

ISSUE TABLES

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Postsecondary and Labor Force Transitions Among Public High School Career and Technical Education Participants

Career and technical education (CTE) is a significant component of high school education. For the last several decades, more than 90 percent of public high school graduates have earned at least some credits in CTE, with graduates from the class of 2005 earning an average of 4.0 CTE credits (Hudson and Laird 2009; Levesque 2003; Levesque et al. 2008; Tuma 1996).¹ As demand for a high-skill workforce has increased, reforms have focused on changing high school CTE from an alternative to the college preparatory curriculum to an educational pathway for all students that connects high schools, colleges, and the workforce (Kazis 2005; Lokes et al. 2007; Silverberg et al. 2004).

This set of Issue Tables provides information on the transition of CTE participants into postsecondary education and the labor market during the first 2

years after their high school graduation. In these tables, CTE participants are identified based on the courses they took in high school. The National Center for Education Statistics (NCES) classifies the courses listed in high school transcripts into various subject areas (mathematics, science, social studies, and so on) using the Secondary School Taxonomy (SST) (Bradby and Hudson 2007). The SST divides CTE into three major categories—family and consumer sciences education, general labor market preparation, and occupational education,² with occupational education further divided into 21 specific occupational areas (business management, marketing, manufacturing, and so on). To ensure adequate samples for the analysis presented here, the 21 occupational program areas in the SST are aggregated into the following 12 broad areas:

- agriculture and natural resources
- business
- communications and design
- computer and information sciences
- construction and architecture
- consumer and culinary services
- engineering technologies
- health sciences
- manufacturing
- marketing
- public services
- repair and transportation

The Issue Tables focus on occupational coursetaking because this is the part of the CTE curriculum that provides students with the technical skills necessary for entering the labor market, and it is also the largest of the three CTE curricular areas.³ The tables include information on graduates who earned different numbers of occupational credits, and on occupational concentra-

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tors. Occupational concentrators are defined in two ways: students who earned at least 2.0 credits in any one of the 12 occupational areas listed above, and students who earned at least 3.0 credits in any one of the 12 occupational areas.

Table 1 presents the percentage of students from the class of 2004 who concentrated in occupational education during high school and who earned different numbers of occupational credits.

Table 2 displays data on the transition of CTE students into postsecondary education and the labor force within 2 years after high school graduation.

Tables 3 through 6 provide information about students who enrolled in postsecondary education, with a focus on their enrollment characteristics, persistence, and undergraduate major.

Tables 7 through 10 present data on CTE students' employment, including their labor force status, average hourly wage, and occupation.

Table 11 shows the percentage of CTE concentrators who were pursuing a major or an occupation related to their high school CTE concentration area.

DATA

The analyses in these Issue Tables are based on data from the Education Longitudinal Study of 2002 (ELS:2002/06), the most recent NCES longitudinal survey providing data on students' paths through and out of high school. The ELS:2002/06 base-year survey was conducted in spring 2002 with a nationally representative sample of 10th-graders. These cohort members were surveyed again in spring 2004, when most were seniors in high school, and again in 2006, when most had been out of high school for 2 years. In 2004, high school transcripts covering 4 academic years (grades 9–12) were also collected for all students. Consistent with previous NCES reports on CTE (Hudson and Laird 2009; Levesque 2003; Levesque et al. 2008), the ELS:2002/06 sample used in these tables is restricted to public high school graduates.

TECHNICAL NOTES

Confidence Intervals

Definition

The confidence interval (CI) is one way of expressing the uncertainty of a sample estimate due to sampling variation. Confidence intervals (with a lower and upper bound) for a sample estimate can be constructed such that if we drew repeated samples from the same population many times, we would

expect a certain percentage of the estimates from these samples to fall within the interval. For example, a 95 percent confidence interval for an estimate is constructed and expressed as:

$$(1) \quad (\bar{X}_i - 1.96S_i < \bar{X} < \bar{X}_i + 1.96S_i)$$

where \bar{X}_i is the estimated mean of the specific (i^{th}) sample being used, \bar{X} is any of the estimated means from possible replicated samples, S_i is the sample estimate of the standard error of the mean constructed from the sample being used, and 1.96 is a t or z (normal) distribution constant for the 95 percent probability.

Note that in equation above, 95 percent refers to the confidence, not the probability.

Special Bounding Conditions in Constructing Confidence Intervals

CIs are bound at the minimum and maximum possible values for percentages and at the minimum possible value for amounts. This means that the CIs are bound at zero at the lower bound for both percentages and amounts, and at 100 at the upper bound for percentages. This bounding may result in asymmetrical intervals. Bounding will be apparent for low estimates (i.e., near zero) or high estimates (i.e., near 100 percent or near the maximum possible amount).

CIs and Hypothesis Testing (or Overlapping CIs and Statistical Significance)

Can two CIs constructed for estimates of the same statistic from two different populations be used to determine if the two estimates are statistically significantly different (say, in place of doing a hypothesis test)? The answer is sometimes but not always.

In the case of two *nonoverlapping CIs*, the difference between the estimates is necessarily statistically significant. If 95 percent CIs are being used, then the estimates are significantly different with $p \leq 0.05$. This is equivalent to doing a *t*-test (or *z*-test if comparing proportions) with $\alpha = 0.05$ and rejecting the null hypothesis of equality.

However, in the case of two *overlapping CIs*, the estimates can be either significant or not significant. An assumption that overlapping CIs necessarily indicate nonsignificance is false. In this case, a hypothesis test must be done, and under some conditions, the test can find that the *estimates are indeed significantly different despite their overlapping CIs*.

Here is an explanation of why this happens. For two 95 percent CIs constructed as in equation (1), the algebraic relationships constrain the CIs so that they can only overlap when:

$$(2) \quad (\bar{X}_1 - \bar{X}_2) \leq 1.96(S_1 + S_2).$$

Similarly, the CIs cannot overlap when:

$$(3) \quad (\bar{X}_1 - \bar{X}_2) > 1.96(S_1 + S_2).$$

The formula for a *t*-test of the difference between two means is:

$$(4) \quad t = \frac{(\bar{X}_1 - \bar{X}_2)}{1.96\sqrt{(S_1^2 + S_2^2)}}.$$

The means are significantly different when:

$$(5) \quad (\bar{X}_1 - \bar{X}_2) > 1.96\sqrt{(S_1^2 + S_2^2)}.$$

This is because, algebraically, the square root of the sum of squares of two numbers is always less than the sum of those two numbers:

$$(6) \quad \sqrt{S_1^2 + S_2^2} < S_1 + S_2,$$

and as the difference in means $(\bar{X}_1 - \bar{X}_2)$ increases, the *t* associated with that difference becomes significant before the two confidence intervals cease to overlap. Refer to the following figure:

$$(7) \quad \frac{(\bar{X}_1 - \bar{X}_2)}{1.96(S_1 + S_2)} \begin{array}{c} \xrightarrow{\text{Not Significant}} \\ \text{CI overlap} \quad \text{Significant} \\ \xrightarrow{\text{No CI overlap}} \end{array}$$

The figure demonstrates that there is an interval of values of $(\bar{X}_1 - \bar{X}_2)$ where the difference is significant and the CIs overlap. Thus, while nonover-

lapping CIs do indicate a significant difference, overlapping CIs do not indicate nonsignificance.⁴

Data Analysis

The ELS:2002/06 sample design involved stratification, the disproportionate sampling of certain strata, and multistage probability sampling. The resulting statistics are more variable than they would have been if they had been based on data from a simple random sample of the same size. As a result, simple random sampling techniques for estimating sampling errors cannot be applied to these data. Several methods such as Taylor series approximations, balanced repeated replication, and jackknife repeated replication can be used to estimate correct standard errors. This set of Issue Tables used balanced repeated replication to generate appropriate standard errors for the complex sampling designs used by ELS: 2002/06.

Dataset Methodology

For an overview of the ELS:2002/06 survey methodology, see the *Education Longitudinal Study of 2002 (ELS:2002) Base-Year to Second Follow-up Public Use Data File Documentation* (NCES 2008-347), available at <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2008347>.

