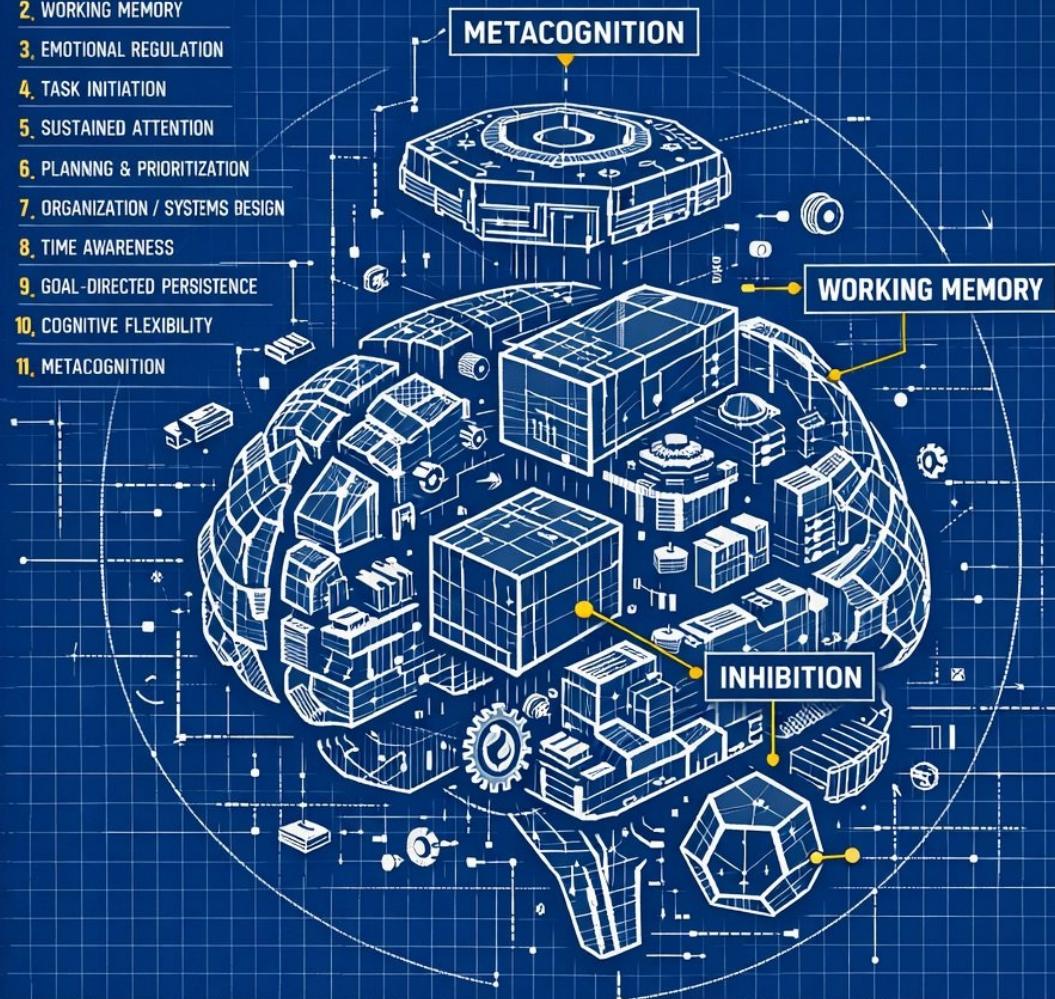


SYSTEM SPECIFICATIONS:

1. RESPONSE INHIBITION
2. WORKING MEMORY
3. EMOTIONAL REGULATION
4. TASK INITIATION
5. SUSTAINED ATTENTION
6. PLANNING & PRIORITIZATION
7. ORGANIZATION / SYSTEMS DESIGN
8. TIME AWARENESS
9. GOAL-DIRECTED PERSISTENCE
10. COGNITIVE FLEXIBILITY
11. METACOGNITION



SYSTEMATICALLY TRAINING EXECUTIVE FUNCTION

USING SMART BUT SCATTERED + HEXIS THEORY

COLE WHETSTONE

CHIEF ARCHITECT

CHAPTER ONE

Systematically Training Executive Function

The Three-Lever Model for Building Reliable Execution

Like a lot of people, I used to think “executive function” just meant willpower. Then I read *Smart but Scattered* by Peg Dawson and Richard Guare, and it completely reframed things for me.

