Crabby Kids
What's going on with my snappy child?

Jillian M. Russo, Psy.D.

Staff Psychologist

PediMIND Program

Child Outpatient Program

McLean Hospital

About me

Clinical psychologist who has worked with kids, teens, and their families for over 10 years

Research psychologist at McLean Hospital's PediMIND Program and Outpatient therapist at the Child and Adolescent Outpatient Program

Enjoy spending time with my husband, toddler, and 2 dogs

Disclosures: None

Learning Objectives

1) Discuss developmental trends in irritability
2) Discuss irritability as a part of mental health and when to seek help
3) Discuss the function of emotions and emotion regulation strategies

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Definition

- A paper published in 2021 found that irritability was identified as a top problem by over 58% of those seeking mental health services

Table 2 Rates of Irritability Problems Identified via Multiple Methods and Informants

Item or item code		Idiographic (TP) problem frequency		Nomothetic (CBCL/YSR) problem frequency						Multiple methods: TP, CBCL/YSR[c]	
		Present (%)		Response category (%)				M (SD)	Range	Either/or (%)	Both/and (%)
		No	Yes	0	1	2	1 or 2				
Caregiver report											
	86. Stubborn	95.6	4.4	20.4	35.4	44.2	79.6	1.24 (0.77)	0–2	46.6	1.9
	87. Mood	86.9	13.1	20.4	47.1	32.5	79.6	1.12 (0.72)	0–2	40.8	4.9
	95. Temper	73.3	26.7	25.7	34.5	39.8	74.3	1.14 (0.80)	0–2	52.4	14.1
	Any irritability	61.7[a]	**38.3**[a]	7.3	66.5	**62.1**	92.7	3.50 (1.75)[b]	0–6[b]	**72.8**	**27.7**
Youth report											
	86. Stubborn	96.6	3.4	42.7	37.9	19.4	57.3	0.77 (0.75)	0–2	21.4	1.5
	87. Mood	94.7	5.3	39.3	39.8	20.9	60.7	0.82 (0.76)	0–2	25.7	0.5
	95. Temper	64.6	35.4	40.3	34.5	25.2	59.7	0.85 (0.80)	0–2	44.7	16.0
	Any irritability	57.8[a]	**42.2**[a]	17.0	67.5	**42.2**	83.0	2.43 (1.75)[b]	0–6[b]	**59.2**	**25.2**
Multiple informants: caregiver, youth											
	Either/or	42.2	**57.8**	22.3	88.8	**72.8**	98.1	–	–	**83.0**	**47.6**
	Both/and	77.2	**22.8**	1.9	45.1	**31.6**	77.7	–	–	**42.7**	**11.7**

Note. Figures in bold are interpreted as the main indicators of what percentage of cases positively identified irritability as a problem, broken down across different informants (caregiver, youth) and methods (idiographic, nomothetic), and different combinations thereof. Kappa coefficients and 95% confidence intervals for these estimates are reported in text

[a]Represents the caregiver- and youth-identified irritability TP groups used in subsequent analyses
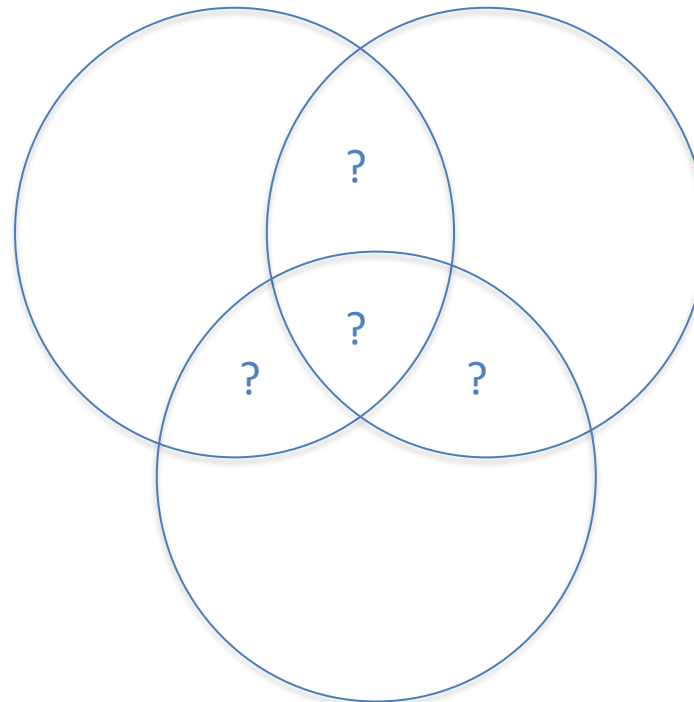
[b]Scale M (SD) and range

[c]These columns represent the percentage of the sample reporting that the row variable is present by according to two criteria, TP = "Yes" and CBCL/YSR = "2," with the criteria combined in different ways (either/or, both/and)

Evans et al., 2021

Definition

- What does irritability mean?

Irritability

Aggression

?

?

?

?

Outbursts

Definition

- What does irritability mean?
  - Irritability
    - Increased proneness to anger
    - Proclivity toward negative affect, especially anger and temper outbursts
    - Relative disposition toward anger and frustration in response to blocked goals
    - Tonic: a persistently grumpy, grouchy or angry mood vs. phasic: behavioral outburst of intense anger
  - Aggression
    - Tendency towards behaviors intended to cause harm
  - Outbursts
    - Conceptualized as a part of severe irritability

Definition

- Vs. Emotion dysregulation?
  - Recognition: attending to and appraising emotional stimuli to identify emotions in self and others

