Investing In Psychological Drivers: The New Frontier For Teen Mental Health

BeMe Health / August 2023

Table Of Contents

The State Of Teen Mental Health

Teen mental health in the U.S. has reached a crisis state.

Our teens report feeling more depressed[1], more anxious[2], and lonelier[3] than ever before. From the U.S. Surgeon General's Advisory[4] to President Biden's State of the Union[5] there is rising awareness[6] and a consistent cry to address the teen mental health epidemic on a national stage.

>40%
of high school students report ***persistent*** feelings sad or hopelessness[7]

50%
of teenagers will suffer from a mental health condition[8]

+8%
annual growth in mental health ED visits (2015-2020)[9]

But our current solutions aren't meeting the need. The number of teens who are struggling far exceeds[10] the number of adolescent clinicians. The cost of mental health care also puts it out of reach for many families. And the price is ever-increasing, as teens are being reached and treated far too late — when their symptoms are more severe[9] and therefore more expensive. Clinicians, health plans, payers, employers, teachers, and parents are all feeling the mounting pressure.

There's also a less-discussed barrier that's keeping teens from getting the care they need: the emphasis on diagnosis. When diagnosis serves as the gatekeeper for mental health support, teens with subclinical symptoms slide under the radar. Solutions that focus on diagnoses like clinical anxiety and depression rather than teens' day-to-day needs miss an opportunity to **support teens *before they're in crisis***. By the time teens reach the threshold to qualify for help, their symptoms are more extreme and costly to treat — we've reached them too late.

Imagine, for example, a teen who does not have a mental health diagnosis or the need to see a psychiatrist but who desperately needs help working through a stressful situation with a bully.

Or, picture a teen who is going through their very first breakup with no coping tools or social support.

> **"Today's system requires a formal diagnosis for teens to qualify for mental health coverage. However, we know the challenges teens face extend far beyond many clinical diagnoses. Most teens without a diagnosis are not able to get treatment. If left unsupported we are likely to have a generation even further in crisis."**
> *– Dr. Danielle Ramo, Chief Clinical Officer, BeMe Health*

Teens themselves are telling us they need more.

"There's so much pressure...and it's only getting worse for younger generations," said BeMe Teen Advisory Board member Anna (age 17) in an article for Good Morning America[11]. Teens are struggling on multiple levels: **they're experiencing extreme loneliness, attempting suicide, and having trouble at both home and in school.**

Teens need more than clinical evaluations and symptom treatment. They need validation, understanding, and skills they can learn and use in their everyday lives. They need emotional support through difficult life transitions like new schools, breakups, applying to colleges, and more. And rather than seeking mental health advice on an algorithm-driven platform designed for addiction, they need trusted adults who listen and care.

A United Nations State of the World's Children report estimates **poor mental health among youth costs the world $387 billion a year.**[12] Health plans and employers have already started to experiment with a number of digital solutions that aim to address this tremendous need. But many of those digital options are replicating the shortcomings of our broken healthcare system — they continue to rely on a too-small pool of overtaxed clinicians at a price point that's out of reach. And the more affordable mental health solutions often weren't created specifically for teens, so they fail to engage teens or achieve clinical outcomes. In order to effect meaningful change, **we need to invest in an accessible solution that truly helps teens *before it's too late.***

We also need to recognize the context teens are in today, in order to truly provide the unique support required to help them thrive.

Adolescence is a critical developmental period[13] for both relationship-building and independence. During the pandemic, teens suffered a huge loss in socializing[14] and agency, leading to rates of loneliness[15] that far outweighed those of previous generations. Today's teens are less likely to have the communication skills they need to manage new social situations, like college,[16] and **many teens say they don't know how to make new friends**.[17]

With climate anxiety weighing heavily, teens are also less hopeful about the future than previous generations, with one study showing that **75% think the future is frightening**.[18] When we consider the vast mental health crisis our teens are experiencing, there emerges a clear need to focus on foundational skills and support that are specifically tailored to the unique pressures teens are facing today.

