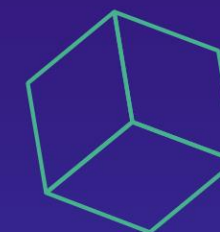




LEARNING INNOVATIONS SUMMIT ~2024



AGENDA



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Under the auspices of:





PLAY

Harnessing the power of **PLAY** for adolescent health



Founder of a sister organization to my Lab called Playbl, that focuses on the distribution of our videogame interventions

The global adolescent mental health crisis: The role of digital health games in closing the gap

Lynn E. Fiellin, M.D.

Director, play2PREVENT Lab

Professor, Biomedical Data Science, The Dartmouth
Institute for Health Policy & Clinical Practice, and the
Department of Medicine

Center for Technology and Behavioral Health

Geisel School of Medicine at Dartmouth

Founder & Chief Scientific Officer, Playbl

A global adolescent mental health crisis

- ~ 15% of the **world's** adolescents = 195 million young people – struggle with mental health issues:
 - Many before the age of 14
 - Many go undetected
- During the first year of the pandemic, globally:
 - 1 in 4 adolescents experienced clinically elevated symptoms of depression
 - 1 in 5 experienced clinically elevated symptoms of anxiety
 - These rates continued to climb through the pandemic
- Less than ½ who needed treatment received it.
- Mental health stigma is a major barrier to seeking help.
- A recent meta-analysis examining barriers to help seeking in young people, 92% of studies reported perceived social stigma as key



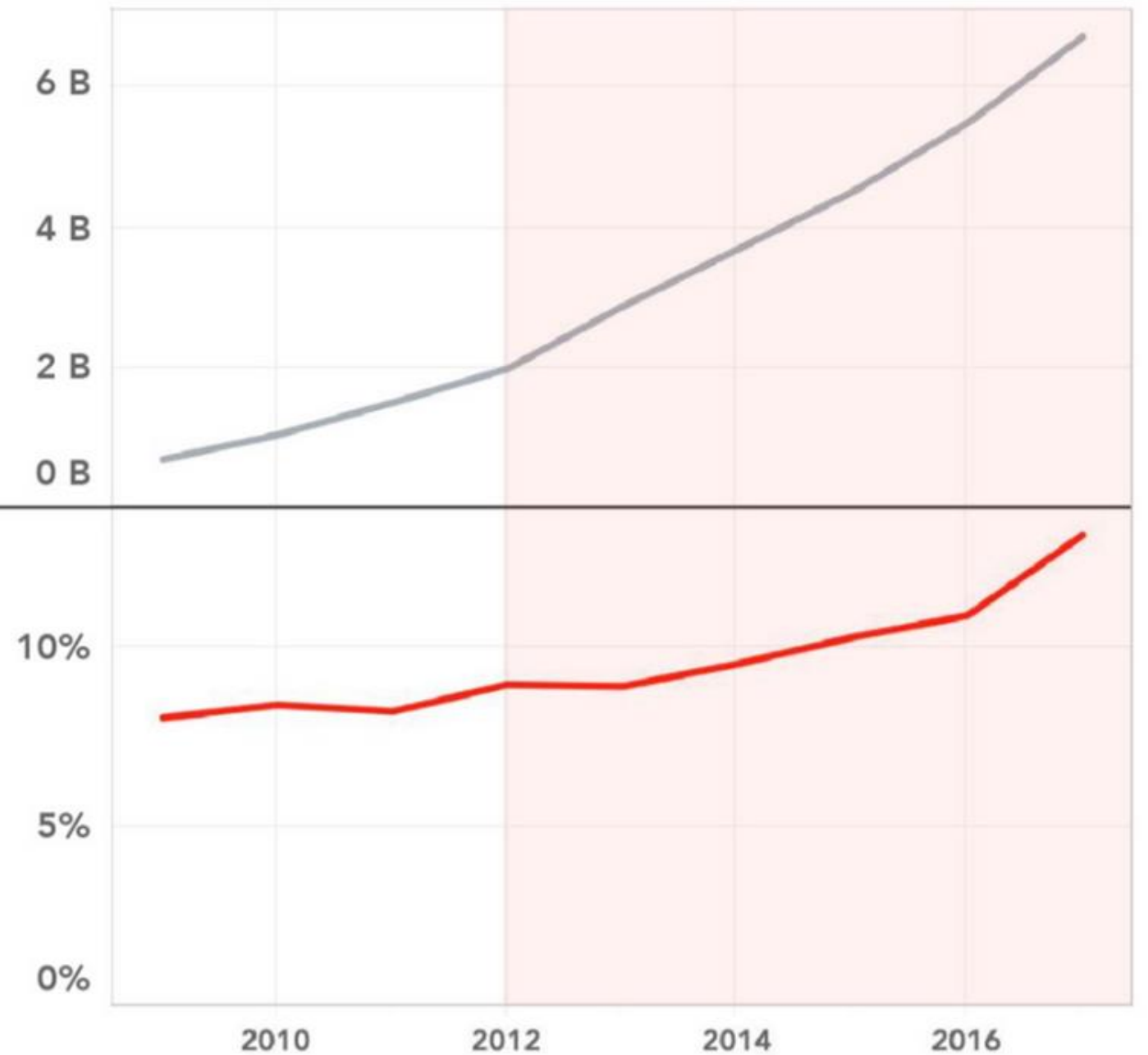
Fueled by social media, youth depression is on the rise

