Information Inequality

the Class, Gender, and Race of Knowledge Domains

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March 31, 2018

1. Good morning, everyone! Thank you for being here.
2. My name is Molly King.
3. I am a phd candidate at Stanford University
4. Today I am going to be presenting on 1 of the papers from my dissertation:
5. Information Inequality - the class, gender, and race of knowledge domains

Outline

1. Just to give you a roadmap of where we're going:
2. I will start by motivating the importance of this topic to inequality researchers and outlining my research question.
3. Next, I'll tell you how I collected my data and the models I used to analyze it.
4. Then, we'll dive into some results from my study around class and gender.
5. Finally, I'll discuss some implications and a theoretical model I think my results might imply.

Why care about information inequality?

- Differences in information capacity itself are, by definition, a dimension of ‘inequality’;

1. Most of us are in this room because we try to understand the origins or cures of inequality.
2. Were also all here because we like learning for the sake of knowledge, so I probably don’t have to argue too much for this idea of the inherent value of knowledge.
3. Much like many people care about health or education as goods in and of themselves, not just for the ends they can help achieve, we may also think that knowledge is of value for its own sake.

Why care about information inequality?

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- Differences in the amount of information people have are influenced by unequal social positions in our society; and

1. I argue that a concept I am calling information inequality - or knowledge inequality - is important as both an outcome and cause of social inequality.

Why care about information inequality?

- Differences in information capacity itself are, by definition, a dimension of 'inequality';
- Differences in the amount of information people have are influenced by unequal social positions in our society; and
- Information is a potential cause of later inequality in outcomes and access to resources.

1. Finally, information discrepancies enable differential access to resource and institutional positions, thereby causing later inequality as well.
2. So, while I argue that knowledge inequality is important from both ends of the causal arrow, in this research I focus on the idea that social statu causes knowledge inequality.

Research Question

How does the status gap in knowledge vary by domain?

1. The field of sociology has long studied the production of knowledge in science inequalities in knowledge careers; and information diffusion and its consequences. Many studies have evaluated information seeking behaviors and needs. But the tendency has either been to study knowledge in one specific domain (e.g., health) or to reduce knowledge across all domains to a single test score – and hence we know shockingly little about the everyday knowledge stock of Americans.
2. So I wanted to perform a wide scan analysis of knowledge inequality, looking at who has and does not have knowledge in different domains, and how those inequalities might compare to each other.

Data

General Social Survey
Pew Research Center (21)
Kaiser Family Foundation
Health Information National Trends Survey (8)
Integrated Health Interview Series
Annenberg National Health Communication Survey
USC's Understanding America Study (3)
Rand American Life Panel (2)
National Financial Capability Studies (3)
21st Century Americanism survey
Global Views American Public Opinion and Foreign Policy
Outlook on Life Survey
State of the First Amendment surveys
Chicago Survey of Amer. Public Opinion and U.S. Foreign Policy

1. My data include 48 nationally representative data sets from between th years 2005 and 2015, each including at least one knowledge question.
2. I collected these data from places like main public opinion survey repositories, the General Social Survey and Pew Research Center.
3. A question was included if it asked respondents about factual knowledg - a question with a generally agreed-upon answer
4. These are true/false or multiple-choice questions that asked things like:
5. — "True or false: A laser is a concentrated soundwave. The answer is false - lasers are concentrated light waves."
6. — "Who is the vice president?"

Domains

history
natural world
physical science
biological science
technology
math
culture
geography
domestic politics
foreign politics
economics
finance
health
religion
pop culture
war

1. For each question, I mark for each individual whether they got the question correct or incorrect.
2. I curated these data and categorized them by domain.
3. This resulted in 16 topical domains.