The first thing I was lacking was an operational definition. How can multiple humans pursue a shared goal over time despite fluctuating drives, dangers, and distractions? The capacity that allows them to do this—pursue this goal in real time, communicate about it, and sustain effort until the goal is finished—that’s executive function.

More precisely:

Executive function is the set of mental capacities that enable goal-directed behavior across time, in the face of competing impulses, changing conditions, and inevitable obstacles. It is what lets you bridge the gap between intention and action—between knowing what you should do and reliably doing it.

This definition highlights a few key properties:

- **Goal-directed:** It serves purposes beyond immediate gratification.
- **Across time:** It coordinates sequences of actions extending into the future, not just moment-to-moment reactions.
- **Works despite interference:** It allows continued progress toward valued outcomes in the presence of distractions, impulses, and setbacks.
- **Coordinative:** It orchestrates multiple mental processes into a coherent pattern of behavior.

Throughout this text, “executive function” will mean this coordinated system, not a vague inner strength. That shift—from “How much willpower do I have?” to “How well does my executive system work, and where are the bottlenecks?”—is what makes systematic training possible.

The Key Insight: Eleven Capacities, Not One

Crucially, Dawson and Guare explain that executive function isn’t one muscle. It’s eleven separate but coordinated mental capacities, each trainable and each improvable with the right lever. Most people aren’t “bad at everything.” They just have one or two weak subskills that act as bottlenecks and throw the whole system off.

Below is the framework I built after reading the book and cross-checking the neuroscience. It integrates modern research with an idea that the subskills of executive function are trainable capacities, and that every capacity has three ways to improve it:

1. **Train the capacity itself.** Small, deliberate practices that strengthen the neural circuit directly—the equivalent of reps at the gym.

2. Engineer your environment. Design the physical and technological context so that the right behavior becomes the default. Environment beats willpower every time.

3. Activate social accountability. Structure relationships and commitments that keep you honest. This is the single most underestimated lever—and often the most powerful.

Every recommendation below has been curated for the strongest available evidence base. Where citations exist, they are included; where an intervention rests on well-established behavioral principles rather than a single trial, the logic is made explicit.

The Foundation: Global Maintenance

Before targeting any individual capacity, these global practices multiply every result. They are non-negotiable prerequisites. Skipping them is like training for a marathon on three hours of sleep.

Area	Practice	Why It Works	Key Sources
Sleep	7–9 hours per night; fixed wake time; morning light exposure; cool, dark room.	Sleep deprivation degrades every measured executive capacity—even one night of poor sleep significantly reduces inhibitory control and working memory.	Pilcher & Huffcutt, 1996; Lim & Dinges, 2010
Exercise	150 min/week aerobic activity plus two strength sessions.	Aerobic exercise improves working memory, sustained attention, and cognitive flexibility across all age groups.	Hillman et al., 2008; Mandolesi et al., 2018
Nutrition	Regular meals with protein and complex carbs; adequate hydration throughout the day.	Glucose stability supports inhibitory control and attentional focus; dehydration impairs cognitive performance at as little as 1–2% body-weight loss.	Adan, 2012
Mindfulness	10 minutes daily focused-attention meditation or structured breathwork.	Meta-analyses show mindfulness training improves sustained attention, emotional regulation, and inhibitory control.	Sedlmeier et al., 2012; Tang et al., 2015
Weekly Audit	20-minute structured review: rate each capacity 1–10, assess interventions, select next focus area.	Metacognitive monitoring—regularly assessing one's own performance—is the single strongest predictor of self-regulated learning.	Dunlosky & Metcalfe, 2009

The Eleven Executive Capacities

For each capacity, we provide the two highest-evidence interventions per lever—six total per capacity. These are not exhaustive lists; they are the interventions with the strongest empirical support or the most robust replication across populations.

