March 15, 2008

NCHS Research Data Center
3311 Toledo Road, Suite 4113
Hyattsville, MD 20782

To Whom It May Concern:

This letter is to request permission to access confidential files through the NCHS Research Data Center. I am a graduate student from the economics department at the University of California, Irvine. The last chapter of my dissertation studies the relationship between education and the health behaviors of young adults. In order to determine whether there is a causal link between the two, I am drawing on data from the National Health Interview Survey. To exploit state variation in education attainment through compulsory schooling laws and school start dates, I am interested in merging the NHIS survey respondent's date of birth, state of birth and state of residence with information available in the public-use dataset in order to determine the effect of education on health behaviors and outcomes.
Attached you will find the research proposal including abstract, my curriculum vitae, a detailed summary of proposed research, a complete list of data requested, user supplied data, software requirements and shell tables for the report.

Please feel free to contact me at (555) 555-5555 or ableresearcher@gs.edu if you have any questions.

Sincerely,

Able Researcher
Ph.D. Candidate
Department of Economics
George Standabove University

B. PROJECT TITLE

"The Relationship Between Education and Adolescent Behavior"

C. ABSTRACT

Descriptive statistics presented by the government health agencies such as the Centers for Disease Control (CDC) and Morbidity and Mortality Weekly Reports (MMWR) suggest that good health is positively correlated with education. However, it is not clear if the statistics are describing a causal relationship between the two. This paper seeks to add to the existing evidence in the health literature by studying how education is associated with both positive and negative health behaviors. In addition to conducting a two-stage least squares analysis, which uses changes to state statutes regarding school entry and compulsory schooling laws, the proposed study will also examine a reduced-form method to determine how changes to compulsory schooling laws that increase the length of time adolescents stay in school affected their health behaviors. And in the light of the vast disparities in health status across groups, separate regressions will be conducted on individuals when they are grouped according to their race/ ethnicity, to determine if the link between health and education varies amongst different groups.

This study will use data collected from individual interviews regarding their health behaviors from the National Health Interview Surveys (NHIS). Surveys first began asking questions regarding health behaviors in 1997 and have continued to do so every year since. Thus, the dataset will consist of pooled cross-sectional surveys spanning from 1997 to 2006. Although demographic data are drawn from the household, family, person and sample adult files, most of the health variables come from the sample adult file. Between 1997 and 2006, 313,982 sample adults over the age of 18 were surveyed. However, analysis will focus on individuals between the ages of 18 and 30, of which there are a total of 67,805 individuals. Within the Sample Adult files, respondents selected to participate in this portion of the interview are asked about a variety of health behaviors, both positive (regular exercise, routine visits to the doctor, dentist, and optometrist) and negative (smoking, heavy drinking and being overweight) health habits.

Contribution and Final Report:
Thus far, the education-health literature finds that education does indeed have a causal effect on health outcomes, and that the correlation between the two is not merely due to other unobserved factors. However, in previous papers that have used compulsory schooling laws to study the relationship between health behaviors and education, the analysis does not incorporated the different state entry age laws that define the individual's relative age. The individual's relative age not only dictates which individuals are relatives older than their average classmate, but also indicate which individuals are the first to reach the compulsory schooling age requirements. By incorporating state entry age laws, compulsory schooling laws, and the modifications that states have made to both overtime, the proposed analysis provides a more accurate description of the laws that effectively required individuals to stay in school longer.

If the results from this study confirm this relationship between education and health behaviors, the conclusions from this analysis can have large policy implications. With programs such as Healthy People 2010, the US Department of Health and Human Services has made it clear that improving public health is one of their top priorities. The important intermediary step towards good health outcomes is increasing the level of health literacy amongst the general population so that they are able to incorporate information into their health decisions and behaviors. The results from this paper may suggest that methods which ensure that individuals are completing more years of schooling may not only have a higher probability of success in the labor market, but may also have a positive impact on their health literacy and behaviors. Although the goal of compulsory schooling laws is not to

increase the health outcomes of individuals, the results from this paper provides an estimate of the additional benefits that may arise from increasing the legal school leaving age. When policy makers weigh the costs and benefits of requiring students stay in school longer before making reforms to compulsory schooling laws, the consideration of such health benefits should not be ignored if education is indeed found to have a causal impact on individual's health behaviors.

