

Utah System of Higher Education Data 2010

September 8, 2010

UWEP 2010-206



*Office of the Utah Women & Education Project
Utah Valley University*

Acknowledgements

Funding for this report came from a Carl D. Perkins Leadership Grant (2009-2010) through the Utah State Office of Education and Utah Valley University. Support was also provided by the Utah System of Higher Education (USHE). The raw data used in this report was mined from the Utah System of Higher Education and was analyzed by A. David King and Dr. Susan R. Madsen.

A. David King, B.S.
M.Stat. Graduate Student in Econometrics
University of Utah
dking@utahsbr.edu

Susan R. Madsen, Ed.D.
Director of the Utah Women & Education Project
Utah Valley University
uwlp@usu.edu

Copyright © 2010 by the Office of the Utah Women and Education Project (UWEP) at Utah Valley University. All rights reserved. Printed in the United States of America. This publication, or parts thereof, may not be reproduced in any form without permission of UWEP.

Utah Women and Education Project
Utah Valley University
Dr. Susan R. Madsen, Director
800 West University Parkway, MS 119
Orem, Utah 84058
uwlp@usu.edu
435.797.0873

Table of Contents

INTRODUCTION

Acknowledgments	2
Table of Contents	3
List of Tables and Figures	4
Background Information (including report acronyms)	5

PART I: USHE Student Data	6
----------------------------------	----------

PART I: USHE Graduation Data	10
-------------------------------------	-----------

List of Tables and Figures

TABLES

Table 1.1	County of Origin by Gender	6
Table 1.2	Citizenship by Gender	7
Table 1.3	Ethnicity by Gender	7
Table 1.4	Class Level by Gender	7
Table 1.5	College Intention by Gender	7
Table 1.6	Enrollment Status by Gender	8
Table 1.7	Country of Origin by Gender	8
Table 1.8	Institution by Gender	8
Table 2.1	Ethnicity by Gender	10
Table 2.2	Special Education by Gender	10
Table 2.3	Low Income by Gender	10
Table 2.4	Graduated from High School by Gender	10
Table 2.5	Discriminant Analysis (Multivariate Exploratory Technique)	12

FIGURES

Figure 1.1	Average Age of Student by Gender	9
Figure 2.1	Composite Score by Special Ed	11
Figure 2.2	Composite Score by Socio Economic Status	12
Figure 2.3	STD Academic Scores by Gender	12
Figure 2.4	Predictor of Concurrent Enrollment through Feature Selection Analysis	13
Figure 2.5	Predictor of Concurrent Enrollment through CHAID Regression Tree	13

Background Information

There are four data files to be analyzed from the USHE data. They are as follows: USHE Student Data, USHE Course Data, USHE Graduation Data, USHE Perkins Data, and we will analyze them each individually and exhaustively. The USHE databases are not filled with many interesting variables, but they do have nuggets hidden within. This data looks at 2007 Utah high school graduates and the courses they have taken as of fall 2009.

PART I: USHE Student Data

Table 1.1: County of Origin by Gender

County of Origin	Total Count	Male Count	Female Count	Percent Female
Beaver	56	29	27	48.2%
Box Elder	351	155	196	55.8%
Cache	660	350	310	47.0%
Carbon	202	100	102	50.5%
Daggett	7	4	3	N/A
Davis	1820	861	959	52.7%
Duchesne	121	54	67	55.4%
Emery	128	61	67	52.3%
Garfield	38	18	20	52.6%
Grand	82	35	47	57.3%
Iron	286	135	151	52.8%
Juab	62	31	31	50.0%
Kane	52	30	22	42.3%
Millard	206	93	113	54.9%
Morgan	76	38	38	50.0%
Piute	16	6	10	N/A
Rich	14	9	5	N/A
Salt Lake	5238	2572	2666	50.9%
San Juan	72	35	37	51.4%
Sanpete	280	143	137	48.9%
Sevier	227	90	137	60.4%
Summit	182	95	87	47.8%
Tooele	230	109	121	52.6%
Uintah	164	76	88	53.7%
Utah	2391	1233	1158	48.3%
Wasatch	143	67	76	53.2%
Washington	711	349	362	50.9%
Wayne	21	8	13	N/A
Weber	1283	596	687	53.6%
Total	15119	7382	7737	51.2%

