

Cohort Differences in Health: Does the Pattern Vary By Education?

Beth J. Soldo
University of Pennsylvania

John Henretta
University of Florida

In a recent paper, Soldo et al. (2007) find that the self-reported health of successive cohorts of persons aged 51-56 year has declined. The authors use cross-sections of successive cohorts of respondents to the Health and Retirement Study (HRS) who were first interviewed at their baselines in 1992, 1998, and 2004, respectively. Over this period, they find that a number of dimensions of self-reported health declined, even after adjusting for cohort differences in socioeconomic origins and health in childhood, tobacco and alcohol use, region of residence, and other covariates.

We extend this research by examining whether this pattern varies by education. On the one hand, one might expect differential change such that cohort differences would be smaller among those with more education. Those with more schooling are more likely to have high levels of health insurance coverage across the three cohorts while the secular decline in health insurance coverage is probably more likely to have affected those with lower levels of education. Moreover, higher levels of education may be consistently associated with high levels of attention to good health and nutrition behaviors, as well as greater access to health care services across cohorts in their early 50's. Alternatively, declines in health in successive cohorts might be concentrated among those with low levels of education. On the other hand, it is possible that those with less schooling have changed less over time. The secular decline in health may be

mutated because media saturation with health messages now provides a higher level of health knowledge to those with less education. For example, between 2000 and 2005, education differentials in both incidence and prevalence of diabetes declined among the US adult population. Though rates increased in all education groups, the increase was smaller among those with less education relative to those with more education (authors' computations from data provided by CDC ((2007).

Data

Data are drawn from the Health and Retirement Study (HRS), a panel study of the US population aged 51 and older who were not institutionalized at their first interview. New birth cohorts are inducted into the study in their early fifties, and the HRS therefore consists of several birth cohorts spanning nearly two decades who were first interviewed at ages 51-56: the birth cohorts of 1931-36 (first interviewed in 1992), 1943-47 (first interviewed in 1998), and 1948-53 (first interviewed in 2004). The design of the HRS provides representative cross-sections of these cohorts in the year they were first interviewed.

Variables

We utilize two outcome measures that allow parallel measurement in the three cohorts:

Self-reported health (labeled SRH in the table) is the response to the item: "Would you say your health is excellent, very good, good, fair, or poor?" The resulting response is coded 1-5, with a low score indicating better health.

A *latent health index* developed using Item Response Theory (labeled IRT in the table). The approach assumes that an individual's response to a particular item consists of a latent true health measure and an item-specific element. The index includes a number of specific questions

that measure four health dimensions: self-reported health, mobility, agility, and pain. A full discussion of measurement construction is included in Soldo et al (2007).

In the table included in this abstract, we examine one covariate, *years of schooling*. Categories include: less than high school, high school graduate, some college, and college graduate.

Results

We illustrate the approach taken in our analysis in Table 1 which presents the mean and median of the self-reported health measure and the median of the latent health index by education category. The first panel shows the combined male and female sample and the second and third panels present data separately by sex.

Across all three cohorts, and for both men and women, more education is associated with better reported health using either outcome measure. The last column of the table computes the change in the IRT measure from 1998 to 2004. The negative sign on the change indicates that self-reported health was worse in 2004 than in 1992 across all education groups, except for female college graduates. In addition, the cohort change was greatest for those with least education and generally showed a decline with increased levels of education. Differences are greater for women than for men.

In the complete paper, we present regression models for the IRT measure, adjusting for cohort differences, health behaviors, and other covariates.

References

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Self-Reported Health of 51-56 Year Old HRS Respondents First Interviewed in 1992, 1998, and 2004
Men and Women Combined

	1992			1998			2004			Change 1992-2004
	SRH		IRT	SRH		IRT	SRH		IRT	
	mean	median	median	mean	median	median	mean	median	median	
< HS	3.1	3	-0.076	3.3	3	-0.422	3.4	4	-0.600	-0.524
HS grad	2.4	2	0.227	2.7	3	-0.070	2.8	3	-0.248	-0.475
some college	2.2	2	0.227	2.4	2	-0.070	2.6	2	-0.070	-0.297
college grad	1.9	2	0.531	2.1	2	0.227	2.2	2	0.227	-0.304
Men										
	1992			1998			2004			
	SRH		IRT	SRH		IRT	SRH		IRT	
	mean	median	median	mean	median	median	mean	median	median	
< HS	3.0	3	-0.238	3.1	3	-0.623	3.4	3	-0.828	-0.590
HS grad	2.4	2	0.059	2.7	3	-0.227	2.9	3	-0.379	-0.438
some college	2.3	2	0.227	2.4	2	-0.172	2.6	2	-0.076	-0.303
college grad	1.9	2	0.531	2.1	2	0.227	2.2	2	0.091	-0.440
Women										
	1992			1998			2004			
	SRH		IRT	SRH		IRT	SRH		IRT	
	mean	median	median	mean	median	median	mean	median	median	
< HS	3.1	3	0.059	3.5	3	-0.227	3.6	4	-0.379	-0.438
HS grad	2.4	2	0.227	2.7	3	0.059	2.8	3	-0.070	-0.297
some college	2.2	2	-0.738	2.4	2	0.076	2.6	2	0.043	0.781
college grad	1.9	2	0.531	2.1	2	0.531	2.3	2	0.531	0.000