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The Role of Mental Health in Shaping Education and Economic Outcomes for Young People

Findings from a Randomized Trial

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University of Lausanne, Unisanté

Harvard University

Collège de France, Paris, 29 May 2026

Solution-oriented Research for Development Programme

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The Impact of Digital Mental Health Technology on Mental Health, Education, and Economic Outlook of Young Adults

Armando Meier · Nathalie Monnet · Clémence Kieny · Andrea Carolina Bello-Tocancipá · Laura Torres-Cuéllar · Naomi Koerner · Juan Vargas-Nieto · Gustavo Perdomo-Patiño · Ricardo Araya · Omar Yesid Vargas Rodriguez · Fabio Idrobo · Martha Escobar Lux · Mauricio Avendano

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Youth Well-Being: Collaborators

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Outline

1. Motivation
2. Context
3. Study aims
4. Youth-wellbeing
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The mental health and poverty cycle

Academic performance, labour productivity

Poverty

Scarcity, stress, violence, aspiration failure

Mental Health problems

"Mental health problems create barriers to human capital accumulation — and low human capital creates mental health problems."

Ridley et al, Science 2020

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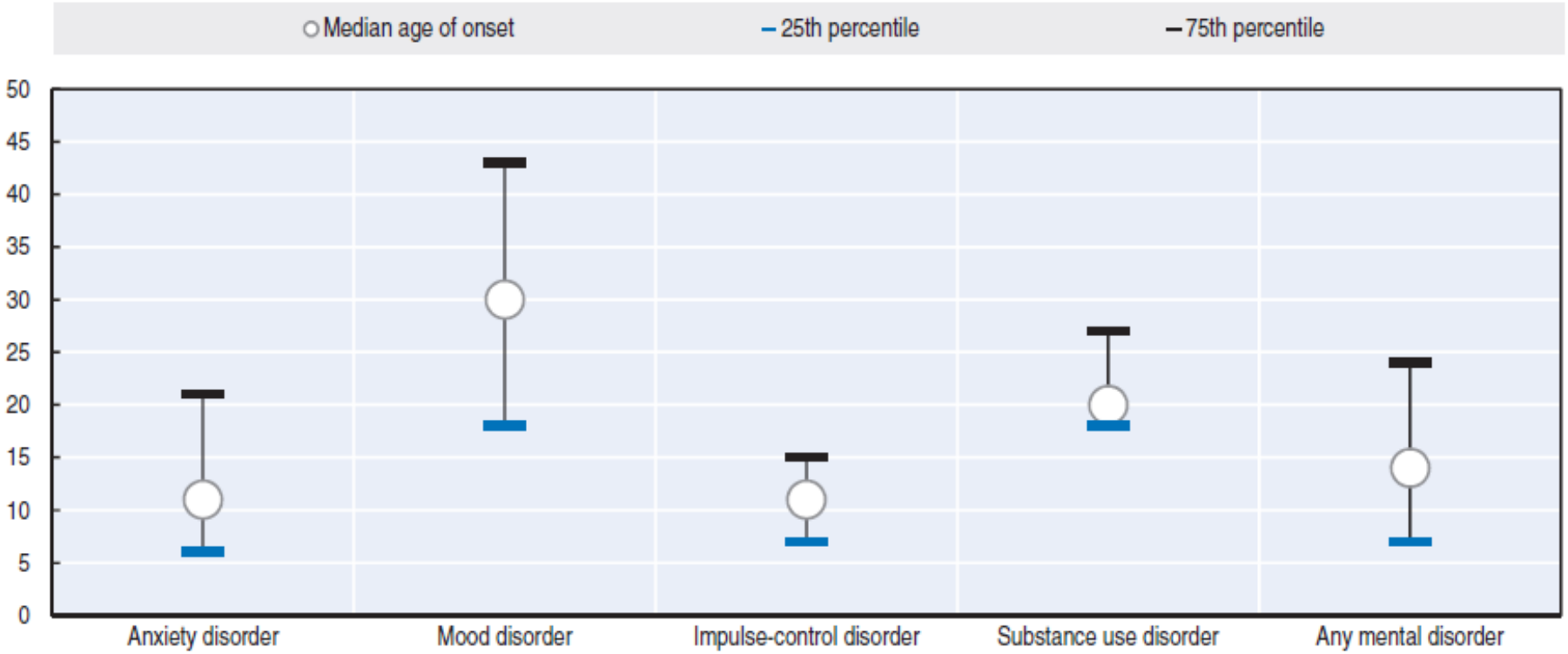
Most mental disorders first emerge around adolescence or early adulthood

