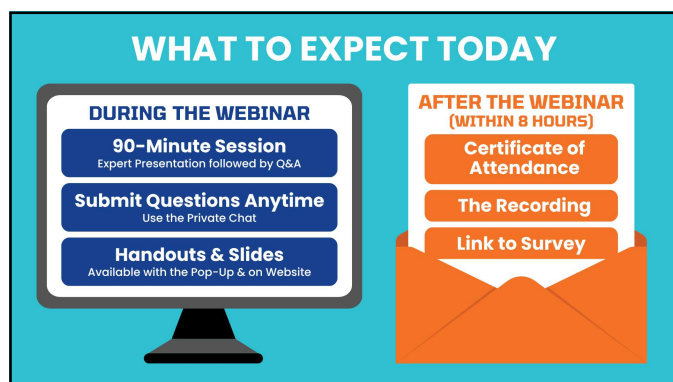
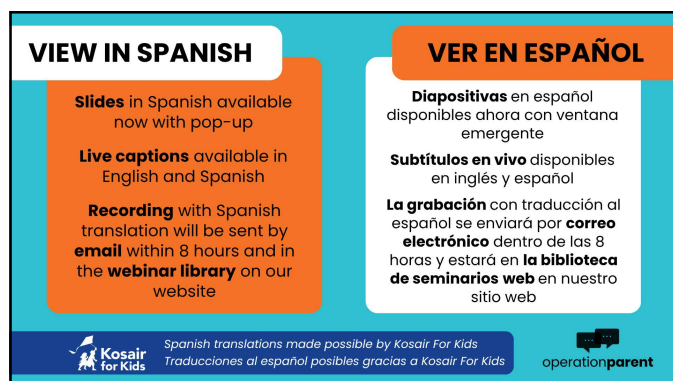




1



2



3



OPERATION PARENT

OUR MISSION:
To empower parents and caregivers to have casual, courageous conversations with their kids.

Operation Parent, Inc. is a recognized 501(c)(3) charitable organization with federal tax ID #20-3857612

4

LET'S KEEP HAVING CASUAL COURAGEOUS conversations

UPCOMING WEBINARS

If you're with us live use the pop-ups for quick registration!



operationparent.org/webinars

Oct 27
The Buzz is Changing:
Alcohol & Caffeine in a New Generation
Dr. Aaron Weiner
Prime For Life

Nov 17
What's AI Replacing?:
AI as a Friend, Advisor & Companion to Youth
Robbie Torney
Common Sense Media

5

[OPERATION PARENT]

The Brain We're Building:
How Screens, Substances & Stress Shape Youth Wellbeing

Kristen Gilliland PhD
Founder and Executive Director
22 Forever

6

Kristen Gilliland, Ph.D.

Founder and Executive Director of 22 Forever





1. University Research Professor and Educator for 28 years
2. In memory of my beautiful baby boy, Anders Meisenheimer. I do not want any other child or family to experience this heartbreak.
3. Mom of twin boys: Jonas and Anders Meisenheimer. Both are the light of my life!
4. Triathlete for 20 years and singer/songwriter Kristen Black

7

Key Takeaways

- 1 Understand neuroplasticity (brain's flexibility) and why adolescence is a magnificent, but also vulnerable, period for brain development.
- 2 Recognize how stress, screens, and substance use affect the developing brain - and raise mental illness/substance use risk.
- 3 Neuroplasticity is a superpower that can be used to enhance youth wellbeing

8

ANDERS MEISENHEIMER






10/23/96 – 3/4/19



9

MIDDLE SCHOOL BRAIN HEALTH CURRICULUM

Adolescent Brain Development

Neuroplasticity

Reframing Unhealthy Self-Narratives into Healthy Self-Narratives

The Impact of Repeated Stress and Screen Time/Social Media on the Developing Brain

The Brain's Reward System

How Substances and Alcohol Affect the Developing Brain

Importance of Mindfulness, Gratitude, Hobbies, and Human Connection

Emotion Regulation and Resilience (Science-Based Stress-Reduction Skills)

10

NEUROSCIENCE 101

11

THE NEURON

Neurons are specialized cells that receive and transmit signals (information) to different regions of the brain and the body.

Neuron Anatomy

Direction of impulse →

BioRender. (2020) BioRender.

12

SYNAPTIC COMMUNICATION

Made with BioRender
BioRender, (2020) BioRender.

The brain has ~85 billion neurons that make 100 trillion connections!

