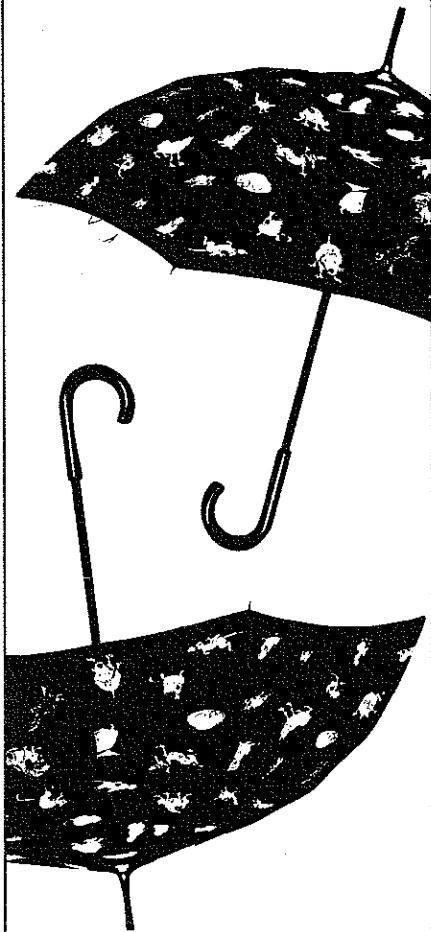


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DEPT. OF SCIENCE

DON'T!

The secret of self-control.

BY JONAH LEHRER

In the late nineteen-sixties, Carolyn Weisz, a four-year-old with long brown hair, was invited into a "game room" at the Bing Nursery School, on the campus of Stanford University. The room was little more than a large closet, containing a desk and a chair. Carolyn was asked to sit down in the chair and pick a treat from a tray of marshmallows, cookies, and pretzel sticks. Carolyn chose the marshmallow. Although she's now forty-four, Carolyn still has a weakness for those air-puffed balls of corn syrup and gelatine. "I know I shouldn't like them," she says. "But they're just so delicious!" A researcher then made Carolyn an offer: she could either eat one marshmallow right away or, if she was willing to wait while he stepped out for a few minutes, she could have two marshmallows when he returned. He said that if she rang a bell on the desk while he was away he would come running back, and she could eat one marshmallow but would forfeit the second. Then he left the room.

Although Carolyn has no direct memory of the experiment, and the scientists would not release any information about the subjects, she strongly suspects that she was able to delay gratification. "I've always been really good at waiting," Carolyn told me. "If you give me a challenge or a task, then I'm going to find a way to do it, even if it means not eating my favorite food." Her mother, Karen Sortino, is still more certain: "Even as a young kid, Carolyn was very patient. I'm sure she would have waited." But her brother Craig, who also took part in the experiment, displayed less fortitude. Craig, a year older than Carolyn, still remembers the torment of trying to wait. "At a certain point, it must have occurred to me that I was all by myself," he recalls. "And so I just started taking all the candy." According to Craig, he was also tested with little plastic toys—he could have a second one if he held out—and he broke into the desk, where he figured there would be additional toys. "I took ev-

erything I could," he says. "I cleaned them out. After that, I noticed the teachers encouraged me to not go into the experiment room anymore."

Footage of these experiments, which were conducted over several years, is poignant, as the kids struggle to delay gratification for just a little bit longer. Some cover their eyes with their hands or turn around so that they can't see the tray. Others start kicking the desk, or tug on their pigtails, or stroke the marshmallow as if it were a tiny stuffed animal. One child, a boy with neatly parted hair, looks carefully around the room to make sure that nobody can see him. Then he picks up an Oreo, delicately twists it apart, and licks off the white cream filling before returning the cookie to the tray, a satisfied look on his face.

Most of the children were like Craig. They struggled to resist the treat and held out for an average of less than three minutes. "A few kids ate the marshmallow right away," Walter Mischel, the Stanford professor of psychology in charge of the experiment, remembers. "They didn't even bother ringing the bell. Other kids would stare directly at the marshmallow and then ring the bell thirty seconds later." About thirty per cent of the children, however, were like Carolyn. They successfully delayed gratification until the researcher returned, some fifteen minutes later. These kids wrestled with temptation but found a way to resist.