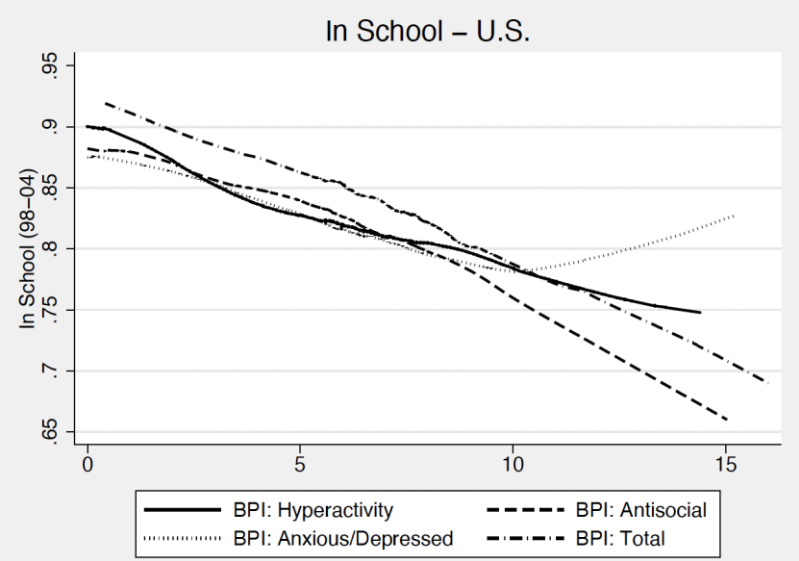


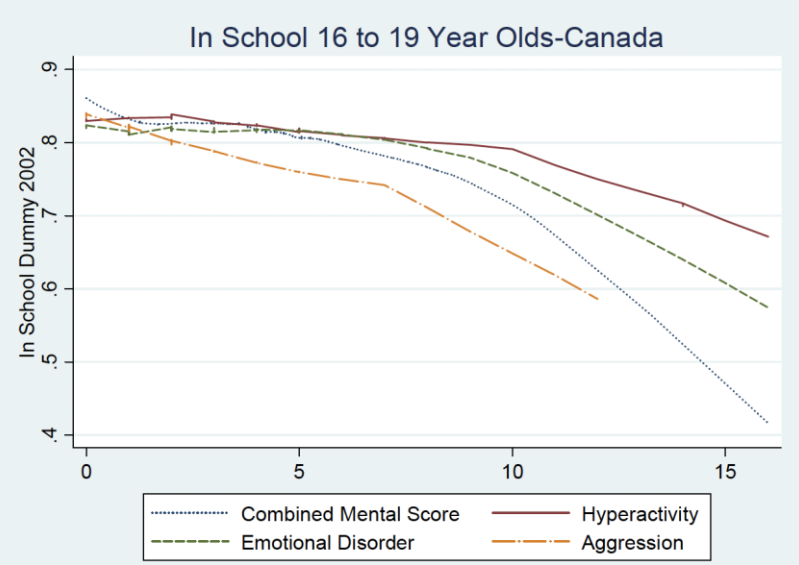
Source: OECD compilation based on Kessler, R. et al. (2005), *Archives of General Psychiatry*, No. 62, pp. 593-603.

Mental health, education and work

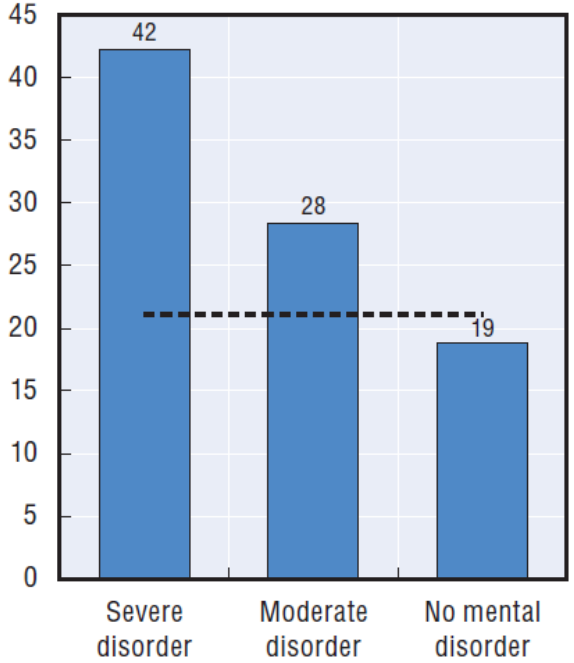
Higher mental health problem scores associated with lower school continuity (Curry & Stabile, 2007)

Data: Canadian National Longitudinal Survey of Children and Youth (NLSCY)





% absent from work in past 4 weeks, 21 EU countries



Source: OECD (2012), Sick on the Job? Myths and Realities about Mental Health and Work.

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Why Mental Health Matters for Education and Work

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Mental health as a barrier to human capital accumulation

- Reduced concentration, energy, and motivation → weaker skill acquisition and lower academic signals *(Eisenberg et al. 2009)*
- Higher discounting of the future → underinvestment in education and career
- Weaker cognitive and executive functioning → impaired planning, decision-making, and goal pursuit *(Haushofer & Fehr 2014; Mullainathan & Shafir 2013)*
- Reduced perseverance, self-esteem, and self-control → lower engagement and resilience
- Lower perceived ability and deteriorating mental health → weakened incentives to stay in school or pursue long-term employment

Gaps and methodological challenges

- **What we know — and what's missing**
  - **Context:** focus on high-income countries and ‘regular’ student populations
  - **Vulnerability:** Low-income students -elevated risk of mental health problems
  - **Post-conflict and LMIC** settings compound effects of mental health
- **Key identification challenges**
  - **Endogeneity** - mental health and educational outcomes share common causes
  - **Causal identification:** Predominantly observational designs (e.g., *Eisenberg et al. 2009; Curry & Stabile, 2007)*
  - **Higher education -**Existing studies concentrate on primary/secondary schooling