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ENDNOTES

¹ "Credits" refer to standardized Carnegie units. One Carnegie unit represents the completion of a course that meets one period per day for the entire school year. For the purpose of simplicity, the term "credits" is used in this brief in place of "Carnegie units."

² Family and consumer sciences education is intended to prepare students for adult roles outside the paid labor market. General labor market preparation is designed to teach general employment skills used across a wide range of occupational areas, such as keyboarding and word processing. Occupational education aims to teach skills required in a specific occupation or occupational cluster such as agriculture, business services, or transportation.

³ Among the class of 2005 high school graduates, for example, 66 percent of all CTE credits earned were in occupational education (Hudson and Laird 2009).

⁴ For more detailed discussions of nonoverlapping CIs, see Cornell University, Cornell Statistical Consulting Unit (2008) or Wolfe and Hanley (2002).

National Center for Education Statistics

Table 1. Percentage distributions of 2004 public high school graduates by occupational concentrator status and area of concentration, and by number of occupational credits earned in high school: 2004

Occupational concentrator status, ¹ area of concentration, and number of occupational credits	Pct.	95% CI
Total	100.0	[†]
2-credit concentrators		
Nonconcentrators	66.1	[64.1–68.1]
Occupational concentrators ²	33.9	[31.9–35.9]
Agriculture and natural resources	4.5	[3.5–5.5]
Business	7.9	[7.0–8.8]
Communications and design	5.5	[4.6–6.4]
Computer and information sciences	3.1	[2.4–3.7]
Construction and architecture	1.8	[1.4–2.2]
Consumer and culinary services	3.7	[3.1–4.2]
Engineering technologies	2.2	[1.7–2.8]
Health sciences	2.4	[1.9–2.9]
Manufacturing	3.1	[2.6–3.7]
Marketing	2.4	[1.9–3.0]
Public services	0.7	[0.4–1.0]
Repair and transportation	2.9	[2.5–3.4]
3-credit concentrators		
Nonconcentrators	83.4	[81.9–84.8]
Occupational concentrators ²	16.6	[15.2–18.1]
Agriculture and natural resources	2.4	[1.8–3.1]
Business	2.6	[2.1–3.2]
Communications and design	2.1	[1.6–2.6]
Computer and information sciences	0.8	[0.6–1.1]
Construction and architecture	1.0	[0.7–1.3]
Consumer and culinary services	1.9	[1.5–2.2]
Engineering technologies	0.9	[0.6–1.3]
Health sciences	1.3	[1.0–1.7]
Manufacturing	1.5	[1.2–1.9]
Marketing	1.1	[0.8–1.4]
Public services	0.2	[0.1–0.3]
Repair and transportation	1.8	[1.4–2.1]
Number of occupational credits		
0.00–1.99 credits	45.3	[43.2–47.4]
2.00–3.99 credits	32.2	[30.8–33.7]
4.00 or more credits	22.4	[20.5–24.4]

† Not applicable.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

² Detail on specific occupational concentrators does not sum to totals because some graduates concentrated in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "First Follow-up, 2004" and High School Transcript Study (HSTS), 2004.

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Table 2. Percentage distribution of 2004 public high school graduates, by postsecondary education and work status within the first 2 years after high school graduation, overall and for occupational concentrators, nonconcentrators, and graduates earning different numbers of occupational credits: 2006

Occupational concentrator status, ¹ area of concentration, and number of occupational credits	Ever enrolled in postsecondary education		Never enrolled but worked for pay		Never enrolled nor worked for pay	
	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI
All graduates	78.7	[77.4–80.0]	20.0	[18.7–21.2]	1.4	[1.0–1.7]
2-credit concentrators						
Nonconcentrators	80.8	[79.2–82.4]	17.8	[16.3–19.3]	1.5	[1.1–1.9]
Occupational concentrators	74.4	[72.4–76.5]	24.4	[22.4–26.4]	1.2	[0.7–1.7]
Agriculture and natural resources	66.2	[59.5–73.0]	32.6	[26.0–39.1]	1.2	[0.0–2.6]
Business	81.1	[77.7–84.5]	17.6	[14.4–20.9]	1.3	[0.3–2.3]
Communications and design	80.9	[76.6–85.1]	18.7	[14.4–23.0]	0.4	[0.0–1.1]
Computer and information sciences	82.2	[77.2–87.3]	16.1	[11.0–21.1]	1.7	[0.0–3.9]
Construction and architecture	60.0	[48.6–71.4]	37.5	[26.9–48.0]	2.5	[0.0–5.5]
Consumer and culinary services	67.3	[60.8–73.8]	29.8	[23.5–36.0]	2.9	[0.1–5.7]
Engineering technologies	77.1	[69.4–84.7]	22.3	[14.6–29.9]	0.7	[0.0–1.8]
Health sciences	80.3	[73.1–87.6]	17.8	[10.9–24.8]	1.8	[0.0–4.1]
Manufacturing	56.5	[47.6–65.4]	43.1	[34.3–52.0]	0.4	[0.0–1.1]
Marketing	80.1	[73.5–86.8]	19.0	[12.5–25.4]	0.9	[0.0–2.0]
Public services	86.6	[76.5–96.8]	13.4	[3.2–23.5]	#	[†]
Repair and transportation	52.5	[45.2–59.7]	46.8	[39.7–54.0]	0.7	[0.0–1.8]
3-credit concentrators						
Nonconcentrators	80.4	[79.0–81.8]	18.3	[17.0–19.6]	1.3	[1.0–1.7]
Occupational concentrators	69.9	[66.7–73.1]	28.6	[25.4–31.7]	1.6	[0.8–2.3]
Agriculture and natural resources	69.1	[59.7–78.5]	29.6	[20.4–38.7]	1.3	[0.0–3.1]
Business	78.3	[72.4–84.2]	19.4	[13.9–24.9]	2.3	[0.1–4.5]
Communications and design	80.3	[71.5–89.0]	18.5	[9.7–27.3]	1.2	[0.0–3.2]
Computer and information sciences	84.3	[73.3–95.3]	11.6	[3.6–19.6]	4.1	[0.0–11.5]
Construction and architecture	54.5	[37.6–71.3]	42.7	[26.9–58.6]	2.8	[0.0–6.9]
Consumer and culinary services	59.3	[50.4–68.1]	37.4	[28.6–46.2]	3.4	[0.0–7.0]
Engineering technologies	72.0	[57.3–86.6]	28.0	[13.4–42.7]	#	[†]
Health sciences	80.8	[70.5–91.1]	17.5	[7.3–27.6]	1.7	[0.0–4.5]
Manufacturing	51.5	[39.4–63.5]	47.8	[35.8–59.8]	0.8	[0.0–2.4]
Marketing	72.1	[61.9–82.3]	26.3	[16.4–36.2]	1.6	[0.0–4.0]
Public services	‡	[†]	‡	[†]	‡	[†]
Repair and transportation	52.0	[43.6–60.5]	48.0	[39.5–56.4]	#	[†]
Number of occupational credits						
0.00–1.99 credits	82.7	[80.9–84.4]	15.8	[14.2–17.4]	1.5	[1.0–2.0]
2.00–3.99 credits	78.6	[76.5–80.7]	20.2	[18.2–22.3]	1.2	[0.7–1.7]
4.00 or more credits	70.4	[67.7–73.1]	28.3	[25.6–31.0]	1.3	[0.7–1.9]

† Not applicable.

