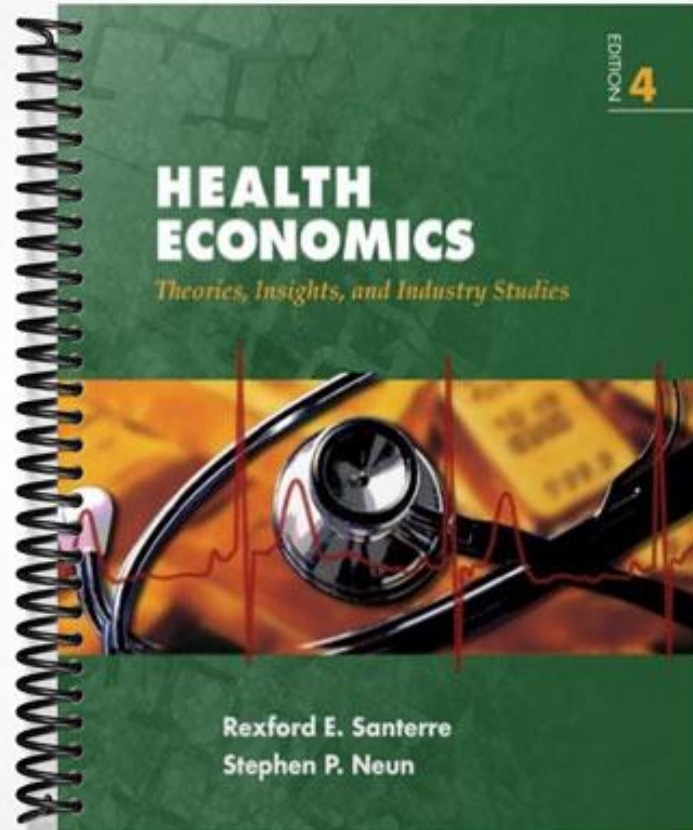


SOLUTIONS MANUAL



CHAPTER 2: HEALTH AND MEDICAL CARE: AN ECONOMIC PERSPECTIVE

2-1: Health Utility

Evidence supporting the notion that exercise is good for the brain as well as the body continues to surface. The science behind the evidence illustrates that exercise can boost a person's ability to process data, reduce depression and anxiety, and reduce illnesses that can affect a person's mental functioning, such as Alzheimer's. A 2005 study of 884,715 fifth-, seventh-, and ninth-graders published in the *Journal of Exercise Physiology* shows that students in the best physical shape have the best test scores. The results indicated a good relationship between fitness and academic achievement, but exercise cannot replace intellectual exertion; it can only strengthen it. Evidence also points to the long-term benefits of exercise and indicates that exercise can make the brain act younger. The results of a study at the University of Illinois show that when seniors exercise, it produces patterns of brain activity usually seen in 20-year-olds.

Source: Kevin Helliker, "Exploring the Bicycle-Brain Connection: How Exercise Boosts Cognitive Function," *The Wall Street Journal*, August 30, 2005.

Questions for Discussion

1. Workplace health promotion is becoming an important issue as employers seek ways to reduce the high costs of health insurance. This study suggests that employers may also benefit from sharper on-the-job thinking by employees who exercise. In addition to a lunch break, should employers allow an extra hour each day for exercise?
2. Health can be thought of as a personal asset. We invest in health by consuming medical care and other health-related inputs, such as exercise. Discuss how the results of these studies are likely to impact the role of exercise in the "production" of health.
3. We know two things for sure in public health: smoking is bad and exercise is good. But we have had trouble stopping the bad behavior and encouraging the good. Smoking is addictive, which adds to the complexities of figuring out how to stop it. Why has it been so difficult to encourage people to exercise?

Answers

Students' answers will vary.

Exercise can be treated as an input in the health production function and can be viewed as a means of maintaining investments in health assets. Encouraging people to exercise has been difficult, in part because employers do not generally value employee exercise as much as they value employee productivity, in spite of the linkage between the two.