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Jesús Abad Colorado, photographer

Colombia, Not Finland, May Be the Happiest Country in the World

By: Dave Roos

Colombians support their country during a soccer match. Colombia ranks as the happiest country in the world when people are asked about emotions. LATINCONTENT/GETTY IMAGES

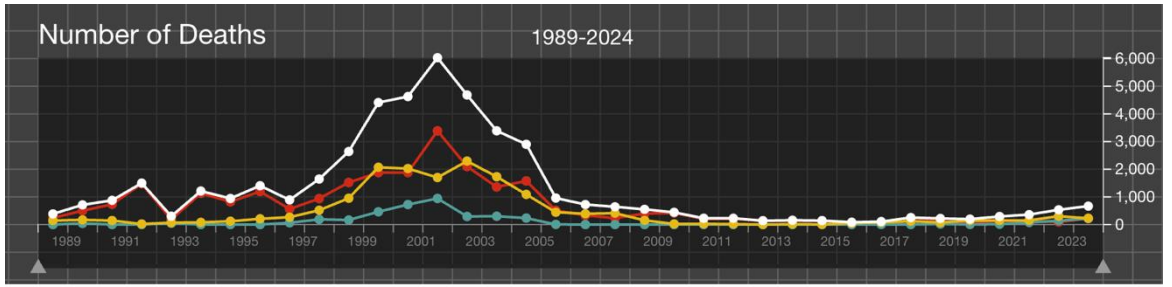
https://science.howstuffworks.com/life/inside-the-mind/emotions/colombia-not-finland-may-be-happiest-country-in-world.htm

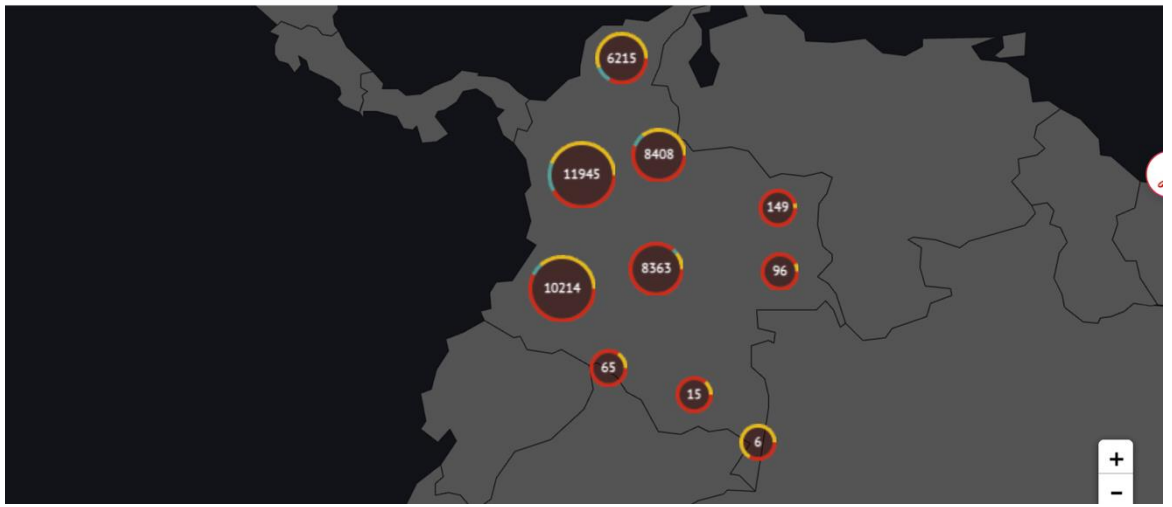
Paramilitaries killed 8 people and disappeared 25 in the riverine oil port of Barrancabermeja. Photograph: Jesús Abad Colorado © May 1998.

Circa 4,150 people were registered in the village of Pavarandó, Mutatá, following their displacement due to combats between the FARC and the Colombian Army in the Genesis operation. Photograph: Jesús Abad Colorado © May 1997.

Context: Colombia

- **High poverty** — 35.7% monetary poverty rate
- **Education gap** — high-income students: 53% → university vs. low-income: only 9%
- **Conflict legacy** — 50+ years of armed conflict → poverty, displacement & mental health consequences *(peace agreement 2016, but effects persist)*
- **Social protection** → major expansion of poverty reduction programmes in recent decades





Uppsala Conflict Data Program:

https://ucdp.uu.se/country/100

Renta Joven (*Young Income*) programme

- **Prosperidad Social** —government agency responsible to reduce poverty and inequality
- **Goal** — address long-standing inequalities in post-secondary education among vulnerable young people and victims of conflict
- **Scale** — 360,000+ young people enrolled in higher or vocational education nationwide
- **Intervention** — Conditional cash transfer tied to university or vocational enrolment
- **High prevalence of depression, anxiety and PTSD,** yet 85% report not seeking support

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Study aims

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OBJECTIVE

To co-develop, implement and evaluate the impact of a digital mental health intervention on both **mental health** and **education outcomes** among vulnerable young people enrolled in *Renta Joven*, Colombia.