The initial goal of the experiment was to identify the mental processes that allowed some people to delay gratification while others simply surrendered. After publishing a few papers on the Bing studies in the early seventies, Mischel moved on to other areas of personality research. "There are only so many things you can do with kids trying not to eat marshmallows."

But occasionally Mischel would ask his three daughters, all of whom attended the Bing, about their friends from

nursery school. "It was really just idle dinnertime conversation," he says. "I'd ask them, 'How's Jane? How's Eric? How are they doing in school?'" Mischel began to notice a link between the children's academic performance as teen-agers and their ability to wait for the second marshmallow. He asked his daughters to assess their friends academically on a scale of zero to five. Comparing these ratings with the original data set, he saw a correlation. "That's when I realized I had to do this seriously," he says. Starting in 1981, Mischel sent out a questionnaire to all the reachable parents, teachers, and academic advisers of the six hundred and fifty-three subjects who had participated in the marshmallow task, who were by then in high school. He asked about every trait he could think of, from their capacity to plan and think ahead to their ability to "cope well with problems" and get along with their peers. He also requested their S.A.T. scores.

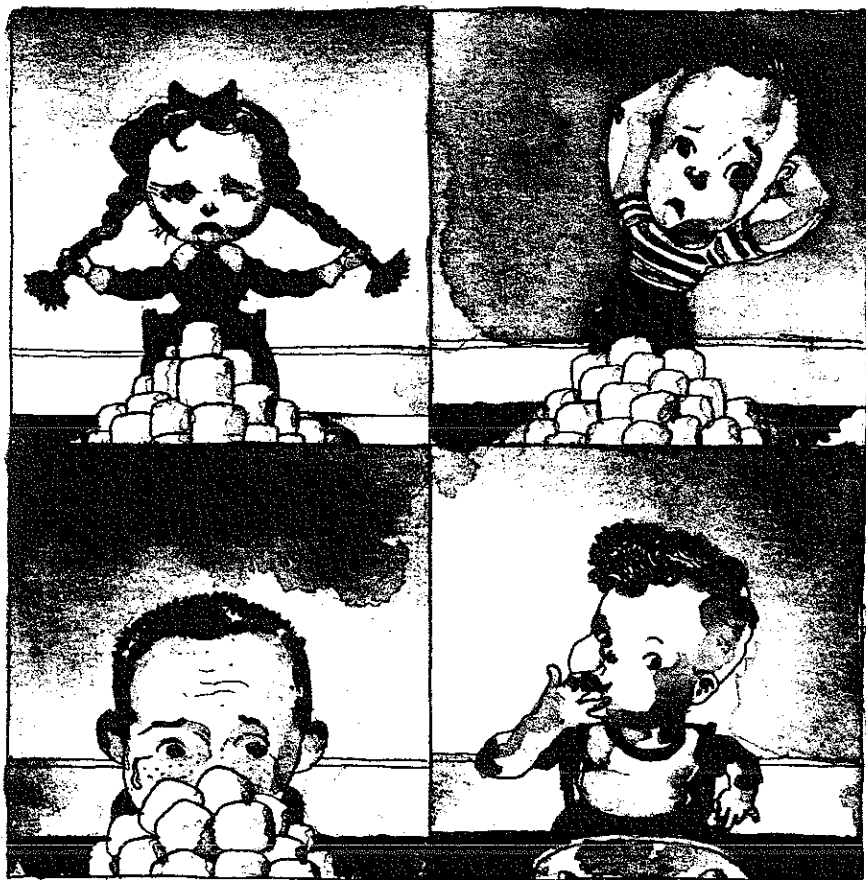
Once Mischel began analyzing the results, he noticed that low delayers, the children who rang the bell quickly, seemed more likely to have behavioral problems, both in school and at home. They got lower S.A.T. scores. They struggled in stressful situations, often had trouble paying attention, and found it difficult to maintain friendships. The child who could wait fifteen minutes had an S.A.T. score that was, on average, two hundred and ten points higher than that of the kid who could wait only thirty seconds.