22 FOREVER operationparent

13

ADOLESCENT BRAIN DEVELOPMENT

PREFRONTAL CORTEX

- Decision-making
- Impulse control
- Concentration
- Judgment
- Attention
- Planning

22 FOREVER operationparent

14

SYNAPTIC PRUNING AND MYELINATION

Adolescent **Adult**

Synaptic Pruning

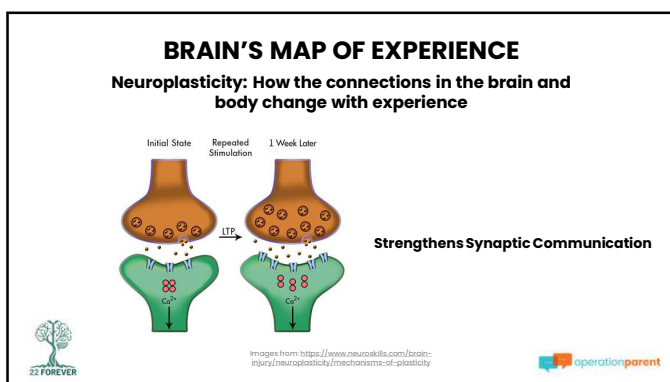
USE IT or LOSE IT!!!

22 FOREVER operationparent

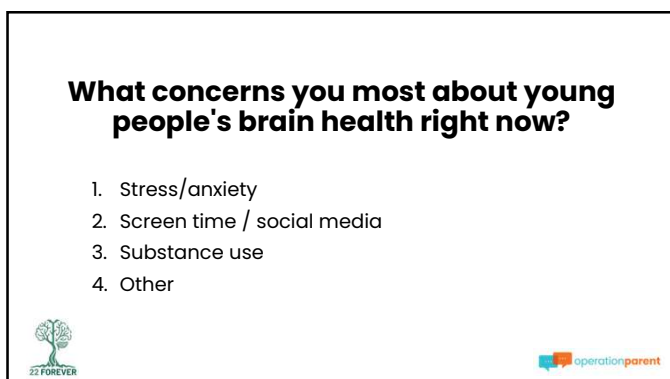
15



16



17



18

NEUROPLASTICITY: STRESS AND MENTAL HEALTH

19

STRESS-INDUCED PLASTICITY AND MENTAL ILLNES

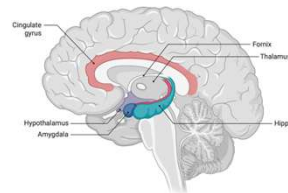
Prefrontal Cortex: Executive function skills

Amygdala: fight, flight, or freeze, emotion-based reactions

Hypothalamus: Stress response system turns on.

Hippocampus: learning and memory, navigation

The Limbic System



Chattarji, S., Tomari, A., Suvrathan, A. et al. Neighborhood matters: divergent patterns of sleep-induced plasticity across the brain. *Nat Neurosci* 18, 1044–1050 (2015)



20

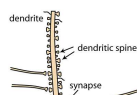
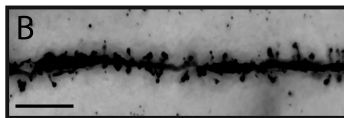
SLEEP DEPRIVATION AND NEUROPLASTICITY

Spine Analysis After 5 Hours of Sleep Deprivation

control



Sleep deprived



Spine loss – weakens communication

Lower functioning



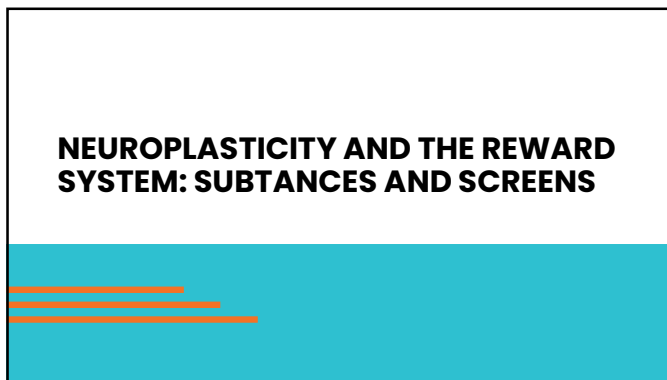
Ross, T. et al. A brief period of sleep deprivation causes spine loss in the dentate gyrus of mice. *Neurobiology of Learning and Memory*, Volume 160, 2019, Pages 83–90