RESEARCH QUESTIONS

To what extent does access to *digital mental health technology deployed at scale among low-income students* improve:

Q1

Mental health

Depression and anxiety symptoms

PHQ-9 · GAD-7 · PTSD

Q2

Education outcomes

Academic performance and retention in higher education

GPA · Enrolment

Q3

Future orientation

Educational investment and future expectations

Patience · Self-control

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Youth Well-being (*BienEstar Joven*)

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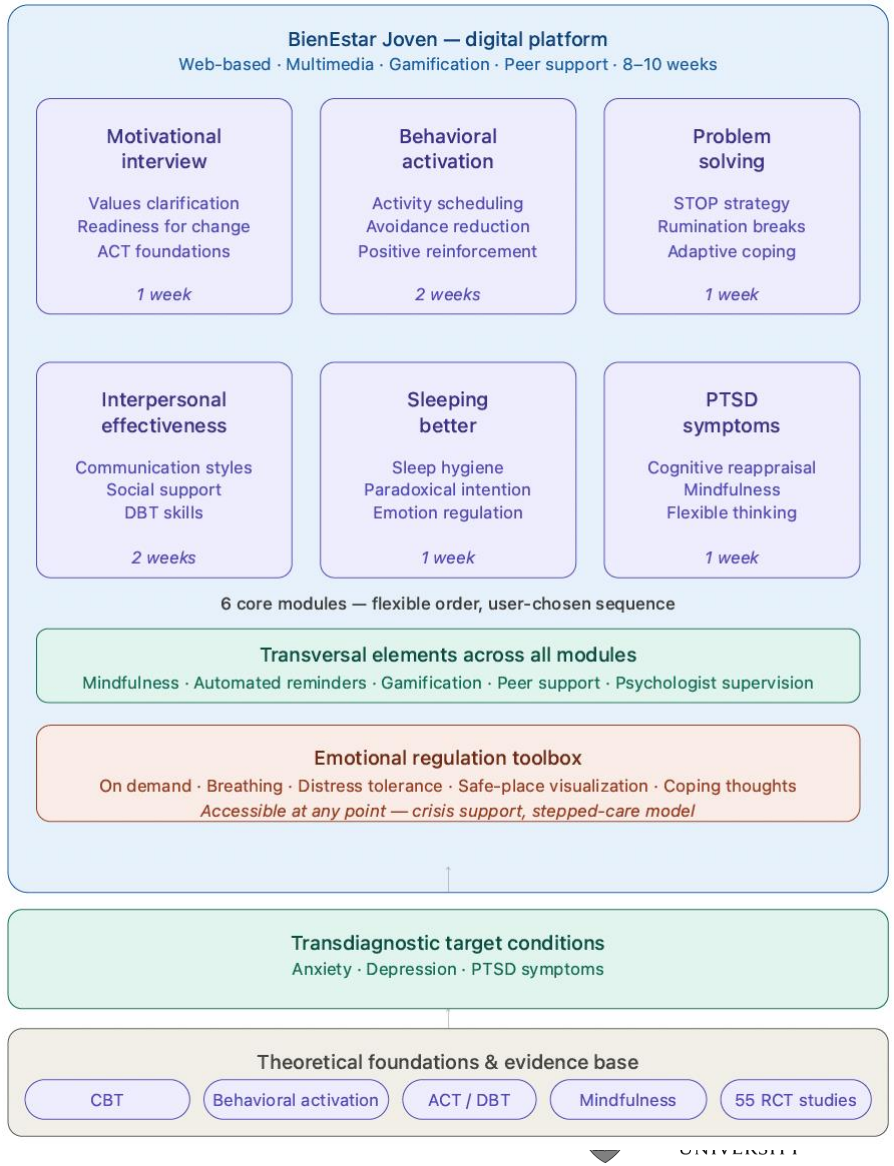
DURATION	10-week intervention
DELIVERY	Online platform
CONTENT	**Transdiagnostic** Targeting emotional dysregulation and negative thought patterns
DESIGN	**Co-designed** With young people and Government; culturally adapted
EVIDENCE BASE	Effective components from previous research
PEERS	**Peer support** Trained peers from Renta Joven



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Youth Well-being (*BienEstar Joven*)