Investing in Psychological Drivers

Rather than replicating the existing model, it's time for something new.

We need to understand and support the psychological drivers of teen wellbeing. These foundational components of mental health — **like hopefulness, coping skills, and social connection** — empower teens to feel healthy and well. Teens cultivate psychological drivers through learning and practicing skills in their everyday lives (not just in times of crisis).

With psychological drivers in place, we can prevent symptoms before teens experience them and treat existing symptoms.

Psychological drivers can prevent symptoms before they start.

Psychological drivers help teens build resilience to better navigate life's challenges and transitions. Teens feel empowered to be in control of their health and wellbeing because they aren't just participating in a treatment — they're participating in life in a way that promotes better coping, relationships, and resilience.

Psychological drivers can make mental health treatment more successful.

For teens who are already experiencing symptoms of anxiety or depression, psychological drivers can boost the effects of clinical interventions. Teens who learn coping skills alongside clinical care experience even greater symptom improvement with sustained results.

The BeMe Model

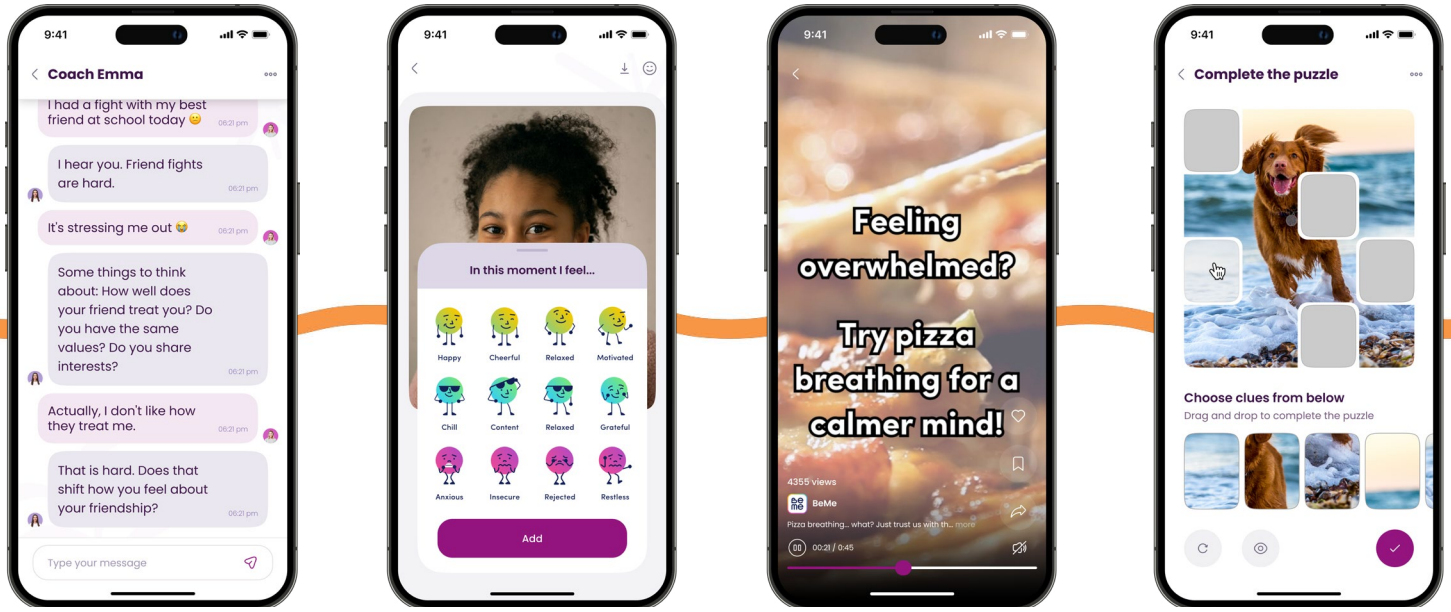
BeMe is a mobile mental health platform — made for and With Teens In Mind™ — created to improve teen wellbeing by bringing together the best aspects of digital content, live support, and clinical care.