Relationship of social media use and depression rates in young adults (ages 18-25)

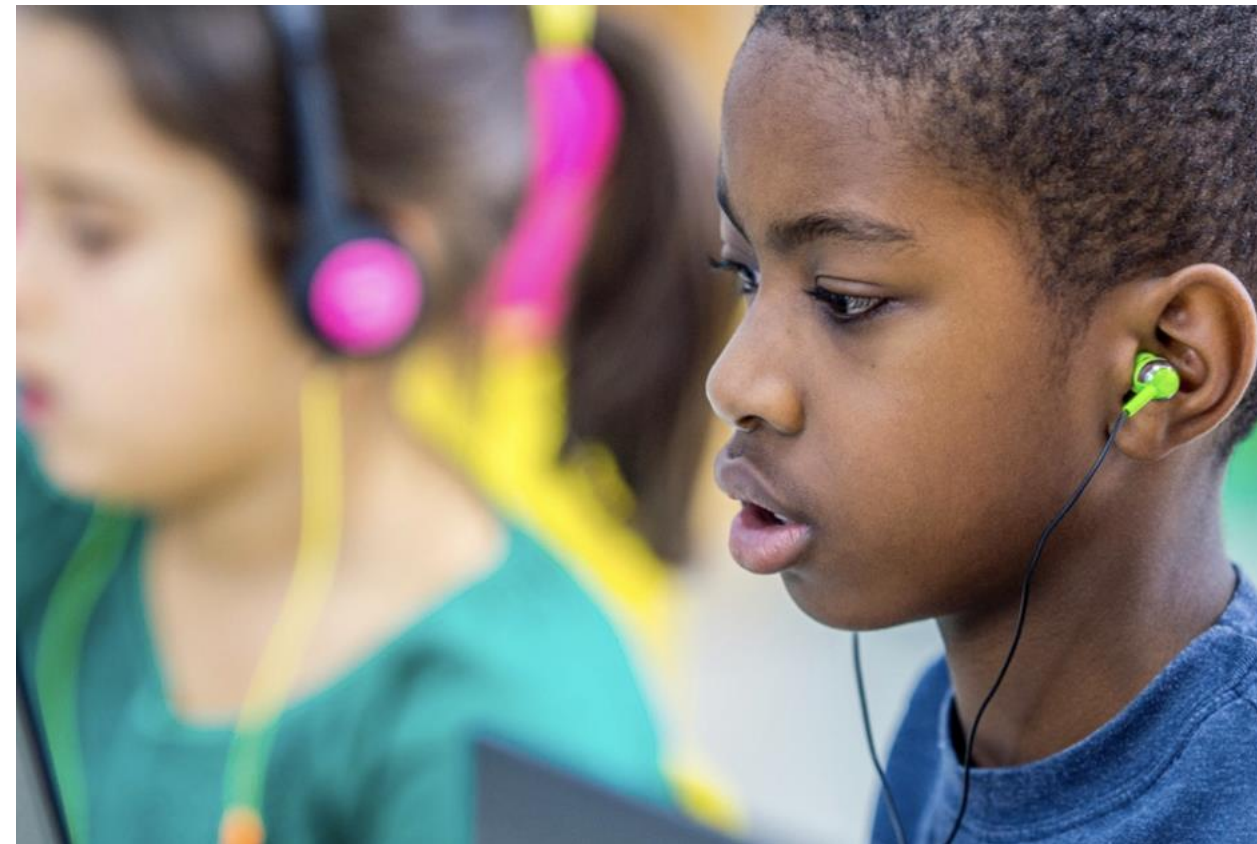
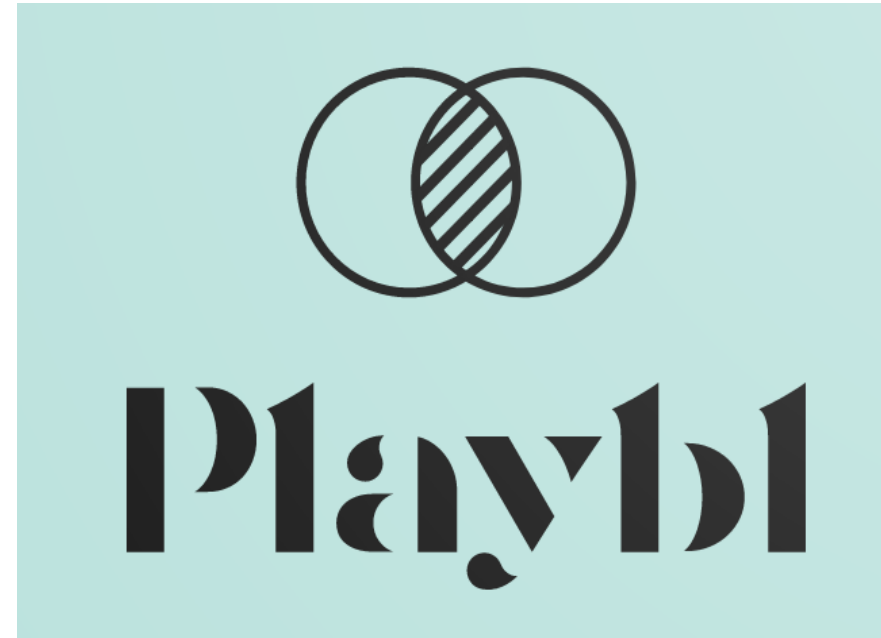


