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Gender Differences in the College and Career Aspirations of High School Valedictorians

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In economics, the human capital model (Becker, 1962) ties investments in education and training to later returns in the form of higher wages. This model describes the decision-making process of pursuing additional education as weighing the direct costs (e.g., tuition) and indirect costs (e.g., forgone wages) of obtaining a particular level of education against the additional returns in the form of higher wages that this educational level will bring. As long as the present value of the returns is greater than the costs, then the model assumes that a rational individual would pursue more education. This model may explain why females in the past tended to obtain lower levels of college education relative to males. With fewer years in the labor market due to caregiving needs for children or other family members, women received a lower return on their educational investment and hence invested in less education. Additionally, this model may explain why females tend to congregate in certain occupations, such as clerical work, where there is less loss of the educational investment with more time away from the labor market (Blau, Ferber, & Winkler, 2006).

Summary

Valedictorian profiles published in a regional newspaper for the 2003, 2004, and 2005 graduating classes in the Research Triangle area of central North Carolina revealed graduates' aspirations, in terms of intended college major, the selectivity of chosen college, and future labor market earnings in intended careers. Based on 92 profiles, female valedictorians were equally likely to intend to major in a field in the sciences but were more likely to intend to major in fields in the humanities and social sciences; were less likely to intend to major in mathematics, computer science, or engineering; and were planning careers in lower paying occupations. The female valedictorians were also, on average, planning to attend less selective colleges. In examining the future career aspirations of the male and female students, female valedictorians chose, on average, lower paying careers. This difference mimics the current gender gap in pay equity. Although there have been many studies that examined the career intentions of high-achieving students, the college selection process merits more attention. In addition, counselors should not only encourage females to pursue interests in mathematics and sciences, but also encourage male students to pursue interests in the humanities.

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However, in recent years, the proportion of females pursuing postsecondary education has increased, and females now outnumber males on most college campuses (Wilson, 2007). During the past couple of decades, there have been large increases in the labor force participation rate for women, particularly of married women with children. "Among those with children less than 6 years old, only 19% worked outside the home in 1960, compared to 61% in 2002" (Blau et al., 2006, p. 91). If more females are investing in higher levels of education and more of them are anticipating remaining in the workforce throughout motherhood, does that mean that they are now planning a career path that is more similar to that of males? This current research examined a special group of gifted students, high school valedictorians, to determine if their college and career aspirations fell along traditional gender lines.

The most noteworthy study about valedictorians comes from Denny and Arnold (Arnold, 1995), who began the Illinois Valedictorian Project in 1981 and followed the selected group of 81 valedictorians, salutatorians, and other high-achieving students for 14 years. Arnold described two key gender differences that appeared over time. First, at the end of high school, male and female valedictorians had rated their intelligence equally, but by the sophomore year of college, ". . . over a quarter of the female high school valedictorians listed themselves as merely average in intelligence" (p. 106). None of the males had lowered their own ratings of their intelligence. As they graduated from college, fewer females rated themselves lower on intelligence, but overall the females lagged behind the males' self-estimate of their intelligence.

The second gender difference found by Arnold (1995), which also began to appear in the sophomore year of college, was that only the female valedictorians started to plan their careers with future family issues in mind. Many female valedictorians began to doubt being able to combine a high-powered career with a suitable family life and began to focus on career paths that could be more easily combined with motherhood. By the end of the study, most of the males and females did achieve career success,

but the females were disproportionately represented at the lowest occupational levels and were much more likely than the males to be working in nonprofessional jobs.

Other previous research on students with high academic ability has shown some gender differences in anticipated postsecondary educational outcomes. Kerr and Colangelo (1988) examined the college plans of academically gifted high school students. Among the moderately and highly talented students, as indicated respectively by whether their scores on the ACT exam were in the 95th or 99th percentile, the most popular majors were in engineering and health sciences. Within the highly talented group, Kerr and Colangelo did find striking gender differences. The males were much more likely to choose an engineering or physical science major and the females were more likely to choose biology. Leung, Conoley, and Scheel (1994) surveyed gifted high school juniors and found that while the females were more likely than the males to consider obtaining a bachelor's or master's degree, they were less likely to consider a doctoral or professional degree.

