

---

Conference Papers

Staff Papers and Presentations

---

1-1-1999

## **Providers of Adult Education**

Kevin Hollenbeck

*W.E. Upjohn Institute*, [hollenbeck@upjohn.org](mailto:hollenbeck@upjohn.org)

Follow this and additional works at: <https://research.upjohn.org/confpapers>

---

### **Citation**

Hollenbeck, Kevin. 1999. "Providers of Adult Education." Presented at Association for Institutional Research (AIR) 39th Annual Forum, "Cooperation and Collaboration: Building a Seamless Education Process," Seattle, WA, June 2.

This title is brought to you by the Upjohn Institute. For more information, please contact [repository@upjohn.org](mailto:repository@upjohn.org).

# Providers of Adult Education

Kevin Hollenbeck  
Senior Economist

W. E. Upjohn Institute for Employment Research  
300 South Westnedge Avenue  
Kalamazoo, Michigan 49007-4686  
(616) 343-5541  
[hollenbeck@we.upjohninst.org](mailto:hollenbeck@we.upjohninst.org)

Presented at

**“Cooperation and Collaboration:  
Building a Seamless Education Process”**  
Association for Institutional Research (AIR) 39th Annual Forum  
Seattle, WA  
June 2, 1999

# **Adult Education Types**

---

- **English as Second Language (ESL)**
- **Basic Skills Education**
- **Part-Time Enrollment in Postsecondary Education**
- **Job- or Career-Related Education or Training**
- **Formal Apprenticeships**
- **Structured Educational Activities**

**Table 1**  
**Participants in Adult Education,**  
**by Type of Activity**  
**(entries in 000s)**

---

	<u>1991</u>	<u>1995</u>
English as Second Language	1,517	1,301
Basic Skills Education	5,244	2,240
Part-time Postsecondary Education	15,590	11,550
Job- or Career-Related Education or Training	34,240	39,700
Formal Apprenticeship	NA	2,136
Structured Educational Activities	12,670	37,640
<b>Total Unduplicated Count of Participants</b>	<b>54,780</b>	<b>75,930</b>

---

*Source:* Unpublished tabulations from 1991 and 1995 NHES. Entries are weighted by sampling weight. Data refer to 12 months prior to survey.

# **Provider Types Used in Analyses**

---

---

<b>Analytical Category 1</b>	<b>Analytical Category 2</b>
<ul style="list-style-type: none"><li>• <b>Elementary, junior high, high school, adult learning school</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Public school</b></li></ul>
<ul style="list-style-type: none"><li>• <b>2-year community college, technical institute, public vo-tech school</b></li><li>• <b>4-year college/university</b></li><li>• <b>Private vocational, trade, business, hospital, or flight school</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Postsecondary Institution</b></li></ul>
<ul style="list-style-type: none"><li>• <b>Business, industry</b></li><li>• <b>Professional association, labor union</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Business/labor</b></li></ul>
<ul style="list-style-type: none"><li>• <b>Governmental agency (including libraries)</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Government Agency</b></li></ul>
<ul style="list-style-type: none"><li>• <b>Tutor, private instructor</b></li><li>• <b>Private community organization, church</b></li><li>• <b>Other providers</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Other</b></li></ul>

---

---

# Survey Questions Used to Determine Provider Type, 1991 NHES

---

A10. (Not counting full-time school) (but) (including part-time classes for credit toward a degree)) can you tell me the name(s) of the (four most recent) adult education activit(y/ies) or course(s). (VERIFY: PAST 12 MONTHS ONLY)

OTNAME1 NAME 1 \_\_\_\_\_  
 OTNAME2 NAME 2 \_\_\_\_\_  
 OTNAME3 NAME 3 \_\_\_\_\_  
 OTNAME4 NAME 4 \_\_\_\_\_

We are interested in knowing who offered the instruction for (NAME 1), as opposed to who sponsored or taught the class. In particular . . .

A21. What school, organization, business, or person provided the instruction for (NAME 1)?

PROVIDER \_\_\_\_\_

NOTE: PROCEDURE FOR A22 WILL RECEIVE STRONG EMPHASIS AT INTERVIEWER TRAINING.