■ Monthly Active Users on Social Media (Worldwide)
(source 1)

■ Percentage of young adults who had **depression** within 12 months from 2009 -2017 (USA)
(source 2)



play2PREVENT Lab & Playbl



How to address the major health issues of adolescence including mental health?

- 95% of adolescents play videogames
- Digital health games such as serious videogames (videogames designed for a primary purpose other than entertainment) are effective interventions
- And how might they help to “close the gap” in the global adolescent mental health crisis?
 - Meet adolescents where “they are”
 - Can demonstrate fidelity to the dose of the intervention
 - Don’t require significant manpower to implement so potentially cost-effective
 - Are scalable
 - Can have increased reach and impact

Our evidence-based digital health games



SMOKING & VAPING
PREVENTION
(AGES 10-15)



MENTAL HEALTH
& WELLNESS
(AGES 14-18)



OPIOID USE
PREVENTION &
MENTAL HEALTH
PROMOTION
(AGES 16-19)



HEALTH
ADVOCACY
& WELLNESS
(AGES 14-18)



RISK REDUCTION AND
HIV PREVENTION
(AGES 11-14)



Understand Key Takeaways

Get Answers To Key Questions


Learn How to Take Action

Explore Toolkits & Resources

Share    



TOOLKIT

[Play2Prevent \(Yale Center for Health & Learning Games\)](#) 

Play2Prevent is a repository for evidence-based video game interventions and educational materials geared toward risk prevention, health and wellness promotion, and social intelligence in children, teens and young adults.

Focus on youth mental health

- **PlaySmart:** High school girls and boys
- **empowerED:** High school girls and boys
- **Bring Change to Mind:** High school mental health clubs; girls and boys
- **Greece/Cyprus:** Adolescent girls and boys in Greece and Cyprus
- **Integrating health content into widely popular games platforms:** middle and high school students



PROTECTING YOUTH MENTAL HEALTH

The U.S. Surgeon General's Advisory

1798



PLAYSMART

Click anywhere to start

PlaySmart

Storylines (Content):

Trading Wisdom

A Friend in Need

Lean on Me

Grandma's Pills

Tough Love

A New Direction

Mini-games (Skill Development):

Risk Sense

Know Power

Social Media

Future Sense

Refusal Power

Stress Sense



PLOS ONE

STUDY PROTOCOL

A digital health game to prevent opioid misuse and promote mental health in adolescents in school-based health settings: Protocol for the *PlaySmart* game randomized controlled trial

Tyra M. Pendergrass Boomer^{1*}, Lily A. Hoerner^{1*}, Claudia-Santi F. Fernandes^{1,2,3}, Amber Maslar⁴, Sherry Aiudi⁵, Tassos C. Kyriakides⁶, Lynn E. Fiellin^{1,2,6}



JMIR SERIOUS GAMES

Aneni et al

Original Paper

A Video Game Intervention to Prevent Opioid Misuse Among Older Adolescents: Development and Preimplementation Study

Kammarauche Aneni^{1,2*}, MBBS, MHS; Claudia-Santi F Fernandes^{1,2*}, EdD, LPC, MCHES; Lily A Hoerner³, BA; Claire Szapary⁴, BA, MPH; Tyra M Pendergrass Boomer³, BSc, MEM; Lynn E Fiellin^{1,3,4}, MD