2-2: Beauty and Health

Beauty supplements that can be taken orally have long been marketed for various things, such as hair strengthening and skin lightening, but published evidence to confirm the success of these products has long been lacking. Nevertheless, beauty industry experts claim that people will continue to look for a quick fix to their cosmetic needs. Doctors have encouraged patients who insist on taking the supplements to discuss the products with their physician, going over the ingredients and determining compatibility with other medications they might be taking at the time. According to a market research company, ingestible beauty supplements have more than doubled in sales since 2000. The American Society of Plastic Surgeons warned in 2005 that the supplements were not as effective as traditional cosmetic surgery, and research about their safety is basically nonexistent. Additionally, the Food and Drug Administration still had not approved the supplements. One of the supplements, a tanning pill that contained a color additive called canthaxanthin, was found to be associated with eye disorders and could cause liver damage and skin itching. Doctors warned patients to be cautious of the supplements, saying that if these products worked as effectively as advertised, doctors would prescribe them themselves.

Source: Loretta Chao, "Beauty: Searching for a Quick Fix," *The Wall Street Journal*, October 11, 2005.

Questions for Discussion

1. We derive utility from obtaining health in its many forms; we invest in health by going to the doctor, exercising, and so on. Is the consumption of over-the-counter health and beauty aids considered investing in health? Is it health care? Why or why not?
2. Are cosmetic procedures and beauty aids a waste of increasingly scarce health care dollars? Why or why not?
3. Should these kinds of expenditures be counted along with doctor and hospital services in national health care spending accounts? Why or why not?

Answers

Students' answers will vary.

Cosmetic health probably should be considered a medical care input just like any others, mainly because consumers gain utility from the consumption thereof. Whether such expenditures are allocatively efficient is a different story. In terms of marginal benefit, particularly from a societal perspective, it is likely that expenditures on things that, for example, prevent future hospitalizations would be of greater value than cosmetic care. But still, strictly from a utility perspective, there's no reason that we should not allow people to purchase services that they are willing and able to pay for.

2-3: A Healthy Marriage

A study released at a national marriage conference in 2005 showed that being divorced may be linked to unhealthy conditions later in life. The 2005 study of 8,652 people aged 51 to 61 showed that a person's "marital biography," meaning a person's experience with marriage, divorce, and remarriage, has a growing effect on health, indicating that the longer a person is divorced or widowed, the higher the likelihood of heart or lung disease, cancer, high blood pressure, diabetes, stroke, and difficulties with mobility. Those married at the time of the study and who had never been divorced or widowed had less chronic conditions than those who had been divorced, as the stresses of divorce tend to trigger conditions associated with chronic disease. Additionally, the study suggests that when considering remarriage, people must choose carefully, because those in low-quality remarriages are no healthier than those who remain divorced. The only exception to the study was obesity, which appeared more often with married than single people. Researchers have not been able to completely control the study results for the effect of marital selection, which is the likelihood that people who are healthier will be more likely to form lasting, happy marriages in the beginning. However, it seems clear that the healthier state of those who are married comes not only from selection, but from the protective, calming effect of marriage as well.

Source: Sue Shellenbarger, "Another Argument for Marriage: How Divorce Can Put Your Health at Risk," *The Wall Street Journal*, July 16, 2005.

Questions for Discussion

1. In addition to marriage, what are some other non-health care factors (for example, income) that are likely to affect one's health? For the factors that you identify, rank-order them according to what you believe are the most important and least important. For now, defend your rankings with logic rather than data.
2. Why does marriage have a positive effect on health? What are some of the likely mechanisms? In your answers, avoid the temptation to stereotype the structural characteristics of marriage—there are many different kinds out there.
3. The article mentions possible "selection bias," that people who are healthier and more robust may be more likely to form lasting relationships. Discuss the extent to which this selection bias might influence the results of this study.

Answers

Students' answers will vary.

Similar to the story for Case 2-1, one could argue that "marital biography" could also be part of a health care production function (along with income, exercise, smoking status, occupation, and so on), affecting the depreciation of health assets. The "marriage mechanism" is anybody's guess; two ideas are (1) more teamwork and support (at least in theory), and (2) higher household income. The selection bias issue is probably a limitation to this study, but perhaps not a very large one.