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> ILLUSTRATION BY JON KRAUSE

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Think slower

How behavioral science can improve decision making in the workplace

BY SHANIL EBRAHIM AND TIMOTHY MURPHY
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FEAR AND LOATHING IN THE WORKPLACE

We've all had that moment at work we wish we could have back. The usual suspects: tight time constraints, a high-pressure decision on the line, and possibly a contrarian point of view in the room. It gets to you. Peripherally, you notice your jaw is clenched as your muscles tighten. You give in to a knee-jerk reaction, blurting out a response you didn't fully mean or just didn't articulate as well as you know you could have under a different set of circumstances. But now the meeting is over, and all that remains is that unsettling feeling in the pit of your stomach and one question: "Why did I do that?"

These regrettable, quick-twitch decisions can arise from what is referred to as *fast thinking* by Daniel Kahneman who received a Nobel Prize for his work on human judgment and decision making. They happen frequently, in a variety of contexts.¹ As the name implies, these are rapid thought processes subject to little voluntary control, in which the brain functions on autopilot. Usually, fast thinking is invaluable: We couldn't function, at home or the office, without it. It's what allows us to quickly do basic arithmetic, read emotional cues and body language, and complete sentences.²



If your energy is low from any number of activities—stressful conversations, lack of sleep, negative moods, a series of active meetings, or engaging in intense concentration—your mental energy will likely decrease to a point that System 1 needs to take over to carry out the next task. When that happens, self-control, or the ability to have it, suffers.

Sometimes, though, our fast thinking betrays us with off-target snap judgments and gut feelings. That can mean making a wrong turn on the way home or saying something inappropriate in a meeting. In these cases, the worst that happens is that we make a U-turn or we hope that no one remembers the remark the next day. Fast thinking can also result in choosing a bad investment or making an ill-informed strategic decision, where the worst case can have widespread repercussions.

In its more extreme forms, fast thinking that misfires repeatedly may translate into a pattern of debilitating behavior—one that makes it difficult to work effectively. In an office environment, there is evidence that these fast thoughts can lead to a variety of negative outcomes, including repeated fear of speaking up in meetings, poor conflict management skills, and chronic presentation anxiety.³ Behavioral scientists are developing therapies that address the fast, destructive thoughts as they relate to mental illness.

While that may not be a concern for most businesses, aspects of these programs are applicable to everyday fast-thinking issues. Through therapies such as cognitive behavioral therapy (CBT), researchers are developing programs to help people recognize the circumstances around their negative thoughts and, consequently, slow them down to engage in more positive behaviors.⁴

With appropriate modifications, these programs have proven to be versatile. Crime prevention for at-risk youth, return-to-work programs for those battling depression, and anger management are just a few of the more than 400 successful applications of CBT so far.⁵ One need not be mentally ill—or even struggling with blurting out the wrong answer during meetings—to learn from current research and become a better thinker.

Businesses that implement techniques to slow thinking down have an opportunity to improve a variety of outcomes. At the macro level, those tasked with caring for others—such as government policymakers, employee benefit programs, and insurers—can look to CBT programs as cost-efficient, effective techniques to achieve positive program outcomes. And at a more micro level, frontline managers and senior managers can borrow insights from the behavioral research and CBT programs to help others (and perhaps themselves) make more rational, well-thought-out decisions within the everyday workplace.

In this article, we discuss both fast and slow thinking and how those thought processes impact the decisions people make. Next, we explore how CBT can help slow ourselves down when fast thinking gets out of hand. Through two studies, we illustrate how careful implementation of CBT has led to better outcomes in return-to-work programs and crime prevention. We close with a discussion about the implications for public policy, insurance programs, and even managing daily interactions in the workplace.