D. FULL PERSONAL IDENTIFICATION AND INSTITUTIONAL AFFILIATION

Able Researcher is a Ph.D. candidate in the Economics department at George Standabove University of California. The faculty members serving on her doctoral committee include David First, Marianne Second, and George Washington. Her contact information is as follows:

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E. CURRICULUM VITAE

Current CV is attached.

F. DATES OF PROPOSED TENURE AT RDC

If the proposed project is approved and access to restricted-use data is granted, Able Researcher would like to conduct the empirical work at GS University's CCRDC, rather than at Hyattsville, MD. Kevin Third is the RDC administrator and has been corresponding with Able Researcher by email. If the proposal is approved, he is aware of her plans to conduct the research at UCLA.

G. SOURCE OF FUNDING

A grant from the Center for Health Care Management and Policy at the Martha Washington School of Business is providing the funding for the costs associated with using this data.

H. DETAILED SUMMARY OF PROPOSED RESEARCH INCLUDING DESCRIPTION OF WHY PUBLICLY AVAILABLE DATA ARE INSUFFICIENT

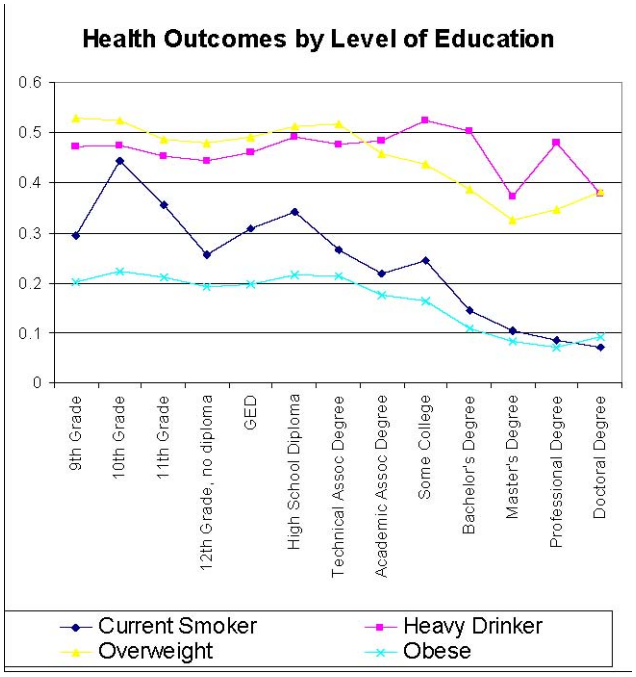

Figure 1 Detailed Summary of Proposed Research: Using NHIS data for individuals between the ages of 18 and 30, figure 1 illustrates the relationship between individual's health behaviors and their highest grade completed. Unfortunately, study of the positive association between the two is complicated by the fact that there may be unobservable third factors which may influence both the level of education completed by the individual and the state of their health, such as one's family background. For example, individuals from more nurturing family backgrounds may have received more attention while growing up, which may influence the individual's decision to pursue higher levels of education and to have better health (for example, through better nutrition, better medical attention, or exposure to healthier habits by parents while growing up). To account for such unobservable characteristics, this paper aims to study the positive association between education and health behaviors by using state policies as instruments. There are two separate literatures in education, both of which document how changes to two state laws over time have exogenously influenced individuals' level of education.

The first literature relates to school entry age laws (SEALs), state statutes which specified when children were mature enough to start school. Varying across states and over time, each statute specified a date by which children had to have reached their fifth birthday in order to be eligible for school. Children who were 5 years of age by that date were allowed to enroll in kindergarten, while those who had not turned 5 by the date were not allowed to enroll and had to wait until the next year to start kindergarten. Since the mid-20th century, states have been changing this date, moving it from January and closer towards September, as policy makers felt that children were not mature enough to start school at such an early age[1]. As a result, these state policy changes have been affecting when children are allowed to start school, which effectively determines where the child is in the relative age distribution of her class.

