2
NEWMAJOR	03	18.2500	2.8723	4
NEWMAJOR	04	20.4615	3.5500	13
NEWMAJOR	08	22.0000	0.0	2
NEWMAJOR	11	12.5000	.7071	2
NEWMAJOR	12	22.0000	0.0	1
		20.3333	13.5769	3
DEGREE	PH.D			
NEWMAJOR		44.1600	12.0197	25
NEWMAJOR	01	54.5000	27.5772	2
NEWMAJOR	03	42.2222	11.3002	9
NEWMAJOR	04	48.6000	13.0882	5
NEWMAJOR	07	48.0000	0.0	1
NEWMAJOR	11	43.3333	10.2632	3
NEWMAJOR	12	44.0000	0.0	1
NEWMAJOR	13	34.0000	0.0	2
		41.0000	14.1421	2
COUNTRY	493 THAILAND			
DEGREE	MASTER	21.4848	10.4974	33
NEWMAJOR	01	20.2903	8.5992	31
NEWMAJOR	07	28.5000	6.1373	4
NEWMAJOR	08	36.0000	0.0	1
NEWMAJOR	09	18.0000	0.0	2
NEWMAJOR	11	12.0000	0.0	1
NEWMAJOR	12	23.0000	1.4142	2
NEWMAJOR	13	17.7500	11.5000	4
		18.4706	7.9618	17
DEGREE	PH.D			
NEWMAJOR		40.0000	24.0416	2
NEWMAJOR	13	23.0000	0.0	1
		57.0000	0.0	1
COUNTRY	497 INDONESIA			
DEGREE	MASTER	27.3060	13.2576	232
NEWMAJOR		23.8426	9.5143	197
NEWMAJOR	01	29.1333	8.0077	15
NEWMAJOR	02	34.2222	13.1577	18
NEWMAJOR	03	30.6667	6.5929	6
NEWMAJOR	04	26.6818	7.1407	22
NEWMAJOR	05	17.7000	7.7179	10
NEWMAJOR	06	15.5000	2.1213	2
NEWMAJOR	08	21.4000	4.9800	5
NEWMAJOR	09	22.8182	7.7840	33
NEWMAJOR	10	16.6667	3.3552	36
NEWMAJOR	11	18.5714	2.8200	7
NEWMAJOR	12	25.7500	7.2284	4
NEWMAJOR	13	23.8929	8.7869	28
		27.5455	13.1937	11

Variable			Mean	Std Dev	Cases
DEGREE	PH.D				
NEWMAJOR			46.8000	14.5477	35
NEWMAJOR	01		59.5000	13.4350	2
NEWMAJOR	02		59.7500	6.1847	4
NEWMAJOR	03		48.0000	0.0	1
NEWMAJOR	04		48.0000	15.5349	7
NEWMAJOR	06		42.0000	0.0	1
NEWMAJOR	08		36.6667	10.1160	3
NEWMAJOR	09		50.1667	12.8284	6
NEWMAJOR	10		32.0000	2.8284	2
NEWMAJOR	11		40.0000	0.0	1
NEWMAJOR	12		49.3333	13.8684	3
NEWMAJOR	13		24.0000	9.5394	3
			59.5000	7.7782	2
COUNTRY	501	BAHAMAS			
DEGREE	BACHELOR		28.0000	0.0	1
NEWMAJOR	08		28.0000	0.0	1
			28.0000	0.0	1
COUNTRY	504	GUYANA			
DEGREE	BACHELOR		24.3333	3.5119	3
NEWMAJOR	08		28.0000	0.0	1
			28.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR	01		24.0000	0.0	1
			24.0000	0.0	1
DEGREE	PH.D				
NEWMAJOR	01		21.0000	0.0	1
			21.0000	0.0	1
COUNTRY	505	BELIZE			
DEGREE	ASSOCIAT		21.9333	5.1612	15
NEWMAJOR	01		19.5714	3.7796	7
NEWMAJOR	03		17.0000	0.0	1
NEWMAJOR	11		24.0000	0.0	1
NEWMAJOR	13		22.0000	0.0	1
			18.5000	4.0415	4
DEGREE	BACHELOR				
NEWMAJOR			23.1667	6.0800	6
NEWMAJOR	04		29.0000	0.0	1
NEWMAJOR	05		16.0000	0.0	1
NEWMAJOR	08		16.0000	0.0	1
NEWMAJOR	11		22.0000	0.0	1
NEWMAJOR	13		28.0000	0.0	1
			28.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR	03		24.0000	0.0	1
			24.0000	0.0	1
DEGREE	PH.D				
NEWMAJOR	03		29.0000	0.0	1
			29.0000	0.0	1
COUNTRY	510	ARGENTINA			
DEGREE	PH.D		44.0000	0.0	1
NEWMAJOR	01		44.0000	0.0	1
			44.0000	0.0	1

COUNTRY	511	BOLIVIA			
DEGREE	MASTER		27.4286	7.8498	7
NEWMAJOR	01		27.4286	7.8498	7
NEWMAJOR	02		33.0000	0.0	1
NEWMAJOR	03		34.0000	2.8284	2
NEWMAJOR	08		26.0000	1.4142	2
NEWMAJOR	12		12.0000	0.0	1
			27.0000	0.0	1
COUNTRY	512	BRAZIL			
DEGREE	ASSOCIAT		20.0000	5.6569	2
NEWMAJOR			16.0000	0.0	1
			16.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR	10		24.0000	0.0	1
			24.0000	0.0	1
COUNTRY	514	COLUMBIA			
DEGREE	ASSOCIAT		14.4000	4.8270	5
NEWMAJOR	08		12.0000	0.0	3
NEWMAJOR	11		12.0000	0.0	2
			12.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR	11		13.0000	0.0	1
			13.0000	0.0	1
DEGREE	PH.D				
NEWMAJOR	12		23.0000	0.0	1
			23.0000	0.0	1
COUNTRY	515	COSTA RICA			
DEGREE	ASSOCIAT		25.5000	4.2322	18
NEWMAJOR			24.0000	0.0	8
NEWMAJOR	02		24.0000	0.0	1
NEWMAJOR	03		24.0000	0.0	1
NEWMAJOR	11		24.0000	0.0	1
NEWMAJOR	13		24.0000	0.0	4
			24.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR	02		25.5000	5.5291	8
NEWMAJOR	03		38.0000	0.0	1
NEWMAJOR	04		25.5000	.7071	2
NEWMAJOR	08		25.0000	0.0	1
NEWMAJOR	11		23.5000	2.1213	2
			21.5000	3.5355	2
DEGREE	PH.D				
NEWMAJOR	01		31.5000	.7071	2
NEWMAJOR	04		31.0000	0.0	1
			32.0000	0.0	1
COUNTRY	517	DOMINICAN REPUBLIC			
DEGREE	BACHELOR		28.8108	8.5727	37
NEWMAJOR	13		41.0000	0.0	1
			41.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR			28.5455	8.1742	33
NEWMAJOR	01		38.0000	7.5498	3
NEWMAJOR	03		33.2222	6.3792	9
NEWMAJOR	06		29.7500	8.4212	4
			24.6667	7.7675	3

Variable		Mean	Std Dev	Cases
NEWMAJOR	08			
NEWMAJOR	11	25.7500	9.5350	4
NEWMAJOR	12	24.2857	4.4615	7
NEWMAJOR	13	13.0000	0.0	1
DEGREE	PH.D	25.0000	5.6569	2
NEWMAJOR	06	27.6667	13.2791	3
NEWMAJOR	08	20.0000	0.0	1
NEWMAJOR	12	20.0000	0.0	1
COUNTRY	518 ECUADOR	43.0000	0.0	1
DEGREE	EACHELOR	26.8333	6.7932	18
NEWMAJOR	02	23.0000	1.4142	2
NEWMAJOR	13	22.0000	0.0	1
DEGREE	MASTER	24.0000	0.0	1
NEWMAJOR	01	26.7333	6.9124	15
NEWMAJOR	02	23.2857	6.4991	7
NEWMAJOR	03	28.5000	2.1213	2
NEWMAJOR	07	31.5000	7.7782	2
NEWMAJOR	11	28.0000	0.0	1
NEWMAJOR	12	27.0000	11.3137	2
DEGREE	PH.D	36.0000	0.0	1
NEWMAJOR	08	36.0000	0.0	1
COUNTRY	519 EL SALVADOR	36.0000	0.0	1
DEGREE	ASSOCIAT	24.5000	6.7395	20
NEWMAJOR	11	19.8000	5.8481	5
NEWMAJOR	13	24.0000	0.0	1
DEGREE	BACHELOR	18.7500	6.1847	4
NEWMAJOR	11	27.6667	2.3094	3
NEWMAJOR	13	25.0000	0.0	1
DEGREE	MASTER	29.0000	0.0	2
NEWMAJOR	02	25.6667	7.1266	12
NEWMAJOR	03	31.0000	0.0	1
NEWMAJOR	04	27.0000	0.0	1
NEWMAJOR	08	17.0000	0.0	1
NEWMAJOR	09	27.7500	6.6018	4
NEWMAJOR	10	14.0000	0.0	1
NEWMAJOR	12	21.0000	0.0	1
COUNTRY	520 GUATEMALA	29.0000	7.5498	3
DEGREE	ASSOCIAT	25.3043	8.6310	23
NEWMAJOR	01	20.1429	4.8107	7
NEWMAJOR	13	24.0000	0.0	2
DEGREE	BACHELOR	18.6000	4.9295	5
NEWMAJOR		30.5000	9.1924	2
NEWMAJOR		37.0000	0.0	1

Variable	Mean	Std Dev	Cases
NEWMAJOR 01	24.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	27.1429	9.3138	14
NEWMAJOR 03	34.5000	7.1880	4
NEWMAJOR 07	31.7500	4.5000	4
NEWMAJOR 09	20.0000	0.0	1
NEWMAJOR 11	21.0000	12.7279	2
NEWMAJOR 12	19.0000	0.0	1
NEWMAJOR 13	22.0000	0.0	1
	12.0000	0.0	1
COUNTRY 521 HAITI			
DEGREE BACHELOR	27.5455	8.6889	22
NEWMAJOR 06	16.5000	.7071	2
	16.5000	.7071	2
DEGREE MASTER			
NEWMAJOR 01	30.0000	7.6080	18
NEWMAJOR 02	38.0000	0.0	1
NEWMAJOR 03	29.0000	9.5131	5
NEWMAJOR 07	45.0000	0.0	1
NEWMAJOR 08	33.3333	6.1101	3
NEWMAJOR 09	24.0000	0.0	1
NEWMAJOR 11	28.0000	0.0	1
	23.0000	0.0	1
	27.4000	4.9295	5
DEGREE PH.D			
NEWMAJOR 01	16.5000	2.1213	2
NEWMAJOR 05	15.0000	0.0	1
	18.0000	0.0	1
COUNTRY 522 HONDURAS			
DEGREE ASSOCIAT	21.7692	7.3120	26
NEWMAJOR 11	20.6667	4.4121	6
NEWMAJOR 13	23.3333	.5774	3
	18.0000	5.1962	3
DEGREE BACHELOR			
NEWMAJOR 01	21.6000	11.0574	10
NEWMAJOR 02	16.0000	5.2281	4
NEWMAJOR 07	20.3333	7.2342	3
NEWMAJOR 10	17.0000	0.0	1
NEWMAJOR 13	25.0000	0.0	1
	49.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	22.6000	3.7178	10
NEWMAJOR 04	27.0000	0.0	1
NEWMAJOR 06	22.0000	0.0	1
NEWMAJOR 10	24.0000	0.0	2
NEWMAJOR 11	20.0000	0.0	1
NEWMAJOR 12	23.5000	.7071	2
	22.5000	7.7782	2
	17.0000	0.0	1
COUNTRY 523 MEXICO			
DEGREE MASTER	18.6667	6.5320	6
NEWMAJOR 07	18.6667	6.5320	6
	32.0000	0.0	1

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NEWMAJOR	08			16.0000	0.0	1
NEWMAJOR	11			16.0000	0.0	2
NEWMAJOR	13			16.0000	0.0	2
COUNTRY		524	NICARAGUA			
DEGREE		MASTER				
NEWMAJOR				28.1818	5.3818	11
NEWMAJOR				28.1818	5.3818	11
NEWMAJOR	01			25.0000	0.0	1
NEWMAJOR	02			37.0000	0.0	1
NEWMAJOR	07			27.0000	0.0	1
NEWMAJOR	08			34.0000	0.0	1
NEWMAJOR	11			23.6667	5.1316	3
NEWMAJOR	12			34.0000	0.0	1
NEWMAJOR	13			24.0000	0.0	1
				29.0000	0.0	2
COUNTRY		525	PANAMA			
DEGREE		ASSOCIAT				
NEWMAJOR	01			26.4576	9.2779	59
NEWMAJOR	02			17.5000	4.4284	10
NEWMAJOR	10			23.0000	0.0	1
NEWMAJOR	11			20.5000	4.9497	2
NEWMAJOR	11			12.0000	0.0	1
NEWMAJOR	13			24.0000	0.0	1
				15.0000	0.0	5
DEGREE		BACHELOR				
NEWMAJOR	03			23.0000	7.5498	3
NEWMAJOR	08			30.0000	0.0	1
NEWMAJOR	10			24.0000	0.0	1
				15.0000	0.0	1
DEGREE		MASTER				
NEWMAJOR	01			27.2683	7.7428	41
NEWMAJOR	02			26.1250	3.6425	8
NEWMAJOR	03			36.5000	11.4149	6
NEWMAJOR	06			25.0000	6.4420	5
NEWMAJOR	07			24.5000	2.1213	2
NEWMAJOR	08			30.6667	6.1101	3
NEWMAJOR	10			24.6667	4.0415	3
NEWMAJOR	11			26.0000	9.1652	3
NEWMAJOR	12			27.2500	2.9861	4
NEWMAJOR	13			23.1667	9.4534	6
				24.0000	0.0	1
DEGREE		PH.D				
NEWMAJOR	02			39.8000	11.7132	5
NEWMAJOR	03			47.5000	7.7782	2
NEWMAJOR	07			22.0000	0.0	1
NEWMAJOR	08			46.0000	0.0	1
				36.0000	0.0	1
COUNTRY		526	PARAGUAY			
DEGREE		ASSOCIAT				
NEWMAJOR	08			25.3333	1.6330	6
				24.0000	0.0	1
				24.0000	0.0	1
DEGREE		MASTER				
NEWMAJOR	02			25.6000	1.6733	5
NEWMAJOR	03			27.0000	0.0	1
				25.2500	1.7078	4
COUNTRY		527	PERU			
DEGREE		BACHELOR				
NEWMAJOR	01			27.1379	11.5595	29
				37.0000	1.4142	2
				38.0000	0.0	1

Variable

			Mean	Std Dev	Cases
NEWMAJOR	02		36.0000		
DEGREE	MASTER			0.0	1
NEWMAJOR	01		24.2727	11.3523	22
NEWMAJOR	02		26.0000	6.2450	3
NEWMAJOR	03		33.2500	7.9739	4
NEWMAJOR	07		36.5000	7.7782	2
NEWMAJOR	08		49.0000	0.0	1
NEWMAJOR	09		13.6667	2.0817	3
NEWMAJOR	10		13.2000	1.7889	5
NEWMAJOR	11		20.0000	0.0	1
NEWMAJOR	12		33.0000	0.0	1
NEWMAJOR	13		16.0000	0.0	1
			25.0000	0.0	1
DEGREE	PH.D				
NEWMAJOR	01		35.8000	8.4083	5
NEWMAJOR	02		41.0000	0.0	1
NEWMAJOR	03		30.5000	13.4350	2
NEWMAJOR	07		37.0000	0.0	1
			40.0000	0.0	1
COUNTRY		528 URUGUAY			
DEGREE	ASSOCIAT		26.0000	0.0	1
NEWMAJOR	02		26.0000	0.0	1
			26.0000	0.0	1
COUNTRY		532 JAMAICA			
DEGREE	BACHELOR		18.0909	6.9613	33
NEWMAJOR	01		20.8667	8.2537	15
NEWMAJOR	02		18.5000	7.7782	2
NEWMAJOR	03		25.3333	11.7189	3
NEWMAJOR	04		20.0000	0.0	1
NEWMAJOR	08		16.3333	7.5056	3
NEWMAJOR	13		19.0000	4.0825	4
			27.5000	14.8492	2
DEGREE	MASTER				
NEWMAJOR			16.0000	4.8088	17
NEWMAJOR	04		24.0000	0.0	2
NEWMAJOR	06		12.0000	0.0	2
NEWMAJOR	08		17.0000	0.0	1
NEWMAJOR	10		13.3333	2.3381	6
NEWMAJOR	11		12.0000	0.0	2
NEWMAJOR	12		17.0000	2.8284	2
NEWMAJOR	13		20.0000	0.0	1
			25.0000	0.0	1
DEGREE	PH.D				
NEWMAJOR	11		12.0000	0.0	1
			12.0000	0.0	1
COUNTRY		534 BARBADOS			
DEGREE	ASSOCIAT		21.2857	6.6762	7
NEWMAJOR			24.0000	0.0	1
			24.0000	0.0	1
DEGREE	BACHELOR				
NEWMAJOR	08		12.0000	0.0	1
			12.0000	0.0	1