SYSTEMATIC THINKING: HOW WE PROCESS INFORMATION

We process and make an almost uncountable number of decisions every day, some more ordinary than others. Some are simple, low-stakes decisions such as which breakfast cereal to buy or when to schedule your next haircut. Some are stickier, more consequential decisions such as whether to marry someone. Then there are those that fall somewhere in between—for instance, “How much should I contribute to my savings account?” Psychologists Keith Stanovich and Richard West have suggested that the human brain engages in one of two systems of thought to come to a decided course of action: System 1 (thinking fast) and System 2 (thinking slow).⁶

System 1: Thinking fast

System 1 represents those fast, automatic thoughts we continually process, often without our awareness. As Daniel Kahneman describes it, “The capabilities of System 1 include innate skills that we share with other animals. We are born prepared to perceive the world around us, recognize objects, orient attention, avoid losses, and fear spiders.”⁷

Deeply ingrained in our minds, System 1 processing is an effortless endeavor. When piloting your car outside of rush hour, on familiar streets, System 1 is doing most of the driving. In the same vein, System 1 equips individuals to read emotions, write routine emails, and follow conversations. Kahneman refers to these System 1 tasks as “fast thinking.” Without these quick, effortless calculations or thought processes, life would move at an excruciatingly slow pace.

But there are pitfalls to fast thinking. System 1 develops a series of rules and shortcuts—heuristics—to come to decisions, and as with all rules of thumb, there are plenty of exceptions and inaccuracies.⁸ For example, the *anchoring heuristic* suggests that exposure to a specific number influences our judgments about a decision, regardless of its relative importance to the decision at hand.⁹ This is why we may be more inclined to purchase five containers of Greek yogurt when the advertising sticker reads “5 for \$5.” Rationally, it’s unlikely that you need exactly five, but the mind subconsciously and automatically anchors on the number presented. The principles that govern System 1 can lead to decisions and actions that are equally irrational—and far more consequential. For example, in an office environment, there is evidence that people often manifest negative generalizations when they feel they are not assertive enough in meetings.¹⁰ After missing an opportunity to assert a point, “black and white” thinking creates personal beliefs of being too weak and docile—regardless of reality.

When venturing beyond the mundane choices in life, System 1 takes over when confronted with perceived emergencies, threats, or even opportunities.¹¹ In these moments of duress, the mind believes it’s required to make quick decisions and often relies on knee-jerk System 1 reactions to navigate a dilemma. When this thought process leads to an unintended outcome, the flustered mind may find itself grappling with anger, anxiety, or fear as a consequence.

System 2: Thinking slow

Luckily, many decisions carry less urgency, allowing the mind to slow down and think more analytically. With System 2, we engage in much more complex thinking than that in System 1: We concentrate more deliberately on the potential outcomes, and generally come to more rational conclusions.¹² Examples of System 2 at work

include parallel parking, solving complex math problems (solve 143×29), and trying to untangle the plot of the television show *Lost*. But this thought process comes at a price: greater mental effort. Cognitive strain in solving System 2 problems can be both mentally and physically draining.¹³ And if pushed to extremes—with tight time pressures, negative mood associations, and a multitude of choices—overwhelmed minds may fall back on System 1 decisions to get past the crisis.

Another facet of System 2 is that engaging in effortful thinking demands self-control, including eliminating distractions and time pressures. If disrupted or tempted by a simpler task, the mind may well break away from the effortful thinking and give in to the distraction. You're probably thinking of the times that emails, text messages, and social media pings stole your attention. Kahneman offers an explanation:

Imagine that you are asked to retain a list of seven digits for a minute or two. You are told that remembering the digits is your top priority. While your attention is focused on the digit, you are offered a choice between two desserts: a sinful chocolate cake and a virtuous fruit salad. The evidence suggests that you would be more likely to select the tempting chocolate cake when your mind is loaded with digits. System 1 has more influence on behavior when System 2 is busy, and also happens to have a sweet tooth.¹⁴

The implication is that distractions and cognitive stress put the mind in a vulnerable state where it is inclined to make less rational judgments. And when mental energy is low, we may experience *ego depletion*.¹⁵ This concept suggests that self-control and willpower are controlled by a limited and shared pool of mental resources between systems 1 and 2. If your energy is low from any number of activities—stressful conversations, lack of sleep, negative moods, a series of active meetings, or engaging in intense concentration—your mental energy will likely decrease to a point that System 1 needs to take over to carry out the next task. When that happens, self-control, or the ability to have it, suffers.

Tapping the brakes: In pursuit of slowing down

When distracted, System 2 turns to System 1 to direct behavior—and trouble may follow, whether miscalculating a multiplication problem or blurting out the wrong thing during a presentation. So what's the silver lining? Evidence suggests that becoming skilled at a certain task greatly reduces the mental energy required to complete it, thus providing fewer opportunities for System 1 errors.¹⁶ It takes years of study and practice for a chess master to assess an opponent's strategy and quickly react, or for a musician to play unfamiliar sheet music. All that training and discipline tends to pay off in less effort and better decision quality.