A22. Would that be: [READ LIKELY ANSWER]

SPONTYP(n)	An elementary school, junior high school or high school . . . . .	1
	A 2-year community or junior college, or technical institute . . .	2
	A 4-year college or university . . . . .	3
	A vocational, trade, business, hospital, or flight school . . . . .	4
	A tutor or private instructor . . . . .	5
	A business or industry . . . . .	6
	A labor organization or professional association . . . . .	7
	A library . . . . .	8
	A federal, state, county, or local governmental agency . . . . .	9
	A private community organization . . . . .	10
	Or someone else (SPECIFY) _____ . . . . .	91

A23. Was this provider also your employer?

EMPLPRO(n)	YES . . . . .	1
	NO . . . . .	2

# Survey Questions Used to Determine Provider Type, 1995 NHES

---

## ESL, Basic Skills, Job- or Career-Related Courses, Structured Activity Courses

B9. What school, organization, or business provided (most of) the instruction for the ESL classes?

ESPROVID/R [IF MORE THAN ONE PROVIDER, PROBE FOR ORGANIZATION THAT PROVIDED MAJORITY OF INSTRUCTION IN THE LAST 12 MONTHS. RECORD OTHER PROVIDERS IN COMMENTS.]

INSTRUCTIONAL PROVIDER \_\_\_\_\_

B10. [DISPLAY PROVIDER STRING]

Would that be . . . ?

ESPROVTY [READ LIKELY ANSWER(S)]

<u>SCHOOL</u>	An elementary school, junior high school, or high school . . . . .	1
	A 2-year community college or junior college . . . . .	2
	A public 2-year vocational school or technical institute . . . . .	3
	A 4-year college or university . . . . .	4
	A private vocational, trade, business, hospital, or flight school	5
	An adult learning center . . . . .	6
<u>BUS/ASSO</u>	A business or industry . . . . .	7
	A professional association . . . . .	8
<u>GOVMT</u>	A federal, state, county, or local government agency . . . . .	9
	A public library . . . . .	10
<u>PRIVATE</u>	A private community organization . . . . .	11
	A church or religious organization . . . . .	12
	A tutor or private instructor . . . . .	13
<u>OTHER</u>	Some other organization . . . . .	91
ESPROVOS/R	Specify _____	

B13. Was (DISPLAY PROVIDER STRING) also your employer?

ESPROVEM	YES . . . . .	1 (GO TO B15)
	NO . . . . .	2 (GO TO B14)

# Survey Questions Used to Determine Provider Type, 1995 NHES (Continued)

---

## ESL, Basic Skills, Job- or Career-Related Courses

B11. [DISPLAY PROVIDER PREVIOUSLY CODED. IF SAME, ENTER NUMBER.]  
Where did you take the ESL classes?

ESPLACID/R LOCATION \_\_\_\_\_

B12. [DISPLAY LOCATION STRING]  
Would that be . . . ?

ESPLACE [READ LIKELY ANSWER(S)]

<u>SCHOOL</u>	An elementary school, junior high school, or high school . . . . .	1
	A 2-year community or junior college . . . . .	2
	A public 2-year vocational school or technical institute . . . . .	3
	A 4-year college or university . . . . .	4
	A private vocational, trade, business, hospital, or flight school . . . . .	5
	An adult learning center . . . . .	6
<u>BUS/ASSO</u>	A business or industry . . . . .	7
	A professional association . . . . .	8
<u>GOVMT</u>	A federal, state, county, or local government agency . . . . .	9
	A public library . . . . .	10
<u>PRIVATE</u>	A private community organization . . . . .	11
	A church or religious organization . . . . .	12
	A tutor or private instructor . . . . .	13
<u>OTHER</u>	Some other organization . . . . .	91
ESPLACOS/R	Specify _____	

Note: Location not asked for structured activity courses.



# Survey Questions Used to Determine Provider Type, 1995 NHES (Continued)

## Part-time Postsecondary Programs and Courses

### D. CREDENTIAL

D1. (Not including the classes you told us about earlier,) During the past 12 months, did you take any courses that are part of a program, or a series of courses associated with a program leading toward . . .

			YES	NO
CRDEGREE	a.	A college or university degree, such as an associate's, bachelor's, or graduate degree? . . . .	1	2
CRVOCDIP	b.	A diploma or certificate from a vocational or technical school after high school or a formal vocational training program . . . . .	1	2

#### For Participants

D2. In how many of these degree, diploma, or certificate programs were you enrolled during the past 12 months?

\* (see note below) NUMBER . . . . .