The BeMe app is the first solution of its kind to truly meet teens where they are, with a **commitment to health equity, inclusivity, and providing culturally-relevant support.**

The entire BeMe experience is structured to support the psychological drivers of teens.

With BeMe, **teens engage with psychoeducational content, build resilience and coping skills, and connect with real-time, text-based human coaching**. BeMe also provides 24/7 access to multiple crisis supports and refers teens to clinical care as needed.

Trust and safety are foundational.[19] Content is offered in both English and Spanish. Every aspect of the BeMe offering is co-created with a Teen Advisory Board.



BeMe's clinical and research teams, along with an advisory board of world-renowned adolescent health experts, have identified **six core psychological drivers proven to both help teens to thrive and reduce clinical symptoms.** These six drivers make up the foundation of all BeMe content, coaching, and crisis support.

Each building block has a research-backed impact on the downstream symptoms and experience of teens.

Psychological Driver	Impact
Hopelessness	Hopefulness is associated with improved wellbeing and decreased symptoms of depression, anxiety, and suicide[20]; improved stress and school performance[21]; and decreased likelihood of substance use in adolescents.[22]
Coping	Coping skill use is associated with higher subjective wellbeing[23] and lower stress[24] among teens during the COVID-19 pandemic.
Social Connection	Social connection/sense of belonging are key protections against depression and suicidality among adolescents.[25]
Self Esteem	Self esteem is associated with higher happiness,[26] and lower depression, anxiety and loneliness among adolescents.[27]
Self Efficacy	Self efficacy, or our confidence in ability to control our behavior and reach goals, has a rich and long-term association with lower adolescent depression[28] and anxiety[29] and better sleep quality[30] and wellbeing.[31]
Self Awareness	Self awareness, or the ability to know what we are experiencing emotionally, is associated with lower likelihood of developing depression.[32] Interventions that target self-awareness can also reduce depression symptoms in teens.

Psychological drivers impact symptoms and diagnoses that come at a serious cost.

Treating teen anxiety costs an estimated average of **$6,405** per teen per year.[33]

Every prevented hospitalization for teen suicide attempts **saves an estimated $14,262**.[34]

For teens treated for medical issues, depression increases healthcare costs by an additional estimated **$2,883** per teen.[35]

BeMe + Stanford's Groundbreaking Study: Overview

In August 2023, BeMe released the first study of its kind, "Acceptability and Utility of a Smartphone-App to Support Adolescent Mental Health (BeMe): Program Evaluation Study," in partnership with the Stanford Prevention Research Center.[36]

This study shows that the combination of digital tools and live human connection may hold particular promise for resonating with teens and flexibly supporting their mental health.

The evaluation followed the experience of **13,421 adolescents ages 13 to 20 years** as they used the BeMe app for 30 days. Teens engaged with BeMe's content (based on principles of Cognitive Behavioral Therapy, Dialectical Behavior Therapy, Acceptance and Commitment Therapy, Motivational Interviewing, Positive Psychology, and Mindful Self-Compassion), interactive activities, live text-based coaching, links to clinical services, and crisis support tools.

Ratings of BeMe's content, activities, and coaching were very positive. Teens reported improvement in areas such as coping and self-efficacy (psychological drivers) are aimed at reducing depression and anxiety and improving wellbeing.

"Innovative solutions that are accessible, engaging, and responsive are needed to address the mental health needs of teens today.

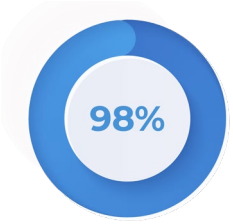
Our initial findings demonstrate that a large number of teens engaged with the BeMe app, including its content, mood assessments, interactive skills, and live coaching.

Digital tools such as BeMe have the potential to substantially enhance access to mental health support for young people."