Techniques are also available to simply help slow thinking down. For instance, studies have demonstrated the power of a positive mood in reducing ego depletion.¹⁷ Even superficial techniques such as having people watch comedic videos have decreased ego depletion and increased self-control. These same principles can be applied to helping people—even those who usually get through the day with few misfires—prevent destructive outcomes.

DRIVING BETTER OUTCOMES WITH CBT

Modifying behavior in pursuit of better decisions and outcomes is a challenge: It means breaking free of patterns of thinking reinforced daily and ingrained over many years. But Cognitive Behavioral Therapy—developed to treat cases of depression in which negative thoughts can result in destructive or harmful behavior—can help isolate negative System 1 thoughts and address them before acting upon them.¹⁸ Psychologist and founder of CBT Aaron Beck has hypothesized that thoughts—specifically “automatic thoughts”—affect feelings.¹⁹ Mood affects the balance between systems 1 and 2 and CBT can help guide which system “takes over.”

At the base level, CBT involves a series of therapy sessions that aim to get participants to slow down their thinking by articulating automatic thoughts that are negatively biased. In the sessions, a variety of exercises teach people to evaluate their “automatic” and unproductive thoughts when distressed and effectively course-correct their thought process and, consequently, their actions. In other words, CBT looks to embed slower, more rational thinking into one’s potentially destructive thought processes.

In 6–20 sessions, the psychologist and patient engage in a working, interactive relationship.²⁰ The initial question addresses, “What keeps the problem going?” From there, the psychologist establishes a course of action to help the patient work through these issues and slow down her thought process; elements of treatment may include cognitive-based discussions and behavioral exercises to address and confront negative thoughts. If a patient is suffering from panic attacks, and an increased heart rate is a trigger, she may fear exercise. After talking through the issue with the patient to demonstrate the low likelihood of an actual heart issue, the psychologist and patient may build up to joint running exercises until she is fully capable of exercising on her own.²¹ In short, CBT looks to identify the automatic, System 1 thoughts that lead to negative outcomes, challenge the negative beliefs, offer homework assignments to address the issues, and effectively slow down the thought process until the patient can embrace productive behavior.

To enhance the effectiveness of these treatments, CBT adheres to strict measurement practices, subjecting its methods to scrutiny through randomized controlled trials. Along with positive results in randomized control trials, many psychologists have reported CBT to be effective in addressing a multitude of issues. Often, as in Aaron Beck's original experiments testing CBT in depression, the recovery rates hover around 50 percent.²² And in the case of depression, there is strong evidence that CBT is as effective as antidepressants—with significantly less chance of relapse. While the program originally aimed to help individuals overcome anxiety and depression, psychologists and therapists are now using CBT to tackle a wide range of behavioral issues.

CBT IN ACTION: RETURN-TO-WORK PROGRAMS AND CRIME PREVENTION

Helping people improve their thinking and reasoning is a worthwhile goal, but CBT's results can be particularly striking when applied to more severe cases, such as these two very different applications. The first involves a CBT program developed to help those battling mental illness (such as depression and anxiety) gain the necessary skills to return to work—with the goal of improving lives and saving support agencies and insurance companies thousands of dollars per patient. The second case addresses the impulsive thoughts that at-risk youth often have before committing a reckless crime.

Helping people return to work

Even when not altogether debilitating, mental illness is extremely taxing for people and their families, and challenging for those trying to treat it (see “The costs of mental illness”). With approximately one-third of incoming disability claims related to mental illness, insurance companies may feel as though they are treading water in their attempts to help people return to work.²³ There is evidence that those suffering from mental health issues such as depression, which are especially costly to treat, have a significantly harder time returning to their work than those dealing with physical ailments.²⁴

With an eye toward helping these individuals target their negative automatic thoughts, researchers in 2012 developed a work-focused CBT program that used a similar framework but more explicitly looked to address work-related problems through a module emphasizing the workplace and returning to work (see the sidebar “Study design: Return-to-work CBT” for the study methodology).²⁵ Researchers paid special attention to several factors undermining patients' ability to return to work, including these additional components:

