

Does higher education improve health?

Plus recent data on health care spending in Montana

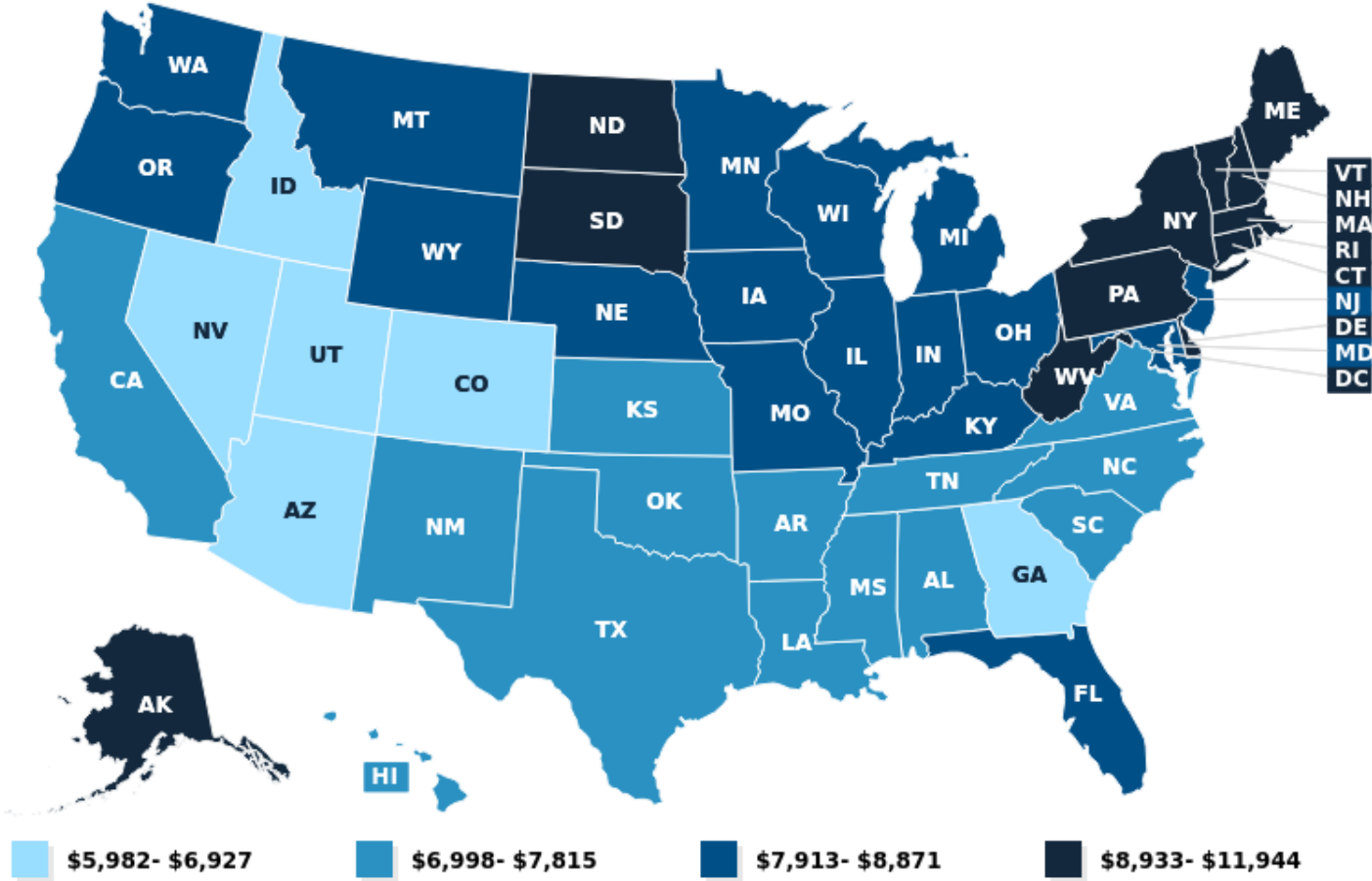


In 2014, Montanans spent \$8.23 billion on personal health care (e.g., doctor's visits, hospital stays, prescription drugs, dental services, home health, nursing homes). This amounts to \$8,221 per person.



Health care spending per person in Montana slightly exceeds the US level.

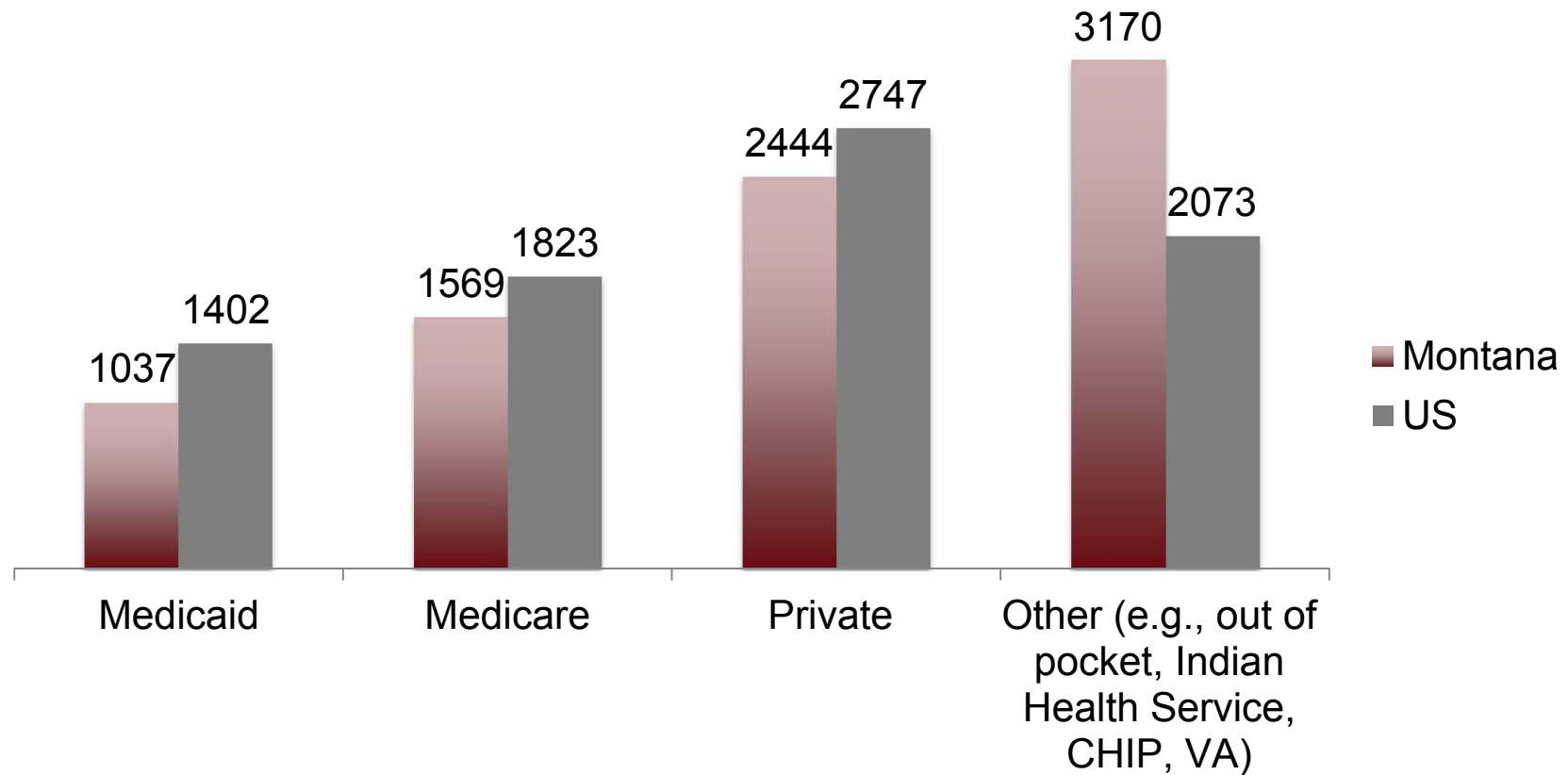
Health Care Expenditures per Capita by State of Residence: Health Spending per Capita, 2014



SOURCE: Kaiser Family Foundation's State Health Facts.

Montana's higher than average health care spending per capita reflects higher than average spending in the other category.

