Education and Self-Awareness of Health: Towards a better understanding of the variance in the predictive ability of self-rated health

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May 26, 2013

Abstract

Self-rated health frequently appears both as a dependent and an independent variable in health research. Its wide use has researchers examining its validity as an indicator of health and the factors that influence respondents' answers. While scholars generally do not contest that self-rated health, measured on a five-point Likert scale, is a reliable predictor of mortality, some show that self-rated health is a better predictor of mortality for individuals with higher educational attainment. This paper contributes to a better understanding of how education can lead to a more accurate evaluation of one's own health by examining how educational attainment changes the relationship between objective health indicators and self-rated health. I study adults aged 25 and above in the National Health and Nutrition Examination Survey (NHANES) that conducted six cross-sectional waves of questionnaires, medical examinations, and laboratory testing on a nationally representative sample of the United States between 1999 and 2009 (N=30,823). I utilize the wide range of variables available in the NHANES to examine how ten medical conditions, three health behaviors, and seven biomarkers can affect self-rated health differently by education. Results show that while the presence of medical conditions are negatively associated with self-rated health equally across groups of differing educational attainment, health behaviors and biomarkers have stronger association with self-rated health among individuals with greater education. The educated may also be better aware of their own biomarkers as they are more likely to have had their blood pressure and cholesterol checked in recent months. In addition, I show that they are more likely to correctly identify

themselves as overweight when their body mass index exceeds 25 indicating that education plays a role in how people interpret and evaluate objective measures of health.

Introduction

Self-rated health is a widely used measure of general health. The question, most often structured to be answered with a five-point Likert scale, is easy to include in surveys and is considered to be a direct way to capture a sense of global health that individual health conditions cannot (Idler and Benyamini, 1997; Jylha, 2009). Often, the respondent him or herself is most knowledgeable about conditions, behaviors, and family health history. Self-rated health is said to incorporate these factors in a holistic manner. Numerous studies have examined the predictive power of self-rated health. Idler and Benyamini (1997) and Benyamini and Idler (1999)'s review of the literature identifies a combined total of 46 studies prior to 1999 that examines self-rated health as a predictor of mortality. An overwhelming majority (42 out of 46) shows evidence of a significant negative relationship between self-rated health and mortality even after controlling for observed health conditions. The strong associations between self-rated health and mortality on population-levels face little debate. The contention enters as scholars present evidence supporting or challenging the notion that self-rated health is a reliable measure for objective health across population sub-groups. If the determinants or the predictive power of self-rated health differ between the very groups that the researcher wishes to compare, the analyses may be vulnerable to fatal biases. Thus, understanding this commonly used measure is crucial to designing and interpreting analyses that attempts to study health disparities within populations. This paper focuses on how the determinants of self-rated health changes with the respondent's educational attainment–a social strata that is of keen interest among scholars of health inequality.

Background

Thomas and Frankenberg (2002) presents a model that decomposes self-rated health into four components: "true" health, individual idiosyncratic component, component specific to health indicators, and an individual-health factor interaction component. According to this model, the degree of deviation between self-rated health and true health is partly determined by the person's individual characteristics. The person's age, gender, or education can modify the effect of health indicators as well as having an independent effect on self-rated health itself. Suffering from emphysema may have greater impact on self-rated health than a disease with less obvious symptoms such as hypertension. The person's education can change how much they factor in these health indicators in their self-rated health.

