# Evidence-Based Programs for Adolescent Functioning

This bench card was created as a companion to the "Bridging Neuroscience" and "Juvenile Justice Module," a digital lesson created by an interdisciplinary team of experts to explain the impact of adolescent substance use on the brain and the implications of those impacts for dispositional decision-making for justice-involved youth. It can be used to understand which therapeutic interventions best support improvements in functioning in the areas often impacted by adolescent substance use, including emotion regulation, emotion processing, impulsivity, motivation, and executive functioning. The digital lesson can be accessed at https://www.sog.unc.edu/sog_modules/bridging-neuroscience-and-juvenile-justice/content/index.html.

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School of Government

## Emotion Regulation vs. Emotion Processing

**Emotion regulation** involves managing emotional intensity and modulating behavioral responses.

**Emotion processing** involves recognizing emotions, understanding causes, integrating emotional meaning, and interpreting others' opinions.

## Emotion Regulation

| Program | Especially Effective for . . . | Format | Works Best When . . . |
|---|---|---|---|
| **Dialectical Behavior Therapy for Adolescents** There is strong research support of this technique, especially for high-risk youth | Self-harm, suicidal behaviors, severe emotional dysregulation, borderline traits | Individual therapy, group skills training, and family involvement; several programs have been adapted to virtual platforms and mobile apps for skill tracking | Youth exhibit high emotional reactivity and require structured, multi-component support |
| **Cognitive Behavioral Therapy** Widely used, adaptable, supported by strong overall evidence | Anxiety, depression, early-stage emotional dysregulation | Individual or group; available in computerized and online formats | Emotion regulation components are explicitly integrated into treatment |
| **Unified Protocol for Adolescents** Designed to treat multiple diagnoses—such as anxiety and depression—using the same approach, emotion-focused CBT | Anxiety, depression, co-occurring emotional conditions | Individual or group; sometimes digital (telehealth) | Youth present with multiple co-occurring emotional conditions |
| **Acceptance and Commitment Therapy** Focuses on emotion acceptance and values-based action | Avoidance behaviors, chronic stress, internalizing symptoms | Individual or group; sometimes digital | Avoidance and experiential control strategies maintain distress and youth need support engaging with difficult internal experiences |
| **Mindfulness-Based Cognitive Therapy/Mindfulness Programs** Builds awareness and non-reactivity | Recurrent depression (relapse prevention), anxiety, emotional reactivity, stress, rumination | Group-based or digital programs | Youth struggle with rumination or emotional reactivity and would benefit from developing awareness before applying regulation strategies |
| **Emotion-Regulation Training** Direct, skills-based intervention | Emotional dysregulation, poor coping skills | Typically group-based (12–20 sessions); useful as a standalone or adjunct intervention | Youth need structured, skills-focused intervention |
| **Behavioral Parent Training/ Family-Based Interventions** Target emotion regulation through environment | Externalizing behaviors, emotional dysregulation, typically observed in younger adolescents | Parent-focused or family-based sessions | Behavior is strongly influenced by environmental contingencies and caregiver consistency can be improved |

### Choosing the Right Emotion-Regulation Program

| Issue | Program |
|---|---|
| Severe emotional dysregulation or self-harm | Dialectical Behavior Therapy for Adolescents (DBT-A) |
| Anxiety or depression with identifiable thought patterns | Cognitive Behavioral Therapy (CBT) |
| Multiple co-occurring emotional disorders | Unified Protocol for Adolescents (UP-A) |
| Avoidance or difficulty tolerating emotions | Acceptance and Commitment Therapy (ACT) |
| Rumination or relapse risk (especially depression) | Mindfulness-Based Cognitive Therapy (MBCT) |
| Need for structured coping skill development | Emotion-Regulation Training (ERT) |
| Behavior influenced by caregiver responses | Behavioral Parent Training/Family-Based Interventions |
| Early intervention or prevention needs | School-Based or Prevention Programs |