Carolyn Weisz is a textbook example of a high delayer. She attended Stanford as an undergraduate, and got her Ph.D. in social psychology at Princeton. She's now an associate psychology professor at the University of Puget Sound. Craig, meanwhile, moved to Los Angeles and has spent his career doing "all kinds of things" in the entertainment industry, mostly in production. He's currently helping to write and produce a film. "Sure, I wish I had been a more patient person," Craig says. "Looking back, there are definitely moments when it would have helped me make better career choices and stuff."

Mischel and his colleagues continued to track the subjects into their late thirties—Ozlem Ayduk, an assistant professor of psychology at the University of California at Berkeley, found that low-

delaying adults have a significantly higher body-mass index and are more likely to have had problems with drugs—but it was frustrating to have to rely on self-reports. "There's often a gap between what people are willing to tell you and how they behave in the real world," he explains. And so, last year, Mischel, who is now a professor at Columbia, and a team

most important variable when it comes to predicting success in life. Mischel argues that intelligence is largely at the mercy of self-control: even the smartest kids still need to do their homework. "What we're really measuring with the marshmallows isn't will power or self-control," Mischel says. "It's much more important than that. This task forces kids to find a



Children who are able to pass the marshmallow test enjoy greater success as adults.

of collaborators began asking the original Bing subjects to travel to Stanford for a few days of experiments in an fMRI machine. Carolyn says she will be participating in the scanning experiments later this summer; Craig completed a survey several years ago, but has yet to be invited to Palo Alto. The scientists are hoping to identify the particular brain regions that allow some people to delay gratification and control their temper. They're also conducting a variety of genetic tests, as they search for the hereditary characteristics that influence the ability to wait for a second marshmallow.

If Mischel and his team succeed, they will have outlined the neural circuitry of self-control. For decades, psychologists have focussed on raw intelligence as the

way to make the situation work for them. They want the second marshmallow, but how can they get it? We can't control the world, but we can control how we think about it."

Walter Mischel is a slight, elegant man with a shaved head and a face of deep creases. He talks with a Brooklyn bluster and he tends to act out his sentences, so that when he describes the marshmallow task he takes on the body language of an impatient four-year-old. "If you want to know why some kids can wait and others can't, then you've got to think like they think," Mischel says.

Mischel was born in Vienna, in 1930. His father was a modestly successful businessman with a fondness for café society

and Esperanto, while his mother spent many of her days lying on the couch with an ice pack on her forehead, trying to soothe her frail nerves. The family considered itself fully assimilated, but after the Nazi annexation of Austria, in 1938, Mischel remembers being taunted in school by the Hitler Youth and watching as his father, hobbled by childhood polio, was forced to limp through the streets in his pajamas. A few weeks after the takeover, while the family was burning evidence of their Jewish ancestry in the fireplace, Walter found a long-forgotten certificate of U.S. citizenship issued to his maternal grandfather decades earlier, thus saving his family.

The family settled in Brooklyn, where Mischel's parents opened up a five-and-dime. Mischel attended New York University, studying poetry under Delmore Schwartz and Allen Tate, and taking studio-art classes with Philip Guston. He also became fascinated by psychoanalysis and new measures of personality, such as the Rorschach test. "At the time, it seemed like a mental X-ray machine," he says. "You could solve a person by showing them a picture." Although he was pressured to join his uncle's umbrella business, he ended up pursuing a Ph.D. in clinical psychology at Ohio State.

But Mischel noticed that academic theories had limited application, and he was struck by the futility of most personality science. He still flinches at the naïveté of

graduate students who based their diagnoses on a battery of meaningless tests. In 1955, Mischel was offered an opportunity to study the "spirit possession" ceremonies of the Orisha faith in Trinidad, and he leapt at the chance. Although his research was supposed to involve the use of Rorschach tests to explore the connections between the unconscious and the behavior of people when possessed, Mischel soon grew interested in a different project. He lived in a part of the island that was evenly split between people of East Indian and of African descent; he noticed that each group defined the other in broad stereotypes. "The East Indians would describe the Africans as impulsive hedonists, who were always living for the moment and never thought about the future," he says. "The Africans, meanwhile, would say that the East Indians didn't know how to live and would stuff money in their mattress and never enjoy themselves."