Researchers have empirically examined whether education does play a significant role in moderating the relationship between actual and self-rated health. Most of these studies use mortality as a measure of "true health" and compare the predictive power of self-rated health between people of different educational backgrounds. The literature tests the effect of education on the predictive power of self-rated health on various populations in counties in Western Europe and North America. The common question that these researchers ask is, "Is self-rated health a better predictor of mortality among people with more education?" Studies that examine populations with larger heterogeneity in educational attainment tend to conclude that a person's education does matter in the predictive power of his or her self-rated health. Regidor et al. (2010) found that self-rated health predicted mortality better among Spanish men and women with secondary or higher education relative to those who are illiterate or did not complete primary school. Dowd and Zajacova (2007) also find strong educational gradients in the predictive power of self-rated health between those who did not graduate from high school and those who pursued a college degree in the United States. Both these studies use nationally representative samples of their respective countries and includes people from a wide range of educational backgrounds. On the other hand, studies that use homogeneous populations to answer their research question produce results that point towards the answer, "no". Dalen et al. (2012)'s study of adults from a rural county in Norway and McFadden et al. (2009)'s study of workers from the small region of Norfolk, UK showed no evidence supporting the notion that educated individuals have self-rated health measures that are better predictors of mortality. Similarly, Huisman et al. (2007) also find weak evidence of significant differences between education groups among Dutch adults residing in the southern part of the Netherlands. Larger differences between people in education groups lead to greater gradients in the association between self-rated health and mortality if education does play a non-insignificant role. The debate should move away from determining whether education moderates the predictive ability of self-rated health and towards asking *how* education shapes a person's self assessment of health and *why* one person's self-rated health can be a better indicator than another's.

Jylha (2009) presents a conceptual model of a person's health evaluation process. She describes the process in three stages all formed under the influence of contextual factors such as culture and environment. While Jylha does not highlight education as a contextual factor, her model can easily explain how education can play a salient role in the person's evaluation process. First, the individual considers

the factors that constitute 'health' and compares his or her own status against these factors. Conceptions of 'health' vary by the person's education as he or she may be aware of more diseases or conditions that determine a person's health. Education may also determine the awareness of the individual's own health status. Educational attainment could be correlated with the types of health signals–diagnoses, bodily sensations, genetics, and behavior–that he or she takes into consideration. Krause and Jay (1994)'s qualitative study based on 158 interviews tentatively finds that the specific health referents respondents consider when assessing general health differ by education. Schnittker (2009) tests education's moderating influence on the pathway linking disability and functional limitations to self-rated poor health using a much larger, nationally representative sample (US NHIS 1972-1996). The author finds statistically significant education interaction terms and highlights education's integral role in shaping the meaning of health.

This first stage can be summarized as 'information collection.' The second stage involves the interpretation and internalization of the information that the person gathered. Again, the respondent's education can influence how the information is translated into their own perception of health. Education can determine the reference group that the individual is comparing him or herself against. Persons with greater educational attainment would be evaluating their health against others similar to themselves rather than in relation to those with less education and have poorer health (Elo, 2009). Dowd and Zajacova (2010) find respondents with greater education had healthier biological indicators of health (blood pressure and cholesterol among others) for the same level of self-rated health. Education can also determine how a person evaluates their past health conditions and expected health developments. Education is hypothesized to be positively correlated with the cognitive skills that allow the individual to consider health factors that do not have immediate consequences. Past bouts of serious illnesses and bad health habits signal deviation from optimal health even though the person is not currently sick. Economists and psychologists examine a similar concept: how consideration of the future affects current behavior (Chapman and Elstein, 1995). A person's time perspective or discount rate is connected to financial investing decisions and health choices such as drug-use (Kirby and Petry, 2004), smoking (Reynolds et al., 2004), and condom use (Agnew and Loving, 1998). Further bolstering the connection between education, time perspective, and health behaviors, Adams (2009) finds that individual differences in financial planning periods (his measure of 'time perspective') has a mediating role in the relationship between education and health behaviors.

In the final stage of Jylha's conceptual model, respondents condense the information and evaluation from the prior two stages into a number between one and five. She presents cultural differences in expressing positive and negative opinions and using scales as a possible contextual factor that can moderate the person's self-rated health. This paper focuses on the first two stages of the health evaluation process. I examine how educational attainment is associated with the knowledge and internalization of health information that people consider when assessing their own health.

