

The Causal Effects of  
Youth Cigarette Addiction and Education

APPENDIX

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# A Data Description

## A.1 NLSY97

Every year, the U.S. Bureau of Labor Statistics asks National Longitudinal Survey 97 (NLSY97) survey respondents the following two questions on smoking behavior: “During the past 30 days, on how many days did you smoke a cigarette,” and “When you smoked a cigarette during the past 30 days, how many cigarettes did you usually smoke per day.” We create an indicator variable of smoking that equals 1 if an individual smokes every day.

We use four scores from the Armed Services Vocational Aptitude Battery (ASVAB) as measures of cognitive ability.<sup>1</sup> Specifically, we consider the scores from Mathematical Knowledge (MK), Arithmetic Reasoning (AR), Word Knowledge (WK), and Paragraph Comprehension (PC). These four scores have been used by NLSY staff to create the Armed Forces Qualification Test (AFQT) score. The AFQT score has been used commonly in the literature as a measure of intelligence or cognitive ability. We normalize these four sets of scores to be mean zero and standard deviation of one.

In 1997, NLSY97 survey asked four questions similar to those found in Achenbach’s Youth Self Report (YSR; Achenbach, 1991). These four questions are: "You lie or cheat", "You are unhappy, sad, or depressed", "You don’t get along with other kids", and "You have trouble concentrating or paying attention". For each question, respondents were asked how well the statement described them over the past six months (not true (=0), somewhat or sometimes true (=1), or often true (=2)). Figure A.1 plots the distribution of the four YSR items.

Education is measured by the highest grade completed. We manually recode this variable by cross-checking the highest grade completed with data on enrollment and the highest degree received, to correct for missing data, data coding errors, and GEDs. In particular, a high school dropout with a GED is recoded to his highest grade of school actually completed.

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<sup>1</sup>The CAT-ASVAB is an automated computerized test developed by the United States Military which measures overall aptitude. The test is composed of 12 subsections and has been well-established for its ability to accurately capture a test-takers aptitude.

Table A.I: Abilities Measures and Initial Conditions (NLSY97)

	mean	sd	min	max
<i>Measures of Cognitive <math>Z_c</math>:</i>				
ASVAB arithmetic reasoning	0.00	1.00	-2.78	2.52
ASVAB mathematics knowledge	0.00	1.00	-2.56	3.15
ASVAB paragraph comprehension	0.00	1.00	-2.07	2.50
ASVAB word knowledge	0.00	1.00	-2.71	2.86
<i>Measure of Noncognitive <math>Z_n</math>:</i>				
Early age adverse behavior: violent behavior	0.20	0.40	0	1
Early age adverse behavior: theft behavior	0.07	0.26	0	1
Achenbach YSR: lie or cheat	0.45	0.56	0	2
Achenbach YSR: unhappy, sad, depressed	0.48	0.61	0	2
Achenbach YSR: don't get along with others	0.43	0.61	0	2
Achenbach YSR: have trouble concentrating	0.71	0.65	0	2
Parents are 4-year college graduates	0.20	0.40	0	1
Years of schooling at age 15	8.46	0.66	5	11

The NLSY97 records individual earnings. The NLSY97 collects detailed information on assets and debts of respondents at ages 20, 25, and 30. We define net worth as all assets (including housing assets and all financial assets) minus all debt (including mortgages and all other debts).

NLSY97 asks each respondent about their parents' schooling information only in round 1 (1997). We define parents' education as the average years of schooling of father and mother if information on both the father's and mother's schooling are available. We top-code parents years of schooling to be 16 years (4-year college graduate) and bottom code parents schooling to be eight years (high school dropouts). For single-parent families where only one parent's schooling level is available, we define the parents' schooling only using the single parent's schooling level. We define parents as 4-year college graduates if the parents' years of schooling is no less than 16 years.

Parental transfer data are constructed as total monetary transfers received from parents in each year, including allowance, non-allowance income, college financial aid gift, and inheritance. College financial aid gift includes any financial aid respondents received from relatives and friends that are not expected to be paid back for each college and term attended in each school year.