Variable		Mean	Std Dev	Cases
DEGREE	MASTER			
NEWMAJOR	01	22.6000	6.4265	5
NEWMAJOR	04	24.0000	0.0	1
NEWMAJOR	05	33.0000	0.0	1
NEWMAJOR	06	21.0000	0.0	1
NEWMAJOR	13	18.0000	0.0	1
		17.0000	0.0	1
COUNTRY	541 ANTIGUA			
DEGREE	BACHELOR	18.6000	14.7580	5
NEWMAJOR	07	18.6000	14.7580	5
NEWMAJOR	10	45.0000	0.0	1
NEWMAJOR	13	12.0000	0.0	3
		12.0000	0.0	1
COUNTRY	542 DOMINICA			
DEGREE	MASTER	15.0000	0.0	1
NEWMAJOR	11	15.0000	0.0	1
		15.0000	0.0	1
COUNTRY	543 GRENADA			
DEGREE	BACHELOR	18.0000	6.9282	4
NEWMAJOR	08	18.0000	6.9282	4
NEWMAJOR	11	12.0000	0.0	1
NEWMAJOR	12	24.0000	0.0	1
NEWMAJOR	13	12.0000	0.0	1
		24.0000	0.0	1
COUNTRY	544 MONTSERRAT			
DEGREE	BACHELOR	12.0000	0.0	1
NEWMAJOR	02	12.0000	0.0	1
		12.0000	0.0	1
COUNTRY	545 ST. CHRIS. & NEVIS			
DEGREE	BACHELOR	16.5000	4.9497	2
NEWMAJOR	08	13.0000	0.0	1
		13.0000	0.0	1
DEGREE	MASTER	20.0000	0.0	1
NEWMAJOR	08	20.0000	0.0	1
COUNTRY	546 ST. LUCIA			
DEGREE	BACHELOR	18.0000	7.8422	5
NEWMAJOR	08	17.7500	9.0323	4
NEWMAJOR	10	31.0000	0.0	1
NEWMAJOR	12	12.0000	0.0	1
		14.0000	2.8284	2
DEGREE	MASTER	19.0000	0.0	1
NEWMAJOR	08	19.0000	0.0	1
COUNTRY	547 ST. VINCENT			
DEGREE	ASSOCIAT	12.1667	.4082	6
NEWMAJOR	13	12.0000	0.0	1
		12.0000	0.0	1
DEGREE	BACHELOR	12.0000	0.0	4
NEWMAJOR	08	12.0000	0.0	1

Variable		Mean	Std Dev	Cases
NEWMAJOR	10	12.0000	0.0	2
NEWMAJOR	13	12.0000	0.0	1
DEGREE	MASTER			
NEWMAJOR	09	13.0000	0.0	1
COUNTRY	549	13.0000	0.0	1
DEGREE	BACHELOR	12.0000	0.0	1
NEWMAJOR	10	12.0000	0.0	1
COUNTRY	603	12.0000	0.0	1
DEGREE	MASTER	12.0000	0.0	1
NEWMAJOR	08	12.0000	0.0	1
COUNTRY	608	12.0000	0.0	1
DEGREE	BACHELOR	30.5641	8.3091	117
NEWMAJOR	11	35.0000	16.9706	2
NEWMAJOR	13	47.0000	0.0	1
DEGREE	MASTER	23.0000	0.0	1
NEWMAJOR		28.2414	7.3205	58
NEWMAJOR	01	29.2222	4.3525	9
NEWMAJOR	03	27.4286	7.8498	7
NEWMAJOR	04	33.0000	1.4142	2
NEWMAJOR	06	44.0000	0.0	1
NEWMAJOR	08	25.2500	7.9320	4
NEWMAJOR	09	28.6429	8.0633	14
NEWMAJOR	10	13.0000	0.0	1
NEWMAJOR	11	31.6667	6.5064	3
NEWMAJOR	12	26.4000	4.3256	10
NEWMAJOR	13	45.0000	0.0	1
DEGREE	PH.D	25.6667	7.4476	6
NEWMAJOR		32.7719	8.4895	57
NEWMAJOR	01	28.6667	2.3094	3
NEWMAJOR	02	30.4762	5.1732	21
NEWMAJOR	03	30.7692	1.7394	13
NEWMAJOR	04	28.0000	0.0	2
NEWMAJOR	06	37.0000	0.0	1
NEWMAJOR	11	45.0000	4.2426	2
NEWMAJOR	12	36.0000	12.9538	11
NEWMAJOR	13	50.5000	6.3640	2
COUNTRY	611	31.0000	19.7990	2
DEGREE	BACHELOR	31.1053	9.1372	57
NEWMAJOR		31.9286	11.7176	14
NEWMAJOR	01	35.3333	13.5031	3
NEWMAJOR	02	24.8333	6.4627	6
NEWMAJOR	03	34.0000	0.0	1
NEWMAJOR	04	36.0000	15.7162	3
		50.0000	0.0	1

Variable

Mean Std Dev Cases

Variable	Mean	Std Dev	Cases
DEGREE MASTER			
NEWMAJOR	28.6286	6.6292	35
NEWMAJOR 01	34.0000	4.2426	2
NEWMAJOR 03	29.4000	5.0376	10
NEWMAJOR 07	30.5000	6.2564	8
NEWMAJOR 08	28.0000	0.0	1
NEWMAJOR 09	31.0000	2.8284	2
NEWMAJOR 10	21.0000	0.0	1
NEWMAJOR 11	24.0000	1.4142	2
NEWMAJOR 12	25.0000	0.0	1
NEWMAJOR 13	27.4286	10.5017	7
DEGREE PH.D	20.0000	0.0	1
NEWMAJOR 01	40.5000	8.1591	8
NEWMAJOR 07	35.6667	6.5064	3
NEWMAJOR 12	42.6667	8.7369	3
COUNTRY 612 MALAWI	44.5000	10.6066	2
DEGREE BACHELOR			
NEWMAJOR 08	33.4444	13.4326	45
NEWMAJOR 09	29.7500	10.8436	4
NEWMAJOR 11	25.0000	0.0	1
	24.0000	0.0	2
	46.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	28.1724	9.6328	29
NEWMAJOR 03	34.1429	5.2099	7
NEWMAJOR 04	32.0000	8.8318	4
NEWMAJOR 05	34.0000	0.0	1
NEWMAJOR 10	24.0000	0.0	1
NEWMAJOR 11	23.0000	5.5678	3
NEWMAJOR 12	29.5000	.7071	2
NEWMAJOR 13	19.6000	6.8775	5
	27.6667	15.0820	6
DEGREE PH.D			
NEWMAJOR 01	47.4167	12.7383	12
NEWMAJOR 07	46.9000	13.0252	10
NEWMAJOR 11	39.0000	0.0	1
	61.0000	0.0	1
COUNTRY 613 ZIMBABWE			
DEGREE ASSOCIAT			
NEWMAJOR 09	39.5079	13.4427	63
	37.0000	0.0	1
	37.0000	0.0	1
DEGREE BACHELOR			
NEWMAJOR 04	48.7297	7.3396	37
NEWMAJOR 06	49.0000	1.4142	2
NEWMAJOR 08	33.0000	0.0	1
NEWMAJOR 09	53.0000	7.0711	2
NEWMAJOR 10	49.3333	6.0415	9
	37.0000	0.0	1
	50.1667	4.5350	6

Variable		Mean	Std Dev	Cases
NEWMAJOR	11			
NEWMAJOR	13	50.2500	3.4034	4
		48.5833	9.5865	12
DEGREE	MASTER			
NEWMAJOR		25.4348	7.9591	23
NEWMAJOR	01	12.0000	0.0	1
NEWMAJOR	02	28.7500	1.5000	4
NEWMAJOR	03	24.6667	1.1547	3
NEWMAJOR	05	49.0000	0.0	1
NEWMAJOR	06	25.0000	0.0	1
NEWMAJOR	07	24.0000	0.0	1
NEWMAJOR	08	24.3333	5.0332	3
NEWMAJOR	09	27.5700	6.3509	4
NEWMAJOR	11	12.0000	0.0	2
NEWMAJOR	13	30.0000	0.0	1
		24.5000	4.9497	2
DEGREE	PH.D			
NEWMAJOR	01	32.0000	7.0711	2
NEWMAJOR	04	27.0000	0.0	1
		37.0000	0.0	1
COUNTRY	615 KENYA			
DEGREE	BACHELOR	27.5933	8.8235	150
NEWMAJOR		27.7875	9.1246	80
NEWMAJOR	01	44.0000	0.0	1
NEWMAJOR	02	25.7143	5.2977	14
NEWMAJOR	03	28.4706	10.6778	17
NEWMAJOR	04	23.7391	3.9337	23
NEWMAJOR	07	31.8889	16.8333	9
NEWMAJOR	08	27.6667	5.5076	3
NEWMAJOR	10	36.5000	10.6066	2
NEWMAJOR	11	32.6667	5.0332	3
NEWMAJOR	12	31.7143	7.7828	7
		26.0000	0.0	1
DEGREE	MASTER			
NEWMAJOR		24.6667	5.3951	60
NEWMAJOR	01	27.7500	2.8723	4
NEWMAJOR	02	25.7000	2.8694	10
NEWMAJOR	03	31.7143	6.7259	7
NEWMAJOR	04	22.1429	3.3877	7
NEWMAJOR	06	23.6667	.5774	3
NEWMAJOR	07	24.5000	5.6125	6
NEWMAJOR	08	28.0000	0.0	1
NEWMAJOR	09	22.0000	3.2249	6
NEWMAJOR	10	22.0000	0.0	1
NEWMAJOR	11	25.0000	0.0	1
NEWMAJOR	12	21.4286	6.0788	7
NEWMAJOR	13	25.7500	1.7078	4
		19.0000	8.8882	3
DEGREE	PH.D			
NEWMAJOR	01	43.6000	5.0155	10
		41.6000	4.2778	5

Variable	Mean	Std Dev	Cases
NEWMAJOR 02			
NEWMAJOR 03	47.0000	4.2426	2
NEWMAJOR 06	42.5000	7.7782	2
	49.0000	0.0	1
COUNTRY 617 UGANDA			
DEGREE BACHELOR	27.5385	6.9954	13
NEWMAJOR 03	26.5000	3.5355	2
	29.0000	0.0	1
	24.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 04	29.0000	6.6165	10
NEWMAJOR 09	34.5000	3.5355	2
NEWMAJOR 10	31.0000	0.0	1
NEWMAJOR 11	23.5000	14.8492	2
NEWMAJOR 12	30.0000	0.0	1
NEWMAJOR 13	26.0000	2.8284	2
	29.0000	0.0	1
	32.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 02	15.0000	0.0	1
	15.0000	0.0	1
COUNTRY 620 NIGERIA			
DEGREE PH.D	55.0000	0.0	1
NEWMAJOR	55.0000	0.0	1
	55.0000	0.0	1
COUNTRY 621 TANZANIA			
DEGREE ASSOCIAT	26.1099	11.0347	91
NEWMAJOR 04	28.3333	2.5166	3
NEWMAJOR 13	28.0000	0.0	1
	28.5000	3.5355	2
DEGREE BACHELOR			
NEWMAJOR 01	35.1176	5.5664	17
NEWMAJOR 02	44.5000	12.0208	2
NEWMAJOR 08	34.8571	4.0999	7
NEWMAJOR 10	34.0000	2.8284	2
NEWMAJOR 11	29.0000	0.0	1
	32.0000	0.0	2
	34.3333	1.5275	3
DEGREE MASTER			
NEWMAJOR 01	21.5254	9.5310	59
NEWMAJOR 02	20.8000	9.4974	5
NEWMAJOR 03	27.8571	14.2060	7
NEWMAJOR 04	42.0000	0.0	1
NEWMAJOR 06	26.0000	7.9162	16
NEWMAJOR 08	27.4000	5.2726	5
NEWMAJOR 09	14.7500	3.0957	4
NEWMAJOR 10	13.0000	0.0	5
NEWMAJOR 11	14.2000	4.3818	5
NEWMAJOR 12	14.0000	0.0	1
	14.6000	3.1305	5
	17.0000	7.0711	2

Variable	Mean	Std Dev	Cases
NEWMAJOR 13	20.0000	6.9282	3
DEGREE PH.D			
NEWMAJOR 01	35.3333	11.7808	12
NEWMAJOR 03	32.8000	12.7358	5
NEWMAJOR 04	45.0000	0.0	1
NEWMAJOR 07	39.3333	5.7735	3
NEWMAJOR 11	47.0000	0.0	1
NEWMAJOR 12	37.0000	0.0	1
	13.0000	0.0	1
COUNTRY 625 SAHEL REGIONAL			
DEGREE MASTER	16.0000	6.0828	3
NEWMAJOR 04	12.5000	.7071	2
NEWMAJOR 10	12.0000	0.0	1
	13.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 03	23.0000	0.0	1
	23.0000	0.0	1
COUNTRY 631 CAMEROON			
DEGREE BACHELOR	33.0870	9.0966	46
NEWMAJOR 01	41.4000	10.6442	5
NEWMAJOR 02	45.7500	4.9917	4
	24.0000	0.0	1
DEGREE MASTER			
NEWMAJOR	32.3684	8.5248	38
NEWMAJOR 01	31.7500	6.7020	4
NEWMAJOR 02	34.2500	4.9932	12
NEWMAJOR 03	35.2500	13.9668	8
NEWMAJOR 04	29.5000	6.5574	4
NEWMAJOR 07	28.0000	0.0	1
NEWMAJOR 08	35.0000	10.1489	3
NEWMAJOR 09	25.0000	1.4142	2
NEWMAJOR 13	21.0000	0.0	2
	33.5000	4.9497	2
DEGREE PH.D			
NEWMAJOR 01	28.3333	8.6217	3
NEWMAJOR 03	33.0000	4.2426	2
	19.0000	0.0	1
COUNTRY 632 LESOTHO			
DEGREE BACHELOR	30.4783	14.7754	69
NEWMAJOR	44.1786	11.7633	28
NEWMAJOR 01	54.1667	10.7595	6
NEWMAJOR 02	35.3333	14.1892	3
NEWMAJOR 03	42.3333	1.1547	3
NEWMAJOR 04	37.5000	4.9497	2
NEWMAJOR 08	34.0000	0.0	1
NEWMAJOR 11	24.0000	0.0	1
NEWMAJOR 13	45.5455	11.2371	11
	45.0000	0.0	1
DEGREE MASTER			
NEWMAJOR	21.1220	7.5239	41
	12.0000	0.0	1

Variable

			Mean	Std Dev	Cases
NEWMAJOR	01				
NEWMAJOR	02		26.5000	2.3452	6
NEWMAJOR	03		38.0000	4.2426	2
NEWMAJOR	04		22.5000	10.6066	2
NEWMAJOR	05		18.3333	6.4083	6
NEWMAJOR	07		15.6667	1.4142	9
NEWMAJOR	08		38.0000	0.0	1
NEWMAJOR	11		20.4286	6.7295	7
NEWMAJOR	12		17.0000	0.0	1
NEWMAJOR	13		17.0000	2.6458	3
			24.6667	5.5076	3
COUNTRY		633 BOTSWANA			
DEGREE		ASSOCIAT	33.8561	13.7954	139
NEWMAJOR	11		25.0000	0.0	1
			25.0000	0.0	1
DEGREE		BACHELOR			
NEWMAJOR			40.1829	13.2731	82
NEWMAJOR	01		37.8182	10.1076	11
NEWMAJOR	02		56.4000	23.4585	5
NEWMAJOR	03		42.2500	18.9803	4
NEWMAJOR	04		32.0000	8.0711	8
NEWMAJOR	06		27.5556	4.8762	9
NEWMAJOR	07		36.5000	16.2635	2
NEWMAJOR	08		51.0000	1.4142	2
NEWMAJOR	09		34.4000	10.1637	5
NEWMAJOR	10		40.3333	6.0277	3
NEWMAJOR	11		41.6667	7.0238	3
NEWMAJOR	12		45.1364	12.7552	22
NEWMAJOR	13		32.6667	6.8069	3
			48.0000	6.0415	5
DEGREE		MASTER			
NEWMAJOR			23.7170	7.2996	53
NEWMAJOR	01		26.3333	7.5719	3
NEWMAJOR	02		28.0000	2.9665	6
NEWMAJOR	03		22.5000	6.3640	2
NEWMAJOR	04		26.5000	3.5355	2
NEWMAJOR	05		34.0000	16.4621	3
NEWMAJOR	08		18.6000	2.1909	5
NEWMAJOR	10		22.4545	5.5021	11
NEWMAJOR	11		22.2500	5.3151	4
NEWMAJOR	12		32.3333	8.0829	3
NEWMAJOR	13		19.5385	5.5320	13
			30.0000	0.0	1
DEGREE		PH.D			
NEWMAJOR	01		43.0000	9.0000	3
NEWMAJOR	02		34.0000	0.0	1
NEWMAJOR	03		43.0000	0.0	1
			52.0000	0.0	1
COUNTRY		635 GAMBIA, THE			
DEGREE		BACHELOR	32.2222	11.1815	27
NEWMAJOR			38.5385	8.3827	13
			34.5000	9.1924	2