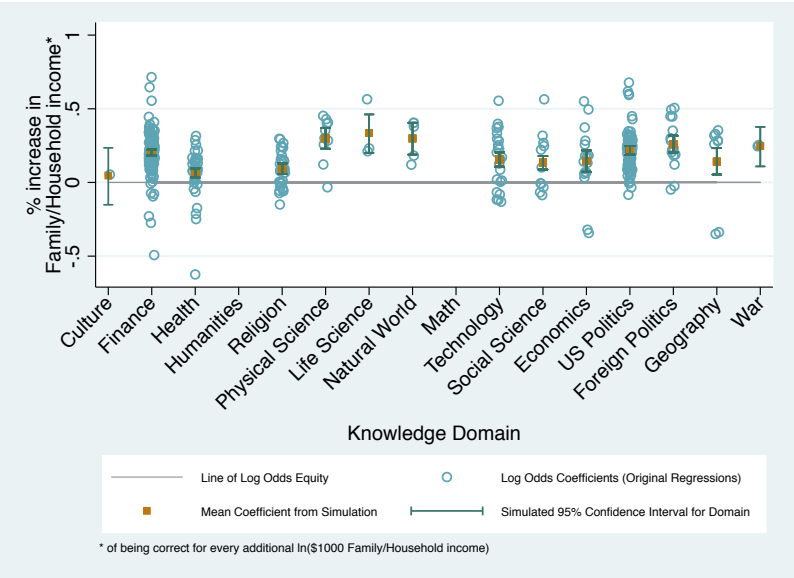
Model

Outcome
Probability that you get the question correct

Factors
Income
Gender
Race / Ethnicity
Education
Age + age^2

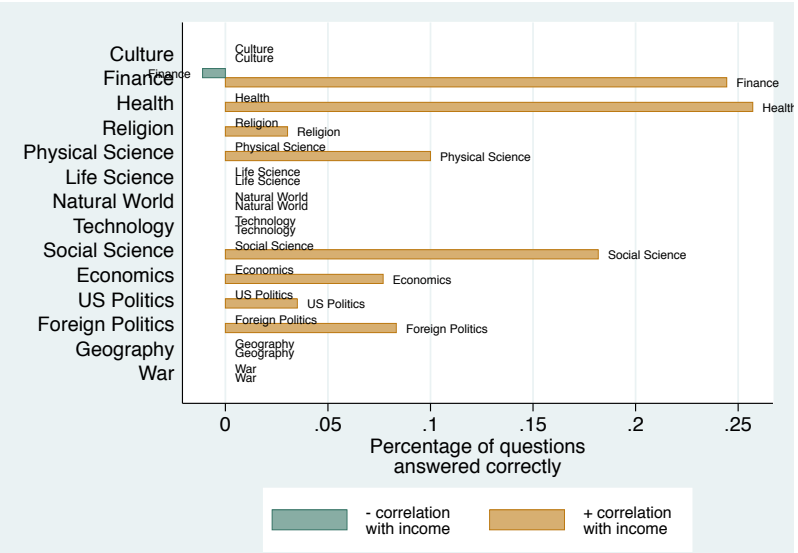
1. I also gathered many demographic characteristics about the individuals answering these factual knowledge questions.
2. For each question, I then use logistic regression to predict the probabilit that an individual will get the question correct.

Income correlates with mean knowledge advantage in 13/14 domains



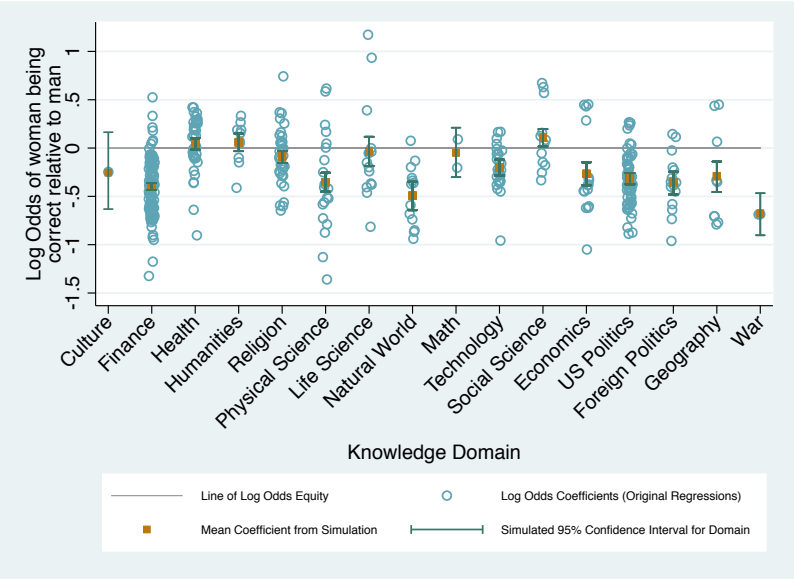
1. Here we see this model using income to predict the likelihood that respondents get the factual knowledge question correct, controlling for all other factors.
2. As a reminder, this is after controlling for education - making this a conservative test for the effect of income (since in effect we are controlling twice for class).
3. So in this slide, I tested whether the effect of income on the average knowledge in the whole domain was significant. For each domain, we decide whether there is a significant effect of income, and then see that that effect largely favors those with higher incomes having more knowledge.