  - Reactivity: intensity and duration of an immediate response to a stimulus

  - Regulation: responding to reactivity in and adaptive manner that promotes goal attainment
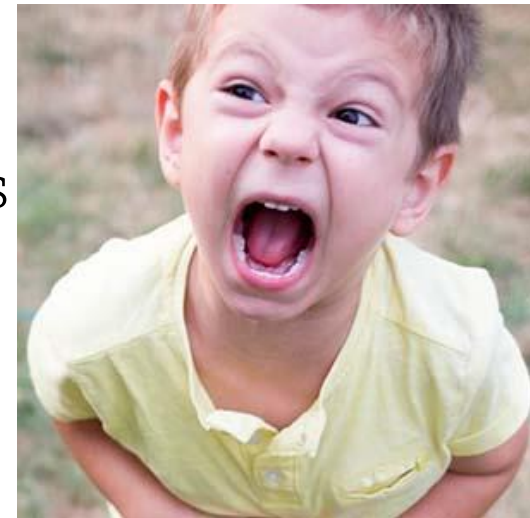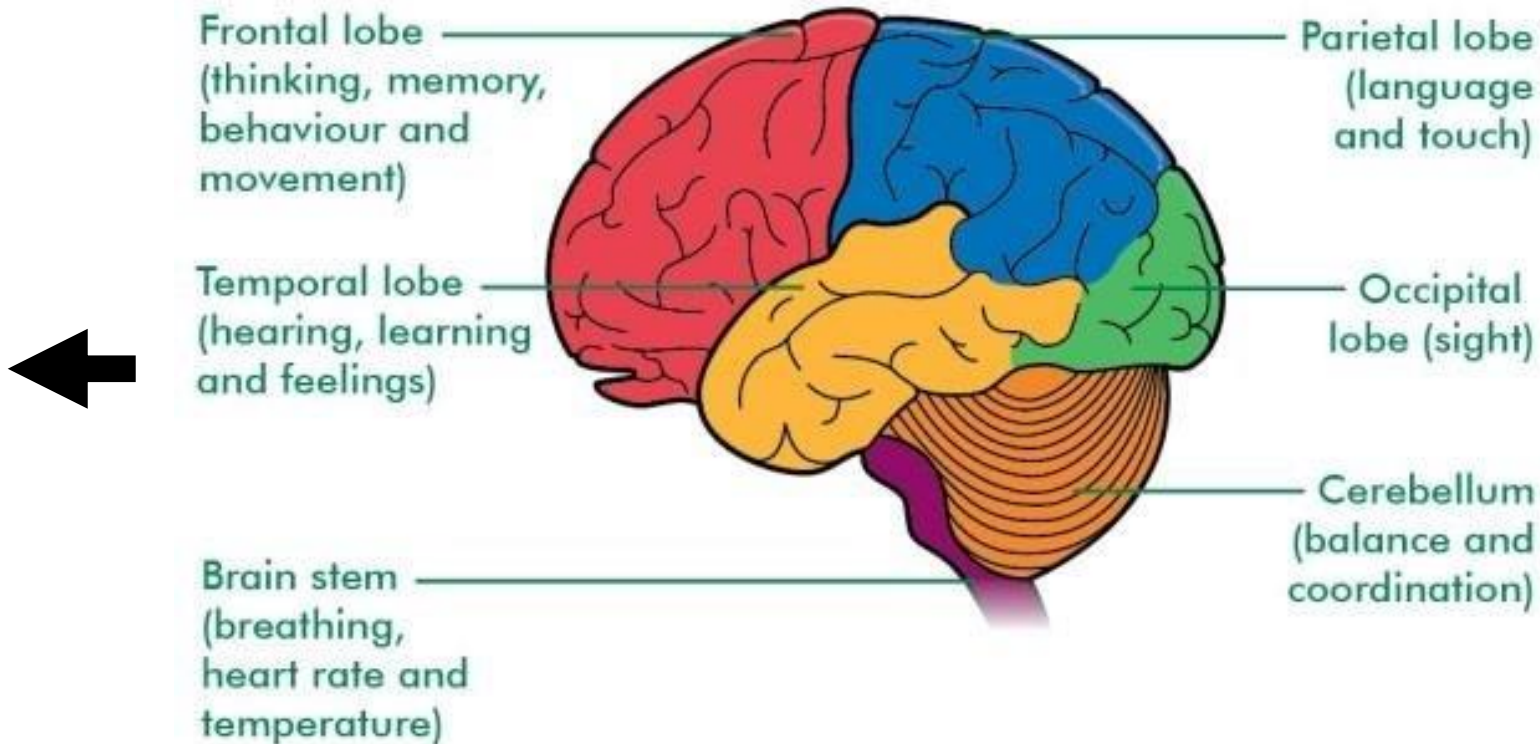
Why is this an area of concern?

- A longitudinal study in 2008 found that irritability was the sole predictor of emotional disorders at follow up
  - Internalizing and externalizing disorders
- Greater tendency for development of maladaptive coping skills
- Poorer long-term functioning
- Suicidal thoughts and behaviors