Table 1.2: Citizenship by Gender

Type of Student	Total Count	Male Count	Female Count	Percent Female
US Citizen	17854	8707	9147	51.2%
Non-Resident Alien	509	282	227	44.6%
Resident Alien or Other Eligible Non-Resident	259	146	113	43.6%
Other	5	2	3	N/A
Total	18627	9137	9490	50.1%

Table 1.3: Ethnicity by Gender

Ethnicity	Total Count	Male Count	Female Count	Percent Female
African American	251	139	112	44.6%
Asian	546	288	258	47.3%
Caucasian	25503	12674	12829	50.3%
Hispanic	2242	1076	1166	52.0%
Indian or Native American	410	197	213	52.0%
Pacific Islander	365	165	200	54.8%
Total	29395	14580	14815	50.4%

Table 1.4: Class Level by Gender

Class Level	Total Count	Male Count	Female Count	Percent Female
Freshman	18212	8966	9246	50.8%
Sophomore	379	154	225	59.8%
Junior	32	15	17	53.1%
Senior	3	1	2	N/A
Total	18626	9136	9490	51.0%

Table 1.5: College Intention by Gender

College Intention	Total Count	Male Count	Female Count	Percent Female
Non-Degree Seeking	916	440	476	52.0%
1-Year	228	96	132	57.9%
2-Year	11618	5915	5703	49.1%
3-Year	126	66	60	47.6%
4-Year	5733	2614	3119	54.4%
5-Year	5	5	0	N/A
Total	18627	9137	9490	51.0%

Table 1.6: Enrollment Status by Gender

Enrollment Status	Total Count	Male Count	Female Count	Percent Female
Full Time	12831	6061	6770	52.8%
Part Time	5796	3076	2720	46.9%
Total	18627	9137	9490	51.0%