1. Response Inhibition

The ability to stop yourself from acting on impulse—to pause between stimulus and response.

Lever	Interventions	Key Sources
Train	Implementation intentions. Pre-decide: “When I	Gollwitzer & Sheeran, 2006 ($d = 0.65$)

	feel the urge to X, I will do Y instead." This if-then format bypasses real-time deliberation and has a medium-to-large effect size. (Gollwitzer & Sheeran, 2006 ($d = 0.65$)) Deliberate pausing. Practice noticing the impulse before acting on it. Even a 60-second urge-surfing delay significantly reduces impulsive behavior.	
Environment	Consistent sleep. 7–9 hours with a fixed wake time. Sleep deprivation directly impairs inhibitory control. (Pilcher & Huffcutt, 1996) Friction design. Delete apps, phone in another room, distractions physically removed. Making temptations harder to reach leverages the default effect. (Johnson & Goldstein, 2003)	Pilcher & Huffcutt, 1996; Johnson & Goldstein, 2003
Accountability	Peer-managed restrictions. Someone else manages your screen-time limits or app restrictions—external control until internal control catches up. Body-doubling. Work alongside others so going off-track becomes socially costly.	—

2. Emotional Regulation

The ability to manage emotional reactions so they don't derail your work or decisions.

Lever	Interventions	Key Sources
Train	Cognitive reappraisal. Ask "What else could this mean?" before reacting. Reappraisal reliably reduces negative affect and amygdala activation. (Buhle et al., 2014) Affect labeling. Name emotions precisely—"frustrated" or "overwhelmed," not just "stressed." Precise labeling dampens reactivity via prefrontal engagement. (Lieberman et al., 2007)	Buhle et al., 2014; Lieberman et al., 2007
Environment	Consistent sleep. Emotional regulation is among the first capacities to degrade under sleep deprivation. (Lim & Dinges, 2010) Regular exercise. At least 3 sessions per week. Exercise is one of the most robust mood regulators in the literature. (Hillman et al., 2008)	Lim & Dinges, 2010; Hillman et al., 2008
Accountability	Scheduled emotional check-ins. Regular check-ins with someone you trust—not crisis management, but maintenance. Therapist or counselor. Professional support for deeper patterns. The accountability of a standing appointment matters as much as the content.	—

3. Sustained Attention

The ability to maintain focus on a task until completion, without drifting.

Lever	Interventions	Key Sources
Train	Focused-attention meditation. Even 10 minutes per day trains attentional holding and reduces mind-wandering. (MacLean et al., 2010) Timed work blocks. Work in structured intervals (25–50 min) with scheduled breaks. The boundary creates both urgency and recovery.	MacLean et al., 2010
Environment	Single-task mode. During focused work: one tab, one app, one task. Multitasking fragments attention. Nature breaks. 20-minute breaks outdoors or in green space restore directed attention—one of the best-replicated findings in attentional research. (Berman et al., 2008)	Berman et al., 2008
Accountability	Body-doubling. Work alongside others—library, study partner, co-working. Social presence creates implicit accountability. Shared timer reporting. Visible timer plus reporting how many focused blocks you completed. Making attention measurable makes it trainable.	—

4. Task Initiation

The ability to begin a task without undue procrastination—the bridge between intention and first motion.