Other studies have examined the career intentions of middle and high school students who have high academic ability. A key similarity in some of these studies was that the males typically state that they intend to go into occupations that are characterized as male-dominated and/or tend to have higher earnings, while the females are willing to pursue a wider variety of occupational choices (Leung et al., 1994; Mendez & Crawford, 2002; Reis & Callahan, 1994). This clustering of the males into most of the higher paying occupations results in the average pay for males tending to be higher than the average pay for females, even though many females also showed interest in pursing the occupations that were most popular among the males. In addition, similar to Arnold (1995), a greater concern for female students was the desire or need to combine family and work (Reis & Callahan, 1994).

However, the studies previously cited also showed some results where there was gender neutrality on educational and career outcomes. Kerr and Colangelo (1988) found that the high-

est ability group did have similar levels of interest in prelaw and premed majors, while Leung et al. (1994) did not find any gender difference in the prestige level of the students' career aspirations. Contrary to the studies that did find some gender differences in career aspirations, Watson, Quatman, and Edler (2002) found no gender differences in the ideal and realistic career aspirations within any ability grouping of 6th, 8th, 10th, and 12th graders in the San Francisco Bay area.

The purpose of this research was to examine the college and career plans of a high-achieving group of students, high school valedictorians, to determine whether the females had aspirations equal to the males at the end of their senior year of high school. The specific research questions were:

- Was there gender neutrality in the choice of their intended college majors?
- Were the females and males choosing to attend equally selective colleges, as measured by the chosen colleges' acceptance rates?
- Were the females and males intending to pursue careers that pay equally well?

Method

Subjects

Gathering data to do a study on valedictorians can be problematic because the researcher would need to contact valedictorians at multiple schools in order to have a sample size large enough to statistically analyze. I was able to overcome that difficulty by taking advantage of the annual valedictorian profiles that were printed in a regional newspaper. *The News and Observer* is the second largest newspaper by circulation in North Carolina and is headquartered in Raleigh, NC. Each year, the newspaper sends the local public and private high schools in the surrounding counties brief questionnaires and invites the valedictorians to have their replies and pictures published. The valedictorians live

Table 1

Sample Size per Graduating Class by Gender

	Female (n = 87)	Male (n = 63)
2003 Graduating Class	24	18
2004 Graduating Class	29	17
2005 Graduating Class	34	28

in the Research Triangle area of North Carolina, located in the central part of the state. I developed a pooled sample from the 2003, 2004, and 2005 graduating classes because the newspaper questionnaires used a common format in those years. The specific counties in which these valedictorians resided were Wake, Durham, Orange, Chatham, Johnston, Harnett, Lee, Vance, Franklin, and Granville.

The analysis of the data for this study used only the information provided by the valedictorians from public schools. Out of the 228 valedictorians profiled in the newspaper over these 3 years, the majority, 158, were from public schools. From these public schools, there would have been 194 valedictorians over the three graduating classes, giving a response rate of 81% for profiles published in the newspaper. From these 158 students, 8 valedictorians had incomplete data and were deleted from the final statistical analysis, leaving a sample size of 150 students, of which 87 valedictorians were female and 63 were male. Table 1 shows the number of valedictorians by gender for each of the three graduating classes. The valedictorians represented 47 high schools. Nearly all of the valedictorians were chosen on the basis of the highest weighted GPA, and most schools named only one valedictorian per year. However, the sample also included 6 pairs of co-valedictorians who tied for highest weighted GPA. In addition, one smaller school district, the Chapel Hill-Carrboro City Schools, designated any student with a 4.0 unweighted GPA as a valedictorian.

Data Sources

The information printed in the newspaper profiles about these valedictorians for the 2003 ("In the schools," 2003), 2004 ("In the schools," 2004a, 2004b, 2004c), and 2005 ("In the schools," 2005) graduating classes included:

- name of valedictorian's high school and the county in which it is located,
- names of parents and city of their mailing address,
- the student's weighted and unweighted grade point average (GPA),
- number of students in the school's graduating class,
- name of the college the student plans to attend,
- college major(s) the student plans to pursue, and
- future career plans.