PlaySmart: Addressing both **mental health** and substance misuse



PlaySmart efficacy study

- **Setting:** 15+ CT schools
- **Population:** 532 adolescents ages 16–19 who are at higher risk
- **Intervention:** PlaySmart videogame aims to promote mental health and prevent opioid initiation in high schoolers
- **Assigned** to either the PlaySmart game or control games
- Collect **data** at baseline, 6 weeks, 3, 6, 12 months



PLOS ONE

STUDY PROTOCOL

A digital health game to prevent opioid misuse and promote mental health in adolescents in school-based health settings: Protocol for the *PlaySmart* game randomized controlled trial

Baseline data: Lifetime mental health symptoms and substance use

PHQ-8: Depression	N = 531
Mild-moderate symptoms	383 (72%)

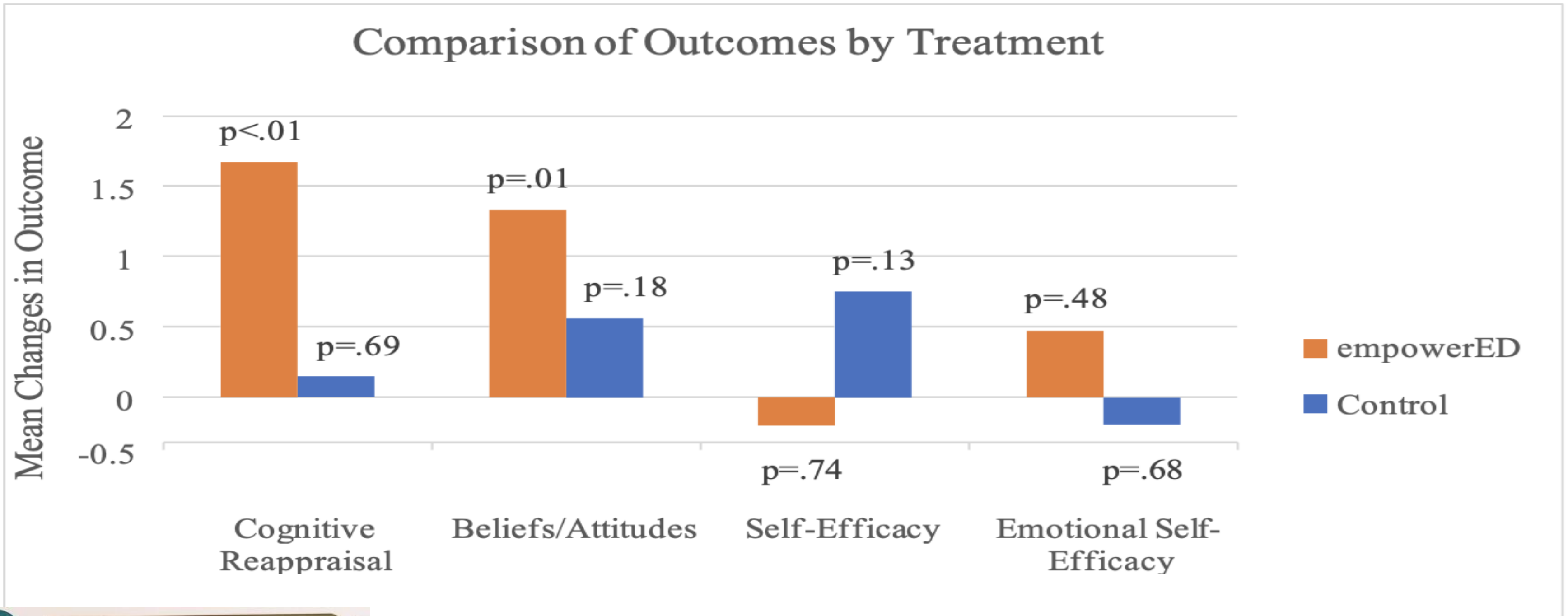
GAD-7: Anxiety	N = 531
Mild-moderate symptoms	431 (81%)

Experience with alcohol	N = 531
No	356 (67%)
Yes	175 (33%)


Experience with marijuana	N = 531
No	429 (81%)
Yes	102 (19%)

empowerED study

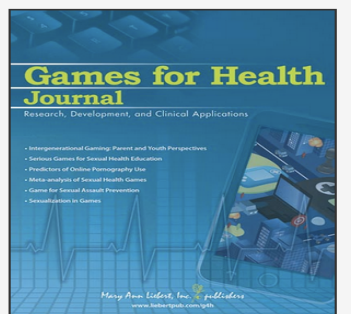
(N=100) (CZI)