Hypothesis

I directly test the moderating effects of education on the determinants of self-rated health: medical diagnosis, health behaviors, and biomarkers. I expect to find some evidence of disparate relationships between these health factors and self-rated health between education groups. My analysis data represents a heterogeneous US population incorporating persons who did not complete high school to those with post-secondary degrees. I also expect education's moderating effects to be stronger for health behaviors and biomarkers than medical diagnoses. Being told by a medical professional that one has a disease provides external confirmation by a health 'expert.' Such affirmation of sickness along with having experienced the symptoms of the illness would likely exert similar influence on self-rated health regardless of one's educational background. The cognitive process that leads from health behavior to self-assessment of health is less direct. The process requires the respondent to have knowledge of which behaviors pose health risks and then to factor them into future expected health outcomes. Thus, individuals with greater education may discount their self-rated health in anticipation of future morbidity factoring in current unhealthy behaviors.

Indeed, education has been linked to healthy behaviors that prolong life expectancy. Cutler and Lleras-Muney (2008) observed very strong gradients where the better educated practiced healthier behaviors. With increasing education, people were less likely to smoke, drink a lot, to be overweight or obese, use illegal drugs, and to obtain preventive care. A similar study among British civil servants (Marmot, 1994) also found that individuals with greater educational attainment exhibited behaviors that promoted health. Both studies conclude that differences in these health behaviors can account for approximately thirty percent of the mortality differential between education groups. Persons with more education have greater knowledge of, and better means to engage in practices that lead to longevity and lower rates of

lifestyle-related health problems.

Likewise, the process through which biological indicators of health can influence self-rated health is not straightforward. These biomarkers of health may or may not have physical manifestations and the knowledge of some of these measurements are dependent on access to medical care. Education is also correlated to access to care as individuals with higher educational attainment have greater earnings and better insurance coverage. Differential access to health care and income however, is not the sole source of this gradient. Cutler and Lleras-Muney (2008) and Lahelma et al. (2004) find that income and access to health care could not account for more than thirty percent of the differences in health behaviors. Education may also play a role in people acquiring and internalizing new health information. De Walque (2004) find that people with greater education were faster to stop smoking after the 1964 Surgeon General Report publicizing the dangers of smoking. The authors point to differences in cognitive ability.

Based on this discussion, I present and test four hypotheses.

1. The relationship between medical diagnoses and self-rated health does not depend on the respondent's educational attainment.

2. The association between self-rated health; and health behaviors and biomarkers, however, is stronger among respondents with greater education.

3. Respondents with greater education are more likely to have better knowledge of their biological indicators of health.

4. Conditional on knowing their objective health measurements, persons with greater education are more likely to accurately assess their own health status.

Methods

Data

I examine adults aged 25 and over living in the United States represented in the National Health and Nutrition Survey (NHANES 1999-2009). NHANES collected interviews, conducted clinical examinations, and recorded laboratory components in six cross-sectional waves between 1999 and 2010. The survey is designed to represent the U.S. population and over-samples African Americans, Asians, Hispanics,

and persons aged 60 and older. Applying listwise deletion to observations without complete demographic variables results in an analysis sample size of 30,823 adults.

Self-Rated Health The NHANES asks respondents' self rated health on two separate occasions–once before the physical examination in the home (HUQ010) and once during the examination at the Mobile Examination Center (HSD010). The question is identical but some participants gave different responses. I use the response that participants gave in their home (HUQ010) before they were subject to clinical examinations to avoid possible influence of the examination experience on their evaluations of their own health. Participants select a value between 'Excellent' and 'Poor' in response to the question, "In general, would you say your health is...". I assign a numeric value to each of the five responses, 1 being 'poor' and 5 being 'excellent', and treat it as a continuous variable in all my analyses.

