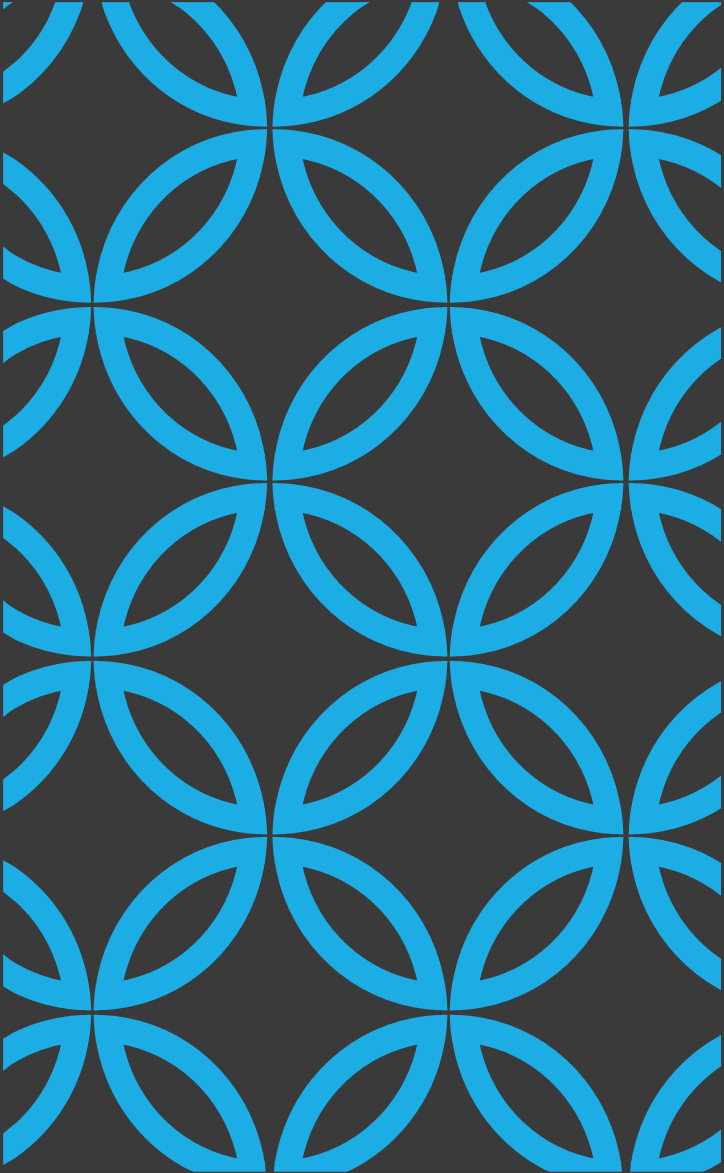
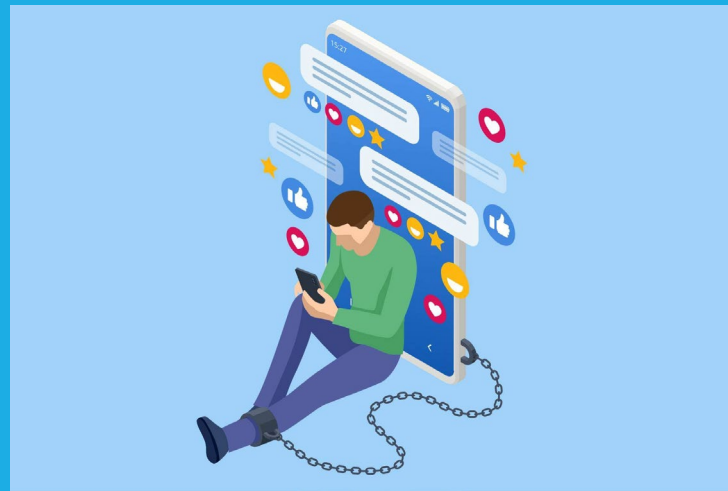
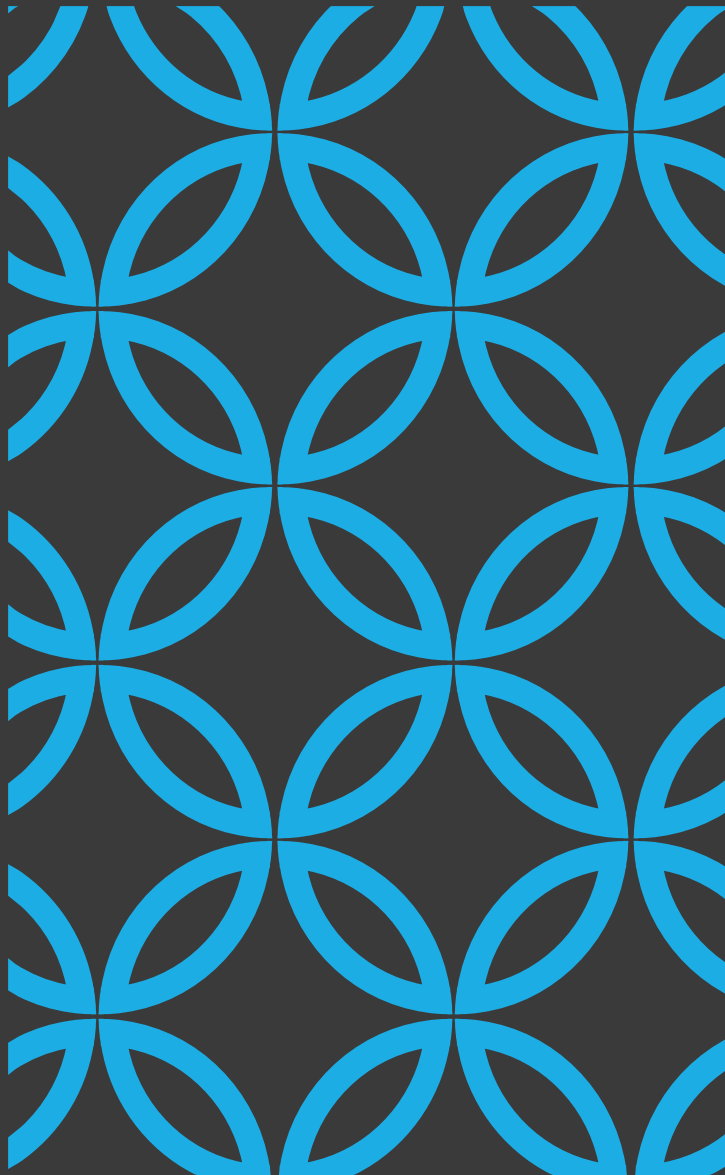




ADOLESCENT BEHAVIORAL HEALTH IN THE DIGITAL WORLD: THE GOOD WITH THE BAD

Elizabeth N. Bowman, DO

MSACOFP Summer Sessions- Medicine Through the Ages



FACULTY DISCLOSURE

I have no disclosures to mention



Understand the changes that are being seen in adolescents due to increased use of social media and other forms of technology in association to their mental health

