

Reading Response Week 7: Houmark et al (2020); Sanz-de-Galdeano and Terskaya (2019); Barth et al (2020)

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1 Overview

- The most common line of questions ask to what extent the context matters—i.e. what to make of external validity? The quasi-experiments use an ethnically and geographically homogeneous group under a specific set of public policies. Could the effects of genetics be exaggerated or attenuated by public investments (e.g. Head Start)? Further, students note that PGS are trained on a specific outcomes (e.g. Ed Attainment) and so may not be the right genetic covariates for early skill development. (see e.g. Phil). In other words, why are we using
- A line of questions articulated most eloquently by Raman ask how to ethically incorporate this information into economic and policy analysis.
- Several students took issue with the statistical model in ST. First, they disliked the interpretation of the coefficients; second, they questioned what information parents have when making decisions—the information set should play more prominently since arguably the econometrician has more precise information than the parents. More broadly, students worry about measurement issues in each of the papers.

2 Questions

- **Raman**

It seems to him that effects are small “Does then this implies that we should not worry about these inherent differences? Or should we use policy to counteract these predispositions? If we want to counteract this differences then it would require labelling the children early on in their life based on their polygenic scores. This labelling might be harmful, in a self-reinforcing sense it may instill beliefs that the person is destined

genetically to not do well in the economic system. This could be problematic. So, even taking the findings from this literature at the face value I am struggling to think if these could be used to make policies which are not prone to be taken over in bad faith or have averse unintended consequences.”

- **Victor** I am wondering if the results are generalizable for other populations or if the reduced dataset can be a problem, but I also understand the limitations of these types of studies and how expensive and difficult should be to obtain detailed panel dataset of genes

Clara

- Notes that Sanz-de Galdeano and Terskaya do not appear to include parent genes in their model and wonders how much we should worry about the OVB.
- A very general question that I have is to what extent incorporating genes in economic models will be part of the future of economics. Should models of human behaviour seek to use genetic data when available?

- **Hugo**

- Takes issue with GWAS since there appears to be substantial room for overfitting / measurement error.
- Notes that HRR observe widening genetic difference and wonders about differential affects of genes through the life course beyond age 7.

- **Xiaoqi**

- “To relate the work by Houmark, Ronda, and Rosholm (2020) to that by Sanz-de-Galdeano and Terskaya (2019), can we understand nurture of nature as an outcome of price effect outweighing the inequality aversion?”
- Asks two questions about omitted variable bias. In ST she worries that parents whose first child has a lower PGS learn that certain investments aren’t that valuable and discontinue them. IN BPT she worries that they are not able to distinguish genetics from education.

- **Miguel**

- Wonders how these models account for unobserved correlated environmental factors including neighborhood effects (increased probability of traumatic events / level of criminal justice involvement in certain neighborhoods) and public policy. For example, “How would the investment in early-education programs targeting low-income children, such as HeadStart, be optimized to take into account the role of differential parental investment in each of their children?”

- **Xiaoyun**

- ST rely on parents being able to observe differences in the PGS; Thinks that this is unlikely given how small an impact the PGS has on education attainment. If this were true, how do we interpret the results.
- Questions the extent to which “price effect” is an accurate label since the parents have to invest to figure out the PGS.

- **Phil**

- “An alternative interpretation, however, is that EAPGS is not an appropriate measure of the genetic endowment relevant for skill formation; perhaps the reason for the increasing correlation between EAPGS and skill development over time is that the measured skills at later ages are more relevant to educational attainment than the earlier skills.” Is it possible to construct the PGS for each skill?
- Do we expect external validity across populations of different race/ethnicity?
- Argues that the interpretation of β_1 in ST is nonsense.
- GPT use EA PGS to explore the genetic component of wealth accumulation, but why use EA PGS and not someother PGS?