Socio-demographic Variables The key factor of interest in this paper is the level of educational attainment. I categorize the sample into four education groups: did not graduate from high school, high school graduate or GED equivalent, some college or AA degree, and college graduate or above. In all my models, I include age, age-squared, gender, race, marital status, and logged ratio of family income to poverty threshold–factors that prior research shows relationships to self-rated health independent of observed health conditions (Schnittker, 2009).

Diagnosed Medical Conditions The NHANES questionnaire asks respondents if they have ever been diagnosed with a particular medical condition by a physician. I examine whether education moderates the negative effects of ever having heart failure, diabetes, chronic obstructive pulmonary disease (COPD), liver condition, heart disease, heart attack, angina. and stroke on self-rated health. I also look at the relationship between taking medication for hypertension or high blood pressure and self-rated health.

Health Behaviors I study three health behaviors that are repeatedly linked to health outcomes and mortality in this analysis. I use a dichotomous variable identifying current smokers and individuals who had a history of excessive alcohol consumption (ever drank five or more alcoholic drinks almost ever day). I create a variable measuring the current level of recreational physical activity (0 none to 2 vigorous).

Biological Indicators The NHANES conducts clinical examinations and labora-

tory blood testing for a wide range of biomakers. I study the association between seven biological indicators of health and the participant's self-rated health: HDL cholesterol, hemoglobin level, c-reactive protein, resting heart rate, body mass index, waist to height ratio and history of Hepatitis B infections. These biomarkers have been previously identified as health risk factors (PRB, 2008).

One of the nice features of the NHANES is that it asks participants to self-report their height, weight, and whether they consider themselves to be overweight before taking their measurements at the Mobile Examination Center. In the second part of my analysis, I estimate the likelihood of a respondent considering themselves overweight based on their actual Body Mass Index and educational attainment. In addition, the questionnaire asks respondents when they last had a health care provider check their blood pressure and their cholesterol levels. I use this information to observe differences in the likelihood of checking one's biomarkers by education.

Analysis

The analysis is divided into two parts. The first demonstrates disparity in the associations between health factors(diagnosed medical conditions, health behaviors, and biological indicators) and self-rated health between individuals of different educational attainment. The second part attempts to shed light onto how this may be the case.

I employ Thomas and Frankenberg (2002)'s model of self rated health. An OLS model estimates self-rated health(SRH) as a function of the a health factor(HF), the individual's educational attainment(E), their interaction (HF*E), and a vector of socio-demographic controls(C). I employ the least squared regression to estimate the coefficients (Allison, 1977).

$$SRH = \beta_0 + \beta_1 HF + \beta_2(HF \times E) + \beta_3 E + \beta C + \epsilon \tag{1}$$

Significant $\beta 1$ coefficients would imply an association between the health factor and self-rated health independent of other socio-demographic characteristics. $\beta 2$ terms that are statistically different from zero would be indicative of a heterogeneous relationship between the health factor and self-rated health across education groups. The second component of this paper presents evidence supporting education's link to both greater knowledge of one's own health indicators and a better understanding of those measurements. I estimate the likelihood of an individual having his or her

blood pressure or cholesterol checked by a health care provider in the past year. I then estimate the probability of respondents with BMI greater than 25 considering themselves overweight. I compare these odds between education groups while controlling for other relevant variables.

Results

Due to the oversampling of persons above the age of 60, the distribution of self-rated health in the NHANES is not heavily skewed towards 'Very Good' and 'Excellent' as in many other large-scale surveys. The mean self-rated health is at 3.25('Good') with a standard deviation of 1.10. With the exception of coronary heart disease, the presence of medical conditions and bad health behaviors are correlated with lower self-rated health. Table 2 shows the unadjusted self-rated health of individuals reporting selected health factors relative to the overall sample. In concordance with previous findings, the prevalence of bad health behaviors, biological indicators of poor health and medical conditions is higher among individuals with less education. Table 3 shows college graduates as a healthier population than those without a high school degree on all indicators of health.