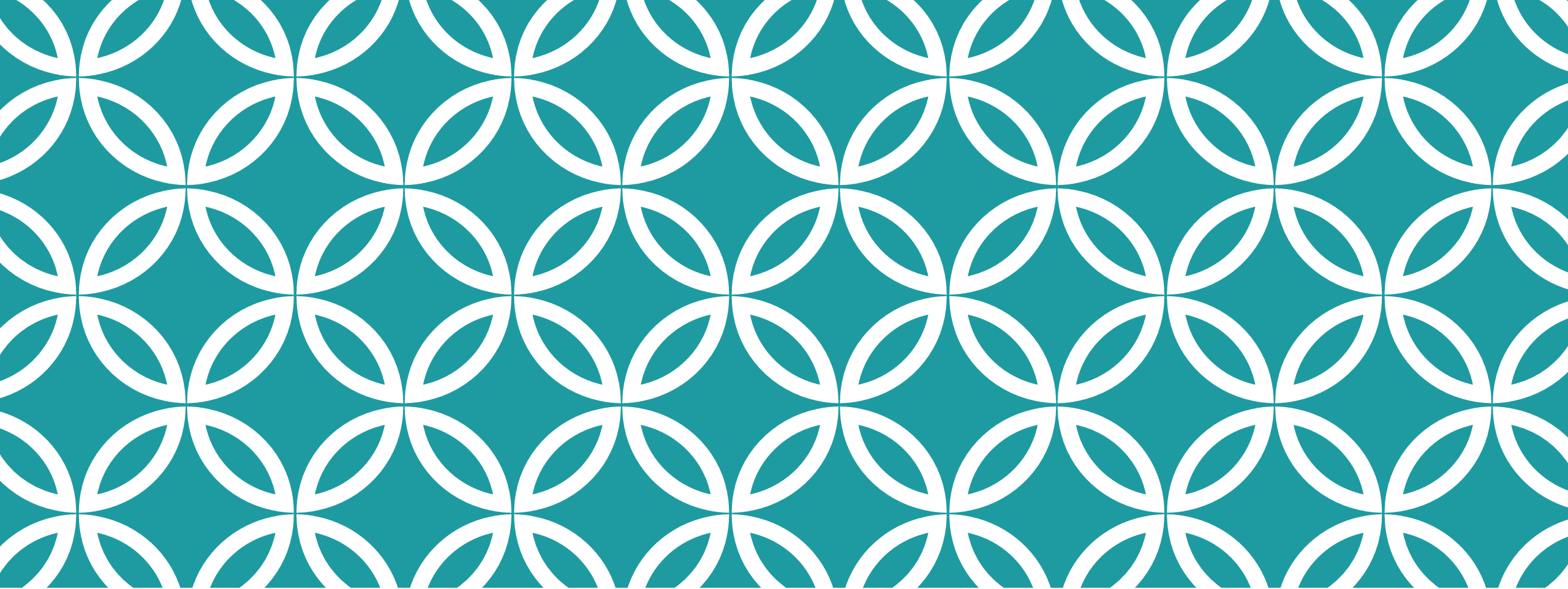


How do we as Family Physicians address this in the office and how best to screen



The advances that have been developed to use technology to aid in improving mental health

LEARNING OBJECTIVES



CHANGES NOTED WITH INCREASE TECHNOLOGY USAGE



ANATOMY REVIEW

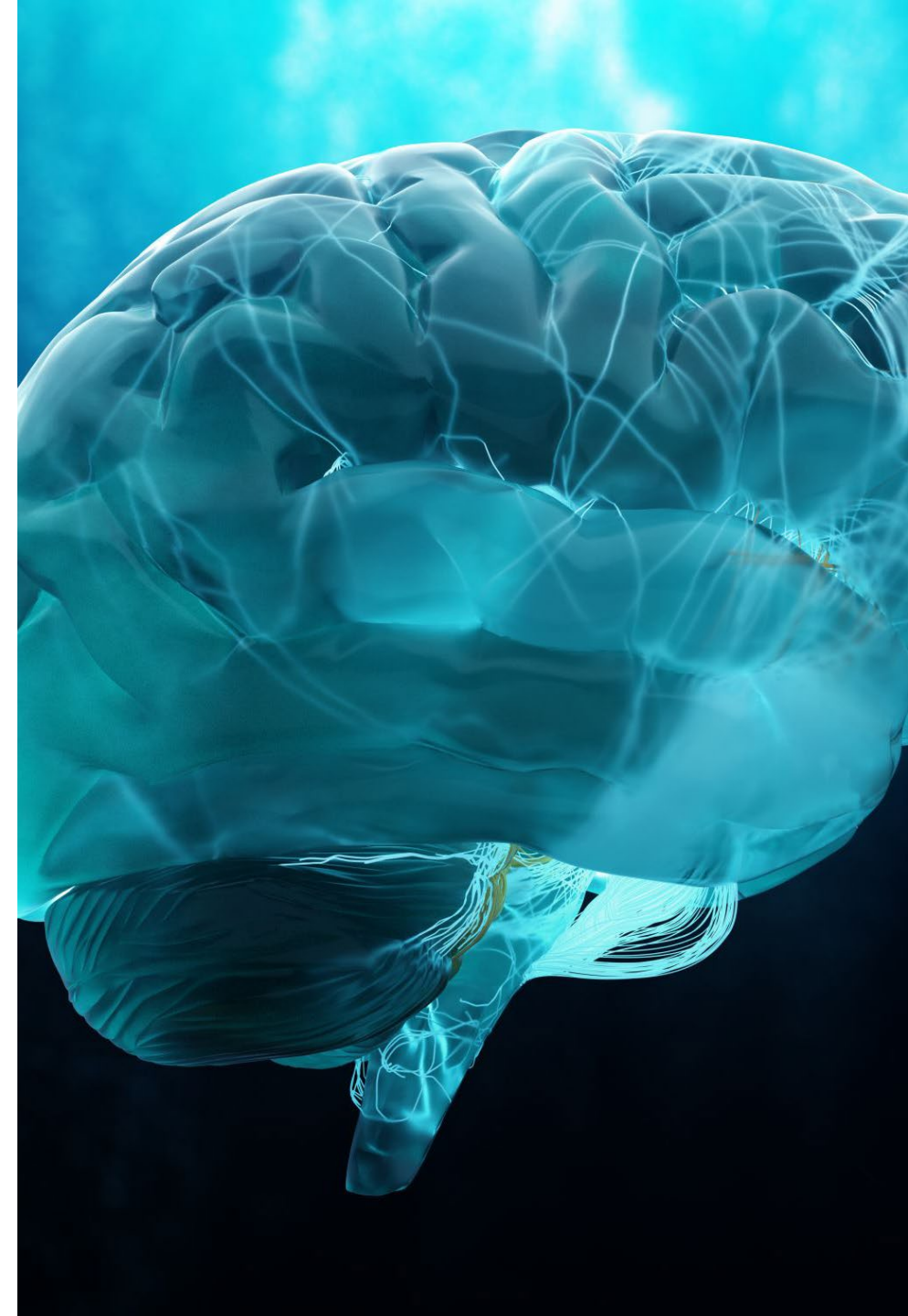
The brain is already 90% of its full size by the age of 5

- Subsequent brain development is not about overall growth but about selective pruning of neurons and synapses, leaving only those that are frequently used

Reward-seeking parts of the brain mature early in development while the frontal cortex is not up to full capacity until mid-20s

- The frontal cortex is essential for self-control, delay of gratification, and resistance to temptation

Preteen is a particularly vulnerable point in development



MENTAL HEALTH BASICS

World Health Organization reported in 2017 10-20% of adolescents worldwide experience mental health concerns

Approximately 50% of disorders establish at the age of 14 years old and 75% at the age of 18

The prevalence of anxiety appears to increase by 70% in the past 25 years in young people

- Possibly secondary to increase in mental health awareness

What does this mean for us?

- In the United States, about 1 in 12 children 3-17 years of age have anxiety

DEVELOPMENT POINTERS

Experience, not information, is the key to emotional development

- Gradually, from trial and error, and with direct feedback from playmates, elementary school students become ready to take on the greater social complexity of middle school

Free play is essential to developing social skills, like conflict resolution, as it is for developing physical skills

Communicating by text supplemented by emojis is not going to develop the parts of the brain that are “expecting” to get tuned up during conversations supplemented by fascial expressions, changing vocal tones, direct eye contact, and body language

Social/Emotional Milestones

- ☐ Calms down when spoken to or picked up
- ☐ Looks at your face
- ☐ Seems happy to see you when you walk up to her
- ☐ Smiles when you talk to or smile at her

Language/Communication Milestones

- ☐ Makes sounds other than crying
- ☐ Reacts to loud sounds

Social/Emotional Milestones

- ☐ Is shy, clingy, or fearful around strangers
- ☐ Shows several facial expressions, like happy, sad, angry, and surprised
- ☐ Looks when you call her name
- ☐ Reacts when you leave (looks, reaches for you, or cries)
- ☐ Smiles or laughs when you play peek-a-boo

Language/Communication Milestones

- ☐ Makes different sounds like “mamamama” and “babababa”
- ☐ Lifts arms up to be picked up

Social/Emotional Milestones

- ☐ Moves away from you, but looks to make sure you are close by
- ☐ Points to show you something interesting
- ☐ Puts hands out for you to wash them
- ☐ Looks at a few pages in a book with you
- ☐ Helps you dress him by pushing arm through sleeve or lifting up foot

Language/Communication Milestones

- ☐ Tries to say three or more words besides “mama” or “dada”
- ☐ Follows one-step directions without any gestures, like giving you the toy when you say, “Give it to me.”