Health care spending per capita by payer 2014, MT v. US

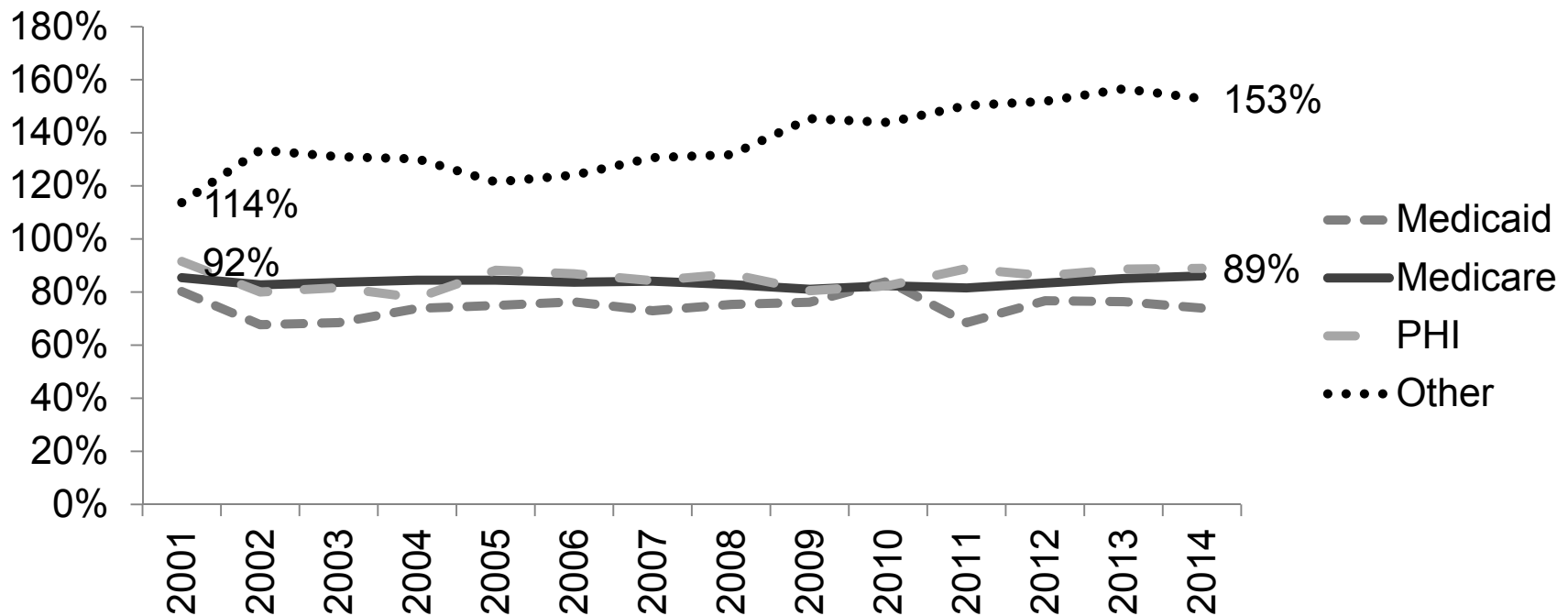


Source: BBER analysis of CMS (2017) Health Care Spending by State of Residence



Montana's faster than average growth is also concentrated in the "other" payer category.

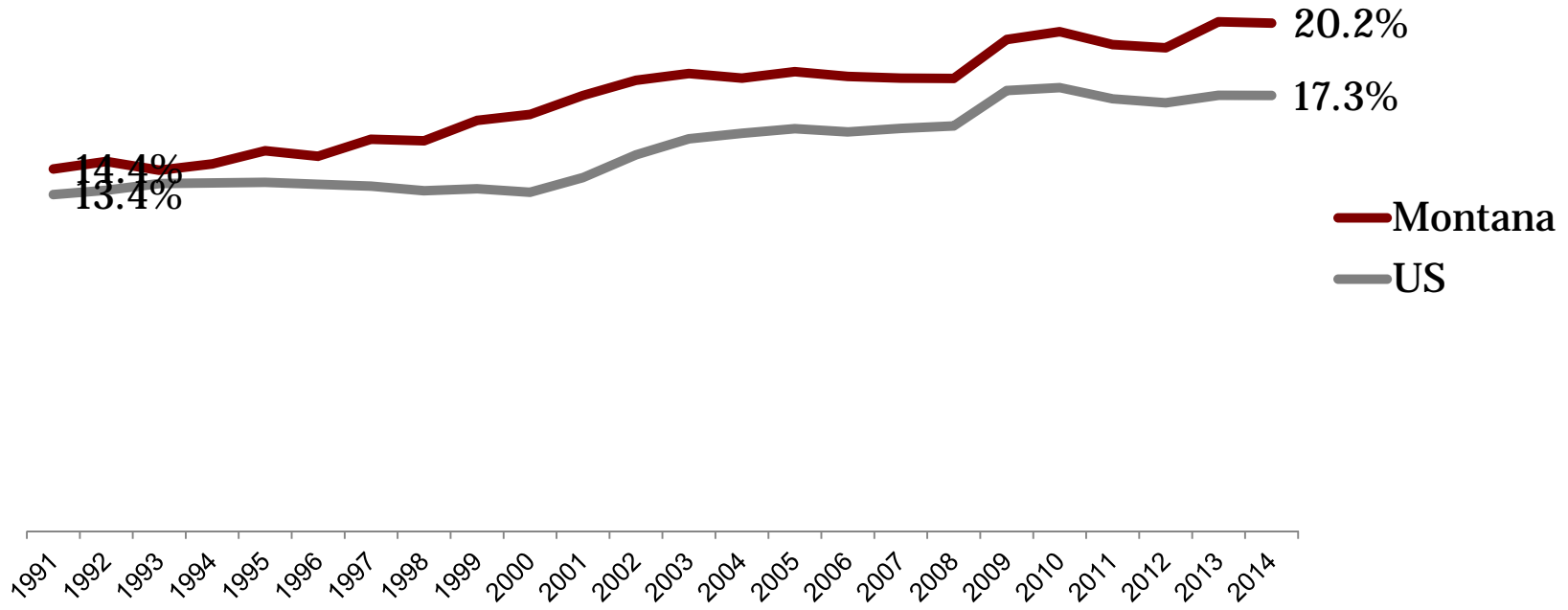
Health care spending per capita by payer as % of US, 2001-2014



Source: BBER analysis of CMS (2017) Health Care Spending by State of Residence

Health care spending in Montana is high relative to income and has been growing faster the nation.

Personal health care spending as percent of personal income, 1991-2014



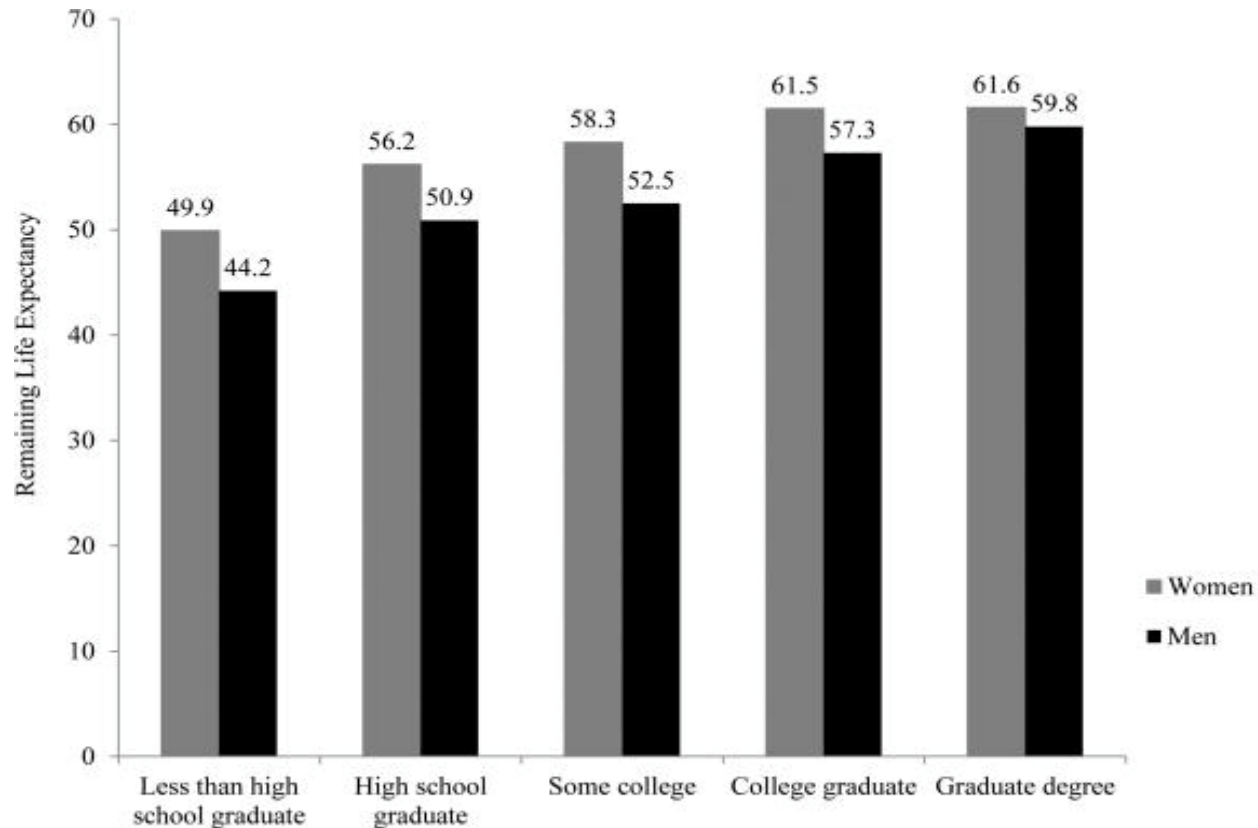
Source: BBER analysis of CMS (2017) Health Care Spending by State of Residence and BEA Personal Income data.

Is there a link between higher education, health, and health care?