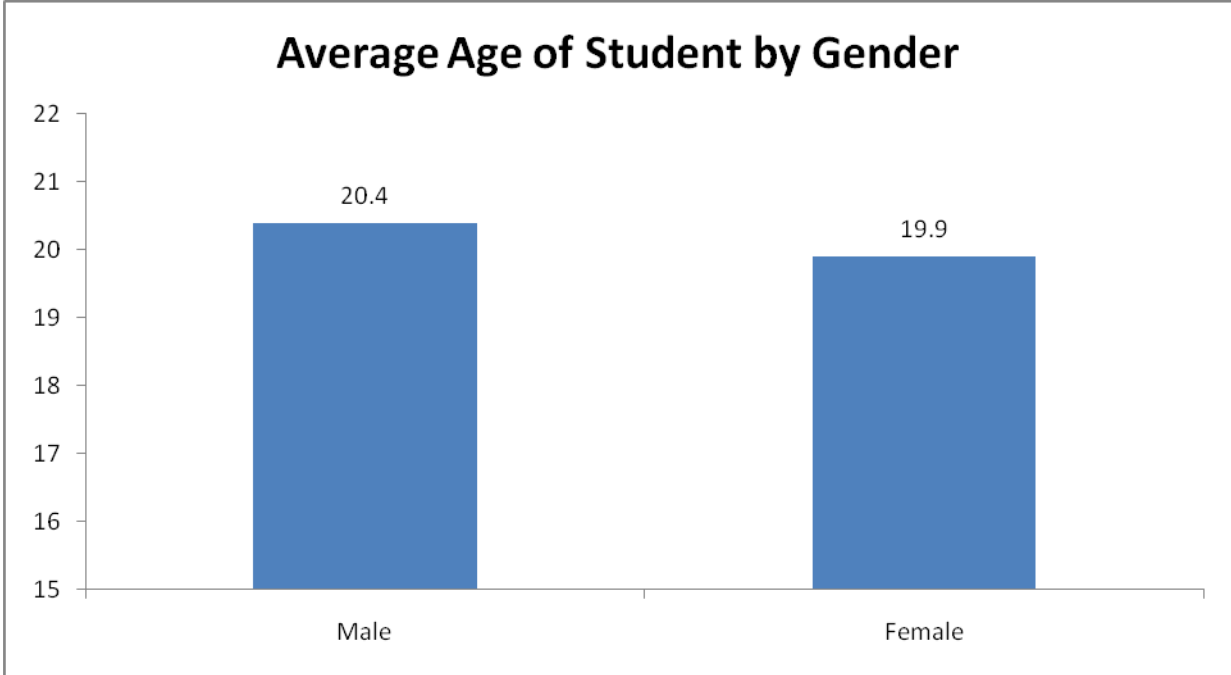
Table 1.7: Country of Origin by Gender

Country of Origin	Total Count	Male Count	Female Count	Percent Female
United States	18008	8794	9214	51.2%
Unknown	619	343	276	44.6%
Total	18627	9137	9490	51.0%

Table 1.8: Institution by Gender

Institution	Total Count	Male Count	Female Count	Percent Female
College of Eastern Utah	699	352	347	49.6%
Dixie State College	1360	640	720	53.0%
Salt Lake Community College	3137	1666	1471	46.9%
Snow College	1234	511	723	58.6%
Southern Utah University	1093	409	684	62.6%
University of Utah	1969	1038	931	47.3%
Utah State University	3378	1473	1905	56.4%
Utah Valley University	3151	1759	1392	44.2%
Weber State University	2606	1289	1317	50.5%
Total	18627	9137	9490	51.0%

Figure 1.1: Average Age of Student by Gender



*The average age is essentially what is expected considering our data is from a single class cohort.

PART II: USHE Graduation Data

Table 2.1: Ethnicity by Gender

	Total Count	Male Count	Female Count	Percent Female
African American	251	112	139	55.4%
Asian	546	258	288	52.8%
Caucasian	25503	12829	12674	49.7%
Hispanic	2242	1166	1076	48.0%
Indian or Native American	410	213	197	48.1%
Pacific Islander	365	200	165	45.2%
Total	29395	14815	14580	49.6%

Table 2.2: Special Education by Gender

Special Education	Total Count	Male Count	Female Count	Percent Female
Yes	2488	1548	940	37.8%
No	26907	13032	13875	51.6%
Total	29395	14580	14815	50.4%

Table 2.3: Low Income by Gender

Low Income	Total Count	Male Count	Female Count	Percent Female
Yes	4543	2209	2334	51.4%
No	24852	12371	12481	50.2%
Total	29395	14580	14815	50.4%

Table 2.4: Graduated from High School by Gender

Graduated	Total Count	Male Count	Female Count	Percent Female
Yes	28810	14239	14571	50.6%
No	585	341	244	41.7%
Total	29395	14580	14815	50.4%