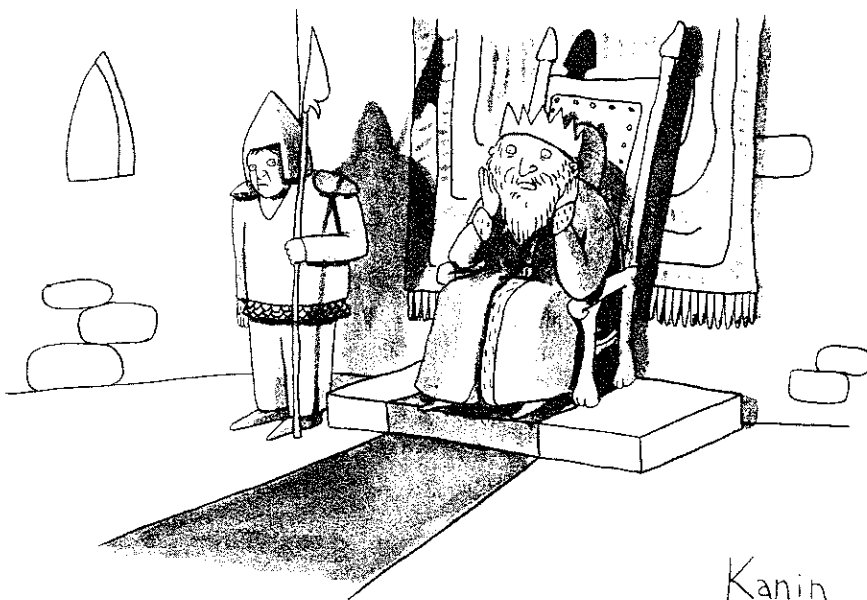
Mischel took young children from both ethnic groups and offered them a simple choice: they could have a miniature chocolate bar right away or, if they waited a few days, they could get a much bigger chocolate bar. Mischel's results failed to justify the stereotypes—other variables, such as whether or not the children lived with their father, turned out to be much more important—but they did get him interested in the question of delayed gratification. Why did some children wait and not others? What made waiting pos-

sible? Unlike the broad traits supposedly assessed by personality tests, self-control struck Mischel as potentially measurable.

In 1958, Mischel became an assistant professor in the Department of Social Relations at Harvard. One of his first tasks was to develop a survey course on "personality assessment," but Mischel quickly concluded that, while prevailing theories held personality traits to be broadly consistent, the available data didn't back up this assumption. Personality, at least as it was then conceived, couldn't be reliably assessed at all. A few years later, he was hired as a consultant on a personality assessment initiated by the Peace Corps. Early Peace Corps volunteers had sparked several embarrassing international incidents—one mailed a postcard on which she expressed disgust at the sanitary habits of her host country—so the Kennedy Administration wanted a screening process to eliminate people unsuited for foreign assignments. Volunteers were tested for standard personality traits, and Mischel compared the results with ratings of how well the volunteers performed in the field. He found no correlation; the time-consuming tests predicted nothing. At this point, Mischel realized that the problem wasn't the tests—it was their premise. Psychologists had spent decades searching for traits that exist independently of circumstance, but what if personality can't be separated from context? "It went against the way we'd been thinking about personality since the four humors and the ancient Greeks," he says.

While Mischel was beginning to dismantle the methods of his field, the Harvard psychology department was in tumult. In 1960, the personality psychologist Timothy Leary helped start the Harvard Psilocybin Project, which consisted mostly of self-experimentation. Mischel remembers graduate students' desks giving way to mattresses, and large packages from Ciba chemicals, in Switzerland, arriving in the mail. Mischel had nothing against hippies, but he wanted modern psychology to be rigorous and empirical. And so, in 1962, Walter Mischel moved to Palo Alto and went to work at Stanford.