We now turn to the main results. Figure 1 reports the coefficients and for each of the twenty health factors and their interaction terms with educational attainment. The top panel reports the ten medical diagnoses and the bottom panel reports ten health behaviors and biomarkers. Having been diagnosed with a medical condition diminishes one's perception of general health. And, for the most part, an illness influences self-rated health equally across education groups. That is, persons with or without a high school degree will consider themselves equally less healthy if they have been diagnosed with a serious medical condition. Interestingly, I find that history of heart failure or diabetes is associated with lower self-rated health with increasing education. The reason for this distinction deserves further study; I conjecture that these two diseases require vigilant management of the patient's health measurements and behaviors. Indeed, when health behaviors–smoking, activity level, and history of excess alcohol consumption–are controlled for, the education interaction terms of diabetes and heart failure diminishes.

Current health behaviors have a stronger association with self-rated health among individuals with higher educational attainment as displayed in bottom panel of Figure 1. The statistically significant interaction terms of these health behaviors indicate that self-rated health is more responsive to smoking, drinking history, and exercise

level among individuals with greater educational attainment. The magnitude of these interaction terms are quite large, even exceeding the main effects by 2 to 3 times in the case for smokers.

Similarly to health behaviors, self-rated health has a stronger relationship with biological indicators of health. The effects of high HDL cholesterol and hemoglobin levels (associated with better health) are most salient among highest education category (college graduate and above). Likewise, C-reactive protein and resting heart rate have stronger association with lower self-rated health among the college graduates. Measures of obesity–body mass index and waist-to-height ratio–display a gradient with their relationship to self-rated health increasing with greater educational attainment. Indicators of past or current Hepatitis B infection (a risk factor for diseases of the liver) is related to self-rated health only among those with a college education (with or without a 4-year degree). These results points towards a conclusion supporting heterogeneity in the association between health behaviors and biomarkers, and self-rated health. Medical diagnoses, on the other hand, show little educational gradient on their influence on self-rated health.

The second component of this study attempts to offer some explanations to the processes that results in these educational gradients in the determinants of self-rated health. I show in Figure 2 that education increases the likelihood of having a medical professional check one's blood pressure and cholesterol in the past 12 months controlling for gender, age, income, and marital status. Individuals with a college degree or higher are seven percent more likely to have had their blood pressure checked and 20 percent more likely to have had their cholesterol measured in the past year. The NHANES records both the self-reported and measured blood pressure for persons self-identified as diabetic. Individuals living with diabetes are more likely to be aware of and to closely monitor their health than the average person. Even within this select group, those with high educational attainment report blood pressure levels that are closer to their actual levels. Table 4 shows the correlation coefficients between reported and measured (NHANES has physician examiners take up to four separate blood pressures readings from their participants. I take the average of the measurements) diastolic and systolic blood pressure. The correlation coefficient among those with a college degree is 2.5 times that of people without a high school degree for diastolic and 1.6 times for systolic blood pressure.

I then show that education is not only related to knowing one's biological health indicators but is also associated with how well the person can evaluate and internalize

that measurement. Figure 3 shows the probability that the respondent reports him or herself to be overweight given that they are actually clinically overweight (BMI greater than or equal to 25) or obese (BMI greater than or equal to 30). Education, again, is closely related to the likelihood that the respondent correctly assess him or herself as overweight even when other sociodemographic factors are accounted for. The proportion of overweight or obese people recognizing that they exceed their healthy weight increases with educational attainment. Thirty percent of obese individuals with BMI of 31 without a high school degree do not recognize themselves to be overweight. Less than fourteen percent of equivalent individuals with a college degree report that they are not overweight.

