

*Techno-fixes, wire-monkeys,
and staying with the trouble.*

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Apps have the potential to increase access to high-quality mental healthcare, especially for adolescents who seem to be very comfortable using digital technologies and are open to receiving psychological help online.

But has the plethora of mental health apps had any impact on adolescent mental health?

- Little evidence at a population level that the flood of mental health apps has led to marked improvements in mental wellbeing.
 - If anything, mental health outcomes globally keep worsening even as access to digital treatments increase - the **digital paradox**.
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What is the reason for the digital paradox?

Harm hypothesis - any potential benefits from increased access to mental health apps have been off-set by the harmful effects of living in an increasingly digital world.

Illusion of innovation hypothesis - apps are ineffective because of lack of real innovation + because most apps either do not work or are simply not engaging enough to retain users.

Does technology harm mental health?

- Recent high-quality studies suggest that for most people social media use + screen time have minimal impact on mental health [2].
- Most studies focus narrowly on **adults**, have only investigated **correlations** (not causation) + have **not identified consistent or large positive effects** [3].
- Large scale rigorous studies on adolescents have found **small positive associations** between poor mental health and duration of daily technology use, but these studies **do not distinguish cause from effect** [4,5].

For some vulnerable teenagers, social media use can have serious mental health consequences.

We need rigorous research to understand which adolescents are at risk, why they are at risk, + what can be done to ameliorate risk.

A longitudinal study of **17,409** adolescents (10 -21 y.o.) found clear developmental **windows of sensitivity** to harmful effects of social media use [6].



Lack of innovation

- Mental health apps are not very effective and the lack of any real innovation in app development has created serious problems with poor uptake and sustained use.
 - The uptake of mental health apps has been slow mostly because of concerns about **privacy + effectiveness** [7].
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Privacy matters

- A study of popular apps for depression + smoking cessation available in app stores, found **81%** of apps transferred users' private data to Facebook or Google, but only **41%** disclosed this in their privacy policy [8].
 - A report by the **Mozilla Foundation** concluded that 80% of the most popular apps in the Google Play Store have false or misleading privacy labels.
 - In March 2023, the **Federal Trade Commission** (a US base consumer protection agency) fined an online mental health provider nearly \$8 million for sharing users' data with social media companies.
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Do apps even work?

- Systematic review (2019) found that while a few studies showed potential to reduce symptoms, there was **no evidence** to support using **apps as standalone psychological interventions** [9].
 - Systematic meta-review (2022) - 14 meta-analyses of RCTs for mental health apps found that most studies were **not rigorous..**
 - instead of testing if mental health apps are more effective than other treatments or placebos, most studies compare mental health apps to nothing, and then conclude that **something is better than nothing** [10].
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Are apps the modern equivalent of “wire monkeys”?

Harry Harlow's experiments from the 1930s in which infant monkeys were removed from their mothers and then forced to choose between a wire “mother” with a milk bottle and a cloth “mother” that did not provide food.

This classic work highlighted the importance of comfort, companionship, and love in promoting healthy development.



A way forward

To harness the potential of technology we need to find ways to safeguard users' **privacy** + rigorously establish **effectiveness**.

Option #1: **regulate** mental health apps (e.g., require producers to register apps as medical devices or meet minimum safety standards before marking apps as mental health solutions).

Option #2: establish mechanisms for professionally endorsing apps to help users and clinicians select apps that are safe + effective.

- **mindapps.org** - comprehensive and easily accessible online database of over 650 mental health apps, each rated across 105 domains to assess their accessibility, privacy, evidence, engagement, and therapeutic goal.
 - **One Mind PsyberGuide** - web-based guide to help users find safe, effective and evidence based mental health apps reviewed by experts.
 - **UK National Health Service (NHS)** - Health Apps Library, which provides a list of health apps that have been evaluated and vetted to ensure they are safe and effective
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What are we doing by advocating techno-fixes?

There are three important assumptions underlying the use of mental health apps:

1. Individuals should be **responsible** for fixing their own mental health problems.
2. Each of us is **competent** to manage our own mental health without the direct help of a mental health professional.
3. The “problem” we are trying to fix is located within the **individual**.



When we advocate for mental health apps we reproduce a **neoliberal worldview** and participate in the **individualization of responsibility**, by implying that mental health is within one's own control and that to be a good citizen you should take responsibility for your own mental wellbeing

- Decades of research on the **social determinants** of mental health shown that psychological wellbeing is a function of socio-political + economic forces outside the individual.
- No digital technology, smart gadget or machine learning algorithm will solve the **disparities, inequalities, + socio-economic problems** which contribute to poor mental health.
- Technology cannot rescue us from **structural inequalities** that compromise wellbeing such as racism, ableism, sexism, classism, and other social and political structures

Staying with the trouble

- The techno-utopian fantasy that digital solutions will magically solve mental health problems is misguided.
- Digital technologies have promise for increasing access but for now it is unlikely technology is the solution to promoting adolescent mental health.
- To realise the full potential of technology we need real innovation, rigorous research on effectiveness, and strategies to safeguard users' privacy.

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