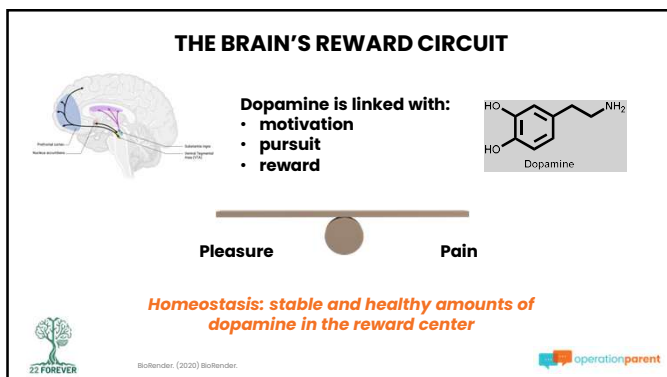
21



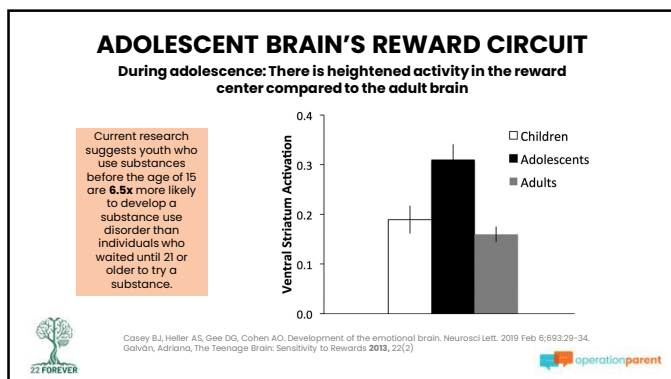
22



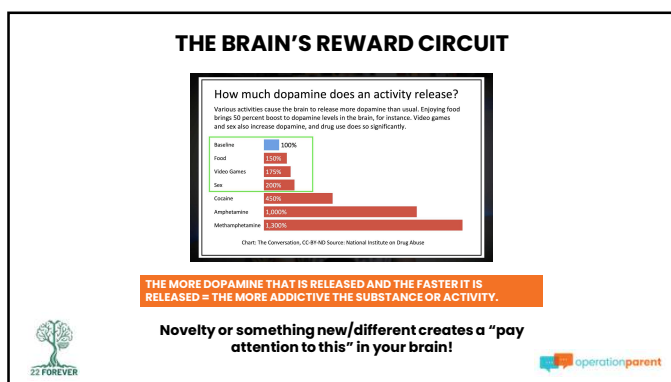
23



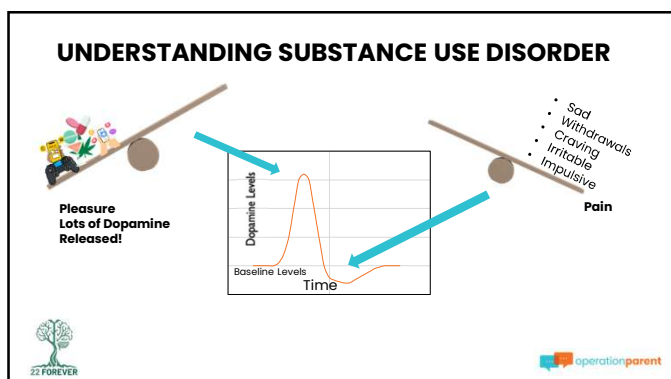
24



25



26



27

MEDIUM TO HIGH DOPAMINE ACTIVITIES

The Brain's Reward Circuit is more active during adolescence!!

Scrolling on social media and getting lots of likes or comments

Playing video games, especially fast-paced or competitive ones

Eating very sugary or ultra-processed foods

Gambling (including betting in games or online)

Watching exciting or intense videos over-and-over

Alcohol or substance use

Shopping or buying things impulsively

Risk-taking activities that give an adrenaline rush

22 FOREVER

The ASAM Criteria, Fourth Edition Adolescents and Transition-Aged Youth Volume, ASAM.

operationparent

28

SOCIAL MEDIA POSTING AND THE REWARD CENTER

Post Selfie

Behavior Repeats

Dopamine released reinforces and drives motivation to post again

Phone notifications indicating activity on post

Dopamine Released in Reward Circuit

This dopamine release drives motivation to open app to see response.

Positive Feedback

Favorable responses to post - more dopamine released

22 FOREVER

operationparent

29

TOLERANCE AND DOPAMINE NEURONS

Repeating rewarding activities that release lots of dopamine ultimately results in a dopamine deficit in the reward center. WHY?

