



*Society for Financial Education and  
Professional Development*

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# Education and Wealth: Correlation Is Not Causation

October 27, 2015

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Center for Household Financial Stability

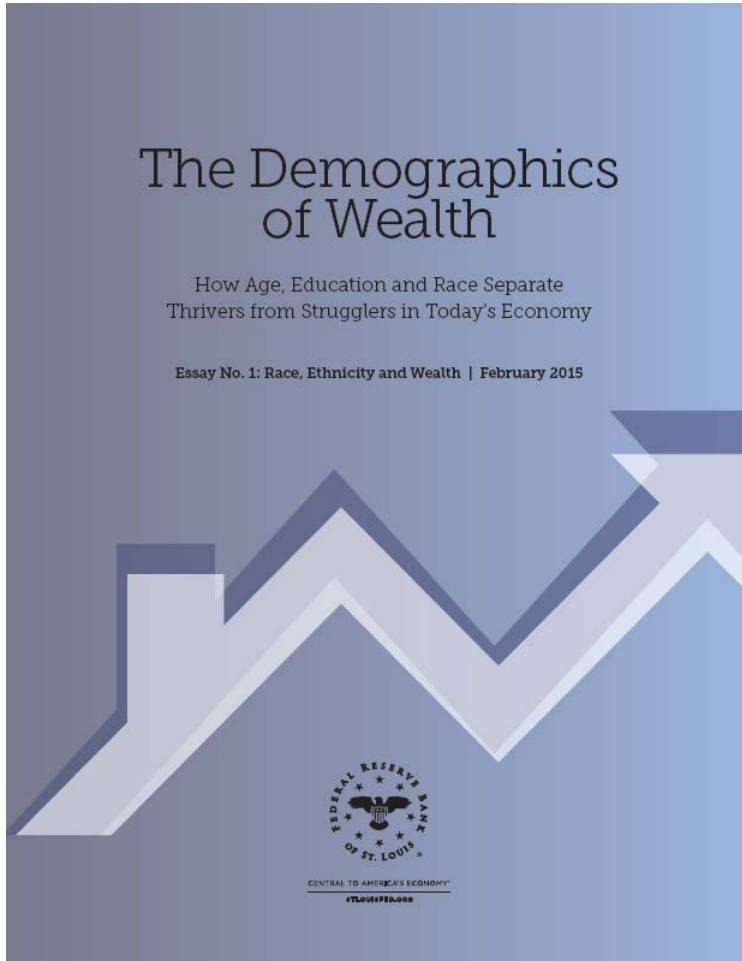
Federal Reserve Bank of St. Louis

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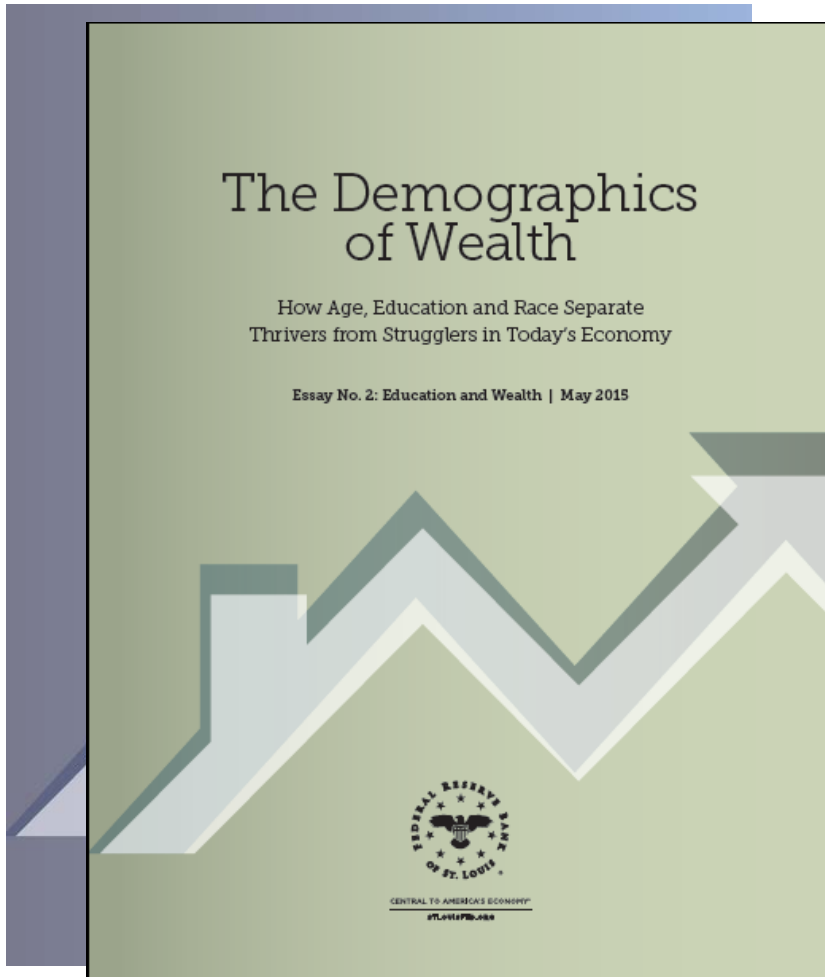
# *The Demographics of Wealth: An Essay Series*



- [www.stlouisfed.org/household-financial-stability/the-demographics-of-wealth](http://www.stlouisfed.org/household-financial-stability/the-demographics-of-wealth)
- **Part 1: Race, Ethnicity and Wealth (Feb. 2015).**