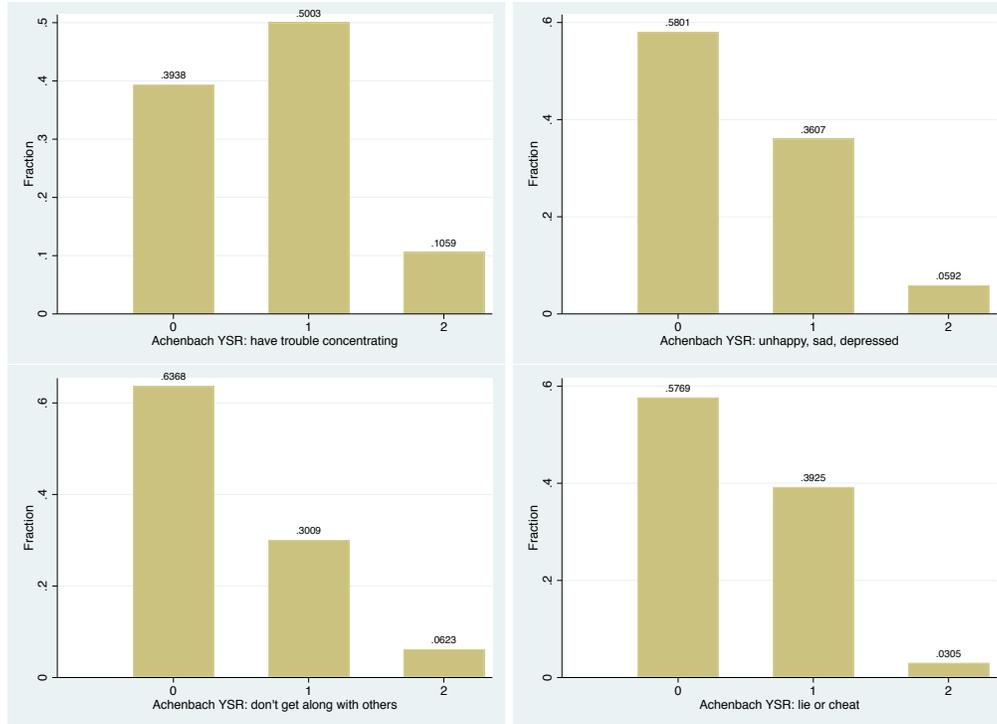


Figure A.1: Achenbach Youth Self Report Scales

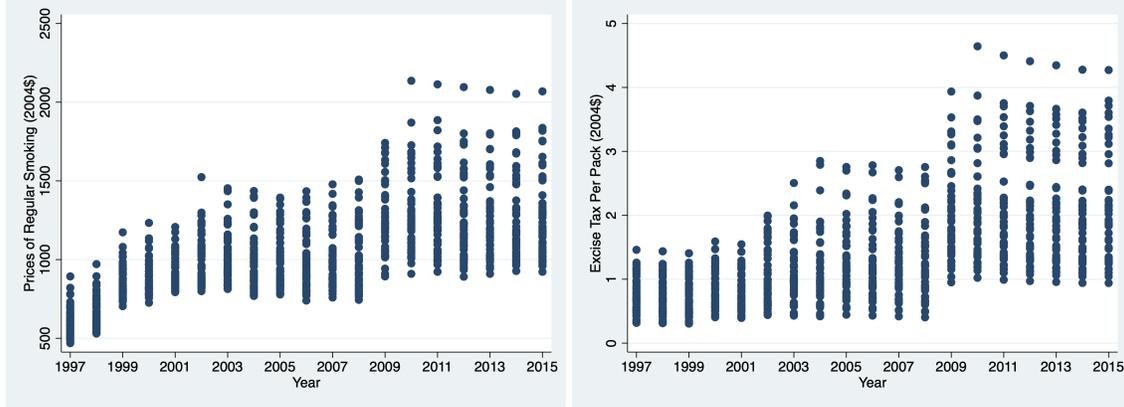
## A.2 Prices of regular cigarette smoking

Table A.II reports the average, median, and standard deviation of cost of smoking based on CDC data. Figure A.2 (a) is the scatter plot of the annual monetary cost of smoking across states and year. Figure A.2 (b) plots total excise tax per pack of cigarettes. All prices are in 2004 dollars.