D4. What was the major subject or field of study of your (CREDENTIAL)?

CRMAJOR1- SPECIFY \_\_\_\_\_  
CRMAJOR3/R

D10. Let's talk about courses you took as a part-time student in the past 12 months. What (was/were) the name(s) of the course(s) and what was the general subject matter for each course in (CREDENTIAL) in (SUBJECT)?

CR1CLS1-CR1CLS14/R	NAME _____	SUBJECT _____
CR2CLS1-CR2CLS14/R	NAME _____	SUBJECT _____
CR3CLS1-CR3CLS14/R	NAME _____	SUBJECT _____
CR1SUB1-CR1SUB14/R	NAME _____	SUBJECT _____
CR2SUB1-CR2SUB14/R		
CR3SUB1-CR3SUB14/R		

# Survey Questions Used to Determine Provider Type, 1995 NHES (Continued)

## Part-time Postsecondary Programs and Courses

D14. [DISPLAY PREVIOUS PROVIDER. ENTER PROVIDER NUMBER IF SAME PROVIDER.]  
 What school, organization, or business provided the instruction for your (CREDENTIAL) in (SUBJECT)?

CRPROVI1- INSTRUCTIONAL PROVIDER \_\_\_\_\_  
 CRPROVI3/R

D15. [DISPLAY PROVIDER STRING]  
 Would that be . . . ?

CR1PRTYP- [READ LIKELY ANSWER(S)]  
 CR3PRTYP

- SCHOOL An elementary school, junior high school, or high school . . . . . 1 (go to box before D16)
- A 2-year community or junior college . . . . . 2 (go to D15OV)
- A public 2-year vocational school or technical institute . . . . . 3 (go to D15OV)
- A 4-year college or university . . . . . 4 (go to D15OV)
- A private vocational, trade, business, hospital, or flight school . . . . . 5 (go to D15OV)
- An adult learning center . . . . . 6 (go to box before D16)
- BUS/ASSO A business or industry . . . . . 7 (go to box before D16)
- A professional association . . . . . 8 (go to box before D16)
- GOVMT A federal, state, county, or local government agency . . . . . 9 (go to box before D16)
- A public library . . . . . 10 (go to box before D16)
- PRIVATE A private community organization . . . . . 11 (go to box before D16)
- A church or religious organization . . . . . 12 (go to box before D16)
- A tutor or private instructor . . . . . 13 (go to box before D16)
- OTHER Some other organization . . . . . 91 (go to box before D16)

CR1PRVOS- Specify \_\_\_\_\_  
 CR3PRVOS/R

**Table 2**  
**ESL and Basic Skills Providers, 1991 and 1995<sup>a</sup>**

Provider Type	ESL			Basic Skills		
	1991 <sup>b</sup>		1995	1991 <sup>b</sup>		1995
	Percent of Respondents	Percentage Provider	Percentage	Percent of Respondents	Percentage Providers	Percentage
Elementary, junior high, high school, adult learning center	25.7%	24.4%	54.6%	17.3%	16.9%	50.7%
2-yr. community college, technical institute, public vo-tech	31.5%	29.9	7.2	29.5%	28.8	21.1
4-yr. college/university	9.3%	8.8	0.8	12.7%	12.4	6.1
Private vocational, trade, business, hospital, flight school	2.0%	1.9	3.4	10.6%	10.3	1.8
Business, industry	1.5%	1.5	3.4	6.6%	6.5	1.5
Professional association, union	2.2%	2.1	0.1	0.4%	0.4	0.5
Gov't agency (libraries)	22.6%	21.4	8.2	11.4%	11.2	11.2
Tutor, private instructor	3.5%	3.4	6.8	4.9%	4.8	1.8
Private community org., church	0.0%	0.0	13.8	8.1%	7.9	2.5
Other	7.0%	6.7	1.8	0.8%	0.8	2.9
Total Respondents/Providers (in 000s)	373.2	393.2	756.4	996.4	1,022	2,240

*Source:* Unpublished tabulations of the 1991 and 1995 NHES.

*Note:* Entries are weighted by sampling weights. Columns may not add to 100.0 due to rounding.

<sup>a</sup> Columns with all entries followed by % sign indicate that respondent may have had multiple responses. Therefore, column sums to total > 100.0.