A high school guidance counselor or other school official answered the questions about GPA and size of the graduating class, and the student answered open-ended questions relating to college and career plans. A few other questions also were reported, such as favorite teacher, favorite class, least favorite class, or ideal dinner guests. I did not use these questions because they were not consistently asked each year, and the answers were varied and not easily categorized.

Student GPAs are calculated in the same manner for all of the public schools in North Carolina. Grades are recorded as A, B, C, D, or F, with an A grade earning four quality points, a B earning three quality points, and so on. Honors courses and approved courses taken at community colleges or universities carry one extra quality point. Advanced Placement courses carry two extra quality points. Standard-level International Baccalaureate (IB) courses carry one extra quality point and high-level IB courses carry two extra quality points. The weighted GPA takes the extra points for these types of courses into account whereas the unweighted GPA does not.

From the limited published information, several other variables were developed. To answer the question on gender

differences in college selectivity, the acceptance rate of the valedictorian's chosen college was taken from the *America's Best Colleges: 2005 Edition* (Sklaroff, 2004) of *U.S. News and World Report* magazine. The acceptance rate was used as a measure of the selectivity of the college the student planned to attend. For the college selectivity analysis, it was not possible to ascertain how many colleges each valedictorian applied to and which ones accepted her or him. Students reported only their final choice. Therefore, it cannot be determined whether a valedictorian is attending a less selective college because that college is his or her first preference or because more selective colleges did not accept him or her.

To test the question of intended career salary differences, each valedictorian who gave a specific enough career plan was matched with the median annual salary of that career from the *Occupational Employment Statistics* (United States Department of Labor, Bureau of Labor Statistics, 2005) or *Occupational Outlook Handbook* (United States Department of Labor, Bureau of Labor Statistics, 2006). For example, an answer of wanting to "work in medicine" was not specific enough to match with a salary, but a valedictorian who specified "pediatrician" as her career goal was matched with the median salary of pediatricians. Also, students who gave more than one answer for their career choice or who were undecided could not be matched with any salary data. Therefore, there was a decrease from 150 valedictorians in the total sample to 92 valedictorians in the salary analysis. This subsample for the salary analysis also had a slightly greater proportion of females than the overall sample. The total sample was 58% female and the subsample with salary information was 62% female. Although these salaries do not necessarily represent the salary that each valedictorian will one day attain, it does represent an approximation of the salary that these valedictorians were likely to be using in making plans for their future careers and is a measure of whether each valedictorian was aiming for a higher or lower paying occupation.

Most of the median annual salaries used in the data were from the May 2004 release of wage data from the *Occupational*

Employment Statistics, which lists salaries for nearly 800 occupations. However, the *Occupational Employment Statistics* does not report salary data for occupations with median annual salaries greater than $145,600. The 20 valedictorians who aspired to these higher paying jobs, which were all in medical specialties, were instead matched with data from the *2006-07 Occupational Outlook Handbook*, which also reported the median annual salaries for 2004.

I also added two other descriptive variables to the information published in the newspaper in order to give a more complete picture of the valedictorian's educational environment and lifestyle. First, I obtained from the North Carolina Department of Public Instruction Web site (North Carolina Department of Public Instruction, Accountability Services Division., n.d.) the average SAT score for the valedictorian's high school for the year he or she graduated. Although the valedictorian's own SAT score would have been a more desirable variable to include, it unfortunately was not available from the published profile in the newspaper. However, the average SAT score of the valedictorian's high school does provide an indication of the academic quality of his or her peer group.

Second, a binary variable for living in a rural county took the value of one for valedictorians who lived in Franklin, Harnett, Lee, Johnston, Vance, Granville, and Chatham counties. These seven rural counties (North Carolina Rural Economic Development Center, 2007) surround the three urban counties of Wake, Durham, and Orange that make up the Research Triangle area. The three urban counties have the largest cities in the region, and the population in these urban counties is on average wealthier and more educated than the population in the surrounding rural counties, according to the county profiles compiled by the North Carolina Department of Commerce (n.d.). The county where the valedictorian lived also served as an indicator of the quality of his or her school district because all but one of these districts is geographically the same as the county. Orange County has two districts: the Orange County schools and the Chapel Hill-Carrboro school district.

