

Discussion of:
*The “Depression Trap”: Genetic Risk, Labor
Supply, and the Case for Precision Psychiatry*
by: Fergus McCormack and Qianyu Yang

Nicholas W. Papageorge

AWEW — 2026

This paper is concerned with:

- Depression.
- Unemployment.
- Genes.
- Treatment.

What the paper sets out to do.

- 1 Establish how unemployment affects depression.
- 2 Establish how depression affects unemployment.
 - 1 Show a reinforcing effect.
- 3 Evaluate a polygenic score for depression (DPGS).
 - 1 Show a positive interaction of the reinforcing effect.
- 4 Embed these relationships in a lifecycle C-S model.
- 5 Use the estimated structural model to evaluate policy.
 - 1 Evaluate “precision psychiatry.”
 - 2 Also consider how more treatment affects the economy.

Broad Comments.

- The paper does a lot...
- ...but in a (for me) coherent way.
- Yet, it might make sense to make some cuts.

Broad Comments.

- We know that mental health is important.
- Depression is no good and hurts economic outcomes.
 - Bad for productivity and employment.
 - Also bad for schooling (which affects lifecycle labor).
- Treatment is effective but often not used.
- Targeted care is likely a reasonable idea.
- Genomics is advancing in a way that could help.

Broad Comments.

- Personally, I like papers that do a lot.
- Many, many, many editors do not.
- Why?
- Bad taste?
- Lots of strings to pull on.

Broad Comments.

- Personally, I like papers that do a lot.
- Many, many, many editors do not.
- Why?
- Bad taste?
- Lots of strings to pull on.

Broad Comments.

- Personally, I like papers that do a lot.
- Many, many, many editors do not.
- Why?
- Bad taste?
- Lots of strings to pull on.

Broad Comments.

- This is a solid jmp.
- You may have to edit post-market.
- I will make comments on paper and on selling.

Plan.

- 1 Go through the paper.
- 2 Offer comments as we go along.
- 3 Most definitely miss some things (sorry).
- 4 Go to the restaurant to eat dinner.

1. Empirical Facts on Genetic Risk.

- DPGS predicts lower income.
- Much explained by intermediate outcomes (education, occupation).
- Also, realized depression explains links between DPGS and Outcomes.

Table 1: The Genetic Earnings Penalty and Its Channels

Mediators included	Effect on labor income (s.d.)	Share of baseline (%)	Explained by this block (%)
Baseline	-0.1229*** (0.0222)	100.0	—
+ Education	-0.0992*** (0.0201)	80.7	19.3
+ First occupation	-0.0921*** (0.0196)	75.0	5.8
+ Labor force status	-0.0584*** (0.0185)	47.5	27.4
+ Current occupation	-0.0420*** (0.0163)	34.2	13.3

Table 2: Which Margin Carries the Genetic Penalty, and How Much Runs Through Mental Health

Outcome	Effect of +1 s.d. of genetic risk	Share explained by mental health (%)	95% CI
Depressed (pp)	6.908*** (0.530)	–	
Employed (pp)	-3.098*** (0.525)	48	[33, 75]
Long-term sick or disabled (pp)	1.900*** (0.375)	53	[40, 81]
Labor income (s.d.)	-0.123*** (0.022)	23	[15, 32]
Log gross pay, if employed (log pts.)	-0.054*** (0.013)	7	[0, 15]
Holds a degree (pp)	-2.785** (1.119)	≈ 0	

1. Empirical Facts on Genetic Risk.

- I would be careful about causal language.
- The within-family estimates are not great (typical problem).
- What happens if you do not assign zero to unemployed?
- Modeling women is tricky due to MH/fertility relationships...
- ...you might get some pushback here.

Figure 14: Stability of MH PGI Estimates Across Specifications

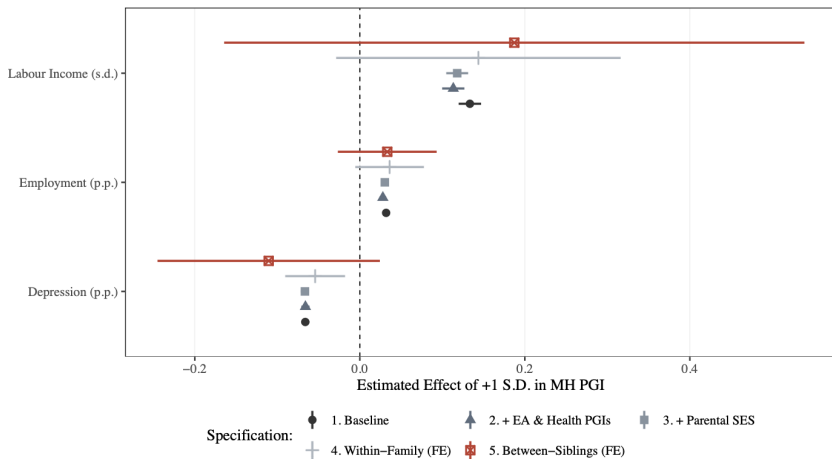
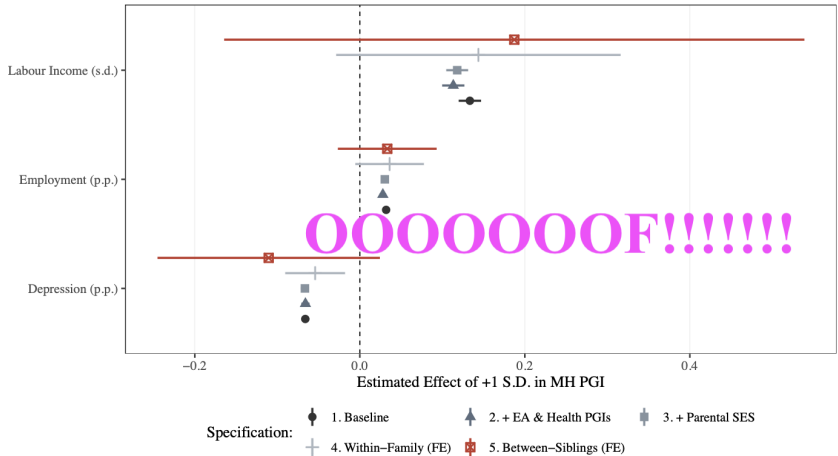