Rounds to zero.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). The time frame for postsecondary enrollment and employment was between high school graduation and the 2006 interview date. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 3. Among 2004 public high school graduates who enrolled in postsecondary education within the first 2 years after high school graduation, percentage with various enrollment characteristics, by occupational concentrator status, area of concentration, and number of occupational credits earned in high school: 2006

Occupational concentrator status, ¹ area of concentration, and number of occupational credits	First enrolled in 4-year institution		Enrolled immediately and full time ²		Worked full time while enrolled ³	
	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI
All graduates	58.4	[56.1–60.6]	83.1	[82.0–84.2]	21.2	[19.9–22.5]
2-credit concentrators						
Nonconcentrators	61.7	[59.3–64.1]	84.0	[82.7–85.3]	19.7	[18.1–21.2]
Occupational concentrators	51.1	[47.9–54.4]	81.2	[79.3–83.2]	24.7	[22.3–27.0]
Agriculture and natural resources	38.3	[28.8–47.7]	80.7	[73.6–87.7]	24.9	[18.3–31.5]
Business	57.8	[52.1–63.6]	83.7	[79.9–87.5]	23.0	[18.8–27.1]
Communications and design	57.9	[50.9–64.9]	86.1	[82.0–90.3]	17.7	[13.2–22.3]
Computer and information sciences	61.4	[53.1–69.8]	82.0	[75.2–88.8]	21.8	[15.1–28.6]
Construction and architecture	33.4	[19.6–47.2]	70.7	[59.0–82.5]	38.0	[26.1–49.8]
Consumer and culinary services	39.1	[30.2–47.9]	68.0	[60.0–76.0]	28.1	[20.1–36.1]
Engineering technologies	57.0	[46.7–67.3]	83.9	[76.3–91.5]	23.0	[14.8–31.2]
Health sciences	53.6	[44.9–62.3]	80.5	[72.5–88.5]	25.7	[18.3–33.1]
Manufacturing	30.4	[19.9–40.9]	81.4	[74.2–88.5]	35.6	[27.3–43.9]
Marketing	58.8	[48.1–69.4]	80.6	[72.2–89.0]	28.3	[20.3–36.4]
Public services	40.4	[27.5–53.3]	82.5	[66.8–98.3]	42.3	[25.4–59.1]
Repair and transportation	29.3	[18.4–40.2]	73.0	[63.5–82.5]	39.0	[26.3–51.6]
3-credit concentrators						
Nonconcentrators	60.1	[57.8–62.3]	83.9	[82.8–85.0]	20.2	[18.9–21.6]
Occupational concentrators	48.3	[43.7–53.0]	78.4	[75.3–81.6]	27.1	[23.2–31.0]
Agriculture and natural resources	40.8	[27.4–54.2]	82.1	[72.3–92.0]	30.2	[20.4–39.9]
Business	60.3	[51.1–69.6]	79.8	[72.9–86.6]	19.9	[13.1–26.6]
Communications and design	51.5	[40.3–62.8]	86.0	[78.8–93.2]	14.8	[7.6–22.1]
Computer and information sciences	67.4	[52.8–81.9]	83.6	[71.4–95.8]	12.6	[3.1–22.1]
Construction and architecture	29.5	[10.3–48.6]	65.6	[44.6–86.5]	45.0	[27.4–62.5]
Consumer and culinary services	30.2	[18.2–42.3]	63.6	[51.1–76.2]	27.9	[16.1–39.6]
Engineering technologies	59.3	[42.8–75.8]	78.1	[60.9–95.3]	28.8	[7.6–50.1]
Health sciences	59.7	[47.3–72.1]	78.4	[67.7–89.2]	26.6	[17.2–36.0]
Manufacturing	31.6	[16.3–46.9]	78.3	[66.8–89.7]	45.2	[30.5–59.9]
Marketing	54.8	[39.5–70.0]	78.4	[65.6–91.2]	33.0	[19.3–46.7]
Public services	‡	[†]	‡	[†]	‡	[†]
Repair and transportation	26.2	[12.6–39.9]	70.3	[57.3–83.3]	46.4	[29.6–63.2]
Number of occupational credits						
0.00–1.99 credits	64.3	[61.7–66.9]	85.5	[84.1–86.9]	18.1	[16.4–19.9]
2.00–3.99 credits	57.1	[53.8–60.5]	81.6	[79.4–83.7]	22.3	[19.9–24.7]
4.00 or more credits	45.7	[41.8–49.6]	79.7	[77.0–82.4]	27.0	[24.1–30.0]

† Not applicable.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

² Graduates who had enrolled in postsecondary education by October 2004 and reported being enrolled in school full time or mostly full time.

³ Worked 35 hours or more per week.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 4. Among 2004 public high school graduates who enrolled in postsecondary education within the first 2 years after high school graduation, percentage who persisted (either attained a credential or were still enrolled), by occupational concentrator status, area of concentration, and number of occupational credits earned in high school: 2006

Occupational concentrator status, ¹ area of concentration, and number of occupational credits	Pct.	95% CI
All graduates	82.0	[80.8–83.3]
2-credit concentrators		
Nonconcentrators	82.6	[81.1–84.1]
Occupational concentrators	80.8	[78.8–82.8]
Agriculture and natural resources	76.3	[70.6–82.1]
Business	82.1	[78.5–85.7]
Communications and design	86.9	[82.5–91.3]
Computer and information sciences	84.8	[78.8–90.9]
Construction and architecture	73.2	[60.6–85.7]
Consumer and culinary services	71.2	[62.9–79.5]
Engineering technologies	87.2	[80.4–94.0]
Health sciences	82.1	[74.6–89.6]
Manufacturing	73.0	[65.0–81.1]
Marketing	85.8	[78.8–92.8]
Public services	80.1	[69.5–90.6]
Repair and transportation	71.9	[62.5–81.4]
3-credit concentrators		
Nonconcentrators	82.4	[81.1–83.8]
Occupational concentrators	79.7	[76.6–82.8]
Agriculture and natural resources	79.3	[71.0–87.7]
Business	81.6	[74.5–88.8]
Communications and design	84.3	[76.7–91.9]
Computer and information sciences	82.8	[69.1–96.5]
Construction and architecture	69.7	[51.7–87.7]
Consumer and culinary services	70.2	[57.4–83.1]
Engineering technologies	87.3	[74.4–100.0]
Health sciences	81.3	[71.2–91.5]
Manufacturing	77.6	[65.9–89.3]
Marketing	84.2	[73.1–95.4]
Public services	‡	[†]
Repair and transportation	69.0	[56.2–81.7]
Number of occupational credits		
0.00–1.99 credits	84.3	[82.6–86.0]
2.00–3.99 credits	80.1	[77.9–82.2]
4.00 or more credits	79.6	[77.1–82.1]

† Not applicable.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). Persistence status was measured as of the time of the 2006 interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 5-A. Among 2004 public high school graduates who were enrolled in postsecondary education in 2006, percentage distribution by postsecondary field of study, overall and for high school nonconcentrators and concentrators: 2006

