THE EDUCATION-HEALTH GRADIENT

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Spencer/INET Conference
Associations, Investments and Interventions
Chicago, 10 December 2010
The Education-Health Gradient

Questions Addressed

1. What is the evidence on the effect of personality on health in economics?
2. What are the issues?
3. What is the role of early life factors in explaining the education-health gradient?
4. What is the effect of self-regulation, cognition and early health on late life health?
5. Are there gender differences?
6. What is the relationship between self-regulation and cognition?
7. Is education a complement or a substitute for early life traits?

Conclusions

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What is the evidence on the effect of personality on health in economics?
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### Conclusions

Personality and Health - Economics

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Data</th>
<th>Personality</th>
<th>Outcomes</th>
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<tr>
<td>Fuchs</td>
<td>1982</td>
<td>time preferences</td>
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<td>Barsky et al.</td>
<td>1997</td>
<td>HRS</td>
<td>risk tolerance</td>
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<td>Carneiro et al.</td>
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<td>social adjustment score</td>
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<td>depression smoking</td>
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<td>Murasko</td>
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<td>Coneus and Laucht</td>
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<td>MARS</td>
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<td>Jones et al.</td>
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<td>Chiteji</td>
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<td>future-orientation &amp; self-efficacy</td>
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<td>exercising</td>
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<td>Savelyev</td>
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<td>Terman</td>
<td>conscientiousness</td>
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<td>Cutler &amp; Lleras-Muney</td>
<td>2010</td>
<td>many</td>
<td>various measures do not account for the education-health gradient</td>
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</tbody>
</table>
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Issues in Economic Research on Personality and Health

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Issues in Economic Research on Personality and Health
1. Correlational vs. Causality
2. Timing of measurements
3. Comparability of constructs
4. Measurement error
5. The role of cognition
6. The role of early health
7. Mechanisms
8. Gender Differences
9. Personality vs. mental health
10. Timing of outcomes
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Conclusions
Some Evidence from Our Work
Evidence from the British Cohort Study

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Conclusions

Data: Observed health disparities at 30 in the BCS70.
A positive correlation between health and schooling is well established – but is this causal?

1. Education might causally affect health.

2. Early health can causally affect education (health selection hypothesis).

3. Both education and health can be affected by third factors (ability and personality).

- These third factors may be produced by early conditions or later life conditions.
Understanding the Gradient

- Are these differences causal – “true effects of education that can be promoted by policy” – or are they correlations arising from uncontrolled factors?
- Early factors that directly affect both the outcomes [age 30] and education [stay-on at age 16]?
  1. Cognition (age 10)
  2. Self-regulation (age 10)
  3. Child Health (age 10)
  4. Family background (birth)

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What is the role of early life factors in explaining the education-health gradient?
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Decomposition of Observed Health Disparities
What is the effect of self-regulation, cognition and early health on late life health?
Self-regulation is an important determinant of smoking.
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- Early health is the most important determinant of obesity.
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Are there gender differences?
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Cognition is a more important determinant of health for women.
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What is the relationship between self-regulation and cognition?
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The correlation between cognition and self-regulation is 0.544 ($p=0.000$).

Both related to the executive system in the frontal lobe structure.
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Not controlling for self-regulation leads to an overestimation of the effect of cognition.
Is education a complement or a substitute for early life traits?
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- Education compensates for low self-regulation...
- ...but reinforces high cognitive endowments.
Conclusions

- We are just beginning to analyze the relationship between personality traits and health in economics.
- Most of the evidence is still correlational.
- Many questions still unanswered.
- A few main results:
  - **personality matters:** self-regulation is an important determinant of many health outcomes.
  - **gender matters:** cognition is a more important determinant of health for women than for men.
  - **cognition matters?** not controlling for self-regulation overestimates the effect of cognition.
  - **mechanisms matter:** early life traits explain a significant portion of the education-health gradient.
  - **interactions matter:** the effect of education on health is bigger for individuals with low self-regulation.

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Related work

- Understanding the dimensionality of the factors: Conti, Heckman, Lopes and Piatek.
- Teacher- vs. mother-rated traits: Conti, Heckman, Lopes and Piatek.
- Effect of Early Health Shocks on Personality: Conti, Heckman, Yi and Zhang.
- Effect of Rearing Conditions on Personality: Conti, Hansman, Heckman, Novak, Ruggiero and Suomi.
- Development of Cognition, Personality and Health in Children of Different Ethnicities: Biroli, Conti and Heckman.