The average cost per pack of cigarette is \$4.08 and the average excise tax (including both federal and state excise tax) is \$1.42 from 1997 to 2015 across states. The excise tax contributes to about 35% of the cigarette cost. In our sample, the median smoker smokes 14 cigarettes per day. Thus, the price of regular smoking for a youth  $p_q$  is the product of average cost per pack in the state-year (including federal and state taxes) times median consumption of 14 cigarettes times number of days in a year. The average cost of regular smoking per year is \$1,042 and the median is \$1,000. The changes in logarithm of cost of smoking (i.e.  $\ln p_{t+1} - \ln p_t$ ) has a mean of 0.042 and a standard deviation of 0.088. Hence we set  $\Delta_p = 0.042$  and  $\sigma_p = 0.088$  in Equation 5.

Table A.II: Cost of Smoking

	Mean	Median	SD
Cost per pack of cigarette	\$4.081	\$3.913	\$1.113
Excise tax per pack of cigarette	\$1.421	\$1.245	\$0.814
Annual cost of smoking	\$1,042	\$1,000	\$284
Changes in log annual cost of smoking	0.042	0.010	0.088



(a) Cost of regular smoking ( $p_t$ )

(b) Excise tax per pack of cigarette

Figure A.2: Variations in Prices and Excise Taxes

### A.3 Actuarial survival rates

The age-education-specific survival probability  $\phi_{e,t}$  is calculated based on CDC Vital Statistics and American Community Survey. Specifically, we calculate actual mortality rate from age  $t$  to age  $t + 1$  to be a ratio between the total number of deaths due to cancer at age  $t + 1$  and total size of population at age  $t$ , for  $t \leq 80$ . We only focus on males and calculate the actuarial mortality rate separately for five educational categories: less than high school, high school, some college, 4-year college, and graduate degree. The total number of deaths is obtained from 2016 CDC Vital Statistics. Total population size is obtained from 2015 American Community Survey (ACS). The survival probability is one minus death probability for a given age and education category.