Relative to high school graduates, people with a college degree enjoy 5 (women) or 6 (men) years of additional life expectancy at age 25.

Remaining life expectancy for US adults at age 25 by education, 2005

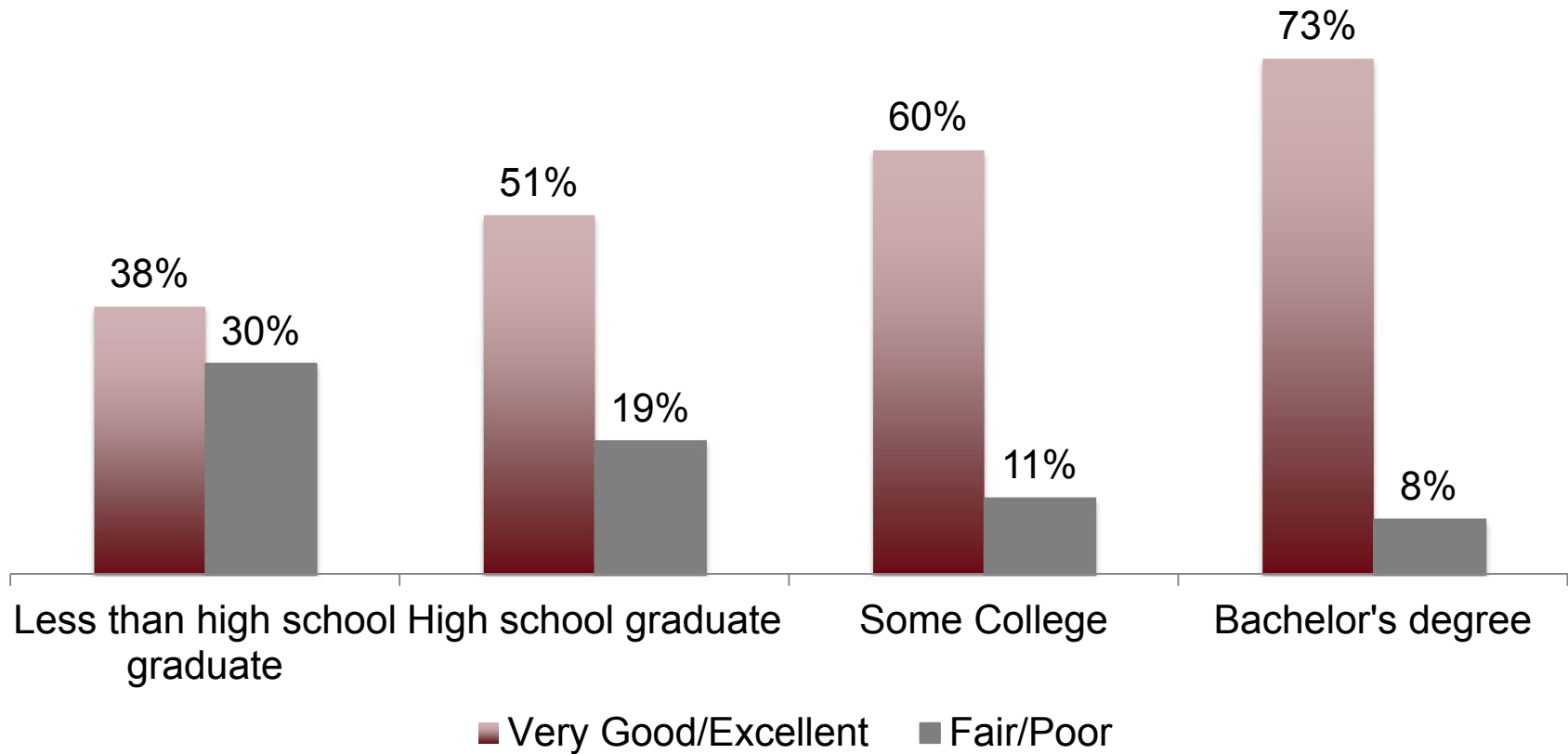


Source: Brian L. Rostron et al., "Education Reporting and Classification on Death Certificates in the United States," *Vital and Health Statistics*, Series 2, no. 151 (2010): 1-16.



Montanans with college degrees report better health.

Self-reported health status, Montanans aged 25-64 by education



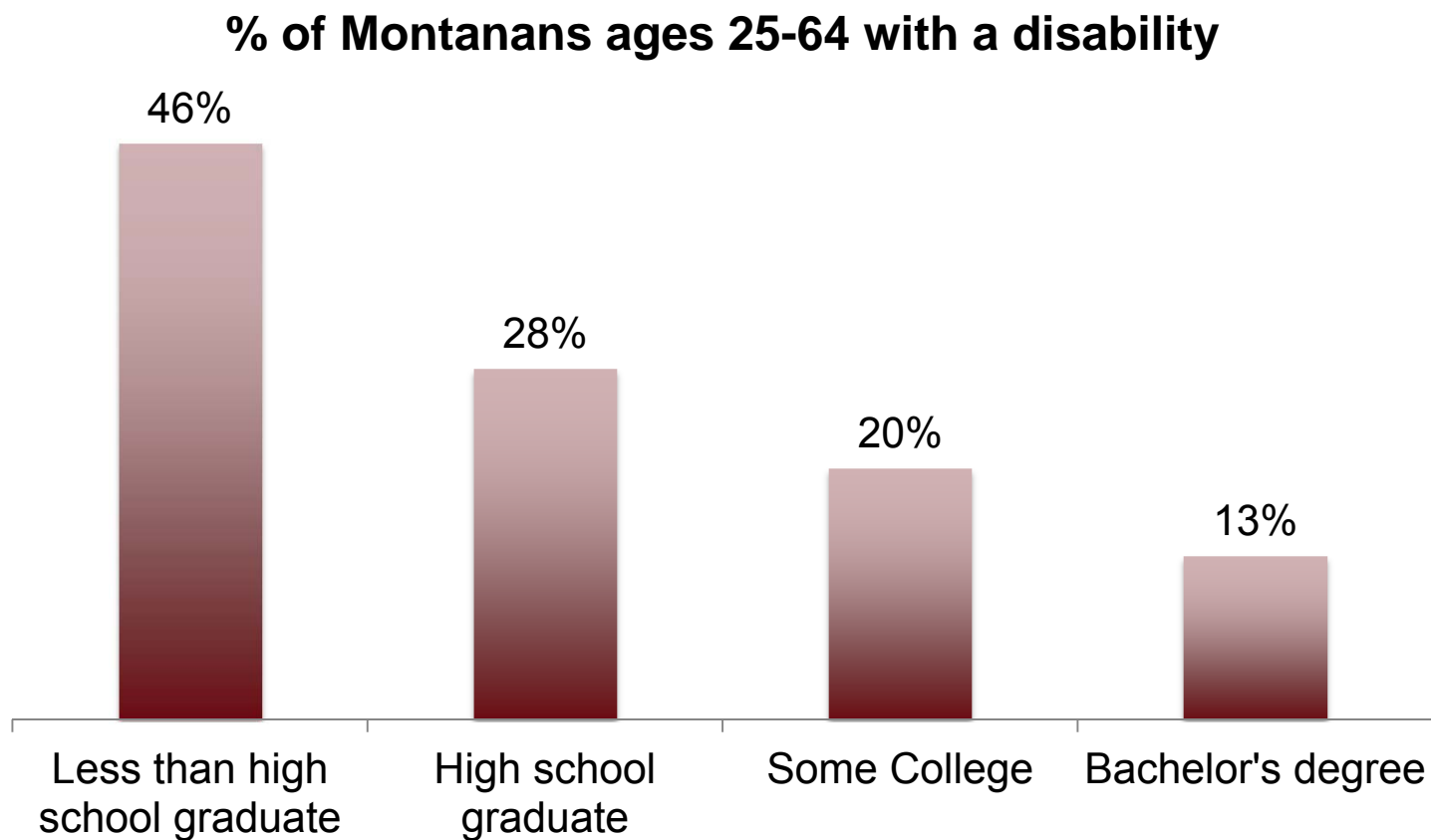
Source: BBER analysis of 2016 BRFSS



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Montanans with a college degree a less likely to report a disability.