There is something deeply contradictory about Walter Mischel—a psychologist who spent decades critiquing the validity of personality tests—inventing the marshmallow task, a simple test with impressive predictive power. Mi-



Kanin

"I want to be feared as a tyrant, loved as a father, and revered as a god, but I also want them to think I'm funny."

schel, however, insists there is no contradiction. "I've always believed there are consistencies in a person that can be looked at," he says. "We just have to look in the right way." One of Mischel's classic studies documented the aggressive behavior of children in a variety of situations at a summer camp in New Hampshire. Most psychologists assumed that aggression was a stable trait, but Mischel found that children's responses depended on the details of the interaction. The same child might consistently lash out when teased by a peer, but readily submit to adult punishment. Another might react badly to a warning from a counselor, but play well with his bunkmates. Aggression was best assessed in terms of what Mischel called "if-then patterns." If a certain child was teased by a peer, then he would be aggressive.

One of Mischel's favorite metaphors for this model of personality, known as interactionism, concerns a car making a screeching noise. How does a mechanic solve the problem? He begins by trying to identify the specific conditions that trigger the noise. Is there a screech when the car is accelerating, or when it's shifting gears, or turning at slow speeds? Unless the mechanic can give the screech a context, he'll never find the broken part. Mischel wanted psychologists to think like mechanics, and look at people's responses under particular conditions. The challenge was devising a test that accurately simulated something relevant to the behavior being predicted. The search for a meaningful test of personality led Mischel to revisit, in 1968, the protocol he'd used on young children in Trinidad nearly a decade earlier. The experiment seemed especially relevant now that he had three young daughters of his own. "Young kids are pure id," Mischel says. "They start off unable to wait for anything—whatever they want they need. But then, as I watched my own kids, I marvelled at how they gradually learned how to delay and how that made so many other things possible."

A few years earlier, in 1966, the Stanford psychology department had established the Bing Nursery School. The classrooms were designed as working laboratories, with large one-way mirrors that allowed researchers to observe the children. In February, Jennifer Winters, the assistant director of the school, showed

me around the building. While the Bing is still an active center of research—the children quickly learn to ignore the students scribbling in notebooks—Winters isn't sure that Mischel's marshmallow task could be replicated today. "We recently tried to do a version of it, and the kids were very excited about having food in the game room," she says. "There are so many allergies and peculiar diets today that we don't do many things with food."

Mischel perfected his protocol by testing his daughters at the kitchen table. "When you're investigating will power in a four-year-old, little things make a big difference," he says. "How big should the marshmallows be? What kind of cookies work best?" After several months of patient tinkering, Mischel came up with an experimental design that closely simulated the difficulty of delayed gratification. In the spring of 1968, he conducted the first trials of his experiment at the Bing. "I knew we'd designed it well when a few kids wanted to quit as soon as we explained the conditions to them," he says. "They knew this was going to be very difficult."

At the time, psychologists assumed that children's ability to wait depended on how badly they wanted the marshmallow. But it soon became obvious that every child craved the extra treat. What, then, determined self-control? Mischel's conclusion, based on hundreds of hours of observation, was that the crucial skill was the "strategic allocation of attention." Instead of getting obsessed with the marshmallow—the "hot stimulus"—the patient children distracted themselves by covering their eyes, pretending to play hide-and-seek underneath the desk, or singing songs from "Sesame Street." Their desire wasn't defeated—it was merely forgotten. "If you're thinking about the marshmallow and how delicious it is, then you're going to eat it," Mischel says. "The key is to avoid thinking about it in the first place."

In adults, this skill is often referred to as metacognition, or thinking about thinking, and it's what allows people to outsmart their shortcomings. (When Odysseus had himself tied to the ship's mast, he was using some of the skills of metacognition: knowing he wouldn't be able to resist the Sirens' song, he made it

impossible to give in.) Mischel's large data set from various studies allowed him to see that children with a more accurate understanding of the workings of self-control were better able to delay gratification. "What's interesting about four-year-olds is that they're just figuring out the rules of thinking," Mischel says. "The kids who couldn't delay would often have the rules backwards. They would think that the best way to resist the marshmallow is to stare right at it, to keep a close eye on the goal. But that's a terrible idea. If you do that, you're going to ring the bell before I leave the room."

