

The Macroeconomics of Intergenerational Mental Health Transmission

Discussion

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Outline

- Measuring mental health
- Transmission across generations
- Siblings' spillovers and peer effects
- Body-Mind connection
- Treatment for mental health, subsidy, and innovation

Premise: Great Project!

- Very important and ambitious project, so I praise the authors for taking it on.
- The project is also very much in flux, and a recent new addition I particularly liked was the spillover from child's mental health to parental mental health.
- I am just providing some pointers on data and some big picture considerations.

Measuring Mental Health

Measuring Mental Health-I



- **Key Measures used in the Paper:**

-Adult non-specific psychological distress: K6 scale developed by Kessler *et al.* (2002). Respondents rate how often during the past 30 days they felt: nervous, hopeless, restless or fidgety, worthless, so sad that nothing could cheer them up (depressed), that everything was an effort. This is self-reported. It gives a total score from 0 to 24. Scores above 13 indicate **a high probability of mental illness. The NLSY uses the Center for Epidemiological Studies Depression Scale (CES-D)**

- Child Problem Behavior: For children aged 3 or above, it is measured using the Behavioral Problem Index (BPI) (Peterson and Zill, 1986). In the data the BPI is reported by a parent or primary caregiver. **The BPI is primarily a survey/research measure of the frequency and extent of children's behavioral problems**, rather than a stand-alone diagnostic test for conditions such as ADHD, depression, or conduct disorder.

Measuring Mental Health-II

- Research suggests that **parents with more severe depressive or psychological symptoms can sometimes report more child behavioral/emotional problems than other informants report** (Fergusson et al. 1993; Gartstein et al., 2009).
- This is an issue when wanting to measure child behavioral problems **when it is only the parent with a higher K6 score reporting on the child's behavioral problems.**
- In the end, we are not sure that children of parents with a high K6 score are actually less likely to get treatment for their children than other parents **when the children's underlying behavioral traits are the same.**
- **Possible solution re data:** consider other data sources where someone other than the parent reports on the child's behavioral problems.

Other possible data to consider (no data source is perfect!)-I



Millennium Cohort Study (one of the UK longitudinal studies).

-Tracks the lives of approximately 19,000 young people born across England, Scotland, Wales, and Northern Ireland between 2000 and 2002.

-Detailed information on parents and children including parental reporting of child mental health in all sweeps when the child is below 14 (from the child as well, from age 14 onwards), **but also teachers' reports of child mental health and socio-emotional behavior at ages 7 and 11.**

-There is info on treatment for depression and anxiety for parents and some info for children in early sweeps (ask if behavioral difficulties have led parents to seek extra help, and from age 17 children self-report treatment variables)

Reporting for children is done via the **Strengths and Difficulties Questionnaire (SDQ)** (Goodman, 1997). **This tool measures five distinct categories and has an overall Total Difficulties Score:**

- Hyperactivity/Inattention
- Conduct problems
- Peer problems
- Emotional symptoms
- Prosocial behavior

Other possible data to consider (no data source is perfect!)-II



Scandinavian registry data: Population-level data that link generations.

There is information on:

- Parental and child diagnoses and treatment (including pharmacological treatment).
- Comprehensive labor market and education data.

The outcome could be an actual diagnosis by health care professionals instead of child behavioral issues. And treatment is measured separately from diagnosis as well.

Possible disadvantage is that diagnosis captures a more severe margin of mental health difficulties than a continuous screening instrument for both parents and children. On the other hand, diagnoses are not self-reported.

Possible advantage: Given that in welfare state countries there is universal healthcare coverage, there are lower barriers to diagnosis and treatment, so looking at them could represent a good counterfactual example.

Transmission across generations

Biological Transmission: Maternal and paternal health before conception



- The draft I saw mentions research showing that **prenatal maternal mental health** can be biologically related to a child's mental health.
- Research on biological transmission via paternal mental health **before conception** to a child's mental health is not extensive.
- Stressors experienced over the life course have been shown to modify sperm histones, seminal fluid components, as well as signaling molecules (Tan et al., 2023; Huang et al., 2026). However, so far there is little evidence linking paternal mental health right before conception to children's mental health.
- **Perhaps consider mentioning this in the paper**, as a lack of research does not necessarily mean there is no mechanism linking paternal mental health before conception to children's mental health.