<sup>b</sup> Column entries calculated for respondents for whom provider type could be identified, which was 24.6% of respondents for ESL for 1991; 58.1% of respondents for ESL for 1995; and 19.0% of respondents for basic skills for 1991. All provider types could be identified for basic skills for 1995.

**Table 3**  
**Providers of Part-Time Postsecondary Education,**  
**1991 and 1995<sup>a</sup>**

Provider Type	1991 <sup>b</sup>		1995	
	Percent of Respondents	Percent of Provider	Percent of Respondents	Percent of Providers
Elementary, junior high, high school, adult learning center	3.8%	3.3%	2.3%	2.2%
2-yr. community college, technical institute, public vo-tech	26.3%	23.2	38.0%	36.0
4-yr. college/university	29.8%	26.5	46.6%	44.1
Private vocational, trade, business, hospital, flight school	9.8%	8.7	6.2%	5.9
Business, industry	18.9%	16.7	5.3%	5.0
Professional association, union	9.1%	8.1	1.9%	1.8
Gov't agency (libraries)	9.4%	8.3	3.5%	3.3
Tutor, private instructor	1.6%	1.5	0.1%	0.1
Private community org., church	3.9%	3.5	0.9%	0.8
Other	0.3%	0.3	0.8%	0.8
Total Respondents/Providers (in 000s)	14,490	16,370	11,550	12,190

*Source:* Unpublished tabulations of the 1991 and 1995 NHES.

*Note:* Entries are weighted by sampling weights. Columns may not add to 100.0 due to rounding.

<sup>a</sup> Columns with all entries followed by % sign indicate that respondent may have had multiple responses. Therefore, column sums to total > 100.0.

<sup>b</sup> Column entries calculated for respondents for whom provider type could be identified which was 92.5% of respondents in 1991. All provider types could be identified for basic skills for 1995.

**Table 4**  
**Providers of Job- or Career-Related Education**  
**or Training, 1991 and 1995<sup>a</sup>**

Provider Type	1991 <sup>b</sup>		1995	
	Percent of Respondents	Percent of Provider	Percent of Respondents	Percent of Providers
Elementary, junior high, high school, adult learning center	4.8%	4.0%	5.5%	4.3%
2-yr. community college, technical institute, public vo-tech	8.8%	7.3	8.6%	6.8
4-yr. college/university	10.1%	8.6	12.4%	9.8
Private vocational, trade, business, hospital, flight school	9.0%	7.6	10.0%	7.9
Business, industry	44.7%	37.4	48.0%	38.0
Professional association, union	14.4%	12.1	15.5%	12.2
Gov't agency (libraries)	15.4%	13.1	17.3%	13.7
Tutor, private instructor	4.6%	3.8	2.3%	1.8
Private community org., church	6.2%	5.2	4.5%	3.5
Other	1.1%	1.0	2.5%	1.9
Total Respondents/Providers (in 000s)	34,990	41,660	39,700	50,240

*Source:* Unpublished tabulations of the 1991 and 1995 NHES.

*Note:* Entries are weighted by sampling weights. Columns may not add to 100.0 due to rounding.

<sup>a</sup> Columns with all entries followed by % sign indicate that respondent may have had multiple responses. Therefore, column sums to total > 100.0.

<sup>b</sup> Column entries calculated for respondents for whom provider type could be identified which was 98.7% of respondents in 1991. All provider types could be identified for basic skills for 1995.

**Table 5**  
**Providers of Structured Educational Activities,**  
**1991 and 1995<sup>a</sup>**

Provider Type	1991 <sup>b</sup>		1995	
	Percent of Respondents	Percent of Provider	Percent of Respondents	Percent of Providers
Elementary, junior high, high school, adult learning center	8.8%	7.9%	8.1%	6.8%
2-yr. community college, technical institute, public vo-tech	11.7%	10.4	8.0%	6.6
4-yr. college/university	8.2%	7.3	7.0%	5.9
Private vocational, trade, business, hospital, flight school	5.7%	5.1	9.3%	7.8
Business, industry	7.2%	6.5	19.5%	16.4
Professional association, union	5.5%	4.9	4.2%	3.5
Gov't agency (libraries)	9.4%	8.4	11.5%	9.6
Tutor, private instructor	9.6%	8.5	7.3%	6.1
Private community org., church	44.6%	39.8	41.6%	35.0
Other	1.5%	1.3	2.5%	2.1
Total Respondents/Providers (in 000s)	7,962	8,934	37,640	44,790

*Source:* Unpublished tabulations of the 1991 and 1995 NHES.