Social/Emotional Milestones

- ☐ Smiles on his own to get your attention
- ☐ Chuckles (not yet a full laugh) when you try to make her laugh
- ☐ Looks at you, moves, or makes sounds to get or keep your attention

Language/Communication Milestones

- ☐ Makes sounds like “oooo”, “aahh” (cooing)
- ☐ Makes sounds back when you talk to him
- ☐ Turns head towards the sound of your voice

Social/Emotional Milestones

- ☐ Plays games with you, like pat-a-cake

Language/Communication Milestones

- ☐ Waves “bye-bye”
- ☐ Calls a parent “mama” or “dada” or another special name
- ☐ Understands “no” (pauses briefly or stops when you say it)

Social/Emotional Milestones

- ☐ Follows rules or takes turns when playing games with other children
- ☐ Sings, dances, or acts for you
- ☐ Does simple chores at home, like matching socks or clearing the table after eating

Language/Communication Milestones

- ☐ Tells a story she heard or made up with at least two events. For example, a cat was stuck in a tree and a firefighter saved it
- ☐ Answers simple questions about a book or story after you read or tell it to him
- ☐ Keeps a conversation going with more than three back-and-forth exchanges
- ☐ Uses or recognizes simple rhymes (bat-cat, ball-tall)

Social/Emotional Milestones

- ☐ Knows familiar people
- ☐ Likes to look at himself in a mirror
- ☐ Laughs

Language/Communication Milestones

- ☐ Takes turns making sounds with you
- ☐ Blows “raspberries” (sticks tongue out and blows)
- ☐ Makes squealing noises

Social/Emotional Milestones

- ☐ Copies other children while playing, like taking toys out of a container when another child does
- ☐ Shows you an object she likes
- ☐ Claps when excited
- ☐ Hugs stuffed doll or other toy
- ☐ Shows you affection (hugs, cuddles, or kisses you)

Language/Communication Milestones

- ☐ Tries to say one or two words besides “mama” or “dada,” like “ba” for ball or “da” for dog
- ☐ Looks at a familiar object when you name it
- ☐ Follows directions given with both a gesture and words. For example, he gives you a toy when you hold out your hand and say, “Give me the toy.”
- ☐ Points to ask for something or to get help

SOCIAL MEDIA

Internet-based networks that enable users to interact

- This includes social platforms as well as interactive games

More than 92% of teenagers have been found to be active on some form of social media

Most parents do not want their child(ren) to have a phone-based childhood, but the societal reconfiguration has resulted in parents not doing so condemning their child(ren) to social isolation



LIFE ONLINE

Life on the platforms forces young people to become their own brand managers, always thinking ahead about the social consequences of each photo, video, comment, and emoji they choose

Each action is not necessarily done “for its own sake.” Rather, every public action is strategic

Social media platforms hijack social learning and drown out the culture of one’s family and local community while locking children’s eyes onto influencers of questionable value

Children did not evolve to handle the virality, anonymity, instability, and potential for large-scale shaming of the virtual world

- Even adults have trouble with it

2015 COMMON SENSE REPORT

Teens with a social media account reported spending about 2 hours a day on social media

Teens overall reported spending an average of 7 hours a day of leisure time on screen media

- Including: video games, watching videos (Netflix, YouTube), or pornographic sites

TYPE OF USE

There is some thought that it is usage pattern that is more affective than duration

- Active vs. passive use
- Passive → manipulating social media in such a way as to have no interaction with others
- Passive use can lead to a low mood and minimal real-life interactions resulting in loneliness, lack of confidence, self-depreciation, jealousy
- Active → behaviors that facilitate direct interaction among users

Suicides on social media (failed or completed) is a rapidly evolving practice among users

PROBLEMATIC AND HEAVY USERS' CHALLENGES

Problematic social media use → the irresistible urge to use of dependence on social media

- Not currently in the scope of addictions listed in the DSM-V
- Social belongingness and a need for social assurance are likely the connection of PSMU and anxiety
- Likely associated with other addictive behaviors

Heavy use of social media was associated with shorter sleep duration, longer sleep latency, and more mid-sleep awakenings

- The greatest was noted with those that used social media or internet in bed
- Greater sleep disturbances and shorter total sleep time were associated with greater internalizing scores as well as greater externalizing scores

IMPACT: GOOD AND BAD

There has not been found a straightforward connection to use of technology (particularly social media) and the changes with mental health

- Some suggest causation of impaired sleep as the primary mechanism
- Others due to worsening sedentary behaviors

There is some evidence that fragmentation of attention in early adolescence caused by problematic use of social media and video games may interfere with the development of executive function

There is a large positive impact of enabling adolescents to strengthen bond with existing friends and to form new friendships

- This reduces social isolation and loneliness
- Research does suggest though that it is the quality not the quantity of support that matters

Both sexes have been shown to have more internalizing disorders and fewer externalizing disorders since the early 2010s

- People are likely to become depressed when they become (or feel) more social disconnected
- This then makes people less interest to seek out social connections

Across the Western world, when teens began carrying smartphones to school and using social media regularly, even during the school day, they found it harder to connect with their fellow students

Due to the limited capacity of self-regulation and their vulnerability to peer pressure, adolescents are more susceptible to the adverse effects of social media use