Postsecondary field of study	2-credit occupational concentrator status ¹						3-credit occupational concentrator status ¹			
	All graduates		Nonconcentrators		Occupational concentrators		Nonconcentrators		Occupational concentrators	
	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI
Total	100.0	[†]	100.0	[†]	100.0	[†]	100.0	[†]	100.0	[†]
CTE-related fields ²	53.1	[51.3–54.8]	50.5	[48.3–52.6]	59.0	[56.1–61.9]	52.2	[50.3–54.1]	58.6	[54.1–63.0]
Agriculture, natural resources, and conservation	0.9	[0.6–1.2]	0.5	[0.3–0.8]	1.8	[0.9–2.6]	0.6	[0.3–0.8]	2.9	[1.3–4.5]
Business support, management, and finance	11.0	[10.0–11.9]	9.7	[8.6–10.8]	13.8	[11.8–15.8]	10.6	[9.6–11.6]	13.2	[10.1–16.3]
Communication, media studies, journalism, design and applied arts, and commercial and advertising arts	5.0	[4.3–5.7]	5.0	[4.1–5.9]	5.1	[3.7–6.4]	5.2	[4.4–6.0]	3.9	[2.2–5.7]
Computer, information sciences, and support technology	2.2	[1.7–2.7]	1.8	[1.3–2.3]	3.1	[2.1–4.1]	2.0	[1.5–2.4]	3.7	[1.9–5.4]
Construction and architecture	1.4	[1.0–1.7]	0.9	[0.5–1.3]	2.4	[1.4–3.3]	1.1	[0.7–1.5]	3.1	[1.5–4.6]
Education, legal studies, public administration, social services, and security and protective services	11.7	[10.7–12.7]	11.7	[10.3–13.0]	11.7	[9.9–13.5]	11.9	[10.7–13.0]	10.4	[7.7–13.1]
Engineering and related technologies	4.5	[3.8–5.1]	4.6	[3.8–5.3]	4.3	[3.0–5.5]	4.7	[4.0–5.4]	3.2	[1.7–4.6]
Health professions and clinical sciences	10.5	[9.4–11.6]	10.7	[9.4–12.1]	10.1	[8.2–12.0]	10.5	[9.3–11.7]	10.7	[7.7–13.7]
Marketing and real estate	2.0	[1.6–2.5]	2.1	[1.5–2.7]	1.8	[1.0–2.6]	2.1	[1.6–2.5]	1.9	[0.8–3.1]
Mechanical and repair technologies, transportation, and materials moving	1.4	[1.0–1.8]	1.0	[0.6–1.5]	2.2	[1.4–3.1]	1.2	[0.7–1.6]	2.9	[1.5–4.4]
Parks, recreation, leisure, and fitness studies, personal and culinary services, family, consumer, and human sciences	2.6	[2.1–3.1]	2.5	[1.9–3.1]	2.8	[1.9–3.6]	2.5	[2.0–3.1]	2.7	[1.4–4.0]
Precision production	#	[†]	#	[†]	#	[†]	#	[†]	#	[†]
All other fields	23.1	[21.7–24.5]	26.2	[24.3–28.0]	16.1	[14.0–18.2]	24.2	[22.6–25.7]	16.4	[13.4–19.5]
Undeclared or not in a degree program	23.8	[22.4–25.2]	23.4	[21.8–25.0]	24.9	[22.4–27.3]	23.7	[22.2–25.1]	25.0	[21.4–28.6]

† Not applicable.

Rounds to zero.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the following 12 occupational areas: agriculture and natural resources, business, communications and design, computer and information sciences, construction and architecture, consumer and culinary services, engineering technologies, health sciences, manufacturing, marketing, public services, and repair and transportation. Graduates can concentrate in more than one occupational area.

² CTE stands for career and technical education. CTE-related fields are based on the Classification of Instructional Programs (CIP).

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 5-B. Among 2004 public high school graduates who were enrolled in postsecondary education in 2006, percentage distribution of graduates by postsecondary field of study, overall and among graduates who earned different numbers of occupational credits in high school: 2006

Postsecondary field of study	0.00–1.99 credits		2.00–3.99 credits		4.00 or more credits	
	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI
Total	100.0	[†]	100.0	[†]	100.0	[†]
CTE-related fields ¹	48.4	[45.8–50.9]	56.1	[52.9–59.2]	60.7	[57.2–64.3]
Agriculture, natural resources, and conservation	0.5	[0.2–0.8]	0.8	[0.3–1.4]	2.0	[0.9–3.1]
Business support, management, and finance	9.1	[7.7–10.5]	11.6	[9.7–13.5]	14.9	[12.2–17.6]
Communication, media studies, journalism, design and applied arts, and commercial and advertising arts	5.4	[4.3–6.5]	5.4	[4.1–6.7]	3.4	[2.2–4.7]
Computer, information sciences, and support technology	1.3	[0.8–1.8]	3.0	[2.1–3.9]	3.3	[1.9–4.7]
Construction and architecture	0.8	[0.4–1.1]	1.5	[0.8–2.3]	2.7	[1.4–3.9]
Education, legal studies, public administration, social services, and security and protective services	11.4	[9.8–13.0]	12.0	[10.2–13.8]	11.7	[9.6–13.8]
Engineering and related technologies	4.4	[3.5–5.3]	4.5	[3.3–5.7]	4.6	[3.1–6.0]
Health professions and clinical sciences	10.3	[8.8–11.8]	10.9	[9.0–12.8]	10.6	[7.9–13.3]
Marketing and real estate	2.2	[1.4–3.0]	1.9	[1.2–2.6]	1.9	[1.0–2.8]
Mechanical and repair technologies, transportation, and materials moving	0.7	[0.3–1.1]	1.3	[0.6–2.0]	3.6	[2.2–5.0]
Parks, recreation, leisure, and fitness studies, personal and culinary services, family, consumer, and human sciences	2.4	[1.7–3.1]	3.2	[2.2–4.1]	2.1	[1.2–3.0]
Precision production	#	[†]	#	[†]	#	[†]
All other fields	29.3	[27.1–31.5]	17.9	[15.6–20.3]	15.0	[12.5–17.5]
Undeclared or not in a degree program	22.3	[20.4–24.2]	26.0	[23.2–28.8]	24.2	[21.2–27.3]

† Not applicable.

Rounds to zero.

¹ CTE stands for career and technical education. CTE-related fields are based on the Classification of Instructional Programs (CIP).

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 6. Among 2004 public high school graduates who were enrolled in postsecondary education in 2006, percentage of occupational concentrators who had a postsecondary field of study related to their concentration area in high school: 2006

Area of concentration ¹	Pct.	95% CI
2-credit occupational concentrators	18.1	[15.4–20.7]
Agriculture and natural resources	12.5	[6.3–18.7]
Business	24.1	[18.8–29.4]
Communications and design	12.6	[7.8–17.3]
Computer and information sciences	13.5	[7.5–19.6]
Construction and architecture	14.2	[3.2–25.1]
Consumer and culinary services	7.9	[1.8–14.1]
Engineering technologies	11.8	[4.1–19.5]
Health sciences	32.8	[23.1–42.4]
Manufacturing	#	[†]
Marketing	5.1	[1.3–9.0]
Public services	17.7	[0.9–34.5]
Repair and transportation	18.2	[8.6–27.9]
3-credit occupational concentrators	18.7	[15.0–22.3]
Agriculture and natural resources	15.4	[6.9–24.0]
Business	26.1	[16.8–35.3]
Communications and design	16.5	[7.8–25.2]
Computer and information sciences	18.1	[4.6–31.6]
Construction and architecture	‡	[†]
Consumer and culinary services	12.4	[1.1–23.8]
Engineering technologies	12.1	[0.0–25.2]
Health sciences	30.8	[18.4–43.2]
Manufacturing	#	[†]
Marketing	9.3	[0.9–17.7]
Public services	‡	[†]
Repair and transportation	24.3	[8.6–40.0]

† Not applicable.

Rounds to zero.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). See Exhibit 1 for fields of study for postsecondary majors related to occupational concentration areas listed in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 7. Among 2004 public high school graduates who did not enroll in postsecondary education within the first 2 years after high school graduation, percentage who ever worked or were ever unemployed during this period, and their current unemployment rate, by occupational concentrator status, area of concentration, and number of occupational credits earned in high school: 2006