Variable	Mean	Std Dev	Cases
NEWMAJOR 01			
NEWMAJOR 02	36.5714	7.0912	7
NEWMAJOR 11	41.0000	0.0	1
NEWMAJOR 13	49.5000	12.0208	2
DEGREE MASTER	36.0000	0.0	1
NEWMAJOR 01	26.3571	10.4042	14
NEWMAJOR 02	33.0000	8.8882	3
NEWMAJOR 03	34.0000	0.0	1
NEWMAJOR 04	37.0000	0.0	1
NEWMAJOR 05	26.0000	19.7990	2
NEWMAJOR 08	30.0000	0.0	1
NEWMAJOR 09	30.0000	0.0	1
NEWMAJOR 12	12.5000	.7071	2
NEWMAJOR 13	17.0000	0.0	1
	26.0000	0.0	1
	19.0000	0.0	1
COUNTRY 636 SIERRA LEONA			
DEGREE MASTER	29.5000	6.2521	18
NEWMAJOR 01	28.3529	4.0457	17
NEWMAJOR 03	27.0000	4.5461	4
NEWMAJOR 04	30.3333	.5774	3
NEWMAJOR 06	31.5000	2.1213	2
NEWMAJOR 09	24.0000	0.0	1
NEWMAJOR 11	30.5000	9.1924	2
NEWMAJOR 13	26.0000	0.0	1
	28.3333	3.0551	3
	24.0000	0.0	1
DEGREE PH.D	49.0000	0.0	1
NEWMAJOR	49.0000	0.0	1
COUNTRY 641 GHANA			
DEGREE ASSOCIAT	36.2222	16.8856	18
NEWMAJOR 08	24.5000	.7071	2
	24.5000	.7071	2
DEGREE BACHELOR			
NEWMAJOR 09	41.5000	4.9497	2
NEWMAJOR 12	38.0000	0.0	1
	45.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 02	33.3000	16.9905	10
NEWMAJOR 03	30.0000	5.6569	2
NEWMAJOR 08	28.0000	0.0	1
NEWMAJOR 12	24.0000	0.0	1
	28.5000	1.7321	4
	53.5000	38.8909	2
DEGREE PH.D			
NEWMAJOR 01	46.7500	21.3288	4
NEWMAJOR 03	33.5000	24.7487	2
	60.0000	7.0711	2
COUNTRY 642 MAURITIUS			
DEGREE MASTER	29.0000	0.0	1
NEWMAJOR 01	29.0000	0.0	1
	29.0000	0.0	1

COUNTRY	645	SWAZILAND			
DEGREE	ASSOCIAT		27.1163	11.6583	
NEWMAJOR	11		25.0000	0.0	86
			25.0000	0.0	1
DEGREE	BACHELOR				1
NEWMAJOR			31.0196	12.9437	
NEWMAJOR	01		35.8000	6.2610	51
NEWMAJOR	04		36.6667	9.9532	5
NEWMAJOR	05		20.7000	5.2292	6
NEWMAJOR	08		12.0000	0.0	10
NEWMAJOR	10		40.0000	0.0	6
NEWMAJOR	11		25.0000	0.0	1
NEWMAJOR	13		38.1875	10.1339	1
			38.0000	15.2709	16
DEGREE	MASTER				6
NEWMAJOR			21.3235	6.1630	
NEWMAJOR	01		17.0000	0.0	34
NEWMAJOR	02		22.0000	11.3137	1
NEWMAJOR	03		26.0000	5.1962	2
NEWMAJOR	04		24.0000	0.0	3
NEWMAJOR	05		20.4000	6.1482	1
NEWMAJOR	06		20.2500	2.5000	5
NEWMAJOR	07		27.0000	7.0711	4
NEWMAJOR	08		20.5000	12.0208	2
NEWMAJOR	09		20.4000	7.7653	2
NEWMAJOR	10		18.5000	5.0662	5
NEWMAJOR	12		22.5000	9.1924	4
NEWMAJOR	13		16.0000	0.0	2
			23.5000	7.7782	1
					2
COUNTRY	649	SOMALIA			
DEGREE	ASSOCIAT		30.0455	6.8096	
NEWMAJOR	01		33.0000	0.0	44
			33.0000	0.0	1
DEGREE	BACHELOR				1
NEWMAJOR	01		28.0000	0.0	
			28.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR			30.4634	6.4191	41
NEWMAJOR	01		31.0000	0.0	1
NEWMAJOR	02		30.4615	4.0746	13
NEWMAJOR	03		33.0000	9.5394	3
NEWMAJOR	04		30.0000	0.0	1
NEWMAJOR	06		31.0000	8.4853	2
NEWMAJOR	07		30.8000	7.7910	5
NEWMAJOR	08		41.0000	0.0	1
NEWMAJOR	09		28.3333	8.0208	3
NEWMAJOR	10		24.4000	7.6354	5
NEWMAJOR	11		35.0000	0.0	1
NEWMAJOR	12		37.0000	5.6569	2
NEWMAJOR	13		32.0000	2.8284	2
			28.0000	9.8995	2
DEGREE	PH.D				
NEWMAJOR	04		12.0000	0.0	1
			12.0000	0.0	1
COUNTRY	650	SUDAN			
DEGREE	BACHELOR		31.4118	13.6340	51
NEWMAJOR	02		27.0000	0.0	1
			27.0000	0.0	1

DEGREE	MASTER		26.4324	6.7640	37
NEWMAJOR			27.3333	4.9329	3
NEWMAJOR	01		29.6000	10.3586	5
NEWMAJOR	02		30.0000	6.2716	4
NEWMAJOR	03		28.4286	8.5217	7
NEWMAJOR	05		23.0000	0.0	1
NEWMAJOR	06		23.0000	2.8284	5
NEWMAJOR	07		23.0000	0.0	1
NEWMAJOR	09		27.0000	0.0	1
NEWMAJOR	10		21.0000	0.0	1
NEWMAJOR	11		21.6667	4.1633	3
NEWMAJOR	12		28.2500	6.1847	4
NEWMAJOR	13		21.0000	7.0711	2
DEGREE	PH.D		45.9231	18.1955	13
NEWMAJOR			85.0000	0.0	1
NEWMAJOR	01		46.0000	11.1654	4
NEWMAJOR	03		47.5000	19.9416	4
NEWMAJOR	11		36.0000	16.9706	2
NEWMAJOR	12		33.0000	7.0711	2
COUNTRY	653	EQUATORIAL GUINEA, REP.	53.0000	0.0	1
DEGREE	BACHELOR		53.0000	0.0	1
NEWMAJOR	03		53.0000	0.0	1
COUNTRY	655	CAPE VERDI	52.1389	10.1732	36
DEGREE	ASSOCIAT		38.0000	0.0	1
NEWMAJOR	10		38.0000	0.0	1
DEGREE	BACHELOR		53.8788	8.5248	33
NEWMAJOR			57.3333	.5774	3
NEWMAJOR	01		51.0000	3.4641	3
NEWMAJOR	03		52.0000	6.1237	5
NEWMAJOR	06		58.0000	15.5563	2
NEWMAJOR	07		44.0000	0.0	1
NEWMAJOR	08		55.5000	3.5355	2
NEWMAJOR	10		40.0000	25.4558	2
NEWMAJOR	11		54.1000	5.9712	10
NEWMAJOR	12		59.0000	7.0711	2
NEWMAJOR	13		61.0000	6.0000	3
DEGREE	MASTER		30.5000	7.7782	2
NEWMAJOR	12		30.5000	7.7782	2
COUNTRY	657	GUINEA-BISSAU	47.0000	12.1316	18
DEGREE	ASSOCIAT		36.0000	8.1854	3
NEWMAJOR	01		35.0000	11.3137	2
NEWMAJOR	10		38.0000	0.0	1
DEGREE	BACHELOR		51.3077	11.1758	13
NEWMAJOR	01		49.0000	15.0200	6
NEWMAJOR	03		57.0000	2.8284	2
NEWMAJOR	11		49.6667	8.1445	3
NEWMAJOR	12		55.0000	9.8995	2

Variable	Mean	Std Dev	Cases
DEGREE NEWMAJOR	35.5000	.7071	2
MASTER 01	35.5000	.7071	2
COUNTRY DEGREE NEWMAJOR	57.0000	0.0	1
658 BACHELOR 13	57.0000	0.0	1
57.0000	0.0	1	
COUNTRY DEGREE NEWMAJOR	31.2564	10.9345	39
660 ZAIRE MASTER	30.6579	10.4138	38
NEWMAJOR 01	34.0000	4.2426	2
NEWMAJOR 03	32.5714	8.1620	7
NEWMAJOR 08	35.4545	5.6456	11
NEWMAJOR 09	31.5000	7.7782	2
NEWMAJOR 12	21.9231	6.4609	13
43.6667	21.3620	3	
DEGREE NEWMAJOR	54.0000	0.0	1
PH.D 03	54.0000	0.0	1
COUNTRY DEGREE NEWMAJOR	26.0000	0.0	1
662 SEYCHELLES MASTER	26.0000	0.0	1
06	26.0000	0.0	1
COUNTRY DEGREE NEWMAJOR	48.0659	16.8884	91
664 TUNISIA BACHELOR	49.2727	11.4288	11
NEWMAJOR 02	30.0000	0.0	1
NEWMAJOR 11	52.0000	6.4031	5
NEWMAJOR 13	50.4000	13.4833	5
DEGREE NEWMAJOR	46.5172	19.2292	58
NEWMAJOR 01	49.5000	28.9914	2
NEWMAJOR 02	36.0000	5.9614	14
NEWMAJOR 03	31.5000	.7071	2
NEWMAJOR 07	30.0000	0.0	1
NEWMAJOR 08	39.3333	10.2632	3
NEWMAJOR 10	21.6667	4.4572	6
NEWMAJOR 11	22.0000	0.0	1
NEWMAJOR 12	55.4000	17.0076	15
NEWMAJOR 13	37.0000	0.0	1
66.4615	13.5930	13	
DEGREE NEWMAJOR	51.5455	11.6812	22
PH.D 01	47.6667	14.2945	3
NEWMAJOR 02	55.6667	14.3643	3
NEWMAJOR 03	48.0000	0.0	1
NEWMAJOR 08	53.0000	7.0000	3
NEWMAJOR 10	47.5000	2.1213	2
NEWMAJOR 11	57.0000	0.0	1
55.7143	10.8277	7	

Variable	Mean	Std Dev	Cases
NEWMAJOR 13	37.5000	23.3345	2
COUNTRY 669 LIBERIA			
DEGREE BACHELOR	26.0816	9.3516	49
NEWMAJOR	36.0000	14.0238	4
NEWMAJOR 09	35.0000	2.8284	2
NEWMAJOR 13	54.0000	0.0	1
	20.0000	0.0	1
DEGREE MASTER			
NEWMAJOR	24.5000	7.4711	42
NEWMAJOR 01	21.0000	11.3137	2
NEWMAJOR 03	33.2000	8.1670	5
NEWMAJOR 04	24.0000	4.5461	4
NEWMAJOR 05	25.0000	0.0	1
NEWMAJOR 07	19.7500	2.2174	4
NEWMAJOR 08	30.0000	1.4142	2
NEWMAJOR 09	23.2000	6.6106	5
NEWMAJOR 10	19.7143	6.3434	7
NEWMAJOR 11	21.0000	0.0	1
NEWMAJOR 12	30.3333	8.5049	3
NEWMAJOR 13	22.1429	4.7759	7
	40.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 01	35.0000	17.0587	3
	35.0000	17.0587	3
COUNTRY 673 NAMIBIA			
DEGREE BACHELOR	47.2500	4.9917	4
NEWMAJOR	47.2500	4.9917	4
NEWMAJOR 08	47.0000	0.0	1
NEWMAJOR 09	44.0000	2.8284	2
	54.0000	0.0	1
COUNTRY 674 SOUTH AFRICA, REPUB. OF			
DEGREE BACHELOR	32.9400	12.6981	50
NEWMAJOR	41.8462	10.9752	26
NEWMAJOR 01	55.5000	2.1213	2
NEWMAJOR 04	39.0000	0.0	1
NEWMAJOR 06	51.0000	0.0	1
NEWMAJOR 08	38.3333	8.1894	6
NEWMAJOR 10	47.2000	8.8431	5
NEWMAJOR 11	39.0000	0.0	1
NEWMAJOR 12	43.6667	12.0968	3
NEWMAJOR 13	45.0000	11.7898	3
	29.0000	11.5181	4
DEGREE MASTER			
NEWMAJOR	23.3043	5.1912	23
NEWMAJOR 05	19.1000	4.8637	10
NEWMAJOR 06	26.0000	0.0	2
NEWMAJOR 07	30.0000	0.0	1
NEWMAJOR 08	26.3333	2.5166	3
NEWMAJOR 10	28.3333	2.5166	3
	24.0000	0.0	1

Variable	Mean	Std Dev	Cases
NEWMAJOR 12	26.0000	0.0	2
NEWMAJOR 13	23.0000	0.0	1
DEGREE PH.D	23.0000	0.0	1
NEWMAJOR 05	23.0000	0.0	1
COUNTRY 675 GUINEA	37.7647	14.3811	17
DEGREE BACHELOR	24.0000	0.0	1
NEWMAJOR 11	24.0000	0.0	1
DEGREE MASTER	37.1667	9.9985	12
NEWMAJOR 01	36.1667	10.2453	6
NEWMAJOR 02	23.0000	0.0	1
NEWMAJOR 12	45.5000	14.8492	2
NEWMAJOR 13	38.3333	1.5275	3
DEGREE PH.D	43.0000	25.2058	4
NEWMAJOR 01	62.0000	0.0	1
NEWMAJOR 01	36.6667	26.6896	3
COUNTRY 676 CENTRAL AFRICAN REPUB.	36.7500	3.7749	4
DEGREE MASTER	36.7500	3.7749	4
NEWMAJOR 08	42.0000	0.0	1
NEWMAJOR 10	35.5000	2.1213	2
NEWMAJOR 12	34.0000	0.0	1
COUNTRY 679 CONGO, REPUBLIC OF	34.0000	9.3571	10
DEGREE MASTER	34.0000	9.3571	10
NEWMAJOR 01	34.5000	4.9497	2
NEWMAJOR 02	37.0000	0.0	1
NEWMAJOR 08	32.0000	0.0	1
NEWMAJOR 12	38.0000	6.8191	5
NEWMAJOR 12	12.0000	0.0	1
COUNTRY 680 BENIN (DAHOMAY)	38.6000	7.9875	5
DEGREE MASTER	40.0000	6.9282	3
NEWMAJOR 02	48.0000	0.0	1
NEWMAJOR 03	36.0000	0.0	2
DEGREE PH.D	36.5000	12.0208	2
NEWMAJOR 01	45.0000	0.0	1
NEWMAJOR 03	28.0000	0.0	1
COUNTRY 681 IVORY COAST	32.3529	6.8551	17
DEGREE MASTER	33.6250	4.5589	16
NEWMAJOR 01	32.6667	5.1316	3
NEWMAJOR 03	44.0000	0.0	1
NEWMAJOR 04	33.5000	6.3640	2
NEWMAJOR 06	35.0000	0.0	1
NEWMAJOR 06	37.0000	0.0	1