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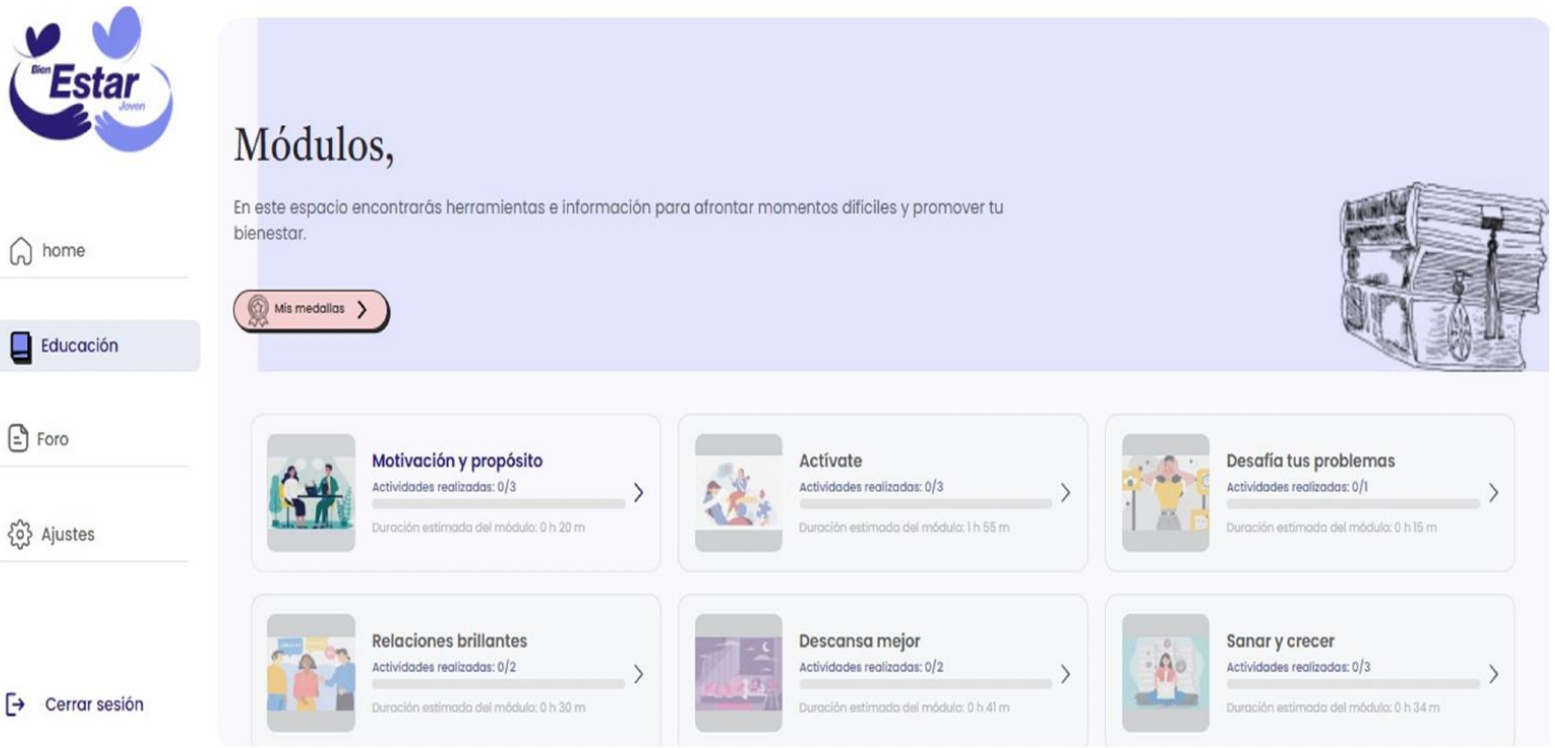