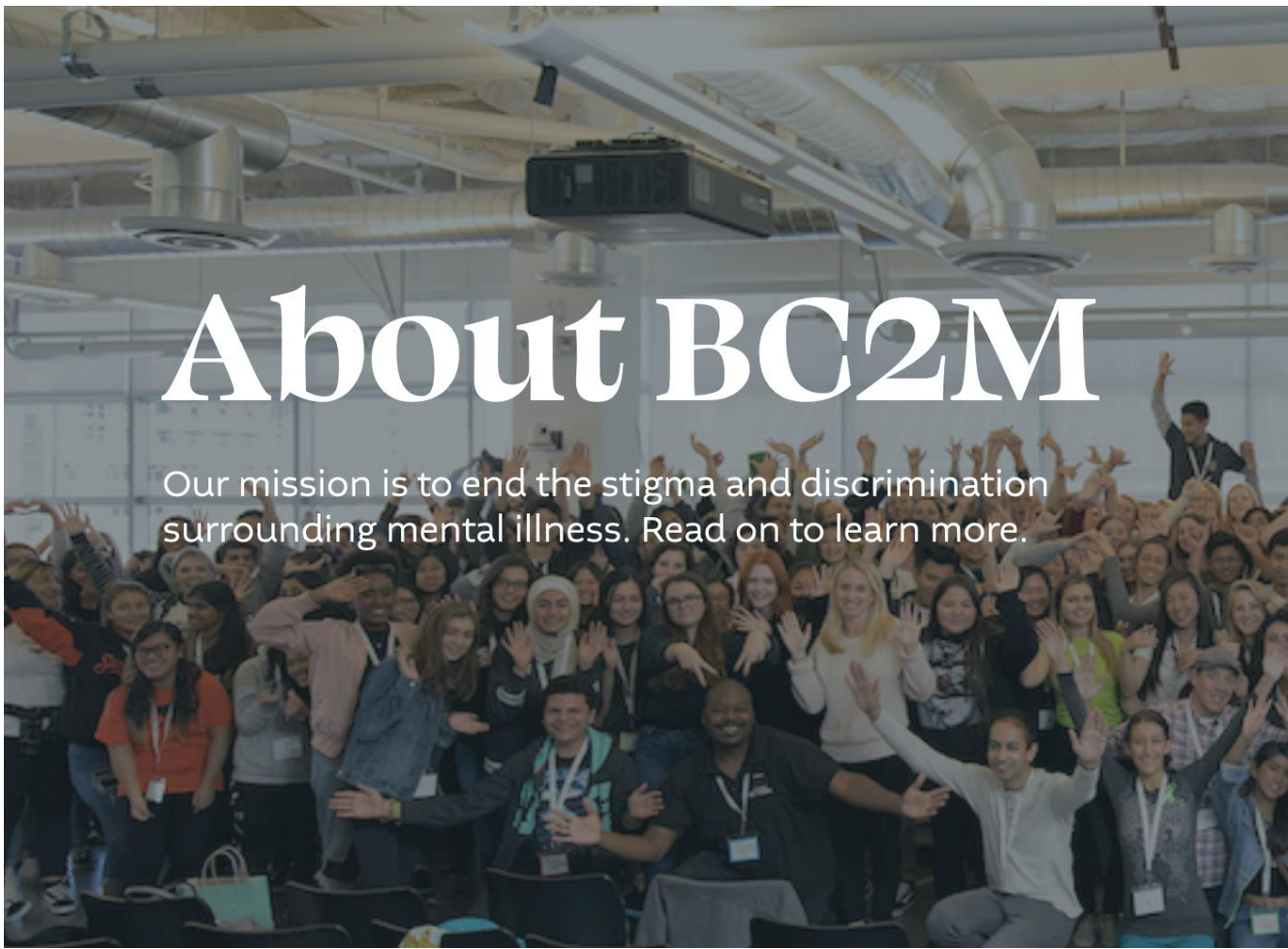
A Pilot Randomized Controlled Trial to Evaluate a Cognitive Behavioral Videogame Intervention: *empowerED*

Claudia-Santi F. Fernandes , Yanhong Deng, Alvin H. Tran, Kimberly D. Hieftje, Tyra M. Pendergrass Boomer, Carolyn K. Taylor, and Lynn E. Fiellin

Published Online: 8 Nov 2022 | <https://doi.org/10.1089/g4h.2021.0118>



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About BC2M

Our mission is to end the stigma and discrimination surrounding mental illness. Read on to learn more.



bring change to mind
let's talk mental health



The Irsay Institute
Indiana University



PLAY2PREVENT LAB

Develop, evaluate, & implement videogames that impact health behavior, social intelligence, and education in teens and young adults