Table 2

Overall Sample Characteristics for Variables Related to High School Data and College Plans

	M	*SD*	Percent
Weighted GPA[a]	4.89	0.26	
Average SAT score of high school[b]	1048.62	88.10	
Acceptance rate of chosen college[c]	41.43	18.67	
Intending to major in science[a]			38.00
Intending to major in humanities or social sciences[a]			34.67
Intending to major in engineering, math, or computer science[a]			25.33
Intending to major in business, accounting, or economics[a]			11.33
Intending to major in education[a]			7.33
Undecided on major[a]			10.67
Live in a rural county[a]			34.00

Note. ***N*** **= 150. Table entries for the percent of valedictorians who expressed interest in a particular category of major add up to more than 100% because the students are counted in each category of major they specifically mentioned in reply to an open-ended question about their intended major(s). [a]Data source: Valedictorian newspaper listings, *The News and Observer*. [b]Data source: North Carolina Department of Public Instruction. [c]Data source: *U.S. News and World Report*.**

Sample Characteristics

Tables 2 and 3 contain the overall sample characteristics of the valedictorians. Table 2 shows the means and proportions for variables related to their high school data and college plans. The valedictorians' average weighted GPA was 4.89, and they were graduating from high schools with a mean average SAT score of 1048.62. The average acceptance rate of 41.43% for their chosen colleges indicated that the valedictorians were choosing colleges labeled as fairly selective. This rating denotes that these colleges denied admission to more than half of the applicants on average. Approximately one third of the valedictorians lived in the rural counties.

Table 3

Subsample Characteristics for Variables Related to Career Intentions

	M	*SD*	Percent
Annual median salary of intended career[a]	$99,237	$70,707	
Physician or surgeon[b]			23.9
Healthcare field but not a physician or surgeon[b]			21.7
Teacher or school administration[b]			15.2
Engineering or computer science[b]			15.2
Lawyer[b]			8.7
Business or accounting[b]			6.5
Communications[b]			6.5
Psychologist[b]			2.2

Note. $n = 92$. [a]Data source: *Occupational Employment Statistics and Occupational Outlook Handbook*. [b]Data source: Valedictorian newspaper listings, *The News and Observer*.

For the open-ended survey question about their intended major, the valedictorians often listed more than one choice. Because of the possibility that these valedictorians could have double or triple majors in college, each valedictorian was coded as expressing interest in pursuing each of his or her listed majors. Common groupings of majors were chosen because students have a multitude of fields within any major from which to choose and the sample sizes for comparison of a particular subfield and less popular majors would be too small to draw meaningful conclusions. The valedictorians were not double counted within a category of major, only across categories. Therefore, the total percentage in Table 2 for intended majors adds up to more than 100%. This table indicates that nearly two thirds of the valedictorians intended to have majors within the areas of science, mathematics, computer science, or engineering.

Table 3 shows the characteristics of the subsample of 92 students who gave specific enough survey responses about their future career plans. The salary variable was highly positively skewed, as

Table 4

Gender Differences for Weighted GPA and Average High School SAT Score

	Weighted GPA			High School's Average SAT Score		
	M	*SD*	*t*	*M*	*SD*	*t*
Female	4.88	0.22		1052.6	84.6	
Male	4.92	0.31	-0.92	1043.1	93.0	0.65

Note. $N = 150$.

are all data on salaries, with M = \$99,237; Mdn = \$73,170; SD = \$70,707. Connected with the popularity of majoring in science, almost half of these valedictorians intended to work in a healthcare field. The category of working in a healthcare field but not being a physician or surgeon refers to occupations such as pharmacist or physical therapist.

Results

The analysis testing the equality of proportions from categorical data used Fisher's exact test (Fisher, 1970) because it is more accurate than chi-square tests in tests of independence with small samples (Agresti, 1990). To explain the valedictorian's choice of college, I also conducted a multiple regression analysis on the college acceptance rates. Tests for heteroscedasticity and autocorrelation detected neither in the regression model. The alpha level of .05 was used for all statistical tests.