THE COSTS OF MENTAL ILLNESS

The toll that renegade fast thinking and subsequent actions take on society includes direct impacts on insurance providers, communities, families, and government departments responsible for benefit outlays, such as workers compensation boards or Social Security Disability Insurance.²⁶ Notwithstanding moderate advances in psychopharmacology, mental health issues have proven frustratingly difficult to treat and expensive to fund: After accounting for various therapies, prescription drugs, and hospitalizations, the United States' average treatment cost for mental illness totals an estimated \$150 billion annually,²⁷ with an additional \$50 billion in Canada.²⁸

And the costs hardly stop at the institutions delivering funding and treatments. Not only do 11.5 million Americans²⁹ and 6.7 million Canadians³⁰ have some form of mental illness, their earnings often take a hit as symptoms appear; on average, annually, they earn \$16,000 less than their peers, for a grand total of \$193 billion of forgone earnings each year.

Thus, the ability to assist those who too often succumb to fast thinking has the opportunity to deliver value *both* to individuals, and to the businesses and agencies that serve them.

- **Success stories:** Part of workplace CBT focuses on “social proof,” the behavioral concept that suggests we take cues from others. Study participants were made aware of not only the potential consequences of staying home but also the past benefits gained by others who successfully returned to work.
- **Inventories taken:** Therapists inventoried and assessed job-related tasks based on the level of stress they evoked. This helped the psychologist and patient determine the problem points.
- **Develop a plan:** Psychologists developed commitment devices such as a return-to-work plan. There is evidence that once one makes a commitment, to either oneself or others, he or she is more likely to follow through with the intended action. In the study, the plans gradually expanded one's workplace responsibilities until the patient was fully reintegrated into the work environment.

These carefully integrated elements of the study resulted in remarkable outcomes, with participants in the work-focused CBT program returning to work on average 65 days earlier than those undergoing standard CBT. In addition, the work-focused participants produced an estimated savings of \$5,275 per employee compared to standard CBT—a significant financial advantage for payers such as insurers and employers.³¹ As well, the participants returning to work presumably earned greater income than those who did not.³²

STUDY DESIGN: RETURN-TO-WORK CBT³³

Researchers conducted a 12-month experiment to measure the effectiveness of CBT versus a revised, work-focused CBT (W-CBT) program. The sample was limited to individuals on sick leave from their employer due to mental illness, and researchers controlled for occupation, industry, and company size to ensure a representative sample. Patients were randomly selected to be treated by CBT or W-CBT; in total, 79 were assigned to CBT and 89 to W-CBT.

Approximately 60 therapists were exclusively assigned to one of the treatment options—that is, each therapist administered only one of the two forms of CBT across all patients.

To measure the program’s effectiveness, all patients filled out a questionnaire about their symptoms and employment status approximately a week before treatment began. Follow-up questionnaires were provided 1, 3, 6, 9, and 12 months after the patient submitted the initial questionnaire. Each treatment group was measured on days until returning to work (both partially and full-time), magnitude of mental health symptoms (that is, did the intensity of the symptoms decrease, and by what magnitude?), and the financial impact to employers (based on average wages the employer paid to each treatment group until full-time return to work was achieved)..

Reducing crime with at-risk youth

CBT is a flexible therapy designed to address a multitude of thought processes. Beyond issues of mental illness, it can help prevent individuals from making destructive decisions. In this case, researchers designed an innovative CBT program to help at-risk youth assess their thought processes before potentially committing a serious criminal offense.

Unlike with self-identified mental illness, researchers needed to locate at-risk youth, with the help of analytics. After understanding these attributes, program designers applied behavioral sciences to influence and help people, with solutions combining data science and behavioral science to address last-mile problems (for more detail, see sidebar “The last mile problem: How data science and behavioral science can work together”).³⁴ Incorporating these techniques, researchers developed the “Becoming a Man” CBT program to target and prevent at-risk youth from allowing thoughts of anger, disrespect, loss, envy, or feeling threatened to lead to a negative action that could potentially ruin their lives (see sidebar “Study design: The ‘Becoming a Man’ program” for study background).³⁵

First, the program aimed for proper audience identification (that is, eligibility criteria in research): Instead of opening up the program to all teenage boys, researchers recognized that circumstances made it more appropriate to enroll disadvantaged youth who regularly engaged in aggressive behavior (based on survey