Child and Adolescent Development

- Appropriate development
  - Roughly half report phasic irritability and over a quarter report tonic irritability
  - 90% of participants reported either phasic or tonic irritability over the course of childhood/adolescence
- Age-appropriate emotion regulation abilities
  - Reactivity is closely connected to irritability
  - Toddlerhood
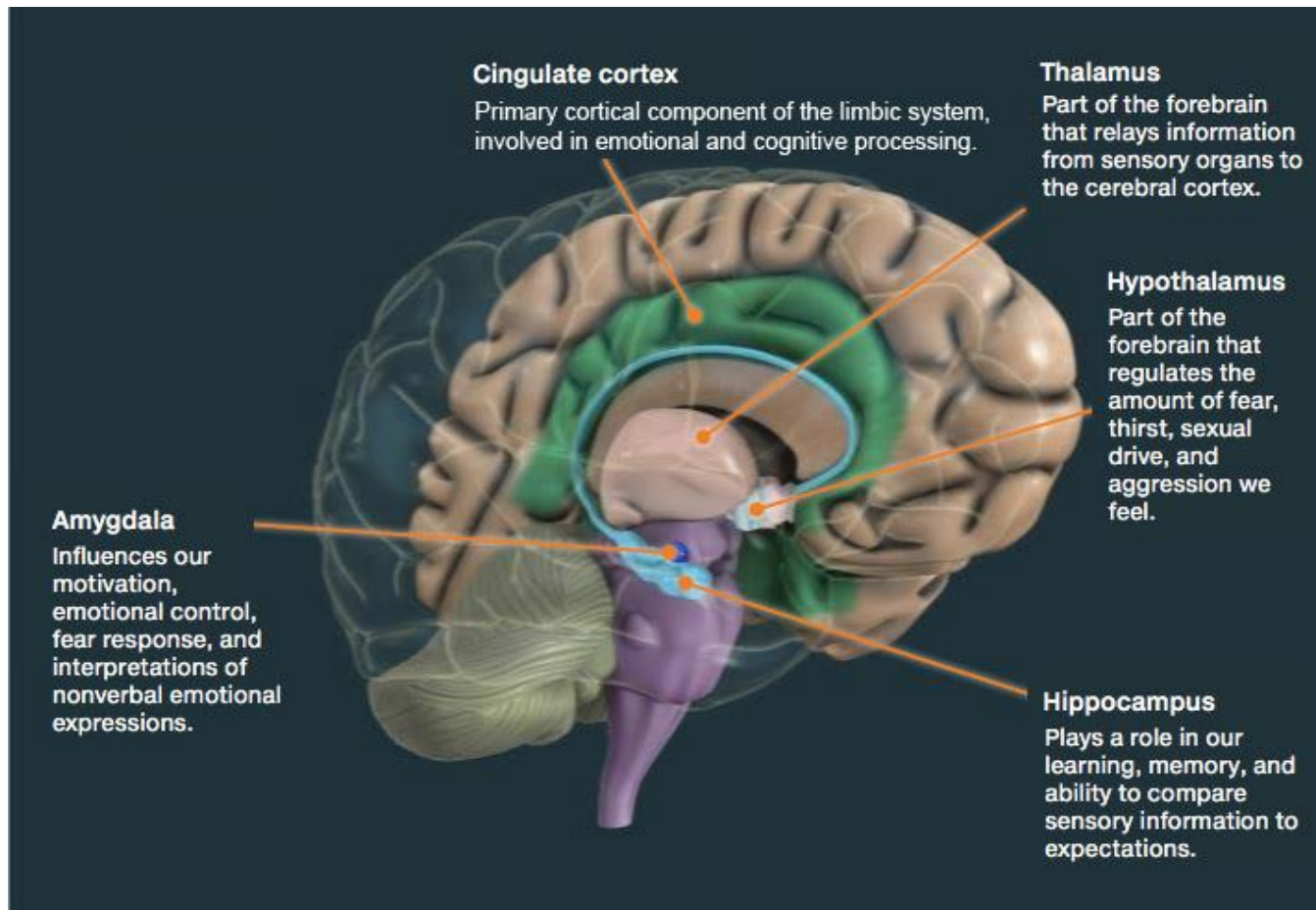 - Preschool
  - School-age
  - Teenager

Child and Adolescent Development

- The brain

Frontal lobe (thinking, memory, behaviour and movement)

Temporal lobe (hearing, learning and feelings)

Brain stem (breathing, heart rate and temperature)

Parietal lobe (language and touch)

Occipital lobe (sight)

Cerebellum (balance and coordination)

Child and Adolescent Development

- The Limbic System- aka emotion brain

Cingulate cortex
Primary cortical component of the limbic system, involved in emotional and cognitive processing.

Thalamus
Part of the forebrain that relays information from sensory organs to the cerebral cortex.

Hypothalamus
Part of the forebrain that regulates the amount of fear, thirst, sexual drive, and aggression we feel.

Amygdala
Influences our motivation, emotional control, fear response, and interpretations of nonverbal emotional expressions.

Hippocampus
Plays a role in our learning, memory, and ability to compare sensory information to expectations.
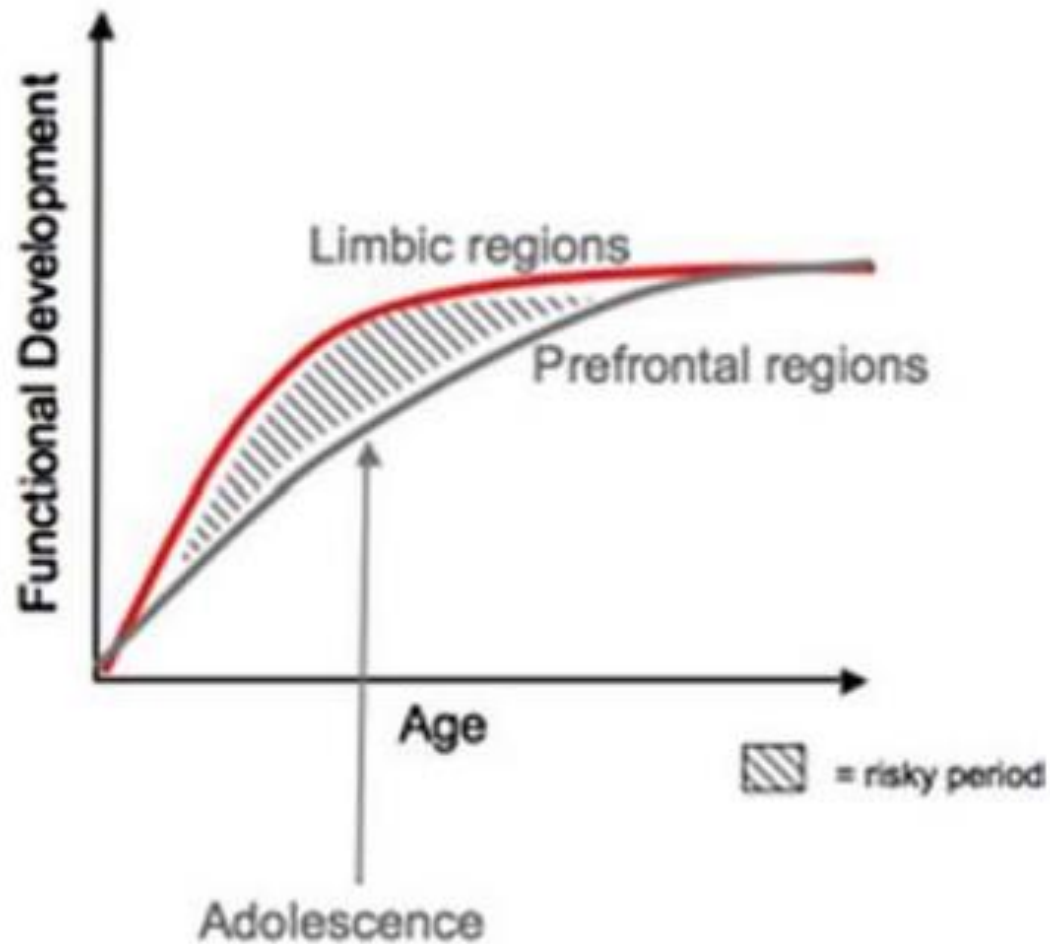
Child and Adolescent Development

- Typical brain development
  - Total volume reaches 95% of its maximum by age 6
  - "Full biological development of emotion regulation does not emerge until the prefrontal cortex is fully developed in the mid-twenties."