As shown in Table 4, there were no gender differences in mean weighted GPA or in the mean of the high school average SAT scores. Therefore, there were no statistically significant differences by gender in the student's own aptitude or in the aptitude of his or her classmates. Tables 5 to 7 contain the results that answer the three research questions of whether there were any gender differences amongst these valedictorians in the choice of

Table 5

Gender Differences in Expressed Intention in College Majors

	Female (n = 87)	Male (n = 63)	p
Science Major	36	21	0.39
Humanities or Social Science Major	37	15	0.02
Mathematics, Computer Science, or Engineering Major	16	22	0.02
Business, Accounting, or Economics Major	6	11	0.07
Education Major	9	2	0.12
Undecided Major	7	7	0.29

Note. **Table entries give the percent of valedictorians who expressed interest in a particular category of major. Column percentages add up to more than 100% of the total subsample size because the students are counted in each category of major they specifically mentioned in reply to an open-ended question about their intended major(s). Fisher's Exact Test is used to compare the differences in these categorical variables.**

college major, the acceptance rate of the chosen college, and the salary of their intended career.

Gender Differences by College Major

As seen Table 5, there were statistically significant gender interest differences in the mathematics, computer science, or engineering majors and in the humanities or social sciences majors. A significantly greater proportion of males than females said they were interested in majoring in mathematics, computer science, or engineering, and a significantly greater proportion of females than males were interested in majoring in the humanities or social sciences. There were no statistically significant differences in choosing to major in the sciences, education, or in the fields related to business, accounting, or economics. There was also no statistically significant difference in being undecided on a college major.

Table 6

Multiple Regression on the Acceptance Rate of the Chosen College

Variable	*B*	*SE B*
Intercept	170.58***	36.56
Gender	90.28**	30.27
Average SAT Score	-1.82	2.24
Gender* Average SAT Score	-8.12**	2.88
Weighted GPA	-24.83***	6.50
Rural County	6.03	3.59
Size of High School	2.22	1.43

Note. $N = 150$. The adjusted R^2 is .33. *The variable for gender takes the value of one for female valedictorians. **$p < .01$. ***$p < .001$.

Gender Differences in Selectivity of Chosen College

Table 6 contains the results of a multiple regression analysis examining the relationships between the acceptance rates of their chosen colleges and the independent variables of gender (female = 1), weighted GPAs, high school average SAT scores, living in a rural county, and size of high school graduating classes. In this regression, the average high school SAT score was rescaled by dividing it by 100 so that a one unit change in the score was more meaningful. The rural binary variable tested the hypothesis of whether students who lived in the seven rural counties, where there is less wealth and a lower level of education on average, were planning to attend less selective colleges. The variable for size of the high school graduating class tested the hypothesis of whether students at larger high schools were accepted at colleges with higher selectivity (lower acceptance rates). The size of the graduating class had a mean of 297.7 and a standard deviation of 120.8.

The positive and statistically significant coefficient on the gender binary variable indicated that females were on average planning to attend less selective colleges, all else held constant.

However, the additional interaction of the gender variable with the high school average SAT score shows that this gender gap decreased as females graduated from high schools with higher average SAT scores. For every 100-point increase in her high school's average SAT score, it was predicted that a female valedictorian would attend a college with an acceptance rate that was on average eight percentage points lower, all else held constant. Preliminary results did not indicate that the gender binary variable had any statistically significant interaction effect with the other variables in the model. A test of the significance of the change in the R^2 of a regression model without and then with the gender and average SAT score interaction term was statistically significant, $F(1, 143) = 7.95$, $p = .0055$. The R^2 was .318 in a model with the independent variables of gender, average SAT score, weighted GPA, rural, and size of graduating class, and R^2 was .354 in the model with the interaction term of gender and average SAT score included.

