

# Aptitude, Attitude, and Labor Market Outcomes

Carolyn D. Gorman

NYU Robert F. Wagner Graduate School of Public Service  
Data Studio | Summer 2021

# Research Question

**To what extent are early life aptitude and attitude measures related to later life labor market outcomes?**

# The Issue

The labor market is changing. Jobs of the future will be different from the jobs of today. Evidence suggests that **non-routine cognitive skills** and **interpersonal skills** will become more important to jobs of the future.

# Why it Matters

Labor market changes could have major implications for economic growth, employment, and inequality; individuals disproportionately employed in jobs with declining demand for their given skills (such as routine physical skills) could be particularly disadvantaged by labor market changes.

Understanding how aptitude and attitude in early adulthood relate to labor market outcomes and human capital accumulation may be important for informing differential outcomes in a rapidly changing labor market.

# Preliminary Analysis

Examine the basic relationship between early life aptitude and attitude measures and the later life labor market outcome of real hourly wages.

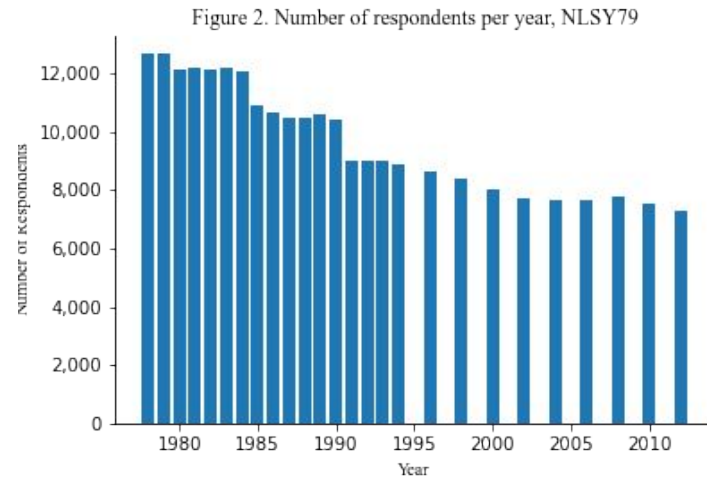
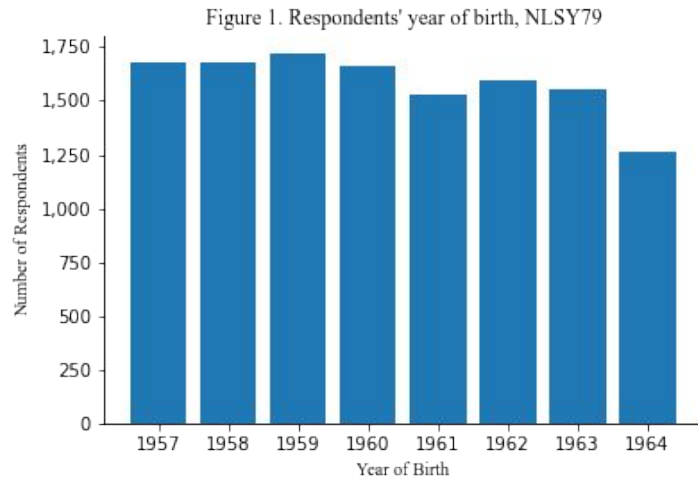
Expectations: High aptitude in early adulthood alone does not determine labor market outcomes; individuals with higher self-esteem and greater sense of control in early adulthood will have higher wages later in life.

## *Big Picture Analysis*

*Consecutive analyses would build to examine outcomes for total income and wages, impact on self-selection into industry/occupation, employer firm characteristics, and health-related outcomes such as whether an individual has employer-sponsored health insurance.*