The second literature relates to compulsory schooling laws (CSLs), which prohibited individuals from leaving school until a specified age (typically when the individual became 16 years old). These

were first proposed in the early 20th century to ensure that children received a certain level of education before leaving school to start working. In spite of their intended purpose, CSLs did not ensure that individuals received equal lengths of completed schooling[2]. Depending on the age of the child relative to her classmates, individuals who were older when they first started school were the first to reach the legal school-leaving age. There are numerous papers which document that these relatively older students received less completed years of education relative to their younger classmates, who were required to stay in school longer until they too reached the legal school-leaving age. Over time, some states have chosen to increase the legal school-leaving age in hopes that better-educated students are leaving school with a larger set of skills[3].

While there are a handful of empirical papers that have studied how education is related to health outcomes such as teenage pregnancy[4], morbidity[5], fertility[6], functional limitations of the aged[7] and disability and blood pressure[8], most of the compulsory schooling literature has focused only on the quarter of the calendar in which the individual was born in, assuming a January 1st cut-off date (similar to Angrist and Krueger, 1991). In such cases, individuals born in the first quarter of the calendar year received less education than those born in other quarters. In actuality, it is the SEALs which determine the relative age of individuals and in turn, determines which individuals are the first to reach the legal school-leaving age. Thus this paper will improve on previous estimation methods by incorporating changes to both SEALs and CSLs as instruments of levels of completed schooling.

[More details and footnotes follow]

To analyze the relationship between the instruments for completed years of education and health behaviors, this paper will use both two-stage least squares and reduced-form logit models. With the two-stage least squares model, the following equations will be used to produce IV estimates. In the first stage, the individual's completed years of schooling are predicted based on her relative quarter of birth, state's legal school-leaving age and individual characteristics. In the second stage of estimation, the predicted level of education is included as a regressor in equation (2), providing an estimate of education's effect on health behaviours.

[Equations for the regression models follow]

Reasons Why Publicly Available Data are Insufficient: However, variables in the public-use version of the data that describe the respondent are insufficient to construct these instruments. In order to determine the school entry age and compulsory schooling laws that applied for each individual while growing up, it is necessary to know the state in which the respondent received his/her education and also the respondent's complete birthday. Publicly available NHIS data is insufficient as it only provides the region in which the respondent was living in at the time of the interview. Simply using this information is problematic for two reasons. The first is that school entry age laws and compulsory schooling laws are state-specific, without any respect to geographical region. The second reason is due to the fact that the individual's current residence may not be the state in which he/she received her education. Due to college attendance and career decisions, the probability of making a cross-state move after the age of eighteen is much higher than cross-state moves made by individuals as children and adolescents.

In order to accurately generate the instruments, the use of non-publicly available variables from the NHIS is necessary. Specifically, individuals will be matched with school policies that were in place based on the **individual's state of birth**. To determine his/her relative quarter of birth, the school entry age laws that were in effect in the individual's state of birth at individual's at age five will be used. Similarly, the compulsory schooling laws that were in place in the state of birth when he/she was 14 years old will be used to determine the school leaving age faced by the respondent. In addition, for statistical purposes, I would also like to request the respondent's **current state of residence** at the time of the survey in order to control for state specific trends that may influence the individual's current health behaviours.

To construct the schooling instruments in *Z*, the **individual's actual date of birth** is also needed. Publicly available data only provides the respondent's birth month and the birth year. However, state laws regarding school entry specified a cut-off date (for example, September 15th) by which children must be five years old, not just a cut-off month. Without the respondent's full birthday, it is not possible to pinpoint the respondent's relative quarter of birth. For example, in a state with a September 15th cut-off date, an individual with a birthday on September 14th would be allowed to enroll in school as a relative fourth-quarter child. On the other hand, an individual with a birthday on September 16th would not have been permitted to enroll until the following year as a first-quarter of birth child. Without the individual's complete birthday, it is impossible to distinguish between these two individuals, despite the fact that they experienced different enrollment outcomes and are assigned to different relative quarters of birth.