## Emotion Processing

| Program | Especially Effective for . . . | Format | Works Best When . . . |
|---|---|---|---|
| **Emotion-Focused Therapy**<br>Most directly targets emotion processing | Emotional avoidance, unresolved emotional experiences | Primarily individual therapy using experiential techniques; may include family-based or family-involved sessions | Youth need deep processing and transformation of emotional experiences |
| **Mentalization-Based Therapy for Adolescents**<br>Targets understanding of internal emotional states | Trauma-related emotional confusion, attachment disruption, borderline traits | Individual and/or family-based therapy | Youth have difficulty understanding their own or others' thoughts and emotions, particularly in interpersonal contexts |
| **Emotion Awareness and Skills Enhancement**<br>Designed specifically for emotion awareness deficits | Emotion-awareness deficits; limited ability to recognize, understand, or describe emotions (alexithymia) | Skills-based intervention, core processing skill | Youth have difficulty recognizing or labeling emotions |
| **Unified Protocol for Adolescents**<br>Designed to treat multiple diagnoses—such as anxiety and depression—using the same approach, emotion-processing-oriented CBT | Anxiety, emotional avoidance, interoceptive exposure (processing bodily emotional signals) | Individual or group | Both emotional awareness and regulation deficits are present across multiple disorders |
| **Trauma-Focused Cognitive Behavioral Therapy**<br>Addresses the processing of emotional meaning of traumatic experiences | Trauma-related emotional disruption | Individual therapy with caregiver involvement | Emotional processing is disrupted by trauma and structured trauma processing is needed |
| **Psychosocial/Multicomponent Interventions**<br>Draw on broad programs to shift emotional processing systems | Emotional processing deficits across contexts; suggests that interventions can change how the brain processes emotional information, not just behavior | Community-based or clinical programs | Difficulties span multiple systems (family, school, community) and require coordinated intervention |
| **Mindfulness-Based Interventions**<br>Enhance awareness and non-reactive processing | Stress, strong emotion reactions, and difficulty stepping back from thoughts or feelings | Group or digital programs | Youth benefit from observing emotions without immediate reaction |
| **Affect-Focused/Emotion-Identification Training**<br>Direct skill-building for emotion recognition and labeling | Limited ability to recognize, understand, or describe emotions (alexithymia); externalizing behaviors; conditions that affect brain development, such as ADHD, autism, or learning difficulties | Skills-based intervention | Emotion identification deficits are primary and interfere with behavior or communication |

### Choosing the Right Emotion-Processing Program

| Issue | Program |
|---|---|
| Difficulty understanding or making sense of emotions | Emotion-Focused Therapy (EFT) |
| Difficulty understanding one's own feelings or other people's intentions, especially in relationships | Mentalization-Based Therapy for Adolescents (MBT-A) |
| Limited emotional awareness or labeling (e.g., alexithymia) | Emotion Awareness and Skills Enhancement (EASE) |
| Co-occurring emotional disorders with avoidance | Unified Protocol for Adolescents (UP-A) |
| Trauma-related emotional disruption | Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) |
| Broad, multi-system emotional difficulties | Psychosocial/Multicomponent Interventions |
| Over-identification with emotions or stress reactivity | Mindfulness-Based Interventions |
| Difficulty recognizing and labeling emotions | Affect-Focused/Emotion-Identification Training |

# Impulsivity

| Program | Especially Effective for . . . | Format | Works Best When . . . |
|---|---|---|---|
| **Dialectical Behavior Therapy for Adolescents**<br>Supported by strongest and most consistent evidence for impulsivity reduction | Impulsivity, emotional reactivity, risk-taking behaviors—across multiple high-risk groups (self-harm, bipolar disorder; substance use) | Individual therapy, group skills training, and family involvement | Impulsivity is driven by emotional dysregulation and high-risk behaviors are present |
| **Multisystemic Therapy**<br>Gold standard for serious behavioral dyscontrol | Conduct problems, severe impulsivity; risk-taking behaviors; high-risk, multi-system impairment | Home-based, multi-system intervention | Behavioral problems occur across multiple environments (home, school, community) |
| **Treatment Foster Care Oregon,** *formerly known as* **Multidimensional Treatment Foster Care**<br>Intensive behavioral alternative to residential placement | Severe impulsivity, delinquency | Out-of-home placement with structured behavioral supports | Youth require intensive environmental restructuring and consistent behavioral reinforcement |
| **Cognitive Behavioral Therapy**<br>Core skill-building approach | Impulsivity, poor decision-making | Individual or group; sometimes digital | Impulsivity is linked to cognitive distortions or skill deficits and interventions are combined with family or environmental supports |
| **Behavioral Parent Training/Parent Management Training**<br>Indirect—but powerful—pathway | Externalizing behaviors, ADHD-related impulsivity | Parent-focused intervention | Caregivers can consistently reinforce behavior and structure the environment |
| **Contingency-Management and Behavioral-Reinforcement Programs**<br>Directly target impulsive decision-making | Substance use, impulsive behaviors | Reinforcement-based programs | Immediate incentives can influence behavior and reinforce desired actions |
| **Executive Function/Cognitive Control Training**<br>Targets neurocognitive basis of impulsivity | Impulsivity, attention deficits | Computerized or structured exercises | Impulsivity is linked to deficits in cognitive control or executive functioning |
| **Mindfulness-Based Interventions**<br>Improves pause between impulse and action | Reactive impulsivity, stress-triggered behaviors | Group or individual interventions | Impulsivity is driven by emotional reactivity and stress |
| **Combined Pharmacological and Psychosocial Treatment, Especially for ADHD-Related Impulsivity**<br>Medication combined with behavioral intervention | ADHD-related impulsivity | Medication combined with behavioral therapy and/or parent training | Impulsivity is related to conditions that affect brain development, such as ADHD, autism, or learning difficulties |