# Data Source

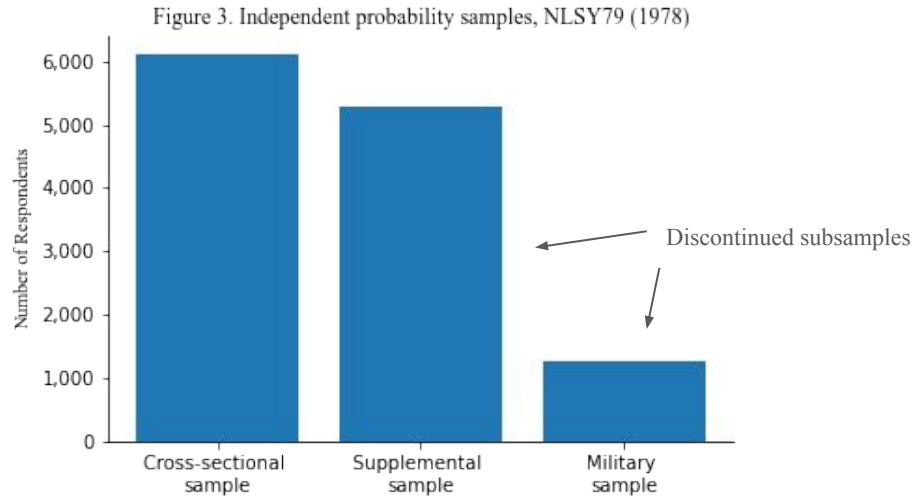
**National Longitudinal Survey of Youth (NLSY79):** a nationally representative sample of 12,686 young men and women born between 1957 and 1964. Survey respondents were ages 14 to 22 and living in the US when first interviewed in 1979. Interviews were conducted annually from 1979 to 1994 and on a biennial basis thereafter. This research draws on data through 2013.



# NLSY79 Demographics

Three original independent probability samples of the NLSY79 cohort: (1) cross-sectional sample of non-institutionalized young civilians, (2) supplemental over-sample of Hispanics, Blacks, economically disadvantaged young civilians, and (3) young persons in the military.

The supplemental and military oversamples were discontinued in 1990 and 1984, respectively. Today, 9,964 eligible respondents remain after the two subsamples were dropped.



# NLSY79 Coverage

The NLSY79 cohort is a unique source of income information. Income can be precisely measured for low-income and minority households thanks to the original 5,295-respondent panel supplemental sample. Detailed age/income profiles can be traced over time from in-depth income questions asked since 1979.

The NLSY79 also includes detailed information related to labor market participation and outcomes, including industry and occupation of work, employer firm characteristics, and employment history (spells of employment and unemployment as well as their lengths).

*Other variables in this constructed dataset: labor force participation, gender, race, education level, parents' education, region of residence, family poverty status, and if a respondent's health affects their ability to work or the type of work done.*



# NLSY79 Measures of Aptitude and Attitude

**Armed Forces Qualifications Test (AFQT)**: part of the Armed Forces Vocational Aptitude Test Battery (ASVAB), a well-known aptitude test meant to measure developed ability and predict future success academically or in military jobs; used for career exploration at schools, job corps centers, etc.; used by many studies to **proxy for human capital** and/or **cognitive proficiency**, as well as **trainability**. Vast majority of respondents were given (and took) this test in 1980.

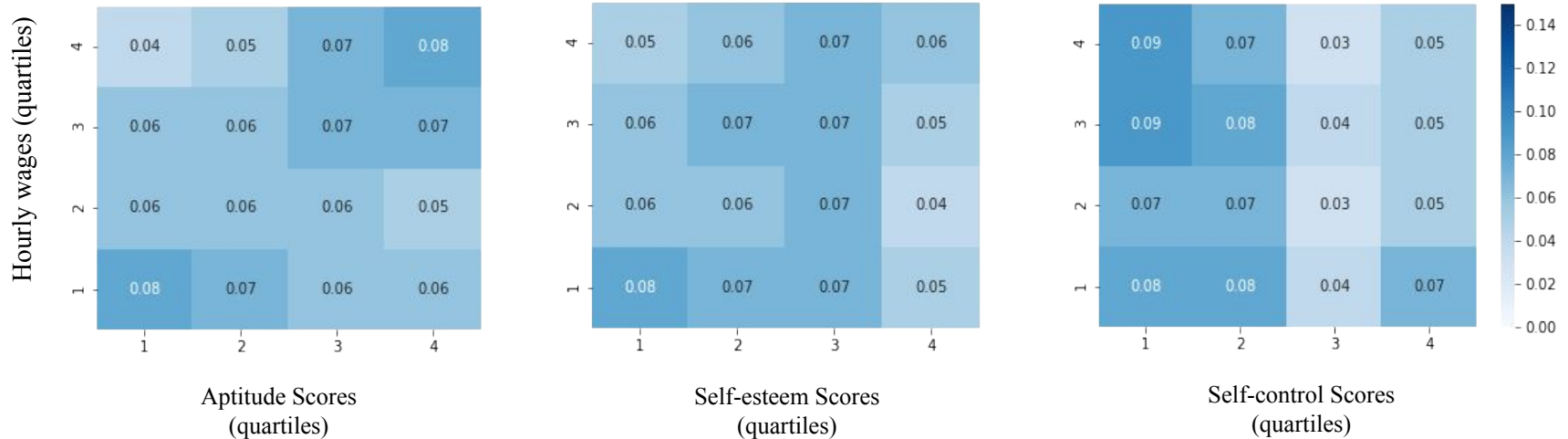
**Rotter-Locus of Control Scale**: measures the extent to which **individuals believe they have internal control over their lives**--e.g. through self-motivation or self-determination--versus the extent they believe that the environment has external control of their lives, e.g. through chance, fate, or luck. Question on 1979 survey.