*Note:* Entries are weighted by sampling weights. Columns may not add to 100.0 due to rounding.

<sup>a</sup> Columns with all entries followed by % sign indicate that respondent may have had multiple responses. Therefore, column sums to total > 100.0.

<sup>b</sup> Column entries calculated for respondents for whom provider type could be identified which was 63.1% of respondents in 1991. All provider types could be identified for basic skills for 1995.

**Table 6**  
**Providers of Adult Education Activities,**  
**1991 and 1995<sup>a</sup>**

Provider Type	1991 <sup>b</sup>		1995 <sup>b</sup>	
	Percent of Respondents	Percent of Provider	Percent of Respondents	Percent of Providers
Elementary, junior high, high school, adult learning center	6.2%	5.0%	9.3%	6.6%
2-yr. community college, technical institute, public vo-tech	15.8%	12.5	15.7%	10.3
4-yr. college/university	15.8%	12.6	20.1%	11.8
Private vocational, trade, business, hospital, flight school	9.2%	7.4	11.1%	7.5
Business, industry	33.6%	26.5	34.9%	24.5
Professional association, union	12.2%	9.6	10.8%	7.2
Gov't agency (libraries)	13.9%	11.1	15.6%	10.8
Tutor, private instructor	5.4%	4.1	5.2%	3.4
Private community org., church	13.1%	10.4	23.8%	16.0
Other	1.2%	0.9	2.9%	1.9
Total Respondents/Providers (in 000s)	54,780	72,970	72,760	110,200

*Source:* Unpublished tabulations of the 1991 and 1995 NHES.

*Note:* Entries are weighted by sampling weights. Columns may not add to 100.0 due to rounding.

<sup>a</sup> Columns with all entries followed by % sign indicate that respondent may have had multiple responses. Therefore, column sums to total > 100.0.

<sup>b</sup> Column entries calculated for respondents for whom provider type could be identified which was 91.3% of respondents in 1991 and 95.8% in 1995.

# Models of Provider Choice

(1)

$$(PRO_j | AE)_i = 1, \text{ if } p_i^* > 0 \quad j=1, \dots, 5$$

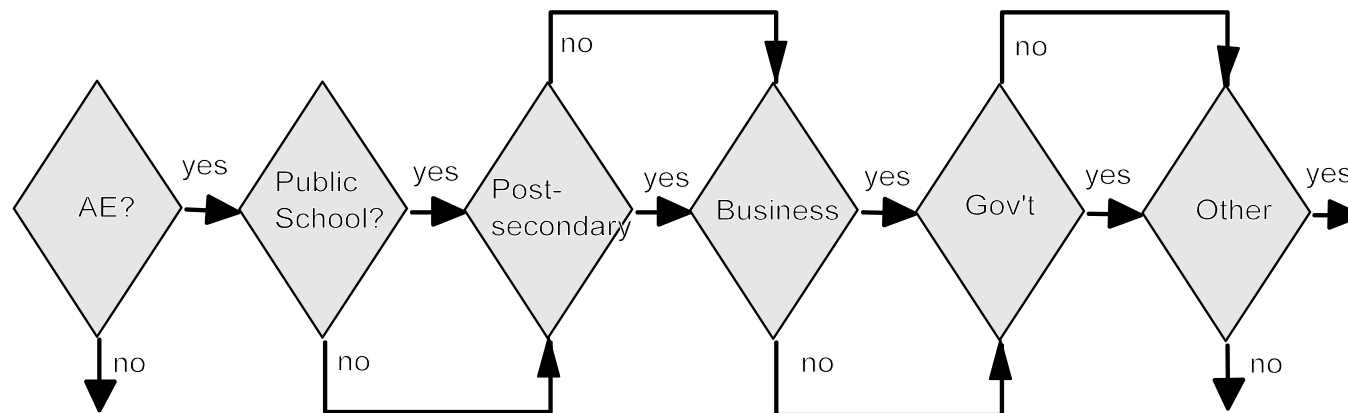
$$= 0, \text{ otherwise}$$

$$p_i^* = a_j + B_j X_i + u_{ij}$$

$(PRO_j | AE)_i$  = 1 if individual  $i$  reported participating in an adult education course provided by provider type  $j$ ;  $j=1, \dots, 5$   
 0, otherwise