Variable	Mean	Std Dev	Cases
NEWMAJOR 07			
NEWMAJOR 11	30.5000	4.9497	2
NEWMAJOR 13	33.2000	3.0332	5
	30.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 12	12.0000	0.0	1
	12.0000	0.0	1
COUNTRY 682 MAURITANIA			
DEGREE BACHELOR	43.3889	16.2377	18
NEWMAJOR 01	54.2500	15.4249	8
NEWMAJOR 03	43.0000	24.0416	2
NEWMAJOR 07	56.0000	12.7279	2
NEWMAJOR 11	47.0000	0.0	2
	71.0000	0.0	2
DEGREE MASTER			
NEWMAJOR	35.0000	11.7792	9
NEWMAJOR 03	40.0000	0.0	1
NEWMAJOR 04	50.5000	16.2635	2
NEWMAJOR 08	37.0000	0.0	1
NEWMAJOR 10	27.5000	3.5355	2
NEWMAJOR 13	28.0000	5.6569	2
	26.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 11	32.0000	0.0	1
	32.0000	0.0	1
COUNTRY 683 NIGER			
DEGREE BACHELOR	38.2632	14.1033	38
NEWMAJOR	42.5789	12.4558	19
NEWMAJOR 01	28.0000	0.0	1
NEWMAJOR 03	42.4444	11.4467	9
NEWMAJOR 06	47.5000	10.3763	4
NEWMAJOR 07	55.0000	0.0	1
NEWMAJOR 08	46.0000	25.4558	2
NEWMAJOR 13	34.0000	0.0	1
	28.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	36.2941	13.6233	17
NEWMAJOR 03	39.5000	16.8523	8
NEWMAJOR 05	33.0000	7.0711	2
NEWMAJOR 07	25.0000	0.0	1
NEWMAJOR 08	35.0000	0.0	1
NEWMAJOR 09	38.0000	11.3578	3
NEWMAJOR 10	17.0000	0.0	1
	44.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 01	14.0000	0.0	2
	14.0000	0.0	2
COUNTRY 685 SENEGAL			
DEGREE BACHELOR	33.0820	12.9181	61
NEWMAJOR 01	40.2222	14.1225	9
	52.0000	3.6056	3

Variable	Mean	Std Dev	Cases
NEWMAJOR 03			
NEWMAJOR 07	48.0000	0.0	1
NEWMAJOR 08	50.0000	0.0	1
NEWMAJOR 11	20.0000	0.0	1
NEWMAJOR 12	35.5000	2.1213	2
	17.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	30.8431	10.2086	51
NEWMAJOR 02	34.1667	9.1833	12
NEWMAJOR 03	21.7500	8.4212	4
NEWMAJOR 04	31.0000	9.0554	14
NEWMAJOR 07	28.0000	0.0	1
NEWMAJOR 08	29.3333	15.0444	3
NEWMAJOR 09	25.6667	12.3423	3
NEWMAJOR 10	21.5000	7.7782	2
NEWMAJOR 11	28.0000	0.0	1
NEWMAJOR 13	36.0000	10.6145	10
	18.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 01	83.0000	0.0	1
	83.0000	0.0	1
COUNTRY 686 BURKINA			
DEGREE BACHELOR	34.2692	9.9662	26
NEWMAJOR 01	30.0000	0.0	1
	30.0000	0.0	1
DEGREE MASTER			
NEWMAJOR	32.5455	8.2850	22
NEWMAJOR 01	23.0000	0.0	1
NEWMAJOR 02	40.6667	4.6188	3
NEWMAJOR 03	27.5000	13.0767	4
NEWMAJOR 05	33.7143	4.0297	7
NEWMAJOR 06	26.0000	0.0	1
NEWMAJOR 07	26.0000	0.0	1
NEWMAJOR 09	33.0000	0.0	1
NEWMAJOR 10	25.0000	0.0	1
NEWMAJOR 11	33.5000	2.1213	2
	48.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 01	48.3333	13.5031	3
NEWMAJOR 03	62.0000	0.0	1
NEWMAJOR 05	48.0000	0.0	1
	35.0000	0.0	1
COUNTRY 687 MADAGASCAR			
DEGREE MASTER	28.1667	5.3072	6
NEWMAJOR 01	28.1667	5.3072	6
NEWMAJOR 03	28.0000	0.0	1
NEWMAJOR 08	24.0000	0.0	1
NEWMAJOR 13	28.5000	9.1924	2
	30.0000	5.6569	2
COUNTRY 688 MALI			
DEGREE BACHELOR	33.7317	7.7588	82
NEWMAJOR 01	46.0000	18.0831	3
	65.0000	0.0	1

Variable	Mean	Std Dev	Cases
NEWMAJOR 08	29.0000	0.0	1
NEWMAJOR 11	44.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	32.8052	6.3867	77
NEWMAJOR 02	31.5000	5.1672	6
NEWMAJOR 03	31.4444	6.2672	9
NEWMAJOR 04	33.3077	5.1053	13
NEWMAJOR 05	35.0000	0.0	1
NEWMAJOR 07	33.0000	0.0	1
NEWMAJOR 08	39.8000	7.9498	5
NEWMAJOR 09	32.3913	6.1403	23
NEWMAJOR 10	24.0000	8.0829	4
NEWMAJOR 11	36.3333	3.2660	6
NEWMAJOR 12	33.0000	7.7889	4
NEWMAJOR 13	33.0000	7.1647	4
	31.0000	0.0	1
DEGREE PH.D			
NEWMAJOR 01	51.0000	2.8284	2
NEWMAJOR 13	53.0000	0.0	1
	49.0000	0.0	1
COUNTRY 690 S. AFRICA REGION-OSARAC			
DEGREE BACHELOR	35.5000	2.1213	2
NEWMAJOR 08	37.0000	0.0	1
	37.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 10	34.0000	0.0	1
	34.0000	0.0	1
COUNTRY 693 TOGO			
DEGREE MASTER	34.7407	10.2754	27
NEWMAJOR 01	33.2308	6.7664	26
NEWMAJOR 03	35.5000	3.5355	2
NEWMAJOR 06	36.0000	1.8257	4
NEWMAJOR 08	36.5000	.7071	2
NEWMAJOR 09	34.0000	0.0	1
NEWMAJOR 10	35.0000	5.4511	8
NEWMAJOR 11	31.0000	0.0	1
NEWMAJOR 12	29.7500	13.2256	4
NEWMAJOR 13	18.0000	0.0	1
	33.0000	0.0	1
	30.5000	.7071	2
DEGREE PH.D			
NEWMAJOR	74.0000	0.0	1
	74.0000	0.0	1
COUNTRY 695 BURUNDI			
DEGREE BACHELOR	27.3125	9.4567	16
NEWMAJOR 01	36.0000	0.0	1
	36.0000	0.0	1
DEGREE MASTER			
NEWMAJOR 01	26.7333	9.4903	15
	38.0000	2.8284	2

variable

			Mean	Std Dev	Cases
NEWMAJOR	03				
NEWMAJOR	04		27.5000	17.6777	2
NEWMAJOR	06		18.0000	0.0	1
NEWMAJOR	08		28.0000	0.0	1
NEWMAJOR	09		32.0000	0.0	2
NEWMAJOR	10		12.0000	0.0	1
NEWMAJOR	11		27.0000	0.0	1
NEWMAJOR	12		21.5000	3.5355	2
NEWMAJOR	13		21.5000	12.0208	2
			35.0000	0.0	1
COUNTRY		696 BURUNDI			
DEGREE	BACHELOR		31.0714	13.2750	14
NEWMAJOR	01		18.0000	0.0	1
			18.0000	0.0	1
DEGREE	MASTER				
NEWMAJOR			25.5556	7.5517	9
NEWMAJOR	01		25.0000	0.0	1
NEWMAJOR	04		29.0000	0.0	1
NEWMAJOR	09		23.0000	0.0	1
NEWMAJOR	13		28.7500	10.1776	4
			19.0000	0.0	2
DEGREE	PH.D				
NEWMAJOR	01		46.7500	11.6440	4
NEWMAJOR	05		36.0000	0.0	1
NEWMAJOR	09		38.0000	0.0	1
NEWMAJOR	11		53.0000	0.0	1
			60.0000	0.0	1
COUNTRY		698 AFRICA REGIONAL			
DEGREE	MASTER		40.0000	0.0	1
NEWMAJOR	01		40.0000	0.0	1
			40.0000	0.0	1
COUNTRY		882 FIJI			
DEGREE	MASTER		50.0000	0.0	1
NEWMAJOR	01		50.0000	0.0	1
			50.0000	0.0	1
COUNTRY		887 TONGA			
DEGREE	MASTER		42.0000	0.0	1
NEWMAJOR	11		42.0000	0.0	1
			42.0000	0.0	1
Total Cases = 3055					

Table I -6

Table I -6 provides data on the amount of time consumed in acquiring degrees divided by the sex of the students. Women obtained 16% of all degrees and men obtained 84%. The average time taken to acquire the various degrees is as follows:

<u>Degree</u>	<u>Time for Women</u>	<u>Time for Men</u>
Associate	21.5	22.1
Bachelors	36.8	38.9
Masters	24.3	27.3
Doctorate	46.0	44.9

Table I -5 provides a further breakdown by major field.

Although many of the differences would be statistically significant, they are not of a size to make a real difference in planning.

Summaries of MONTH  
By levels of SEX  
DEGREE  
NEWMAJOR

Variable		Mean	Std Dev	Cases
For Entire Population		31.9106	14.5813	3053
SEX	F	29.6242	14.0949	487
DEGREE	ASSOCIAT	21.4706	8.4861	17
NEWMAJOR		24.0000	0.0	1
NEWMAJOR	01 AG. AGRONOMY	26.2000	9.8336	5
NEWMAJOR	09 HEALTH ADMIN.	37.0000	0.0	1
NEWMAJOR	10 BUSINESS	12.0000	0.0	1
NEWMAJOR	11 ENGINEERING	23.0000	0.0	2
NEWMAJOR	12 MATH-COMP. SCI.	16.4286	4.7208	7
DEGREE	BACHELOR	36.8271	14.9202	133
NEWMAJOR		42.7143	10.7663	21
NEWMAJOR	01 AG. AGRONOMY	36.2000	14.1641	10
NEWMAJOR	02 AG. ANIMAL	29.0000	9.1378	5
NEWMAJOR	03 AG. BUSINESS	40.7500	16.0334	8
NEWMAJOR	04 ED. VOC. TCHNG.	33.4000	18.0197	10
NEWMAJOR	05 ED. ADMIN.	12.0000	0.0	1
NEWMAJOR	06 PHYS. SCI.	37.4000	12.4619	5
NEWMAJOR	07 BIO. SCI.	45.6000	17.4442	5
NEWMAJOR	08 PUB. ADMIN.	33.1500	13.7583	20
NEWMAJOR	09 HEALTH ADMIN.	37.0000	0.0	1
NEWMAJOR	10 BUSINESS	31.3889	17.6340	18
NEWMAJOR	11 ENGINEERING	41.4000	15.1232	10
NEWMAJOR	12 ECONOMICS	27.6667	17.1561	3
NEWMAJOR	13 MATH-COMP. SCI.	40.3125	14.3700	16
DEGREE	MASTER	24.2911	8.7830	292
NEWMAJOR		25.9167	7.0158	36
NEWMAJOR	01 AG. AGRONOMY	27.5946	6.8250	37
NEWMAJOR	02 AG. ANIMAL	24.2857	9.0132	7
NEWMAJOR	03 AG. BUSINESS	25.1739	6.9325	23
NEWMAJOR	04 ED. VOC. TCHNG.	23.8125	9.7517	16
NEWMAJOR	05 ED. ADMIN.	19.4286	3.7970	14
NEWMAJOR	06 PHYS. SCI.	28.2500	6.9560	12
NEWMAJOR	07 BIO. SCI.	31.2222	4.7376	9
NEWMAJOR	08 PUB. ADMIN.	23.2667	10.2456	45
NEWMAJOR	09 HEALTH ADMIN.	18.7619	6.3475	21
NEWMAJOR	10 BUSINESS	24.0000	9.3808	15
NEWMAJOR	11 ENGINEERING	29.8889	17.4746	9
NEWMAJOR	12 ECONOMICS	22.0800	9.1055	25
NEWMAJOR	13 MATH-COMP. SCI.	21.5217	7.8211	23
DEGREE	PH.D	46.0222	18.5442	45
NEWMAJOR		42.5000	23.1393	8
NEWMAJOR	01 AG. AGRONOMY	46.9231	19.7504	13

Variable

		Mean	Std Dev	Cases
NEWMAJOR	03 AG. BUSINESS	47.0000	15.8745	3
NEWMAJOR	04 ED. VOC. TCHNG.	39.0000	8.1854	3
NEWMAJOR	06 PHYS. SCI.	35.6667	16.4418	3
NEWMAJOR	07 BIO. SCI.	36.0000	0.0	1
NEWMAJOR	08 PUB. ADMIN.	43.5000	23.6854	4
NEWMAJOR	11 ENGINEERING	69.0000	12.6491	4
NEWMAJOR	12 ECONOMICS	44.5000	14.8492	2
NEWMAJOR	13 MATH-COMP. SCI.	45.5000	10.2103	4
SEX	M			
DEGREE	ASSOCIAT	32.3445	14.6341	2566
NEWMAJOR		22.0851	6.1814	47
NEWMAJOR	01 AG. AGRONOMY	20.0000	5.6569	2
NEWMAJOR	02 AG. ANIMAL	30.0000	4.2426	2
NEWMAJOR	03 AG. BUSINESS	22.7500	3.9476	4
NEWMAJOR	04 ED. VOC. TCHNG.	24.0000	0.0	2
NEWMAJOR	08 PUB. ADMIN.	28.0000	0.0	1
NEWMAJOR	10 BUSINESS	19.4000	6.7676	5
NEWMAJOR	11 ENGINEERING	36.0000	0.0	2
NEWMAJOR	13 MATH-COMP. SCI.	22.6364	3.7222	11
		19.3889	5.3373	18
DEGREE	BACHELOR			
NEWMAJOR		38.9039	14.5885	593
NEWMAJOR	01 AG. AGRONOMY	43.1481	13.3148	27
NEWMAJOR	02 AG. ANIMAL	36.5570	14.5600	79
NEWMAJOR	03 AG. BUSINESS	31.0233	11.3358	43
NEWMAJOR	04 ED. VOC. TCHNG.	33.0816	12.5114	49
NEWMAJOR	05 ED. ADMIN.	24.6538	8.0197	26
NEWMAJOR	06 PHYS. SCI.	12.6667	1.6330	6
NEWMAJOR	07 BIO. SCI.	40.0000	14.7693	16
NEWMAJOR	08 PUB. ADMIN.	37.3750	10.8224	8
NEWMAJOR	09 HEALTH ADMIN.	39.0385	12.2554	52
NEWMAJOR	10 BUSINESS	41.4444	12.6798	9
NEWMAJOR	11 ENGINEERING	34.4545	15.1051	22
NEWMAJOR	12 ECONOMICS	46.1623	13.4643	154
NEWMAJOR	13 MATH-COMP. SCI.	37.4000	15.9090	20
		41.3171	14.1018	82
DEGREE	MASTER			
NEWMAJOR		27.2607	10.8269	1565
NEWMAJOR	01 AG. AGRONOMY	27.3012	9.5160	83
NEWMAJOR	02 AG. ANIMAL	31.7430	8.9225	249
NEWMAJOR	03 AG. BUSINESS	31.2791	9.1364	86
NEWMAJOR	04 ED. VOC. TCHNG.	29.0652	7.9607	184
NEWMAJOR	05 ED. ADMIN.	23.8103	8.2259	58
NEWMAJOR	06 PHYS. SCI.	19.9800	5.3547	50
NEWMAJOR	07 BIO. SCI.	24.4310	12.5978	58
NEWMAJOR	08 PUB. ADMIN.	30.6522	10.4205	46
NEWMAJOR	09 HEALTH ADMIN.	24.8912	8.3087	193
NEWMAJOR	10 BUSINESS	18.7652	5.9902	115
NEWMAJOR	11 ENGINEERING	26.2000	7.6708	60
		29.4315	14.0741	146

Variable

		Mean	Std Dev	Cases
NEWMAJOR	12 ECONOMICS	25.1680	10.7484	125
NEWMAJOR	13 MATH-COMP. SCI.	29.2054	16.9733	112
DEGREE	PH.D			
NEWMAJOR		44.9446	17.4809	361
NEWMAJOR	01 AG. AGRONOMY	53.6400	20.8336	25
NEWMAJOR	02 AG. ANIMAL	41.4646	16.0816	99
NEWMAJOR	03 AG. BUSINESS	37.9286	13.8883	28
NEWMAJOR	04 ED. VOC. TCHNG.	45.9231	16.4083	39
NEWMAJOR	05 ED. ADMIN.	35.1429	10.8694	7
NEWMAJOR	06 PHYS. SCI.	28.5000	9.5394	4
NEWMAJOR	07 BIO. SCI.	52.9167	17.8202	24
NEWMAJOR	08 PUB. ADMIN.	49.1765	13.0969	17
NEWMAJOR	09 HEALTH ADMIN.	46.5714	14.9549	14
NEWMAJOR	10 BUSINESS	42.0000	11.6905	4
NEWMAJOR	11 ENGINEERING	45.0000	10.6207	6
NEWMAJOR	12 ECONOMICS	48.7442	16.9074	43
NEWMAJOR	13 MATH-COMP. SCI.	32.1111	13.4815	18
		51.8485	22.1742	33
Total Cases =	3055			
Missing Cases =	2 OR .1 PCT.			