Occupational concentrator status, ¹ area of concentration, and number of occupational credits	2004–06				2006 unemployment rate ²	
	Ever worked for pay		Ever unemployed		Pct.	95% CI
	Pct.	95% CI	Pct.	95% CI		
All graduates	93.6	[92.2–95.0]	38.5	[35.6–41.3]	12.5	[10.5–14.4]
2-credit concentrator						
Nonconcentrators	92.4	[90.5–94.3]	40.0	[36.0–44.0]	13.7	[11.1–16.4]
Occupational concentrators	95.5	[93.6–97.4]	36.2	[31.5–40.9]	10.6	[7.9–13.3]
Agriculture and natural resources	96.4	[92.4–100.0]	41.6	[29.2–53.9]	11.8	[4.0–19.6]
Business	93.2	[88.2–98.3]	45.2	[35.8–54.7]	15.6	[7.3–23.8]
Communications and design	97.7	[93.8–100.0]	36.7	[23.0–50.4]	16.4	[8.1–24.7]
Computer and information sciences	90.4	[78.2–100.0]	49.6	[34.3–64.9]	9.0	[0.0–21.9]
Construction and architecture	93.7	[86.6–100.0]	30.7	[15.6–45.8]	5.8	[0.0–12.3]
Consumer and culinary services	91.0	[82.9–99.2]	47.6	[35.7–59.6]	13.8	[4.4–23.3]
Engineering technologies	97.0	[92.3–100.0]	33.2	[17.5–49.0]	8.2	[0.0–17.6]
Health sciences	90.6	[78.4–100.0]	36.6	[19.4–53.8]	12.2	[0.0–27.9]
Manufacturing	99.1	[97.4–100.0]	22.4	[14.1–30.6]	9.8	[3.2–16.3]
Marketing	95.6	[89.6–100.0]	13.3	[2.0–24.6]	4.0	[0.0–11.4]
Public services	‡	[†]	‡	[†]	‡	[†]
Repair and transportation	98.5	[96.2–100.0]	32.9	[21.6–44.1]	3.3	[0.0–6.6]
3-credit concentrator						
Nonconcentrators	93.3	[91.6–94.9]	40.2	[36.8–43.6]	12.9	[10.6–15.2]
Occupational concentrators	94.8	[92.4–97.3]	32.7	[27.4–38.0]	11.1	[7.4–14.8]
Agriculture and natural resources	95.8	[90.1–100.0]	39.0	[23.3–54.7]	12.3	[0.4–24.2]
Business	89.5	[80.1–98.8]	31.2	[15.8–46.5]	12.3	[0.5–24.1]
Communications and design	‡	[†]	‡	[†]	‡	[†]
Computer and information sciences	‡	[†]	‡	[†]	‡	[†]
Construction and architecture	93.8	[85.3–100.0]	20.1	[1.5–38.8]	5.4	[0.0–13.5]
Consumer and culinary services	91.7	[83.1–100.0]	48.6	[33.9–63.2]	12.3	[1.3–23.4]
Engineering technologies	‡	[†]	‡	[†]	‡	[†]
Health sciences	‡	[†]	‡	[†]	‡	[†]
Manufacturing	98.4	[95.0–100.0]	17.7	[8.0–27.5]	11.8	[0.7–22.9]
Marketing	‡	[†]	‡	[†]	‡	[†]
Public services	‡	[†]	‡	[†]	‡	[†]
Repair and transportation	100.0	[100.0–100.0]	27.6	[14.3–40.9]	3.8	[0.0–8.4]
Number of occupational credits						
0.00–1.99 credits	91.3	[88.6–93.9]	38.9	[34.1–43.7]	14.5	[11.0–18.0]
2.00–3.99 credits	94.4	[92.2–96.6]	41.7	[36.8–46.7]	12.9	[9.4–16.4]
4.00 or more credits	95.7	[93.7–97.7]	34.5	[29.4–39.5]	9.7	[6.8–12.6]

† Not applicable.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

² The unemployment rate represents the percentage of graduates in the labor force who were unemployed at the time of the 2006 interview. It is equal to the number of graduates who were unemployed divided by the sum of the number of graduates who were unemployed and the number who were working.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 8. Among 2004 public high school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, percentage currently working full time and average hourly wage for their current job, by occupational concentrator status, area of concentration, and number of occupational credits earned in high school: 2006

Occupational concentrator status, ¹ area of concentration, and number of occupational credits	Percent working full time ²		Average hourly wage ³	
	Pct.	95% CI	Amt.	95% CI
All graduates	63.7	[61.0–66.3]	\$9.70	[\$9.40–\$10.00]
2-credit concentrator				
Nonconcentrators	60.0	[56.2–63.8]	9.61	[9.20–10.00]
Occupational concentrators	69.1	[65.3–72.9]	9.83	[9.50–10.20]
Agriculture and natural resources	75.0	[66.0–84.0]	9.74	[9.00–10.50]
Business	57.8	[48.3–67.3]	8.99	[8.10–9.90]
Communications and design	59.3	[44.8–73.8]	9.50	[8.10–10.90]
Computer and information sciences	62.6	[41.0–84.2]	9.17	[7.70–10.60]
Construction and architecture	84.9	[74.8–95.0]	10.83	[9.60–12.10]
Consumer and culinary services	54.6	[41.4–67.9]	9.19	[8.20–10.20]
Engineering technologies	77.3	[61.3–93.3]	9.64	[8.50–10.80]
Health sciences	53.0	[35.0–71.0]	‡	[†]
Manufacturing	74.5	[64.4–84.7]	11.09	[10.00–12.20]
Marketing	72.9	[54.6–91.1]	9.55	[8.00–11.10]
Public services	‡	[†]	‡	[†]
Repair and transportation	82.2	[74.5–89.9]	10.06	[9.30–10.80]
3-credit concentrator				
Nonconcentrators	62.1	[58.9–65.3]	9.59	[9.20–9.90]
Occupational concentrators	68.8	[63.8–73.8]	10.04	[9.60–10.50]
Agriculture and natural resources	77.4	[63.6–91.2]	9.66	[8.90–10.40]
Business	57.9	[40.9–74.9]	9.23	[7.70–10.80]
Communications and design	‡	[†]	‡	[†]
Computer and information sciences	‡	[†]	‡	[†]
Construction and architecture	89.4	[79.6–99.2]	10.70	[9.20–12.20]
Consumer and culinary services	50.0	[35.3–64.7]	9.46	[7.80–11.10]
Engineering technologies	‡	[†]	‡	[†]
Health sciences	‡	[†]	‡	[†]
Manufacturing	75.1	[62.2–87.9]	11.04	[9.20–12.90]
Marketing	‡	[†]	‡	[†]
Public services	‡	[†]	‡	[†]
Repair and transportation	79.4	[68.8–90.0]	9.66	[8.90–10.40]
Number of occupational credits				
0.00–1.99 credits	59.9	[55.0–64.8]	9.46	[8.90–10.00]
2.00–3.99 credits	62.1	[57.2–67.0]	9.83	[9.30–10.40]
4.00 or more credits	69.8	[65.7–73.8]	9.84	[9.40–10.30]

† Not applicable.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

² Worked 35 hours or more per week.

³ Graduates who earned less than \$2.00 or more than \$30.00 hourly in their 2006 job (about 2 percent) were excluded.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 9-A. Among 2004 public high school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, percentage distribution by current occupation, overall and for high school nonconcentrators and concentrators: 2006

Current occupation	2-credit occupational concentrator status ¹						3-credit occupational concentrator status ¹			
	All graduates		Nonconcentrators		Occupational concentrators		Nonconcentrators		Occupational concentrators	
	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI
Total	100.0	[†]	100.0	[†]	100.0	[†]	100.0	[†]	100.0	[†]
Business operations, management, and administrative support	19.2	[16.6–21.9]	20.4	[16.8–23.9]	17.6	[13.9–21.4]	20.2	[17.0–23.3]	16.2	[11.3–21.0]
Computer and mathematical sciences	0.4	[0.0–0.8]	0.7	[0.0–1.4]	#	[†]	0.5	[0.0–1.1]	#	[†]
Construction, architecture, and building and grounds maintenance	15.6	[13.0–18.2]	14.0	[10.8–17.2]	17.9	[13.9–21.8]	14.3	[11.5–17.2]	19.7	[14.1–25.3]
Education and library, community, social, legal, and protective services	3.5	[2.3–4.8]	3.9	[2.2–5.5]	3.0	[1.2–4.8]	4.0	[2.4–5.5]	2.1	[0.0–4.1]
Engineering and military specific occupations	3.9	[2.6–5.2]	4.6	[2.6–6.5]	2.9	[1.5–4.4]	4.3	[2.7–6.0]	2.4	[0.7–4.0]
Farming, fishing, and forestry	1.8	[0.9–2.7]	1.3	[0.3–2.2]	2.6	[0.9–4.2]	1.8	[0.7–2.8]	1.9	[0.1–3.8]
Health care practitioners, technicians, and support	3.0	[2.1–4.0]	3.0	[1.6–4.3]	3.1	[1.7–4.4]	2.9	[1.8–4.1]	3.3	[1.3–5.3]
Installation, maintenance, repair, transportation, and materials moving	12.8	[10.6–14.9]	10.5	[7.9–13.0]	16.0	[12.5–19.5]	10.5	[8.2–12.9]	20.0	[14.6–25.4]
Media, communication, and design	0.6	[0.1–1.1]	0.8	[0.0–1.7]	0.3	[0.0–0.7]	0.7	[0.0–1.4]	0.3	[0.0–0.9]
Personal care and food preparation services	15.5	[13.3–17.7]	18.2	[14.8–21.6]	11.7	[8.5–14.8]	16.9	[14.2–19.7]	10.8	[6.4–15.2]
Production	9.1	[7.2–11.1]	6.3	[4.2–8.4]	13.2	[9.8–16.5]	7.6	[5.6–9.7]	14.2	[9.5–18.8]
Sales and related occupations	13.8	[11.5–16.0]	15.7	[12.5–19.0]	11.0	[7.9–14.0]	15.2	[12.3–18.1]	9.0	[5.5–12.5]
All other occupations	0.8	[0.2–1.4]	0.8	[0.0–1.5]	0.8	[0.0–1.8]	1.0	[0.2–1.7]	0.2	[0.0–0.6]