References

Acemoglu, D. & J. Angrist, 2001. "How Large Are the Social Returns to Education? Evidence from Compulsory Schooling Laws" NBER Working Paper W7444.

Adams, S.,2002. "Education al Attainment and Health : Evidence from a Sample of older Adults", *Education Economics* 10(1): 97-109.

Angrist, J & A. Krueger, 1991. "Does Compulsory School Attendance Affect Schooling and Earnings?" *Quarterly Journal of Economics* 106(4): 979-1014.

Bedard, K. & E. Dhuey, 2006. "The Persistence of Early Childhood Maturity: International Evidence of Long-Run Age Effects" forthcoming in the *Quarterly Journal of Economics.*

Berger, M. & J. P. Leigh, 1989. "Schooling, Self-Selection and Health" *Journal of Human Resources* 24(3): 433-455.

Black, S., P. Devereux, K. Salvanes, 2004. "Fast Times at Ridgemont High? The Effect of Compulsory Schooling Laws on Teenage Births", IZA DP No. 1416.

[References continue]

Table 1: Requested Restricted-Use Variables and Descriptions for NHIS Survey Data Including and Between the Years 1997 and 2006

Variable Name	Description
State	State of residence when interviewed
Birth State	State in which respondent was born
Birth Date	Respondent's date of birth

Table 2: 1997 NHIS Public-Use Variable Names, Descriptions and Column Positions

Panel A: Variables from the Household File

Columns	Variable Name	Description
3-6	SRVY_YR	Survey year
7-12	HHX	Household serial number
16-17	INT_M_P	Date of interview - month

Panel B: Variables from the Family File

Columns	Variable Name	Description
3-6	SRVY_YR	Survey year
7-12	HHX	Household serial number
13-14	FMX	Family serial number
22-23	FM_SIZE	Size of family
26	MSASIZEP	Geographic distribution - msa size
161-162	FINCGRP	Total combined family income (grouped)
163-164	FRAT_CAT	Ratio of fam inc to poverty threshold
169-170	FM_KIDS	# fam members aged 17 and younger
174-175	FM_EDUC	Educ of adult with highest educ in fam

Panel C: Variables from the Person File

Columns	Variable Name	Description
3-6	SRVY_YR	Survey year
7-12	HHX	Household serial number
13-14	FMX	Family serial number
15-16	PX	Person number
18	SEX	Sex
19-20	AGE_P	Age
23-24	DOB_M	Month of birth
25-28	DOB_Y_P	Year of birth
29	ORIGIN	Hispanic ethnicity
35	RACE	OMB groups
36	R_MARITL	Marital status
47	ASTATFLG	Sample Adult Flag
50-51	FM_SIZE	Number of persons in family
52	REGION	Region
592	PHICOV	Does -- have health care coverage?
593	HIKINDA	Private hlth ins from employer or work
594	HIKINDB	Private hlth ins purchased directly
595	HIKINDC	Medicare

Table 2: 1997 NHIS Public-Use Variable Names, Descriptions and Column Positions, continued