Table I -7

Table I -7 involved grouping the data by region of the world. Countries were grouped in the same way as AID divides them in its Overseas Directory, 1987, according to Africa, Asia and Near East, and Latin America. Under this procedure, 31 countries, constituting 295 cases, included in the file could not be classified under this procedure.

The table shows some very distinct differences for the regions. Students from Latin America take considerably less time to obtain the various degrees except for the Masters where the difference is only half a month less than Asia and 2.2 months less than Africa. The difference for Doctorates is over 10 months less for both Asia and Africa. For Bachelors degrees, there is a significant difference among all three regions: Asia, 48.3 months; Africa, 38.9 months; Latin America, 23.1 months.

The differences in the time may be attributed to a number of things. The NRC data in Chapter I showed quite different patterns of major areas of study for the regions. These differences could be reflected in the length of time to a degree.

TABLE I-7 TIME TO COMPLETE BY AREA OF THE WORLD  
SPSS/PC+

7/20/88

Summaries of MONTH  
by levels of CNTRYGRP  
DEGREE

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			31.5815	13.9433	2760
CNTRYGRP	ASIA		32.7858	16.3883	999
DEGREE	ASSOCIAT		21.0000	0.0	1
DEGREE	BACHELOR		48.3220	12.6565	118
DEGREE	MASTER		26.1079	12.6771	658
DEGREE	PH.D		44.3739	15.9095	222
CNTRYGRP	AFRICA		32.3064	12.5646	1433
DEGREE	ASSOCIAT		30.7692	6.3791	13
DEGREE	BACHELOR		38.8816	13.6784	456
DEGREE	MASTER		27.8504	9.1043	869
DEGREE	PH.D		41.7158	15.6740	95
CNTRYGRP	LATNAMER		24.7470	8.7016	328
DEGREE	ASSOCIAT		19.7959	4.7609	49
DEGREE	BACHELOR		23.1277	8.8946	47
DEGREE	MASTER		25.6066	8.4674	211
DEGREE	PH.D		31.2857	11.3980	21
Total Cases =	2760				

## CHAPTER II

### DURATION ESTIMATES FOR U.S. STUDENTS

Much to the project staff's surprise, there is little systematic data on the actual time taken by U.S. students to obtain baccalaureate degrees. The National Research Council (NRC) gathers data annually on doctorate degrees earned at U.S. universities. This information includes data on the number of years that have passed between the obtaining of the baccalaureate and the doctorate. In its report, it differentiates the total elapsed time from "registered time", but does not separate out the time consumed in obtaining a masters degree if one was obtained. As with the Baccalaureate, there is no systematic data published on time actually taken to obtain Masters degrees, although it would be possible to obtain such information for individuals who have obtained both Masters and Doctorates from the NRC data base.

The National Science Foundation sponsored three surveys dealing with recipients of degrees. The one conducted by the NRC mentioned above does have helpful information for this study that is discussed later in this report. A second survey conducted by the Bureau of the Census in 1986 was a follow-up of a sample of individuals identified as scientists in the 1980 decennial census. It dealt only with degrees attained since 1984 (earlier surveys covered the times between 1982 and 1984 and between 1980 and 1982). Although it obtained dates for attaining the most recent degree, it did not obtain beginning dates. Sampling procedures and census user tapes do not allow a combining of data from the various surveys thus making it impossible to calculate

or estimate the time elapsed between degrees or spent working on the degree.

A third NSF survey conducted by Temple University in 1986 (as well as others also going back to 1980), focused on the graduating classes of 1984 and 1985. It, as with the census follow-up, obtained dates, types of degrees and major fields but did not include starting dates. Thus, the information in the data base would allow the length of time between degrees to be calculated but not the time actually working on the degree. This limiting factor made further examination of this data base without value for this study.

The U.S. Department of Education, Center for Education Statistics, has for years conducted the Higher Education General Information Survey (HEGIS). This survey gathers information annually from institutions of higher education that includes data on numbers of graduates by degrees and by major field. It does not gather any data on the length of time used to obtain the degrees.

The National Longitudinal Surveys of the High School Class of 1972 contains information on students from that class who earned baccalaureates following their high school graduation. In a study published in 1986 by Susan Hill of the Center for Education Statistics, the length of time to obtain a Bachelors degree by members of that high school class was examined. Hill concluded that of those from the class who obtained Bachelors degrees by December of 1984, 49% received their degrees in the traditional 4 years after leaving high school. Another 8% took 4

academic years but began college later than the Fall following high school graduation; 19% completed the degree in between 4 and 5 years and 24% took 6, 7, or more years.

Completing the degree in 4 years was positively correlated with aptitude test scores, high school curriculum (academic, general, or vocational), socio-economic status, and region of the country where the Northeast (60%) was highest and the West (34%) was the lowest. Students' majors related to graduation within 4 years as follows:

- Social Sciences, 58%;
- Mathematics and Sciences, 58%;
- Education, 52%;
- Humanities, 48%;
- Business and Marketing, 45%;
- Engineering, 43%.

The data showed that 14% of those entering in the Fall after graduation but not completing 4 years later were in 5-year programs, 20% were part time, and 35% left college and later returned. The fact that 5-year programs are often associated with cooperative engineering programs, may account for the relatively low rate for that major.

Of all students entering college in the sample, 44.6% had completed their degrees by December, 1984.

The following organizations and individuals were contacted by telephone and asked for information on time required to obtain degrees. Where some information was offered, it is included following the listing. The list is divided by academic areas and

associations as follows:

- I. Agriculture
- II. Biological Sciences
- III. Business
- IV. Engineering and Computer Science
- V. Health
- VI. Physical Science
- VII. Public Administration
- VIII. National Associations
- IX. Government Agencies
- X. Others

I. Agriculture

Future Farmers of America  
5632 Mt. Vernon Memorial Highway  
Alexandria, VA 22309  
703-360-3600

Bill Stagg  
Information Department  
Personal Opinion: BA=4 years plus internship for 6-12  
months more

Lenny Gamage  
International Program  
Personal Opinion: BS in 4 years, MS in 1-2 more. Go to Ag.  
Univ.--try Michigan State University, International Ag. Ed.  
Group, Dr. Meaders, 517-355-6580

American Society of Ag Engineers  
2950 Niles Road  
St. Joseph, MI 49085  
616-429-0300

Roger Castensen, Ex. VP

National Association of Colleges and Teachers of Agriculture  
c/o Jack C. Everly  
608 W. Vermont  
Urbana, IL 61801  
217-344-5738

Association of US University Directors of International Ag  
Programs  
1301 W. Gregory Drive  
University of Illinois  
Urbana, IL 61801  
Thomas A. McCowen, Sec/Treas  
217-333-6420

## II. Biological Science

American Institute of Bio. Sciences  
730 11th Street NW  
Washington, DC 20001  
202-628-1500

Dr. Beam

Personal Opinion: "Ballpark" usually 4 years for a BA, 2 for MA, 2-3 1/2 for Ph.D. Try NSF, Alex Barden, Science and Engineering, 357-9644.

### III. Business

National Business Education Association  
1914 Association Drive  
Reston, VA 22091  
703-860-8300

Dr. O. J. Byrnside, Jr., Ex. Dir.  
Try Inst. Div. of Schools Dr. George Walters, President;  
Emporia State University, School of Business, Box 39,  
Emporia, KS 66801, 316-343-1200, Ext. 5225

Dr. Walters: Try Sharon Barber, American Association of  
Colleges of Business, Old Ballas Road, #220, St. Louis, MO,  
63141, 314-872-8481.

Sharon Barber: Try Eunice Lange, Assistant Director of  
Accreditation, AACB (above)

#### IV. Engineering and Computer Science

IEEE Computer Society  
1730 Massachusetts Avenue, NW  
Washington, DC 20036  
202-371-0101

T. Michael Elliott, Ex. Dir.  
Try IEEE at 785-0017 and American Society of Engineering  
Education at 293-7080.

American Society for Engineering Education  
11 Dupont Circle, #200  
Washington, DC 20036  
202-293-7080

Try Dick Ellis, Engineering Manpower Commission, 202-546-  
2237.

Personal Opinion: BA is 4 year program, most take 4 1/2  
years to complete; try yearly index of Engineering  
Education; 25-30% of seniors do not graduate; MA typically 1  
year; Ph.D. try Stanford, MIT, Univ. Chicago, Perdue  
(William LeBold); data tenuous; we do not measure that--only  
count number enrolled; not a priority to know this; try  
Sandy Astin, ACE Policy Analysis Section.

Dr. William LeBold, Purdue University, 317-494-3976:  
secretary Judy Rehwinkel reports he is on sabbatical; write  
him letter at 3131 Excelsior Blvd, #209, c/o Calhoun Plaza,  
Minneapolis, MN 55416.

V. Health

Association of Schools of Public Health  
1015 15th Street, NW, #404  
Washington, DC 20005  
202-842-4668

Michael K. Gemmell, Ex. Dir.

Judy McGee, Research Director; Masters in public health in  
2 years (some in 1 year); Ph.D. in 4-5 years.

American Public Health Association  
1015 15th Street, NW  
Washington, DC 20005  
202-789-5600

William H. McBeath, Ex. Dir.

Richard Carsson--try US Public Health Service in HHS,  
National Center for Health Statistics, Hyattsville, MD; CEPH  
for accreditation.

## VI. Physical Sciences

American Institute of Physics  
335 E. 45th Street  
New York, NY 10017  
212-661-9404

H. William Koch, Director

Roman Chuko, Employment and Educational Statistics: BA is 4 year program but 5th year has been increasing in last 10 years; 80% go right on to Ph.D with no Masters (though 50% will pick up MA on the way); Ph.D. in 5 1/2 years full time; 6 1/2-7 calendar years; average age of Ph.D. is 29-30 and increasing; 50% completion rate over 10-12 year period; 2 1/2% of all graduate students have been studying for more than 8 years; get Summary Report of Yearly Doctorate Recipients from US Universities, National Academy of Science Publication, has 98% completion rate.

American Association of Physics Teachers  
5110 Roanoke Place, #101  
College Park, MD 20740  
301-345-4200

Jack M. Wilson, Ex. Officer

VII. Public Administration

National Academy of Public Administration  
National Institute of Public Affairs (Education)  
1120 G Street, NW, #540  
Washington, DC 20005  
202-347-3190

Ray Kline, President

National Association of Schools of Public Affairs and  
Administration  
1120 G Street, NW, #520  
Washington, DC 20005  
Washington, DC 20005  
202-628-8965

Alfred M. Zuck, Ex. Dir.

Dr. Sally Ehrle: try University of Miami, Florida  
International, University of Texas (Austin) to get  
information on full time students; 75% are "in career" and  
are part time; do not get duration information, ask for  
number of students and graduates.

## VIII. National Associations

AACRAO (American Association of Collegiate Registrars and  
Admissions Officers)  
One Dupont Circle, #3  
Washington, DC 20036  
293-9161

Dr. J. Douglas Conner, Executive Director  
Commented that if there were anything he was sure that  
he would know about it. Suggested study by Department  
of Education titled High School and Beyond.

### National Association of Foreign Student Advisors

Washington, DC  
462-4811

Mary Peterson  
Knew of no systematic study, but said that Susan Hill  
at Department of Education had done something.

AACJC (American Association of Community and Junior  
Colleges)  
One Dupont Circle  
Washington, DC 20036

Mary Ellen Duke

Variables affecting time at AACJC institutions so great that  
they do not try to get data.

IX. Government Agencies

National Academy of Science (referred to NRC)  
National Research Council  
Office of Scientific and Engineering Personnel  
2101 Constitution Avenue, NW  
Washington, DC 20418

Susan B. Coyle  
Provided summary report, 1985 and 1986  
Discussed data base characteristics and limitations. More thorough discussion of this ongoing survey appears elsewhere in this report.

Cheryl B. Leggon  
Provided copy of "Foreign and Foreign-Born Engineers in the United States" and will send current study on time-to-degree if it is requested after November, 1988, when it will be completed.

National Science Foundation  
1800 G Street, NW  
Washington, DC  
357-5000

Librarian provided publications reporting on NSF surveys of degree recipients.

U. D. Department of Agriculture  
Independence Avenue at 14th Street  
Washington, DC

Richard Affleck  
623-8320  
(SHOULD HAVE NOTES SOMEWHERE)

U. S. Department of Education  
Center for Statistics  
400 Maryland Avenue, SW  
Washington, DC

Susan Hill provided short study, but indicated that major surveys such as HEGIS would not help. High School and Beyond might be able to produce some data on Bachelors degrees but sample would be very small.

X. Others

Educational Testing Service  
Princeton, NJ 08541

Gerald Demauro, TOEFL Director  
Provided studies done under TOEFL Board. Includes anything  
from College Entrance Examination Board (CEEB).

George Washington University  
2121 I Street, NW  
Washington, DC  
994-6080

Dean Liebowitz, School of Engineering  
Still takes four years unless in a cooperative program which  
adds one year.

Virginia Polytechnical Institute and State University  
University City Office Building  
Blacksburg, VA 24061

Dr. Lloyd Andrew, Professor  
Administrative and Educational Services  
No systematic information but wrote of his experience  
working with foreign students.

New Mexico State University  
Box 3567  
Las Cruces, NM 88003  
505-646-4735

Dr. Paul Huntsberger  
Assistant Director, International Education Programs  
Study of success, time, etc. of AID/FAO students in early  
stages, no information available at this time.

Academy of Educational Development

Penny Mitchell

Transcentury, Inc.

Faye Cowan  
Sheila Grant

## NRC SURVEY

The only regular systematic collection of information about the length of time used to obtain various degrees occurs in the annual NRC survey of Doctorate Recipients from United States Universities. As the title of the report indicates, it is primarily concerned with Doctorate degrees. This survey gathers data directly from the individuals who received Doctorates during the year of the report. The most recent report concerns Doctorates received during 1986, and it is data from that report which will be dealt with in this study.

Universities throughout the U.S. routinely report the identification of individuals receiving doctorates each year. The doctorate recipients are sent a survey form from NRC that requests a wide variety of information including the length of time the individual was enrolled, working toward a degree, and finally receiving that degree at whatever institution the person attended. The questionnaire also elicits information regarding the individual's citizenship and, if not U.S., whether the person's visa is permanent or temporary. The information reported is broken down by sex, certain ethnic divisions, U.S. or non-U.S. citizenship, and whether the non-U.S. hold permanent or temporary visas. The basic problems for purposes of this study are one, that the data regarding "registered" time from Baccalaureate degree to Doctorate degree does not isolate the time required to obtain a masters degree; and, two, that there is no indication of how intense (full time, part time, scholarship, Summer only, graduate or research assistantship, etc.) was the

TABLE II-1  
1986 DOCTORATES

MALE

	PHYSICAL SCIENCE	EDUCATION
Total degrees	3,074	3,012
% with Masters	51.4%	94.4%
% with BA/BS in same field	73.1%	34.7%
Total years from BA/BS	7.2	15.2
Registered years from BA/BS	6.0	7.8

FEMALE

Total degrees	605	3,590
% with Masters	55.5%	95.2%
% with BA/BS in same field	75.0%	42.7%
Total years from BA/BS	7.0	16.2
Registered years from BA/BS	5.9	7.8

Data from Summary Report 1986 Doctorate Recipients from United States Universities, NRC, National Academy Press, 1987.

work toward the degree.

It should be understood that much or most of the credits acquired in obtaining a Masters degree are directly applicable to the requirements for a Doctorate if the fields are the same or compatible.

An example of the need to understand intensity is exemplified by a comparison of both registered and total time between baccalaureate and doctorate for two major areas of study: Physical Science and Education.

Table I-1 exemplifies both of the problems. Of men and women receiving doctorates in Physical Science, only about half obtained masters degrees while almost all of those in Education did. Roman Chuko, of the American Institute of Physics, reported that students in his field go right on to a Ph.D. program from the Bachelors degree with about half of them just sort of picking up an MA on the way. Thus, in this case, it is not clear if any significant amount of time is spent obtaining a Masters degree beyond the effort to receive a Doctorate. On the other hand, individuals in Education tend to deliberately set out to obtain a Masters degree as such (continued teaching certification and salary increases are often dependent on obtaining an MA) with the decision to work toward a Doctorate occurring later.