THE DOWNSREGULATION DIAGRAM: A BEFORE/AFTER OF A SYNAPSE

A HEALTHY BASELINE

B AFTER CHRONIC OVERSTIMULATION

Disruptive - Dopamine

D2 receptor

D1 receptor

signal received

REDUCED SIGNAL

Pleasure

Pain

- Sad
- Withdrawals
- Craving
- Irritable
- Impulsive

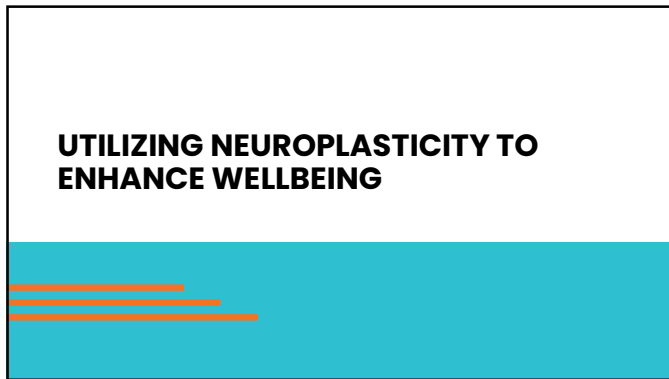
New Setpoint: Below Baseline Levels

<https://www.american scientist.org/article/a-drug-addiction-a-brain-disease>

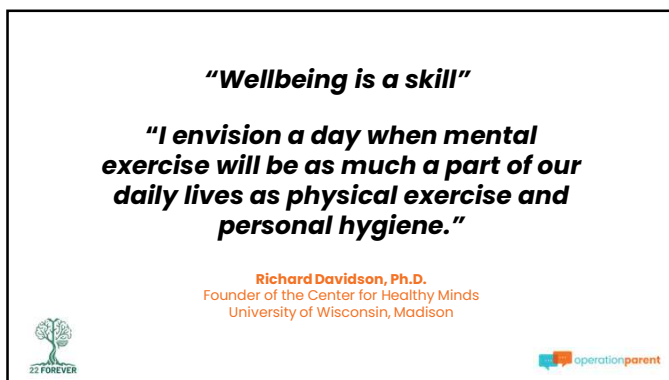
22 FOREVER

operationparent

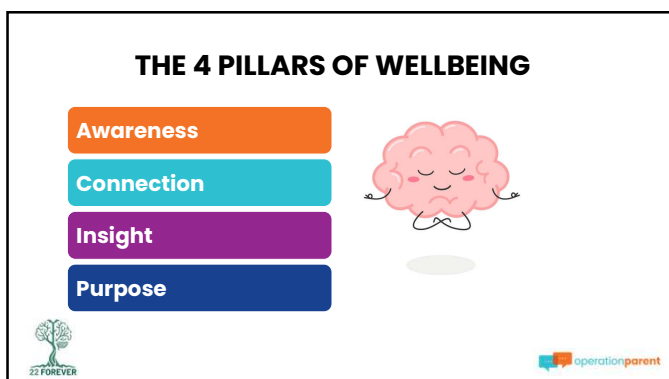
30



31



32



33

PILLAR #1: AWARENESS

Being in the moment. Self Awareness. Where is your mind?

***Skills:** Mindfulness, attention, and self-awareness*

Ex: Reading, Listening, Driving, Angry

Give your "monkey mind" a name – the funnier the better!

HELPFUL MINDFULNESS APPs

- Healthy Minds App
- Insight Timer App
- Paced Breathing App



34

PILLAR #2: CONNECTION

Expressing kindness towards others increases your happiness and wellbeing.

***Skills:** Appreciation, kindness, compassion, gratitude*

How to practice these skills:

Put your phone away
when talking to
someone or at the
dinner table

Listen more than you
talk
(Practice this now)

Send a thank you
note to someone who
helped you or gave
you something

Help a neighbor

Start a gratitude
journal

Volunteer in your
community

Give someone a
genuine compliment



35

PILLAR #3: INSIGHT

Paying attention to your self-narrative or self-talk.

***Skills:** Self-inquiry, self-knowledge, self-compassion*

KNOW WHAT TO LOOK FOR:

Examples of unhelpful thoughts:

- Thinking the worst will always happen
- Paying attention only to the bad and ignoring the good
- Seeing things as all good or all bad, with no in-between
- Blaming yourself for everything that goes wrong

CBT 3 C's

- **Catch it**
- **Check it**
- **Change it!!!**



36

PILLAR #3: INSIGHT

EX: "I never do anything right!"