Lever	Interventions	Key Sources
Train	Implementation intentions for start times. “At 9am at my desk, I will open the document.” Specifying when and where bypasses the deliberation that feeds procrastination. (Gollwitzer & Sheeran, 2006) Temptation bundling. Pair dreaded tasks with something you enjoy—a playlist, a good drink, a comfortable spot. (Milkman et al., 2014)	Gollwitzer & Sheeran, 2006; Milkman et al., 2014
Environment	Reduce activation energy. Materials already out, browser tab already open, zero setup. Every barrier removed makes starting more likely. (Fogg, 2009) Consistent start ritual. Same place, same time, same first action. Rituals create automatic behavioral cues that bypass the need for	Fogg, 2009

	motivation.	
Accountability	Declared start time. Tell someone else exactly when you're going to start, and they expect to hear from you. Daily planning call. A daily check-in that creates a real starting deadline—the single most effective task-initiation intervention we've observed.	—

5. Goal-Directed Persistence

The ability to maintain effort toward a goal despite setbacks, boredom, and competing demands.

Lever	Interventions	Key Sources
Train	Mental contrasting (WOOP). Picture the desired outcome, then immediately picture the most likely obstacle. This combination outperforms positive visualization alone. (Oettingen & Gollwitzer, 2010) Process goals. Target actions you control ("write for 30 minutes") rather than outcomes you can't ("get an A"). Completion stays within your power.	Oettingen & Gollwitzer, 2010
Environment	Visible progress tracking. Streak chart, whiteboard, daily checklist. Making progress visible leverages loss aversion. Milestone decomposition. Break large goals into smaller milestones with their own deadlines. Each completion generates its own momentum.	—
Accountability	Commitment devices. Someone who follows up, a public promise, real stakes. (Rogers et al., 2014) Regular accountability check-ins. Someone who asks what you committed to and whether you did it—not to judge, but to make the commitment real.	Rogers et al., 2014

6. Planning & Prioritization

The ability to create a roadmap for reaching a goal, including sequencing steps and allocating resources.

Lever	Interventions	Key Sources
Train	Premortem analysis. "Imagine this has already failed—what went wrong?" Increases the ability to identify failure points by approximately 30%. (Mitchell et al., 1989) Planning-fallacy correction. Multiply your first time estimate by 1.5–2x. The planning fallacy is one of the most robust findings in decision science. (Buehler et al., 1994)	Mitchell et al., 1989; Buehler et al., 1994

Environment	Time-blocked calendar. Tasks get a specific time slot or they don't happen. The calendar is the plan; the to-do list is the wish. Morning review. 5–10 minutes each morning: what's ahead, what matters most today.	—
Accountability	Plan review with a partner. Someone reviews your plans—not just intent, but whether the time math works. Weekly retrospective. What got done, what didn't, what to adjust. Retrospectives convert failures into data.	—

7. Organization

The ability to create and maintain systems for tracking information, materials, and commitments.

Lever	Interventions	Key Sources
Train	End-of-day reset. Clear desk, process inbox, close open loops. Five minutes of nightly reset prevents entropy from compounding. One-touch rule. Decide on the spot rather than moving things to a new pile. Each deferral adds cognitive load. (<i>Allen, 2001</i>)	<i>Allen, 2001</i>
Environment	Single-point capture. One inbox for all tasks, ideas, and information. Multiple capture points guarantee slippage. (<i>Kirsh, 2000</i>) Consistent taxonomy. Same folders, same naming conventions, same structure.	<i>Kirsh, 2000</i>
Accountability	Periodic systems audit. Someone looks at your systems with you and helps clean them up. Maintenance accountability. Report on whether systems are being maintained, not just whether they exist.	—

8. Time Awareness

The ability to estimate, track, and manage time accurately—knowing how long things actually take.

Lever	Interventions	Key Sources
Train	Estimate-record-compare. Before each task, predict the duration; time it; compare. The most effective method for calibrating the internal clock. (<i>Roy et al., 2005</i>) Passive time-tracking. Track where your time actually goes each day. Most people are shocked by the gap between perception and reality.	<i>Roy et al., 2005</i>

Environment	Visible time. Clocks and timers in the workspace. Digital devices hide time by design. Buffer blocks. Schedule buffer time between commitments rather than stacking back-to-back.	—
Accountability	Shared calendar. Share your calendar with someone who can see how packed it actually is. Declared deadlines. Tell someone else your deadlines and time estimates so you can't quietly ignore them.	—

9. Working Memory

The ability to hold information in mind while using it—your mental workspace.