## Impulsivity, Big Picture: Key Mechanisms, Programs That Drive Change

| | |
|---|---|
| 1. Strengthening top-down control | CBT, DBT, Executive-Function Training |
| 2. Reducing emotional reactivity | DBT, Mindfulness-Based Interventions |
| 3. Changing reinforcement structures | Contingency-Management Programs, TFCO |
| 4. Modifying environmental risk | MST, Parent Training |

## Choosing the Right Impulsivity-Reduction Program

| Issue | Program |
|---|---|
| Impulsivity linked to emotional dysregulation or self-harm | Dialectical Behavior Therapy for Adolescents (DBT-A) |
| Severe behavioral dyscontrol across multiple environments | Multisystemic Therapy (MST) |
| High-risk behavior requiring structured placement | Treatment Foster Care Oregon (TFCO) |
| Impulsivity driven by cognitive distortions or poor decision-making | Cognitive Behavioral Therapy (CBT) |
| Behavior shaped by inconsistent reinforcement or parenting | Behavioral Parent Training/Parent Management Training |
| Impulsive decision-making requiring immediate reinforcement | Contingency-Management Programs |
| Impulsivity linked to attention or executive-function deficits | Executive-Function/Cognitive-Control Training |
| Stress-triggered or reactive impulsivity | Mindfulness-Based Interventions |
| Neurodevelopmental factors (e.g., ADHD) contributing to impulsivity | Pharmacological + Psychosocial Combinations |

# Motivation

| Program | Especially Effective for . . . | Format | Works Best When . . . |
|---|---|---|---|
| **Motivational Interviewing** Gold standard for enhancing intrinsic motivation | Ambivalence, substance use, low motivation, health behavior change | Individual sessions | Youth are resistant, ambivalent, or not yet ready to change |
| **Motivational Enhancement Therapy** Structured, brief adaptation of motivational interviewing | Low motivation or limited participation in treatment; youth who are early in the change process | Typically 2–4 sessions | Time-limited intervention is needed and engagement is a barrier |
| **Motivational Interviewing + Cognitive Behavioral Therapy** Combines motivation and skill-building | Useful when youth lack practical skills such as problem-solving, coping with stress, or making healthy decisions | Integrated therapy | Youth need both readiness for change and structured intervention skills |
| **Family-Based Motivational Interventions (e.g., STAND)** Builds motivation through family involvement | Family conflict, low support | Family-based intervention | Family dynamics significantly influence motivation and engagement |
| **Contingency Management** Uses reinforcement to build motivation | Low motivation, poor follow-through | Reinforcement-based programs | Immediate rewards can increase engagement and adherence |
| **Self-Determination Theory-Based Interventions** Build intrinsic motivation through psychological needs | Disengagement, low intrinsic motivation | School- or program-based | Youth need increased autonomy, competence, and sense of purpose |
| **Behavioral Activation** Increases motivation through action and reward cycles | Depression, apathy | Individual therapy | Low energy and avoidance limit engagement |
| **Goal-Setting/Future-Oriented Interventions** Builds motivation through future orientation | Academic disengagement, low future orientation, prevention contexts | Structured programs | Youth respond to goal-setting and future-focused thinking |