- Adolescence is the period of personal and social identity formation

Major Depression Among Teens

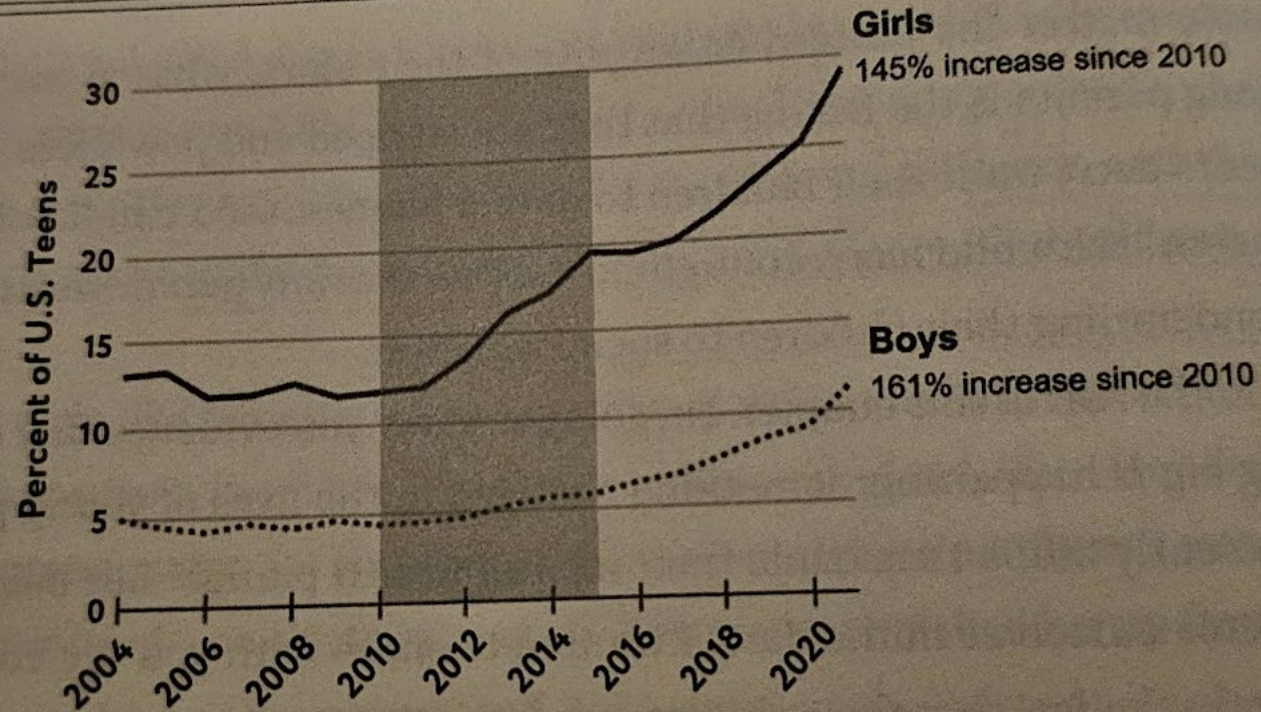


Figure 1.1. Percent of U.S. teens (ages 12–17) who had at least one major depressive episode in the past year, by self-report based on a symptom checklist. This was figure 7.1 in *The Coddling of the American Mind*, now updated with data beyond 2016. (Source: U.S. National Survey on Drug Use and Health.)³

Meet Up with Friends Daily

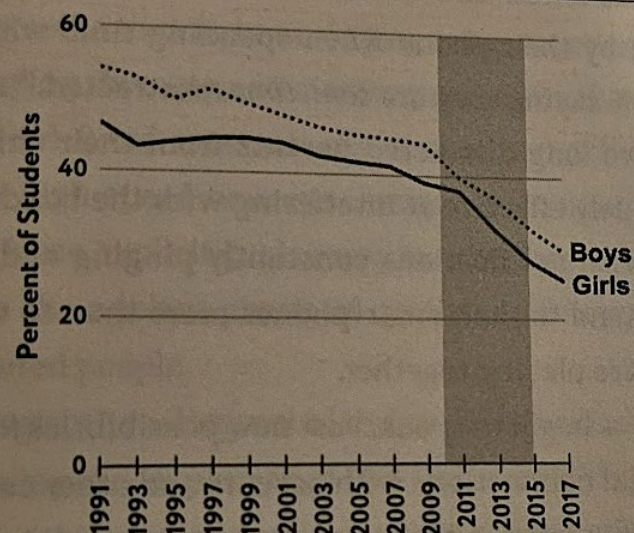


Figure 2.1. Percentage of U.S. students (8th, 10th, and 12th grade) who say that they meet up with their friends “almost every day” outside school.¹² (Source: Monitoring the Future. I explain how I use this important dataset in the endnotes.)¹³

Have a Few Close Friends

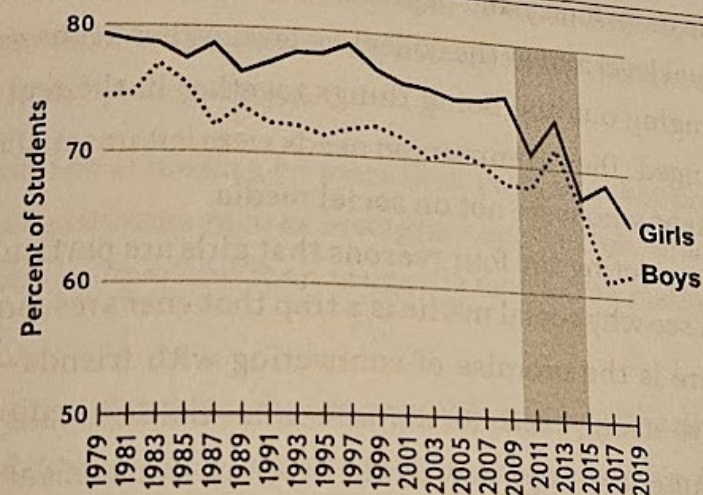


Figure 6.6. The percentage of U.S. high school seniors who agreed or mostly agreed with the statement “I usually have a few friends around that I can get together with.” Rates dropped slowly before 2012, and more quickly afterward. (Source: Monitoring the Future.)⁸³

Teens Engaging in Adult Activities

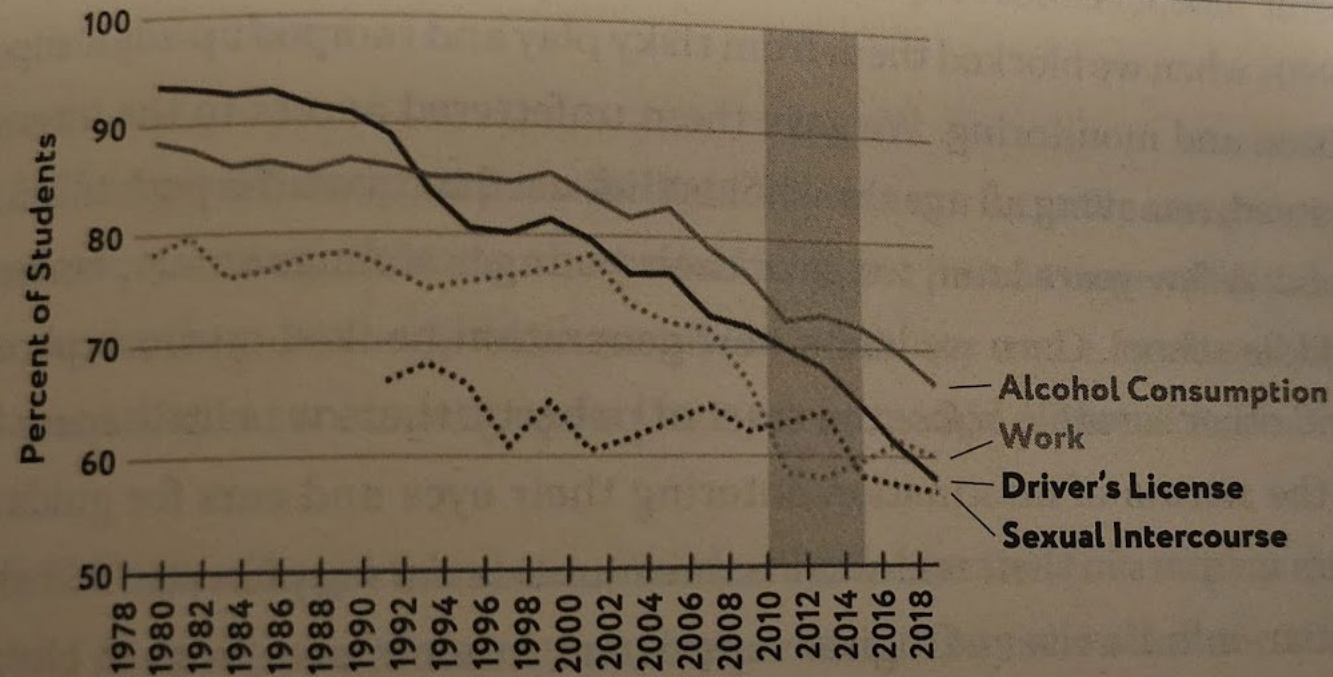


Figure 4.1. The percentage of U.S. high school seniors who have engaged in four adult activities has been declining since the 1990s or early 2000s, prior to the Great Rewiring of 2010 to 2015. (Source: Monitoring the Future and CDC Youth Risk Behavior Survey.)¹⁷



MEDICAL CHALLENGES FROM SOCIAL MEDIA

Longer social media use may have an association with a greater likelihood to undergo cosmetic procedures