Conclusion

This paper contributes to this growing literature through systematic examination of a wide range of health factors that has been previously linked to mortality and morbidity. I examine the three most salient health behaviors, seven biomarkers associated with current and future health risks, and ten prevalent medical conditions using Thomas and Frankenberg (2002)'s framework. The rich health variables in the NHANES dataset allows for analysis incorporating a wider variety of health factors than prior studies. My analysis shows that self-reports of medical diagnoses demonstrate weak educational gradients in their correlations with self-rated health. Individuals can only report diagnoses when they have been informed by a medical professional and usually have experienced the illness. On the other hand, the relationships between self-rated health, and health behaviors and biomarkers are moderated by education. This distinction in health factors' correlations with self-rated health can help explain why some studies show evidence for educational gradients in the predictive power of self-rated health while others do not. Populations with greater disparity in access to care and health knowledge between people of different educational attainment would be more likely to display variability in the self-rated health-mortality relationship. Educational differences in the association between behaviors and biomarkers on self-rated health lead us to ask why these health factors operate differently from diagnosed medical conditions. I show that educational attainment is associated with having better awareness of biological indicators of health. Such differences in knowledge can affect their self assessment of general health. The disparity is not limited to differences in the types and accuracy of information that people acquire. Individuals with greater education are not only more likely to be more knowledgeable about their own biological indicators of health but they are also

more likely to understand and internalize these measurements. These findings draw attention to systematic biases that self-rated health may bring to the future analyses. Researchers of health inequalities along socioeconomic boundaries, in particular, should be aware of the incongruity in the factors that shape self-rated measures of overall health.

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Table 1: Sample Characteristics; Adults aged 25 and over, NHANES 1999-2009

	Mean	**Std. Dev.**
Self-rated Health	3.25	1.10
Age	52.98	16.97
Poverty Ratio	2.62	1.61
	Count	**%**
Education		
Less than high school graduate	9,313	30.2
High school graduate	7,156	23.2
Some college or AS degree	7,982	25.9
College degree and above	6,372	20.7
Gender		
Male	14,996	48.7
Female	15,827	51.3
Marital Status		
Never Married	3,423	11.1
Currently Married	17,752	57.6
Divorced/Separated	4,532	14.7
Living with Partner	1,794	5.8
Widowed	3,322	10.8
Race/Ethnicity		
Non-Hispanic White	15,814	51.3
African American	5,923	19.2
Hispanic	7,776	25.2
Other	1,310	4.3
Total	30,823	100.0

Table 2: Adverse health conditions and behaviors are negatively associated with self-rated health. Mean Self-Rated Health (SRH) are not adjusted for sociodemographic factors.

Health Factor	**Mean SRH**	**SD from overall mean**
Smoker	3.07	-0.16
History of Excessive Drinking	2.98	-0.25
History of Heart Failure	2.23	-0.93
Ever had Liver Condition	2.68	-0.52
History of Diabetes	2.48	-0.70
Ever had Heart Disease	3.47	0.20
Ever had Heart Attack	2.50	-0.68
Ever had Angina	2.38	-0.79
History of COPD	2.60	-0.59
Ever had Stroke	2.41	-0.76
Taking Meds for Hypertension	2.84	-0.37
Taking Meds for High Blood Pressure	2.84	-0.37
Overall Average Self-rated Health	3.25	

Table 3: Prevalence of medical conditions, health behaviors, and average biological measurements by educational attainment