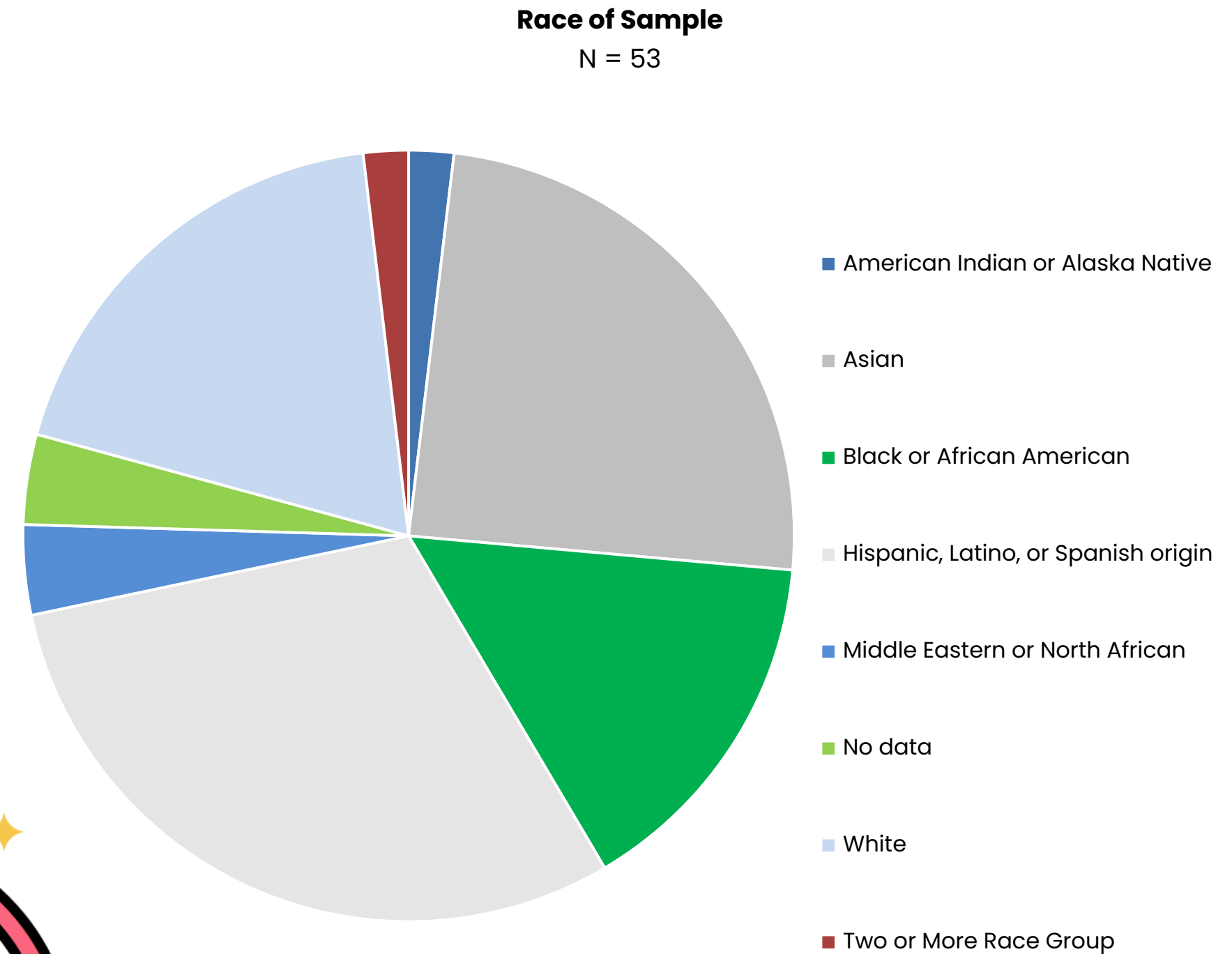


The Irsay Institute
Indiana University



Participants

- 11 focus groups: 53 participants
 - 49% boys, 43% girls, 4% gender queer/non-binary/non-conforming, 4% no demographic data
 - 44% Hispanic, Latino, or Latinx
 - 9% 9th grade, 17% 10th grade, 49% 11th grade, 23% 12th grade



Themes

01

Perceptions of popularity & peer dynamics

Social norms and dynamics for adolescents in schools

02

Mental health stigma definitions & experiences

Personal definitions and experiences dealing with stigma

03

Personal stories around mental health

Events shared by teens that they witnessed or experienced

04

Resources & student advice for mental health

Student input on available and accessible resources; advice on reducing mental health stigma in teens

Theme 2: Mental health stigma definitions & experiences

- Stigma from mental illness as well as different identities
- Differences in amount of stigma according to mental health issue
- Stigma with friends versus with families
- Social facilitators of stigma (e.g., gossip, rumors, bullying)
- **Toxic positivity*** and **Trivialization**** alongside mental health stigma

SMI: "It's like sometimes I just wanna be okay that I'm not happy with it. Just like, just let me not be happy with it for a moment. And just being able to be genuine, whether that's uh, in a bad way where it's like I'm not feeling too great and that's fine or genuinely I'm feeling absolutely awesome and that's great too."