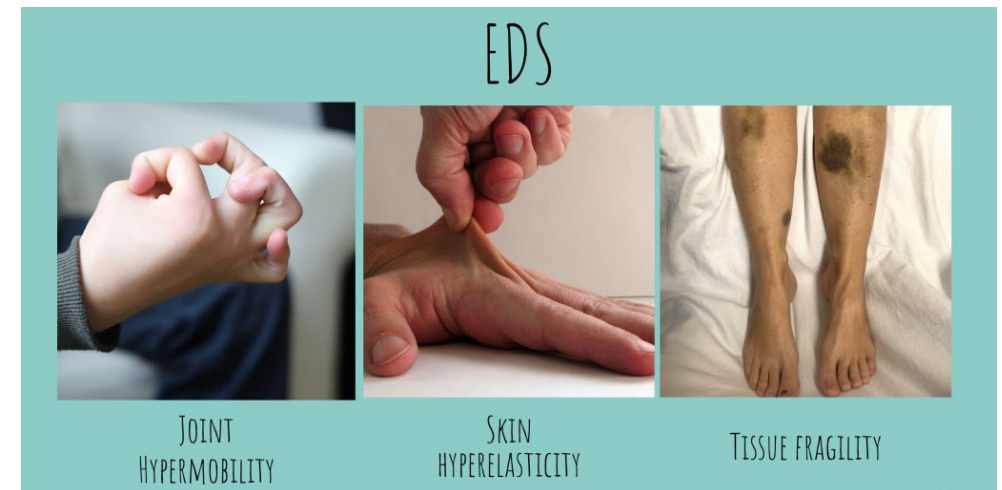
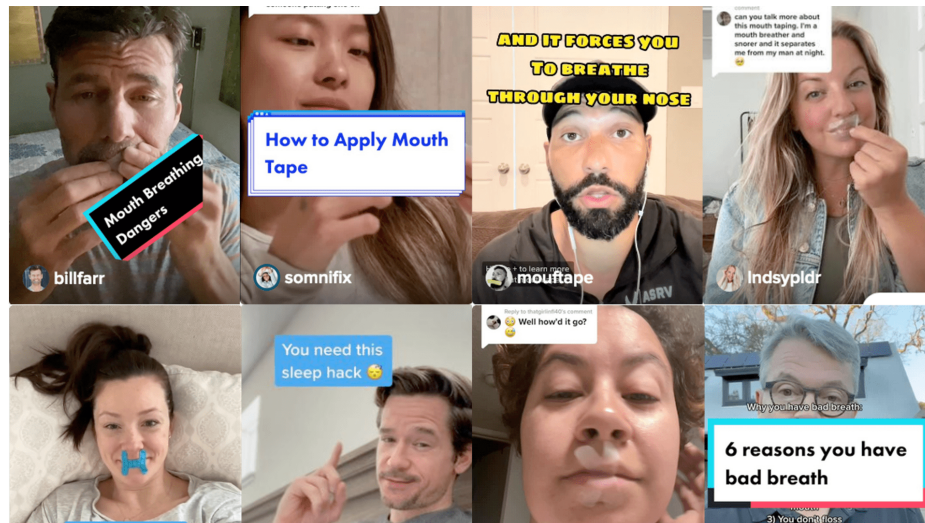
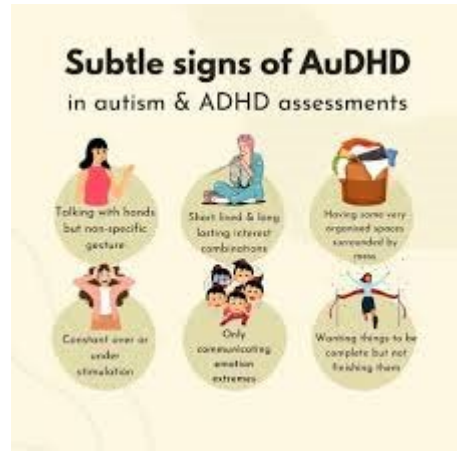
Cyberchondria

Mass social media-induced illness

Depression and similar cases are more infectious from this environment than happiness is

- There is evidence that points to exposure to maladaptive behaviors can promote similar behavior among vulnerable youth

MASS SOCIAL MEDIA-INDUCED ILLNESS



CHALLENGES TO BE AWARE OF

Plan B Pregnancy Test Challenge

- Breaking open the OTC pregnancy test and swallowing the tablet believing that it is Plan B

Nutmeg Challenge

- Swallowing nutmeg in attempt to get high
- Due to the chemical myristicin (causes stomach pain, N/V, blurred vision, tachycardia, agitation, and hallucinations)
- Can induce seizures

Salt Challenge

- Large amounts can cause N/V/D and potentially sleepiness, brain swelling, and seizures when fully absorbed



CHALLENGES CONTINUED

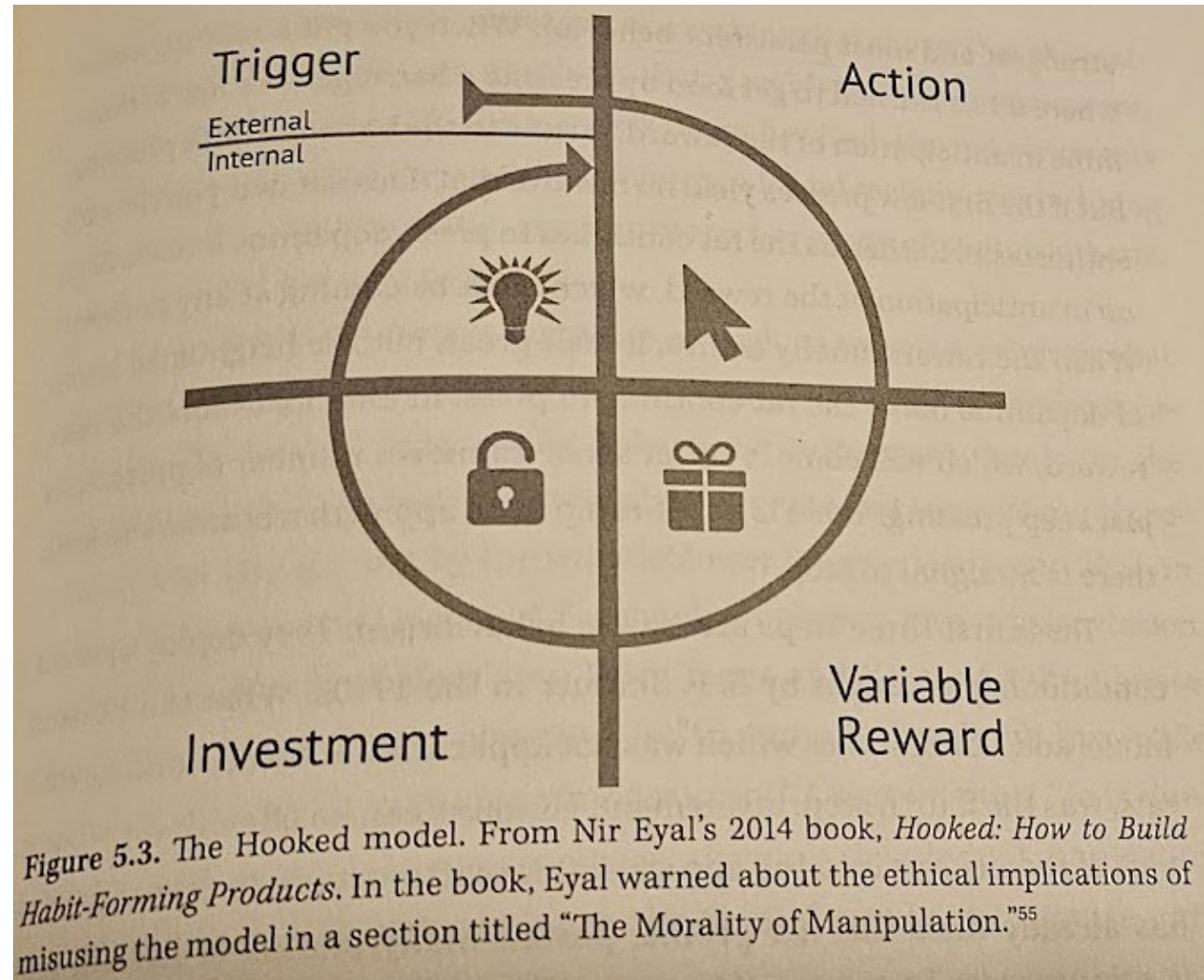
Tide Pod Challenge

Benadryl Challenge

Cinnamon Challenge

VARIABLE REWARD

Smartphones grab our attention so powerfully that if they merely vibrate in our pockets, many of us will interrupt a face-to-face conversation, just in case it brings us an important update