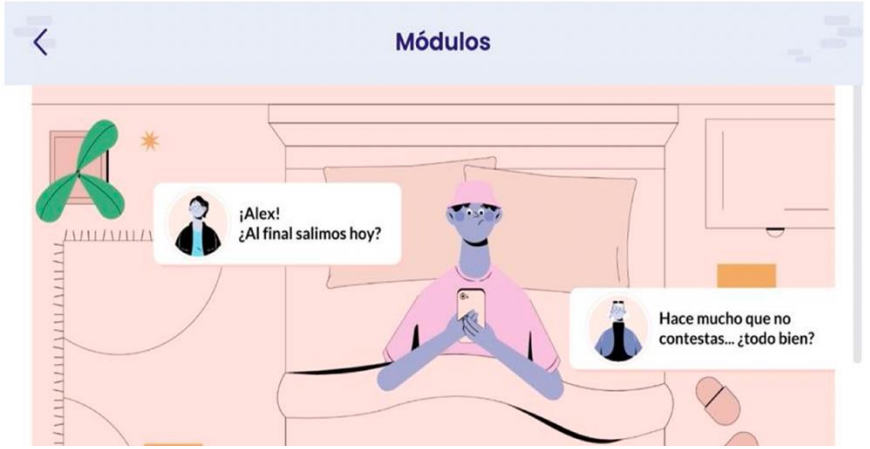

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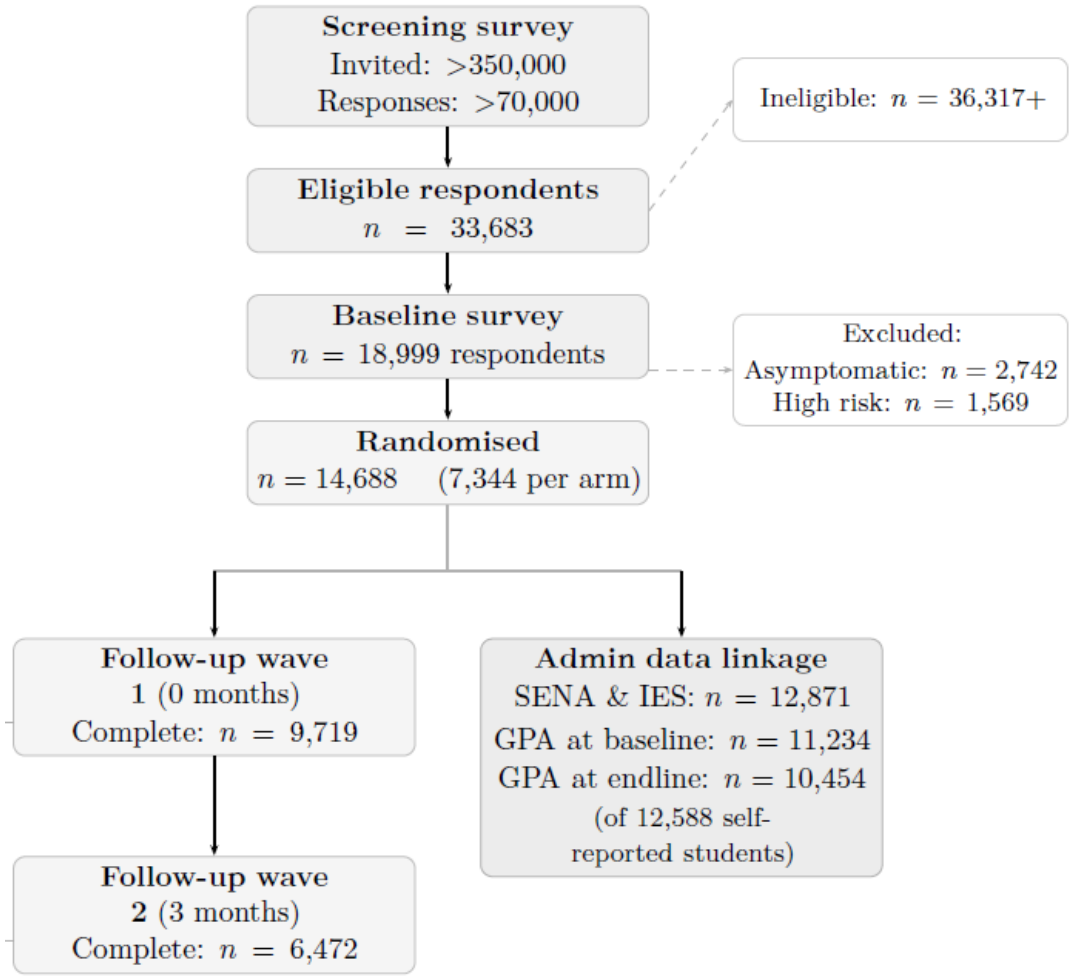
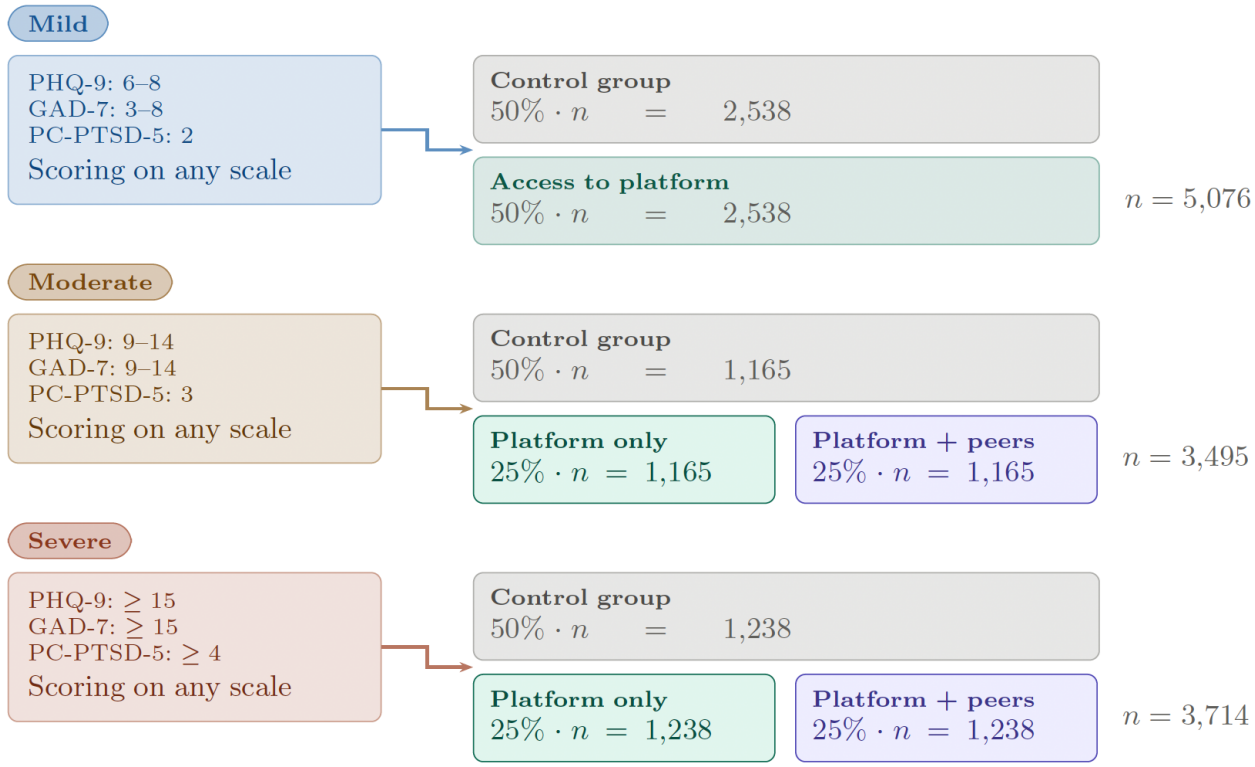
Study design - RCT