† Not applicable.

Rounds to zero.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the following 12 occupational areas: agriculture and natural resources, business, communications and design, computer and information sciences, construction and architecture, consumer and culinary services, engineering technologies, health sciences, manufacturing, marketing, public services, and repair and transportation. Graduates can concentrate in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). Current occupation refers to graduate's occupation at the time of the 2006 interview. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 9-B. Among 2004 public high school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, percentage distribution by current occupation, overall and among graduates who earned different numbers of occupational credits in high school: 2006

Current occupation	0.00–1.99 credits		2.00–3.99 credits		4.00 or more credits	
	Pct.	95% CI	Pct.	95% CI	Pct.	95% CI
Total	100.0	[†]	100.0	[†]	100.0	[†]
Business operations, management, and administrative support	20.4	[15.6–25.2]	19.5	[15.3–23.7]	17.6	[13.1–22.1]
Computer and mathematical sciences	0.7	[0.0–1.7]	0.4	[0.0–1.1]	#	[†]
Construction, architecture, and building and grounds maintenance	12.3	[8.8–15.8]	15.9	[11.0–20.7]	19.1	[14.8–23.4]
Education and library, community, social, legal, and protective services	3.3	[1.3–5.4]	4.5	[2.2–6.9]	2.8	[0.9–4.6]
Engineering and military specific occupations	4.7	[2.3–7.0]	3.4	[1.2–5.5]	3.5	[1.5–5.5]
Farming, fishing, and forestry	1.2	[0.0–2.5]	1.2	[0.0–2.4]	3.1	[1.2–5.0]
Health care practitioners, technicians, and support	2.7	[1.2–4.1]	3.6	[1.6–5.7]	2.8	[1.6–4.0]
Installation, maintenance, repair, transportation, and materials moving	8.7	[5.8–11.5]	13.3	[9.3–17.3]	16.9	[12.8–20.9]
Media, communication, and design	1.3	[0.0–2.7]	0.2	[0.0–0.5]	0.2	[0.0–0.7]
Personal care and food preparation services	21.9	[17.2–26.5]	13.4	[9.7–17.1]	10.4	[6.8–13.9]
Production	5.2	[2.9–7.6]	8.7	[5.6–11.8]	14.0	[9.9–18.0]
Sales and related occupations	16.4	[12.0–20.7]	15.6	[11.0–20.1]	9.1	[6.0–12.1]
All other occupations	1.2	[0.0–2.5]	0.4	[0.0–1.1]	0.7	[0.0–1.7]

† Not applicable.

Rounds to zero.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). Current occupation refers to graduate's occupation at the time of the 2006 interview. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 10. Among 2004 public high school graduates who were not enrolled in postsecondary education but were working for pay in 2006, percentage of occupational concentrators working in occupational areas related to their concentration areas in high school: 2006

Area of concentration ¹	Pct.	95% CI
2-credit occupational concentrators	25.9	[21.4–30.5]
Agriculture and natural resources	0.6	[0.0–1.7]
Business	15.7	[6.2–25.1]
Communications and design	#	[†]
Computer and information sciences	#	[†]
Construction and architecture	37.1	[20.3–53.9]
Consumer and culinary services	30.7	[15.5–45.8]
Engineering technologies	10.2	[0.0–22.1]
Health sciences	‡	[†]
Manufacturing	19.2	[9.7–28.8]
Marketing	13.2	[1.2–25.1]
Public services	‡	[†]
Repair and transportation	30.4	[18.9–41.8]
3-credit occupational concentrators	30.6	[23.9–37.3]
Agriculture and natural resources	#	[†]
Business	25.7	[9.0–42.5]
Communications and design	‡	[†]
Computer and information sciences	‡	[†]
Construction and architecture	42.8	[20.2–65.3]
Consumer and culinary services	38.8	[19.6–58.1]
Engineering technologies	‡	[†]
Health sciences	‡	[†]
Manufacturing	16.6	[5.2–28.0]
Marketing	‡	[†]
Public services	‡	[†]
Repair and transportation	38.9	[24.3–53.5]

† Not applicable.

Rounds to zero.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). See Exhibit 1 for occupations related to occupational concentration areas listed in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

National Center for Education Statistics

Table 11. Among 2004 public high school graduates who concentrated in each occupational area in high school, percentage whose postsecondary major, first job, or current job was related to their area of concentration: 2006

Area of concentration ¹	Pct.	95% CI
2-credit occupational concentrators	20.1	[18.1–22.0]
Agriculture and natural resources	16.4	[11.2–21.6]
Business	27.6	[23.5–31.8]
Communications and design	12.8	[9.0–16.6]
Computer and information sciences	17.2	[11.9–22.6]
Construction and architecture	26.2	[17.3–35.2]
Consumer and culinary services	28.5	[22.1–34.8]
Engineering technologies	16.9	[10.6–23.2]
Health sciences	29.5	[21.6–37.4]
Manufacturing	20.2	[13.8–26.5]
Marketing	15.4	[9.7–21.2]
Public services	16.9	[3.2–30.5]
Repair and transportation	36.9	[29.5–44.3]
3-credit occupational concentrators	22.1	[19.3–24.9]
Agriculture and natural resources	10.5	[5.7–15.3]
Business	28.6	[21.7–35.5]
Communications and design	10.9	[5.0–16.7]
Computer and information sciences	19.6	[8.1–31.1]
Construction and architecture	28.5	[16.0–41.0]
Consumer and culinary services	32.9	[24.5–41.4]
Engineering technologies	10.7	[2.5–18.9]
Health sciences	28.6	[19.3–38.0]
Manufacturing	18.0	[9.6–26.5]
Marketing	18.3	[8.5–28.2]
Public services	‡	[†]
Repair and transportation	40.0	[30.4–49.7]

† Not applicable.

‡ Reporting standards not met.

¹ The 2- and 3-credit occupational concentrators are graduates who earned at least 2.0 and 3.0 credits, respectively, in one of the 12 occupational areas listed in the table. Graduates can concentrate in more than one occupational area.

NOTE: See the Technical Notes for the definition of 95% CI (confidence interval). See Exhibit 1 for postsecondary majors and occupations related to occupational concentration areas listed in this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002), "Second Follow-up, 2006" and High School Transcript Study (HSTS), 2004.