The difference in intensity, of work toward a Doctorate can clearly be seen with the Physical Science students taking around 7 years (approximately 6 registered years) compared to Education students using 15 to 16 years with close to 8 years registered. Education Doctorate students are typically working as teachers or

TABLE II-2

## PRIMARY SOURCES OF SUPPORT, 1985

<u>Source</u>	<u>Physical Science</u>	<u>Education</u>
Personal (self, spouse, loans, etc.)	12.5%	79.0%
University (assistantships, fellowships)	77.7%	13.3%
Federal (NSF, NIH, Dept.Ed., GI Bill)	5.0%	2.4%
Other (Ford, other foundations, business)	4.7%	5.2%

administrators in schools and taking courses during Summer holidays or a course at a time while working during the school year. The Physical Science Doctorate students, in contrast, tend to remain on campus employed as research assistants, graduate teaching assistants, instructors, or other jobs enabling them to work continuously toward their Doctorate degree. The data from the NRC survey on sources of support, Table I-2, further emphasizes the difference in the way individuals from these two majors go about obtaining their doctorates. Thus, the greater intensity of the physical science majors and less emphasis on a masters degree, results in a much lower total elapsed time as well as registered time from baccalaureate to doctorate.

Data regarding other major fields and citizenship status from the NRC study are shown in Tables I-3 and I-4. A discussion of the data contained in the tables will first relate to the time used by U.S. citizens to obtain doctorates and second to the data on non-U.S. citizens.

#### U.S. Students

The total time elapsed between obtaining a bachelors degree and a Doctorate ranged from a low of 7.1 years (Physical Science) to a high of 15.7 years (Education) with an average for all degrees of 10.8 years (Table I-4). A partial explanation for the wide difference between the two extremes was suggested earlier. Nor surprisingly, the median age for receiving a doctorate in the two fields shows the same differential: Physical Science age being 29 and Education being 39.

Registered time is the time differential between BA/BS and

TABLE II-3

## STATISTICAL PROFILE OF 1986 DOCTORATE RECIPIENTS EMPHASIZING FIELD OF STUDY AND TIME

	# Degrees	% US Citizen	% Temp. Visa	% BA/BS Same Field	% MA/MS	Years BA/BS Doctorate (total)	Years BA/BS to Doctorate (registered)
A. AGRICULTURAL SCIENCES	1157	56.8	32.8	62.1	91.0	9.2	6.0
B. EDUCATION	6602	80.8	7.1	39.0	94.9	15.7	7.8
C. PHYSICAL SCIENCES.	3679	66.1	23.5	73.4	52.1	7.1	6.0
D. BIOLOGICAL SCIENCES	3791	82.3	10.3	57.7	51.7	8.1	6.4
E. OTHER PROFESSIONAL FIELDS (INCLUDES PUBLIC ADMINISTRATION)	1035	79.2	9.4	23.6	92.4	13.7	7.7
F. HEALTH SCIENCES	772	73.2	12.8	46.9	81.3	11.9	6.9
G. BUSINESS AND MANAGEMENT	901	61.4	22.8	34.4	87.1	11.9	7.0
H. ENGINEERING	3376	40.8	40.6	73.0	86.5	8.1	5.9
I. ENONOMICS	861	55.1	31.5	59.7	72.6	8.4	6.3
J. MATH AND COMPUTER SCIENCE	1129	50.5	34.9	52.6	77.2	7.9	6.2
TOTAL (all fields, includes more than totals of above)	31,770	72.3	16.6	55.1	79.3	10.4	6.8

Data from Summary Report 1986 Doctorate Recipients from United States Universities, Susan L. Coyle, NRC,  
National Academy Press, 1987.

TABLE II-4

## STATISTICAL PROFILE OF 1986 DOCTORATE RECIPIENTS EMPHASIZING CITIZENSHIP, FIELD, AND TIME

	TOTAL		ASIAN		BLACK		WHITE		HISPANIC*	
	Cit.	Temp.Visa	Cit.	Temp.Visa	Cit.	Temp.Visa	Cit.	Temp.Visa	Cit.	Temp.Visa
Total Doctorate Degrees	22,984	5,267	527	2639	820	313	20,538	1,504	248	360
Doctoral Field										
Physical Sciences (includes Math & Comp.Sci.)	13.1%	23.9%	20.3%	27.2%	3.0%	9.9%	13.2%	23.4%	9.3%	21.9%
Engineering	6.0%	26.0%	15.2%	31.6%	1.7%	8.0%	6.0%	23.1%	3.6%	16.1%
Life Sciences (includes Bio.Sci. & Ag.Sci.)	18.9%	16.5%	28.8%	14.7	7.8%	28.1%	19.3%	15.2%	15.3%	23.1%
Social Sciences	19.8%	12.8%	13.1%	10.1%	19.9%	18.5%	19.9%	14.2%	24.2%	18.3%
Humanities	11.9%	6.1%	5.7%	3.8%	8.5%	7.3%	12.2%	9.4%	16.9%	6.4%
Education	24.3%	8.9%	11.0%	6.1%	51.3%	22.7%	23.5%	8.9%	25.8%	11.1%
Other Prof. Fields	6.0%	5.8%	5.9%	6.5%	7.7%	5.4%	6.1%	5.7%	4.8%	3.1%
Years Baccalaureate to Doctorate										
Total	10.8	9.2	9.5	9.5	14.3	9.2	10.7	8.5	10.8	9.4
Registered	7.1	6.1	6.9	6.2	7.9	5.7	7.0	6.1	6.9	5.5

\*not Mexican or Puerto Rican

Data from Summary Report 1986 Doctorate Recipients from United States Universities, Susan L. Coyle, NRC, National Academy Press, 1987.

Doctorate that is spent actually registered for credit at a university. This difference is not as dramatic between majors although still quite significant: Physical Science, 6.0 years; Education, 7.8 years. At least part of the difference can be accounted for by the fact that 94.9% of Education doctorates deliberately obtained Masters degrees as a prior goal to the Doctorate, while only 52.1% of Physical Science majors acquired Masters degrees (apparently, almost as an aside on the way to the doctorate). Discussions with the individuals listed in Chapter I suggest that an estimation of registered time for obtaining the MA/MS for Education would be about 2 to 3 years and for Physical Science approximately 1 year.

In effect, because much of the Masters degree effort applies to the Doctorate requirements if the fields of study are the same or comparable (which tends to be the case in Physical Sciences, 73.4%, but not in Education, 39.0%--Baccalaureate same as Doctorate), the acquisition of a Masters degree in Physical Sciences adds much less to the registered time for a Doctorate than is the case for a Masters in Education. This phenomenon combined with the lower intensity of study for Education Doctorates would seem to account for the disparity in registered time between the two major fields. Doctorates in the Humanities require the longest registered time (8.2 years) which may be speculated about but are not an important feature of this report and would require separate study to support or reject such speculation.

To illustrate the relationship between three of the

TABLE II-5A

RELATIONSHIPS OF TOTAL ELAPSED TIME, REGISTERED TIME, AND PERCENT

MASTERS DEGREES BY MAJOR FIELD

Ratings for the Three Variables

TOTAL ELAPSED TIME

TIME/YEARS	RATING	FIELD IN RATING
12.0 and Above	1	B, E
10.0 to 11.9	2	F, G
8.0 to 9.9	3	A, D, H, I
7.9 and less	4	C, J

REGISTERED TIME

TIME/YEARS	RATING	FIELD IN RATING
7.1 and Above	1	B, E
6.6 to 7.0	2	F, G
6.1 to 6.5	3	D, I, J
6.0 or less	4	A, C, H

PERCENT MASTERS DEGREES

PERCENT MASTERS	RATING	FIELD IN RATING
90% and Above	1	A, B, E
80% to 89%	2	F, G, H
70% to 79%	3	I, J
60% and below	4	C, D

MAJOR FIELDS

A. Agriculture	F. Health Sciences
B. Education	G. Business and Management
C. Physical Sciences	H. Engineering
D. Biological Sciences	I. Economics
E. Other Professional Fields	J. Mathematics and Computer Science

TABLE II-5B

4 X 4 TABLES ILLUSTRATING AGREEMENT BETWEEN VARIABLES

TOTAL ELAPSED TIME BY REGISTERED TIME

Total Elapsed Time

	Rating	1	2	3	4
Registered Time	1	B, E			
	2		F, G		
	3			D, I	J
	4			A, H	C

TOTAL ELAPSED TIME BY % OF MASTERS DEGREES

Total Elapsed Time

	Rating	1	2	3	4
% Masters	1	B, E		A	
	2		F, G	H	
	3			I	J
	4			D	C

% OF MASTERS DEGREES BY REGISTERED TIME

% Masters

	Rating	1	2	3	4
Registered Time	1	B, E			
	2		F, G		
	3			I, J	D
	4	A	H		C

variables included in Table III, each of the variables was rated on a scale of 1 through 4, see Table I-5. The 10 major fields of study were then classified according to the ratings. For example:

Agriculture

<u>Variables</u>	<u>Rating</u>
Total Elapsed Time	3
Registered Time	4
% Masters Degrees	1

Each variable was then compared to the other two in 4 by 4 tables to illustrate those fields where there is strong agreement and those where there is less or none. The tables also illustrate the level of agreement in general. As can quickly be seen in the 4 by 4 tables, there is quite a high level of agreement between the 3 variables with 6 or 7 major fields in complete agreement on all 3 tables. It is also clear that Agriculture (A) is different for these relationships as is Engineering (H) although not to the same degree.

The implications for someone doing time and cost budgeting for U.S. students would be to estimate higher costs and time for fields where a Masters degree is expected on the way to a Doctorate (Agriculture excepted) and to develop some measure of expected intensity of effort as a modifying variable in the estimates. Such a measure might simply be the extent that students could be expected to take maximum credits (full load) on a continuous basis.

## Foreign Students

The previous discussion concerned the time it takes U.S. students to obtain degrees. Except for Bachelors degrees, most U.S. students are not full time. that is, they are working to sustain themselves and often their families while also working on the degree. The work may be in the form of assistantships and part time jobs at the institution in which they are enrolled or it may be outside the institution (often a considerable geographic distance away). The employment ranges from part time to full time depending on circumstances and the major field. Assistantships and lab work are often the employment in the physical and biological sciences and engineering while full time employment is more often the case in the social sciences, business, and education.

AID sponsored foreign students tend to be fully supported while working toward a degree. They do not need to work, are not expected to, and in fact, are discouraged from doing so. As a result, the intensity of their work toward a degree can be much greater than their U.S. colleagues. This greater intensity should result in less registered time used to obtain Masters and Doctorates assuming full qualifications including English language skills. U.S. undergraduates can, on the whole, be expected to apply the same level of intensity as fully supported foreign students. .

Tables I-3 and I-4 using data from the NRC report supports the above contention. They also reveal some other interesting information. In 1986, 16.6% of Doctorates went to non-U.S.

citizens here on temporary visas (in 1985, 21.4% were in that category). The column in Table I-3 labeled "% temp.visa" shows the percentages of such students receiving Doctorates in the listed major fields. They range from a high of over 40% (1985, 45.7%) of Engineering Doctorates going to foreign students to a low of 7.1% of Education Doctorates.

Table I-4 illustrates the difference in registered time between U.S. and foreign students. For the groups as a whole, U.S. students took 7.1 years while foreign students used 6.1 years (the differential was the same in 1985). In order to understand the differences in elapsed registered time for the different ethnic groups, it helps to consider the data on what portions of the groups obtained degrees in the various fields. For example, Asian foreign students took 6.2 years to complete with over 50% majoring in Physical Science and Engineering, while Black foreign students took 5.7 years with about 18% in those fields (1985 data are essentially the same). There is no data provided that says that one major takes longer than another for foreign students, but it is clear that there are quite different patterns of majors for the different ethnic groups. There also is a distinctly different pattern for U.S. students compared to foreign students. It is tempting to explain this latter difference by the large number of Doctorates for U.S. students in the field of Education distorting the other percentages. A recalculation of the data without Education included appears as follows in Table I-6 which makes it clear that there is still a distinctly different pattern even with Education majors not

TABLE E-6

## DISTRIBUTION OF DOCTORATES WITH EDUCATION WITHDRAWN

Doctoral Field	U.S.	Foreign
Physical Sciences	17.3%	26.2%
Engineering	7.9%	28.5%
Life Sciences	25.0%	18.1%
Social Sciences	26.2%	14.0%
Humanities	15.7%	6.7%
Other Prof. Fields	7.9%	6.4%

included. The much higher ratios for foreign students in Physical Sciences and Engineering may be a direct result of the influence of AID sponsored students where an emphasis on these fields is likely to be placed.

## UNDERGRADUATE DEGREES

The various organizations and individuals contacted were in general quite discouraging about the existence of systematic data regarding the length of time it takes U.S. students to complete undergraduate degrees. The Hill study using NSL 1972 High School Class data was the only source. The consensus was that it would take a massive study to obtain good data covering such things as the large numbers of students attending community colleges, many in a rather casual fashion, but ultimately transferring to a four-year institution and obtaining a degree, substantial numbers of students entering the military shortly after completion of high school, taking some courses in the military, acquiring financial support from the military, and completing a degree after discharge. Other common factors include the practice of dropping out for a year, spending a year abroad, losing credits in transferring from both 2 and 4 year colleges, losing credits by changing majors, and failure to commit to a major thus prolonging time to a degree. Cooperative programs in many engineering majors require five years without any other factors lengthening the time to the baccalaureate.

The reason for lack of systematic data may simply be, as some of our respondents indicated and as the Hill study supported, that there really is not any need or interest in it. Individual institutions have reasonably good data on their own dropout rates and because of early admissions deadlines (February or March preceding the Autumn entering class) can control the size of the entering class by simply rejecting applicants. These

factors enable them to plan quite well without any national or even statewide data. The only thing they need to know are matters such as baby booms or busts about which they receive excellent data well in advance.

Rather than trying to get reliable data on how long it actually takes on the average for U.S. students to obtain bachelors degrees, it may make more sense to answer the question of how long it should take if a student has adequate financial support, reasonably good preparation, acceptable qualifications, and an acceptable plan for proceeding. Our respondents answered this question as might be expected. College and university undergraduate programs are designed to be completed in four years by students taking full loads of an average of 16 credits per semester. Acceleration is possible by attending school during the Summer. Cooperative programs (found in engineering, physical sciences, biological sciences, business, and others) add one year. Reasonably conscientious students complete the requirements in the allotted time.

## MASTERS DEGREES

Respondents said much the same about time to complete a Masters degree as they did about the Bachelors degree except that the whole thing is more complex. Again, it makes most sense to deal with the question of how long it takes in terms of assumptions of students being fully qualified, full time, adequate financial support, etc.

A typical Masters degree calls for a minimum of 30 semester credit hours with an optional thesis for which the candidate receives 6 to 10 of the required hours. Considerable variation from this "typical" program occurs within and between institutions and departments. Certain fields at certain institutions have developed 3-2 programs that offer both a BA/BS degree and a Masters degree in a five-year period. One university offers such a program resulting in a BS in Chemistry and an MS in Chemical Engineering. Such programs are generally limited to exceptional students. Another example of variation from the typical is of a Masters in Architecture requiring 54 credits including a thesis worth 6 to 10 of those credits.

For the typical 30-credit program, with the optional thesis, a reasonably conscientious student could complete the requirements in one calendar year. That would involve taking 12 credits per semester for two consecutive semesters and either 6 more credits during the Summer session or writing the thesis for 6 credits during the Summer session.

## DOCTORAL DEGREES

For U.S. students, there is no such thing as a typical Doctorate program. There are common requirements, but each student's program is unique. We will deal first with the common requirements and then with some of the characteristics that make each person's program different. The differences may or may not be significant in terms of the length of time used to acquire a Doctorate degree.

General requirements for Doctoral degrees include the following:

1. Semester credit hours: 90 beyond Baccalaureate. May include credits for classes taken, credits devoted to the dissertation, and credits devoted to a Masters degree.
2. Foreign Language Competency: Depending upon major field and institution and degree (Ph.D., Ed.D., other).
  - a. Successful academic record in language.
  - b. Specific Doctoral course in language.
  - c. ETS examination in language.
  - d. Institution or departmental examination in language.
  - e. Other or none.
  - f. In some programs, two languages other than English are required.
3. Preliminary and final examinations, both oral and written.
4. A faculty committee that recommends and approves programs and conducts examinations.
5. Dissertation that establishes individual's ability to do original work in the field.