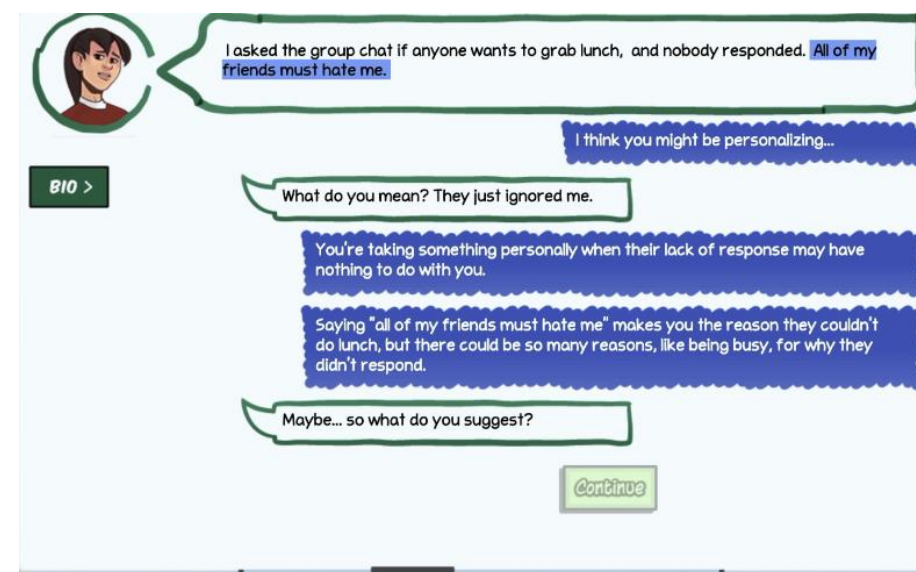
***Toxic positivity:** peers would put on a façade that everything was great when it wasn't; this led to confusion about the realness of the mental health concern and promoted the stigma by interfering with it being "normal" that things are NOT always OK