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Primary outcomes

Primary outcomes

MENTAL HEALTH

Depression — PHQ-9
9-item scale

Anxiety — GAD-7
7-item scale

Combined severity — PHQ-ADS
Score 0–48 · clinical threshold ⩾ 30

PTSD — PC-PTSD-5
5-item screen

EDUCATION

Retention
Continued enrolment in education

Academic performance — GPA
Cumulative grade point average

Secondary outcomes

Future orientation
Patience (Falk et al. 2016) + self-control (Tangney et al. 2004)

Educational investment
Absenteeism frequency (3 items)

Labor market expectations
Expected earnings 6 months post-graduation

Educational expectations
Expected end-of-semester GPA (0–5)

Behavioural activation — BADS-SF
Behavioral Activation for Depression Scale, short form (Kanter et al. 2007)

Estimation

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What we estimate

β — Intent-to-treat effect of assignment to the intervention on follow-up outcomes

MENTAL HEALTH CONTROLS

- Baseline depression (PHQ-9)
- Baseline anxiety (GAD-7)
- Baseline PTSD
- Severity strata indicators

SOCIODEMOGRAPHIC CONTROLS

- Gender
- Conflict victim status
- Age · expecting a child
- Region · programme type

INFERENCE

- Baseline outcome controlled for all outcomes except retention
- Uncorrected p-values reported
- Romano–Wolf correction for multiple testing (Romano & Wolf 2005)

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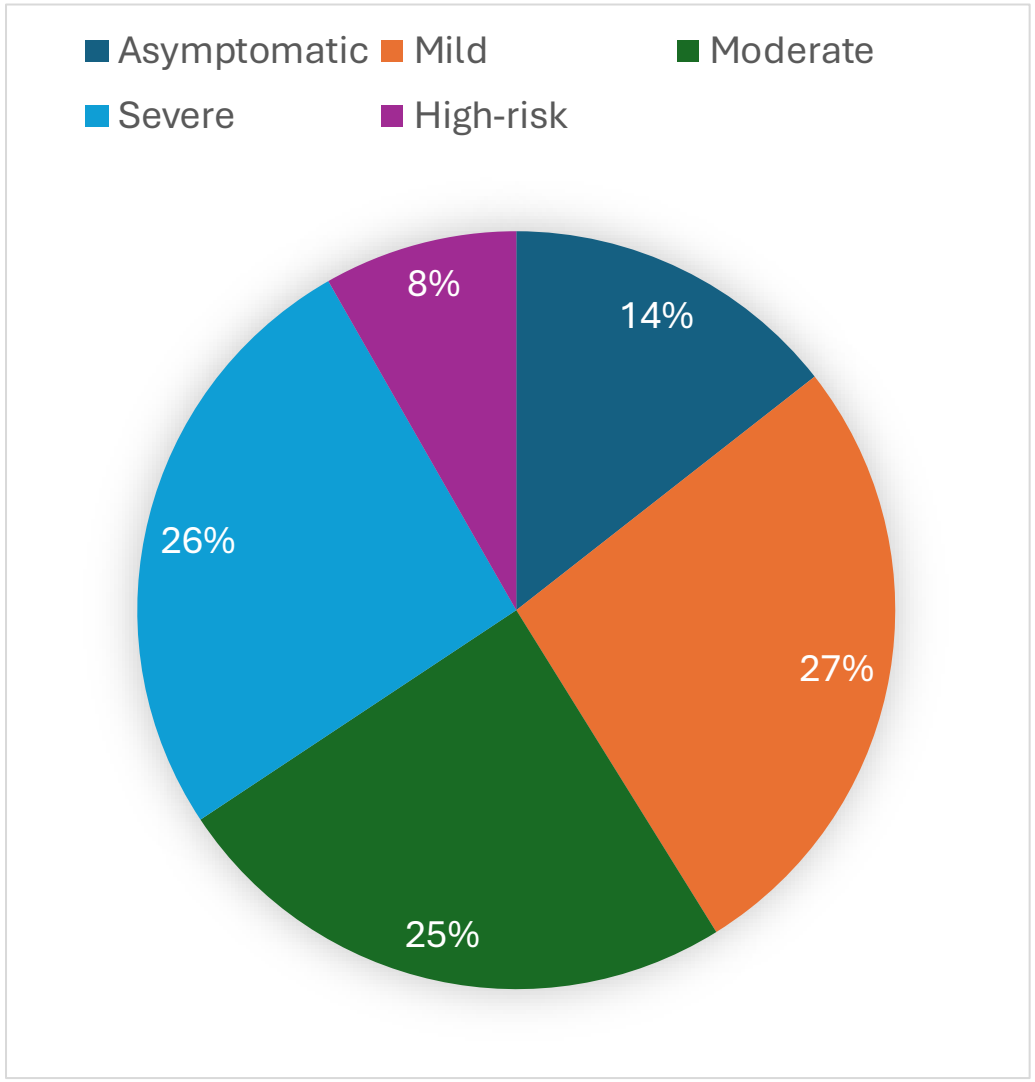
86% of Participants Have Mental Health Symptom (n=18,999)