Lever	Interventions	Key Sources
Train	Externalize immediately. If it's in your head, it's at risk. If it's written down, it's safe. (Allen, 2001; Kirsh, 2000) Chunking. Group related information into clusters rather than individual pieces. (Miller, 1956; Gobet et al., 2001)	Allen, 2001; Kirsh, 2000; Miller, 1956; Gobet et al., 2001
Environment	Single-task visibility. One app, one document, one thing visible. Each additional open item competes for bandwidth. External dashboard. Whiteboard or visible display so active priorities aren't buried mentally.	—
Accountability	Retrieval practice. Test yourself rather than re-reading. Recall beats review by a large margin. (Roediger & Karpicke, 2006) Verbal processing. Talk through what's on your plate with someone so nothing slips through.	Roediger & Karpicke, 2006

10. Cognitive Flexibility

The ability to adapt to changing conditions, shift strategies, and think about problems from new angles.

Lever	Interventions	Key Sources
Train	Interleaved practice. Alternate between problem types rather than grinding one thing. Improves transfer and discrimination. (Rohrer & Taylor, 2007) Opposite-position argument. Argue the other side of your own position before committing.	Rohrer & Taylor, 2007
Environment	Setting rotation. Change your environment or approach periodically. Rigid routines breed rigid thinking. Novelty-seeking. Deliberately seek	—

	unfamiliar perspectives—new people, different fields, untried methods.	
Accountability	Cross-domain feedback. Feedback from people outside your usual world. (De Dreu et al., 2008) Constructive challenge. Someone who pushes back on your thinking rather than agreeing.	De Dreu et al., 2008

11. Metacognition

The ability to observe and evaluate your own thinking—to think about how you think.

Lever	Interventions	Key Sources
Train	Calibration training. Predict your performance, compare to actuals. Builds self-awareness faster than any other method. (Dunlosky & Metcalfe, 2009) Structured daily review. What worked, what didn't, what to change. Structured reflection outperforms unstructured approaches. (Di Stefano et al., 2016)	Dunlosky & Metcalfe, 2009; Di Stefano et al., 2016
Environment	Reflection template. Specific prompts that force honest answers—not freeform journaling, but structured self-interrogation. Commitment-completion log. Simple log of committed vs. completed. The pattern tells more than any single day.	—
Accountability	Process debriefs. Regular debriefs with someone who asks hard questions about process, not just results. Honest feedback loop. People who tell you what you're not seeing. Uncomfortable and irreplaceable.	—

How to Use This System

- 1. Diagnose your bottlenecks.** Rate each capacity 1–10. Your lowest two scores are your leverage points—the places where focused effort will produce the greatest systemic improvement.
- 2. Pick one intervention per lever for each weak area.** That means one training practice, one environmental change, and one accountability structure. Three total per capacity. Do not try to implement everything at once.
- 3. Run it for four weeks.** Track changes during your weekly audit. The audit itself is a metacognitive intervention—it trains the very system you are trying to improve.
- 4. Rotate.** Once a capacity holds steady at 7/10 or above for three consecutive weeks, shift your focus to the next bottleneck.

The goal isn't perfection. It's **automatic reliability**—your system working even when you're tired, distracted, or unmotivated.

Once you see executive function this way, you stop blaming motivation and start training systems. Each capacity is a muscle; each environment is a gym; each relationship is a spotter. When all three levers align, execution stops feeling like willpower. It feels like rhythm.

CHAPTER TWO

Start Here If You're Overwhelmed

The Three Habits That Carry the System

If this book feels like too much, that reaction is not a failure. It is often a symptom of executive overload itself—the very problem you are trying to solve.

