INSTITUTE FOR WOMEN'S POLICY RESEARCH

Fact Sheet

www.iwpr.org

IWPR # C395 April 2012

# Gender Segregation in Fields of Study at Community Colleges and Implications for Future Earnings

Postsecondary education yields myriad benefits, including increased earnings potential, higher lifetime wages, and access to quality jobs. But postsecondary degrees are not all equal in the benefits they bring to students, and women tend to obtain degrees in fields with lower earnings. Women with associate degrees earn approximately 75 percent of what men with associate degrees earn (DeNavas-Walt, Proctor, and Smith 2011). This wage gap occurs in part because women with AA degrees—like women at all degree levels—often work in lower-paid, female-dominated occupations (Hegewisch, et al. 2010). Jobs in traditionally male occupations, such as engineering and mechanics, typically pay higher wages than female-dominated occupations (Hegewisch et al. 2010).

In addition, according to an IWPR analysis of 2011 Bureau of Labor Statistics data, men out-earn women in nearly all occupations, regardless of whether an occupation is female- or male-dominated. For example, female elementary and middle school teachers earn 91.3 percent of their male counterpart's earnings and female nursing, psychiatric, and home health aides earn 88.8 percent, despite women comprising over 80 percent of workers in both occupations (Hegewisch, Williams and Harbin 2012).

Since women face a labor market characterized by persistent gender wage gaps to occupational placement, discrimination, and other factors (Blau and Kahn 2007), it is critical that college administration and policy makers become aware of segregation in fields of study and take steps to eliminate it. Since women often bear the primary social and financial responsibility for child rearing their equal access to quality jobs is critical for family economic success and the future well-being of children. This fact sheet presents data on associate degree field of study by gender, and finds that even though women are the majority of those receiving associate degrees, they remain underrepresented in a number of relatively high-earning, traditionally male fields, including science, technology, engineering and mathematics (STEM).

## Gender Segregation among Community College Majors

Women make up a greater proportion of degree recipients than men, including at the associate degree level (U.S. Department of Education 2011), but they are significantly underrepresented in many fields of study in community colleges. Nationwide, women (25 years and older) constitute 56.8 percent of all people with associate degrees (U.S. Census Bureau 2009), and in the 2008–2009

academic year, women earned 62.1 percent of all associate degrees (U.S. Department of Education 2010).

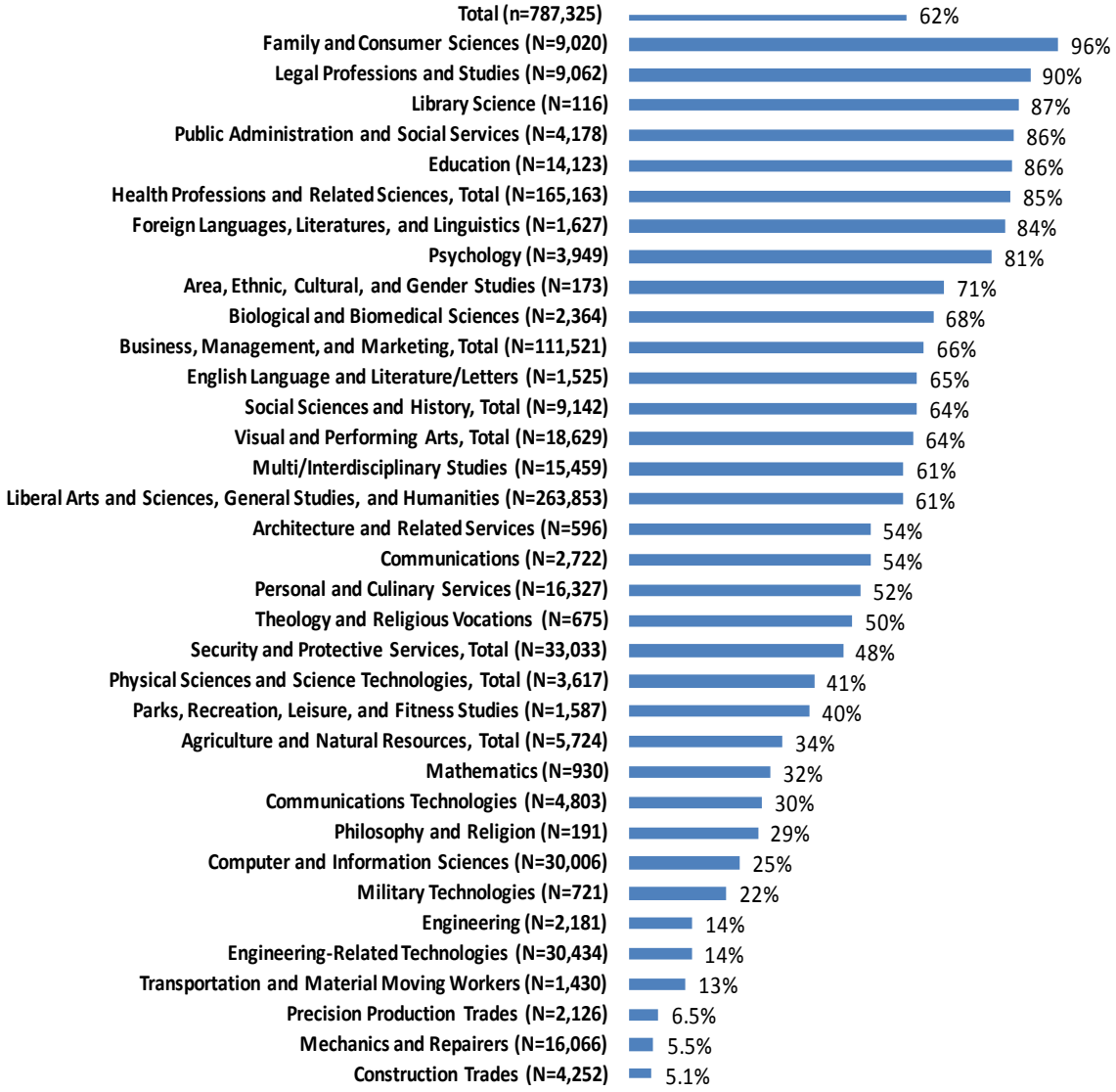
Women in community college programs are not evenly distributed across majors, but concentrated in a relatively small range of fields. Only fourteen of 35 fields of study (40 percent) identified by the Integrated Postsecondary Education Data Systems (IPEDS), have a proportion of women that is equal to or greater than women's representation in the community college population overall. Women make up more than 80 percent of graduates in the fields of family and consumer sciences, legal studies, social sciences, education and health, whereas men make up more than 80 percent of the graduates in fields associated with construction, mechanics, precision production trades, transportation, and engineering-related technology.[1] In addition, men comprise at least seventy percent of graduates in engineering, mathematics, and computer science (Figure 1). Figure 2 presents wages in occupations corresponding to some of the most common fields of study among men and women.