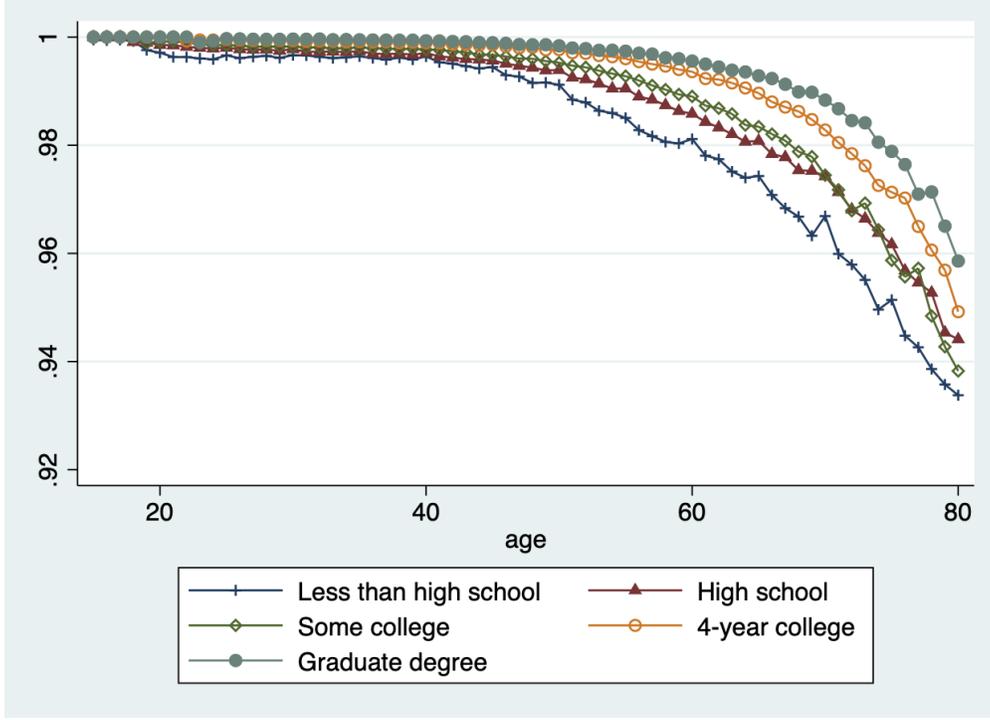


Figure A.3: Survival Probability

## B Model Parameterization and External Calibration

### B.1 Model Parameterization

The smallest amount of net worth  $s_{t+1}$  that an agent can have at the end of period  $t$  is captured by a (potentially negative) lower bound  $\underline{S}_{t+1} \leq 0$ , determined both by the maximum credit from the government student loan programs and the private loan market borrowing limit:

$$s_{t+1} \geq \underline{S}_{t+1}^{min}(d_{e,t}, e_t, \boldsymbol{\theta}) := -\max\{d_{e,t} \cdot \bar{L}^g(d_{e,t} + e_t), \bar{L}_t^s(e_{t+1}, \boldsymbol{\theta})\} \quad (1)$$

where  $\bar{L}^g(d_{e,t} + e_t) \geq 0$  is the maximum government student loan credit for schooling level ( $e_t + d_{e,t}$ ) if individuals choose to enroll in school ( $d_{e,t} = 1$ ), and  $\bar{L}_t^s(e_{t+1}, \boldsymbol{\theta}) \geq 0$  is the natural borrowing limit in the private debt market.

$\bar{L}_t^s(e_{t+1}, \boldsymbol{\theta})$  is determined by the maximum loan that the individual can pay back with probability one at the end of decision period, i.e.,  $\bar{L}_{65}^s = 0$ . At age  $t$ , the smallest possible earnings

an individual receives is  $Y(e_t, k_t, t, \theta, \underline{\varepsilon}_y)$ , where  $e_t$  is education level,  $k_t$  is work experience, and  $\underline{\varepsilon}_y = 0$  is the lowest possible earnings shock (see Equation (6)). The lowest possible value of parental financial transfers (regardless of the agent's choices) is zero. This implies that the agent cannot credibly promise with certainty to pay back loans using (possibly zero) parental transfers. The natural borrowing limit in the private loan market in period  $t - 1$  is:

$$\bar{L}_{t-1}^s(e_t, \theta) = \frac{\bar{L}_t^s(e_t, \theta) + Y(e_t, k_t, t, \theta, \underline{\varepsilon}_y)}{1 + r_b}. \quad (2)$$

More education generates a larger borrowing limit and provides insurance for consumption against adverse wage shocks.

## B.2 External Calibration

Table B.III: Parameters and Functions Set Outside the Structural Model

Description	Value	Source
Net College Tuition & Fees ( $m$ )	\$2,738 if $e = 13, 14$ \$8,318 if $e = 15, 16$ \$9,039 if $e \geq 17$	Average tuition and fees data from IPEDS data 1999-2006. Grants and scholarship data from NLSY97.
College Room and Board ( $n$ )	\$4,539 if $e = 13, 14$ \$6,532 if $e \geq 15$	Johnson (2013) room and board for 2-year college and 4-year college
GSL Borrowing Limit ( $\bar{L}^g$ )	\$2,625 if $e = 13$ \$3,500 if $e = 14$ \$5,500 if $e = 15, 16$ \$10,500 if $e > 16$ \$23,000 if $e_t \geq 13$ & $e_t \leq 16$ \$138,500 if $e_t \geq 16$	Annual Stafford loan limits 1993 to 2007  Aggregate limit for undergraduate Aggregate limit for graduate + undergraduate
Borrowing Interest Rate ( $r_b$ )	5%	Federal Student Aid
Lending Interest Rate ( $r_l$ )	2%	Average real interest rate on 1-year U.S. government bonds
Parents Consumption Subsidy	\$7800	Kaplan (2012) & Johnson (2013)
Parental Monetary Transfers	Appendix Table B.IV	NLSY97 sample
Consumption floor $\underline{c}$	\$1020	2004 Food stamp benefit per capita
Social Security Income after age 64	\$9,125 if $e < 12$ \$11,201 if $e = 12$ \$11,325 if $12 < e < 16$ \$11,233 if $e = 16$ \$11,591 if $e > 16$	CPS 2017

IPEDS = Integrated Postsecondary Education Data System. Net college tuition and fees are total college tuition and fees minus grants and scholarships.