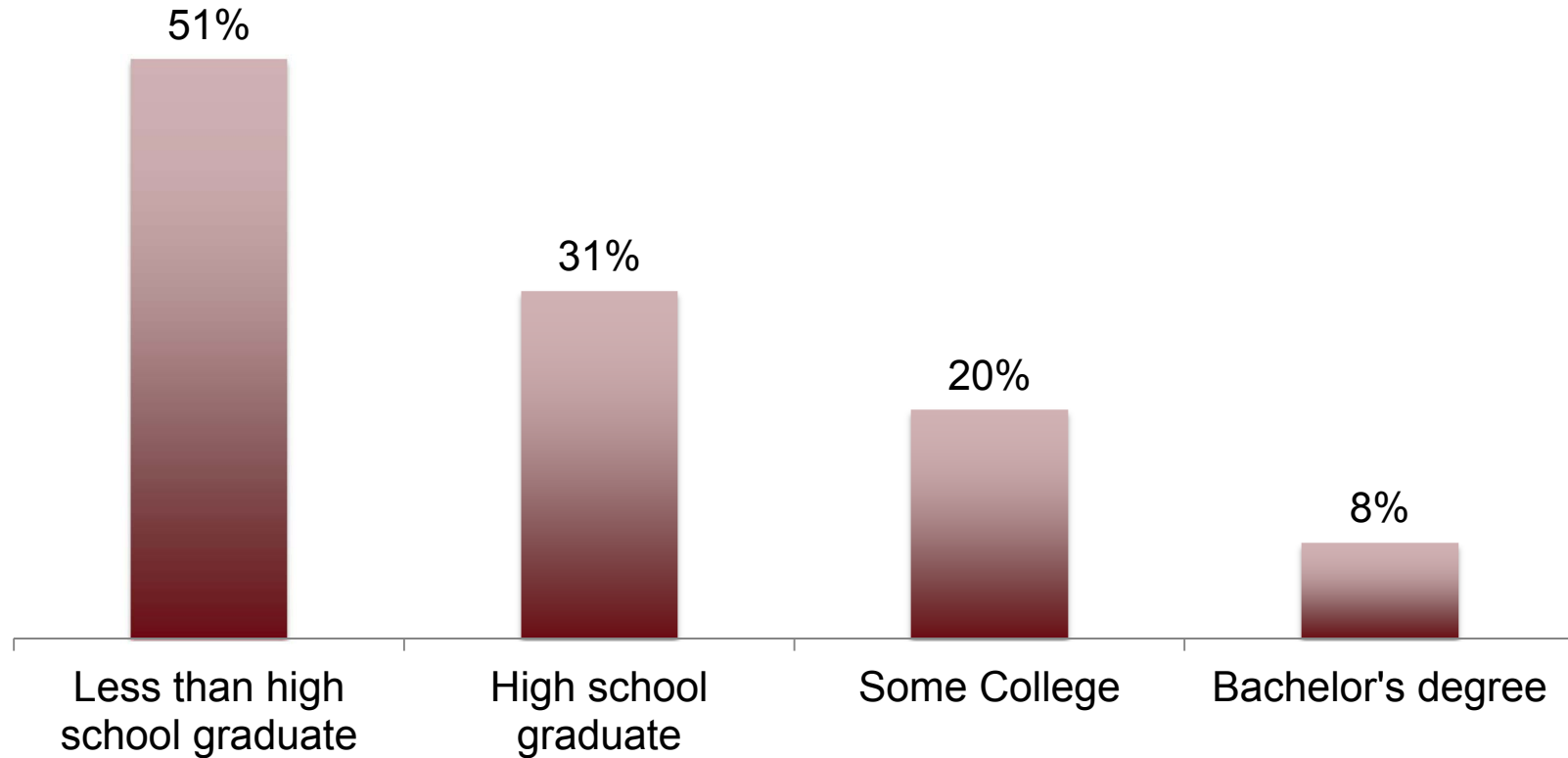


Source: BBER analysis of 2016 BRFSS. A person is classified as disabled if they indicate impairment on any of the 6 “ACS disability” questions.



Montanans with college degrees are less likely to smoke.

% of Montanans ages 25-64 who are current smokers

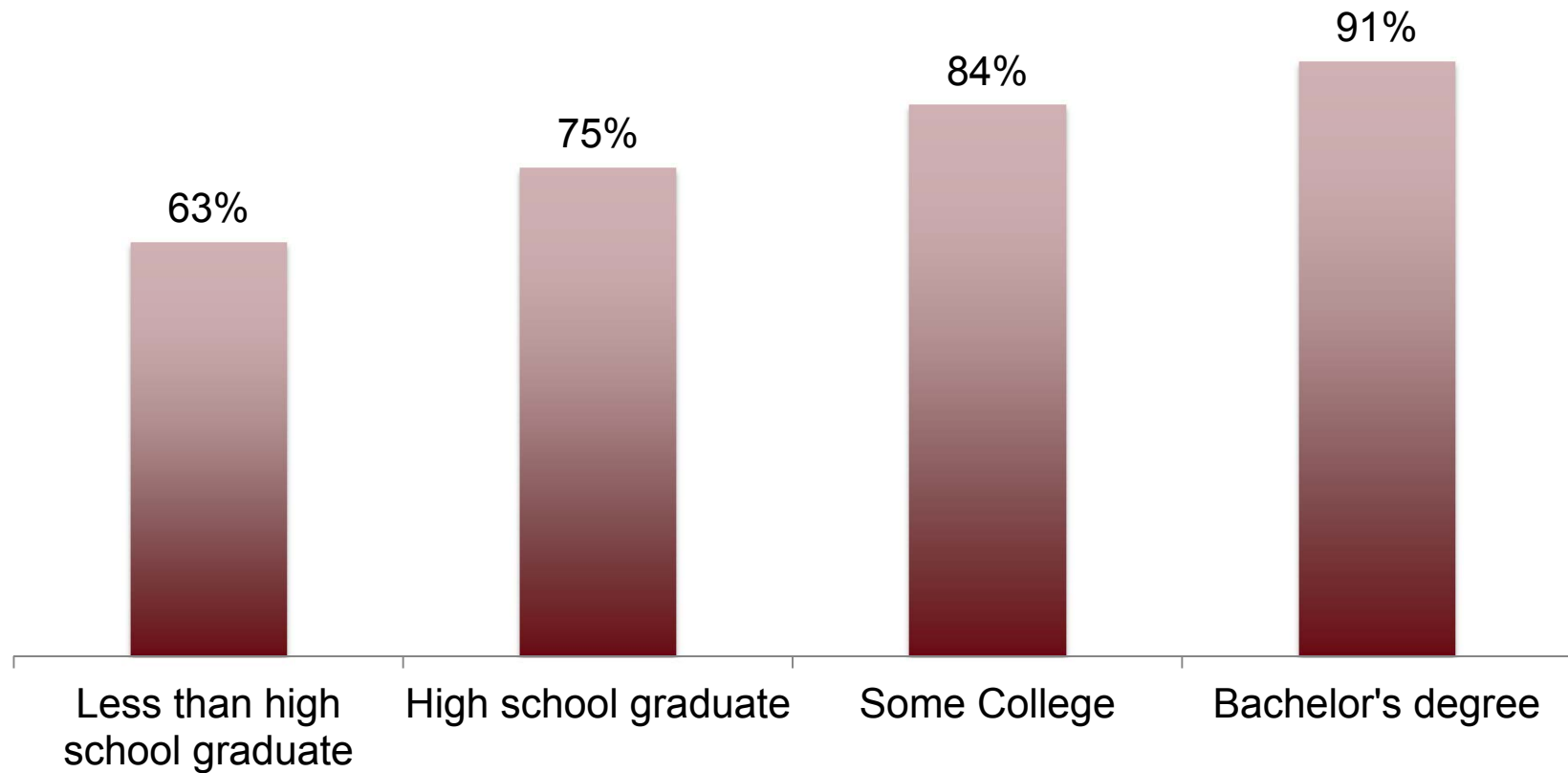


Source: BBER analysis of 2016 BRFSS.



Montanans with college degrees are more likely to exercise.

% of Montanans ages 25-64 who exercised at least once in past 30 days.



Source: BBER analysis of 2016 BRFSS.



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Does education improve health?

Three possibilities for observed correlation between health and education:

- (1) Poor health => Less education*
- (2) More education => Better health*
- (3) Something else (e.g., parent income, genetics) => Both more education and better health*

While establishing a causal link between education and health is hard, some evidence suggests that education improves health.