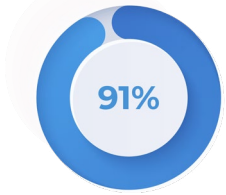
- Dr. Judith Prochaska, Professor of Medicine, Stanford University & Stanford Prevention Research Center, Study Lead Investigator

BeMe + Stanford's Groundbreaking Study: Insights

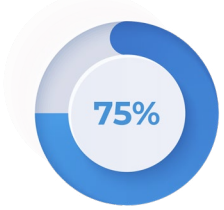
Engagement



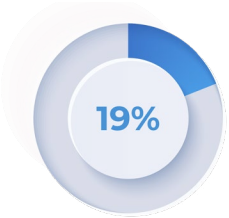
of teens engaged with BeMe's mood ratings.



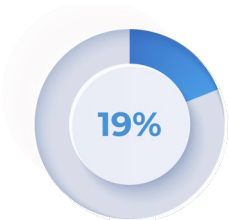
of teens engaged with BeMe's content.



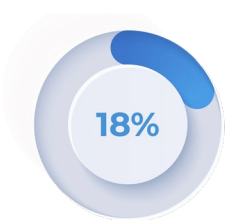
of teens engaged with BeMe's interactive skills.



of teens engaged with BeMe's coaching.



of teens engaged with BeMe's crisis support resources.

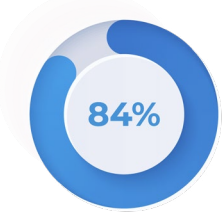


of teens engaged with BeMe's clinical resources.

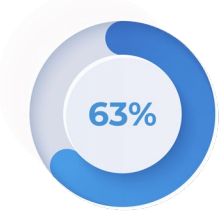
BeMe + Stanford's Groundbreaking Study: Insights

Satisfaction

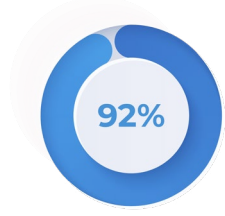
of teens found the content helpful.



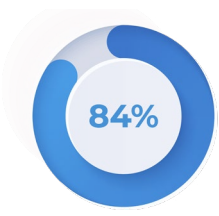
of teens found coaching helpful.



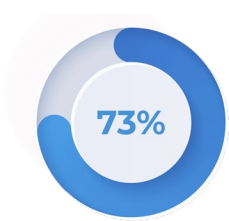
of teens found activities useful.



of teens reported that BeMe's content improved their coping self-efficacy.



of teens reported that BeMe's coaching improved their coping self-efficacy.



of teens found activities useful in coping with big feelings.

BeMe's Impact on Mental Health Symptoms

Teens using BeMe show improvement in just 7 days

BeMe's clinical and data science teams conducted an analysis of **474 teens age 13 to 20** who screened positive for depression and/or anxiety and used our platform in 2023. Teens were administered clinical screens for anxiety (GAD-2/7) and depression (PHQ-2/8) when they enrolled in BeMe, and again after 7 days of using the platform.

Teens were 70% female and average age was 15. On average, teens:

- used BeMe over **4.0** days
- **24%** engaged with our safety planning and crisis support resources
- used BeMe over **16.5** sessions
- **33%** completed at least one coaching session
- completed **23** activities
- engaged with **14** content pieces and **33** care activities

After 7 days, teens showed:

- ▼ **20%** Reduction in positive screens for mod/severe anxiety
- ▼ **11%** Reduction in positive screens for mod/severe depression
- ▼ **3** Point reduction in GAD-7 scores
- ▼ **4** Point reduction in PHQ-8 scores

Significant improvements in:

- ▲ Hope
- ▲ Use of coping skills
- ▲ Validation of their mental health experiences

These findings indicate initial positive clinical impact of BeMe and support our hypothesis that improvement in psychological drivers are consistent with improvements in common clinical symptoms teens experience today.

What Teens Are Saying About BeMe

Hopefulness

"**This saved my life**, thank you."

"I love the safety plan, it really provides a way for us to remind our future selves of things to be grateful [for] in the future. **This app gives me hope and motivation** for the good things to come."

Coping

"This app is literally so amazing it lets u create a safety plan helps u with ur coping skills and **even lets u listen to music for sleep!**"

Social Connection

"I've never shared this with anyone before."