Panel C: Variables from the Person File, continued

Columns	Variable Name	Description
596	HIKINDD	Medi-Gap
597	HIKINDE	Medicaid
598	HIKINDF	Military hlth care/VA
599	HIKINDG	CHAMPUS/TRICARE/CHAMP-VA
600	HIKINDH	Indian Health Service
601	HIKINDI	State-sponsored health plan
602	HIKINDJ	Other government program
682	USBORN_P	Was -- born in the US
685-686	EDUC	Highest level of school completed
690	DOINGLW	What was -- doing last week?
693	WRKFTALL	Does -- usually work full time
694	WHYNOWRK	Main reason for not working last week
698-699	ERNYR_P	R's total earnings in 1996
701	PSAL	Did -- rec inc from wage/sal (last CY)
702	PSEINC	Did -- rec inc from self-employ
703	PSSRR	Did -- rec Soc Sec, RR ret (last CY)
704	PPENS	Did -- rec inc from other pensions
705	PSSI	Did -- rec inc from SSI
706	PSSDI	Did -- rec inc from SSDI
707	PAFDC	Did -- rec inc from Wel/AFDC/Gen Assist
708	PINTRST	Did -- rec inc from sav/bank accounts
709	PDIVD	Did -- rec inc from stocks/funds/etc
710	PCHLDSP	Did -- rec inc from child support
711	PINCOT	Did -- rec inc from other source

Panel D: Variables from the Sample Adult File

Columns	Variable Name	Description
3-6	SRVY_YR	Survey year
7-12	HHX	Houshold serial number
13-14	FMX	Family serial number
15-16	PX	Person number
28-29	EDUC	Highest level of school completed
43-48	WTFA_SA	Weight - final annual
49-51	STRATUM	Stratum for variance estimation
52	PSU	PSU for variance estimation
522	SMKEV	Ever smoked 100 cigarettes

Table 2: 1997 NHIS Public-Use Variable Names, Descriptions and Column Positions, continued

Panel D: Variables from the Sample Adult File, continued

Columns	Variable Name	Description
523-524	SMKREG	Age first smoked fairly regularly
525	SMKNOW	Smoke freq: everyday/somedays/not at all
533-534	CIGSDA1	Number of cigs per day (daily smokers)
535-536	CIGDAMO	Number days smoked in past 30 days
537-538	CIGSDA2	Number cigs per day (some day smokers)
539-540	CIGSDAY	Number cigs a day (all smokers)
542	SMKSTAT1	Smoking status: recode 1
543	SMKSTAT2	Smoking status: recode 2
544	SMKSTAT3	Smoking status: recode 3
572-573	VIGFREQW	Freq vig activity (times per wk)
578-580	VIGMIN	Duration vig activity (in minutes)
585-586	MODFREQW	Freq moderate activity (times per wk)
591-593	MODMIN	Duration mod activity (in minutes)
598-599	VIGFRQW2	Freq vigorous activity (times per wk)
604-606	VIGMIN2	Duration vigorous activity (in minutes)
611-612	MODFRQW2	Freq moderate activity (times per wk)
617-619	MODMIN2	Duration mod activity (in minutes)
626	ALC1YR	Ever had 12+ drinks in any one year
627	ALCLIFE	Had 12+ drinks in entire life
628-630	ALC12MNO	Freq drank alcohol past year
631	ALC12MTP	Freq drank alcohol past year: time unit
632-633	ALC12MMO	Freq drank alcohol: days per month
634-635	ALC12MWK	Freq drank alcohol: days per week
636-638	ALC12MYR	Freq drank alcohol: days in past year
639-640	ALCAMT	Average # drinks on days drank
641-643	ALC5UPNO	Days had 5+ drinks, past year: # of days
644	ALC5UPTP	Days had 5+ drinks past year: Time unit
645-647	ALC5UPYR	Number of days had 5+ drinks past year
648	ALCSTAT1	Alcohol drinking status: recode
649-650	AHEIGHT	Total height in inches
651-653	AWEIGHTP	Weight w/o shoes (pounds)
655-658	BMI	Body mass index (BMI)
659	AUSUALPL	Place USUALLY go when sick
660	APLKIND	Place to go when sick (most often)
661	AHCPLROU	USUALLY go there for routine/prev care
662	AHCPLKND	Where do you go for routine prev care?