According to Mischel, this view of will power also helps explain why the marshmallow task is such a powerfully predictive test. "If you can deal with hot emotions, then you can study for the S.A.T. instead of watching television," Mischel says. "And you can save more money for retirement. It's not just about marshmallows."

Subsequent work by Mischel and his colleagues found that these differences were observable in subjects as young as nineteen months. Looking at how toddlers responded when briefly separated from their mothers, they found that some immediately burst into tears, or clung to the door, but others were able to overcome their anxiety by distracting themselves, often by playing with toys. When the scientists set the same children the marshmallow task at the age of five, they found that the kids who had cried also struggled to resist the tempting treat.

The early appearance of the ability to delay suggests that it has a genetic origin, an example of personality at its most predetermined. Mischel resists such an easy conclusion. "In general, trying to separate nature and nurture makes about as much sense as trying to separate personality and situation," he says. "The two influences are completely interrelated." For instance, when Mischel gave delay-of-gratification tasks to children from low-income families in the Bronx, he noticed that their ability to delay was below average, at least compared with that of children in Palo Alto. "When you grow up poor, you might not practice delay as much," he says. "And if you don't practice then you'll never figure out how to distract yourself. You won't develop the best delay strategies, and those strategies won't become second nature." In other

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words, people learn how to use their mind just as they learn how to use a computer: through trial and error.

But Mischel has found a shortcut. When he and his colleagues taught children a simple set of mental tricks—such as pretending that the candy is only a picture, surrounded by an imaginary frame—he dramatically improved their self-control. The kids who hadn't been able to wait sixty seconds could now wait fifteen minutes. "All I've done is given them some tips from their mental user manual," Mischel says. "Once you realize that will power is just a matter of learning how to control your attention and thoughts, you can really begin to increase it."

Marc Berman, a lanky graduate student with an easy grin, speaks about his research with the infectious enthusiasm of a freshman taking his first philosophy class. Berman works in the lab of John Jonides, a psychologist and neuroscientist at the University of Michigan, who is in charge of the brain-scanning experiments on the original Bing subjects. He knows that testing forty-year-olds for self-control isn't a straightforward proposition. "We can't give these people marshmallows," Berman says. "They know they're part of a long-term study that looks at delay of gratification, so if you give them an obvious delay task they'll do their best to resist. You'll get a bunch of people who refuse to touch their marshmallow."

This meant that Jonides and his team had to find a way to measure will power indirectly. Operating on the premise that the ability to delay eating the marshmallow had depended on a child's ability to banish thoughts of it, they decided on a series of tasks that measure the ability of subjects to control the contents of working memory—the relatively limited amount of information we're able to consciously consider at any given moment. According to Jonides, this is how self-control "cashes out" in the real world: as an ability to direct the spotlight of attention so that our decisions aren't determined by the wrong thoughts.

Last summer, the scientists chose fifty-five subjects, equally split between high delayers and low delayers, and sent each one a laptop computer loaded with working-memory experiments. Two of

the experiments were of particular interest. The first is a straightforward exercise known as the "suppression task." Subjects are given four random words, two printed in blue and two in red. After reading the words, they're told to forget the blue words and remember the red words. Then the scientists provide a stream of "probe words" and ask the subjects whether the probes are the words they were asked to remember. Though the task doesn't seem to involve delayed gratification, it tests the same basic mechanism. Interestingly, the scientists found that high delayers were significantly better at the suppression task: they were less likely to think that a word they'd been asked to forget was something they should remember.

In the second, known as the Go/No Go task, subjects are flashed a set of faces with various expressions. At first, they are told to press the space bar whenever they see a smile. This takes little effort, since smiling faces automatically trigger what's known as "approach behavior." After a few minutes, however, subjects are told to press the space bar when they see frowning faces. They are now being forced to act against an impulse. Results show that high delayers are more successful at not pressing the button in response to a smiling face.