"The fact that people like this are actively trying to make a difference in the world and willing to help anyone 24/7 just shows how lucky we are to have each other. I genuinely thank everyone involved in the app and hope they have amazing lives. **I wish more people like this were in the world**."

Self Esteem

"I'm becoming a more loving kind person."

"It helps people not to be stressed checks on u and helps build confidence."

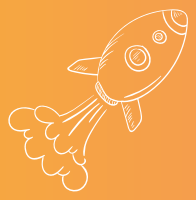
Self Efficacy

"This app is awesome. **It helps me a lot to be a better person**, express my feelings and handle anxiety and depression. I love it so much. **My coach is amazing**."

Self Awareness

"I struggle with inconsistent emotions — this app has helped me journal them and **process them in a healthy way.**"

A Future of Possibility



Focusing on psychological drivers will change the entire landscape of teen mental health.

We won't have to wait until teens are in crisis to support them. By empowering teens with the skills and support they need for day-to-day wellbeing, the BeMe model prevents crises before they happen. Coaches are already in conversation with teens about their mental health, so they're able to spot very early signals before they get bigger (and more expensive to treat).

We'll reduce the burden on the healthcare system. With solutions like BeMe caring for teens around the clock, clinicians won't have to do it all. The BeMe model prevents symptoms before they start. And, by empowering teens with tools they can use in challenging times, teens have other coping options in addition to therapy. Finally, the psychological drivers that make up the foundation of BeMe's solution can be used alongside clinical treatment to enhance therapeutic outcomes.

Teens will see benefits in all areas of their lives. When we equip teens with a strong foundation, the benefits are seen far beyond the treatment room. BeMe's psychological drivers lead to improved grades in school, more prosocial behaviors, and better relationships with peers and family. They've also been linked to a decrease in self-destructive behaviors, like substance use.

We're listening when teens tell us what they truly need. When teens share their own mental health struggles, they're not usually talking about statistics and diagnoses. They're telling us they're having trouble sleeping, just went through heartbreak, or feel like no one "gets" them. Psychological drivers give teens concrete tools to work on the things that really matter to them in their day-to-day lives. With these drivers in place, teens will feel empowered to handle life's challenges in a lasting and meaningful way. As one BeMe teen shared, **"Because of BeMe, I can now wake up everyday thankful to be alive in a day free of worry and many more of those days to come! I as well need to mention how AWESOME and helpful the coaches are too! To anybody I know, especially my friends, I would recommend this app! "**

Partner with BeMe Health and empower teens with the new frontier of mental health support!

Contact: **partners@bemehealth.com**

References

1 Sher L. The impact of the covid-19 pandemic on suicide rates. QJM: An International Journal of Medicine. 2020;113(10):707-712. doi:10.1093/qjmed/hcaa202.

2 Grover S, Sahoo S, Rani S, Shah R, Singh AP, Mehra A. Covid-19 pandemic-related anxiety in teenagers. Indian Journal of Psychiatry. 2020;62(3):328.

3 Loades ME, Chatburn E, Higson-Sweeney N, et al. Rapid systematic review: The impact of social isolation and loneliness on the mental health of children and adolescents in the context of covid-19. Journal of the American Academy of Child & Adolescent Psychiatry. 2020;59(11).

4 Protecting youth mental health. Protecting Youth Mental Health: The U.S. Surgeon General's Advisory. https://www.hhs.gov/sites/default/files/surgeon-general-youthmental-health-advisory.pdf

5 Fact sheet: In state of the union, president Biden to outline vision to advance progress on Unity Agenda in year ahead. The White House. https://www.whitehouse.gov/briefingroom/statements-releases/2023/02/07/fact-sheet-in-state-of-the-union-president-bidento-outline-vision-to-advance-progress-on-unity-agenda-in-year-ahead/. Published February 7, 2023. Accessed February 22, 2023.