The **Rosenberg Self-Esteem Scale**: measures the self-reported **perception of one's own self-worth**--i.e. feelings of pride, satisfaction, and positivity towards oneself; feelings of one's own ability and success. Question on the 1980 survey.

# Initial Examination

Early in life (age 23), there is not a strong correlation between hourly wages and respondents' scores for aptitude (AFQT test), self-esteem (Rosenberg scale), or self-control (Rotter scale). Among the scores, aptitude had the highest correlation with hourly wages.

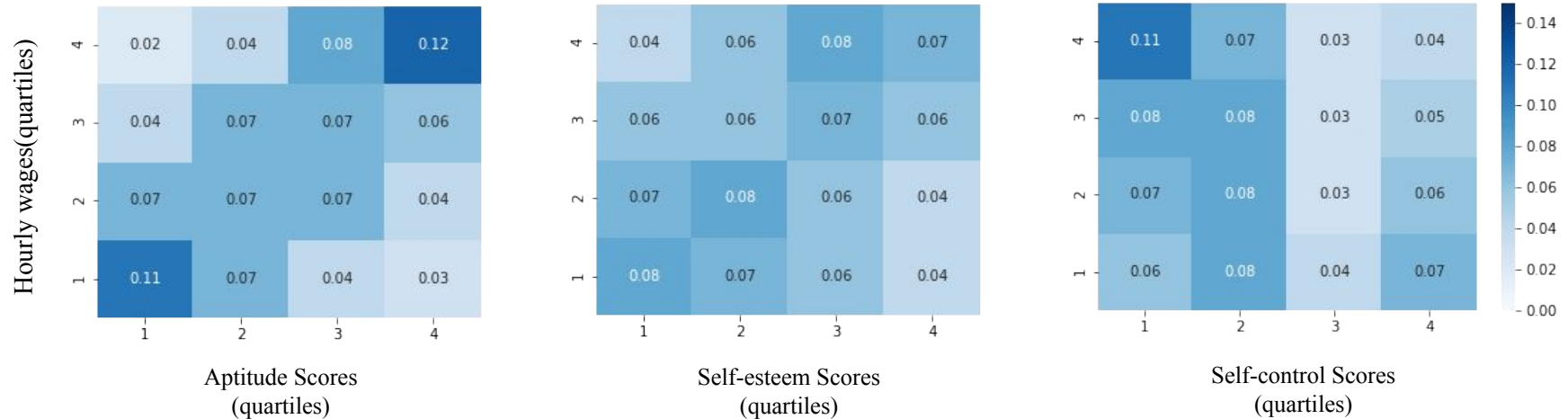
Figure 4. Correlation between respondents' hourly wage quartile at age 23 and initial aptitude/attitude measures.