Those with higher incomes answer a greater proportion of questions correctly



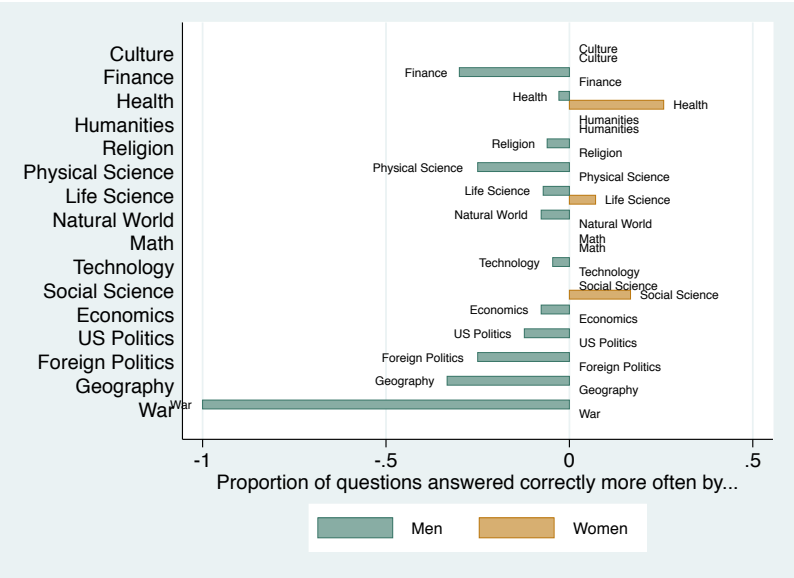
1. We can also look at whether each question within a given domain was significantly different.
2. This way of viewing the data shows us that those with higher incomes answer a greater proportion of questions correctly in half of the domains

No mean gender difference in 5/16 domains



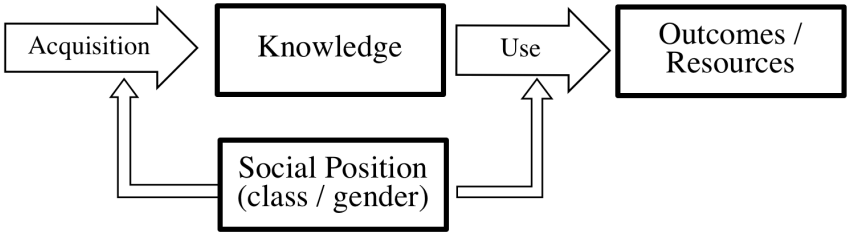
1. Here again, I tested whether gender had a significant effect on knowledge within each entire domain. For each domain, the simulated mean and confidence intervals allow us to see whether there is a significant difference between the 2 gender groups and the direction of that difference.

Men answer greater proportion of questions correctly in 65% of domains



1. Men answer a greater proportion of questions correctly in 65% of the domains, while women answer a greater proportion of questions correctly in 12.5% of the domains.

Acquisition and use of knowledge



1. Findings are consistent with the model that implies:
2. — demographic characteristics affect the knowledge an individual has, and
3. — using knowledge to access resources.
4. Understanding the broad demographic patterns can help us move toward better understanding of the mechanisms behind them.