6. Residency on campus of one academic year.
7. Time limit of seven years. May be exceptions depending on institution and committee.
8. Other requirements established by committee for each individual.

It should be noticed that a Masters degree is not necessary for a Doctorate. However, because a total requirement of 90 credits beyond the Baccalaureate may include the 30 credits for a Masters (with some other requirements), it is possible in certain programs where the Bachelors, Masters, and Doctoral degrees are in the same or closely related fields that a person might "pick up" a Masters degree on the way to a Doctorate. There seems to be no data on how often it is done that way, but it is clear from the NRC data that a large percentage of Physical Science majors do not choose to do so.

Given the wide variety of requirements for major field, individual institution, and individual student characteristics, it is unreasonable to offer general or average lengths of time for obtaining Doctorate degrees for U.S. students.

As could be seen from the previously presented information from the NRC reports, times to degree vary with a multitude of factors. Applying the same assumptions used with Bachelors and Masters degrees, it is still not possible to offer an "across the board" estimate of the length of time needed by U.S. students to obtain Doctorates. It would not be unreasonable to conclude that classwork could be completed in 2 years and a dissertation and other requirements in 1 1/2 years, plus or minus 6 months

depending on foreign language requirements, schedules for preliminary and final examinations, special requirements imposed by the Doctoral committee, and the nature of the dissertation. The length of time for dissertations will vary with the major field and the nature of the work. For example, an agricultural experiment might require 2 or more growing seasons, a wildlife management experiment might call for 2 or more birth cycles, a physical or biological sciences experiment might take a few hours or a few weeks, a computer science or mathematics dissertation might be only a few pages long but have required many months of trial and error effort, or an education experiment might be a single treatment administered in a day or a series of treatments over an academic year.

Thus, given the assumptions made for Bachelors and Masters degrees, for a reasonably conscientious U.S. student, the estimate to acquire a Doctoral degree is 3 1/2 years plus or minus 6 months. This compares with the actual registered time reported by NRC for 1986 of 7.1 years for all Doctorates received by U.S. citizens. This difference is accounted for by the fact that few U.S. students carry a full load of credits on a continuous basis while working toward a Doctorate.

## CHAPTER III

### LITERATURE REVIEW

A literature review was conducted in ERIC from 1977 to the present. Descriptors employed included:

Foreign students;

Foreign nationals;

Postsecondary education;

A total of 34 references were produced. Abstracts of 6 of the most promising were extracted from the data base. None of the 6 made any reference to the length of time required for obtaining degrees. Four references to studies involving the Test of English as a Foreign Language (TOEFL) appeared. Those studies were obtained from Educational Testing Service (ETS). None of them provided any information about time to acquire degrees.

In addition, various publications reporting on government surveys were reviewed. A great deal of information on undergraduate and graduate postsecondary education is gathered on a regular basis: HEGIS (Department of Education), Experienced Sample of Scientists and Engineers (Census), Survey of Recent Science and Engineering Graduates (NSF, Temple University), Survey of Doctorate Recipients (National Research Council), and the National Longitudinal Surveys (NLS, Department of Education). In only two, NLS and the Survey of Doctorate Recipients, is there information about time used to obtain degrees. The data from these two are discussed in the body of the report.

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policy implications are discussed. Attention is focused on academic master's and doctor's degrees, rather than first professional degrees, at California State University and University of California. the growth of the doctoral and master's degrees nationally is also briefly considered, along with graduate school enrollments/degrees by study field for ethnic minorities, foreign students, and women. Findings include the following: foreign language programs experienced consisted and broad-scale enrollment losses; computer science programs experienced the most consistent increases; graduate programs in English on six California State university campuses lost more than one-third of their enrollments since 1978; among the natural science disciplines, only programs in biology showed appreciable losses; degrees in education represented one-third of all graduate degrees conferred by California State University; and business administration enrollments at the University of California increased 95 percent in the past 5 years.

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Dunningham, Daisy L.; Burge, Penny L. (Summer 1984). International Home Economics Students Critique U.S. Collegiate Programs. Journal of Studies in Technical Careers, v6, n3, p. 170-76. Graduated international students were surveyed about their perceptions of the usefulness of their educations. Textbooks and teaching materials drew the most favorable responses, while somewhat

lower ratings were given for advisors and counselors. Suggested improvements were also discussed.

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- Higbee, Homer, Ed.; Winters, Marjorie K., Ed. (May 1980). The Admission and Placement of Students from: hong Kong, Malaysia, Philippines, Singapore. Report of a Workshop (Baguio, Philippines, February 1979). American Association of Collegiate Registrars and Admissions Officers, Washington, D.C.; National Association for Foreign Student Affairs, Washington, D.C., 307 p.; Parts marginally legible.
- Hill, Susan, Completion Time for Bachelors Degrees, Bulletin, OERI, Center for Education Statistics, U. S. Department of Education, November, 1986. Examination of data from NSL of High School Class of 1972 regarding time to acquire Bachelors degree. Considerable detail in body of report.
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Educational Testing Service, Princeton, NJ, 213 p.

## CHAPTER IV

### Conclusions and Recommendations

The most obvious conclusion to the work involved in this study is that, outside of the AID PTIS database, there simply is no regular systematic collection of data other than the NRC Doctorate information. Apparently, U.S. institutions simply do not need or want such information on a national scale. The NRC data is considered important because of national concerns about the numbers of Doctorates, particularly in the Science and Engineering fields, that are acquired by non-U.S. citizens.

A second conclusion is a question and also a recommendation. Why is the information from the AID database not reported on an annual basis? It would require some relatively simple computer runs and would be capable of providing AID Missions throughout the world with valuable comparative information that their own individual systems could not produce. It would also provide valuable management information to AID as a whole.

A third conclusion is that it seems that the time being used by AID sponsored students to obtain degrees is much too long compared to the requirements of the degree programs. Why should fully qualified and fully supported foreign students average 2 years to obtain a Masters degree in programs that are designed to be finished in 1 year by fully committed U.S. students? If the foreign students are not fully qualified or not ready for a U.S. cultural experience, those factors should be recognized and accounted for as such, not simply accepted as part of the time needed to obtain the degree. If part of the experience and time

in the U.S. is intended for international friendship purposes, that time should be designated as such and not counted as part of the overall training time. For example, if a foreign national is not expected to continue training during the traditional Summer academic break, those months should be accounted for separately.

The AID PTIS should be reviewed in terms of producing valuable planning information rather than day-to-day administration procedures regarding individuals. Along these lines, the PTIS should be accessible to individual missions and to area or regional staff so that planning and accountability functions have recent and summary information available on short notice or for long-term planning purposes. As part of this recommendation, mission staff should be given training on how to use the data capable of being produced by the present and enhanced system. Once staff realizes that the information is available and have an idea of how to use it, they will dictate the content of the system and their accessibility to it. Most management information systems are essentially accounting systems that have some secondary value for other purposes such as planning or evaluation. A modification in the PTIS should be made with the latter two points as the paramount consideration without ignoring the accounting function.

Probably the most important conclusion and recommendation is that mission staff and the contractors servicing them are not as knowledgeable about the higher education establishment in the U.S. as they should be. Institutions of higher education in the U.S. are not benevolent organizations and should not simply be

trusted to do the right thing. It is necessary that staff and contractors know about the postsecondary establishment and how it works in order to place and monitor students within it. With such knowledge and a system that provides meaningful and timely information, a much more efficient and responsive Participant Training function can be accomplished.

APPENDIX A  
CODE LIST FOR COUNTRIES

Value

145	ITALY
150	PORTUGAL
233	CYPRUS
263	EGYPT
276	SYRIA
278	JORDAN
279	YEMEN ARAB REPUBLIC
292	JORDAN-WEST BANK
367	NEPAL
383	SRI LANKA
386	INDIA
388	BANGLADESH
391	PAKISTAN
482	BURMA
483	MALAYSIA
491	WESTERN SAMOA
492	PHILIPPINES
493	THAILAND
497	INDONESIA
501	BAHAMAS
504	GUYANA
505	BELIZE
510	ARGENTINA
511	BOLIVIA
512	BRAZIL
514	COLOMBIA
515	COSTA RICA
517	DOMINICAN REPUBLIC
518	ECUADOR
519	EL SALVADOR
520	GUATEMALA
521	HAITI
522	HONDURAS
523	MEXICO
524	NICARAGUA
525	PANAMA
526	PARAGUAY
527	PERU
528	URUGUAY
532	JAMAICA
534	BARBADOS
541	ANTIGUA
542	DOMINICA
543	GRENADA
544	MONTSERRAT
545	ST. CHRISTOPHER AND NEVIS
546	ST. LUCIA
547	ST. VINCENT

549 BRITISH VIRGIN ISLANDS  
603 DJIBOUTI, DEMOCRATIC REPUBLIC OF  
608 MOROCCO  
611 ZAMBIA  
612 MALAWI  
613 ZIMBABWE  
615 KENYA  
617 UGANDA  
620 NIGERIA  
621 TANZANIA  
625 SAHEL REGIONAL  
631 CAMEROON  
632 LESOTHO  
633 BOTSWANA  
635 GAMBIA, THE  
636 SIERRA LEONA  
641 GHANA  
642 MAURITIUS  
645 SWAZILAND  
649 SOMALIA  
650 SUDAN  
653 EQUATORIAL GUINEA, REPUBLIC OF  
655 CAPE VERDE  
657 GUINEA-BISSAU  
658 SAO TOME AND PRINCIPE  
660 ZAIRE  
662 SEYCHELLES  
664 TUNISIA  
669 LIBERIA  
673 NAMIBIA  
674 SOUTH AFRICA, REPUBLIC OF  
675 GUINEA  
676 CENTRAL AFRICAN REPUBLIC  
679 CONGO, REPUBLIC OF  
680 BENIN (DAHOMY)  
681 IVORY COAST  
682 MAURITANIA  
683 NIGER  
685 SENEGAL  
686 BURKINA  
687 MADAGASCAR  
688 MALI  
690 SOUTHERN AFRICA REGION-OSARAC  
693 TOGO  
695 BURUNDI  
696 RWANDA  
698 AFRICA REGIONAL  
882 FIJI  
887 TONGA  
889 PAPUA NEW GUINEA

## ALPHABETICAL LIST OF COUNTRIES

AFRICA REGIONAL, 698  
ANTIGUA, 541  
ARGENTINA, 510  
BAHAMAS, 501  
BANGLADESH, 388  
BARBADOS, 534  
BELIZE, 505  
BENIN, (DAHOMY), 680  
BOLIVIA, 511  
BOTSWANA, 633  
BRAZIL, 512  
BRITISH VIRGIN ISLANDS, 549  
BURBINA, 686  
BURMA, 482  
BURUNDI, 695  
CAMEROON, 631  
CAPE VERDE, 655  
CENTRAL AFRICA, REPUBLIC OF, 674  
COLUMBIA, 514  
CONGO, REPUBLIC OF, 679  
COSTA RICA, 515  
CYPRUS, 233  
DJIBOUTI, DEMOCRATIC REPUBLIC OF, 603  
DOMINICA, 542  
DOMINICAN REPUBLIC, 517  
ECUADOR, 518  
EGYPT, 263  
EL SALVADOR, 519  
EQUATORIAL GUINEA, REPUBLIC OF, 653  
FIJI, 882  
GAMBIA, THE, 635  
GHANA, 641  
GRENADA, 543  
GUATEMALA, 520  
GUINEA, 675  
GUINEA-BISSAU, 657  
GUYANA, 504  
HAITI, 52L  
HONDURAS, 522  
JAMAICA, 532  
JORDAN, 278  
JORDAN-WEST BANK, 292  
INDIA, 386  
INDONESIA, 497  
ITALY, 145  
IVORY COAST, 681  
KENYA, 615  
LESOTHO, 632  
LIBERIA, 669  
MADAGASCAR, 687  
MALAWI, 612

MALAYSIA, 483  
MALI, 688  
MAURITANIA, 682  
MAURITIUS, 642  
MEXICO, 523  
MONTSERRAT, 544  
MOROCCO, 608  
NAMIBIA, 673  
NEPAL, 367  
NICARAGUA, 524  
NIGER, 683  
NIGERIA, 620  
PAKISTAN, 391  
PANAMA, 525  
PAPUA NEW GUINEA, 889  
PARAGUAY, 526  
PERU, 527  
PHILIPPINES, 492  
PORTUGAL, 150  
RWANDA, 696  
SAHEL REGIONAL, 625  
ST. CHRISTOPHER AND NEV IS, 545  
ST. LUCIA, 546  
ST. VINCENT, 547  
SAO TOME AND PRINCIPE, 658  
SEYCHELLES, 662  
SENEGAL, 685  
SIERRA LEONE, 636  
SOMALIA, 649  
SOUTH AFRICA, REPUBLIC OF, 674  
SOUTHERN AFRICA REGION-OSARAC, 690  
SRI LANKA, 383  
SUDAN, 650  
SWAZILAND, 645  
SYRIA, 276  
TANZANIA, 621  
THAILAND, 493  
TOGO, 693  
TONGA, 887  
TUNISIA, 664  
UGANDA, 617  
URUGUAY, 528  
WESTERN SOMOA, 491  
YEMEN ARAB REPUBLIC, 279  
ZAIRE, 660  
ZAMBIA, 611  
ZIMBABWE, 613

APPENDIX B  
SUBFIELD NUMERICAL CODE

1400 Economics  
1510 Economics, Industrial Relations  
1530 Agricultural Economics  
2000 Physical Sciences, General  
2200 Atmosphere and Earth Sciences  
2230 Meteorology  
2240 Geology  
2261 Oceanography  
2262 Metallurgy  
2310 Anatomy  
2320 Botany  
2340 Entomology  
2350 Genetics  
2372 Bacteriology  
2380 Nutrition  
2410 Physiology  
2440 Zoology  
2500 Chemistry  
2550 Chemical Biology  
2600 Mathematics  
2680 Mathematics-Statistics  
2700 Physics  
2840 Physical Biology  
3000 Engineering, General  
3010 Civil Engineering  
3020  
3040 Sanitary Engineering  
3041 Public Health Engineering  
3100 Electrical Engineering  
3170  
3172  
3180 Agricultural Engineering  
3181 Irrigation Engineering  
3400 Computer Science  
3450 Computer Science, Systems Analysis  
3570 Business, Accounting  
3700 Business Industry Insurance  
3730 Business Commerce  
4600 Public Health  
4650 Hospital Administration  
4900 Public Administration  
5000 Education, General  
5071 Elementary Education  
5072 Secondary Education  
5091 Agricultural Education  
5093 Business Education  
5095 Home Economics Education  
5098 Trade and Industry Education  
5110 Health Education  
5150 Adult Education

5290 Educational Administration  
5650 Foods and Nutrition  
6051 Agricultural Marketing  
6054 Agricultural Credit  
6101 Agricultural Crop Science  
6112 Plant Pathology  
6113 Plant Physiology  
6140 Horticulture  
6160 Soil Science  
6200 Animal Husbandry  
6220 Animal Husbandry, Poultry  
6250 Animal Husbandry, Dairy

Appendix C

Institution Attended

Code List

Reference to Table II-2c

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Institutions are listed by state which are arranged alphabetically

0027900	Yemen
0049200	Philippines
0110100	Alabama A&M
0110300	Auburn U.
0110800	Troy State U.
0110900	Tuskegee U.
0111000	U. of Alabama, Tuscaloosa
0111100	U. of Alabama, Birmingham
0179800	U. of Alabama, Huntsville
0310100	Arizona State U., Tempe
0310200	Northern Arizona U., Flagstaff
0310300	U. of Arizona, Tucson
0319900	U. of Arizona (Engl), Tucson
0320400	Thunderbird School Int'l Mgt, Phoenix
0376300	Amer Grad School of Intl Mgmt, Glendale
0410800	U. of Ark, Fayetteville
0410900	U. of Ark, Little Rock
0472900	Harding U., Search
0510300	Calif St U., San Francisco
0510700	Calif Poly St U., San Bernadino
0510900	Calif St Poly U., Pomona
0511100	Calif St U., Fullerton
0511200	Calif St U., Hayward
0511400	Calif St U., Sacramento
0511600	Calif St U., Long Beach
0511700	Calif St U., Chico
0511800	Calif St U., Fresno
0512500	Claremont Grad Schl & U., Claremont
0515200	San Jose St College, San Jose
0515600	Stanford U. Stanford
0515700	U. of Calif, Berkley
0515900	U. of Calif, Davis
0516200	U. of Calif, Los Angeles
0516300	U. of Calif, Fresno
0516500	U. of Calif, Riverside
0516600	U. of Calif, San Francisco
0516800	U. of Calif, Santa Cruz
0516900	U. of Calif, San Diego
0517100	U. of Southern Calif, Los Angeles
0517200	U. of The Pacific, Stocton
0517300	Woodbury U., Los Angeles
0521900	U.S. International U., San Diego
0530000	Dept of Ag, Field Offices, Cal
0536300	National U., San Diego
0545400	Armstrong College, Berkley
0546200	Calif St U., Northridge
0597300	San Diego St U., San Diego
0598000	Inst For Tax Admin, Los Angeles
0599000	San Francisco St College, San Francisco
0610300	Colorado Schl of Mines, Golden
0610400	Colorado St U., Ft Collins