IMPACT SPECIFIC FOR GIRLS

Girls that spend 5+ hours each weekday with social media platforms are three times as likely to be depressed as those that report no time during the week

Social media fuels insecurities of adolescence and has turned a generation of girls away from discovery mode development toward a defend mode

IMPACT SPECIFIC FOR BOYS

A Swedish study found that 11% of boys were daily consumers in 2004 and that the number increased to 24% in 2014 for internet pornographic images

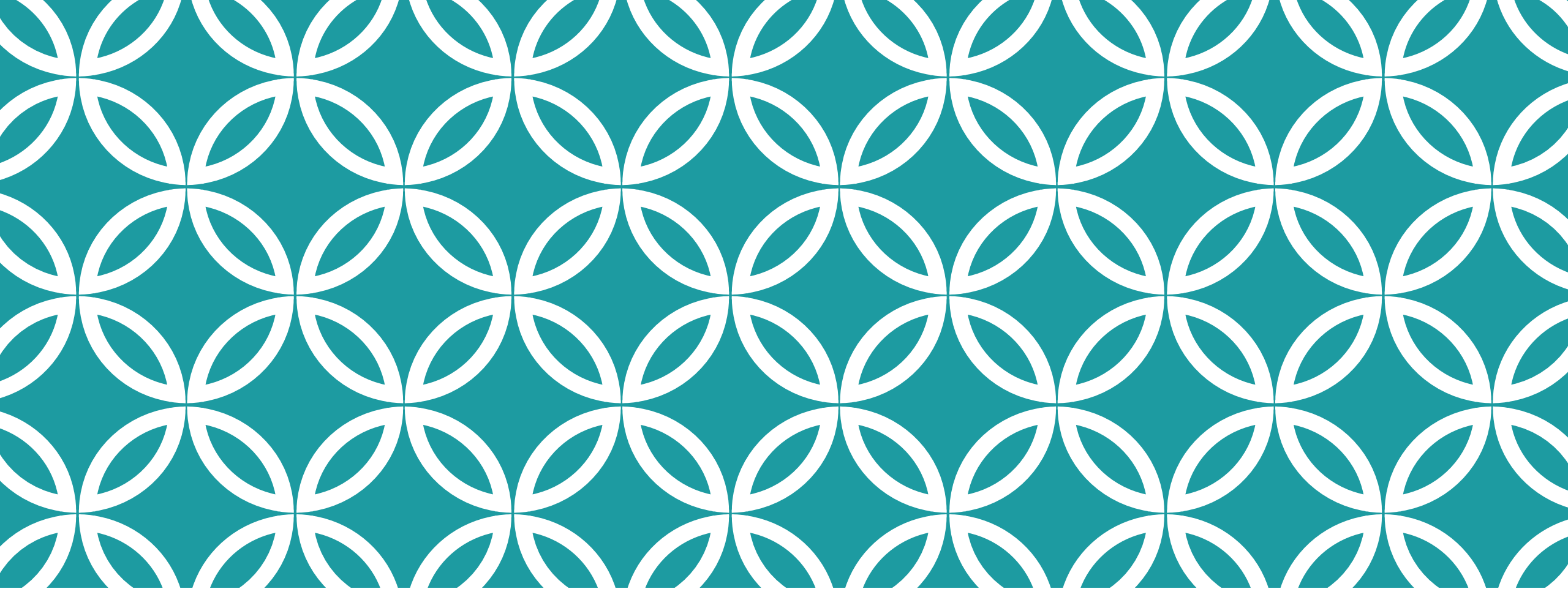
1 out of every 13 boys have been noted to suffer substantial impairment in the real world because of their heavy engagement with video games

- Unlike free play in the real world, most games give no practice in the skills of self-governance

Virtual packs create weaker bonds, although today's increasingly lonely boys cling to them and value them because that is all they have

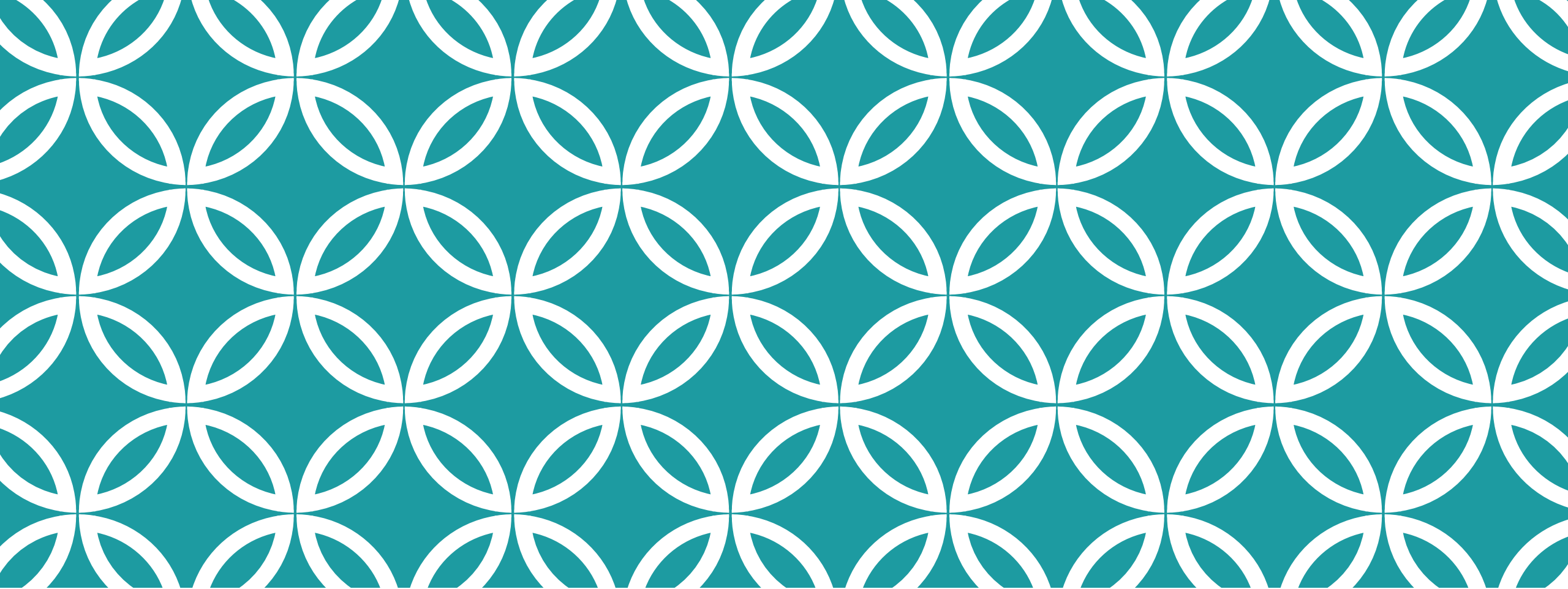
Young men are more likely than young women to fall into a grouping "Not in Education, Employment, or Training"

- Failure to launch
- Hikikomori → A lifelong withdrawal to their bedrooms away from the real world



SCREENING AND ADDRESSING





WHAT DO I DO NOW?