6 Lunna Lopes AKF@AKon T. KFF/CNN Mental Health in America Survey - Findings. KFF. https://www.kff.org/report-section/kff-cnn-mental-health-in-america-survey-findings/. Published October 6, 2022. Accessed February 22, 2023.

7 Youth Risk Behavior Survey Data Summary & Trends Report: 2011-2021. Cdc.gov. Accessed March 28, 2023. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/yrbs_data-summary-trends_report2023_508.pdf

8 Mental illness. National Institute of Mental Health (NIMH). Accessed March 28, 2023. https://www.nimh.nih.gov/health/statistics/mental-illness

9 Cushing AM, Liberman DB, Pham PK, et al. Mental health revisits at US pediatric emergency departments. JAMA Pediatr. 2023;177(2):168-176. doi:10.1001/jamapediatrics.2022.4885

10 AACAP Releases Workforce Maps Illustrating Severe Shortage of Child and Adolescent Psychiatrists. Severe shortage of child and adolescent psychiatrists illustrated in AAACP Workforce Maps. AACAP. https://www.aacap.org/AACAP/Press/Press_Releases/2018/Severe_Shortage_of_Child_and_Adolescent_Psychiatrists_Illustrated_in_AAACP_Workforce_maps.aspx. Published 2023. Accessed February 22, 2023.

11 Chaudhary N. A child psychiatrist breaks down Biden's youth mental health priorities: Analysis. ABC News. Published February 12, 2023. Accessed March 28, 2023. https://abcnews.go.com/Health/child-psychiatrist-breaks-bidens-youth-mental-healthpriorities/story?id=97049714

12 Kuehn BM. Lack of adolescents' mental health care is a global challenge. JAMA. 2021;326(19):1898. doi:10.1001/jama.2021.20064

13 Rogers AA, Ha T, Ockey S. Adolescents' perceived Socio-emotional impact of COVID-19 and implications for mental health: Results from a U.s.-based mixed-methods study. J
Adolesc Health. 2021;68(1):43-52. doi:10.1016/j.jadohealth.2020.09.039

14 Orben A, Tomova L, Blakemore SJ. The effects of social deprivation on adolescent development and mental health. Lancet Child Adolesc Health. 2020;4(8):634-640.doi:10.1016/S2352-4642(20)30186-3

15 Farrell AH, Vitoroulis I, Eriksson M, Vaillancourt T. Loneliness and well-being in children and adolescents during the COVID-19 pandemic: A systematic review. Children (Basel). 2023;10(2):279. doi:10.3390/children10020279

16 Jargon J. College students have to learn how to make small talk again. Wall Street Journal (Eastern ed.). https://www.wsj.com/articles/college-students-forgot-how-to-talkto-each-other-11644627316. Published February 12, 2022. Accessed March 29, 2023.

17 Booth R. Happiness among UK young people has hit 13-year low, study finds. The guardian. https://www.theguardian.com/society/2022/feb/23/happiness-among-ukyoung-people-has-hit-13-year-low-study-finds. Published February 23, 2022. Accessed March 29, 2023.

18 Hickman C, Marks E, Pihkala P, et al. Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. Lancet Planet Health. 2021;5(12):e863-e873. doi:10.1016/S2542-5196(21)00278-3

References (Continued)

19 Baird DE, Dorison S. How organizations can enhance digital trust and safety for children. World Economic Forum. Published August 29, 2022. Accessed March 28, 2023. https://www.weforum.org/agenda/2022/08/five-ways-that-organizations-can-invest-inchild-digital-trust-and-safety/

20 Magaletta PR, Oliver JM. The hope construct, will, and ways: their relations with selfefficacy, optimism, and general well-being. J Clin Pschol. 1999;55(5):539-551.doi:10.1002/(sici)1097-4679(199905)55:5<539::aid-jclp2>3.0.co;2-g

21 Fraser AM, Bryce CI, Alexander BL, Fabes RA. Hope levels across adolescence and the transition to high school: Associations with school sress and achievement. J Adolesc. 2021;91:48-58. doi:10.1016/j.adolescence.2021.07.004