THE LAST-MILE PROBLEM: HOW DATA SCIENCE AND BEHAVIORAL SCIENCE CAN WORK TOGETHER

In the current data landscape, a wide range of business decisions are benefiting from data analytics and predictive model insights. These models are used to inform a variety of decisions such as determining patient treatments, underwriting insurance contracts, and guiding emergency room triaging procedures. And these analytically driven decisions have been shown to reliably outperform unaided judgment. But predictive models face what might be called a “last-mile problem”: The instances are only effective if people and organizations appropriately act upon the predictive model’s recommendations. For instance, if Eddy’s and Frida’s symptoms slot them in the lowest and highest risk cells, respectively, of an emergency room triage decision tree, you might send him home and admit her to intensive care.

However, the insights gained from models are often times not enough to achieve the desired outcomes. Many times, an additional mechanism is needed to augment the *behavior* of those impacted by data-driven recommendations. Just as precision medicine aspires to assign optimal personalized treatments to individual patients, data science can be used to better apply the right behavioral intervention to the right case. For example, while invoking social proof might be enough to nudge Hal to keep up with his child support payments, perhaps Ian is better served through a financial health coach. Or suppose Jo and Karl suffered similar injuries at work, text messages containing median days out of work might be the only nudge Jo needs to stick to her treatment and return to work promptly; maybe Karl’s circumstances merit offering him a course of CBT. Such ideas should not be taken on faith. Whenever practical, such nudge tactics should be field tested using randomized controlled trials, to estimate their economic benefits.

Data science and behavioral science can be viewed as two parts of a greater whole. Behavioral science gives us a powerful new set of tools for acting on data analytic indications when behavior change is the order of the day. And data science can help overcome “the flaw of averages” by moving from population-wide to personalized behavioral interventions. For a specific person, there might be a specific intervention with his or her name on it.

See “The last-mile problem” in *Deloitte Review* 16 for more information.

results and socioeconomic profiles). The program set up a series of behavioral interventions to help signal to teens when these automatic feelings of aggression occur and how to transition to a System 2 mindset. So rather than teach them how to be “good,” researchers looked to slow down destructive thinking—especially in intense, ego-depleting circumstances. The program incorporated a number of behavioral techniques to facilitate this identification process:

Recognize the high-stakes moments: Researchers developed strategies to help the boys identify shifts toward “aversive emotion,” for this was often when poor choices were routinely made—for example, a small personal offense may lead to an unrecoverable response, such as violent crime. One exercise involved a scenario where one boy was tasked with getting a ball from another boy. If no directions were given, the boys often would engage in a physical altercation for the ball. Counselors examined these moments with the boys: Specifically, what thoughts and feelings led to the escalation? Proper identification can help slow down the process.

Relaxation techniques: After inducing “hot states”—in this case, moments of aggression—the boys practiced deep-breathing exercises to slow down their thinking and reflect on response options. The deep breathing exercises can address the ego depletion that occurs in intense encounters.

Culturally engaging: To keep young people engaged and so they would not view the program as “corny,” students were allowed to forgo parts of class and partake in “rowdy horseplay.” The intent was to resonate with concepts of social norms and create a more socially appealing activity.

STUDY DESIGN: THE “BECOMING A MAN” PROGRAM³⁶

This study looked at 2,740 at-risk youth from 18 Chicago public schools, targeting male students from grades 7–10 (averaging 15 years old) and excluding students who rarely or never attended school (this was a necessity since the program was administered as an “after-school program”). High-risk students were identified as males from “Chicago’s low income, racially segregated south and west sides, where the city’s violent crime is disproportionately concentrated.”³⁷

From this sample, researchers implemented a randomized controlled trial that assigned students to one of two after-school programs: the “Becoming a Man” CBT program or to a traditional service such as sports and clubs. In total, 27 weekly one-hour sessions were conducted for relatively small groups (15 students on average).

To measure program outcomes, electronic arrest records were obtained from the Illinois State Police to measure criminal behavior post-program implementation for an 18-month duration.

Like the return-to-work study and many other CBT studies before it, the results are promising. Students who participated in the program reduced their instances of violent crime by 44 percent in the first year compared to the control group, with arrests for any offense falling by 27 percent.³⁸ These findings are even more relevant when considering that the highest cost estimates to serve were \$2,000 per participant.