Child and Adolescent Development
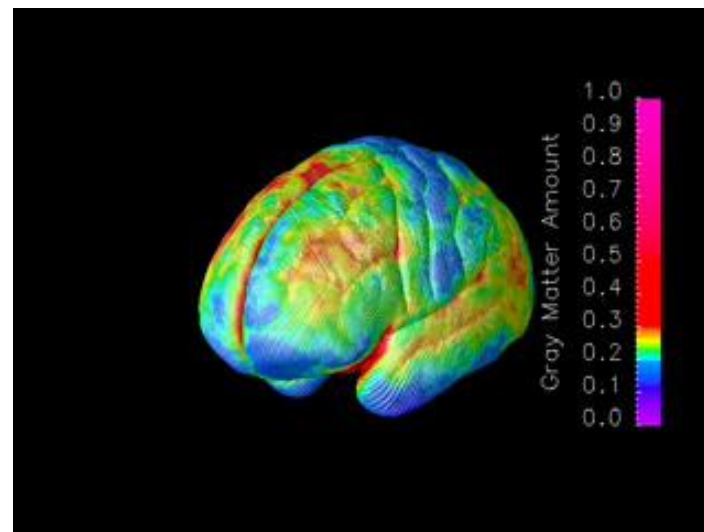
- Child and adolescent brain
  - Cognitive control
    - Cognitive flexibility- ability to change perspectives to approach a problem and to adjust to new demands, rules, and priorities
    - Inhibitory control- ability to control one's attention, behaviors, thoughts, and emotions
  - In children, the limbic system and prefrontal regions are developing simultaneously while in adolescence, the limbic system is more functionally mature
    - Areas involved in reward processing show significant maturation during adolescence while areas involved with cognitive control become more finetuned with age

Child and Adolescent Development

Casey et al., 2008

Summary

- Irritability, while there is no concrete definition, is a normal part of child and adolescent development AND chronic has long term negative implications.

- The frontal lobe is not fully developed until a person's mid 20s. However, the parts of the brain that are associated with irritability mature at a faster rate, especially in adolescence.

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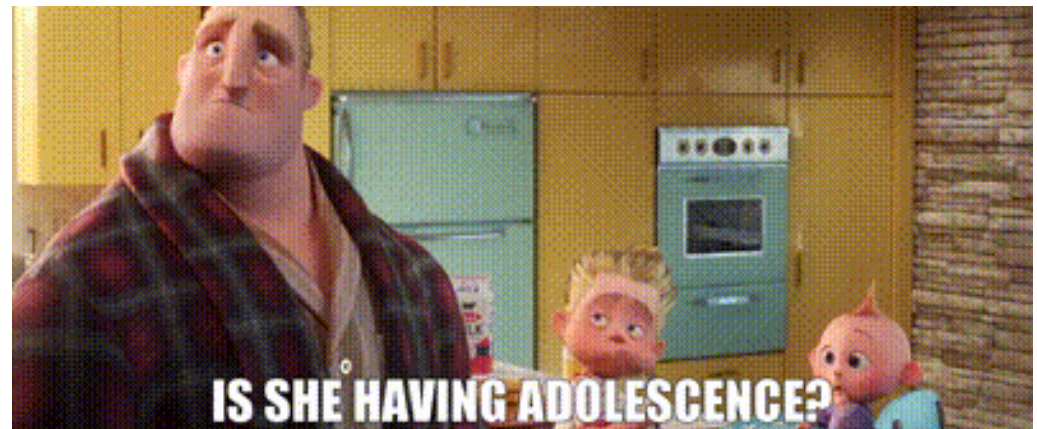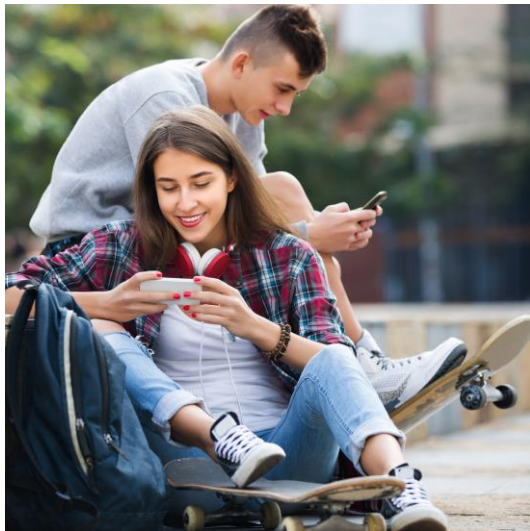3) Discuss the function of emotions and emotion regulation strategies

Psychosocial influences

- Sleep
  - In 2014, the AAP identified sleep in adolescence as a worldwide public health concern
- Stress
- Food and exercise

Psychosocial influences

- Peers
- Hormones
- Perfectionism

IS SHE HAVING ADOLESCENCE?