Table B.IV: Estimation of Parental Transfer Function

This table reports OLS estimates of the parental transfer function. The dependent variable is the logarithm of parental monetary transfers. Data are from NLSY97.

	(1)	
	Ln (Transfers+1)	
In First/Second Year College	2.246**	(0.098)
In Third/Fourth Year College	3.125**	(0.123)
In Graduate School	1.489**	(0.163)
In School/College Last Period	1.161**	(0.064)
Work Part Time while in School	-0.546**	(0.068)
Cognitive Ability	0.046	(0.031)
Noncognitive Ability	0.142**	(0.046)
Parents are 4-year College Graduates	0.862**	(0.053)
Parents are 4-year College Graduates × Cognitive Ability	0.251**	(0.074)
Parents are 4-year College Graduates × Noncognitive Ability	-0.295**	(0.105)
Age	-0.213**	(0.019)
1(Age=15)	-1.927**	(0.165)
1(Age=16)	-1.759**	(0.143)
1(Age= 17)	-0.923**	(0.131)
1(Age =18)	0.020	(0.113)
1(Age= 19)	-0.056	(0.100)
1(Age > 23)	0.133	(0.102)
1(Age > 23 & In College)	-1.810**	(0.202)
Constant	5.981**	(0.419)
Observations	19438	
$R^2$	0.216	

Standard errors in parentheses

Parental transfers are in 2004 dollars.

\*  $p < 0.10$ , \*\*  $p < 0.05$

## C Additional Estimation Results

Table C.V: Parameter Estimates of Joint Initial Distribution of  $(\theta_c, \theta_n)$

This table reports the parameter estimates of Eq. (9). The constant terms  $(\mu_{c,0}, \mu_{k,0})$  are normalized such that the mean of initial ability is zero, i.e.,  $\mathbb{E}_{e_{pr}}(\mu_{k,0} + \mu_{k,1}e_{pr}) = 0$  for  $k \in \{c, n\}$ .

	$\theta_c$ : Cognitive	$\theta_n$ : Non-cognitive
	Mean	
Parents are 4-year College Graduates ( $e_{pr}$ )	0.011 ( 0.048 )	0.070 ( 0.031 )
Constant	-0.002 (N.A.)	-0.014 (N.A.)
	Covariance Matrix	
$\theta_c$ : Cognitive	0.601 ( 0.021 )	0.114 ( 0.009 )
$\theta_n$ : Non-cognitive	0.114 ( 0.009 )	0.139 ( 0.008 )

Table C.VI: Parameter Estimates of Measurement Equations

This table reports the parameter estimates of Eq. (7).

	Cognitive Ability				
	ASVAB: Arithmetic Reasoning	ASVAB: Mathematics Knowledge	ASVAB: Paragraph Comprehension	ASVAB: Word Knowledge	
Cognitive Ability	1.000 (N.A.)	0.878 (0.017)	0.935 (0.021)	0.831 (0.020)	
Parents' years of schooling	0.123 (0.005)	0.125 (0.005)	0.135 (0.006)	0.147 (0.006)	
Age in 1997	-0.226 (0.016)	-0.161 (0.016)	-0.232 (0.017)	-0.125 (0.018)	
Years of Schooling in 1997	0.432 (0.013)	0.535 (0.012)	0.413 (0.014)	0.391 (0.015)	
Constant	-0.004 (0.013)	-0.004 (0.013)	-0.005 (0.014)	-0.006 (0.015)	
Measurement Error SD	0.439 (0.011)	0.464 (0.010)	0.504 (0.011)	0.566 (0.011)	