## Conclusion

Gender segregation among community college majors can ultimately contribute to occupational segregation and large gender wage gaps. While a postsecondary degree alone results in higher wages women would experience greater economic reward from education if they were better represented in fields like engineering, computer information technology, and construction. A number of policy and program approaches are required to address gender segregation among community college majors.

[1] This list only contains majors that had more than 200 graduates in 2008–2009.

**Figure 1. Proportion of Women Earning Associate's Degree by Field of Study**, Ranked lowest to highest by women's representation




Source: U.S. Department of Education, National Center for Education Statistics, 2008–09 Integrated Postsecondary Education Data System (IPEDS), Fall 2009. <http://nces.ed.gov/programs/digest/d10/tables/dt10_281.asp?referrer=list> (accessed August 12, 2010).

Note: Data is derived from degree-granting institutions that grant associate degrees or higher degrees and participate in Title IV federal financial aid programs.

**Table 1. Median Annual Earnings in Selected Gender-Segregated Occupations that Require an Associate's or Technical Degree, by Gender, 2010**

| | Median Annual Earnings for Women | Median Annual Earnings for Men | Related Field of Study | Share of Female Students in Related Field of Study |
|---|---|---|---|---|
| **Occupations from Predominantly Female Degree Fields** | | | | |
| Child Care Workers | $18,336 | n/a | Family and Consumer Sciences | 96.0% |
| Teacher's Assistants | $19,882 | $24,843 | Education | 86.0% |
| Agricultural and Food Science Technicians | $32,163 | $45,316 | Family and Consumer Sciences | 96.0% |
| Social and Human Services Assistants | $33,543 | $35,748 | Public Administration and Social Services | 86.0% |
| Licensed Practical and Vocational Nurses | $38,292 | $42,272 | Health Professions and Related Sciences | 85.0% |
| Paralegals and Legal Assistants | $44,304 | $50,442 | Legal Professions and Studies | 90.0% |
| Dental Hygienists | $55,847 | n/a | Health Professions and Related Sciences | 85.0% |
| **Occupations from Predominantly Male Degree Fields** | | | | |
| Machinists | $30,498 | $42,146 | Precision Production Trades | 6.5% |
| Aircraft Mechanics and Service Technicians | $40,884 | $56,363 | Mechanics and Repairers | 5.5% |
| Electric Motor, Power Tool, and Related Repairers | n/a | $41,580 | Mechanics and Repairers | 5.5% |
| Engineering Technicians, except Drafters | $42,226 | $55,053 | Engineering-Related Technologies | 14.0% |
| Electricians | $42,629 | $46,909 | Construction Trades | 5.1% |
| Computer Support Specialists | $49,711 | $54,754 | Computer and Information Science | 25.0% |
| Construction Managers | $54,699 | $65,805 | Construction Trades | 5.1% |

Source: IWPR compilation of data from the U.S. Department of Commerce, Bureau of the Census, American Community Survey, 2010, "B24122 and B24123: Detailed occupation by median earnings in the past 12 months (in 2010 inflation-adjusted dollars) for the full-time, year-round civilian employed male/female population 16 years and over - universe: full-time, year-round civilian employed male/female population 16 years and over with earnings." <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> (accessed April 19, 2011).
n/a: sample size insufficient for reliable estimate

Note: Median annual earnings are given by occupation, not credential. The earnings listed for each occupation might reflect the earnings of workers who have little or no postsecondary education as well as workers who have higher educational credentials than an associate degree. Occupations were chosen that had related fields of study with high percentages of gender segregation.