1. Discuss risks with those at risk
2. Screen for exposures to problematic media and treat
3. Encourage boundaries with social media use

LIMITING SOCIAL MEDIA TIME

Improvements in both appearance and weight esteem within those with body image disturbances

Not necessarily beneficial in all mental health conditions

SCREENING MEASURES

Video Game Addiction

- <https://www.ementalhealth.ca/index.php?m=survey&ID=49>
- 11 item for the individual

Screening for Child Anxiety Related Emotional Disorder

- <https://www.ementalhealth.ca/index.php?m=survey&ID=54>
- Ages 8 to 18
- 5 item and a 41 item (both child and parent)

Preschool Anxiety Scale

- <https://www.scaswebsite.com/portfolio/scas-pre-school-download-scale/>
- 30 months to 6.5 years
- 34 items (parent)

Online Sexual and Explicit Content: A Guide for Parents

Date	Ages & Stages	Topics
May 2025	(6-18 yrs) Elementary School (11-13 yrs) Middle School (14-18 yrs) High Schoolers	Sexual Content Artificial Intelligence (AI) Media Literacy Parenting



<https://www.childrenandscreens.org/learn-explore/research/online-sexual-and-explicit-content-a-guide-for-parents/>

Smartphones: Assessing Readiness

Part one of our three-part tip sheet series on smartphone introduction and ownership.

Date	Ages & Stages	Topics
January 2024	(6-10 yrs) Elementary School (11-13 yrs) Middle School (14-18 yrs) High Schoolers	Parenting Neurodiversity Social Relationships



<https://www.childrenandscreens.org/learn-explore/research/introducing-a-smartphone-assessing-readiness/>

Digital Addictions: A Family Guide to Prevention, Signs, and Treatment

Date

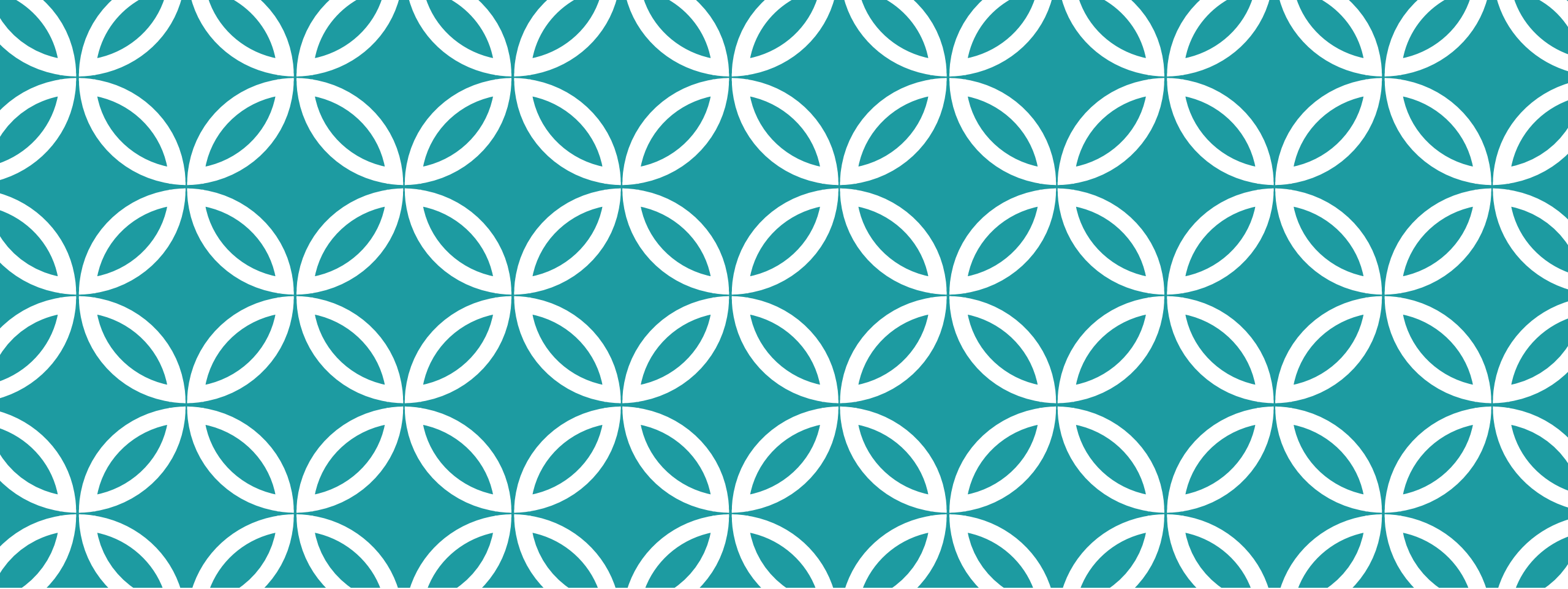
February 2024

Topics

Digital Addiction



<https://www.childrenandscreens.org/learn-explore/research/digital-addictions-a-family-guide-to-prevention-signs-and-treatment/>



POSITIVE USE OF TECHNOLOGY FOR MENTAL HEALTH IMPROVEMENT



COMMUNITIES TO THE RESCUE

There are many online communities that have found ways to create strong interpersonal commitments and a feeling of belonging

Strong communities do not magically appear whenever people congregate and communicate with each other

- The strongest and most satisfying come into being when something lifts people out of the lower levels of existence so that they have powerful collective experiences

The buffering effects against stress via online social support from peers can be especially important for youth who are often marginalized



<https://www.betterscreentime.com/>

Quick Guide
to Creating
a Family
Technology Plan

Am I ready for a
Personal Device?