Figure 2.1: Composite Score by Special Ed

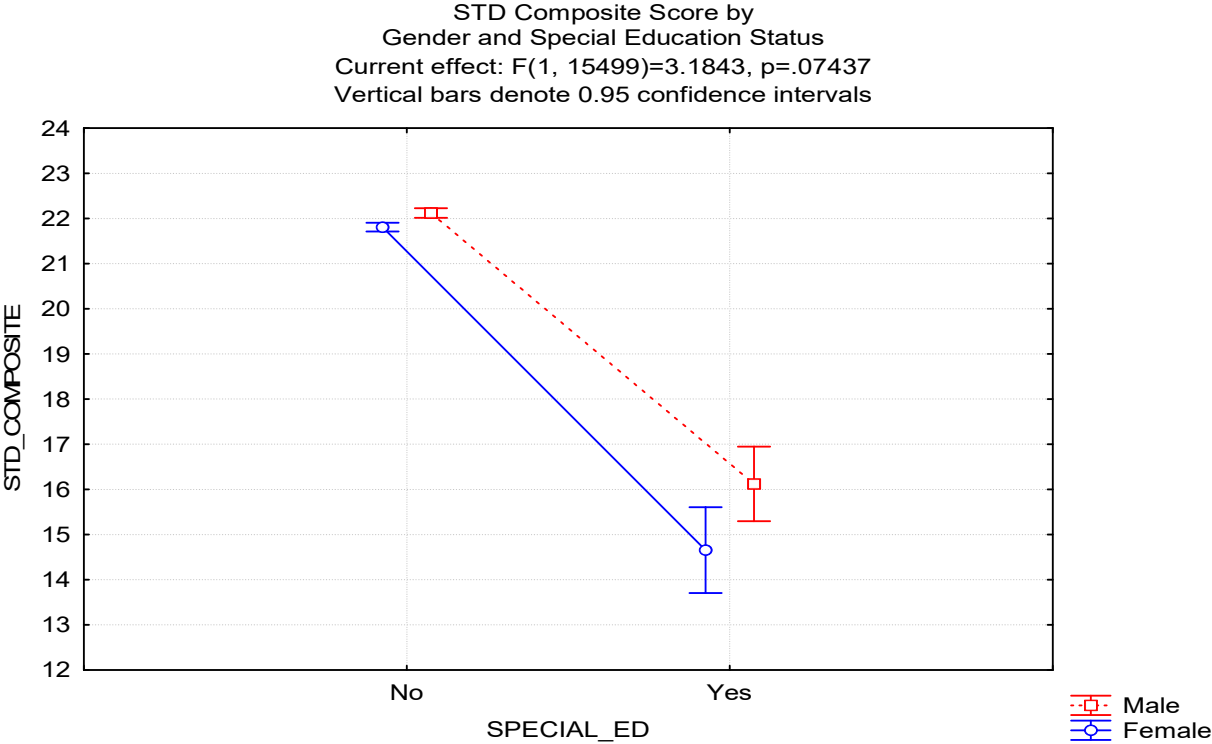


Figure 2.2: Composite Score by Socio-Economic Status

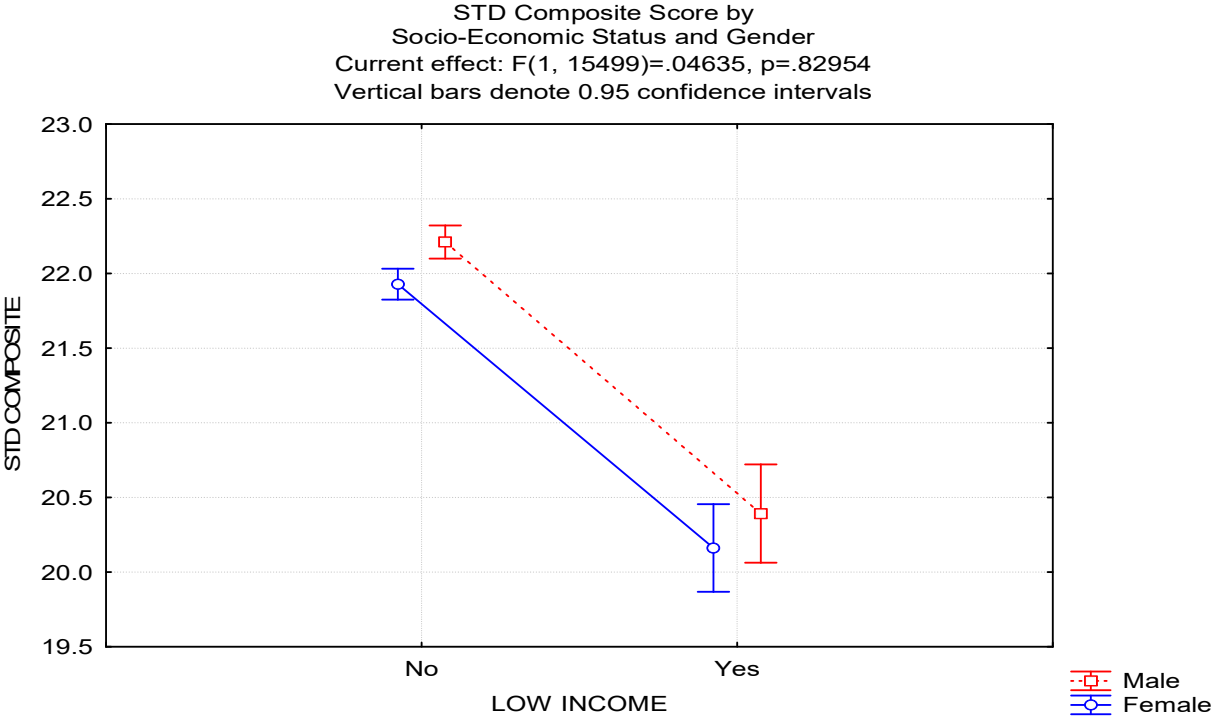
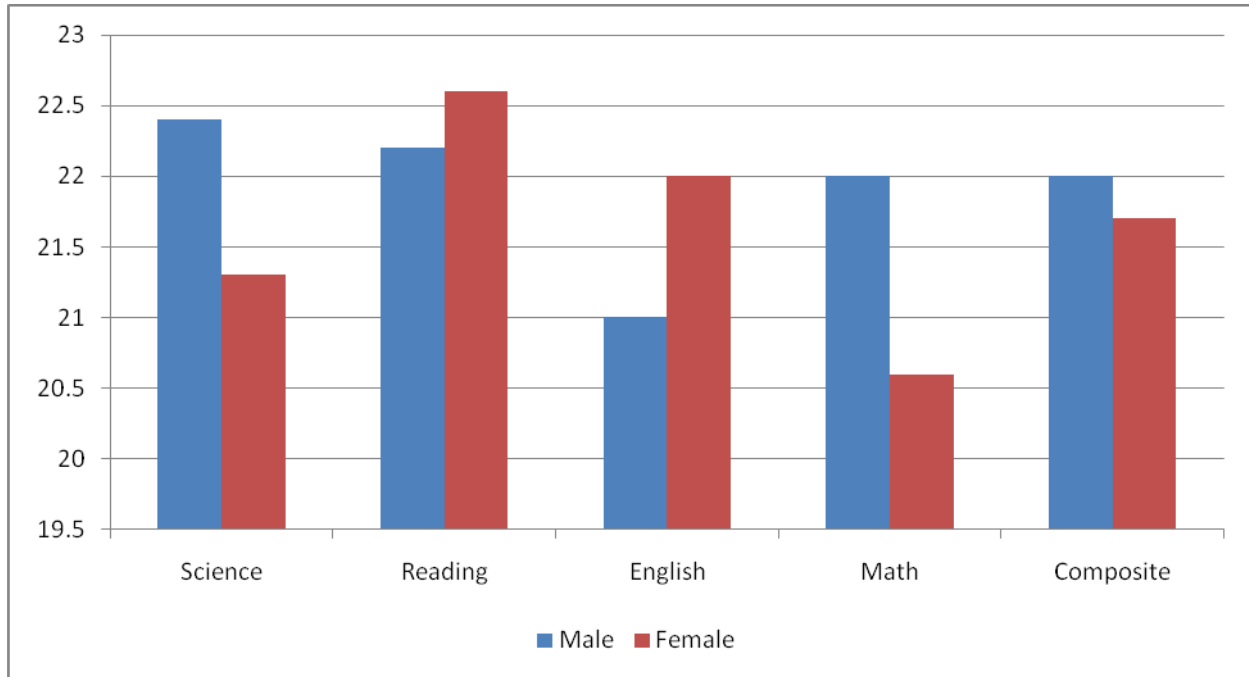


Figure 2.3: STD Academic Scores by Gender



Males test better in science and math while females test better in reading and English. This becomes more interesting when we look at this in the context of which variables predict concurrent enrollment (which has a strong correlation to college participation).