22 Brooks MJ, Marshal MP, McCauley HL, Douaihy A, Miller E. The Relationship Between Hope and Adolescent Likelihood to Endorse Substance Use Behaviors in a Sample of Marginalized Youth. Subst Use Misuse. 2016;51(13):1815-1819. doi:10.1080/10826084.2016.1197268

23 Pigaiani Y, Zoccante L, Zocca A, et al. Adolescent Lifestyle Behaviors, Coping Strategies and Subjective Wellbeing during the COVID-19 P3ndemic: An Online Student Survey. Healthcare. 2020;8(4):472. doi:10.3390/healthcare8040472

24 Cattelino E, Testa S, Calandri E, et al. Self-efficacy, subjective well-being and positive coping in adolescents with regard to Covid-19 lockdown. Curr Psychol N B Nj. Published online June 20, 2021:1-12. doi:10.1007/s12144-021-01965-4

25 Parr EJ, Shochet IM, Cockshaw WD, Kelly RL. General Belonging Is a Key Predictor of Adolescent Depressive Symptoms and Partially Mediates School Belonging. School Ment Health. 2020;12(3):626-637. doi:10.1007/s12310-020-09371-0

26 Duffy RD, Douglass RP, Autin KL, Allan BA. Examining predictors and outcomes of a career calling among undergraduate students. J Vocat Behav. 2014;85(3):309-318. doi:10.1016/j.jvb.2014.08.009

27 Cacioppo JT, Fowler JH, Christakis NA. Alone in the Crowd: The Structure and Spread of Loneliness in a Large Social Network. J Pers Soc Psychol. 2009;97(6):977-991. doi:10.1037/a0016076

28 Ehrenberg MF, Cox DN, Koopman RF. The relationship between self-efficacy and depression in adolescents. Adolescence. 1991;26(102):361-374.

29 Lewis KM, Matsumoto C, Cardinale E, et al. Self-Efficacy As a Target for Neuroscience Research on Moderators of Treatment Outcomes in Pediatric Anxiety. J Child Adolesc Psychopharmacol. 2020;30(4):205-214. doi:10.1089/cap.2019.0130

30 Ten Brink M, Lee HY, Manber R, Yeager DS, Gross JJ. Stress, Sleep, and Coping SelfEfficacy in Adolescents. J Youth Adolesc. 2021;50(3):485-505. doi:10.1007/s10964-020-01337-4

31 Cattelino E, Testa S, Calandri E, et al. Self-efficacy, subjective well-being and positive coping in adolescents with regard to Covid-19 lockdown. Curr Psychol N B Nj. Published online June 20, 2021:1-12. doi:10.1007/s12144-021-01965-4

32 Kauer SD, Reid SC, Crooke AHD, et al. Self-monitoring using mobile phones in the early stages of adolescent depression: randomized controlled trial. J Med Internet Res. 2012;14(3):e67. doi:10.2196/jmir.1858

33 Pella JE, Slade EP, Pikulski PJ, Ginsburg GS. Pediatric anxiety disorders: A cost of illness analysis. Journal of Abnormal Child Psychology. 2020;48(4):551-559. doi:10.1007/s10802-020-00626-7.

34 Melnyk BM. Reducing healthcare costs for mental health hospitalizations with the evidence-based COPE program for child and adolescent depression and anxiety: A cost analysis. Journal of Pediatric Health Care. 2020;34(2):117-121. doi:10.1016/j.pedhc.2019.08.002.

35 König H, König H-H, Konnopka A. The excess costs of depression: A systematic review and meta-analysis. Epidemiology and Psychiatric Sciences. 2019;29. doi:10.1017/s2045796019000180.

36 Prochaska, JJ, Wang Y, Bowdring MA, Chieng A, Chaudhary NP, Ramo, DE. Acceptability and Utility of a Smartphone-App to Support Adolescent Mental Health (BeMe): Program Evaluation Study. JMIR Mhealth Uhealth. Published online August 22, 2023. doi:10.2196/47183. http://dx.doi.org/10.2196/47183