**Who's in the
Driver's Seat—
You or Your
Phone?**



**Connection
Reset:**
7-day screen
free challenge



When You Feel
Like Doing
Nothing:
**100+ Screen
Free Ideas**



**Blackout
Night Kit**

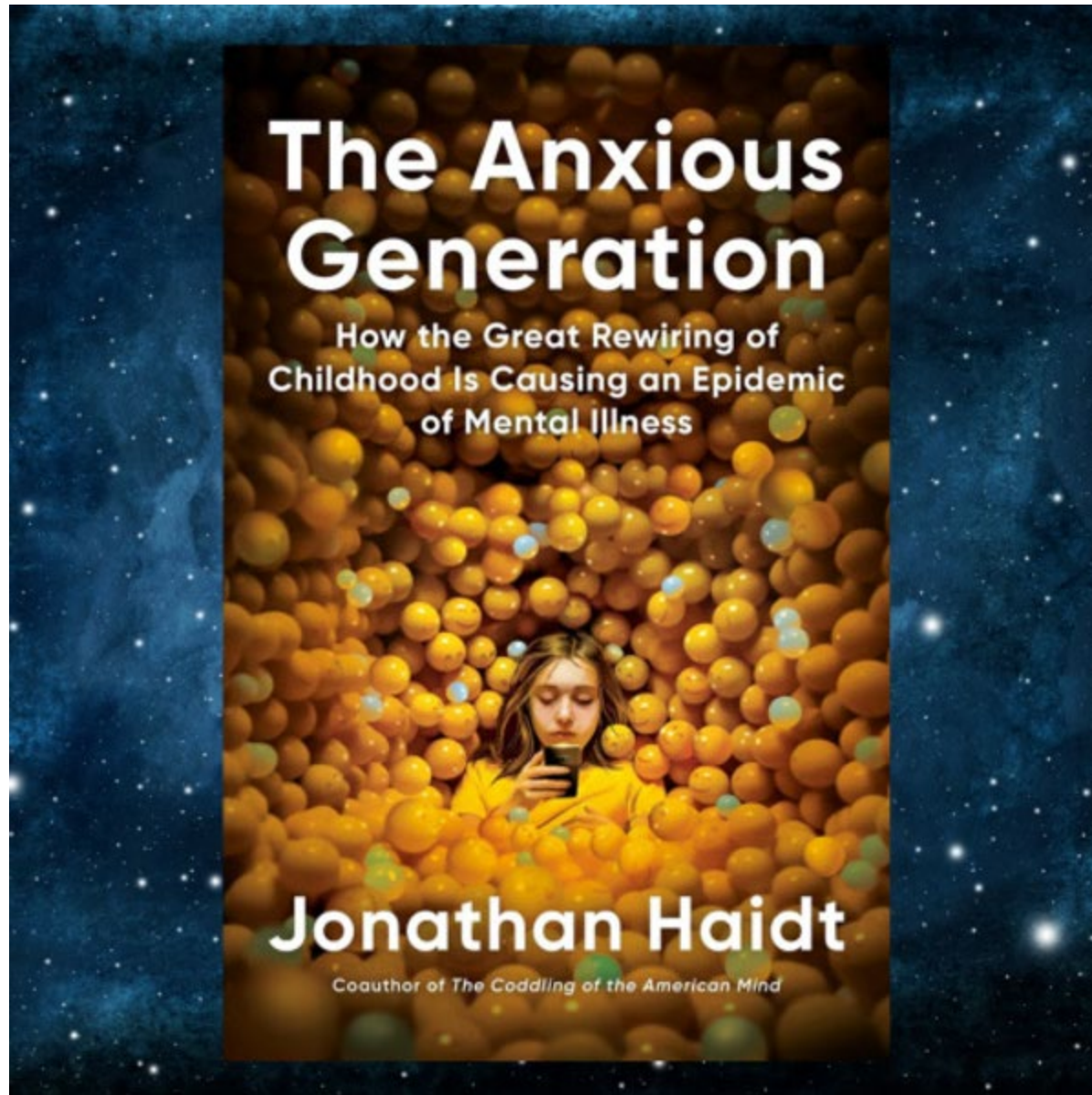


The Anxious Generation

How the Great Rewiring of
Childhood Is Causing an Epidemic
of Mental Illness

Jonathan Haidt

Coauthor of *The Coddling of the American Mind*



RESOURCES

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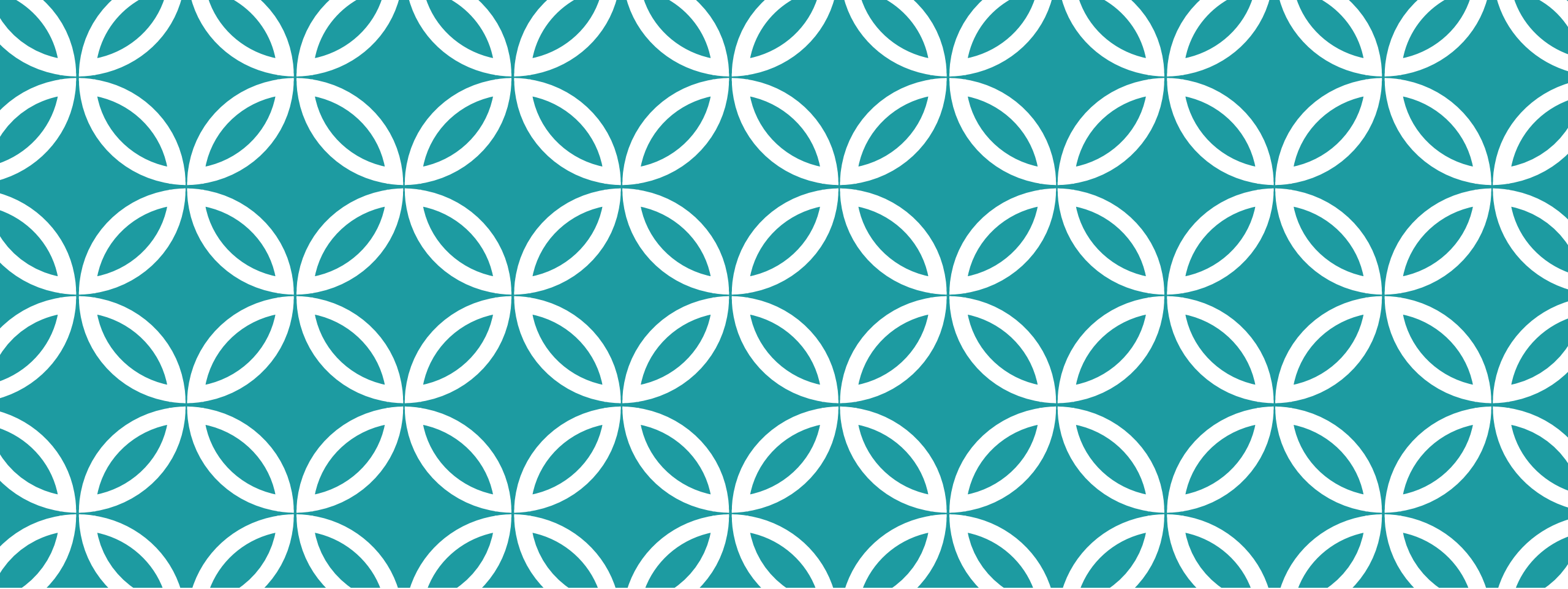
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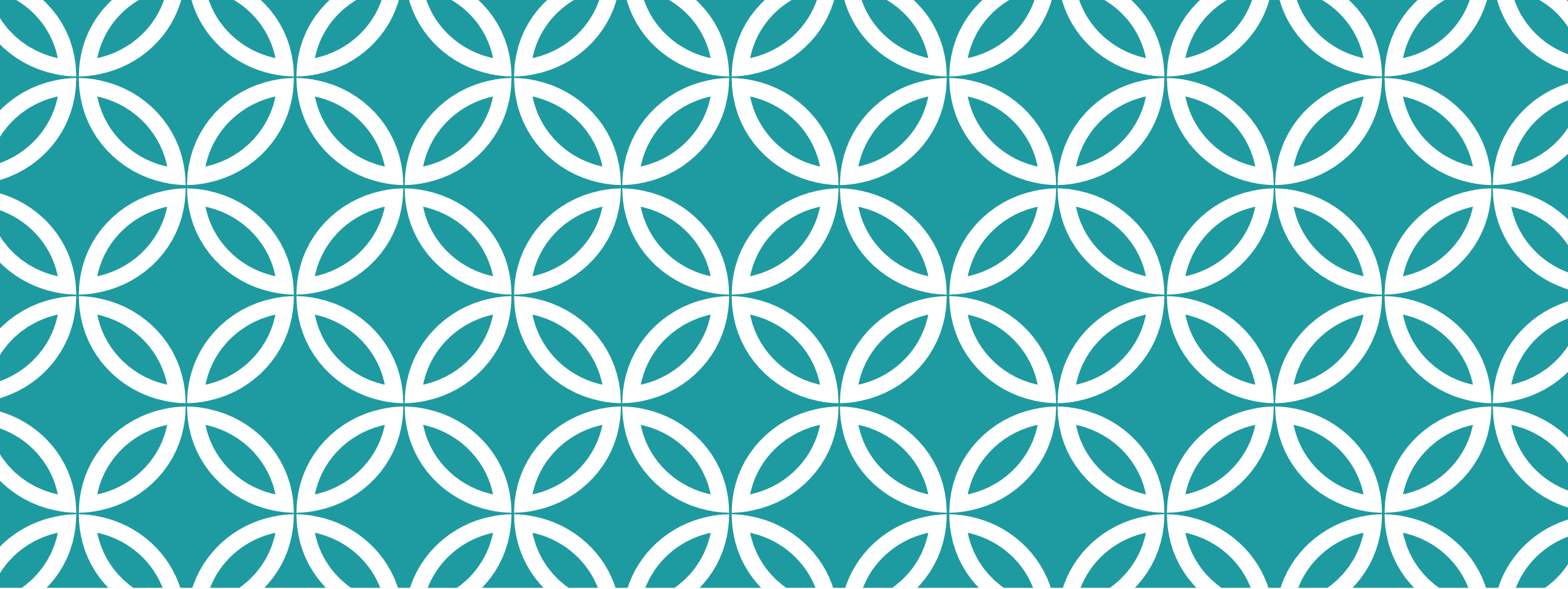
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QUESTIONS?





THANK YOU!

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