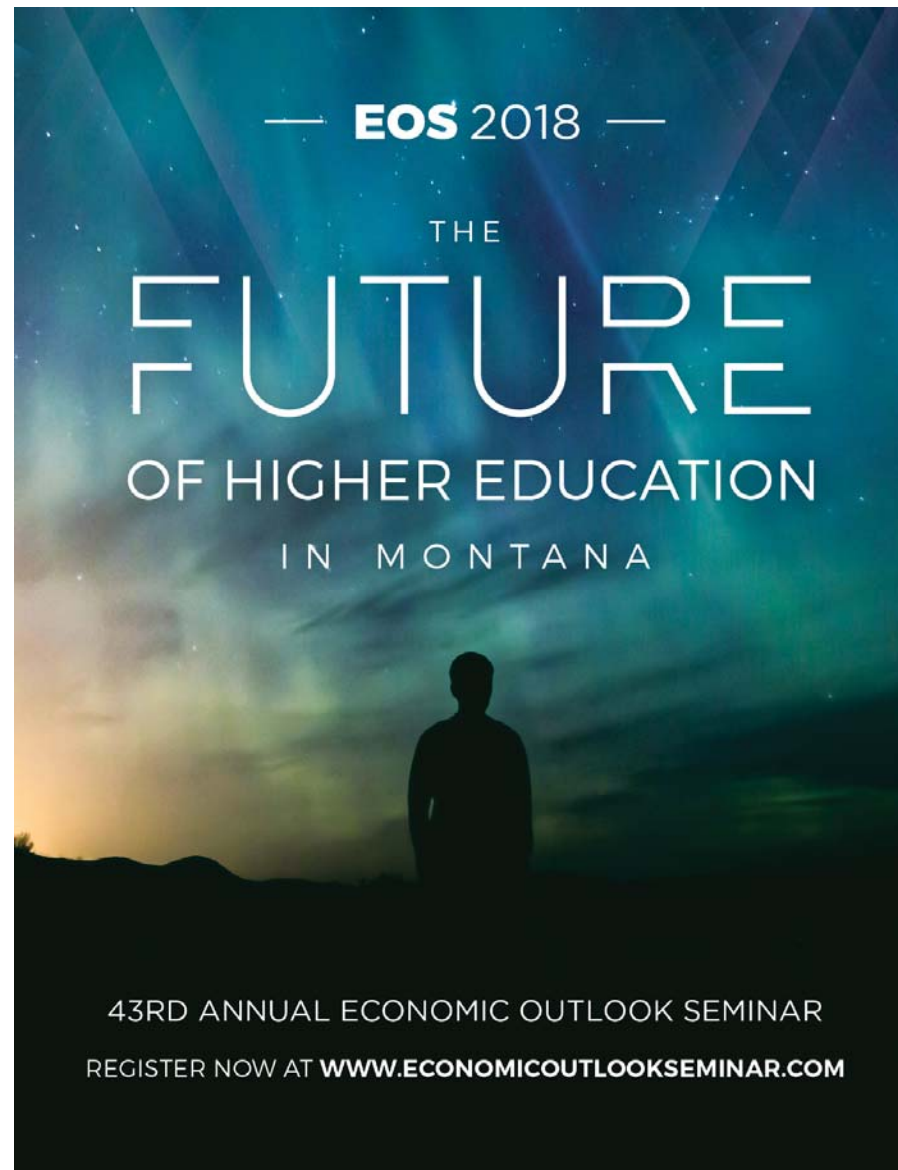
See: Cutler and Lleras-Muney (2006) "Education and Health: Evaluating Theories and Evidence"; Cutler and Lleras-Muney (2010) "Understanding Differences in Health Behaviors by Education"; Galama et al (2017) "The Effect of Education on Health and Mortality: A Review of Experimental and Quasi-Experimental Evidence."



Why might education improve health?

- (1) More resources – education leads to higher income, insurance, better access to health care
- (2) Information and cognitive skills – education provides more access to information and improves critical thinking skills and decision making ability.
- (3) Non-cognitive skills – education boosts social-emotional skills that provide more stable family and work relationships which improve health.
- (4) Social networks – more education leads to a large, more useful social network; the more educated also are more likely to have peers who disapprove of “bad” behavior.
- (5) Safer work environment – the more educated are less likely to work at dangerous or physically demanding jobs.
- (6) Preferences – e.g., education makes people more risk averse.
- (7) Status – higher status reduces stress and stress-related illness
- (8) Adoption – education makes people more likely to effectively adopt new knowledge and technology

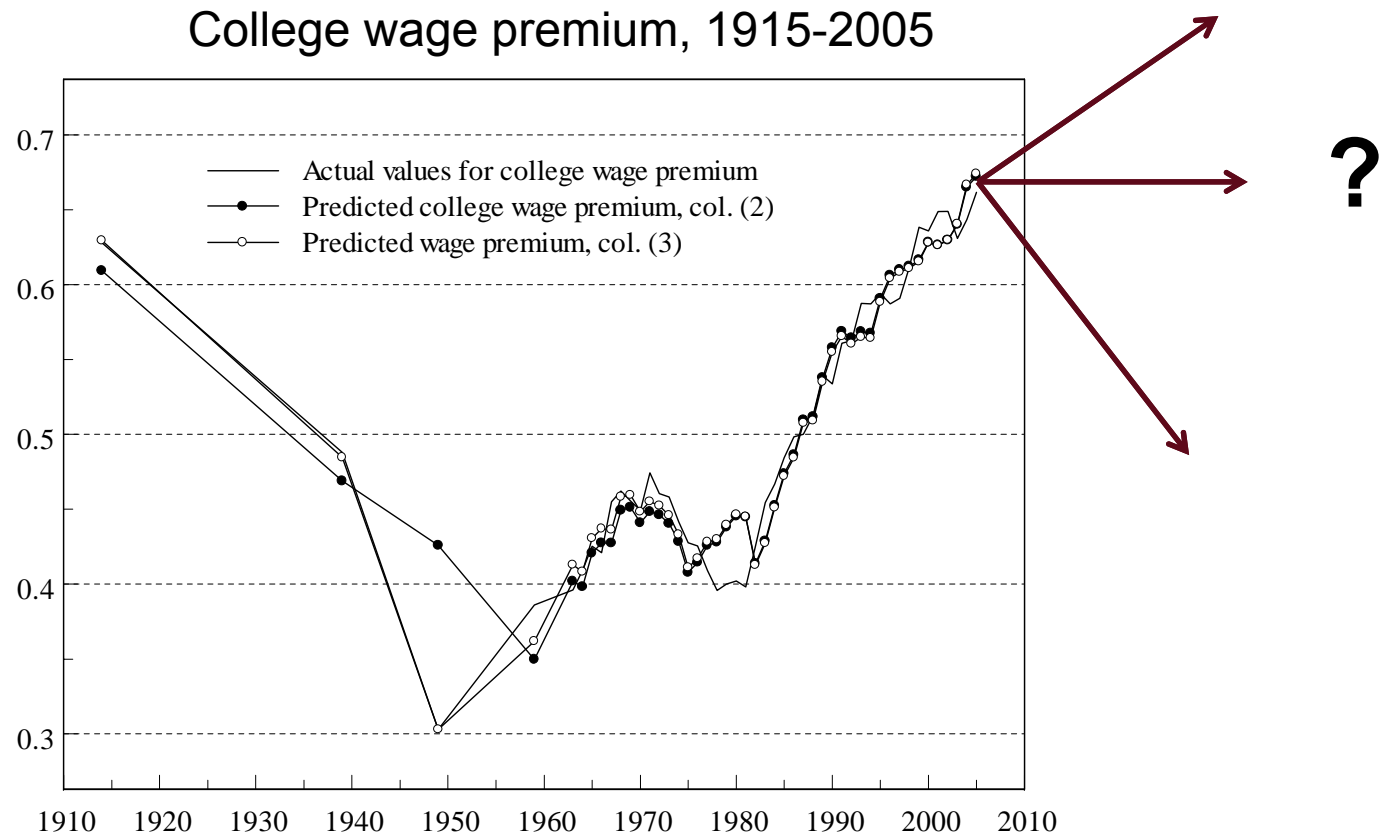




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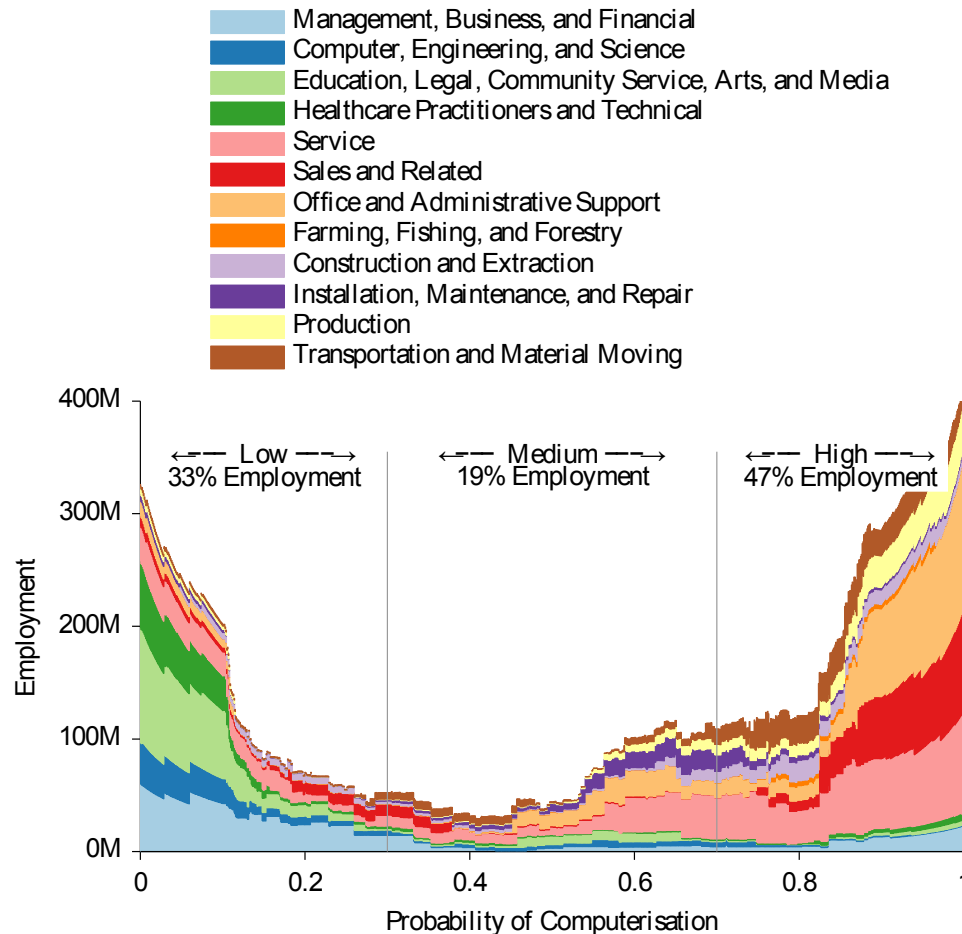
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Will economic changes reduce the benefits of attending college? Will demand for college educated workers fall?