Exhibit 1. Crosswalk of high school occupational concentration areas, related postsecondary majors, and related fields of employment

High school occupational concentration area, based on the Secondary School Taxonomy (SST)	Field of study for postsecondary major, based on the Classification of Instructional Programs (CIP)	Occupation, based on the Occupational Information Network (O*NET)
Agriculture and natural resources	Agriculture, natural resources, and conservation	Farming, fishing, and forestry
Business	Business support, management, and finance	Business operations, management, and administrative support
Communications and design	Communication, media studies, journalism, design and applied arts, and commercial and advertising arts	Media, communication, and design
Computer and information sciences	Computer, information sciences, and support technology	Computer and mathematical sciences
Construction and architecture	Construction and architecture	Construction, architecture, and building and grounds maintenance
Consumer and culinary services	Parks, recreation, leisure, and fitness studies, personal and culinary services, family, consumer, and human sciences	Personal care and food preparation services
Engineering technologies	Engineering and related technologies	Engineering and military specific occupations
Health sciences	Health professions and clinical sciences	Healthcare practitioners, technicians, and support
Marketing	Marketing and real estate	Sales and related occupations
Manufacturing	Precision production	Production
Public services	Education, legal studies, public administration, social services, and security and protective services	Education and library, community social, legal, and protective services
Repair and transportation	Mechanical and repair technologies, transportation, and materials moving	Installation, maintenance, repair, transportation and materials moving

SOURCE: Bradby and Hudson (2007) for Secondary School Taxonomy (SST). U.S. Department of Education (2002) for Classification of Instructional Programs (CIP). Occupational Information Network (O*NET) <http://online.onetcenter.org/>.

Glossary

All of the variables that were used in the Issue Tables are described in this glossary. The variables were taken or derived from the Education Longitudinal Study Base-Year to Second Follow-up data (ELS:2002/06). The items are listed in alphabetical order by the variable label.

LABEL

2006 unemployment rate

The unemployment rate is calculated based on the status of 2004 public high school graduates at the time of the 2006 interview. It excludes graduates who were out of the labor force. It is calculated as:

Unemployment rate = (number of graduates who were not working but looking for work (F2C13=0 and F2C15=1 or 2)) / (number of graduates who were not working but looking for work (F2C13=0 and F2C15=1 or 2) + number of graduates who were working (F2C13=1)).

Area of concentration

See *Occupational concentrator status and area of concentration*.

Average hourly wage for the 2006 job

For 2004 public school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, this variable indicates the average hourly wage for their job at the time of the 2006 interview. Respondents' reported earnings (F2C19A) were converted into hourly wages according to the unit of working time for the earnings (e.g., per hour, per day, per week, etc.) (F2C19B). Students who had earned less than \$2.00 or more than \$30.00 per hour in their 2006 job (about 2 percent of cases for each variable) were excluded as outliers.

Enrolled immediately and full time

This variable indicates that 2004 public high school graduates had enrolled in postsecondary education by October 2004 (F2RTYPE=1 or 3) and were enrolled full time or mainly full time (F2PS1FTP=1).

Ever enrolled in postsecondary education

This variable indicates that the respondent had enrolled in postsecondary education by the time of the 2006 interview (F2RTYPE=1 to 4).

Ever unemployed

For 2004 public school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, this variable indicates whether the graduate has ever been unemployed since leaving high school (F2NUNEMP>0).

Ever worked for pay

This variable indicates whether the respondent ever held a job within the first 2 years after leaving high school (F2EVRJOB=1).

First enrolled in 4-year institution

For those who had enrolled in postsecondary education within the first 2 years after high school graduation, this variable indicates that the graduate first enrolled in a 4-year college or university (F2PS1SEC=1 to 3).

LABEL

Job at the time of the 2006 interview

For 2004 public school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, this variable indicates that the respondent held a job at the time of the 2006 interview (F2C13=1).

Never enrolled but worked for pay

This variable indicates that the graduate had not enrolled in postsecondary education (F2RTYPE=5 to 6), but had held a job within the first 2 years after high school graduation (F2EVRJOB=1).

Never enrolled nor worked for pay

This variable indicates that the graduate had neither enrolled (F2RTYPE=5 to 6) nor held a job within the first 2 years after high school graduation (F2EVRJOB=0).

Number of occupational credits

Occupational credits are credits that students earn in any area of occupational education (see *Occupational concentrator status and area of concentration*). The number of occupational credits a student earned (F1CSCRED) was summed and aggregated into three categories: 0.00–1.99 credits, 2.00–3.99 credits, and 4.00 or more credits.

Occupation at the time of the 2006 interview

For 2004 public school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, this variable indicates the respondent's occupation at the time of the 2006 interview (F2ONETC2, F2ONETC6).

Occupational concentrator status and area of concentration

Occupational concentrator status indicates whether a student has earned the minimum number of credits (i.e., 2 or 3 credits depending on the definition of occupational concentrators) in a specific area of occupational education in high school. A credit is equal to a Carnegie unit, which is awarded for a class that meets for one period per day for the entire school year or the equivalent instructional time. The variable was constructed based on the number of credits a student earned (F1CSCRED) in occupational areas (F1CCSSC)(see below). The variable was aggregated into the following two categories:

Concentrator

A concentrator is defined in two ways. The first definition uses the 2-credit threshold and defines an occupational concentrator as a student who earned at least 2 credits in at least one of the 12 broad occupational areas listed below. The second definition uses the 3-credit threshold and defines an occupational concentrator as a student who earned at least 3 credits in at least one of the 12 broad occupational areas.

LABEL

Occupational concentrator status and area of concentration—continued

Nonconcentrator	A student who has not earned the minimum number of credits within any specific area of occupational education required to be considered a concentrator
-----------------	--

Twelve broad occupational areas of concentration were identified from students' transcript data file (F1CCSSC, course codes based on the Secondary School Taxonomy):

agriculture and natural resources

(F1CCSSC=10100, 10111, 10121, 10131, 10141, 10161, 10171, 10172, 10181, 10182, 10200, 10211, 10212, 10213, 10214, 10221, 10231, 10241, 10251, 10261, 10271, 10300, 10311, 10312, 10313, 10321, 10331, 10400, 10411, 10412, 10421, 10500, 10511, 10600, 10611, 10621, 10631, 10632, 10641, 10651, 10661, 10662, 10671, 10681, 10700, 19900, 20100, 20111, 20121, 20122, 20123, 20124, 20200, 20211, 20212, 20221, 20222, 20231, 20241, 20251, 20261, 20262, 20271, 20272, 20281, 20300, 20400, 20411, 20421, 20422, 20423, 20500, 20511, 29900, 30100, 30200, 30211, 30212, 30213, 30221, 30300, 30311, 30400, 30500, 30511, 30512, 30521, 30600, 30611, 30621, 30711, 30712, 39900, 480400, 551011, 551019, 551021, 551029, 551031, 551039, 551111, 551119, 551121, 551129, 551211, 551219, 551221, 551229, 551311, 551319, 551321, 551329, 551411, 551419, 551511, 551519)

business

(F1CCSSC=70151, 70152, 70161, 70162, 70300, 70311, 70321, 70322, 70331, 70332, 70341, 70351, 70352, 70371, 70600, 70611, 70612, 70621, 70631, 70632, 70641, 70642, 70643, 70651, 70661, 70671, 70681, 70700, 70712, 70713, 70731, 70732, 70733, 70741, 70742, 79900, 80781, 80782, 552011, 552019, 552021, 552031, 552111, 552121, 552211, 552221, 552311, 552321 60100, 60111, 60121, 60131, 60141, 60400, 60411, 60500, 60511, 60600, 60700, 60711, 60900, 61100, 61200, 61300, 61400, 61411, 61500, 61600, 61800, 61811, 62000, 69900, 70400, 70500, 80300, 80311, 80321, 60151 60200, 60211, 60300, 60311, 60321, 60331, 60800, 60811, 61000, 61011, 61900, 70100, 70111, 70112, 70121, 70122, 70131, 70141, 70142, 70200, 70201, 70211, 70231, 70241, 70251)

communications and design

(F1CCSSC=40500, 40511, 80121, 90100, 90111, 90200, 90211, 90300, 90441, 90442, 90600, 90611, 90612, 90700, 90711, 90721, 99900, 100100, 100111, 100121, 100131, 100132, 100141, 100142, 100143, 100151, 100152, 100161, 100171, 100172, 100173, 100174, 100181, 100191, 100192, 200511, 200512, 200513, 200521, 200531, 480200, 480211, 480212, 480213, 480214, 480221, 480222, 480223, 480224, 480231, 480232, 480233, 480241, 480251, 480261, 480271, 500400, 500411, 500800, 500811, 557111, 557119, 557121, 557129, 480281, 480282, 480283, 90121, 90500)