$p_i^*$  = (unobserved) indicator variable or probit for individual  $i$   
 $X_i$  = vector of characteristics describing individual  $i$  thought to be related to provider choice

$a_j, B_j$  = parameters to be estimated  
 $u_{ij}$  = standard error terms





## Models of Provider Choice (Continued)

---

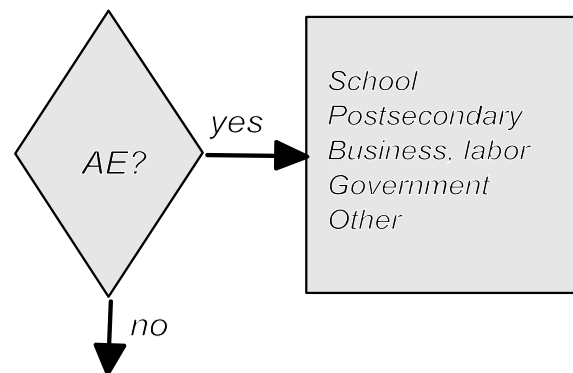
$$(2) \quad (PRO_j | AE)_i = j \quad \text{if } C_{j-1} < p_i^* \leq C_j \quad j=1, \dots, 5$$

$$p_i^* = a_j + B_j X_i + u_i$$

where

$$0 \leq C_j \leq 1; C_0 = 0; C_5 = 1$$

$C_j$  = cumulative probability that individual  $i$  will choose provider type  $k$ ;  $k \leq j$



**Table 7**  
**Coefficient Estimates from a Model of Provider Choice, 1991**

Characteristic	Provider Type				
	Elementary or secondary school	Postsecondary institution	Business/industry/labor	Government	Other
Female	0.273*** (0.059)	0.096*** (0.033)	-0.222*** (0.033)	0.003 (0.044)	0.121*** (0.042)
Minority	0.102 (0.067)	0.015 (0.041)	-0.119*** (0.042)	0.211*** (0.051)	-0.041 (0.052)
Years of education	0.012 (0.011)	0.025*** (0.006)	-0.031*** (0.006)	0.025*** (0.008)	-0.014* (0.007)
Married	-0.035 (0.064)	-0.086** (0.038)	0.049 (0.039)	0.055 (0.051)	0.037 (0.048)
Children < 16	-0.181*** (0.062)	0.172*** (0.037)	-0.001 (0.372)	-0.090* (0.049)	-0.118** (0.048)
South	-0.100* (0.056)	-0.094*** (0.032)	-0.007 (0.033)	0.121*** (0.041)	0.096** (0.040)
MSA	0.028 (0.063)	-0.118*** (0.038)	0.141*** (0.039)	0.038 (0.048)	-0.054 (0.045)
Employed	-0.282** (0.064)	0.009 (0.044)	0.605*** (0.049)	0.201*** (0.060)	-0.672*** (0.047)
Hours worked	-0.004* (0.002)	-0.003** (0.001)	0.014*** (0.001)	-0.004** (0.002)	-0.012*** (0.002)
Wages	-0.001 (0.003)	-0.004** (0.002)	0.016*** (0.002)	-0.004 (0.003)	-0.016*** (0.003)
Household income class	-0.168 (0.120)	-0.030*** (0.007)	0.033*** (0.007)	-0.028*** (0.010)	0.019** (0.009)
Log-likelihood ratio	-1443	-4794	-4780	-2536	-2911
$\lambda^2$	224.7	629.5	638.6	345.4	- <sup>a</sup>
Dependent variable mean	0.05	0.36	0.36	0.11	0.12

*Source:* Estimated with probit from 1991 National household Education Survey observations with AEPARTIC=1. Sample size is 7,814.

*Note:* Age is entered in model in quartic form.

<sup>a</sup> Not estimated.

\*\*\*significant at the .01 level; \*\* significant at the .05 level; \* significant at the .10 level.