Source: Goldin and Katz (2009) The Race Between Education and Technology

The robots are coming, the robots are coming, ... 47% of US employment faces high risk of computerization.



Jobs are less susceptible if they involve:

- (1) Perception and manipulation (finger dexterity, manual dexterity, and cramped work space)
- (2) Creative intelligence (originality, fine arts)
- (3) Social intelligence (social perceptiveness, negotiation, persuasion, assisting or caring for others)

Source: Frey and Osborne (2013) "The future of employment: How susceptible are jobs to computerisation"



Jobs that entail more social skills have seen faster employment and wage growth since 1980.

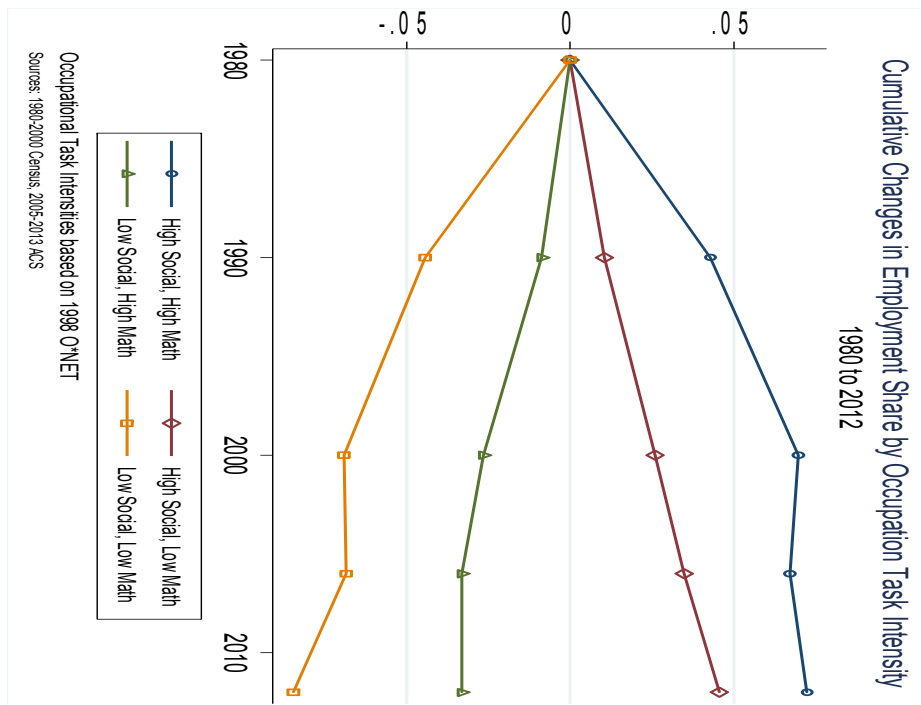


FIGURE IV

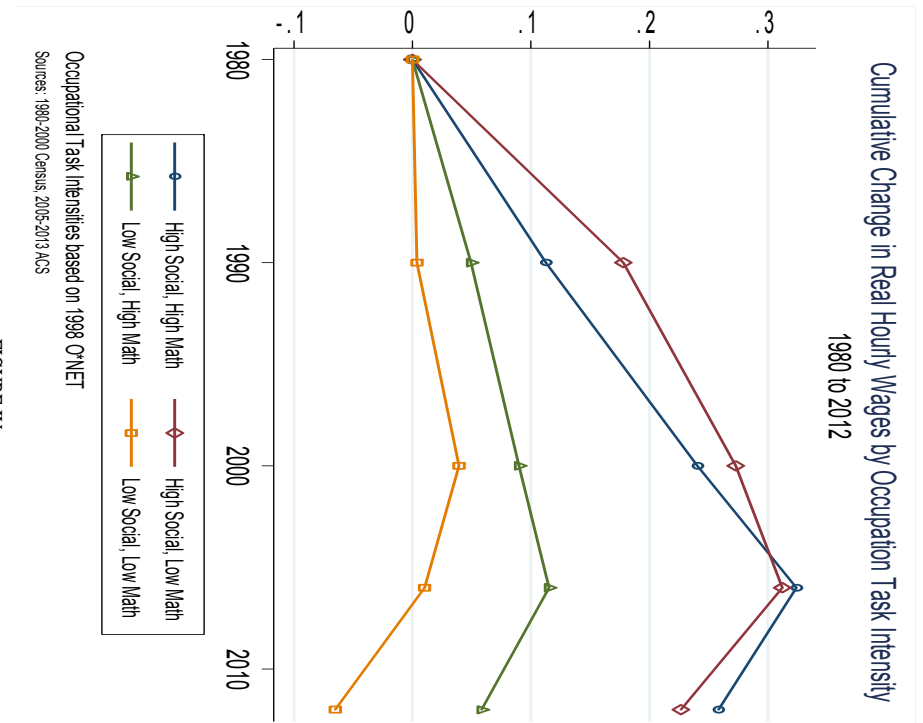


FIGURE V

Source: Demming, D. (2015) "The growing importance of social skills in the labor market."



High wage jobs and jobs where most people have at least a Bachelor's degree face much less risk from automation.

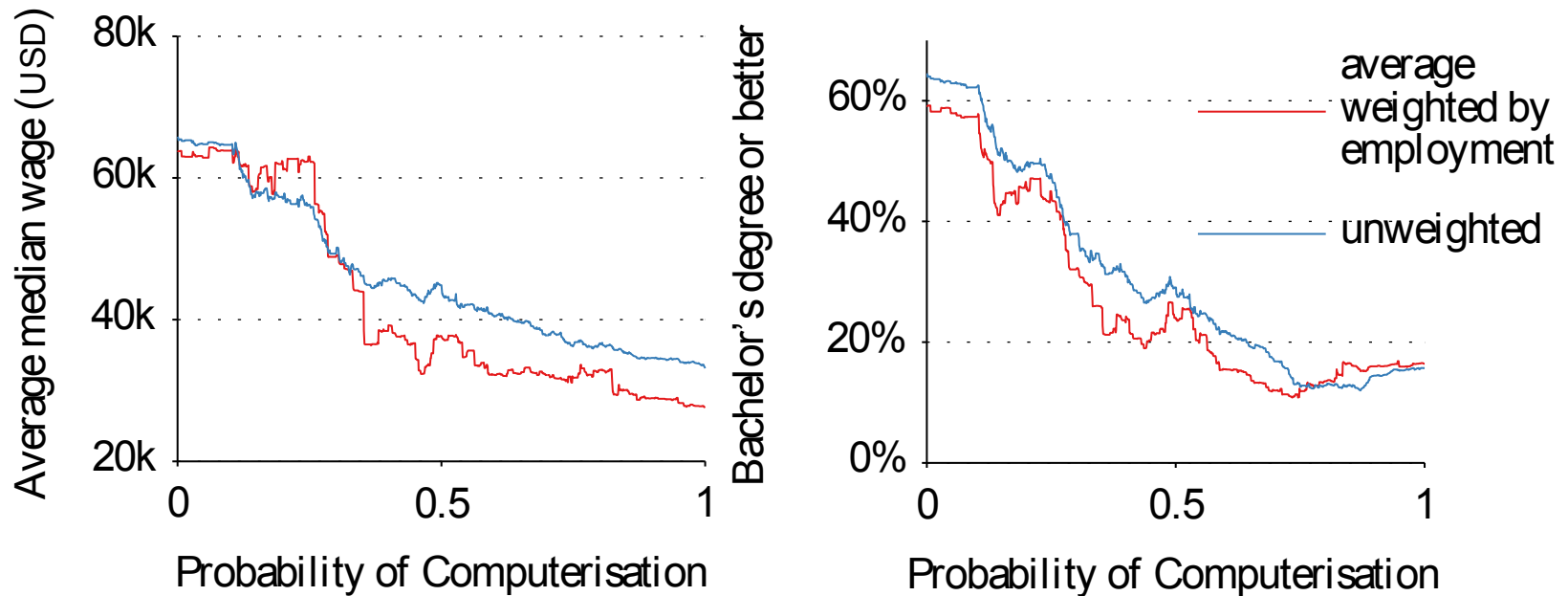


FIGURE IV . Wage and education level as a function of the probability of computerisation; note that both plots share a legend.

Source: Frey and Osborne (2013) "The future of employment: How susceptible are jobs to computerisation"



Will technological change lead *"50 percent of the 4,000 colleges and universities in the U.S. [to] be bankrupt in 10 to 15 years"* (Clayton Christiansen, Harvard Business School)?