LABEL

Occupational concentrator status and area of concentration—continued

computer and information sciences

(F1CCSSC=110100, 110121, 110122, 110131, 110132, 110141, 110143, 110144, 110151, 110200, 110211, 110212, 110213, 110221, 110231, 110232, 110241, 110242, 110251, 110252, 110261, 110271, 110272, 110273, 110300, 110311, 110312, 110313, 110321, 110400, 110500, 110600, 110601, 110602, 110603, 110604, 119900, 151001)

construction and architecture

(F1CCSSC=210113, 210114, 210130, 210131, 460100, 460111, 460112, 460113, 460121, 460131, 460200, 460211, 460212, 460213, 460311, 460312, 460400, 460411, 460412, 460413, 460421, 460422, 460431, 460451, 460452, 460500, 460511, 460512, 469900, 558011, 558019, 558021, 558029, 558031, 558039, 558111, 558119, 558121, 558129, 558211, 558219, 558221, 558229, 558311, 558319, 558321, 558329, 558411, 558419, 558421, 558429, 558511, 558519, 558521, 558529, 460432, 40100, 40200, 40211, 40212, 40221, 40300, 40400, 40600, 40700, 49900, 480121, 480122, 480123, 480124)

consumer and culinary services

(F1CCSSC=10521, 81111, 81121, 120100, 120111, 120112, 120200, 120300, 120400, 120411, 120412, 120413, 120414, 120415, 120421, 120422, 120423, 120431, 129900, 190300, 200121, 200122, 200123, 200124, 200125, 200126, 200151, 200152, 200153, 200154, 200161, 200162, 200193, 200194, 200200, 200211, 200221, 200231, 200241, 200261, 200262, 200321, 200361, 200371, 200500, 200541, 200571, 200572, 200573, 200574, 200600, 200611, 200621, 200631, 200641, 200642, 200643, 200644, 200651, 200661, 200671, 209900, 310100, 310211, 310300, 310400, 319900, 490131, 554111, 554119, 554121, 554129, 556111, 556119, 556121, 556129, 556211, 556219, 556221, 556229, 556411, 556419, 556421, 556429, 556511, 556519, 556521, 556529, 556611, 556619, 556621, 556629, 310111, 310200, 200188, 200400, 200411, 200412, 200413, 200421, 200431, 200441, 200451, 200471, 200481, 480411, 480412, 520106, 556311, 556319, 556321, 556329, 557311, 557319, 557321, 557329)

engineering technologies

(F1CCSSC=150100, 150111, 150200, 150211, 150221, 150300, 150311, 150321, 150331, 150332, 150333, 150341, 150400, 150411, 150412, 150421, 150431, 150500, 150511, 150600, 150601, 150611, 150612, 150621, 150631, 150700, 150711, 150800, 150811, 150821, 150900, 150911, 150921, 159900, 410100, 410200, 410300, 419900, 480100, 480111, 480112, 480113, 480114, 480131, 480132, 480141, 480151, 480152)

LABEL

Occupational concentrator status and area of concentration—continued

health sciences

(F1CCSC=70100, 170111, 170112, 170121, 170131, 170132, 170200, 170211, 170221, 170300, 170311, 170312, 170321, 170322, 170400, 170411, 170421, 170431, 170500, 170511, 170521, 170522, 170531, 170541, 170551, 170571, 170591, 170592, 170593, 170600, 170611, 170621, 170631, 170641, 170700, 170711, 170800, 179900, 180100, 180200, 180300, 180400, 180500, 180600, 180700, 180800, 180900, 181000, 181100, 181200, 181300, 181400, 181411, 181500, 181600, 181700, 181800, 181801, 181900, 182000, 182200, 182300, 182400, 189900, 200461, 553011, 553019, 553021, 553029, 553031, 553039, 553111, 553119, 553121, 553129, 553211, 553219, 553221, 553229, 170561, 310121)

manufacturing

(F1CCSC=170100, 170111, 170112, 170121, 170131, 170132, 170200, 170211, 170221, 170300, 170311, 170312, 170321, 170322, 170400, 170411, 170421, 170431, 170500, 170511, 170521, 170522, 170531, 170541, 170551, 170571, 170591, 170592, 170593, 170600, 170611, 170621, 170631, 170641, 170700, 170711, 170800, 179900, 180100, 180200, 180300, 180400, 180500, 180600, 180700, 180800, 180900, 181000, 181100, 181200, 181300, 181400, 181411, 181500, 181600, 181700, 181800, 181801, 181900, 182000, 182200, 182300, 182400, 189900, 200461, 553011, 553019, 553021, 553029, 553031, 553039, 553111, 553119, 553121, 553129, 553211, 553219, 553221, 553229, 170561, 310121)

marketing

(F1CCSC=60712, 61700, 61711, 80100, 80111, 80131, 80132, 80200, 80400, 80500, 80511, 80600, 80611, 80612, 80621, 80622, 80700, 80711, 80712, 80713, 80721, 80722, 80731, 80741, 80751, 80771, 80800, 80811, 80900, 80911, 80921, 80922, 81000, 81100, 81200, 81211, 81221, 89900, 80331)

repair and transportation

(F1CCSC=120511, 120512, 120513, 120514, 120521, 120522, 120523, 120531, 120532, 460300, 460321, 470100, 470111, 470121, 470122, 470123, 470124, 470131, 470132, 470141, 470151, 470181, 470200, 470211, 470212, 470213, 470300, 470311, 470312, 470321, 470331, 470332, 470341, 470342, 470343, 470400, 470411, 470421, 470433, 470434, 470500, 470511, 470512, 470513, 470514, 470521, 470600, 470611, 470612, 470621, 470622, 470623, 470624, 470625, 470631, 470632, 470633, 470641, 470642, 470661, 470662, 470671, 470672, 470673, 470674, 470681, 470682, 470691, 470692, 479900, 490141, 490142, 490311, 490312, 490341, 559011, 559019, 559021, 559029, 559111, 559119, 559121, 559129, 80761, 490100, 490111, 490112, 490200, 490211, 490212, 490213, 490214, 490300, 490331, 490411, 490412, 490421, 499900)

LABEL

Occupational concentrator status and area of concentration—continued

public services

(F1CCSC=130100, 130200, 130300, 130400, 130500, 130600, 130700, 130800, 130900, 131000, 131100, 131200, 131300, 131400, 139900, 200251, 200252, 131201, 131202, 250100, 250111, 250200, 250300, 250311, 250400, 250500, 259900, 440100, 440200, 440400, 440500, 440600, 440700, 440711, 449900, 440300, 70662, 182100, 430100, 430111, 430121, 430200, 430211, 430300, 430311, 439900, 450400, 430221)

Persisted in postsecondary education

For 2004 public high school graduates who enrolled in postsecondary education within the first 2 years after high school graduation, this variable indicates that they either attained a credential (F2RTYPE=3 or 4 and F2B29A=1) or were still enrolled in a postsecondary institution at the time of the 2006 interview (F2RTYPE=1 or 2).

Postsecondary major

For 2004 public high school graduates who enrolled in postsecondary education within the first 2 years after high school graduation, this variable indicates their field of study at the 2006 postsecondary institution (F2MAJOR4).

Worked full time while enrolled

For 2004 public high school graduates who enrolled in postsecondary education within the first 2 years after high school graduation, this variable indicates that they worked 35 hours or more per week while enrolled (F2C26R \geq 35 or F2C31R \geq 35).

Working full time

For 2004 public school graduates who did not enroll in postsecondary education but worked for pay within the first 2 years after high school graduation, this variable indicates that the respondent worked 35 hours or more per week (F2C18R).