	Non-cognitive Ability					
	Violent Behavior	Theft Behavior	Lie or Cheat	Depressed	Get Along	Trouble Concentrating
Non-cognitive Ability	-1.000 (N.A.)	-1.981 (0.153)	-1.753 (0.128)	-1.407 (0.112)	-1.101 (0.121)	-1.903 (0.125)
Parents' years of schooling	-0.030 (0.016)	-0.017 (0.023)	0.001 (0.013)	-0.005 (0.012)	-0.022 (0.012)	-0.028 (0.012)
Age in 1997	0.265 (0.047)	0.514 (0.070)	0.171 (0.042)	0.152 (0.040)	0.130 (0.039)	0.070 (0.040)
Years of Schooling in 1997	-0.141 (0.038)	-0.149 (0.054)	-0.007 (0.032)	-0.144 (0.032)	-0.118 (0.031)	-0.106 (0.032)
Constant	-0.905 (0.039)	-1.881 (0.058)	-0.230 (0.034)	-0.222 (0.032)	-0.380 (0.032)	0.342 (0.033)
Measurement Error SD	1.000 (N.A.)	1.000 (N.A.)	1.000 (N.A.)	1.000 (N.A.)	1.000 (N.A.)	1.000 (N.A.)
Cutoff threshold			2.027 (0.071)	1.557 (0.055)	1.294 (0.049)	1.885 (0.048)

Table C.VII: Parameter Estimates on Utility Function and Earnings Function

Description	Parameter	Estimate	S.E.
Panel A: Risk Aversion			
Relative risk aversion coefficient	$\gamma$	2.1290	0.0141
Panel B: Schooling Preferences			
Cognitive Ability	$\xi_{\theta,c}$	0.2334	0.0126
Non-cognitive Ability	$\xi_{\theta,n}$	0.0997	0.0129
Parents are 4-year College Graduates	$\xi_{e,pr}$	0.3721	0.0208
Psychic Cost of Returning to School	$\xi_{e,r}$	0.5884	0.0299
Working Part-Time while in School	$\xi_p$	-0.0141	0.0020
Attending High School	$\xi_{e,0}$	-0.3264	0.0241
Attending 1st to 4th year of College	$\xi_{e,1}$	-0.4524	0.0120
Attending 3rd & 4th Year of College	$\xi_{e,2}$	-0.4524	0.0238
Attending Graduate School	$\xi_{e,3}$	-0.5626	0.0238
Attending High School $\times (e_t - 12)$	$\xi_{e,4}$	-0.1662	0.0145
Attending School after Age 23	$\xi_{e,5}$	-0.1000	0.0150
Attending School before Age 18 $\times (t - 15)$	$\xi_{e,6}$	0.0301	0.0090
S.D. of Preference Shock to Schooling	$\sigma_e$	0.1064	0.0151
Panel C: Log Earnings Function			
Intercept	$\omega_0$	9.6459	0.0231
Experience	$\omega_{k,1}$	0.0628	0.0023
Experience Squared/100	$\omega_{k,2}$	-0.0766	0.0067
Experience $\times \mathbf{1}(\text{Yrs of Schooling} \geq 16)$	$\omega_{k,3}$	0.0276	0.0040
Cognitive Ability	$\omega_c$	0.1254	0.0076
Non-cognitive Ability	$\omega_n$	0.0793	0.0081
(Yrs of Schooling $- 12) \times \mathbf{1}(\text{Yrs of schooling} \geq 12)$	$\omega_{e,1}$	0.0217	0.0092
(Yrs of Schooling $- 12) \times \mathbf{1}(\text{Yrs of schooling} < 12)$	$\omega_{e,2}$	0.0131	0.0076
$\mathbf{1}(\text{Yrs of Schooling} \geq 12, < 16)$	$\omega_{e,3}$	0.2383	0.0143
$\mathbf{1}(\text{Yrs of Schooling} \geq 16)$	$\omega_{e,4}$	0.3899	0.0261
$\mathbf{1}(\text{Yrs of Schooling} \geq 16) \times (\text{Yrs of Schooling} - 16)$	$\omega_{e,5}$	0.0717	0.0170
$(18 - \text{Age}) \times \mathbf{1}(\text{Age} < 18)$	$\omega_{a,1}$	-0.8791	0.0197
$(20 - \text{Age}) \times \mathbf{1}(18 \leq \text{Age} \leq 20)$	$\omega_{a,2}$	-0.3374	0.0225
Part-Time Job	$\omega_p$	-0.2122	0.0198
Shock Shape Parameter if Less than 4-year College	$a_{y,1}$	2.3373	0.0080
Shock Shape Parameter if 4-year College and more	$a_{y,2}$	1.2287	0.0181
Shock Scale Parameter if Less than 4-year College	$b_{y,1}$	46.9063	0.0048
Shock Scale Parameter if 4-year College and more	$b_{y,2}$	83.3320	0.0042