## Motivation, Big Picture: Key Mechanisms, Programs That Drive Change

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|---|---|
| 1. Resolving ambivalence | Motivational Interviewing (MI), Motivational Enhancement Therapy (MET) |
| 2. Enhancing autonomy and ownership | Self-Determination Theory-Based Interventions (MI) |
| 3. Linking behavior to goals and identity | Goal-Setting/Future-Oriented Interventions |
| 4. Reinforcing behavior change | Contingency Management (CM) |
| 5. Building competence and efficacy | Cognitive Behavioral Therapy (CBT), Behavioral Activation (BA) |

## Choosing the Right Motivation-Building Program

| Issue | Program |
|---|---|
| Ambivalent or resistant adolescents | Motivational Interviewing (MI) or Motivational-Enhancement Therapy (MET) |
| Need both motivation and skills | Motivational Interviewing (MI) + Cognitive Behavioral Therapy (MI-CBT) |
| Family conflict or low support | Family-Based Motivational Interventions (e.g., STAND) |
| Low engagement or poor follow-through | Contingency Management (CM) |
| Depression or apathy | Behavioral Activation (BA) |
| Prevention or school settings | Self-Determination-Theory-Based or Goal-Setting Interventions |

## Executive Function

| Program | Especially Effective for . . . | Format | Works Best When . . . |
|---|---|---|---|
| **Cognitive Training Programs (e.g., Cogmed)** Direct training of core executive skills | ADHD, learning difficulties, executive-function deficits | Computerized, repetitive, adaptive exercises | Clear executive-function deficits are present |
| **Cognitive Behavioral Therapy with Executive Skills Training** Teach real-world application of executive function skills | Executive-function deficits linked to anxiety, depression, or behavior problems | Individual therapy | Executive-function difficulties impact daily functioning and emotional/behavioral issues |
| **Executive-Function Coaching/Skills-Based Interventions** Highly practical, real-world executive function support | Planning, organization, and task-completion difficulties | Individual or school-based | Youth need structure, accountability, and real-world application |
| **Mindfulness-Based Interventions** Strengthens attention and inhibitory control | Distractibility, stress-related executive-function impairments | Group or individual | Executive function challenges are influenced by stress or emotional dysregulation |
| **Physical Activity and Movement Programs** Strong, underutilized executive-function interventions | ADHD, low baseline executive-function | Exercise-based programs | Youth benefit from active engagement |
| **Multicomponent Executive-Function Training** Targets multiple executive-function domains simultaneously | Broad executive-function deficits | Structured programs | Multiple areas of executive functioning are impaired |
| **Metacognitive Strategy Instruction** Builds awareness and self-directed executive functioning | Academic executive-function deficits, independent functioning | Educational or therapeutic programs | Youth can reflect on and guide their own thinking |
| **Technology-Based/Gamified Executive-Function Interventions** Engaging format for sustained executive function practice | Low engagement in treatment and executive-function difficulties (e.g., attention, organization, follow-through) | Digital programs | Motivation is a barrier to participation |

### Executive Function, Big Picture: Key Mechanisms, Programs That Drive Change

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|---|---|
| 1. ADHD or significant executive-function deficits | Cognitive Training Programs + Parent Training + Coaching |
| 2. Academic struggles (planning, organization) | Executive-Function Coaching + Metacognitive Strategy Instruction |
| 3. Stress- or emotion-driven executive-function problems | Mindfulness-Based Interventions + Cognitive Behavioral Therapy |
| 4. Prevention or school-wide impact | Social-Emotional Learning Programs + Physical Activity |
| 5. Difficulty staying engaged in treatment or skill-building activities | Gamified/Activity-Based Executive-Function Interventions |

## Summary: Choosing the Right Program

| Issue | Program |
|---|---|
| Severe emotional dysregulation or self-harm | DBT-A |
| Anxiety or depression | CBT or UP-A |
| Avoidance or internalizing symptoms | ACT |
| Trauma-related emotional disruption | TF-CBT or MBT-A |
| Impulsivity or behavioral dyscontrol | MST or DBT-A |
| Low motivation or resistance | MI or MET |
| Executive-function deficits | Cognitive Training Programs or Executive-Function Coaching |
| Prevention or early intervention | School-Based or Mindfulness Programs |
| Family-driven dynamics | Parent Training or Family-Based Interventions |

## About the Authors

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