**Table 8**  
**Coefficient Estimates from a Model of Provider Choice, 1995**

Characteristic	Provider Type				
	Elementary or secondary school	Postsecondary institution	Business/industry/labor	Government	Other
Female	0.237*** (0.043)	-0.013 (0.027)	-0.117*** (0.028)	-0.066* (0.036)	0.136*** (0.032)
Minority	0.136* (0.070)	0.068 (0.043)	-0.245*** (0.048)	0.103* (0.055)	0.159*** (0.049)
Years of education	-0.037 (0.008)	0.074*** (0.005)	-0.025*** (0.005)	-0.014** (0.007)	-0.033*** (0.006)
Married	0.104** (0.049)	-0.173*** (0.031)	0.015 (0.033)	0.011 (0.042)	0.199*** (0.038)
Children < 16	0.042** (0.019)	-0.047*** (0.013)	-0.023 (0.013)	0.054*** (0.016)	0.035** (0.015)
South	-0.159*** (0.044)	-0.017 (0.028)	-0.027 (0.028)	0.180*** (0.035)	0.003 (0.032)
MSA	0.047 (0.048)	-0.006 (0.032)	0.039 (0.033)	-0.091** (0.041)	-0.010 (0.037)
Employed	-0.040 (0.090)	0.164*** (0.059)	0.062 (0.064)	0.067 (0.080)	-0.022 (0.069)
Hours worked	0.002 (0.002)	-0.010*** (0.001)	0.012*** (0.001)	0.002 (0.002)	-0.007*** (0.001)
Wages	-0.007** (0.003)	-0.004*** (0.001)	0.005*** (0.001)	-0.001 (0.002)	-0.001 (0.001)
Household income class	-0.020*** (0.007)	-0.018 (0.005)	0.055*** (0.005)	0.004 (0.007)	-0.030*** (0.006)
Log-likelihood ratio	2362	-6501	-6031	3351	-4424
$\lambda^2$	679.2	2145.1	1242.9	187.1	— <sup>a</sup>
Dependent variable mean	0.07	0.42	0.28	0.09	0.13

*Source:* Estimated with probit from 1991 National household Education Survey observations with AEPARTIC=1. Sample size is 11,119.

*Note:* Age is entered in model in quartic form. Language other than English spoken at home also in model.

<sup>a</sup> Not estimated.

\*\*\*significant at the .01 level; \*\* significant at the .05 level; \* significant at the .10 level.

## Model of Earnings Payoff to Provider Type

$$(3) \quad \ln E_i = a + B'X_i + C'AE_i + D(PRO_j)_i + e_i$$

where  $E_i$  = annual earnings of individual  $i$

$X_i$  = vector of characteristics describing  $i$   
that are related to earnings

$AE_i$  = scalar or vector of adult education  
participation characteristics of  
individual  $i$

$PRO_j$  = 1 if individual  $i$  participated in an adult  
education course provided by provider  
type  $j$ ;  $j=1, \dots, 5$

$a, B, C, D$  = parameters to be estimated

$e_i$  = standard error term

**Table 9**  
**Estimates of Annual Earnings Impacts of Participants in Adult Education, Males (standard errors in parentheses)**

Type of Adult Education Activity	Model				
	(1)	(2)	(3)	(4)	(5)
(1) Participated in any postsecondary education	-0.011 (0.073)				
(2) Participated in higher education		-0.169*** (0.027)	-0.162*** (0.027)	-0.262*** (0.031)	-0.209*** (0.030)
(3) Participated in postsecondary technical education		0.053* (0.031)	0.051 (0.038)	-0.029 (0.035)	0.012 (0.035)
(4) Participated in adult education		0.152*** (0.032)			
(5) Participated in work-related adult education			0.185*** (0.033)		
(6) Participated in adult education, not related to work			0.058 (0.038)		0.023 (0.034)
(7) Participated in ESL				-0.180* (0.094)	
(8) Participated in work-related ESL					-0.243 (0.224)
(9) Participated in basic skills				-0.096 (0.064)	
(10) Participated in work-related basic skills					0.031 (0.102)
(11) Participated in part-time college				0.213*** (0.032)	
(12) Participated in work-related part-time college					0.180*** (0.034)
(13) Participated in formal apprenticeship				0.050 (0.047)	0.058 (0.047)
(14) Participated in job- or career-related training				0.111*** (0.025)	0.139*** (0.034)
(15) Participated in structured activities				0.006 (0.023)	
(16) Participated in work-related structured activities					0.060* (0.034)

**Table 9**

(Continued)