You do not need to implement everything. If you do only these three practices—and nothing else from this book—you will still see meaningful improvement. Everything else amplifies these three. But these three, done consistently, are enough.

The Three Practices

- 1. Weekly Accountability Meeting** — prevents long-term drift
- 2. Daily Planning Ritual** — converts intention into action
- 3. CBT Journaling** — repairs the system after failure

Accountability prevents disappearance. Planning prevents drift. Journaling prevents collapse. Together, they form a self-correcting system.

Practice One: Weekly Accountability Meeting

A weekly thirty-to-sixty-minute meeting with an accountability coach, peer, or virtual assistant. This is the anchor that prevents long-term disappearance.

The Agenda

- **Wins:** What went well? What commitments were kept?
- **Losses:** What broke down? No self-attack—just honest inventory.
- **Learnings:** What would prevent this breakdown next time?
- **Commitments:** What are the specific commitments for the coming week?

That is the entire meeting. Not therapy, not strategy, not catch-up. A structured container for seeing what actually happened versus what you intended.

Why This Comes First

Even when every other system collapses, this single practice ensures return. Without it, a bad week becomes a bad month, and a bad month becomes a bad year. With it, the maximum drift is seven days.

The meeting externalizes metacognition. For people who cannot accurately observe their own patterns, the accountability partner provides borrowed perspective.

Finding a Partner

The ideal partner is not a friend (too much relational complexity) and not yourself (defeats the purpose). Options: a professional coach, a peer accountability partner, a virtual assistant trained to run the format, or a mentor willing to provide structured support.

The key is that the meeting is scheduled, recurring, and non-negotiable. Same time every week, regardless of whether you had a good week or bad one.

Practice Two: Daily Planning Ritual

A brief daily session where every task is assigned to a specific time on your calendar. Tasks not on the calendar are non-commitments, not moral failures.

This approach, drawn from Cal Newport's time-blocking method, treats the calendar as the source of truth. A to-do list is a wish; a calendar is a commitment.

Why a Partner Matters

The daily planning ritual is dramatically more effective with another person present—a Focusmate session, a brief call with a virtual assistant, or a morning check-in with a colleague.

For many people, hiring a VA specifically for daily planning is the single highest-leverage intervention available. The VA does not need to be expensive or highly skilled—they need to be consistent and willing to run a simple protocol. Their presence provides initiation support and social witness that makes the plan feel real.

The Ten-Minute Protocol

Set a timer for ten minutes. This prevents planning from becoming procrastination.

- 1. Capture.** Write down anything new that needs doing. Nothing stays in your head.
- 2. Chunk.** Break vague items into concrete blocks of ninety minutes or less. “Work on presentation” becomes “Draft slides 1–5.”
- 3. Prioritize.** Classify by importance and urgency. Explicitly defer or delete non-essential items.
- 4. Schedule.** Assign every task to a calendar slot. If it is not scheduled, it is not real.
- 5. Reality-check.** Is this feasible given your actual energy? Revise until the plan reflects real capacity, not aspiration.
- 6. Two-minute rule.** Complete anything under two minutes immediately.
- 7. Hard stop.** When the timer ends, stop. Additional planning requires conscious permission.

Daily planning externalizes working memory, forces time realism, and converts intention into scheduled action. This is not a productivity hack—it is a calibration ritual for executive function.

Practice Three: CBT Journaling

A three-to-ten-minute written reflection focused on processing emotional residue—particularly around failures and unmet expectations. This is system repair, not therapy.

Why This Matters

Most procrastination is driven by unprocessed emotional states, not lack of discipline. The task you cannot start often carries anxiety, shame, or dread. Without a mechanism for processing these emotions, they accumulate and compound into shame spirals that collapse the entire system.

The Core Insight

Difficult emotions are not enemies to eliminate. They are adaptive signals that have become miscalibrated—alarm systems firing too intensely or in the wrong contexts.