Table 2: 1997 NHIS Public-Use Variable Names, Descriptions and Column Positions, continued

Panel D: Variables from the Sample Adult File, continued		
Columns	Variable Name	Description
663-664	SOURCELA	Source of medical care recode
675	ADENLONG	When did you last see/talk to dentist?
677	AHCSYR2	Talk to eye doctor?
682	AHCSYR7	Spoke/seen OB/GYN past 12 m?
691	AHCNOYR	Total number of office visits
696	SHTFLUYR	Had flu shot in past 12 m
698	YRSINUS	Years that - - has been in the US
707	WRKCAT	Class of worker
708-709	LOCALLNO	Number of employees at work
710-711	LOCPRTNO	Number of employees at work
712-713	YRSWRK_P	Years on the job
714	WRKLONGD	Duration at this job

[A similar set of tables shows the variables to be analyzed for each year, 1998-2006]

J. DETAILS CONCERNING USER-SUPPLIED DATA

In order to conduct the proposed analysis, the provision of several other non-NHIS variables is necessary. The first set of variables is used to match individuals to state statutes that mandated when individuals were allowed to enroll in school. The second set of variables is used to determine the legal school leaving age individuals faced when growing up. Each variable covers a different time span, as laws are matched to individuals at different ages. For each state and the District of Columbia, each variable will appear 26 times (once per year for 26 years). For example, for the category seal, there will be 26 variables, seal70 – seal95, which indicate the school entry age laws that were in places in each state from 1970 to 1995. In addition, state policies that may have affected the health behaviors of individuals are recorded to control for any effect these policies may have had. Such behaviors include drunk driving laws and beer excise taxes (which may affect alcohol consumption), cigarette taxes and smoking bans (which may affect cigarette consumptions), as well as soda taxes, fast food prices and the density of fast foods within the state (which may affect the individual's weight)

Thus, the user-supplied STATA data set will have 52 rows (one per state and DC, plus one for the state variable) and 261 columns (26 for each of 10 state-level controls, plus one for the state variable). The variables are as follows:

- state – the FIPS code for the state, which ranges from 1 to 56
- seal – the date by which children must be 5 years of age in order to be allowed to enroll in kindergarten for the upcoming school year (from 1970 to 1995)
- csl – the age at which students are legally able to drop out of school (from 1980 to 2005)
- ztlaws – indicates whether or not the state had zero tolerance laws against underage drunk driving for each year (from 1980 to 2005)
- beertax – states' excise beer tax rates (measured in dollars per gallon) for each year (from 1981 to 2006)
- cigtax – states' tax rate on cigarettes (measured in dollars per pack) for each year (from 1980 to 2005)
- smkban – indicates whether or not the state enforced smoking bans in public areas such as outside public buildings, schools, bars, restaurants for each year (from 1980 to 2005)
- sodatax – states' tax on goods such as soft drinks and snack foods (candy, gum, ice cream) for each year (from 1980 to 2005)
- ffprice – average price of fast food for each state in each year (from 1980 to 2005)
- ffdensity – the density of fast food establishments for each state and each year (from 1980 to 2005)
- minwage – the max(state minimum wage, Federal minimum wage) laws for each state and each year (from 1980 to 2005)

Source of data: The data are collected from publicly available sources such as state codes, tax books and other publicly available references. For example, below is a listing of the state statues from which data on current schooling laws are collected. None of the data is proprietary and there are no restrictions on its use. Data are in a .txt file with a STATA program. The applicant will send this dataset to the RDC upon acceptance of the application.