Irritability in a clinical setting

- Over 10 psychiatric diagnoses list irritability as part of their diagnostic criteria
  - Major Depressive Disorder
  - Bipolar Disorder (manic/hypomanic episode)
  - Generalized Anxiety Disorder
  - Posttraumatic Stress Disorder
  - Disruptive Mood Dysregulation Disorder
  - Oppositional Defiant Disorder
- Also commonly associated with diagnoses because of the functional impairment that subsequently occurs
  - Attention Deficit Hyperactivity Disorder
  - Obsessive Compulsive Disorder

Getting help

- When to seek help?
  - A cluster of symptoms becomes a clinical disorder when it causes functional impairment
  - However, you can seek help if you're starting to notice a steady change, even if still functioning overall
- How do I find help?
  - Pediatrician
    - Massachusetts Child Psychiatry Access Program (MCPAP)
  - Insurance companies
  - Psychology Today
  - Moms' groups

Summary

- Many modifiable factors influence irritability expression in children and adolescence, including sleep and stress

- Irritability is a symptom for 10+ mental health disorders, which can have diagnosis and treatment implications. There's no such thing "too early" when getting help.

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Understanding Emotions

- 5 basic emotions
- All emotions have a function and are not objectively good or bad
  - Motivate and prepare us
  - Communicate to others
  - Communicate to ourselves
- Anger
  - Losing power or respect
  - Being attacked or threatened
  - Having an important goal blocked
  - Pain

Emotion Regulation Strategies

- ABCs of emotion/behavior
  - Every behavior has a function; what function is irritability serving your kid?
  - Antecedent, Behavior, Consequence
- TIPP skills
  - Temperature, Intense exercise, Paced breathing, Progressive muscle relaxation
- Self-soothe with 5 senses

Emotion Regulation Strategies

- DBT skills- TIPP

____**T**emperature

Alter your body temperature by holding your breath and placing head in bowl of cold water. Or, splash cold water on your face or place a cold gel mask on your eyes or forehead. Hold for at least 30 seconds. Works best if bent over forward.

____**I**ntense exercise

Run in place, do a high-intensity weight circuit, jump, put on music and dance (10–15 minutes). *Don't* overdo it!

____**P**aced breathing

Slow down your breath so that you're breathing in for about 4 seconds and out for 5–8 seconds. Do this for 1–2 minutes to bring down your arousal.

____**P**rogressive muscle relaxation

Tense and relax each muscle group, head to toe, one muscle group at a time.

Emotion Regulation Strategies

- DBT skills- self-soothe

DISTRESS TOLERANCE HANDOUT 5

Crisis Survival Skills: Self-Soothe with Six Senses

VISION	HEARING
SMELL	TASTE
TOUCH	MOVEMENT

Vision — Go to your favorite place and take in all the sights; look at a photo album; zone out to a poster/picture; notice colors in a sunset; people watch.

Hearing — Listen to your favorite music and play it over and over again; pay attention to sounds in nature (birds, rain, thunder, traffic); play an instrument or sing; listen to a sound machine.

Smell — Put on your favorite lotion; use a scented aftershave or body wash; make cookies or popcorn; smell freshly brewed coffee; go to the park and "smell the roses."

Taste — Eat some of your favorite foods; drink your favorite nonalcoholic beverage; have your favorite flavor of ice cream; really notice the food you eat; eat one thing mindfully; don't overdo it!

Touch — Take a long bath or shower; pet your dog or cat; get a massage; brush your hair; hug or be hugged; put a cold cloth on your head; change into your most comfortable clothes.

Movement — Rock yourself gently; stretch; go for a run; do yoga; dance!

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Emotion Regulation Strategies

- Sleep hygiene
  - Stick to a schedule
  - Establish a bedtime routine
  - Bed is only for sleep
- Modeling
  - Practice what you preach!

DIY tools

- Worksheets!

ABC Behavior Chart

Name: _____   Observer: _____

Date, Time And Place	A - ANTECEDENT What action or event happened just before the behavior occurred?	B - BEHAVIOR What specific behavior did the individual do?	C - CONSEQUENCE What happened right after the behavior?	What was the outcome

DAILY SCHOOL BEHAVIOR REPORT CARD

Child's name_____ Date_____

Teachers:

Please rate this child's behavior today in the areas listed below. Use a separate column for each subject or class period. Use the following ratings: 1 = excellent, 2 = good, 3 = fair, 4 = poor, and 5 = very poor. Then initial the box at the bottom of your column. Add any comments about the child's behavior today on the back of this card.

Behaviors to be rated:	Class periods/subjects						
	1	2	3	4	5	6	7
Class participation							
Performance of class work							
Follows classroom rules							
Gets along well with other children							
Quality of homework, if any given							
Teacher's initials							

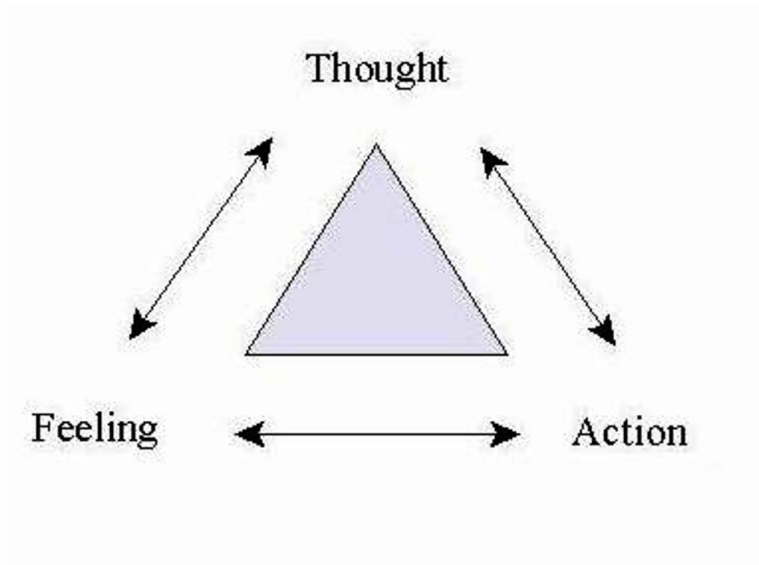Place comments on back of card

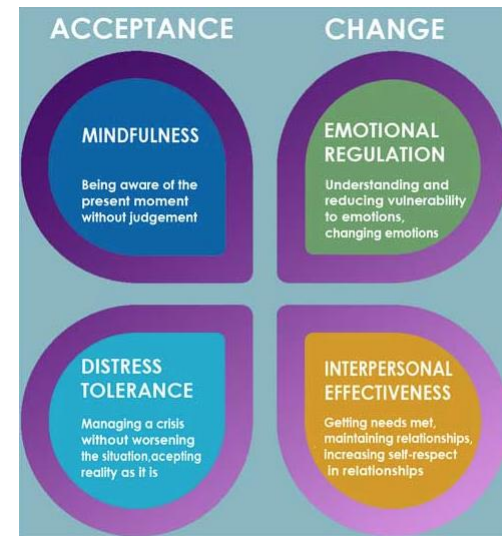Cut here after photocopying

DIY tools

- Meditation apps
  - Calm, Headspace, YouTube
- Mood tracker apps
  - Daylio
  - Moodfit