THE FAR-REACHING IMPLICATIONS OF FAST AND SLOW THINKING

Though our reflexive System 1 decisions help us maneuver through everyday life, under circumstances of duress we can fall victim to common behavior traps. And the implications of these are far-reaching in business. Public benefit agencies and insurers managing short- and long-term disability see firsthand the cost of inadequately serving those who need help reconciling automatic thoughts that result in disability. Those tasked with youth mentorship or protecting the public are continually dealing with the aftermath of quick-response decisions of those not amply trained to slow down their thinking. And even in the everyday workplace, managers and senior managers are either coaching individuals on how to respond in tough, time-sensitive situations or wrestling with their own automatic responses. Fortunately, extensive research on thinking fast and slow, along with lessons learned from CBT programs, can provide some guidance on how to navigate these situations.

With the help of predictive algorithms, policymakers can begin to identify what characteristics, factors, and segments are more likely to benefit, and appropriately target their audience.

The macro level: Informing public policy and insurers

Whether a government-funded program aims to protect communities or care for people who need help, understanding problem behavior can inform effective policy. If staffers can recognize and alter the behavior before it happens—as with the at-risk youth example—costs can fall for individuals, communities, and government facilities. A program that helps slow down destructive thinking may be what's needed most.

To facilitate this, a finely tuned CBT program may be an effective method to help slow down patients' thinking and lift their moods, leading to more positive behavior. That fine-tuning is key: CBT, like any therapy, is not one-size-fits-all, and each targeted behavior comes with its own set of implications and needs to be addressed. In the return-to-work example, the CBT program targeted to impact that specific behavior proved significantly more effective than a “standard” CBT treatment.

Also, sometimes policymakers know what behavior they want to treat but not necessarily who would benefit most from it. If you know the “what” but not the “who,” integrating data science into the equation can prove to be quite valuable. With the help of predictive algorithms, policymakers can begin to identify what characteristics, factors, and segments are more likely to benefit, and appropriately target their audience. For example, a predictive model could point a manager to someone who’s struggling and in need of a program that could help him or her stay at work and prevent a further downturn.

In a world of scarce resources, tools such as data science and behavioral treatments may offer economical solutions to tough problems faced by policymakers in the public and private sectors.

The micro level: Managing the everyday workplace

Office environments can be stressful and mentally taxing. Deadlines, high project expectations, meetings, and pressures on work-life balance all contribute to ego depletion and, sometimes, decisions we wish we could have back. These moments can manifest in presentation anxiety, lack of assertiveness, fear of speaking up in meetings, and poor conflict management skills.³⁹ But we can borrow methods from CBT to help in these moments.

Kahneman provides a seemingly simple solution to avoiding our behavioral traps: “The way to block errors that originate in System 1 is simple in principle: recognize the signs that you are in a cognitive minefield, slow down, and ask for reinforcement from System 2.”⁴⁰ But he also acknowledges that it’s easier said than done. Borrowing from what we know from behavioral science research and CBT practices, we can focus on several practices:

- **Identification:** Find the moments in which System 1 betrayed you in the past. Are there patterns? The same place, the same time, or the same person? Maybe it’s always around year-end reviews? Or when your inbox starts to overflow? And when you catch yourself in a regrettable decision, do a postmortem reflection to understand the “why.” As the CBT crime example shows, recognizing the patterns can inform you when you need to tap the cognitive breaks.
- **Keep the ego fresh:** If you can identify the patterns, ready yourself as much as possible. What are the things that put you in a positive mood? A senior colleague steps outdoors, alone, for five minutes every couple of hours just to clear his head, a strategy that behavioral research supports.
- **Watch the clock:** Time management is not a passing consideration. After the fifth high-stakes meeting, you may be able to rely only on System 1

processes for the sixth. Hence, the phrase, “I’m on autopilot.” Instead, look to space out meetings and know your limits. Block off time to give your mind a break or look to schedule less computationally intensive meetings for the end of the day.

- **Coaching:** Whether managing others or working on your own development, remember that System 1 can be enhanced. Practicing and analyzing any of those stressful scenarios can help enhance thought processes for future occasions. There is evidence that one way to train your thinking is to assess the negative situation, record all of the upsetting thoughts on a piece of paper, and then for each negative thought entered, write a corresponding “rational, realistic, and positive thought.”⁴¹ For example, if someone is afraid of potentially saying something foolish in a meeting, a negative thought may be “I will be laughed at and it will feel horrible.” Corresponding positive thoughts may include “There is actually very little chance that someone will laugh at my response, especially if I think it can contribute to the goal,” or “Being laughed at is unpleasant. However, most people will not even remember since they are too busy with their own lives.”⁴² As for the efficient chess player, practice makes perfect.