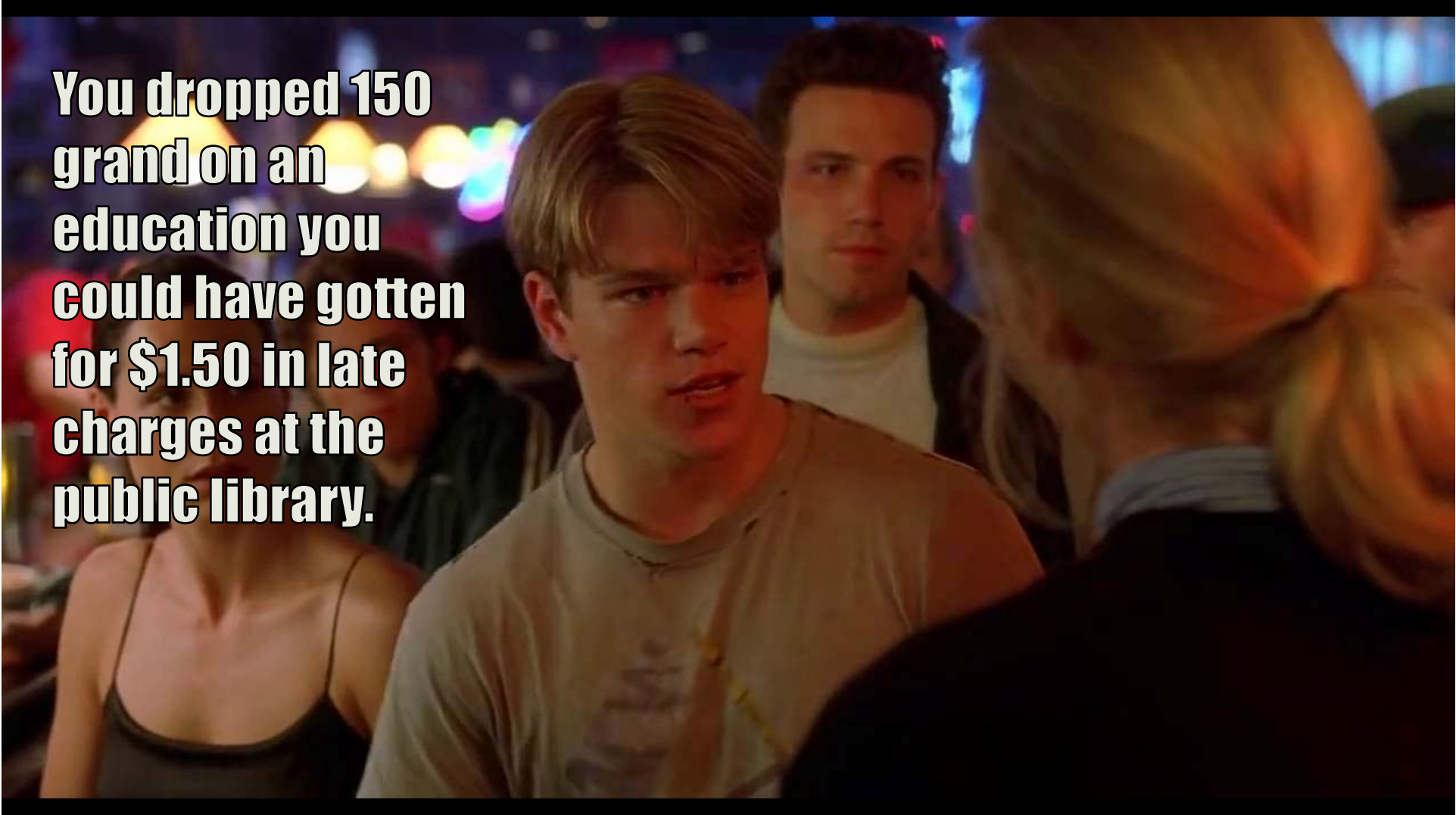
“...books will soon be obsolete in schools.... Our school system will be completely changed in the next ten years.”

-- Thomas Edison, 1913



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A young man with blonde hair is the central focus, looking slightly to his right with a thoughtful expression. He is wearing a light-colored t-shirt. The background is a crowded, dimly lit space, possibly a library or a community center, with blurred lights and other people. The text is overlaid on the left side of the image.

**You dropped 150
grand on an
education you
could have gotten
for \$1.50 in late
charges at the
public library.**



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Students differ.

Six types of students

- (1) Aspiring academics – traditional high achievers, plans for grad school.
- (2) Coming of age – don't know what they want to do yet, but value broad offerings, active social culture, and ability to try lots of things.
- (3) Career starter – job oriented, looking for college that helps them achieve desired career in shortest time.
- (4) Career accelerators – older students looking to advance existing career.
- (5) Industry switchers – older students looking to start-over in new field.
- (6) Academic wanders – don't know exactly what they are looking for.

Source: Ladd et al (2014) The Differentiated University: Recognizing the Diverse Needs of Today's Students



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Source benefits differ.

(0) College is fun.

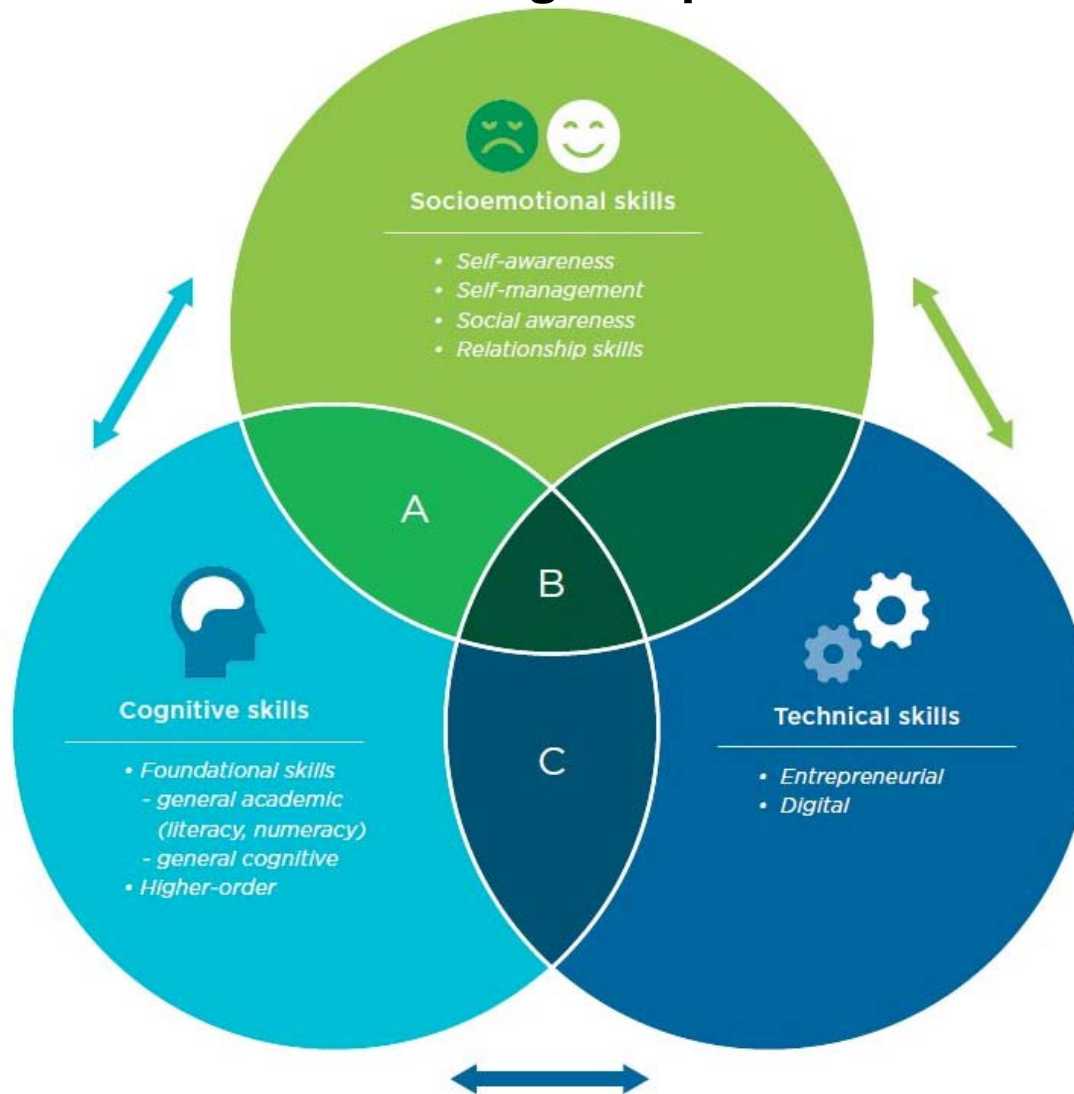
(1) Colleges generate valuable human and social capital.

- Colleges make students smarter. That is, college helps students acquire cognitive and technical skills that they otherwise may not acquire:
 - Colleges generate learning that is hard to replicate on one's own.
 - Colleges provide necessary constraints (i.e., people won't learn unless forced by someone)
- Colleges create productive habits.
- Colleges help students build valuable social networks/social skills.
- Colleges provide inspiration and guidance (i.e., it's a purposefully experimental period where people can explore different potential paths and access helpful supports once they've chosen a goal).

(2) College is a signal. Under purest version, college education itself does not do anything to transform students and make them more productive. It is simply something that allows high ability people to distinguish themselves from low ability people.



To what extent does college help individuals cultivate skills?