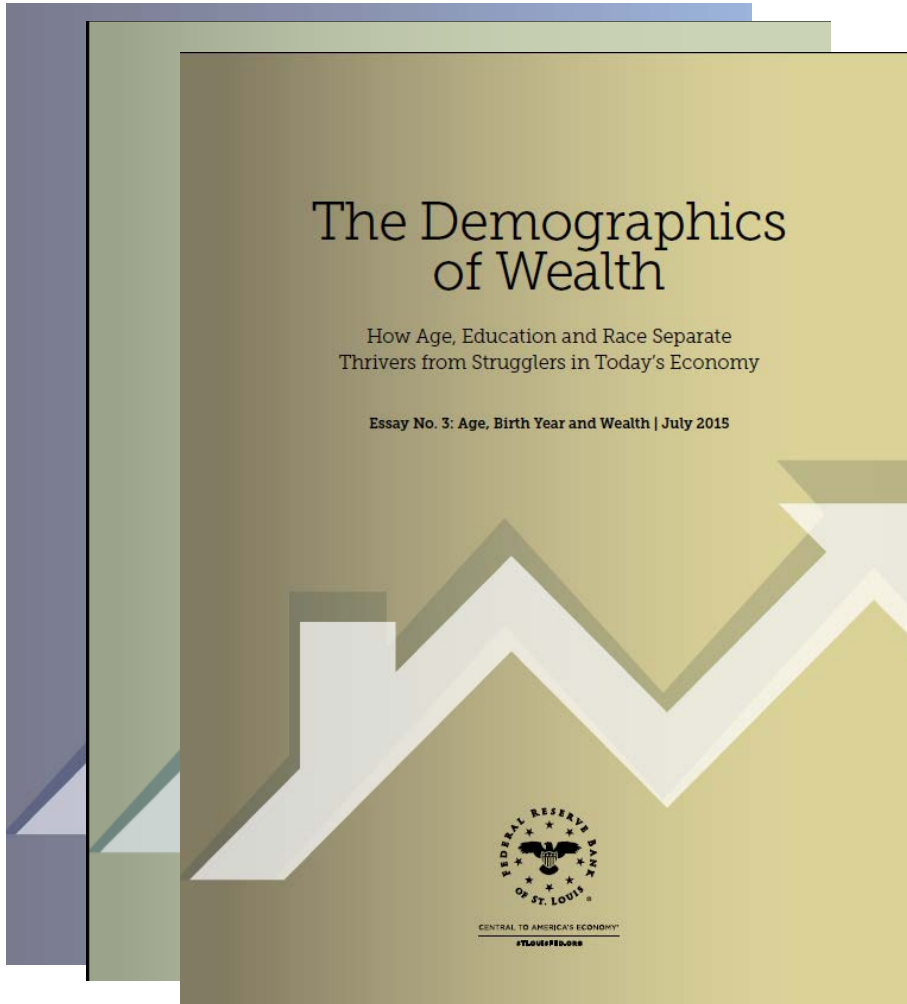
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- **Part 2: Education and Wealth (May 2015).**



# *The Demographics of Wealth: An Essay Series*



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- **Part 2: Education and Wealth (May 2015).**
- **Part 3: Age, Birth Year and Wealth (July 2015).**



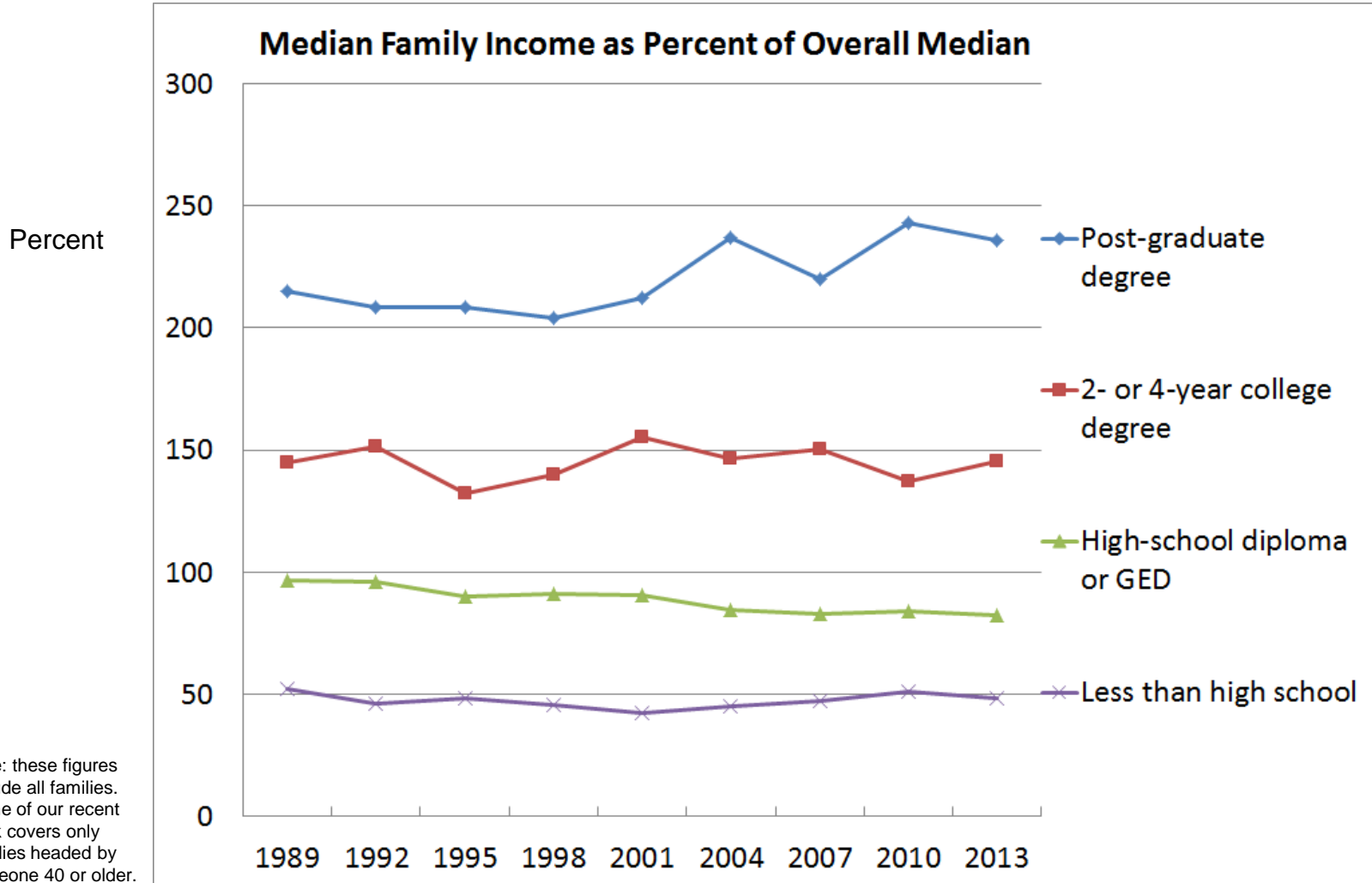
## *Overview of Education and Wealth: Correlation Is Not Causation*

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- Educational attainment and wealth are highly correlated.
- But some of the education-wealth correlation is *spurious*—that is, not *causal* but due instead to *other factors* that affect *both* education and wealth.
- In addition to wealth, education also is correlated with:
  - Income, financial decision-making, inheritances
  - Child’s education, socio-economic status, race/ethnicity
  - Health behaviors, morbidity, mortality
- A college degree itself does not magically confer all of the benefits that college grads typically enjoy—financial success requires more than a sheepskin.