Think of it like a smoke alarm. The alarm is not the fire. It does not diagnose the problem—it signals that attention is required. An oversensitive alarm is not useless; it is miscalibrated. The solution is not to rip it out but to tune it.

Emotions work the same way. Anxiety signals threat. Anger signals boundary violation. Shame signals social risk. Each serves a purpose. The goal is not to eliminate these signals but to recalibrate them—to tune them down so the adaptive function remains available without the maladaptive intensity.

The Four-Step Process

Step 1: Context. What was the upsetting event? What did you say you would do but did not do? Be specific and concrete.

Step 2: Emotions. What emotions are present? Be specific: anxious, ashamed, frustrated, overwhelmed. Then ask: What need does this emotion signal? Anxiety → safety. Anger → boundaries. Shame → belonging.

Step 3: Thoughts. What thoughts arise? Write them without judgment. Then notice: Do they show common distortions? All-or-nothing thinking? Catastrophizing? Mind-reading? Labeling? You are not attacking the thoughts—you are seeing their shape.

Step 4: Reframe. Do a brief cost-benefit analysis. What is this thought trying to protect you from? What would a well-calibrated version look like? The goal is not to prove the thought wrong but to find a more accurate frame—one that preserves the signal while reducing the noise.

Common Cognitive Distortions

Distortion	Description
All-or-Nothing Thinking	Viewing things in absolute categories. “I always fail.” “Nothing ever works.”
Catastrophizing	Anticipating the worst outcome. You cannot tell the future.
Mind Reading	Assuming you know what others think. You cannot read minds.
Should Statements	Rigid expectations using “should,” “must,” “ought to.”
Labeling	Global negative labels. “I’m a failure” vs. “I failed at this task.”
Overgeneralization	Sweeping conclusions from single events.
Mental Filtering	Focusing only on negatives while ignoring positives.
Discounting the Positive	Dismissing positive evidence as not counting.

Time Travel	Excessive dwelling on past or worrying about future at expense of present.
Control Fallacies	Overestimating control (self-blame) or underestimating it (helplessness).

Using AI as a Journaling Partner

AI can function as a responsive journaling partner—available at the moment when reflection is most useful. This does not replace therapy; it supplements it by increasing frequency and immediacy of cognitive work.

Useful prompts:

- “Help me list the automatic thoughts I’m having about this situation.”
- “Which cognitive distortions might be present in these thoughts?”
- “Help me generate more balanced thoughts that take the facts seriously without exaggeration.”
- “Do a cost-benefit analysis of this thought, focusing on what adaptive function it serves.”

AI is particularly useful when emotions are high and initiation is low—when shame or fatigue blocks structured reflection. It externalizes working memory, structures attention, and reduces initiation friction.

Important limits: AI should not be used for crisis intervention. Severe depression, suicidality, or trauma require professional care.

For comprehensive treatment of CBT, three books are recommended: David Burns’ *Feeling Good* (the foundational CBT text), *Feeling Great* (his updated synthesis), and *Ten Days to Self-Esteem* (a structured workbook).

How These Three Work Together

Weekly accountability prevents long-term disappearance. Even when everything else fails, you return every seven days. Maximum drift: one week.

Daily planning prevents day-to-day drift. Intentions become scheduled commitments every morning.

CBT journaling prevents emotional collapse. Shame is processed rather than accumulated. The system can restart because emotional residue has been cleared.

Together, they form a self-correcting architecture. Failures are inevitable. But failures do not compound into abandonment because each practice catches what the others miss.

Minimum Viable Implementation

If you can only do one thing: Establish the weekly accountability meeting. This alone prevents the multi-month collapses that destroy long-term progress.

If you can do two things: Add the daily planning ritual with a partner. Weekly review plus daily planning creates nested structure—strategic perspective and tactical execution.

If you can do all three: Add CBT journaling. Three minutes of written processing after a difficult day is enough to prevent shame accumulation.

Everything else in this book amplifies these three. But these three, done consistently, are sufficient. Start here.

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