A = Decision making, communication, grit, self-control

B = Problem solving, organizational skills

C = Mid-level technical, high-level technical

Source: World Bank (2017) World Development Report 2018 – Learning to realize education’s promise.



Schools differ.

Highly selective



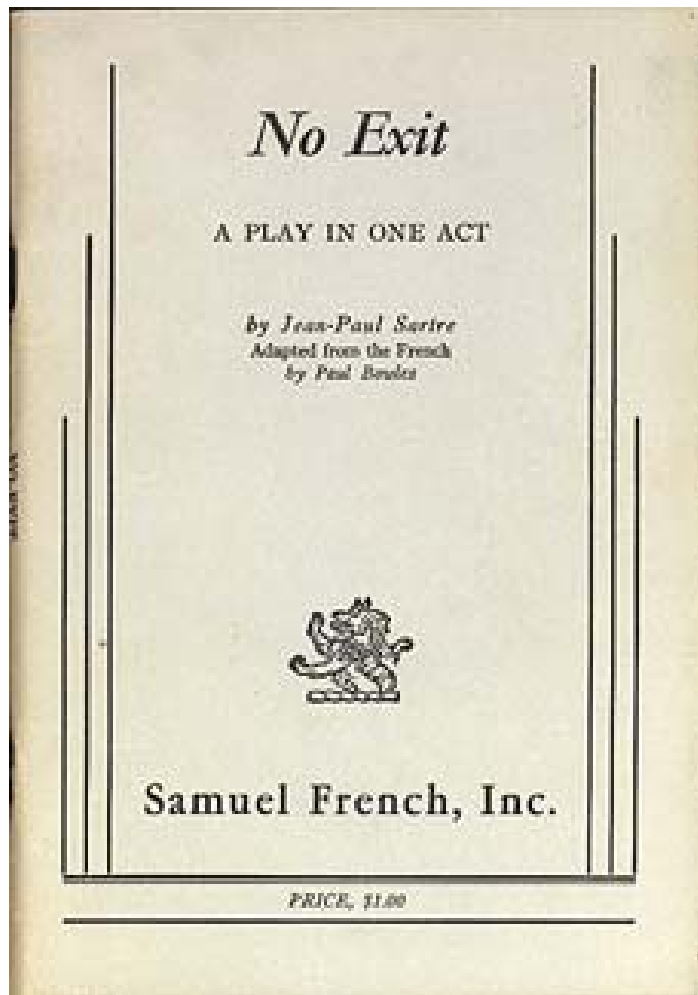
Tuition covers less than half of costs, 89% of students report informal interaction with faculty, 81% participate in school clubs, <25% of courses use multiple choice exams, 100% of students report writing a paper graded by professor, original course material; 8% attend part-time; 94% graduate with baccalaureate w/in 5 years at the institution they started at.

Non-selective

97% of costs covered by tuition or gov't appropriation; 29% of students report informal interaction with faculty; 13% participate in school clubs; 70% of courses use multiple choice exams; 5% of students report writing a paper graded by professor; fairly standardized course material; 59% attend part-time w/in first 2 years; 7% graduate with baccalaureate w/in 5 years at any institution.

Source: Hoxby (2014) "The economics of online postsecondary education: MOOCs, Nonselective Education, and Highly Selective Education."



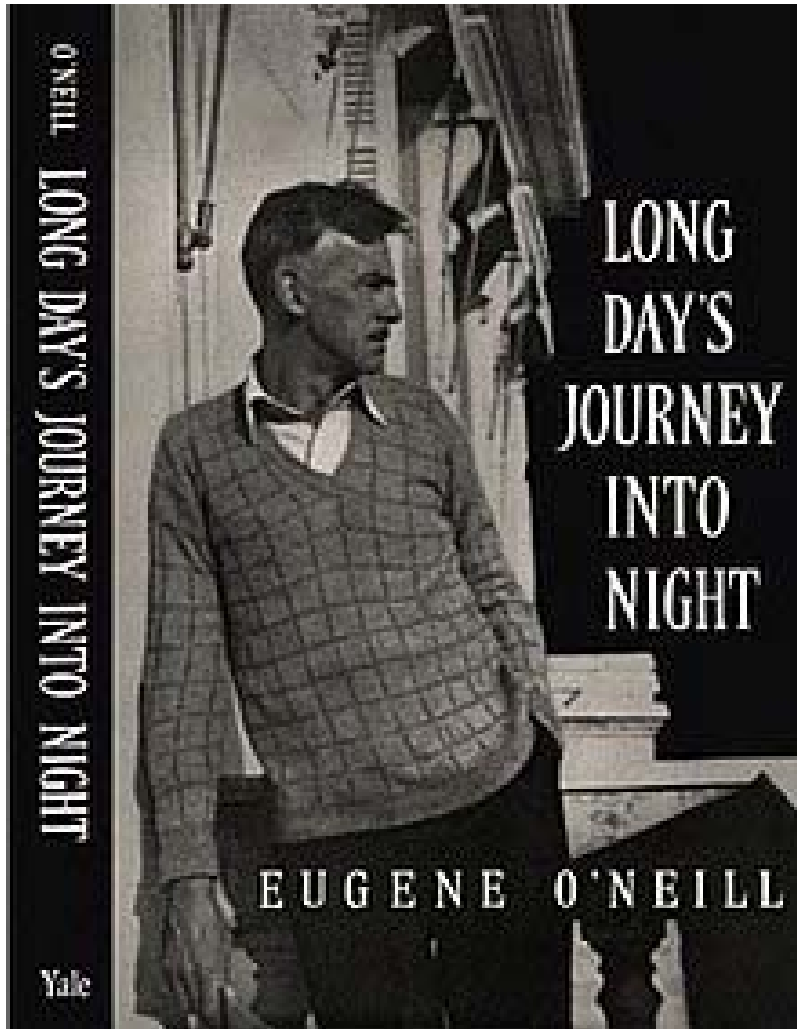


“Hell is other people.”



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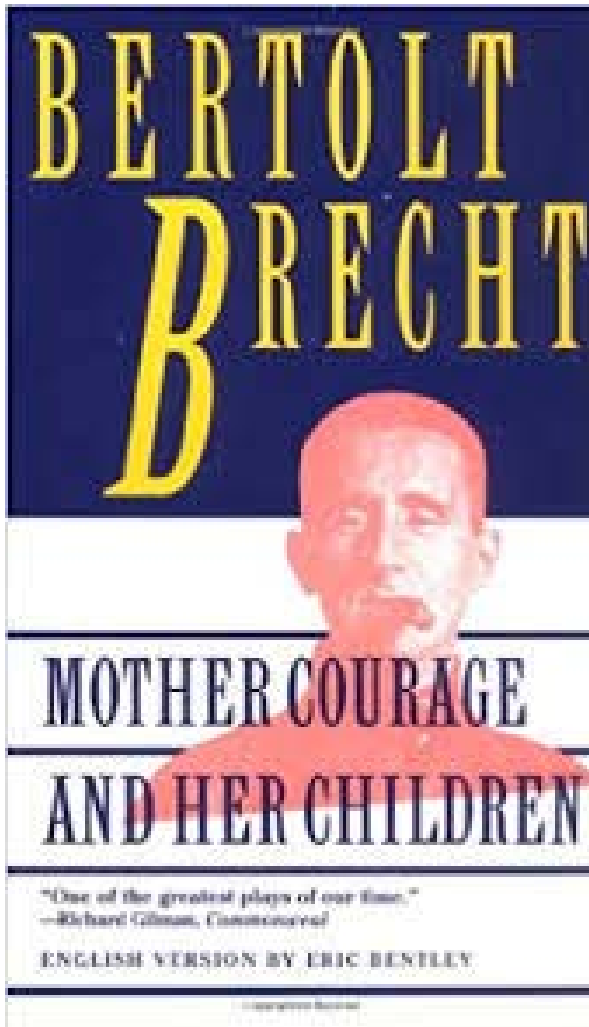


**Drug addled mom
and increasingly
drunk father and
sons while away a
day repeatedly
rehashing old
grudges.**



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Women tries to profit off war. Her children end up dead.



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Urban economists have seen this movie before.

■ *Edward L. Glaeser is Paul Sack Associate Professor of Political Economy, Harvard University, and Faculty Research Fellow, National Bureau of Economic Research, both in Cam-*

1890 to 53 percent in 1940 to 73 pe
of the population living in the ten l
from 93 percent to 91 percent since

Are they right? Will the 21:
the rise in urbanization over th

Journal of Economic Perspectives—Volume 12, Number 2—Spring 1998—Pages 139–160

Are Cities Dying?



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As such, some are skeptical.

**There is no substitute for face-to-face interaction.
Anyone can learn from a book—human interaction is
what people pay for. I'd be angry if I was a student.
[Digital education] is like porn for the mind.**

**David Albouy
Urban Economist
University of Illinois**

Source: <https://qz.com/1065818/ai-university/>



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If you yearn for more, check out my appearance on the College of Business' new podcast, "**A New Angle**", hosted by COB professor Justin Angle.

Available 1/26 wherever you get your podcasts (e.g., iTunes, Stitcher, SoundCloud)



A New Angle is an educational and business podcast highlighting awesome people doing cool things in Montana.



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