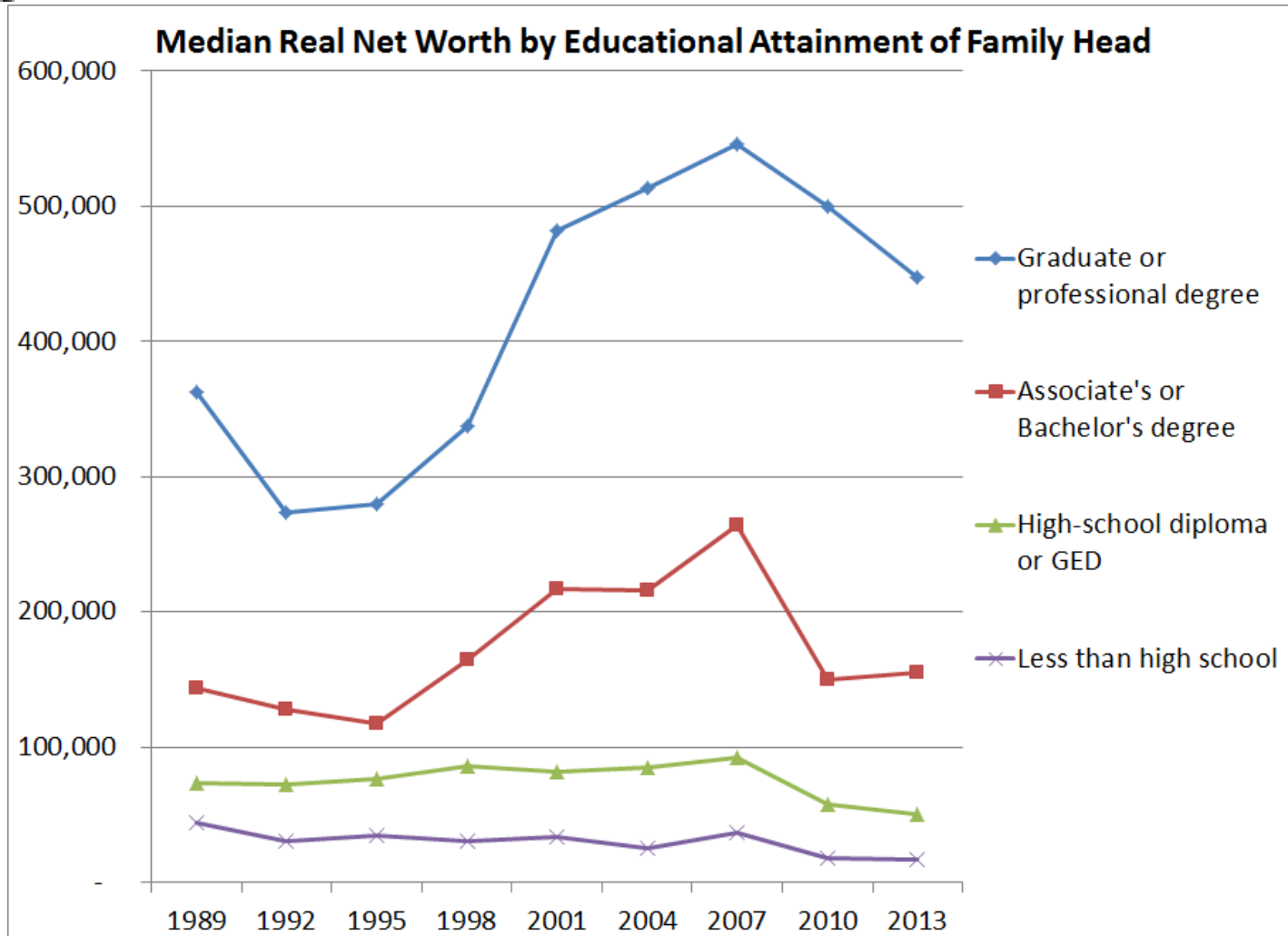
# *Educational Attainment Predicts Median Family Income*



Source: Federal Reserve Board, Survey of Consumer Finances



# *Educational Attainment Predicts Median Family Wealth*



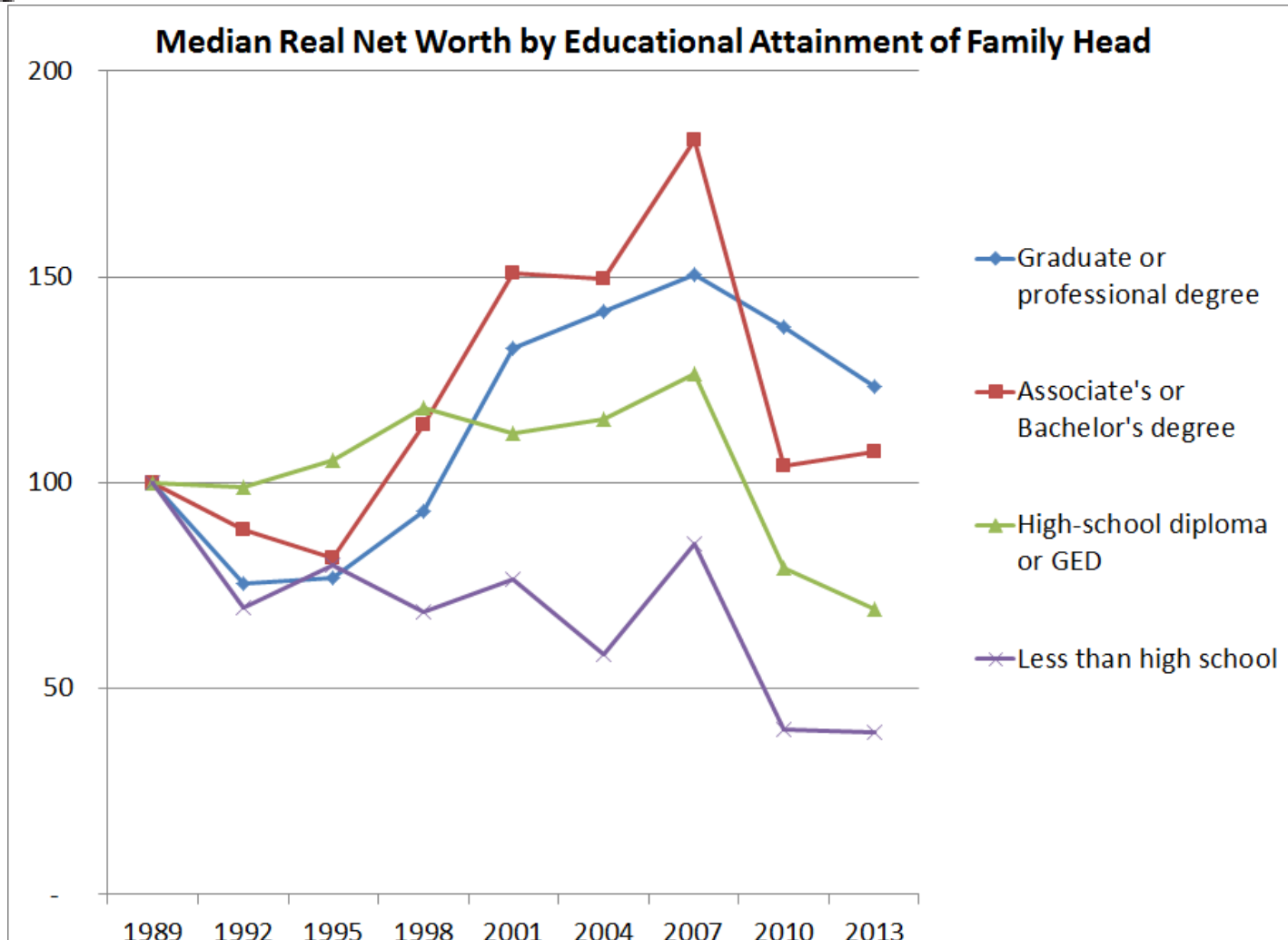
Note: these figures include all families. Some of our recent work covers only families headed by someone 40 or older.