Treatment
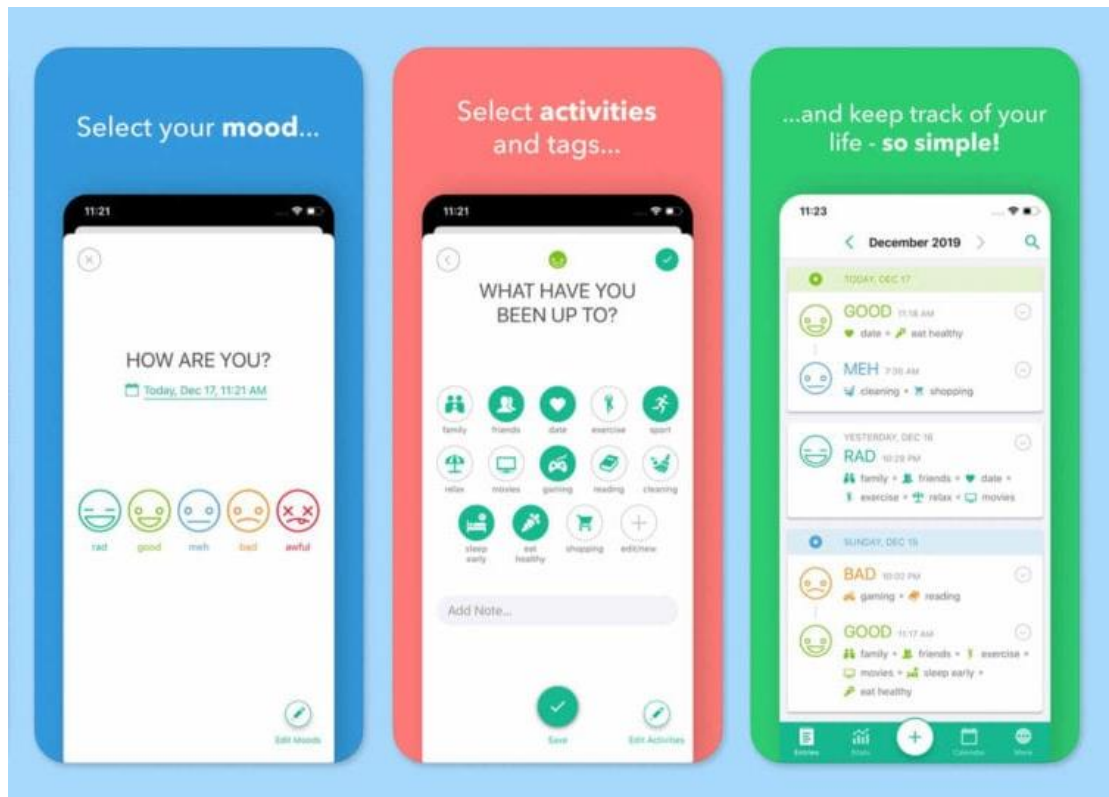
Cognitive Behavioral Therapy

Dialectical Behavior Therapy

CBT skills- Thought record

FORM 10.4. **Patient's Event–Mood–Thought Record**

Patient's name: _____

Date/time	Event: Describe what happened. What were you doing at the time?	Mood: Describe your feelings (sad, anxious, angry, hopeless, etc.), and rate their intensity on a 0–100% scale.	Thought: Write down your automatic thoughts at the time.

1. **Mind reading:** You assume that you know what people think without having sufficient evidence of their thoughts. "He thinks I'm a loser."
2. **Fortunetelling:** You predict the future negatively: Things will get worse, or there is danger ahead. "I'll fail that exam," or "I won't get the job."
3. **Catastrophizing:** You believe that what has happened or will happen will be so awful and unbearable that you won't be able to stand it. "It would be terrible if I failed."
4. **Labeling:** You assign global negative traits to yourself and others. "I'm undesirable," or "He's a rotten person."
5. **Discounting positives:** You claim that the positive things you or others do are trivial. "That's what wives are supposed to do—so it doesn't count when she's nice to me," or "Those successes were easy, so they don't matter."
6. **Negative filtering:** You focus almost exclusively on the negatives and seldom notice the positives. "Look at all of the people who don't like me."
7. **Overgeneralizing:** You perceive a global pattern of negatives on the basis of a single incident. "This generally happens to me. I seem to fail at a lot of things."
8. **Dichotomous thinking:** You view events or people in all-or-nothing terms. "I get rejected by everyone," or "It was a complete waste of time."
9. **Shoulds:** You interpret events in terms of how things should be, rather than simply focusing on what is. "I should do well. If I don't, then I'm a failure."
10. **Personalizing:** You attribute a disproportionate amount of the blame to yourself for negative events, and you fail to see that certain events are also caused by others. "The marriage ended because I failed."
11. **Blaming:** You focus on the other person as the *source of* your negative feelings, and you refuse to take responsibility for changing yourself. "She's to blame for the way I feel now," or "My parents caused all my problems."
12. **Unfair comparisons:** You interpret events in terms of standards that are unrealistic—for example, you focus primarily on others who do better than you and find yourself inferior in the comparison. "She's more successful than I am," or "Others did better than I did on the test."
13. **Regret orientation:** You focus on the idea that you could have done better in the past, rather on what you can do better now. "I could have had a better job if I had tried," or "I shouldn't have said that."
14. **What if?:** You keep asking a series of questions about "what if" something happens, and you fail to be satisfied with any of the answers. "Yeah, but what if I get anxious?" or "What if I can't catch my breath?"
15. **Emotional reasoning:** You let your feelings guide your interpretation of reality. "I feel depressed; therefore, my marriage is not working out."