Figure 14: Stability of MH PGI Estimates Across Specifications



1. Empirical Facts on Genetic Risk.

- I would be careful about causal language.
- The within-family estimates are not great (typical problem).
- What happens if you do not assign zero to unemployed?
- Modeling women is tricky due to MH/fertility relationships...
- ...you might get some pushback here.

2. Unemployment / Depression.

- Job loss $\implies$ mental health (IV is redundancy)
- Depression $\implies$ job loss (IV is recurrence)
- I really hate to be the person who is going to whine about the IV's.
- You will most certainly get pushback here.
 - Redundancy more likely in settings where depression more likely?
 - Recurrence due to expected deterioration of labor market?
- In general, your IV's might not be consistent with the structural model.

3. Depression Trap and DPGS.

- High DPGS makes the reinforcement stronger.
- High genetic risk: enter, stay in cycle.
- This result is novel and neat.

4. Model.

- The model is well-executed.
- Standard lifecycle model of labor/consumption.
- Retirement/education are exogenous.
- Health and labor supply can interact.
 - Labor supply (plus treatment) affect mental health.
 - Health affects cost of work.
 - MH also enters the time constraint.

4. Model.

- We might want to discuss more inclusion of MH and DPGS.
- Conditional on realized MH, DPGS is predictive.
- You might have discussed this.
- Probably need more explanation of what it is.

4. Model.

- We might want to discuss more inclusion of MH and DPGS.
- Conditional on realized MH, DPGS is predictive.
- You might have discussed this.
- Probably need more explanation of what it is.

4. Model.

→ Can you endogenize education?

5. Counterfactuals: Focus Treatment on High DPGS People.

- Why only use DPGS and not other variables?
- Do we need causality for this?
- Therapy utility cost seems low...
- ...compared to my paper.
- Why?

5. Counterfactuals: Focus Treatment on High DPGS People.

- Consider genetic risk/MH relationships.
- If you look at top 50%, Type I, II errors?
- How many?

6. Counterfactuals: Increase Treatment.

→ I would just not mention COVID if not needed.

6. Counterfactuals: Increase Treatment.

- The model is rich and well-executed.
- I want you to do more with it.
 - What if you omit one of the $D \iff U$ channels?
 - How does that affect predictions and policy experiments?
 - Do you need genes for model parameters?
- Show me the value-add of your modeling additions.
- E.g., take away genes and you flub $D \iff U$

General Advice:

- 1 Drop the bid for causality. Instead show basic relationships that you will use in your model and then say that you consider a host of different sources of variation in the appendix, some of which could permit a causal interpretation, and generally come up with relationships that accord with earlier literature.
- 2 Include a utility cost of health (if possible) and make sure to be clear that your counterfactuals have different implications if people hate treatment (e.g., lower welfare).
- 3 Spend more time using your structural model to do neat things. Show us also more of the value-add of your modeling additions (e.g., take away genes and see how you flub $D \iff U$).

General Advice:

- 1 Drop the bid for causality. Instead show basic relationships that you will use in your model and then say that you consider a host of different sources of variation in the appendix, some of which could permit a causal interpretation, and generally come up with relationships that accord with earlier literature.
- 2 Include a utility cost of health (if possible) and make sure to be clear that your counterfactuals have different implications if people hate treatment (e.g., lower welfare).
- 3 Spend more time using your structural model to do neat things. Show us also more of the value-add of your modeling additions (e.g., take away genes and see how you flub $D \iff U$).

General Advice:

- 1 Drop the bid for causality. Instead show basic relationships that you will use in your model and then say that you consider a host of different sources of variation in the appendix, some of which could permit a causal interpretation, and generally come up with relationships that accord with earlier literature.
- 2 Include a utility cost of health (if possible) and make sure to be clear that your counterfactuals have different implications if people hate treatment (e.g., lower welfare).
- 3 Spend more time using your structural model to do neat things. Show us also more of the value-add of your modeling additions (e.g., take away genes and see how you flub $D \iff U$).

Conclusion.

- Bottom line: The paper shows you can do a lot of stuff
- Try to give referees fewer reasons to reject.