0611000	U. of Colorado, Boulder
0611100	U. of Colorado, Denver
0611200	U. of Denver, Denver
0620300	Denver Research Inst, Denver
0670800	Economics Inst, Boulder
0680400	Northern Com College, Greeley
0710300	Central Conn St College, New Britain
0710900	U. of Bridgeport, Bridgeport
0711100	U. of Connecticut, Storrs
0711200	U. of Hartford, W. Hartford
0711300	Wesleyan U., Middletown
0711500	Yale U., New Haven
0711600	U. of New Haven, West Haven
0810100	U. of Delaware, Newark
0810200	Delaware St College, Dover
0872500	Delaware Tech & Comm College, Dover
0910200	Florida Ag & Mech U., Tallahassee
0910400	Florida Inst of Tech, Melbourne
0910500	Florida ST U., Tallahassee
0910700	U. of Florida, Gainesville
0910800	U. of Miami, Coral Gables
0910900	U. of South Florida, Tampa
0911100	U. of Miami, Miami
0920700	Florida International Schl, Miami
0920900	Nova School, Ft Lauderdale
0978200	Art Inst of Ft Lauderdale, Ft Lauderdale
0980600	U. of Central Fla, Orlando
0982400	Santa Fe Comm College, Gainesville
0983700	Barry U., Miami
1010200	Atlanta U., Atlanta
1010300	Clarck College, Atlanta
1010400	Emory U., Atlanta
1010700	Georgia St U., Atlanta
1020200	Georgia Inst of Tech, Atlanta
1110200	U. of Hawaii, Hilo
1110300	U. of Hawaii, Honolulu
1110400	U. of Hawaii, Manoa
1110500	U. of Hawaii, Paia
1210400	U. of Idaho, Moscow
1310800	Illinois Inst of Tech, Chicago
1312000	Northern Illinois U., De Kalb
1312200	Northwestern U., Evanston
1312400	Roosevelt U., Chicago
1312600	Southern Illinois U., Cabondale
1312700	Southern Illinois U., Edwardsville
1312900	U. of Chicago, Chicago
1313000	U. of Illinois, Chicago
1313100	U. of Illinois, Champaign/Urban
1313200	Western Illinois U., Macomb
1313600	U. of Ill Medical Cntr, Chicago
1313700	Parkland College, Urbana
1396300	Eastern Illinois U., Charleston
1410100	Ball State U., Muncie
1410800	Indiana Purdue, Indianapolis

1410900	Indiana State U., Terre Haute
1411000	Indiana U. Medical Ctr, Indianapolis
1411100	Indiana U., Bloomington
1411200	Purdue U., Lafayette
1411600	U. of Notre Dame, Notre Dame
1411700	Valparaiso U., Valparaiso
1510700	Iowa State U. Sci & Tech, Ames
1511400	U. of Iowa, Iowa City
1511700	Kirkwood Comm College, Cedar Rapids
1519900	Iowa State U. (Eng Lang), Ames
1610500	Kansas State U. Manhattan
1610800	U. of Kansas, Lawrence
1610900	Wichita State U., Wichita
1620300	Emporia State U., Emporia
1710200	Berea College, Berea
1710800	U. of Louisville, Louisville
1711100	U. of Kentucky, Lexington
1711200	Western Kentucky U., Bowling Green
1810200	Dillard U., New Orleans
1810500	Louisiana State U., Baton Rouge
1810900	Northeast La State College, Monroe
1811100	Southeastern La U., Hammond
1811200	Southern U. A&M, Baton Rouge
1811400	Tulane U., New Orleans
1811500	U. of Southwestern La, Lafayette
1829900	Louisiana State U. (Eng Lang), Baton Rouge
1891800	U. of New Orleans, New Orleans
1910500	U. of Maine, Orono
2010100	Bowie State College, Bowie
2010600	Johns Hopkins U., Baltimore
2010800	Morgan State College, Baltimore
2011300	U. of Maryland, Baltimore
2011400	U. of Maryland, College Park
2011900	U. of Maryland Eastern Shore,
2030000	Dept of Ag, Field Offices, Md
2030200	Dept of Commerce, Fld Ofc, Md
2081000	Capitol Inst of Tech, Laurel
2110100	American Intl Coll, Springfield
2110300	Babson College, Babson Park
2110500	Boston State College, Boston
2110600	Boston U., Boston
2110800	Bridgewater State Coll, Bridgewater
2110900	Clark College, Worchester
2112100	Mount Holyoke College, South Hadley
2112200	Northeastern U., Boston
2112900	Tufts U., Medford
2113000	U. of Mass, Amherst
2113300	Williams College, Undergrad, Williamstown
2113700	Williams College, Grad, Williamstown
2121300	Wentworth Inst, Boston
2121800	Harvard School Pub Health, Boston
2121900	Arthur D Little, Cambridge
2143700	Mass Eye Ear Throat Inf, Cambridge

2180200 Clarke College, Boston  
 2181300 Harvard Inst for Intl Dvlp, Cambridge  
 2210200 Cenral Michigan U., Mt Pleasant  
 2210400 Eastern Mich U., Ypsilanti  
 2210800 Michigan State U., East Lansing  
 2211100 Oakland U., Rochester  
 2211300 U. of Detroit, Detroit  
 2211400 U. of Michigan, Ann Arbor  
 2211500 Wayne State U. Detroit  
 2211600 Western Michigan U., Kalamazoo  
 2212100 Andrews U., Berian Spring  
 2220700 Henry Ford Comm Coll, Dearborn  
 2310300 Carleton College, Northfield  
 2310900 Macalester College, St Paul  
 2311000 Mankato State College, Mankato  
 2311800 U. of Minnesota, Minn/St Paul  
 2410100 Alcorn State U., Lorman  
 2410300 Mississippi St Coll For Women, Columbus  
 2410400 Mississippi State U., State College  
 2410600 Mississippi State U., Starkville  
 2410800 U. of Mississippi, University  
 2411000 Jackson State U., Jackson  
 2510300 Lincoln U., Jefferson City  
 2510700 St Louis U., St Louis  
 2511200 U. of Missouri School of Mines, Rolla  
 2511300 U. of Missouri, Columbia  
 2511500 Washington U., St Louis  
 2521100 Penn Valley Comm Coll, Kansas City  
 2580100 Park College, Kansas City  
 2610200 Montana Coll of Mineral Sci, Butte  
 2610300 Montana State U., Bozeman  
 2610500 U. of Montana, Missoula  
 2710400 U. of Nebraska, Omaha  
 2710500 U. of Nebrasks, Lincoln  
 2871500 American Vocational Ass, Las Vegas  
 2920300 New Hampshire College, Manchester  
 3010400 Fairleigh Dickenson U., Rutherford  
 3010700 Montclair State Coll, Upper Montclair  
 3011300 Rutgers U., New Brunswick  
 3011400 Rutgers U., Newark  
 3011600 Stevens Inst of Tech, Hoboken  
 3080500 Mercer County Comm Coll, Trenton  
 3080800 Drew U., Madison  
 3110100 Eastern New Mexico St U., Portales  
 3110500 New Mexico St U., Las Cruces  
 3110600 U. of New Mexico, Albuquerque  
 3110900 U. of Albuquerque, Albuquerque  
 3202100 Mgmt Comm Assoc, Niagra Falls  
 3203400 Salmon Bros Inc, New York  
 3210100 Adelphi U., Garden City  
 3210200 Albany School of Medicine, Albany  
 3210600 Brooklyn College, Brooklyn  
 3210800 City College, New York  
 3210900 Clarkson College of Tech, Potsdam

3211000 Colgate U., Hamilton  
3211200 Rockland Comm Coll, Suffern  
3211500 Columbia U., New York  
3211600 Columbia U. Teachers Coll, New York  
3211700 Cornell U., Ithaca  
3211800 CUNY John Jay Coll Crim Justice, NYC  
3211900 Elmira College, Elmira  
3212000 Erie Comm Coll, Buffalo  
3212100 Fordham U., NYC  
3213100 Long Island U., C W Post, Greenvale  
3213900 New York U., NYC  
3214000 Pace College, NYC  
3214200 Polytechnic U., Brooklyn  
3214500 Rensselaer Polytechnic Inst, Troy  
3215000 SUNY College of Environ Sci, Syracuse  
3215600 SUNY Albany  
3215800 SUNY Binghamton  
3215900 SUNY Buffalo  
3216800 SUNY New Paltz  
3216900 SUNY College of Tech, Utica  
3217400 Syracuse U., Syracuse  
3217600 Union College & U., Schenectady  
3217800 U. of Rochester, Rochester  
3222800 New York Inst of Tech. Old Westbury  
3222900 Rochester Inst of Tech, Rochester  
3226400 Rockefeller U., NYC  
3226500 Kings College, Briarcliff  
3230800 Dept of HUD, Fld Off, NY  
3310100 Appalachian State U., Boone  
3310200 East Carolina U., Greenville  
3310300 Durham Tech Inst, Durham  
3310500 Duke U., Durham  
3311000 Livingston College, Salisbury  
3311200 North Carolina A&T St U., Greensboro  
3311300 North Carolina Central U., Durham  
3311400 North Carolina St U., Raleigh  
3311600 U. of North Carolina, Charlotte  
3311800 St Augustine St College, Raleigh  
3312000 U. of North Carolina, Chapel Hill  
3312300 Warren Wilson College, Swannanoa  
3312400 Western Carolina U., Cullow. ee  
3410500 North Dakota St U., Fargo  
3410700 U. of North Dakota, Grand Forks  
3510400 Bowling Green St U., Bowling green  
3510500 Capital U., Columbus  
3510600 Case western Reserve U., Cleveland  
3510800 Cleveland St U., Cleveland  
3510900 College of Wooster, Wooster  
3511200 Kent ST U., Kent  
3511400 Miami U., Oxford  
3511900 Ohio St U., Columbus  
3512000 Ohio U., Athens  
3512100 Ohio Wesleyan U., Delaware  
3512300 U.of Cincinnati, Cincinnati

3512500	U. of Toledo, Toledo
3513000	Denison U., Granville
3514100	Rio Grande Comm Col, Rio Grande
3583500	Ashland College, Ashland
3583900	Marietta College, Marietta
3610200	Central St U., Edmond
3611000	Oklahoma St U., Stillwater
3611300	U. of Oklahoma, Oklahoma City
3611400	U. of Oklahoma, Norman
3670700	Cameroon U., Lawton
3676300	Southeastern Oklahoma St, Durant
3676400	Southeastern Oklahoma St, Lawton
3676800	Tri County Vo Tech, Bartlesville
3710500	Oregon St U. EPA Lab, Newport
3710600	Oregon ST U., Corvallis
3710900	Portland St U ., Portland
3711300	U. of Oregon, Eugene
3711400	U. of Portland, Portland
3770300	Portland Comm Coll, Portland
3810400	Bucknell U., Lewisburg
3810600	Carnegie-Mellon U., Pittsburgh
3810700	Cheyney St Coll, Cheyney
3811000	Duquesne U., Pittsburgh
3811700	Indiana U. of Pa., Indiana
3812300	Lehigh U., Bethlehem
3813000	Pennsylvania St U., University Park
3813200	Shippensburg St Coll, Shippensburg
3813700	U. of Pennsylvania, Philadelphia
3813800	U. of Pittsburgh, Pittsburgh
3815500	Wharton U., Philadelphia
3815600	Pennsylvania St U., State College
3821800	Point Park College, Pittsburgh
3821900	Spring Garden Inst, Philadelphia
3823500	Pennsylvania St U., Middletown
3885400	Gannon U., Erie
3885500	Beaver College, Glenside
3887400	Mount Aloysius Jr Coll, Cresson
3910100	Brown U., Providence
3910500	U. of Rhode Island, Kingston
3920200	Roger Williams Coll, Bristol
4010100	Clemson U., Clemson
4010500	U. of South Carolina, Columbia
4110400	Dakota Wesleyan U., Mitchell
4110500	South Dakota School of Mines & Tech, Rapid city
4110600	South Dakota St U., Brookings
4110700	U. of South Dakota, Springfield
4171900	S. Dakota Schl of Mines & Tech, Rapid City
4210200	East Tennessee St U., Johnson City
4210300	Fisk U., Nashville
4210600	Meharry Med Coll, Nashville
4210800	Mid Tennessee St U., Murfreesboro
4211100	Tennessee Ag & Ind St U., Nashville
4211300	U. of Tennessee, Knoxville

4211500	U. of Tennessee, Nashville
4211600	Vanderbilt U., Nashville
4279000	U. of Tennessee, Chatanooga
4310400	East Texas St U., Commerce
4310900	North Texas St U., Denton
4311100	Prairie View A&M College, Prairie View
4311200	Rice U., Houston
4311300	Sam Houston St U., Huntsville
4311400	Southern Methodist U., Dallas
4311500	Southwest Texas St U., San Marcos
4311900	Texas A&M U., College Station
4312100	Texas A&I U., Kingsville
4312200	Texas Southern U., Houston
4312400	Texas Tech U., Lubbock
4312700	U. of Houston, Houston
4313100	U. of Texas, Austin
4313300	U. of Texas, El Paso
4313500	West Texas St U., Canyon
4314200	U. of Dallas, Dallas
4321400	Texas St Tech Inst, Waco
4333800	State Highway Dept, Texas
4388700	El Paso Comm Coll, El Paso
4410100	Brigham Young U., Provo
4410300	U. of Utah, Salt Lake City
4410400	Utah St U., Ag & App Sci, Logan
4410500	Utah St U., Gunnison
4510100	Middlebury College, Middlebury
4510300	U. of Vermont, St Ag Coll, Burlington
4520100	School for Int'l Ttrng, Brattleboro
4610300	Hampton U., Hampton
4610800	Northern Virginia Comm Coll, Annandale
4610900	Radford College, Radford
4611200	U. of Richmond, Richmond
4611400	U. of Virginia, Charlottesville
4611700	Virginia Polytechnical Inst, Blacksburg
4611800	Virginia St College, Petersburg
4620700	Norfolk St College, Norfolk
4678900	George Mason U., Fairfax
4679000	Hollins College, Roanoke
4682000	World Ctr for Dvl & Trng, Sterling
4710400	U. of Washington, Seattle
4710500	Washington St U., Pullman
4710800	U. of Puget Sound, Tacoma
4721000	Fort Wright College, Spokane
4781000	St Martins College, Lacey
4811000	West Virginia U., Morgantown
4910400	Marquette U., Milwaukee
4910600	Milwaukee Area Tech Coll, Milwaukee
4910900	U. of Wisconsin, Eau Claire
4911100	U. of Wisconsin, Oshkosh
4911300	U. of Wisconsin, River Falls
4911500	U. of Wisconsin, Superior
4911700	U. of Wisconsin, Stout, Menominee
4911800	U. of Wisconsin, Madison

4911900	U. of Wisconsin, Milwaukee
4977700	University Ctr for Coop, Madison
4978200	Waukesha County Tech Inst, Pewaukee
4978500	U. of Wisconsin, Richland Center
5010200	U. of Wyoming, Laramie
5110100	American U., Wash D.C.
5110200	Catholic U. of America, D.C.
5110300	U. of District of Columbia, D.C.
5110500	Gallaudet U., D.C.
5110600	George Washington U., D.C.
5110700	Georgetown U., D.C.
5110800	Georgetown U., ALIGU, D.C.
5110900	Howard U., D.C.
5120400	Ben Franklin U., D.C.
5121200	Johns Hopkins U. Schl Intl Stud, D.C.
5121600	Southeastern U., D.C.
5121800	US Dept Ag Grad Schl, D.C.
5130000	Dept of Ag
5130200	Dept of Commerce, D.C.
5134200	DS/IT, D.C.
5173800	Washington Intl Ctr, D.C.
5194400	ELS, D.C.
5220600	U. of Puerto Rico Mayaguez
5300000	College of the Virgin Islands, St Thomas
6020300	Ecole Polytechnique, Montreal
9999700	Home Leave
9999900	Training Facility Pending