Source: Federal Reserve Board, Survey of Consumer Finances



# Generally Speaking, Only College Grads Have Gained Wealth Over Time

Index levels equal 100 in 1989



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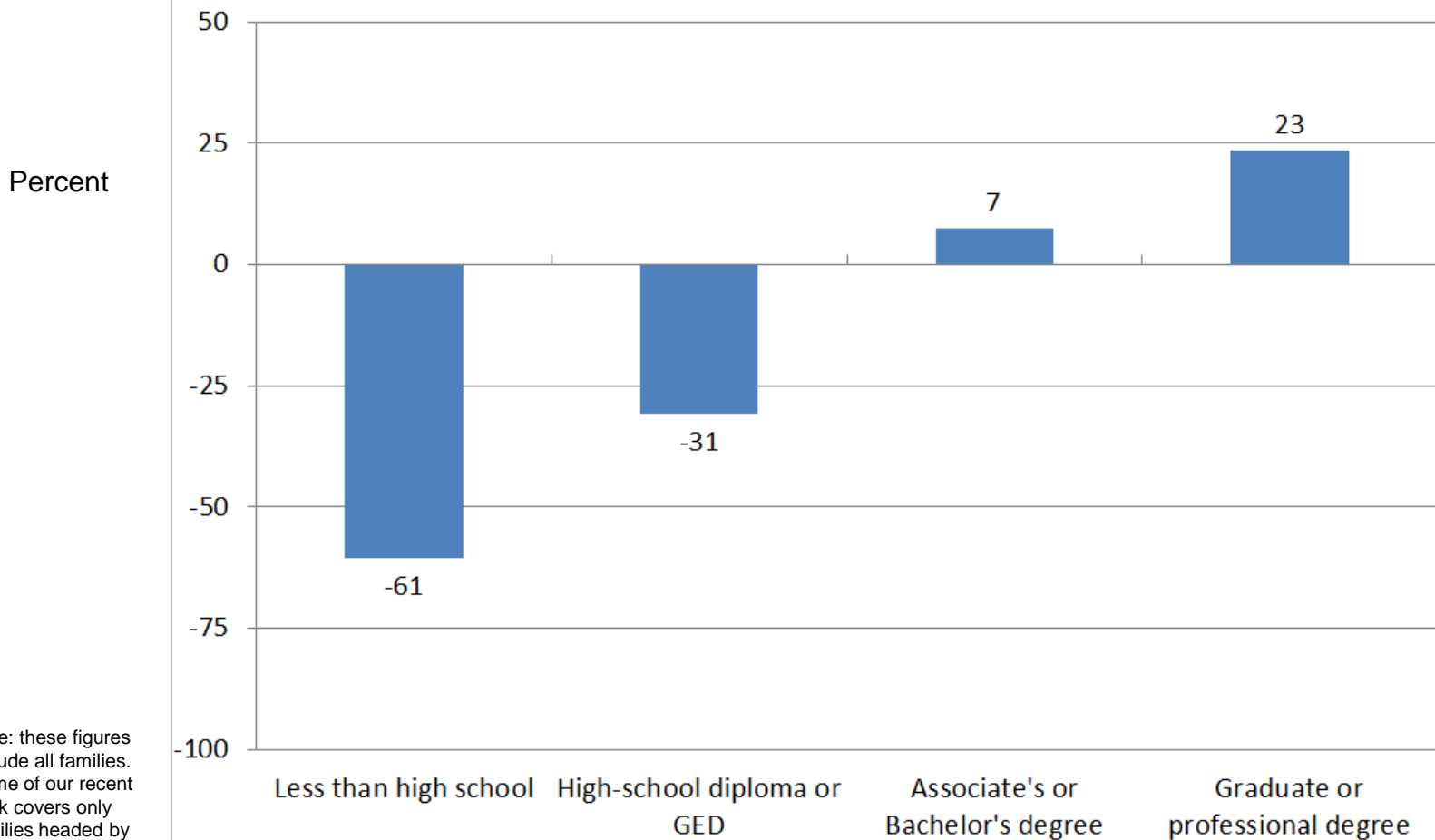
Source: Federal Reserve Board, Survey of Consumer Finances





# *Generally Speaking, Only College Grads Have Gained Wealth Over Time*

**Change in Median Net Worth From 1989 to 2013**



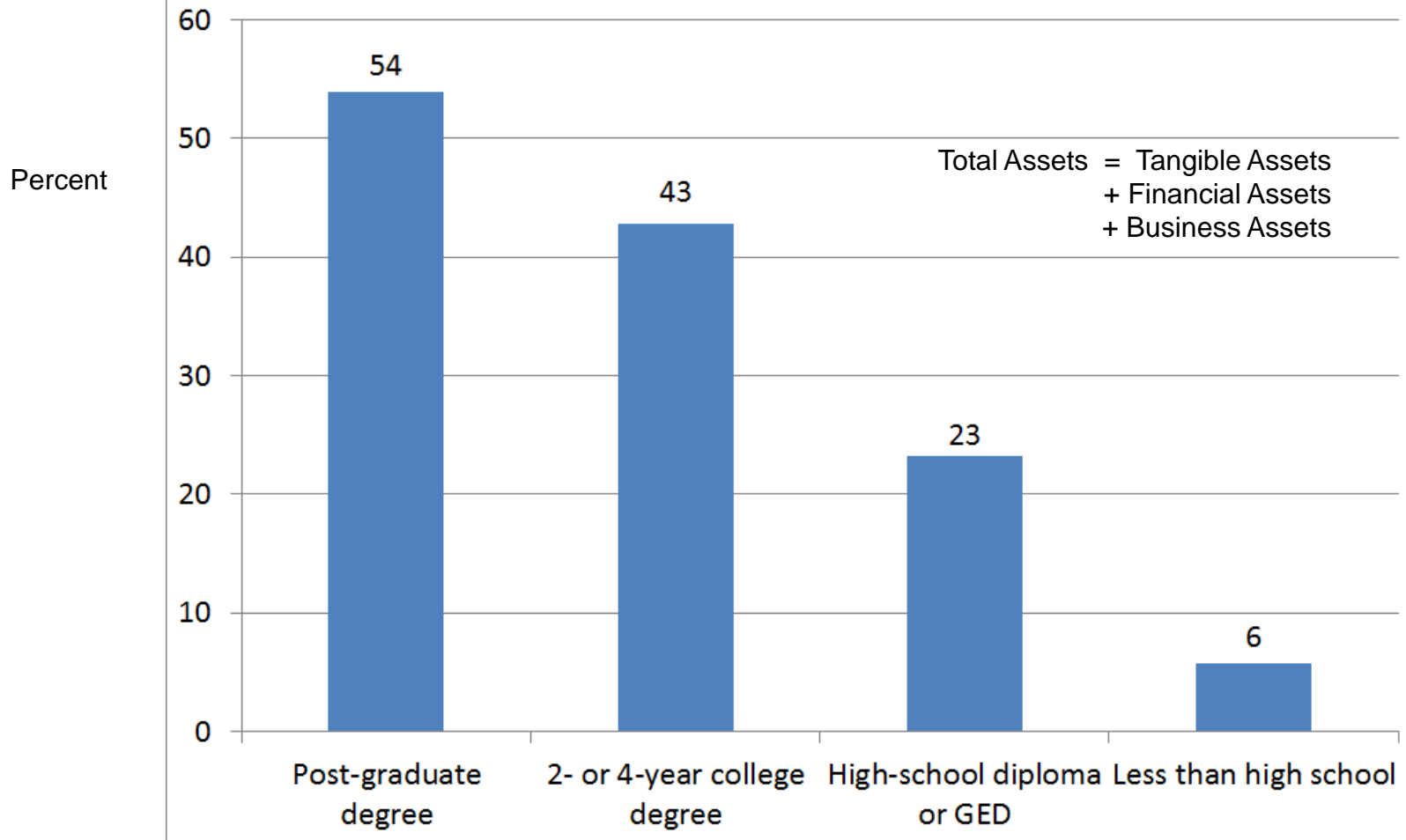
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Source: Federal Reserve Board, Survey of Consumer Finances