What This Means

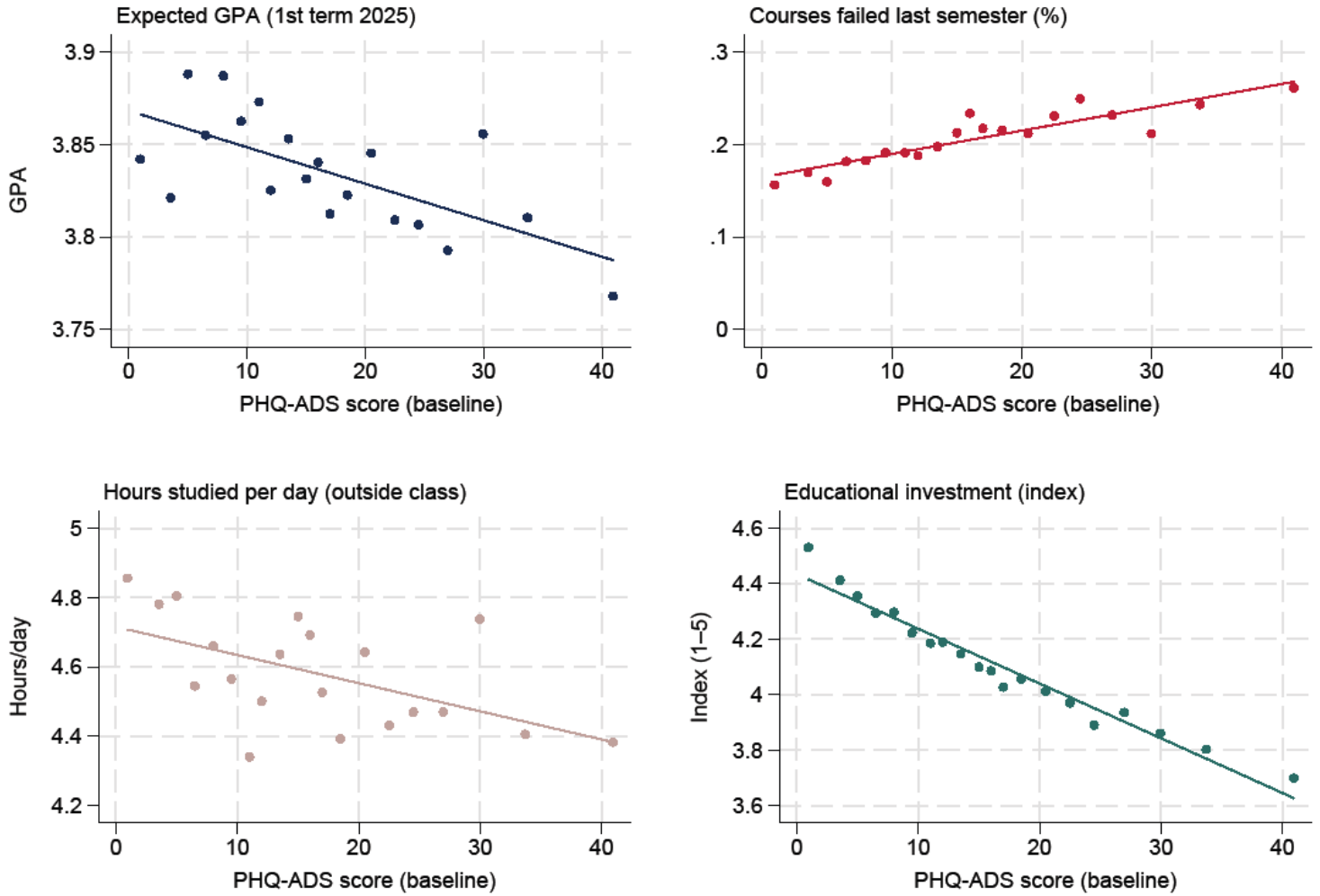
86% Present ≥1 symptom of depression, anxiety or PTSD

8% High-risk category

26% Severe symptoms

25% Moderate

Mental Health & Educational Outcomes at Baseline



Each point = mean within a PHQ-ADS score bin (20 equal-frequency bins). Line = OLS fit.
Baseline data (n ≈ 18,999).

Poorer mental health at baseline (PHQ-ADS scores) predicts lower expected GPA, higher course failure rates, and less investment in studies (n=18,999)

Summary

- **Mental health:**
  - Significant & immediate reductions in depression, anxiety, and PTSD symptoms
  - Effects decline but persist at 3-month follow-up
- **Education & labour:**
  - No significant effects for most outcomes
  - Suggestive gains in expected earnings at FW2 and education investments
- **Severity heterogeneity:** Larger mental health gains for moderate/severe participants
- **Peer support:** No incremental benefit of peer support

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Discussion

- **Evidence on effectiveness and scalability in LMICs**
  - Our estimate smaller than earlier studies
  - Possible explanation: reflect ‘real life’ effects once scaled-up

- **Why did mental health improvements not translate into measurable gains educational outcomes?**
  - Mental health effects may not be sufficiently large to generate detectable improvements in educational outcomes
  - Low engagement — only 29% of participants used platform
  - Time horizon insufficient to observe academic effects — GPA reflects academic performance over longer periods

Take-home message

Digital mental health interventions can produce meaningful symptom reductions at scale in LMIC university settings

But…

Engagement challenges limit their effectiveness and prevent spillovers to educational outcomes

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Thank you

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Youth Well-being project:
https://wp.unil.ch/youthwellbeing/

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