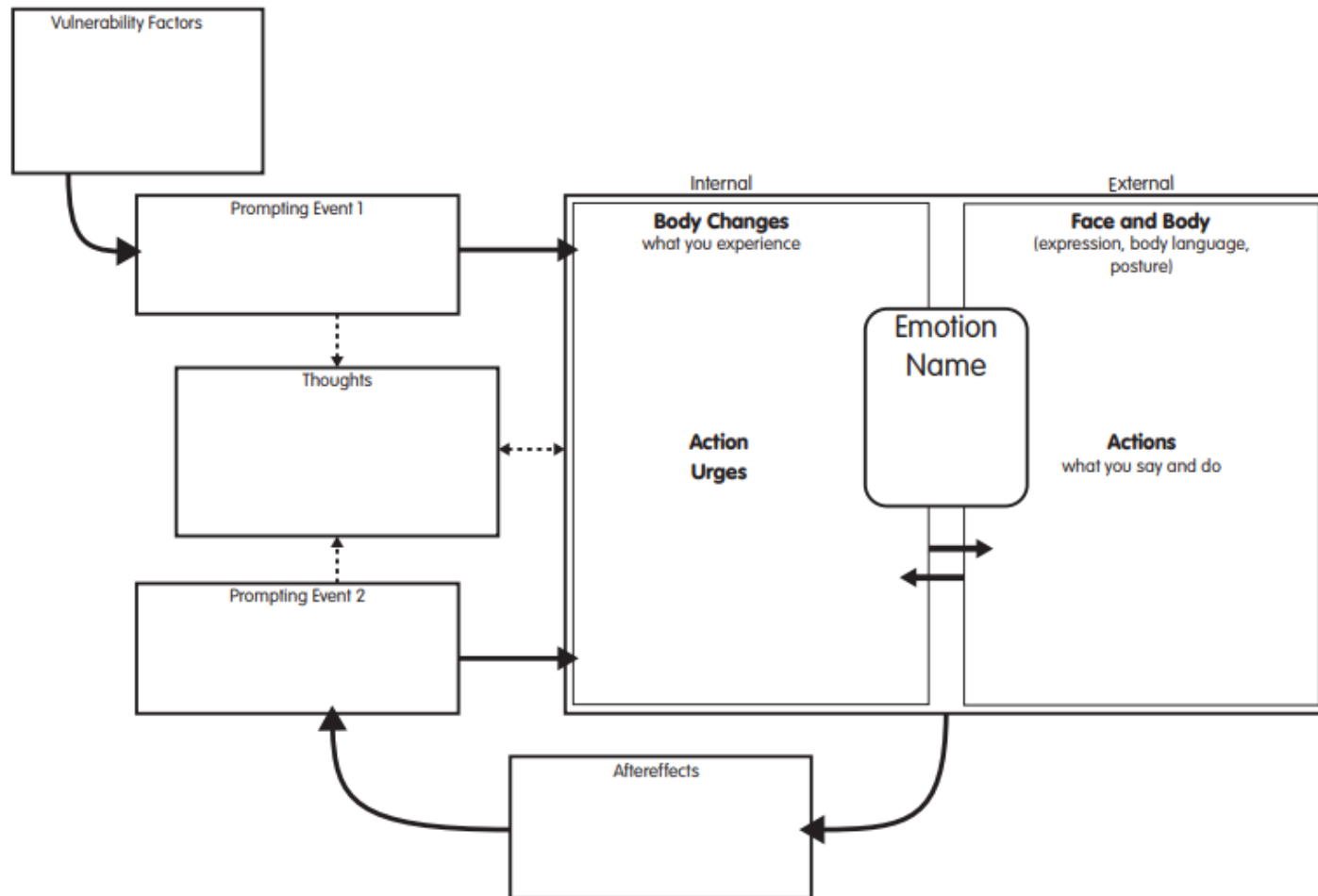| Automatic thoughts: Write your negative thoughts and estimate your confidence in the accuracy of each one (0–100%).	Distortions: Identify the category into which each automatic thought falls (see "Categories of Distorted Automatic Thoughts: A Guide for Patients").	Rational responses: Substitute more realistic thoughts and estimate your confidence in the accuracy of each one (0–100%).

Problem Solving skills

- IDENTIFY your GOAL in solving the problem.
  - Identify what needs to happen or change for you to feel OK.
- BRAINSTORM lots of solutions with NO JUDGMENT.
  - Think of as many solutions as you can. Ask for suggestions from people you trust.
- CHOOSE two solutions that are likely to work.
  - Do pros and cons to compare the solutions. Choose the best to try first.
- Put the solution into ACTION.
  - Identify the steps
  - Act on it
- EVALUATE outcomes.
  - Did it work? YEAH! Reward yourself!
  - It f not, reward yourself for trying and try a new solutions

- DBT skills- Model of Emotions

EMOTION REGULATION HANDOUT 5

A Model of Emotions

Vulnerability Factors

Prompting Event 1

Thoughts

Prompting Event 2

Internal

Body Changes
what you experience

Action Urges

Emotion Name

External

Face and Body
(expression, body language, posture)

Actions
what you say and do

Aftereffects

- DBT skills- ABC PLEASE

ABC PLEASE Overview

How to **increase** positive emotions
and
reduce vulnerability to Emotional Mind

Accumulating positive experiences

Build mastery

Cope ahead of time with emotional situations

Treat **P**hysica**L** illness

Balance **E**ating

Avoid mood-altering drugs

Balance **S**leep

Get **E**xercise

Treatment

- Family component to treatment can be helpful. At younger ages, parents are the ones primarily engaged in treatment.
- Alan Kazdin's Parent Management Training (PMT)
  - Connection between behaviors and consequences and how parents can use reinforcement to respond to and shape behaviors
- Russell Barkley's Defiant Child Treatment
  - Help understand the causes of behavior at home or in school; take systematic steps to reduce it; and reinforce positive change
- Shelia Eyberg's Parent Child Interaction Therapy (PCIT)
  - Teaches new skills that can help improve the parent-child relationship and help them become better able to provide a positive environment for both the child and the family