# *Education Predicts Asset Diversification, Which Is Associated With Greater Wealth*

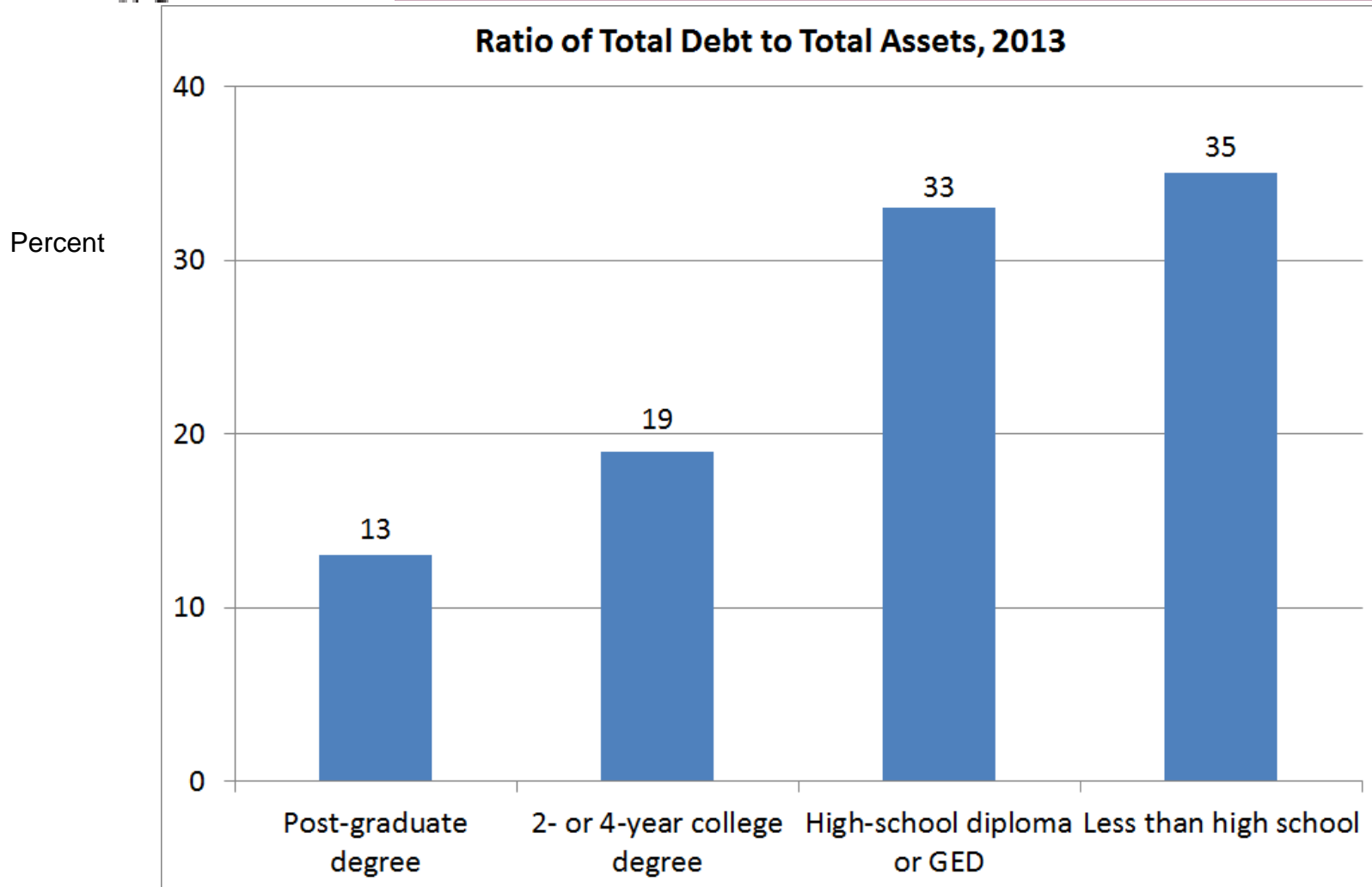
**Median Asset Share in Financial or Business Assets, 2013**