Table 2.5: Discriminant Analysis (Multivariate Exploratory Technique)

Variable of Interest	Wilks'	Partial	F-remove	p-value	Toler.	1-Toler.
LOW INCOME	0.981	0.999	22.629	0.000	0.986	0.014
STD SCIENCE	0.980	1.000	2.841	0.092	0.054	0.946
STD_READING	0.980	0.999	7.866	0.005	0.034	0.966
STD ENGLISH	0.979	1.000	0.111	0.739	0.035	0.965
STD MATH	0.979	1.000	0.009	0.923	0.048	0.952
STD_COMPOSITE	0.980	1.000	5.204	0.023	0.004	0.996

Discriminant analysis is used to figure out which variables are best used to discriminate between different groupings. In this situation, we used concurrent enrollment as our independent variable. We then found that income status, STD Reading, and STD Composite are the three variables that allow us to best differentiate between concurrent enrollment students and non-concurrent enrollment students. Concurrent enrollment has historically been a very good predictor of college enrollment.

Figure 2.4: Predictor of Concurrent Enrollment through Feature Selection Analysis

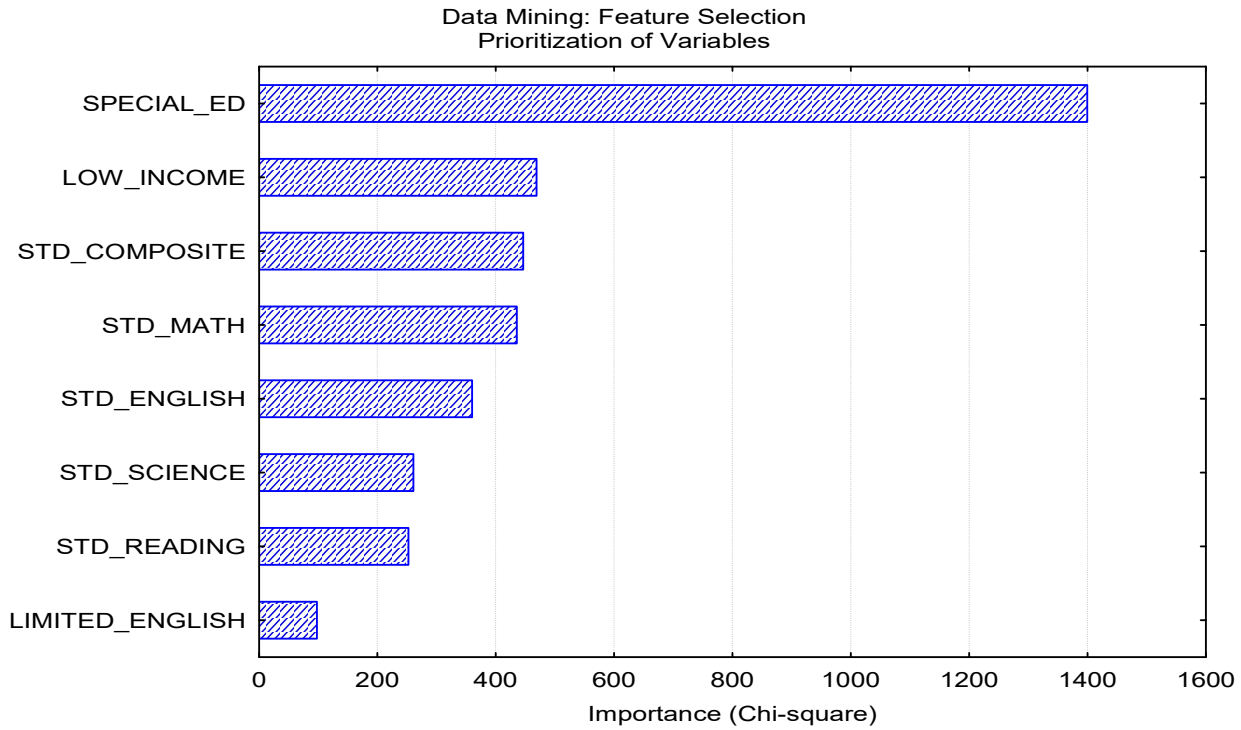


Figure 2.5: Predictor of Concurrent Enrollment through CHAID Regression Tree

Predictor of Concurrent Enrollment through CHAID Regression Tree Analysis (looking only at academic performance via standardized test):

