

National Research Center for Career and Technical Education

Using National Databases for Research on
Career and Technical Education

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Participation in Career and Technical Education (CTE)

- Main question:
 - Who is a high school CTE student?
- Major implications:
 - Policy
 - Research

CTE and the Post High School Experience

- Does it prepare students for the world of work?
- Can they pursue a postsecondary education with the skills acquired in high schools?

Who is a High School CTE Student?

- Smith-Hughes Act
 - Academic curriculum
 - Vocational curriculum
- Most of the 20th century
- 1980s and beyond
 - School reform
 - “New vocationalism”
 - Curriculum integration

High School Curriculum/Tracks

CTE CURRICULUM

NO

YES

ACADEMIC
CURRICULUM

NO

General

CTE

YES

Academic

Dual

Research on CTE

- National databases
 - NELS:1988
 - NLSY97, etc.
- Smaller samples
 - School levels
 - Districts
 - Inter-school

The CTE Student

- Self-classification
- Transcript studies
- No agreement between them
- No agreement between studies
- NCES: Fulfillment of an occupational area if 3 or more credits are taken in that area (“occupational concentrator”)

National Databases

- Rich sources of information
- Useful for educational research

- Comprehensive samples
 - Specificity and complexity of CTE

The CTE Experience—A New Look

- New typology developed by the NRCCTE
- Looks at the whole CTE experience, of all students
- It is based on the recognition that about 92% of public school graduates of American high schools from the class of 2005 took at least one CTE course (Levesque, Laird, Hensley, Choy, Cataldi, & Hudson, 2008)
- Its starting point is that the *academic* graduation requirements have become more uniform for *all* high school students

The CTE Course Taking Experience

1. Number of CTE Carnegie units or credits
 2. Division of the course taking into whether students took less than 3 credits or took three or more units/credits
 3. In the case of 3 credits or more, whether those units/credits are in a single occupational area
- Different levels, different motivation, different goals
 - What do CTE graduates look like, then?

Example of CTE Course Taking Experience

STANDARD
COURSE CREDITS
REQUIREMENTS
(4E, 3M, 3S, 3SS)
(NCES-HSTS 2011)

HIGH LEVEL MATH
AND SCIENCE
(4E, 3M, 3S, 3SS,
1FL; Geom & Alg I or
II or higher, 2 Bio,
Che, Phys)

CTE COURSE
TAKING (FROM 0
CREDITS TO 3 CR,
NOT FULFILLING OR
FULFILLING AN
OCCUPATIONAL
AREA)

CTE and ELS:2002

- Self-reporting data (survey)
- Transcript data (restricted data)
 - Academic courses
 - CTE courses
 - Thirteen occupational areas