Source: Federal Reserve Board, Survey of Consumer Finances



## *Education Predicts Leverage, Which Is Inversely Associated With Wealth*

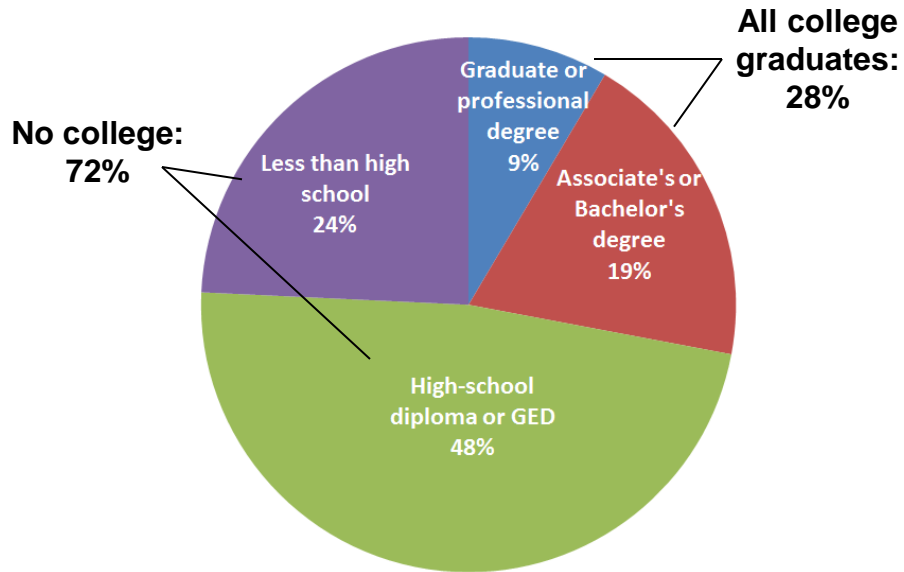


Source: Federal Reserve Board, Survey of Consumer Finances

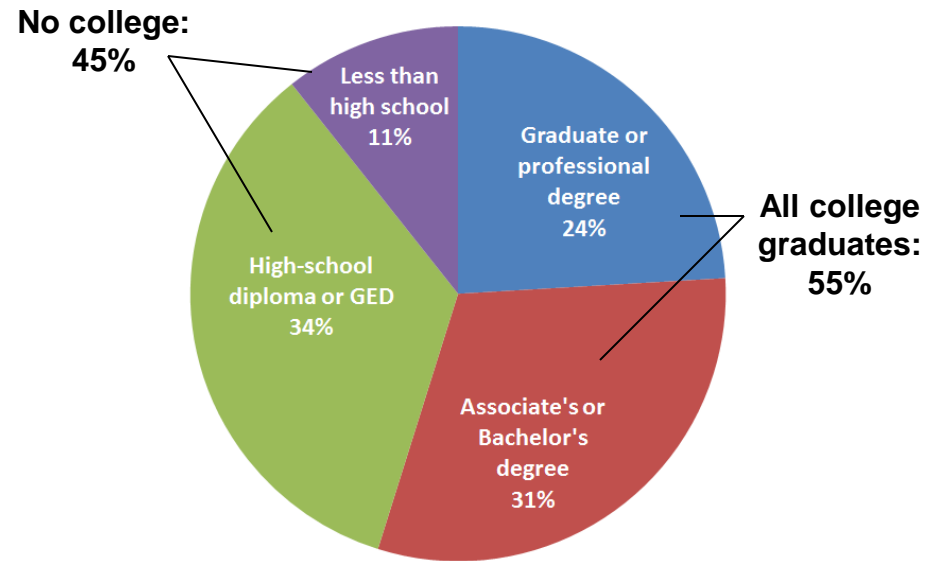


# *In 1989, College Grads Represented 28% of Families But Owned 55% of Wealth*

1989 SCF Sample Shares by Educational Attainment



1989 SCF Wealth Shares by Educational Attainment

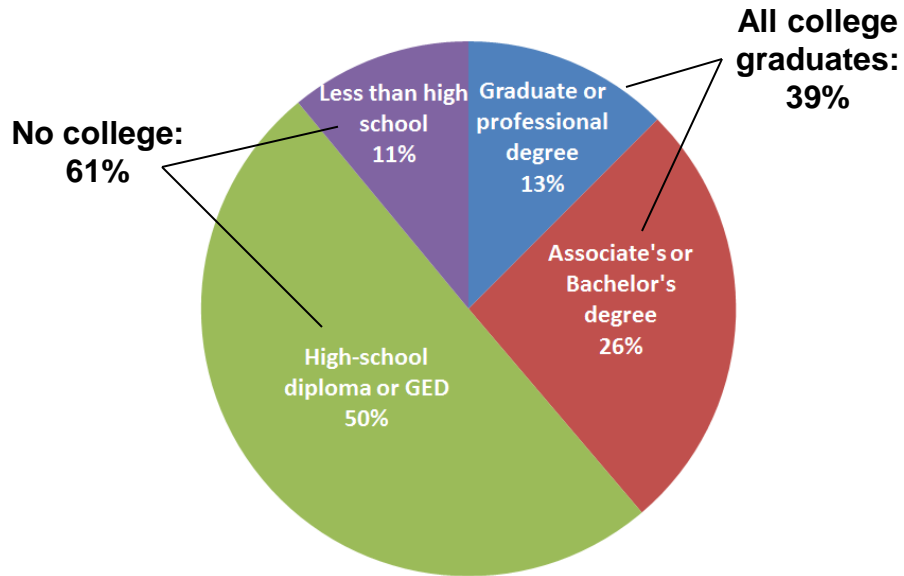


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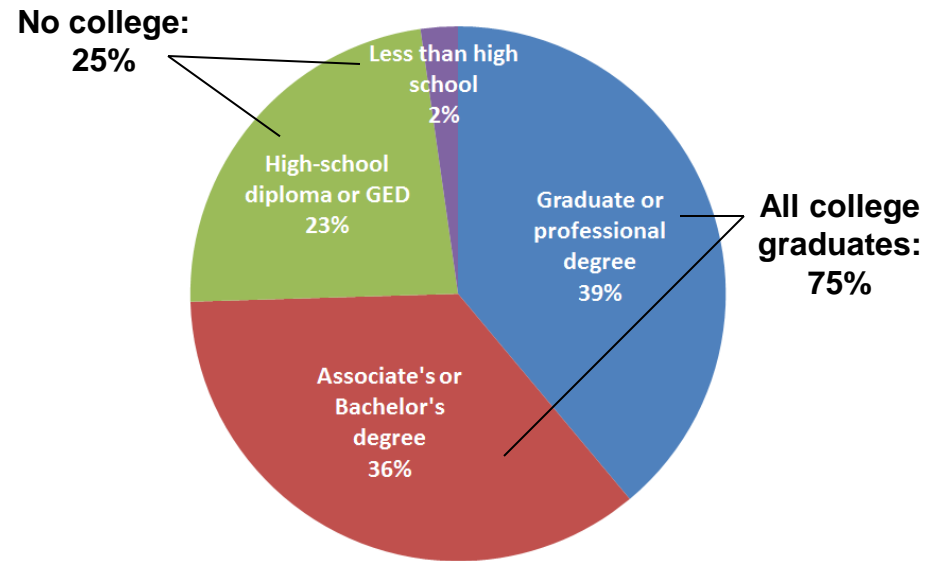