The regression results also showed that for a one-point increase in weighted GPA, a valedictorian would be expected to attend a college with an acceptance rate that was more selective on average by 25 percentage points, all else held constant. The sign and magnitude of the coefficient on weighted GPA is reasonable because the weighted GPA increases with more Advanced Placement and Honors types of courses, which colleges look upon favorably in admissions decisions. However, with the gender binary variable being positive and significant, females were on average expected to attend less selective colleges than males with equivalent GPAs, all else held constant. The coefficients on living in a rural area and size of the high school variables were not statistically significant in this regression equation.

Gender Differences in Career Aspirations and Median Salary of Intended Career

Table 7 contains the analysis of gender differences related to career outcomes for the subset of 92 valedictorians for which

Table 7

Gender Differences in Occupational Intention and in Median Salary of Intended Career

	Female (n = 57)		Male (n = 35)		p
Physician or Surgeon	11		11		0.21
Healthcare Field but not Physician or Surgeon	15		5		0.20
Teacher or School Administration	11		3		0.23
Engineering or Computer Science	7		7		0.38
Lawyer	4		4		0.47
Business or Accounting	2		4		0.20
Communications	5		1		0.40
Psychologist	2		0		0.52
	M	*SD*	*M*	*SD*	*t*
Log of Median Salary	11.22	0.54	11.49	0.59	-2.27*

***Note*. Fisher's exact test is used to compare the differences in these categorical variables.**
***$p < .05$.**

career information was available. There were no statistically significant differences by gender in choosing certain occupational categories. The greater relative popularity of teaching as a career versus majoring in education was due to most students who were interested in education being able to state their intended career in teaching. Likewise, a lower proportion of students intended to have careers in engineering, mathematics, and computer science versus the proportion who intended to major in these subjects because fewer of these students were able to state specifically what type of career they intended to pursue.

The two data sources were appended to construct the lower end and upper end of the salary distribution in this sample. Therefore, Fisher's exact test (Fisher, 1970) was performed to determine whether there was any difference in the propor-

tion of female valedictorians who were matched to data from the *Occupational Employment Statistics* versus the proportion of female valedictorians who were matched to data from the *Occupational Outlook Handbook*. The results were $p = .117$ for a two-tailed test. The test of equality for the median salary of their specific intended career (e.g., pediatrician versus surgeon) shown at the bottom of Table 7 utilized the natural log transformation of the salary variable because of this variable's natural skewness. There was a statistically significant difference in the means of the median salary of males' and females' intended careers. The average log median salary of 11.22 for females translated to a salary of \$74,608 ($e^{11.22}$) and the average log median salary of 11.49 for the males translated to a salary of \$97,734 ($e^{11.49}$). The implied gender wage ratio (female earnings/male earnings) was therefore 0.763, which is nearly identical to the gender wage ratio from the median annual earnings for full-time, full-year workers in 2004 of 0.766 as reported by the U.S. Census Bureau (2007).

Discussion

The purpose of this study was to examine whether these male and female valedictorians, who are equivalent in terms of reaching the top of their high school class, also have equivalent college and career plans. As with most of the previously cited studies, there were some areas of parity and some areas of differences between the genders. One highlight of this study was that majoring in a field in the sciences was very popular for both genders: no statistically significant differences in interest in majoring in science or working in healthcare were found. Kerr and Colangelo (1988) also found that majoring in the sciences is popular among highly talented students. Fewer valedictorians expressed interest in majors in the business fields or in education; this is similar to what Kerr and Colangelo found among highly talented students. However, this study did find the traditional gender difference of females being more interested in subjects in the humanities and social sciences and males being interested in

the most quantitative subjects of mathematics, computer science, and engineering.

The regression results that analyzed the selectivity of their chosen colleges in Table 6 showed some evidence of females attending less selective colleges on average compared to the males, although that effect was decreased as the female's high school's average SAT score increased, holding all other variables constant. Arnold (1995) also found that fewer of the female than male valedictorians went to Ivy League colleges, and Rosser (1989) found that females with equivalent GPAs to males were attending less selective colleges. Attending less selective colleges could have an impact on the future earnings of females. Research by Brewer, Eide, and Ehrenberg (1999) and Eide and Showalter (2001) indicated that those graduating from the more elite colleges did have higher future career earnings. Similarly, Dale and Krueger (2002) showed that students of comparable ability earned the same whether graduating from a more selective or less selective college, but that children from low-income families would earn more if they attended more selective colleges.