When I first started talking to the scientists about these tasks last summer, they were clearly worried that they wouldn't find any behavioral differences between high and low delayers. It wasn't until early January that they had enough data to begin their analysis (not surprisingly, it took much longer to get the laptops back from the low delayers), but it soon became obvious that there were provocative differences between the two groups. A graph of the data shows that as the delay time of the four-year-olds decreases, the number of mistakes made by the adults sharply rises.

The big remaining question for the scientists is whether these behavioral differences are detectable in an fMRI machine. Although the scanning has just begun—Jonides and his team are



DELPHINIUMS IN A WINDOW BOX

Every sunrise, even strangers' eyes.
Not necessarily swans, even crows,
even the evening fusillade of bats.
That place where the creek goes underground,
how many weeks before I see you again?
Stacks of books, every page, characters'
rages and poets' strange contraptions
of syntax and song, every song
even when there isn't one.
Every thistle, splinter, butterfly
over the drainage ditches. Every stray.
Did you see the meteor shower?
Did it feel like something swallowed?
Every question, conversation
even with almost nothing, cricket, cloud,
because of you I'm talking to crickets, clouds,
confiding in a cat. Everyone says,
Come to your senses, and I do, of you.
Every touch electric, every taste you,
every smell, even burning sugar, every
cry and laugh. Toothpicked samples
at the farmers' market, every melon,
plum, I come undone, undone.

—Dean Young

still working out the kinks—the scientists sound confident. “These tasks have been studied so many times that we pretty much know where to look and what we’re going to find,” Jonides says. He rattles off a short list of relevant brain regions, which his lab has already identified as being responsible for working-memory exercises. For the most part, the regions are in the frontal cortex—the overhang of brain behind the eyes—and include the dorsolateral prefrontal cortex, the anterior prefrontal cortex, the anterior cingulate, and the right and left inferior frontal gyri. While these cortical folds have long been associated with self-control, they’re also essential for working memory and directed attention. According to the scientists, that’s not an accident. “These are powerful instincts telling us to reach for the marshmallow or press the space bar,” Jonides says. “The only way to defeat them is to avoid them, and that means paying attention to something else. We call that will power, but it’s got nothing to do with the will.”

The behavioral and genetic aspects of

the project are overseen by Yuichi Shoda, a professor of psychology at the University of Washington, who was one of Mischel’s graduate students. He’s been following these “marshmallow subjects” for more than thirty years: he knows everything about them from their academic records and their social graces to their ability to deal with frustration and stress. The prognosis for the genetic research remains uncertain. Although many studies have searched for the underpinnings of personality since the completion of the Human Genome Project, in 2003, many of the relevant genes remain in question. “We’re incredibly complicated creatures,” Shoda says. “Even the simplest aspects of personality are driven by dozens and dozens of different genes.” The scientists have decided to focus on genes in the dopamine pathways, since those neurotransmitters are believed to regulate both motivation and attention. However, even if minor coding differences influence delay ability—and that’s a likely possibility—Shoda doesn’t expect to discover these differences: the sample size is simply too small.

In recent years, researchers have begun making house visits to many of the original subjects, including Carolyn Weisz, as they try to better understand the familial contexts that shape self-control. “They turned my kitchen into a lab,” Carolyn told me. “They set up a little tent where they tested my oldest daughter on the delay task with some cookies. I remember thinking, I really hope she can wait.”

While Mischel closely follows the steady accumulation of data from the laptops and the brain scans, he’s most excited by what comes next. “I’m not interested in looking at the brain just so we can use a fancy machine,” he says. “The real question is what can we do with this fMRI data that we couldn’t do before?” Mischel is applying for an N.I.H. grant to investigate various mental illnesses, like obsessive-compulsive disorder and attention-deficit disorder, in terms of the ability to control and direct attention. Mischel and his team hope to identify crucial neural circuits that cut across a wide variety of ailments. If there is such a circuit, then the same cognitive tricks that increase delay time in a four-year-old might help adults deal with their symptoms. Mischel is particularly excited by the example of the substantial subset of people who failed the marshmallow task as four-year-olds but ended up becoming high-delaying adults. “This is the group I’m most interested in,” he says. “They have substantially improved their lives.”