****Trivialization:** minimizing or oversimplifying mental health conditions

Cyprus/Greece

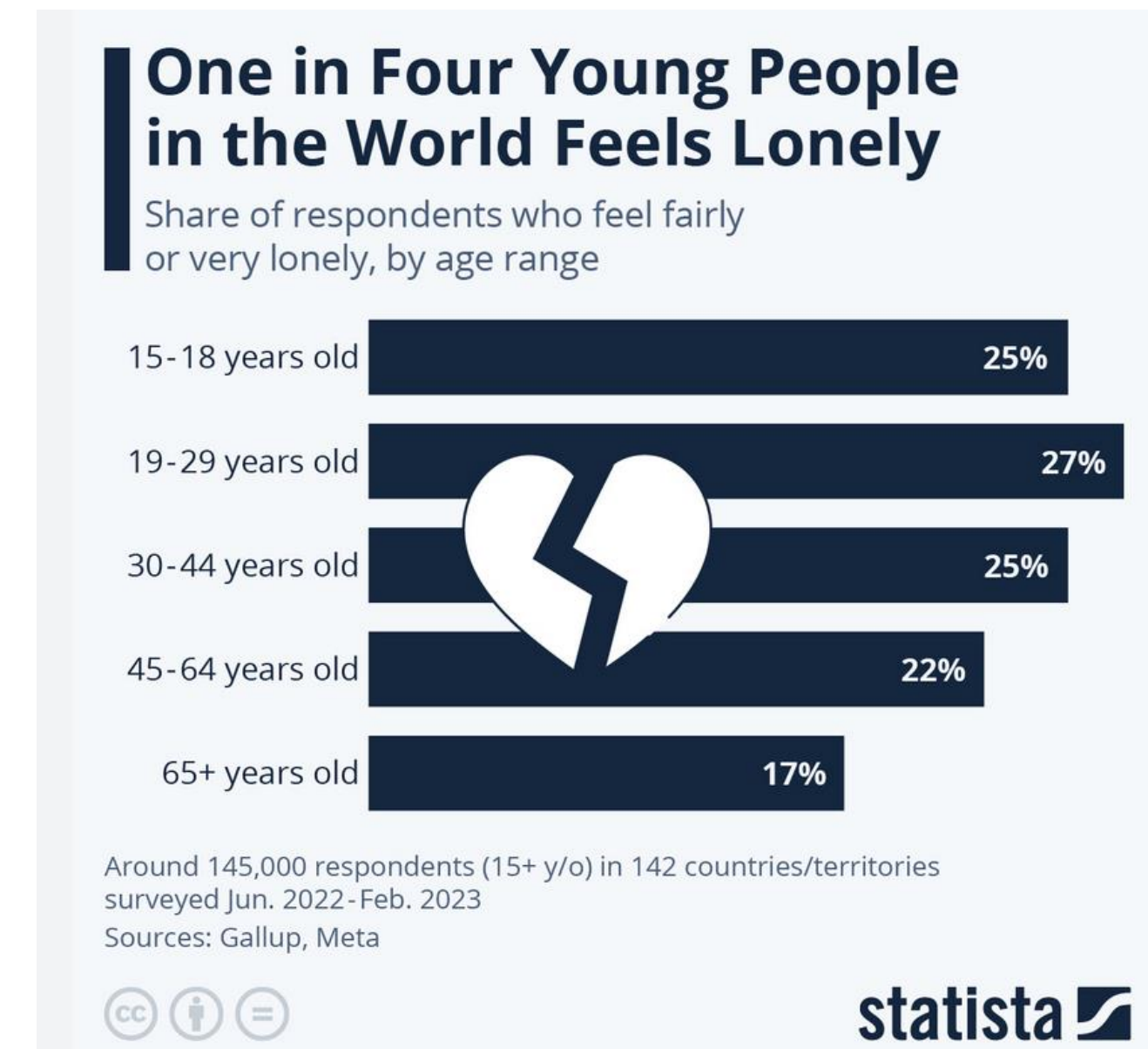


- **Cyprus:** 1/4 children in Cyprus experience mental health difficulties more than once per week; anxiety (29%) and irritability (25%).
- **Greece:** 39% of young people state that poor mental health is the problem that worries them the most.
- Evolving and expanding **national interest in mental health:**
 - National Strategy for Mental Health in Cyprus.
 - The Greek National Action Plan for Mental Health
- **Plan:** To modify, adapt, and evaluate the PlaySmart game to focus on mental health issues in young people in Cyprus and Greece.



Targeting loneliness

- Recent reports indicate that as much as **33%** of the world's population is lonely, exacerbated by the COVID-19 pandemic.
- **One in four** young people feels lonely globally.
- This project plans to **Integrate health content into a widely popular game platform** for young people.





Targeting loneliness

- This project plans to **Integrate health content into a widely popular game platform** for young people.
- We have chosen **Fortnite**: online video game and game platform developed by Epic Games:
 - As of 2024, there are now approximately **650 million registered Fortnite players**.
 - On an average day, **1.1 million** users play Fortnite.
 - We will build a game on Fortnite that targets loneliness by establishing skills around building connections and belongingness, working with adolescents and scientific content experts.
- Partnership with Look North World (building in Fortnite), the Games for Change organization, and the Deepak Chopra Foundation.



Future applications with AI for youth mental health

- Personalized Interventions
- Real-time Adaptation
- Advanced Behavioral Insights
- Enhanced User Engagement

The global adolescent mental health crisis: The role of digital health games in closing the gap

- There is a global mental health crisis impacting young people with **A GAP** in **SOLUTIONS**.
- Digital health games play a **major increasing role** in addressing the gaps:
 - Playing in high schools.
 - Playing in high school mental health clubs focusing on mental health stigma.
 - Adapting for other countries and cultures as part of national initiatives.
 - Addressing loneliness through an online videogame and game platform to collaboration, connectedness, and belonging through a game.
- Future opportunities will expand on a global approach with the goal of reaching all young people through the power of play and games.



THANK
YOU

[Play2prevent.org](https://play2prevent.org)
[Playbl.com](https://playbl.com)

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PANEL DISCUSSION

Panelists

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Dartmouth College

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Mental Health, Nursing Services

Administration of Ministry of Health

Anahit Minassian

UNICEF

Dr. Charalambos Vrasidas

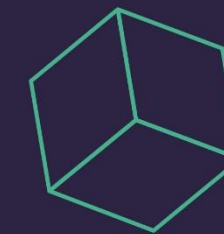
CARDET & University of Nicosia

Facilitator

Dr. Tassos Kyriakides

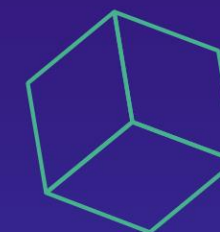
Yale School of Public Health & CARDET

Diverse Insights and Perspectives on Digital Mental Health





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