CTE Credit Taking of Public High School Students. ELS:2002

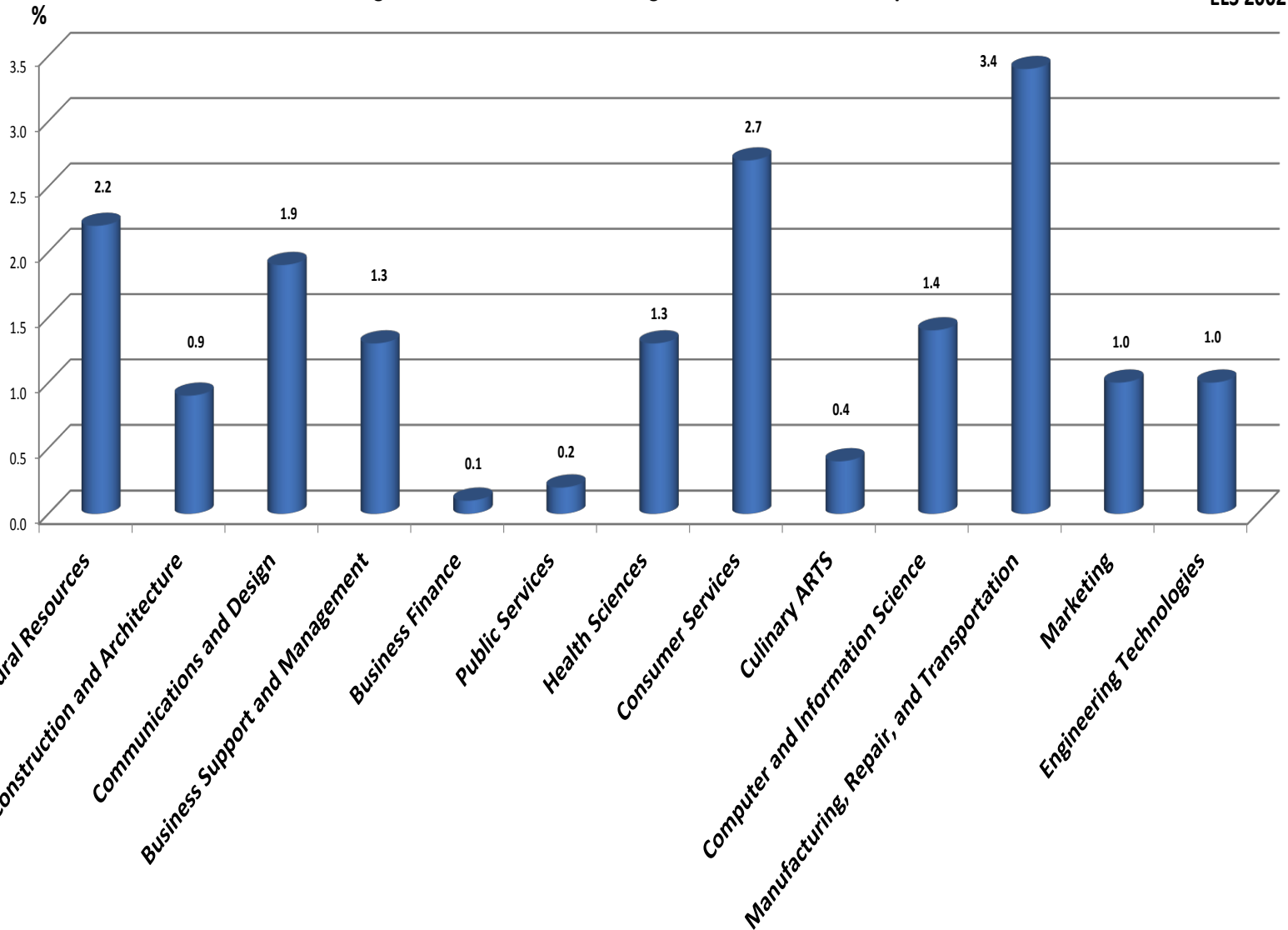
CTE CREDITS	%	N
No CTE credits	7.6	204,019
More than zero and less than 1 CTE credit	7.1	191,107
1 CTE credit	10.2	276,330
More than 1 and less than 3 CTE credits	28.2	761,844
3 CTE credits; No occupational area	7.4	198,854
More than 3 CTE credits; No occupational area	18.9	508,757
3 CTE credits; 1 occupational area	0.8	20,660
More than 3 CTE credits; At least 1 occupational area	15.6	420,951
Total weighted N=2'698,121		

Source: Kotamraju, Aliaga & Dickinson, 2011

Graduates from Public High Schools: CTE Coursetaking and Fulfillment of Occupational Areas

ELS 2002

N=2'698,609



- Applying New CTE Typology—CTE and Dropouts

Research question

- What is the impact of CTE on high school students dropping out?

Graduation Rates of Public High School Students and Career and Technical Education Course Taking. Class of 2004. ELS:2002 (Percentages)

CTE Course-taking (credits)	Graduated*	Not Graduated	Weighted n
All students	93.6%	6.4%	2,698,121
0	92.0%	8.0%	215,646
0.01 - 0.99	92.1%	7.9%	201,987
1	94.4%	5.6%	287,940
1.01 - 2.99	91.5%	8.5%	806,182
3.00/No OAF**	95.8%	4.2%	204,943
3.00+/No OAF	95.0%	5.0%	528,060
3.00/OAF	94.2%	5.8%	21,904
3.00+/OAF	95.9%	4.1%	431,459

* Graduated by Summer 2004.

**OAF: Occupational area fulfilled. Student completed at least 3 credits in a single occupational area.
Source: Education Longitudinal Study of 2002 (Second Follow Up of 2006).

Odds Ratio of CTE Credit Taking and Dropping Out of High School. Public High Schools. ELS:2002

	Odds Ratio
Intercept	1.439
Female (Male)	0.583 ***
Black (White)	1.081
Hispanic	1.177
Asian	0.880
Other	1.347
Socio-Economic Status	0.757 **
9th Grade GPA	0.239 ***
3 CTE credits; No occupational area (Less than 3 credits)	0.508 *
More than 3 CTE credits; No occupational area	0.587 **
3 or more CTE credits; At least 1 occupational area	0.361 ***

Dropout: Students who have not earned a regular High School diploma two years after cohort's completion in 2004.

Discussion

- Confirms prior research (Plank, 2001)
- Yet, not conclusive
- However: CTE credit taking inversely related to dropping out
- 3 CTE credits or above
- Further research (Survival analysis)

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