# Initial Examination

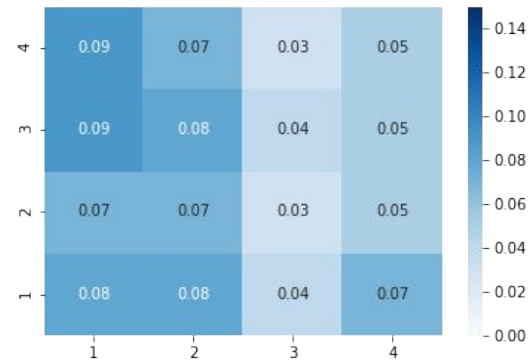
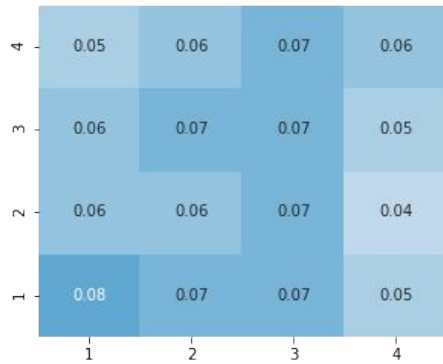
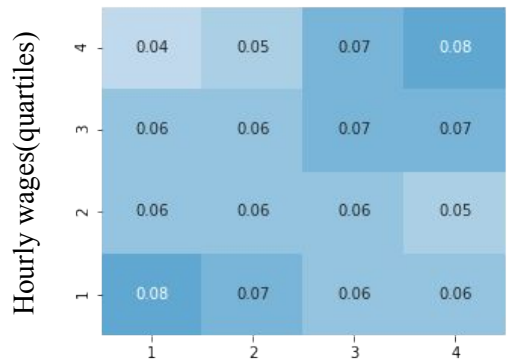
In later life (at age 47), the correlation between early life aptitude score and hourly wages is much stronger. The correlation between early life self-esteem and later life hourly wages is stronger as well.

Figure 5. Correlation between respondents' hourly wage quartile at age 47 and initial aptitude/attitude measures.

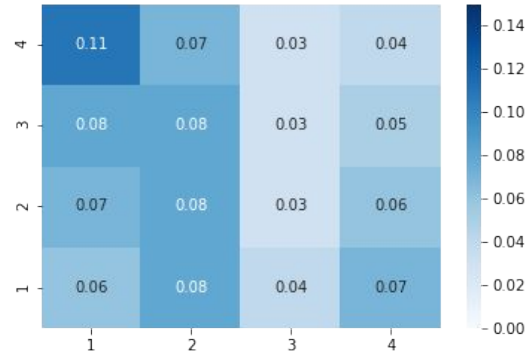
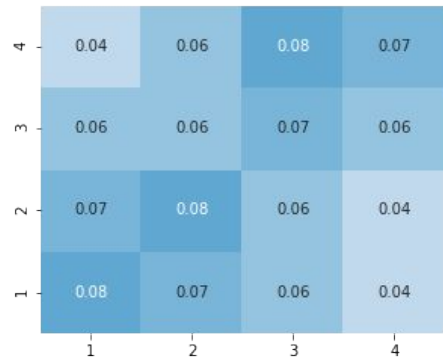
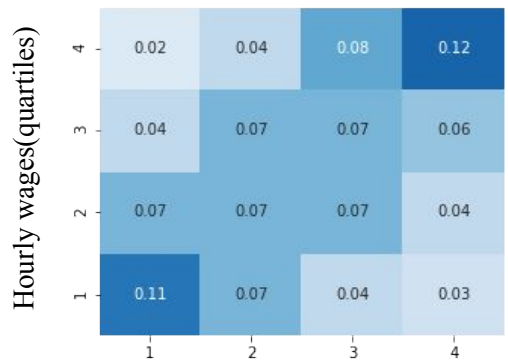


# Initial Examination

Age 23



Age 47



Aptitude Scores  
(quartiles)

Self-esteem Scores  
(quartiles)

Self-control Scores  
(quartiles)

# Implications

This early examination of the basic relationships between early aptitude/attitude scores and hourly wages inform next steps for analysis. **Next steps would be to control for various factors.**

Other questions to consider:

- Accounting for aptitude, how much does attitude impact hourly wages?
- How might these results change accounting for later life attitudes?
- How do these measures relate to choice of occupation?

# Lessons Learned

## Garbage in, garbage out:

- Cleaning data is time consuming but necessary
- Understanding the data source is equally important

## Research is a “team sport”:

- Looking to what’s already been done can improve the quality of your work
- Knowing people for whom you can ask questions is invaluable

# Appendix

## Distribution of aptitude and attitude scores by gender