State	Compulsory Schooling Statue	School Entry Age Law
Alabama	16-28-3	16-28-4
Alaska	14.30.010	14.03.080
Arizona	15-803	15-821
Arkansas	6-18-201	6-18-207
California	Educ Sec 48200-48208	Educ Sec 48000-48002
Colorado	22-33-104	ST 22-33-104
Connecticut	10-184;185	Sec 10-15c
Delaware	Tit. 14 Sec 2702	Tit. 14 Sec 153
Dist Columbia	31-401	Sec 38-202
Florida	232.01	1003.21
Georgia	20-2-690.1	160-5-1-.28
Hawaii	302A-1132	HB 311
Idaho	33-202	33-201
Illinois	105 ILCS 5/26-1	SB 0541
Indiana	IC 20-33-2-6	IC 20-33-2-7
Iowa	299.1; 299A.1	282.3
Kansas	72-1111	72-1107
Kentucky	159.010	158.030
Louisiana	17:221	17:222
Maine	Tit. 20-A Sec 5001A	Tit. 20-A Sec 5201
Maryland	Educ. 7-301	Sec 7-101.1
Massachusetts	76 Sec 1	ST 76 Sec 1
Michigan	MCL 380.1561	380.1147
Minnesota	120A.22	124D.02
Mississippi	37-13-91	37-13-91
Missouri	167.031	160.053
Montana	20-5-102	20-5-101
Nebraska	79-201; 43-2007	79-214
Nevada	392.040	392.040
New Hamphsire	193.1; 193-A	193.1
New Jersey	18A:38-25	18A:38-5
New Mexico	22-12-1	22-13-3
New York	Educ Sec 3205	Educ Sec 3205
North Carolina	115C-378	115C-364

North Dakota	15.1-20-01	15.1-22-02
Ohio	3321.01	3321.01
Oklahoma	Tit 70 Sec 10-105; Sec 1744	70-18-108
Oregon	339.005	339.115
Pennsylvania	11.3	11.14
Rhode Island	16-19-1	16-2-27
South Carolina	59-65-10	59-63-20
South Dakota	13-27-1	13-27-1
Tennessee	49-6-3001	49-6-201
Texas	Educ Sec 25.085	25.001
Utah	53A-11-101	53A-3-402
State	Compulsory Schooling Statue	School Entry Age Law
Vermont	Tit. 16 Sec 1121; Tit. 16 Sec 166b	16-1073
Virginia	22.1-254	22.1-254
Washington	28A.225.010	392-335-010
West Virginia	18-8-1	18-5-18
Wisconsin	118.15	118.14
Wyoming	21-4-102	21-4-302

K. SOFTWARE REQUIREMENTS

This analysis will be done in STATA, with preference for a more recent version of STATA.

L. TABLE SHELLS, EQUATIONS, AND TEST STATISTICS

The desired output will consist of a means table, a table reporting the first stage results and F-statistics for the proposed instruments for educational attainment, and a number of tables reporting regression outputs. Shells for the means table, first stage results and three examples of the regression output tables are attached. Only the means and coefficients for NHIS variables that are publicly available will be reported. The means and coefficients for variables that are not publicly available (the individual's date of birth, state of birth and state at the time of interview) are only used to construct the instruments and will not be reported. The tables will be as follows:

Table 1: Summary statistics describing the individual's characteristics, health outcomes and health behaviors.

Table 2: First stage results reporting the relationship between education (the dependent variable) and the instruments (relative quarter of birth interacted with legal school leaving age) through coefficients and F-statistics

Tables 3 & 4: An example of a table presenting the main results describing education's causal effect on one of the health outcomes of interest using the two-stage least method [equations (1)

and (2)]. In this case, the dependent variable is whether or not the respondent currently smokes cigarettes. The individual's relative quarter of birth is interacted with the legal school leaving age to serve as an instrument for her highest grade completed. Thus, the variable of interest is the individual's level of education. The results in Table 3 are from a specification that does not include state-year interactions, but controls for policies (such as cigarette taxes and smoking bans) that may influence the individual's behavior. The results in Table 4 do not include these policies, but controls for such variation by including a full set of state-year interactions.

Table 5: An example of a table presenting the main results describing how the instruments' causal effect on one of the many health outcomes of interest, using a reduced-form logit model [equation (3)]. Similar to Table 3, the health outcome is whether or not the respondent currently smokes cigarettes. The variables of interest in this table are the instruments themselves.