It’s important to recognize that sometimes we just need to help people slow down. In a fast-paced world, where speed is valued, our minds cannot keep up. **DR**

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Endnotes

1. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus & Giroux, 2011).
2. Ibid.
3. Koushiki Choudhury, *Managing Workplace Stress: The Cognitive Behavioural Way* (Springer, 2013).
4. Ibid.
5. Aaron T. Beck, "Cognitive Behavioral Therapy," Beck Institute Blog, accessed October 11, 2015, www.beckinstituteblog.org/cognitive-behavioral-therapy/.
6. Keith E. Stanovich and Richard R. West, "Individual differences in reasoning: Implications for the rationality debate?," *Behavioral and Brain Sciences* 23, pp. 645–726, 2000.
7. Kahneman, *Thinking, Fast and Slow*.
8. Daniel Kahneman and Amos Tversky, "Judgment under uncertainty: Heuristics and biases," *Science* 185, 1974, pp. 1,124–31.
9. Ibid.
10. Choudhury, *Managing Workplace Stress*.
11. Kahneman, *Thinking, Fast and Slow*.
12. Ibid.
13. Ibid.
14. Ibid.
15. R.F. Baumeister et al., "Ego depletion: Is the active self a limited resource?" *Journal of Personality and Social Psychology* 74, no. 5, pp. 1,252–65, 1998.
16. Daniel Kahneman, *Attention and Effort* (New Jersey: Prentice-Hall, Inc., 1973).
17. D.M. Tice et al., "Restoring the self: Positive affect helps improve self-regulation following ego depletion," *Journal of Experimental Social Psychology* 43, no. 3, pp. 379–84, 2007.
18. Richard Layard and David M. Clark, *Thrive: How Better Mental Health Care Transforms Lives and Saves Money* (Princeton, NJ: Princeton University Press, 2014).
19. Aaron Beck, *Cognitive Therapy and Emotional Disorders* (New York: International University Press, 1976).
20. Kahneman, *Thinking, Fast and Slow*.
21. Ibid.
22. Kahneman, *Attention and Effort*.
23. S. Ebrahim et al., "Effectiveness of Cognitive Behavioral Therapy for depression in patients receiving disability benefits: A systematic review and individual patient meta-analysis," *PLoS ONE* 7(11), 2012, e50202.
24. Ibid.
25. S.E. Lagerveld et al., "Work-focused treatment of common mental disorders and return to work: A comparative outcome study," *Journal of Occupational Health Psychology* 17(2), 2012, pp. 220–34.
26. Catherine Rampell, "The half-trillion dollar depression," *New York Times*, July 2, 2013, www.nytimes.com/2013/07/02/magazine/the-half-trillion-dollar-depression.html?_r=0.
27. Ibid.
28. Mental Health Commission, "Making the case for investing in mental health," 2014, www.mentalhealthcommission.ca/English/system/files/private/document/Investing_in_Mental_Health_FINAL_Version_ENG.pdf.
29. Ebrahim et al., "Effectiveness of Cognitive Behavioral Therapy for depression in patients receiving disability benefits."
30. Rampell, "The half-trillion dollar depression."
31. Ibid.
32. Layard and Clark, *Thrive*.
33. S. Ebrahim et al., *Effectiveness of Cognitive Behavioral Therapy for depression in patients receiving disability benefits*.
34. James Guszczka, "The last-mile problem: How data science and behavioral science can work together," *Deloitte Review* 16, <http://dupress.com/articles/behavioral-economics-predictive-analytics/?coll=11936>.
35. Sara B. Heller et al., *Thinking, fast and slow: Some field experiments to reduce crime and dropout in Chicago*, National Bureau of Economic Research, May 2011, www.nber.org/papers/w21178.pdf.
36. Ibid.
37. Ibid.
38. Ibid.
39. Choudhury, *Managing Workplace Stress*.
40. Kahneman, *Thinking, Fast and Slow*.
41. Choudhury, *Managing Workplace Stress*.
42. Ibid.