	Less than HS Grad	**HS Grad/GED**	**Some College**	**College Degree+**
Ever had Heart Failure (%)	5.25	3.77	3.22	1.79
Ever had Diabetes (%)	17.39	11.42	10.92	6.56
Ever had COPD (%)	8.57	7.95	7.96	5.17
Ever had Liver Condition (%)	3.65	3.33	3.71	2.91
Ever had Heart Disease (%)	6.10	4.82	4.10	4.06
Ever had Heart Attack (%)	6.58	5.44	4.37	3.30
Ever had Angina (%)	4.26	3.86	3.55	2.28
Ever had Stroke (%)	6.01	4.48	3.75	2.45
Taking Meds for Hypertension (%)	36.5	34.7	30.6	24.4
Taking Meds for High Blood Pressure (%)	34.2	32.9	28.6	23.0
Smoker (%)	25.9	26.0	21.0	9.0
History of Excess Alcohol Consumption (%)	22.0	17.1	14.1	8.2
Recreational Activity Level (0 low - 2 high)	0.40	0.63	0.79	1.11
HDL Cholesterol (mg/dL)	50.3	51.0	52.7	54.0
Hemoglobin Level (mg/dL)	14.1	14.3	14.2	14.2
C-Reative Protein (mg/dL)	0.52	0.47	0.48	0.37
Resting Heart Rate (pulse/60sec)	72.4	72.9	73.0	71.2
BMI (kg/m2)	29.2	29.2	29.6	27.8
Waist to Height Ratio	0.61	0.60	0.59	0.57
Past/Current Hepatitis B Infection (%)	9.75	7.08	6.17	5.43
Percentage of total sample (%)	30.21	23.22	25.9	20.67

Table 4: Correlation coefficients between reported and measured blood pressure among diabetic persons

	Diastolic	**Systolic**
Less than high school graduate	0.134	0.251
High school graduate	0.168	0.354
Some college or AS degree	0.373	0.302
College degree and above	0.342	0.404
Total Observations:	643	662

Figure 1: Moderating effects of education on the association between health factors and self-rated health

	Ever had Heart Failure	Ever had Diabetes	Ever had COPD	Ever had Liver Condition	Ever had Heart Disease	Ever had Heart Attack	Ever had Angina	Ever had Stroke	Taking Meds for Hypertension	Taking Meds for High Blood Pressure
Condition	-0.688***	-0.575***	-0.611***	-0.522***	-0.618***	-0.603***	-0.664***	-0.551***	-0.465***	-0.465***
Condition-Education Interaction Terms										
Condition x HS Grad	-0.116	-0.0119	0.0205	0.0482	0.0347	0.022	-0.0529	-0.165*	0.0353	0.0533
Condition x Some college/2yr	-0.305***	-0.118**	0.0778	0.103	0.0144	0.0209	-0.135	-0.13	-0.0162	-0.0126
Condition x 4yr college degree +	-0.338**	-0.162**	0.0268	0.0432	-0.136	-0.0717	-0.12	-0.146	0.0183	0.00108
Less than high school graduate	*(Reference)*									
High School Graduate	0.217***	0.202***	0.209***	0.213***	0.208***	0.211***	0.218***	0.219***	0.210***	0.206***
Some college/AS degree	0.365***	0.359***	0.349***	0.356***	0.351***	0.353***	0.365***	0.359***	0.361***	0.358***
4yr college degree and above	0.615***	0.602***	0.600***	0.616***	0.615***	0.611***	0.616***	0.613***	0.593***	0.598***
R-squared	0.199	0.213	0.199	0.186	0.193	0.194	0.194	0.194	0.211	0.21

	Smoker	History of Excess Alcohol Consumption	Recreational Activity Level	Logged HDL Cholesterol (mg/dL)	Logged Hemoglobin Level (mg/dL)	Logged C-Reative Protein (mg/dL)	Logged Resting Heart Rate (pulse/60sec)	Logged BMI (kg/m2)	Logged Waist to Height Ratio	Past/Current Hepatitis B Infection
Condition or Measurement	-0.0597*	-0.143***	0.178***	0.327***	0.538***	-0.0878***	-0.415***	-0.447***	-1.014***	0.0712
Condition-Education Interaction Terms										
Condition x HS Grad	-0.111**	-0.0679	0.0720***	0.0369	0.128	-0.0141	-0.126	-0.309***	-0.195	-0.111
Condition x Some college/2yr	-0.120***	-0.0205	0.0376	0.134*	0.252	-0.0171	-0.0343	-0.444***	-0.369***	-0.146*
Condition x 4yr college degree +	-0.170***	-0.151**	0.107***	0.247***	0.341*	-0.0543***	-0.266**	-0.544***	-0.417***	-0.162*
Less than high school graduate	*(Reference)*									
High School Graduate	0.242***	0.235***	0.151***	0.087	-0.11	0.209***	0.763	1.264***	0.121*	0.240***
Some college/AS degree	0.377***	0.366***	0.289***	-0.155	-0.295	0.346***	0.514	1.866***	0.171**	0.386***
4yr college degree and above	0.623***	0.629***	0.419***	-0.374	-0.263	0.516***	1.746***	2.416***	0.361***	0.648***
R-Squared	0.183	0.186	0.204	0.194	0.185	0.196	0.19	0.203	0.211	0.182