Table C.VIII: Model fit: Smoking initiation rate and fraction of ever smokers by age

Age	Smoking initiation rate				Fraction of ever smokers			
	Data	Model	SE of Data	$\frac{ Data-Model }{SE \text{ of Data}}$	Data	Model	SE of Data	$\frac{ Data-Model }{SE \text{ of Data}}$
15	0.0587	0.0602	0.0059	0.2560	0.0587	0.0602	0.0058	0.2626
16	0.0697	0.0933	0.0067	3.5564	0.1225	0.1479	0.0081	3.1295
17	0.0770	0.0752	0.0073	0.2441	0.1891	0.2120	0.0094	2.4359
18	0.0688	0.0585	0.0074	1.3935	0.2475	0.2581	0.0107	0.9894
19	0.0671	0.0454	0.0077	2.8165	0.2966	0.2918	0.0115	0.4178
20	0.0447	0.0411	0.0067	0.5313	0.3277	0.3209	0.0119	0.5732
21	0.0384	0.0391	0.0066	0.1181	0.3545	0.3475	0.0122	0.5768
22	0.0318	0.0360	0.0063	0.6693	0.3782	0.3710	0.0122	0.5895
23	0.0206	0.0327	0.0053	2.2849	0.3894	0.3915	0.0122	0.1753
24	0.0161	0.0283	0.0048	2.5277	0.4012	0.4088	0.0124	0.6059
25	0.0137	0.0284	0.0045	3.2531	0.4100	0.4256	0.0123	1.2720
26	0.0158	0.0258	0.0050	2.0197	0.4193	0.4404	0.0124	1.7055
27	0.0131	0.0239	0.0046	2.3394	0.4274	0.4538	0.0124	2.1315
28	0.0079	0.0242	0.0045	3.6111	0.4299	0.4670	0.0124	3.0016
29	0.0059	0.0230	0.0059	2.9149	0.4324	0.4793	0.0124	3.7880

Table C.IX: Model fit by age: Years smoked, years of schooling, and logarithm of earnings

Age	Average years smoked			Average years of schooling			Average log(earnings)				
	Data	Model	$\frac{ Data-Model }{SE\ of\ Data}$	Data	Model	$\frac{ Data-Model }{SE\ of\ Data}$	Data	Model	$\frac{ Data-Model }{SE\ of\ Data}$		
16	0.0587	0.0602	0.0059	0.2560	9.4245	0.0173	2.0419	7.5233	7.4493	0.1727	0.4286
17	0.1605	0.1829	0.0117	1.9118	10.3323	0.0200	2.1423	8.1968	8.3501	0.1061	1.4450
18	0.3144	0.3325	0.0187	0.9704	11.1768	0.0250	0.0248	8.6994	8.7722	0.0641	1.1362
19	0.4976	0.4935	0.0263	0.1552	11.7841	0.0297	3.6553	9.0899	9.2310	0.0514	2.7441
20	0.7099	0.6625	0.0345	1.3732	12.2142	0.0362	3.8471	9.4493	9.6427	0.0399	4.8441
21	0.9289	0.8464	0.0436	1.8912	12.5645	0.0435	2.0053	9.6230	9.7245	0.0344	2.9484
22	1.1681	1.0477	0.0538	2.2370	12.8561	0.0509	1.3363	9.7716	9.7820	0.0300	0.3457
23	1.3706	1.2621	0.0646	1.6780	13.0909	0.0560	1.2080	9.8743	9.8518	0.0292	0.7736
24	1.5966	1.4884	0.0759	1.4264	13.2401	0.0596	0.8378	10.0182	9.9278	0.0247	3.6565
25	1.7998	1.7231	0.0871	0.8809	13.3644	0.0626	0.2756	10.0395	9.9922	0.0277	1.7047
26	1.9660	1.9655	0.0980	0.0050	13.4593	0.0653	1.0674	10.0845	10.0465	0.0274	1.3861
27	2.1670	2.2145	0.1091	0.4353	13.5458	0.0673	1.8298	10.1666	10.1167	0.0312	1.6001
28	2.3569	2.4679	0.1198	0.9271	13.5838	0.0681	2.0114	10.2053	10.1698	0.0351	1.0090
29	2.5783	2.7262	0.1612	0.9176	13.5999	0.0684	2.0709	10.1660	10.2336	0.0421	1.6078
30	2.8973	2.9875	0.2595	0.3477	13.5999	0.0684	2.0709	10.3397	10.2920	0.0340	1.4039