Mischel is also preparing a large-scale study involving hundreds of schoolchildren in Philadelphia, Seattle, and New York City to see if self-control skills can be taught. Although he previously showed that children did much better on the marshmallow task after being taught a few simple “mental transformations,” such as pretending the marshmallow was a cloud, it remains unclear if these new skills persist over the long term. In other words, do the tricks work only during the experiment or do the children learn to apply them at home, when deciding between homework and television?

Angela Lee Duckworth, an assistant professor of psychology at the University of Pennsylvania, is leading the program. She first grew interested in the

subject after working as a high-school math teacher. "For the most part, it was an incredibly frustrating experience," she says. "I gradually became convinced that trying to teach a teen-ager algebra when they don't have self-control is a pretty futile exercise." And so, at the age of thirty-two, Duckworth decided to become a psychologist. One of her main research projects looked at the relationship between self-control and grade-point average. She found that the ability to delay gratification—eighth graders were given a choice between a dollar right away or two dollars the following week—was a far better predictor of academic performance than I.Q. She said that her study shows that "intelligence is really important, but it's still not as important as self-control."

Last year, Duckworth and Mischel were approached by David Levin, the co-founder of KIPP, an organization of sixty-six public charter schools across the country. KIPP schools are known for their long workday—students are in class from 7:25 A.M. to 5 P.M.—and for dramatic improvement of inner-city students' test scores. (More than eighty per cent of eighth graders at the KIPP academy in the South Bronx scored at or above grade level in reading and math, which was nearly twice the New York City average.) "The core feature of the KIPP approach is that character matters for success," Levin says. "Educators like to talk about character skills when kids are in kindergarten—we send young kids home with a report card about 'working well with others' or 'not talking out of turn.' But then, just when these skills start to matter, we stop trying to improve them. We just throw up our hands and complain."

Self-control is one of the fundamental "character strengths" emphasized by KIPP—the KIPP academy in Philadelphia, for instance, gives its students a shirt emblazoned with the slogan "Don't Eat the Marshmallow." Levin, however, remained unsure about how well the program was working—"We know how to teach math skills, but it's harder to measure character strengths," he says—so he contacted Duckworth and Mischel, promising them unfettered access to KIPP students. Levin also helped bring together additional schools willing to take part in the experiment, including River-

dale Country School, a private school in the Bronx; the Evergreen School for gifted children, in Shoreline, Washington; and the Mastery Charter Schools, in Philadelphia.

For the past few months, the researchers have been conducting pilot studies in the classroom as they try to figure out the most effective way to introduce complex psychological concepts to young children. Because the study will focus on students between the ages of four and eight, the classroom lessons will rely heavily on peer modelling, such as showing kindergartners a video of a child successfully distracting herself during the marshmallow task. The scientists have some encouraging preliminary results—after just a few sessions, students show significant improvements in the ability to deal with hot emotional states—but they are cautious about predicting the outcome of the long-term study. "When you do these large-scale educational studies, there are ninety-nine uninteresting reasons the study could fail," Duckworth says. "Maybe a teacher doesn't show the video, or maybe there's a field trip on the day of the testing. This is what keeps me up at night."

Mischel's main worry is that, even if his lesson plan proves to be effective, it might still be overwhelmed by variables the scientists can't control, such as the home environment. He knows that it's not enough just to teach kids mental tricks—the real challenge is turning those tricks into habits, and that requires years of diligent practice. "This is where your parents are important," Mischel says. "Have they established rituals that force you to delay on a daily basis? Do they encourage you to wait? And do they make waiting worthwhile?" According to Mischel, even the most mundane routines of childhood—such as not snacking before dinner, or saving up your allowance, or holding out until Christmas morning—are really sly exercises in cognitive training: we're teaching ourselves how to think so that we can outsmart our desires. But Mischel isn't satisfied with such an informal approach. "We should give marshmallows to every kindergartner," he says. "We should say, 'You see this marshmallow? You don't have to eat it. You can wait. Here's how.'" ♦

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