Treatment

- Important to understand and have reasonable expectations of behavior change
- Reinforcer- <u>any</u> consequence that INCREASES a behavior
  - Positive- increases the behavior by adding something
  - Negative- increases the behavior by removing something aversive
  - Variable reinforcement
- Think of stray cats

Treatment Options at McLean

- Inpatient treatment at McLean Southeast in Middleborough
- Residential programs
  - 3 East
  - OCDI-Jr
  - ART
- Partial Hospitalization/Intensive Outpatient
  - Belmont Adolescent PHP
  - 3 East PHP and IOP
  - McLean Anxiety Mastery Program (MAMP)
- https://www.mcleanhospital.org/treatment/youth-programs

1-877-626-8140

Outpatient Treatment Groups at McLean

All for HS students, covered by insurance

- Cognitive Behavioral Therapy for Anxiety
  - 10 weeks, meets virtually on Wednesdays
- Dialectical Behavior Therapy
  - 20 weeks, meets virtually on Mondays or Thursdays with parent group
    - Parent group charges a nominal fee
- Acceptance and Commitment Therapy
  - 10 weeks, meets in person on Wednesdays
- All groups are currently accepting referrals
- Contact: MCLCOP@mgb.org

Research on Irritability

- It's both a normal part of development and an impairing psychopathological symptom that can have long term negative outcomes

- Currently, there is no well known, established biomarker to guide clinicians in terms of diagnosis and/or treatment

- Neuroimaging and behavioral tasks are working to change that

- https://pedimind.org/

PediMIND

Mood, Imaging, & NeuroDevelopment

Research on Irritability

- Magnetic Resonance Imaging
  - Structural image- volume and shape
    - Magnet interacts with water molecules and measures how long it takes the water to rebound
  - Functional image- brain activity
    - Measures an index of oxygenated: deoxygenated hemoglobin as more active regions extract more oxygen from blood
  - Diffusion tensor image- white matter integrity
    - Tracks the diffusion of water along the length of the neuron to measure integrity
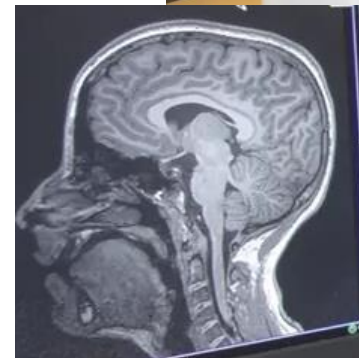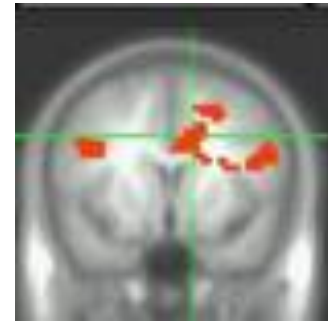
Research on Irritability

- Computer tasks
  - Can measure response inhibition, reward processing, and cognitive flexibility
  - Response inhibition- people become irritable as they make errors
    - Go/No-go tasks: told to press a button to indicate if an arrow points left or right, unless they hear a beep indicating they should not press anything

PediMIND
Mood, Imaging, & NeuroDevelopment

Table 2
Cognitive and emotional tasks used to study irritability

Construct	Definition	Tasks	Key Brain Areas
Reward processing– cognitive flexibility	Ability to adapt to changing rewards and punishments	Reversal learning: figure out which of 2 stimuli is rewarded and adapt when previously rewarded stimulus is now punished. The WCST: requires children to adapt when the construct by which they are sorting a deck of cards changes, from color to shape, to number, etc.	• DLPFC (attention processes) • Caudate and amygdala (reward processes)
Reward processing– FNR	Response stemming from blocked goal attainment; participants are told their responses are wrong, even though they are correct, and thus cannot maximize their receipt of reward no matter how hard they try.	Affective Posner: unlike the standard Posner task, where feedback is accurately tied to performance (WIN or LOSE based on participant's response), the affective Posner task uses rigged feedback, with participants told they LOSE or are TOO SLOW if even they were correct, to frustrate the person and cause irritability or anger.	
Response inhibition	Ability to stop a dominant, natural action	Go/no-go: do not press a button on no-go trials (1/3 of game) spread among the yes, press button, go trials (2/3 of game) Stroop interference task: identify color a word is printed in, not the word itself (if "red" is seen in blue ink, say "blue" [not "red"]).	• DLPFC • ACC (attention/ planning) • Motor areas (striate, etc.)
Emotional face processing	Ability to identify what emotion someone's face is showing (eg, happy, angry, fear, neutral).	Diagnostic assessment of nonverbal accuracy: child and adult faces showing happy, sad, fear, and neutral	• Visual cortex • DLPFC • Hippocampus (memory area) • Amygdala (reward)

Dickstein et al., 2012

PediMIND Lab

- We are interested in studying specific symptoms that are present across diagnoses in kids and adolescents
  - Irritability
  - Suicide attempts
  - Non-suicidal self injury
- We want to identify different brain mechanisms and cognitive and behavioral patterns that can help mental health professionals, families, and kids understand what's going on to help identify risk and get the right type of treatment and support they need

www.PEDIMIND.org

PediMIND lab

- We are currently recruiting for 3 studies
  - Ages 8-17 with and without a mental health history
  - With no implanted metal
  - Can earn from $200-680
  - Families also get diagnostic interviews, brief IQ test, and MRI structural images
- https://pedimind.org/
- pedimind@partners.org
- 617.855.3900

PediMIND

Mood, Imaging, & NeuroDevelopment

Summary

- ALL emotions are normal and serve a function

- There are many evidence based parenting and individual treatment protocols that are effective. There are components to these treatments that can be a part of daily life.

- Researchers are working on understanding more about irritability in the brain and in real life with the goal to have a positive impact on treatment

Questions?