Table C.X: Model fit: Net worth and education distribution (age 30)

	Data	Model	SE of Data	$\frac{ Data-Model }{SE \text{ of Data}}$
Median net worth	\$20,781	\$19,804	\$1,990	0.4909
Gini of net worth	0.6860	0.6736	0.0167	0.7401
Part-time while in school	0.7587	0.7760	0.0137	1.2605
Log earnings when in school	9.0279	9.2068	0.0385	4.6484
High school degree	0.2672	0.2979	0.0114	2.6872
Some college degree	0.2612	0.2704	0.0114	0.8078
4-year college and more	0.3006	0.3160	0.0119	1.2983

Table C.XI: Model fit: Coefficients of regressions

	Smoking Participation 2SLS Regression			
	Data	Model	SE of Data	$\frac{ Data-Model }{SE\ of\ Data}$
Smoking at $t - 1$	0.5415	0.7348	0.2018	0.9577
Smoking at $t + 1$	0.3654	0.2254	0.2545	0.5502
Years of Schooling	-0.0057	-0.0027	0.0074	0.3921
Cognitive Ability	0.0010	-0.0063	0.0054	1.3545
Non-cognitive Ability	-0.0038	-0.0188	0.0095	1.5767
Log Cigarette Cost	-0.0094	-0.0050	0.0205	0.2150

	Log Net Worth OLS Regression			
	Data	Model	SE of Data	$\frac{ Data-Model }{SE\ of\ Data}$
Cognitive Ability	0.4012	0.4066	0.0625	0.0854
Non-cognitive Ability	0.2508	0.2728	0.0915	0.2402

	Log Earnings OLS Regression			
	Data	Model	SE of Data	$\frac{ Data-Model }{SE\ of\ Data}$
Years Worked	0.0514	0.0628	0.0167	0.6833
Years Worked Squared	-0.0008	-0.0008	0.0009	0.0044
Years Worked if Education $\geq 16$	0.0368	0.0287	0.0089	0.9045
Years of Schooling if Less Than High School	0.0026	0.0217	0.0220	0.8670
Years of Schooling if High School and More	0.0507	0.0231	0.0131	2.1108
Years of Graduate Schooling	0.0347	0.0751	0.0207	1.9564
High School Graduate and Some College	0.3679	0.2116	0.0541	2.8860
4-Year College and More	0.3060	0.1306	0.0926	1.8937
Cognitive Ability	0.1186	0.1237	0.0141	0.3585
Non-cognitive Ability	0.0722	0.0783	0.0195	0.3133
SD of $\epsilon$	0.8177	0.8255	0.0067	1.1660

	Schooling OLS Regression			
	Data	Model	SE of Data	$\frac{ Data-Model }{SE\ of\ Data}$
Previously in School	0.4583	0.5288	0.0104	6.7992
Parents are 4-year College Graduates	0.1703	0.2160	0.0124	3.6914
Cognitive Ability	0.0822	0.1215	0.0067	5.8446
Non-cognitive Ability	0.0335	0.0767	0.0096	4.4929

## References

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