Type of Adult Education Activity	Model				
	(1)	(2)	(3)	(4)	(5)
<u>Provider</u>					
(17) Public school	0.002 (0.084)	-0.152*** (0.055)	-0.138** (0.055)	-0.009 (0.052)	-0.081 (0.053)
(18) Postsecondary institution	-0.066 (0.074)	-0.122*** (0.038)	-0.131*** (0.038)	-0.055* (0.032)	-0.084** (0.035)
(19) Business, labor	0.185** (0.074)	0.036 (0.037)	0.011 (0.037)	0.086*** (0.032)	0.053 (0.035)
(20) Government	0.058 (0.078)	-0.085* (0.044)	-0.098** (0.044)	-0.014 (0.039)	-0.050 (0.050)
(21) Other	0.014 (0.078)	-0.130*** (0.045)	-0.100** (0.046)	-0.019 (0.039)	-0.050 (0.043)
$\chi^2$	0.337	0.345	0.347	0.351	0.348

*Source:* Estimated from observations with annual earnings in the 1995 National Household Education Survey. Sample size is 6,415.

*Note:* Table entries are coefficient estimates from weighted least squares regression of the log of annual earnings. Besides variables in the table, the independent variables included minority status, marital status, presence of children < 18, South Census region, home ownership status, MSA residence, years of education, a quartic in age, full-time student status, and part-time student status.

\*\*\*significant at the .01 level; \*\* significant at the .05 level; \* significant at the .10 level.

**Table 10**  
**Estimates of Annual Earnings Impacts of Participants in Adult Education, Females (standard errors in parentheses)**

Type of Adult Education Activity	Model				
	(1)	(2)	(3)	(4)	(5)
(1) Participated in any postsecondary education	-0.028 (0.108)				
(2) Participated in higher education		-0.104*** (0.024)	-0.102*** (0.024)	-0.227*** (0.031)	-0.175*** (0.029)
(3) Participated in postsecondary technical education		-0.030 (0.035)	-0.035 (0.035)	-0.112*** (0.039)	-0.074* (0.038)
(4) Participated in adult education		0.262*** (0.035)			
(5) Participated in work-related adult education			0.298*** (0.035)		
(6) Participated in adult education, not related to work			0.166 (0.039)		0.069** (0.033)
(7) Participated in ESL				-0.023 (0.114)	
(8) Participated in work-related ESL					-0.285 (0.284)
(9) Participated in basic skills				0.015 (0.068)	
(10) Participated in work-related basic skills					-0.079 (0.147)
(11) Participated in part-time college				0.241*** (0.031)	
(12) Participated in work-related part-time college					0.237*** (0.033)
(13) Participated in formal apprenticeship				-0.002 (0.075)	0.007 (0.075)
(14) Participated in job- or career-related training				0.154*** (0.023)	0.190*** (0.029)
(15) Participated in structured activities				0.005 (0.020)	
(16) Participated in work-related structured activities					0.025 (0.034)

**Table 10**

(Continued)

Type of Adult Education Activity	Model				
	(1)	(2)	(3)	(4)	(5)
<u>Provider</u>					
(17) Public school	0.026 (0.112)	-0.248*** (0.050)	-0.245*** (0.050)	-0.091** (0.043)	-0.125*** (0.046)
(18) Postsecondary institution	0.047 (0.108)	-0.149*** (0.040)	-0.156*** (0.040)	-0.009 (0.031)	-0.045 (0.035)
(19) Business, labor	0.265** (0.109)	-0.006 (0.041)	-0.028 (0.041)	0.118*** (0.032)	0.082*** (0.036)
(20) Government	0.159 (0.111)	-0.106** (0.047)	-0.126*** (0.047)	0.025 (0.040)	-0.011 (0.043)
(21) Other	-0.069 (0.110)	-0.337*** (0.045)	-0.302*** (0.045)	-0.134*** (0.035)	-0.182*** (0.040)
$\bar{r}^2$	0.294	0.304	0.306	0.308	0.307

*Source:* Estimated from observations with annual earnings in the 1995 National Household Education Survey. Sample size is 6,415.

*Note:* Table entries are coefficient estimates from weighted least squares regression of the log of annual earnings. Besides variables in the table, the independent variables included minority status, marital status, presence of children < 18, South Census region, home ownership status, MSA residence, years of education, a quartic in age, full-time student status, and part-time student status.

\*\*\*significant at the .01 level; \*\* significant at the .05 level; \* significant at the .10 level.