# *In 2013, College Grads Represented 39% of Families But Owned 75% of Wealth*

2013 SCF Sample Shares by Educational Attainment



2013 SCF Wealth Shares by Educational Attainment



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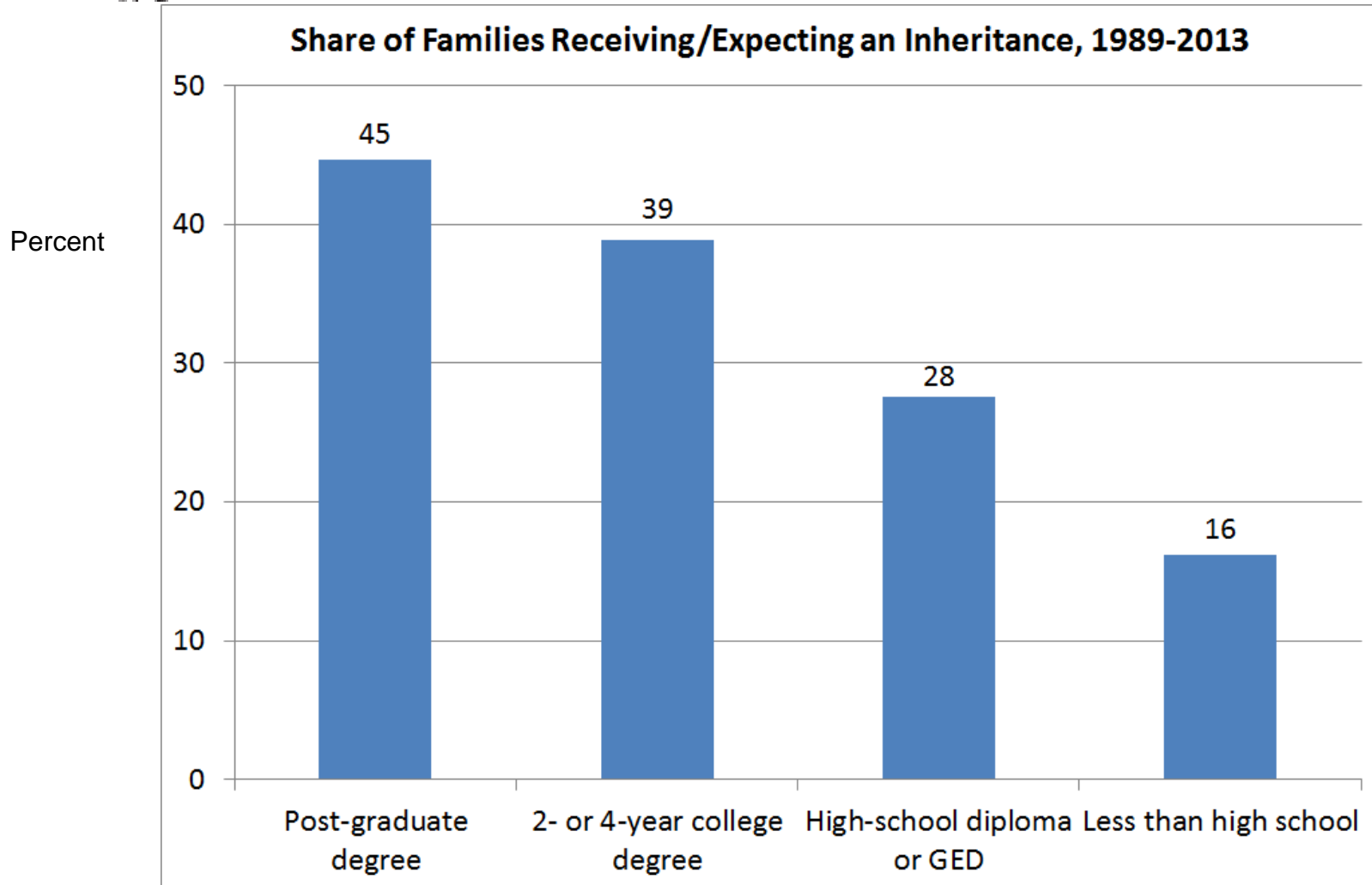
## *How Are Education and Wealth Related? Common Fallacies*

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- **“If you get a college degree you will be rich; with a post-graduate degree you’ll be even richer.”**
  - **Not necessarily—We observe a correlation but cannot determine causation.**
- **“If we could send everyone to college we would eliminate wealth disparities.”**
  - **Probably not—Not everyone can (or wants to) complete college.**
  - **Wealth disparities are very large among college grads, too.**
- **Education and wealth are related but exactly how is very complicated!**



## *An Illustration of Spurious Correlation: Education and Inheritance*



Source: Federal Reserve Board, Survey of Consumer Finances



## *Correlation vs. Causation*

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- Does more education *cause* more inheritances?
- Do inheritances *cause* more education?
- No to both—or not by themselves.
- Rather, people who are more educated tend to have parents who also are more educated and wealthier.
- Education is one input—among many—into wealth accumulation.
- There are many determinants of educational attainment, too.

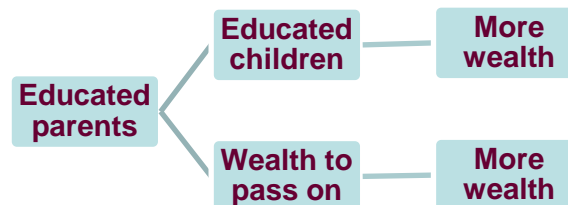




## *Six Sources of the Partially Spurious Correlation Between Education and Wealth*

- Inheritances**: Better-educated people are much more likely to receive sizable gifts or inheritances simply because they are more likely to have better-educated, higher-earning parents who have accumulated wealth.

**Bottom line: Educated parents produce both educated offspring and wealth that can be passed down.**

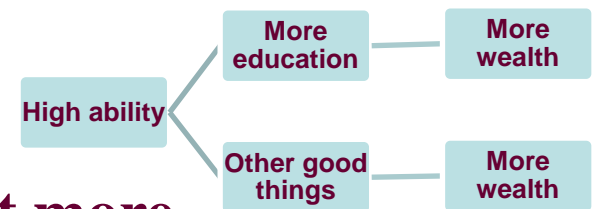




## *Six Sources of the Partially Spurious Correlation Between Education and Wealth*

2. *Natural abilities*: People with higher natural cognitive and non-cognitive abilities are more likely to complete higher levels of education.

At the same time, measures of cognitive and non-cognitive ability also predict success in achieving higher social status, avoiding poverty and criminality, enjoying better health and achieving greater longevity.



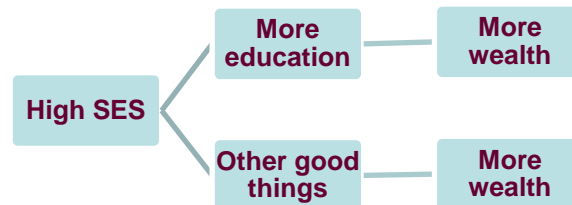
**Bottom line:** More-talented people get more education and do many other things that can lead to greater wealth.



## *Six Sources of the Partially Spurious Correlation Between Education and Wealth*

- Family background**: The parents' socio-economic status (social class, occupation, education, income, wealth) contributes to the child's success as an adult in many different ways.