Transmission across generations can also occur beyond diagnosed parental conditions-I



- Intergenerational transmission also operates via subclinical traits that may be present in parents with low K6 and no depressive symptoms
- **Cases of autism spectrum disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD).** Prevalence estimates in 2022 are 3.6% for ASD and 10.5% for ADHD.
- Medical theory of ASD suggests that traits associated with autism may also occur in parents who do not meet the diagnostic criteria for ASD (or do not have other mental disorders).
- In joint work with Meltem Daysal, Todd Elder, Judy Hellerstein and Scott Imberman titled “Parental Skills, Assortative Mating, and the Incidence of Autism Spectrum Disorder” and published in the American Journal of Health Economics, we find support in the data for the ideas put forward by medical theory.
- Parents **were not** diagnosed as being on the spectrum.
- Our study finds associations between occupational skills profiles and children’s recorded ASD diagnoses. In general, our occupational skill measures of empathy among fathers are also related to a lower likelihood of an ASD diagnosis in children.

Transmission across generations can also occur beyond diagnosed parental conditions-II

- Other literature on Attention Deficit Hyperactivity Disorder (ADHD): de la Paz et al. (2025) find that **first-degree relatives of people with ADHD show subtle cognitive characteristics associated with ADHD**, despite not themselves having an ADHD diagnosis.
- **Subtle cognitive characteristics:** working memory, processing speed, response time variability, temporal processing, cognitive flexibility.
- So, possibly, consider broadening the discussion a bit on mental health transmission

Siblings' spillovers and peer effects

Siblings' spillovers and peer effects

- In 2022, in the US, **79% of children live with one or more siblings**, indicating that if one experiences behavioral difficulties, there is scope for a child's mental health to affect siblings' cognition/educational achievement/physical health in addition to parental mental health (CPS Data).
- **Studies look at siblings' spillovers:** Breining (2014) finds a negative relationship between younger-sibling ADHD and the older sibling's educational achievement.
- **Peer effects in the classroom:** children displaying disruptive behavior in the classroom affect their peers' outcomes. Carrell et al. (2018) find that disruptive peers in elementary school lower classmates' earnings at ages 24-28. Figlio (2007) finds that greater disruptive behavior causes increased disciplinary problems among classmates and reduces classmates' test scores.

Body-Mind Connection

Body-Mind Connection



- Ancient wisdom:
“***Mens sana in corpore sano.***” [Juvenal (n.d.), Satires, Satire X, line 356]
Translated, this is: “**A sound mind in a sound body**”

The Body-Mind connection is a very broad topic and one that is heavily studied

- The brain, nervous system, endocrine system, and immune system continually communicate: **psychological experiences such as stress produce physiological changes throughout the body** (Leunig et al., 2025)
- **Mental health difficulties** can affect sleep, physical activity, diet, smoking, alcohol use, medication adherence, and engagement with healthcare—all of which can influence physical health (Firth et al., 2019).
- Research also shows that people with a mental health condition may have physical conditions overlooked; this is called **diagnostic overshadowing**.
- **Possible suggestion:** as physical and mental health are closely related, it would be nice to see this connection discussed and incorporated into the model. A parent experiencing mental health issues and physical issues may experience lower labor market attachment because of rumination and also because physical health is likely affected.

Treatment for mental health, subsidy, and innovation

On Treatment and Diagnosis for mental health (I focus here on children)



- At the moment, the treatment considered is psychotherapy.
- Treatment for children's behavioral problems often includes pharmacological treatments.
- Expenditure is substantial.** For 2017-2021 in the US, the **incremental prescription-drug expenditure** associated with pediatric mental-health conditions was \$749 per affected child per year (data from MEPS in Loo et al., 2024). In 2022, 9.3 percent of US children aged 5-17 had taken prescription medication in the previous 12 months "to help with emotions, concentration, behavior, or mental health." (CDC, 2023)
- Pharmacological treatments can also involve side effects (such as nausea, difficulty sleeping, fatigue).** The frequency of side effects varies depending on the medication. Clinical trials have reported rates ranging from a few percent for some adverse effects to over 50% for effects such as sedation with certain antipsychotic medications.
- **Debate on diagnosis and treatment.** For ADHD, medication use depends on factors that should not plausibly affect the underlying behavioral issues. Evans, Morrill and Parente (2010), Elder (2010), Morrill (2018).
- Consider discussing pharmacological treatments as well, and, if incorporating these, perhaps also consider their potential negative physical effects. Pharmacological treatment of adult mental health conditions also represents a substantial market.

A subsidy for psychotherapy:

- Will likely **increase psychotherapy uptake.**
- By expanding the effective market for mental-health treatment, a sufficiently persistent subsidy **might increase incentives to develop new treatments, including pharmaceuticals.**
- Overall, this could increase the number of treatment options, **generating a dynamic innovation effect.**
- So, perhaps consider the effect of the subsidy on innovation and what this means for welfare.

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