*** p<0.001, ** p<0.01, * p<0.05

Note: All models include controls for gender, race, marital status, age, age-squared, and logged poverty ratio

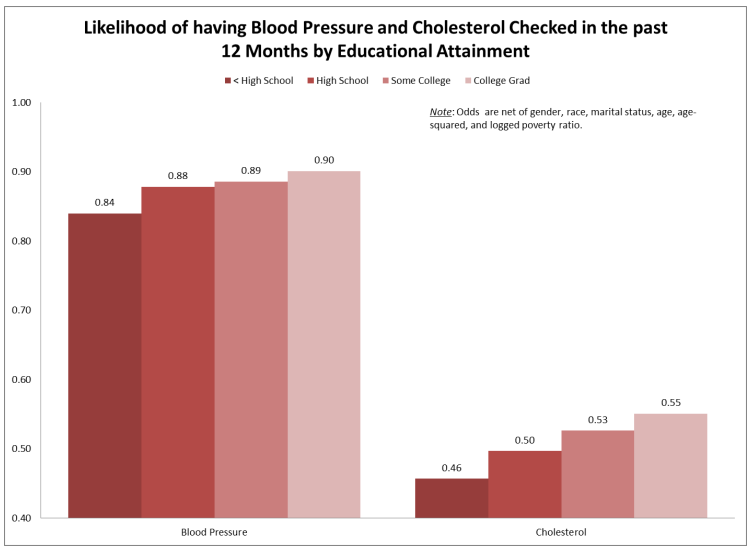

Figure 2: Individuals with higher educational attainment are more likely to have had their blood pressure and cholesterol checked within the past 12 months. Probabilities are adjusted for socio-demographic variables.

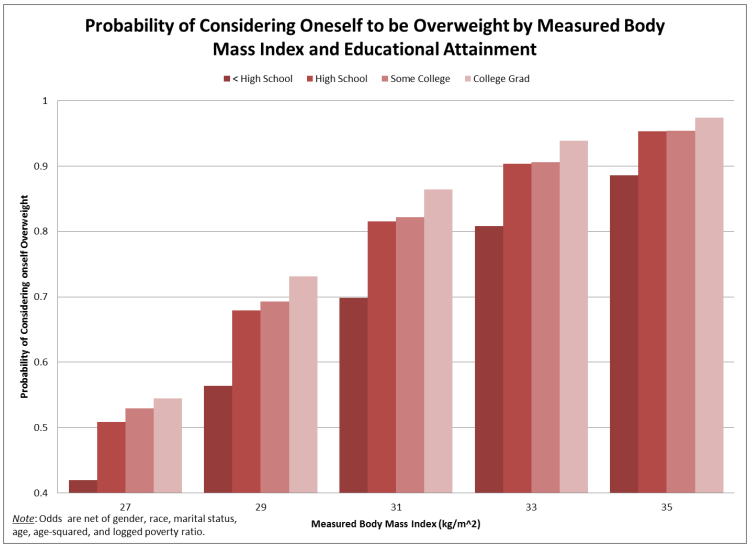

Figure 3: Education is linked to a more accurate assessment of the healthiness of one's weight. Probabilities are adjusted for socio-demographic variables.