**Bottom line: High-status children get more education and enjoy other economic and financial benefits.**

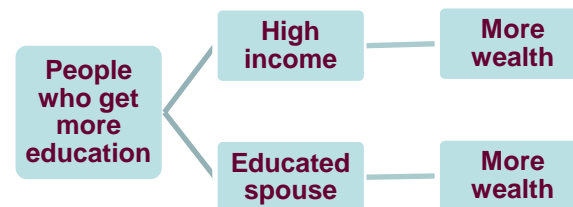




## *Six Sources of the Partially Spurious Correlation Between Education and Wealth*

- 4. Assortative mating (“like marries like”):** The link between education and earnings and the tendency for highly educated people to marry each other effectively doubles the college wage premium for these families. Financial decision-making also may be improved with two educated spouses.

**Bottom line: Your education creates wealth and attracts an educated spouse.**





## *Six Sources of the Partially Spurious Correlation Between Education and Wealth*

- Incentive to become financially knowledgeable:**  
High-earning families have a strong incentive to learn how to shift middle-age income into retirement.

**Bottom line: High income during working years creates wealth and spurs financial learning.**





## *Six Sources of the Partially Spurious Correlation Between Education and Wealth*

6. *Better health and longer lifespans:* People who get more education are healthier, on average.

Better health extends working lives and lengthens healthy retirement years.

Longer-lived people collect more from Social Security and private pensions and their investments have more time to grow.

**Bottom line: People who get more education tend to be healthier and wealthier.**

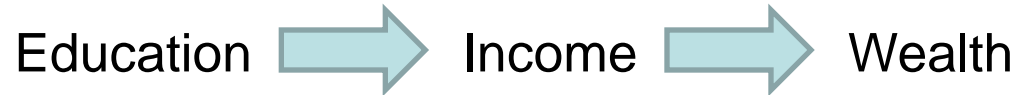




## *Correlation vs. Causation: Three Theories*

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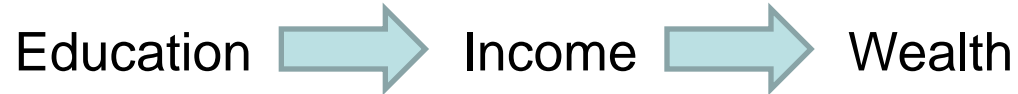
### **Theory 1**



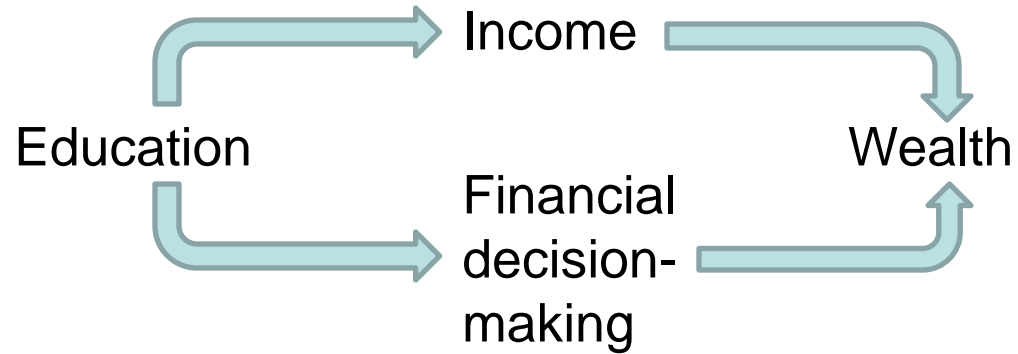


## *Correlation vs. Causation: Three Theories*

### **Theory 1**



### **Theory 2**





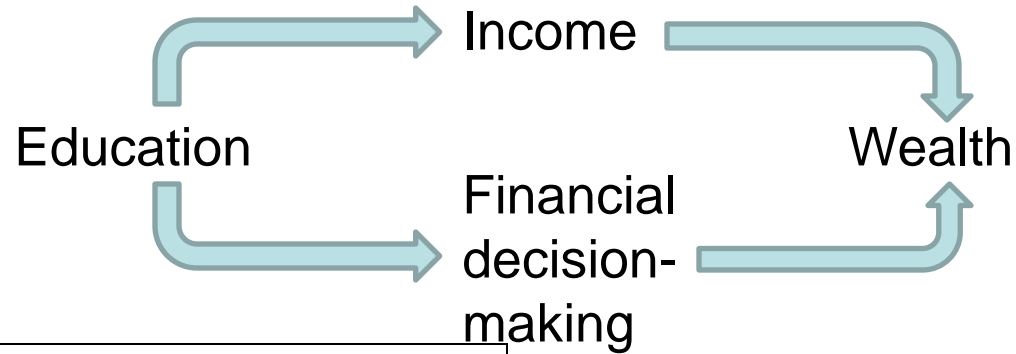


# Correlation vs. Causation: Three Theories

## Theory 1

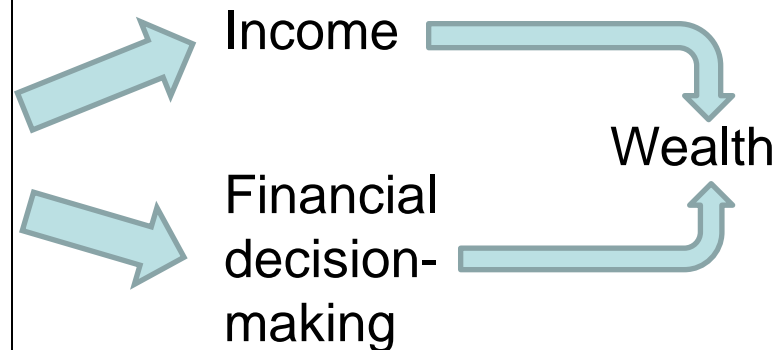


## Theory 2



## Theory 3

- Cognitive ability
- Non-cognitive traits (“grit”)
- Socio-economic status
- **Education itself**
- Education by-products
  - Educated spouse
  - Incentive to become financially savvy





## *In Sum: Education and Wealth Are Correlated But Causal Link May Be Weak*

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- **Some—perhaps much—of the education-wealth correlation is spurious.**
  - **That is, education alone does not cause wealth accumulation; a college degree is not magic.**
  - **Rather, many factors (ability, socio-economic status, grit) affect *both* educational attainment and wealth.**
- **Therefore, educational attainment alone may be a weak policy instrument for widening and equalizing the distribution wealth.**



## *For More Information*

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### **Center for Household Financial Stability**

[www.stlouisfed.org/household-financial-stability](http://www.stlouisfed.org/household-financial-stability)

### *Education and Wealth* essay

[www.stlouisfed.org/household-financial-stability/the-demographics-of-wealth/essay-2-the-role-of-education](http://www.stlouisfed.org/household-financial-stability/the-demographics-of-wealth/essay-2-the-role-of-education)

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