

Between a Diploma and a Bachelor's Degree: The Effects of Sub-Baccalaureate
Postsecondary Educational Attainment and Field of Training on Earnings

ABSTRACT

Educational attainment is a well-documented path to economic success. Apart from the recognized benefits of a bachelor's degree, research has also noted benefits for sub-baccalaureate education such as vocational and associate's degree programs. This study proposes to explore the returns to education from these educational attainment levels that fall between a high school and a college degree. Using data from the 2004 and 2001 panels of the Survey of Income and Program Participation (SIPP), we examine the association between educational attainment and earnings, with a particular focus on field of training. This study will also address the interaction between educational attainment, field of training and demographic characteristics and explore whether the connection between specific fields of training and corresponding occupations helps explain the association between field of training and earnings.

EXTENDED ABSTRACT

Research has consistently documented the positive relation between education and economic benefits (e.g., Day and Newburger 2002). Data collected in 2008 by the Census Bureau show bachelor's degree recipients earned about \$26,000 more on average than workers with a high school diploma. Recognizing its economic importance, policy makers, including most recent Presidents, have advocated improving and expanding education in a variety of ways. President Clinton emphasized access to college.

President George W. Bush emphasized improvements to elementary and secondary schools. President Obama has recently moved in a slightly new direction by calling for Americans to commit to at least one year of higher education or training beyond high school. This emphasis on short-term postsecondary programs puts a new focus on long-running debates about the value of training programs, certification programs, proprietary schools and community colleges (Grubb and Lazerson 2004, Adelman 2000, Brint and Karabel 1989).

A central element in the debates on the value of sub-baccalaureate postsecondary schooling is the distinction between human capital benefits and vocational benefits. In short, human capital benefits are those that result from the knowledge gained from education – especially that which is not targeted to a specific job. Vocational benefits are those that result from access that is provided to specific well-paying occupations by virtue of the credential earned (see Grubb 1993, Kane and Rouse 1995). Although the causes of these differences remains under debate, sub-baccalaureate postsecondary education with vocational credentials has been shown to provide greater economic return than other types of education (Bailey, Kienzl and Marcotte 2004, Kerckhoff and Bell 1998, Grubb 1993). A recent Census Bureau report found that earnings varied across fields of study at all degree levels, including vocational and associate's degrees (Ryan 2005).

The research we propose to undertake here is not intended to contribute to the debate on the mechanisms by which vocational education contributes to additional earnings, but rather, to provide updates and improvements to our understanding about what fields of training contribute to economic success at the sub-baccalaureate

postsecondary level. We make use of the 2001 and 2004 panels of the Survey of Income and Program Participation (SIPP), which provide a large sample of labor market participants with information on education, field of study, earnings and a large number of other demographic and labor-force related variables. The SIPP is an ongoing, nationally representative panel study of the United States. The SIPP includes a set of core questions at each interview, as well as a series of unique topical modules that collect detailed information on specific topics at each interview. Each panel includes an Education and Training History Topical Module, which asks the respondents about their educational history, including degrees earned and specific field of training. Our analyses use data from the two most recently completed SIPP panels: SIPP 2004 and SIPP 2001.

Table 1 below shows data on average monthly earnings by educational attainment and field of degree for SIPP panels in 2004 and 2001. Earnings vary both by educational attainment and by field of training. Overall, higher educational attainment is associated with higher earnings, but earnings also vary across field of training within levels of educational attainment. For instance, while earnings overall are higher for workers with a bachelor's degree compared to an associate's or vocational degree, having a sub-baccalaureate degree in a technical field such as engineering was associated with higher earnings than a bachelor's degree in fields such as education (Ryan 2005).

Educational attainment and field of degree both influence earnings, but the relationship is complicated. Preliminary regression analyses that we performed suggest that level of educational attainment has a positive and significant association with earnings, even after controlling for demographic characteristics such as age, sex, race, and Hispanic origin. We also find a significant association between field of training and

earnings, net of these same demographic characteristics. Our proposed analyses will explore the interaction between educational attainment, field of training and demographic variables. We also plan to explore the extent to which specific fields of training lead to specific types of occupations, and the degree to which this association helps explain the relationship between field of training and earnings. With these analyses, we plan to describe the pathways that may lead to higher earnings for people who pursue one or two years of postsecondary education.

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Table 1. Average Monthly Earnings by Educational Attainment and Field of Training: SIPP 2004 & 2001
Population age 18 and over with earnings (Earnings in 2004 dollars)

Field of training	Panel	Vocational Certificate	Associate degree	Bachelor's degree	Master's degree	Professional degree	Doctorate
TOTAL	2004	\$2,624	\$3,091	\$4,497	\$5,380	\$8,414	\$7,675
	2001	\$2,719	\$2,951	\$4,174	\$5,103	\$8,358	\$6,990
Business	2004	\$2,486	\$3,088	\$5,158	\$7,958	B	B
	2001	\$2,284	\$3,084	\$4,866	\$6,969	B	B
Computers	2004	\$2,482	\$3,325	\$5,730	\$6,618	B	B
	2001	\$2,725	\$3,468	\$5,202	\$6,361	B	B
Engineering	2004	\$3,703	\$4,435	\$5,571	\$6,395	B	\$7,740
	2001	\$3,625	\$3,638	\$5,362	\$6,790	B	\$9,110
Liberal arts	2004	B	\$2,647	\$4,435	\$3,873	B	\$5,934
	2001	B	\$2,576	\$3,533	\$4,546	B	\$5,642
Social science	2004	\$2,858	\$3,071	\$3,708	\$4,252	\$7,858	\$8,098
	2001	B	\$3,062	\$3,416	\$4,216	\$9,224	\$6,517
Natural science	2004	\$2,053	\$2,946	\$3,860	\$5,042	\$10,606	\$8,106
	2001	\$2,263	\$2,737	\$3,502	\$5,243	\$9,588	\$6,907
Education	2004	B	\$2,299	\$2,924	\$4,120	\$4,697	\$5,309
	2001	B	\$1,979	\$3,150	\$3,850	\$4,487	\$5,698
Vocational studies	2004	\$2,738	\$3,176	B	B	B	B
	2001	\$2,784	\$2,914	B	B	B	B
Other	2004	\$2,637	\$3,064	\$4,434	\$4,778	\$7,072	\$6,251
	2001	\$2,957	\$3,018	\$4,203	\$4,479	\$5,939	\$8,193

(B) Derived measure not shown when base is less than 100,000

Source: US Census Bureau, "What It's Worth: Field of Training and Economic Status" Detailed Tables. Survey of Income and Program Participation, 2004 and 2001 Panels. 2001 earnings adjusted for inflation by authors. See <http://www.census.gov/population/www/socdemo/fld-of-trn.html> for tables. For more information on sampling and nonsampling error see <http://www.sipp.census.gov/sipp/source.html>