Although the results on career outcomes in Table 7 indicated males and females had similar interests in certain broad categories of careers, the significant difference in the salary variable aligns with the previously cited studies that showed the males congregating into jobs that tend to be higher paying, resulting in the average male salary being higher than the average female salary. Women have made great strides in the labor market, and occupational segregation is decreasing (Blau et al., 2006; Clark, York, & Anker, 2003). However, it is still important to examine the distribution of women within specific occupations to determine whether women are pursuing jobs that pay less within an occupation. For example, "[w]hile women accounted for 1 of every 2 sales employees overall, they made up 83 percent of apparel sales personnel, but only 31 percent of persons selling securities and financial services" (Wootton, 1997, p. 16).

This study showed the predicted effects from the human capital model. Some female valedictorians did appear to intend to have similar college and career outcomes to the males, but other

females chose the more traditional path of lower educational aspirations and lower paying careers. In economics literature, research has shown that differences in human capital characteristics (e.g., education and work experience) between men and women do explain part of the gender wage gap, although how much of the wage gap is accounted for by these differences is a matter of some debate (Blau et al., 2006). O'Neill (2003) examined the gender pay gap between men and women in the 1980s up to 2000 and accounted for differences in human capital accumulation. She concluded by stating:

> Understanding the gender pay gap is important because even in the absence of any labor-market discrimination it is unlikely that the wage rates of women and men would be equal. . . . [T]he unadjusted gender gap can be explained to a large extent by nondiscriminatory factors. Those factors are unlikely to change radically in the near future unless the roles of women and men in the home become more nearly identical. Thus an unadjusted gender gap may be with us for quite a while. (p. 314)

Although the typical solution to gender differences in career paths has been to encourage females to enroll in mathematics and sciences courses and to consider careers in male-dominated fields, more attention also should be given to encouraging males to enroll in humanities and social science courses and to consider careers in female-dominated fields. The female-to-male wage ratio will move closer to one (equality in pay) when more females pursue higher paying careers, but also when more males will be open to pursing a wider variety of career choices. The results found by Hébert (2000) could give some insight into the lives of gifted men who pursue nontraditional careers. He conducted a case study of the lives of 6 gifted males who majored in elementary education and found that the participants had a " . . . strong belief in self, which incorporated empathy and psychological androgyny." The factors influencing the strong belief in self included ". . . exposure to male teachers as appropriate career

models; and open-minded parents who provided emotional support" (p. 20). In conclusion, the results from this study reinforce the need for specialized career counseling for the gifted students that will help them think beyond the bounds of traditional gender roles (e.g., Kerr & Sodano, 2003; Perrone, 1997).

Limitations and Future Research

The largest limitation to this study was the amount of data available and the method in which it was collected. A researcher did not design the survey to elicit the valedictorians' responses and the information was only available for valedictorians who were encouraged to reply and who wanted to see their profiles featured in the newspaper. There could be qualitative differences between those valedictorians who did and did not choose to have their information published in the newspaper. The newspaper survey did not allow for any explanation of why or how the valedictorians were making their particular choices. The statistical analysis was based on a nonprobability sample, and thus findings cannot be generalized beyond the sample. However, this study did document the need for a more carefully designed research project on valedictorians. It has been more than 20 years since the valedictorians in the Illinois Valedictorian Project graduated, yet there remain gender differences in the valedictorians' college and career plans.

Many studies have examined the career intentions of high-achieving students; however, more attention should be paid to how they are making their choice of which college to attend. This study had one intriguing result: although the females were, on average, planning to attend less selective colleges than were the male valedictorians, females who graduated from high schools with higher average SAT scores were predicted to attend relatively more selective colleges, all else held constant. Unfortunately, the limited data used in this study cannot help provide a clear rationale for how or why this occurred. High-achieving students, and valedictorians in particular, could gain

admission to nearly any college they want to attend. Given their multitude of choices, researchers should examine the factors that are driving their decisions, with a specific focus on whether the males and females weigh each of these factors in the same manner.

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