CATCH IT: Which category does thought fit into?

CHECK IT: Is this thought true?

CHANGE IT: make it truthful!




37

PILLAR #4: PURPOSE

Understanding your core values and what is important to you. Apply those values to **pedestrian** things.

Skills: Clarifying and embodying purpose, values, and meaning

Identify your values

Pause

Reframe a challenging or difficult situation

Act with purpose




38

PILLAR #4: PURPOSE

We find time when we want to find time.

The average person spends **6 hours/day** on screens

That is 25% of your LIFE!!
In 3 years; that works out to:

- 6,570 hours
- 273 full days (3/4 of a YEAR!)





HOMEWORK TONIGHT FOR YOU AND YOUR KIDS!
What are your TOP 3 time-stealers?
What could you give up for 2 hours/day to pursue a hobby?




39

Let's start the homework together!

What are your top 3 time-stealers?

Put your answer in the private chat!




40

NEW BUMPER STICKERS

Bring Bored Back Listen More, Speak Less

You've got to name it to tame it!

Failure is Feedback! I love my amygdala
Dr. Jill Bolte-Taylor

Love the Uncomfortable You've got to feel it to heal it!

Be Teflon, Not Velcro Life begins at the end of your comfort zone
Neale Donald Walsch

You are the only one who can make it a good day – go do it!




41

So, what can parents do?



42

Parents

Schedule a time when phones/screens are allowed to be used by everyone

Model behavior you would like to see in your child

"Listen" is the word "silent" rearranged – no lectures...ask questions

Do a family volunteer activity

Play highs and lows (or ups and downs) most days

How do you speak to yourself? How does your children speak to themselves?

Have your child rehearse (on their own) how to get out of a peer-pressured situation

"Code" word that your child can call or text if they need to be picked up right away without question

Let your child fail at things (forget jackets, lunch, gear for practice) Failure is feedback!

43

So, what can schools do?

44

Schools

Teach youth about brain health!

Lower the stigma and shame regarding mental health

Do not allow use of smart phones in schools (unless in emergency)

Keeps tabs on children who are consistently alone or bullied

Practice mindfulness awareness skills before starting class

Have upper school youth be mentors to lower school youth

Music, Art, Theater, and Sports must be available

Provide mental health resources for teachers and staff

Get creative with homework

Invite parents to talk about their careers to students

Partner with local universities

45

So, what can communities do?

46

Communities

- More connection between community members through resource fairs, potlucks, food drives, etc.
- No phones at table restaurants or other public gatherings
- Connect youth to senior living facilities to help them with technology
- Town hall meetings every other month to discuss bettering the community



47

Resources

Partnership to End Addiction: <https://drugfree.org/>

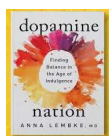
Center for Healthy Minds (Healthy Minds Program App):
<https://centerhealthyminds.org/>

988 Lifeline: <https://988lifeline.org/>

One Choice Prevention: <https://www.onechoiceprevention.org/>

Know Your Neuro (Spanish Videos): <https://www.knowyourneuro.org/>

Parent Action Network: <https://learnaboutsam.org/pan/>



Lembke, Anna.
*Dopamine Nation:
Finding Balance in the
Age of Indulgence.*
Dutton, 2021.

48

Kristen Gilliland, Ph.D.
Email:
kristen@22forever.org
Website:
<https://22forever.org/>
Join Team DERS!
<https://22forever.org/team-ders/>
Instagram:
[@nashville_22](https://www.instagram.com/nashville_22)
LinkedIn:
Kristen Gilliland, Ph.D.



49

Q&A UPCOMING
**USE THE PRIVATE CHAT TO
SUBMIT YOUR QUESTIONS**

50

**PARENT HANDBOOKS:
YOUR GUIDE TO MEANINGFUL
CONVERSATIONS!**

**"In a time when our children's
mental health feels more fragile
than ever - the Operation
Parent handbook provides the
tools needed to actually show
up for your child - instead of
worry from the sidelines."**
-Dr. Kristen Gilliland



51



52



53



54

Q&A TIME!

Submit your questions through the private chat.
We will answer as many as possible, but may not get to every question.

YOUR QUESTIONS HELP MAKE THESE CONVERSATIONS MEANINGFUL

55

The Operation Parent logo, title, and presentation content are trademarks of Operation Parent and copyright protected. They may not be duplicated or reused without written permission from Operation Parent.



56