Table 1: Summary Statistics

	All	White	Black	Hispanic
Instruments				
Relative Quarter of Birth				
Legal School Leaving Age				
Demographics				
Female				
Age				
Years of Education				
Work Full-Time				
Self-Employed or Family Business				
Years Worked at Firm				
Student				
Native				
Years in the US				
Marital Status				
Size of Family				
Number of Kids				
Grouped Family Income				
Poverty Level				
Welfare				
Total Earnings Last Year				
Income from Savings?				
Income from Stocks/Funds?				
Health Variables				
Health Insurance Coverage				
Private Health Insurance				
Publicly Subsidized Health Insurance				
Ever Smoked 100 Cigarettes?				
Age First Smoked Regularly				
Smoking Status				
Number of Cigs per Day				
Heavy Smoker				
Participate in Vigorous Activity				
Duration of Vigorous Activity				
Participate in Moderate Activity				
Duration of Moderate Activity				
Number of Observations				

Table 2: First Stage Results The dependent variable is Highest Grade Completed.

Variable	**All**	**White**	**Black**	**Hispanic**
Instruments for Education				
Q1 x CSL 14				
Q2 x CSL 14				
Q3 x CSL 14				
Q4 x CSL 14				
Female				
Age				
Work				
Full-Time				
Self-Employed or Family Business				
Years Worked at Firm				
Student				
Native				
Years in the US				
Married Size of Family				
Number of Kids (under age 17)				
Grouped Family Income				
Poverty Level				
Welfare				
Total Earnings				
Last Year				
Income from Savings?				
Income from Stocks/Funds?				
Health Insurance Coverage				
Private Health Insurance				
Publicly Subsidized Health Insurance				
R-Square				
Adjusted R-Square				
F-Statistic				
Observations				

Table 3: Results from 2 Stage Least Squares Methods, Examining the Causal Relationship Between Health and Education. without State-Year Interactions
The dependent variable is a binary variable for whether or not the respondent currently smokes.

Variable	**All**	**White**	**Black**	**Hispanic**
Education				
Female				
Age				
Work				
Full-Time				
Self-Employed or Family Business				
Years Worked at Firm				
Student				
Native				
Years in the US				
Marital Status				
Size of Family				
Number of Kids				
Grouped Family Income				
Poverty Level				
Welfare				
Total Earnings Last Year				
Income from Savings?				
Income from Stocks/Funds?				
Health Insurance Coverage				
Private Health Insurance				
Publicly Subsidized Health Insurance				
Cigarette Taxes				
Smoking Bans				
State-Year Interactions	N	N	N	N
Number of Observations				

Table 4: Results from 2 Stage Least Squares Methods, Examining the Causal Relationship Between Health and Education, with State-Year Interactions
The dependent variable is a binary variable for whether or not the respondent currently smokes.

Variable	**All**	**White**	**Black**	**Hispanic**
Education				
Female				
Age				
Work				
Full-Time				
Self-Employed or Family Business				
Years Worked at Firm				
Student				
Native				
Years in the US				
Marital Status				
Size of Family				
Number of Kids				
Grouped Family Income				
Poverty Level				
Welfare				
Total Earnings Last Year				
Income from Savings?				
Income from Stocks/Funds?				
Health Insurance Coverage				
Private Health Insurance				
Publicly Subsidized Health Insurance				
State-Year Interactions	Y	Y	Y	Y
Number of Observations				

Table 5: Results from a Reduced-Form Logit Model, Examining the Causal Relationship Between Health and Education

The dependent variable is a binary variable for whether or not the respondent currently smokes.

Variable	All	White	Black	Hispanic
Instruments for Education				
Q1 x CSL 14				
Q2 x CSL 14				
Q3 x CSL 14				
Q4 x CSL 14				
Female				
Age				
Work				
Full-Time				
Self-Employed or Family Business				
Years Worked at Firm				
Student				
Native				
Years in the US				
Married Size of Family				
Number of Kids				
Grouped Family Income				
Poverty Level				
Welfare				
Total Earnings				
Last Year				
Income from Savings?				
Income from Stocks/Funds?				
Health Insurance Coverage				
Private Health Insurance				
Publicly Subsidized Health Insurance				
Number of Observations				