Note: For educational requirements for different occupations, see Bureau of Labor Statistics, Occupational Outlook Handbook, 2012 Edition. Included occupations had educational requirements that were listed either as associate degrees or postsecondary non-degree. Some occupations, such as social and human services assistants, have no listed postsecondary educational requirements, but further inquiry into these fields indicated that an associate degree is required and/or preferred by a substantial number of employers.

## References


Blau, Francine D. and Lawrence M. Khan. 2007. *The Academy of Management Perspectives* (February 2007): 7-23.

Bureau of Labor Statistics. 2012. *Occupational Outlook Handbook,* 2012–13 Edition. <http://www.bls.gov/oco/> (accessed April 1, 2011).

Hegewisch, Ariane, Hannah Liepmann, Jeffery Hayes, and Heidi Hartmann. 2010. "The Gender Gap By Occupation." Fact Sheet, IWPR #350a. The Institute for Women's Policy Research. <http://www.iwpr.org/publications/pubs/separate-and-not-equal-gender-segregation-in-the-labor-market-and-the-gender-wage-gap/at_download/file> (accessed July 8, 2011).

Hegewisch, Ariane, Claudia Williams and Vanessa Harbin. 2012. "The Gender Wage Gap by Occupation." Institute for Women's Policy Research. <http://www.iwpr.org/publications/pubs/the-gender-wage-gap-by-occupation-1/> (accessed April 20, 2012).

U.S. Census Bureau. 2011. American Community Survey. IWPR compilation of data from "B24122. Detailed Occupation by Median Earnings in the Past 12 months (in 2010 inflation-adjusted dollars) for the Full-time, Year-round Civilian Employed Male Population 16 Years and Over - Universe: Full-time, Year-round Civilian Employed Male Population 16 Years and Over with Earnings." <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> (accessed April 20, 2012).

U.S. Census Bureau. 2011. American Community Survey. IWPR compilation of data from "B24123. Detailed Occupation by Median Earnings in the Past 12 months (in 2010 inflation-adjusted dollars) for the Full-time, Year-round Civilian Employed Female Population 16 Years and Over - Universe: Full-time, Year-round Civilian Employed Female Population 16 Years and Over with Earnings." <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> (accessed April 20, 2012).

U.S. Census Bureau. 2009. American Community Survey. IWPR compilation of data from "C15002. Sex by Educational Attainment for the Population 25 Years and Over - Universe: Population 25 Years and Over." <http://factfinder.census.gov/home/saff/main.html?_lang=en> (accessed July 8, 2011).

DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith, U.S. Census Bureau, Current Population Reports, P60-239, Income, Poverty, and Health Insurance Coverage in the United States: 2010, U.S. Government Printing Office, Washington, DC, 2011.

U.S. Department of Education. September 2003. National Center for Education Statistics. Digest of Education Statistics 2010. 2000/01 Baccalaureate and Beyond Longitudinal Study (B&B:2000/01). "Table 398. Percentage distribution of 1999-2000 bachelor's degree recipients 1 year after graduation, by field of study, time to completion, enrollment status, employment status, occupational area, job characteristics, and annual salaries: 2001."

<http://nces.ed.gov/programs/digest/d10/tables/dt10_398.asp?referrer=report> (accessed July 8, 2011)

U.S. Department of Education. August 2010. National Center for Education Statistics 2010. Integrated Postsecondary Education Data System (IPEDS). "Table 281. Associate's Degrees and Other Subbaccalaureate Awards Conferred by Degree-Granting Institutions, by Length of Curriculum, Sex of Student, and Discipline Division: 2008–09." <http://nces.ed.gov/programs/digest/d10/tables/dt10_281.asp?referrer=list> (accessed July 8, 2011).

U.S. Department of Education. May 2012. National Center for Education Statistics 2011. Integrated Postsecondary Education Data System (IPEDS). "Table 283. Degrees Conferred by Degree-Granting Institutions, by Level of Degree and Sex of Student: Selected Years, 1869-70 through 2020-21." <http://nces.ed.gov/programs/digest/d11/tables/dt11_283.asp> (accessed June 19, 2012).

*This fact sheet was written by Layla Moughari, Rhiana Gunn-Wright, and Barbara Gault, Ph.D. Support for this fact sheet and IWPR's Student Parent Success Initiative have been provided by the Bill & Melinda Gates Foundation.*