

The Girl With a Boy's Brain

Kiriana Cowansage can run complex neuroscience experiments and sketch beautiful portraits. She melts at the sight of an animal, but she balks at the concept of love. Such paradoxes define women with Asperger's syndrome.

By: Carlin Flora

"Don't step on that—it's not a rug!" warns Kiriana Cowansage. It's a 9,000-piece puzzle of the astrological heavens, half completed, which she's putting together on the floor of her brightly colored studio apartment in Manhattan's West Village.

Kiriana, a 24-year-old graduate student, is enamored of details. She's also easily absorbed: A week ago, she worked on the puzzle for 10 straight hours, without pausing for so much as a sip of water. A clothing maven, she's fashionably put together in chunky jewelry and a black minidress with billowing sleeves. But she'd rather stay home with those cardboard pieces than dress up for a night out. She's pretty—slender and pale, with innocently round eyes and long brown hair—and yet she's never had a boyfriend. Though smart enough to have earned herself a spot in a top neuroscience program, she often gets lost in her own neighborhood.

Such perplexing contradictions are the hallmarks of Asperger's Syndrome (AS), with which Kiriana was diagnosed when she was 19. AS is a condition on the high-functioning end of the autism spectrum. Its sufferers are successful in many realms of life but tend to have obsessive interests. They have trouble reading people and connecting with them. And they can have faulty sensory processing systems that leave them confused in hectic or unfamiliar settings.

Kiriana fits the AS profile quite neatly. What makes her exceptional is her gender. While the overall prevalence of Asperger's is 20 to 25 per 10,000 children, it's much more common in boys than girls. We don't understand what causes autism and Asperger's, or why more boys have these syndromes than girls, but some scientists conceive of them as expressions of extreme "maleness"—a talent for systemizing as opposed to empathizing.

Other experts attribute some of the gender gap to the widespread misdiagnosis of girls. "Girls are pretty neglected," says Shana Nichols, who specializes in treating girls with AS. Most of what we know about the condition is based on research on boys; theories about how it manifests itself differently in girls stem mainly from anecdotal evidence. Researchers agree that girls with AS tend to be more anxious and less aggressive than the boys. And during their teenage years, they are at an increased risk for awkward sexual situations and even date rape because of their inability to interpret social cues and their tendency to take statements literally.

When Kiriana was 2, her mother, Melissa, an English teacher, thought she was gifted because of her verbal precocity and started a diary of her toddler's amusing comments

such as, "A bee fell out of my mind. What's a mind?" But Kiriana had an aggressive streak that was less endearing. One entry notes how she "tried to find a picture in the encyclopedia of an animal attacking a person, chewing him, and leaving the bones." Another reads: "When not allowed to do something, she screams in a piercing falsetto."

When she was 4, Kiriana became infatuated with dinosaurs. It was merely the first in a long series of obsessions. Once every picture in *The Wonderful World of Prehistoric Animals* by William Egan Swinton was emblazoned in her mind, she moved on to poisonous insects, then reptiles—a phase her mother nurtured by sending her to a lizard-themed summer camp.

In school, Kiriana barely spoke at all. One teacher feared she was deaf. "She pretty much refused to interact with other kids," says Melissa. She was often distracted—but not in the ricocheting manner of a kid with an attention-deficit disorder. "When the teacher called on me, I was frozen," recalls Kiriana. "I was often accused of not paying attention or of being on a different planet, but I was actually paying close attention to something else."

Since teachers are unlikely to flag kids who excel in written work no matter how quiet they are, many girls with AS are overlooked for special education, says Michael John Carley, director of GRASP, a supportive network for people with AS.

One teacher noted that "Kiriana had many problems learning the square dances and musical games. Changing direction or actions at musical cues appeared to be quite difficult for her. "Struggles with spatial orientation earned her scorn on the playground; lacking an intuitive sense of direction, she repeatedly kicked the ball into her own team's goal. She eventually refused to play at all. She also refused to call any of her classmates by their nicknames, because it seemed too familiar. "It was like I had an alien complex," she says. "The result was that they treated me like an alien."

At the behest of a teacher at her private elementary school, Kiriana finally did get tested for disabilities. The results were inconclusive, and no one suspected autism in any form. "I knew she felt a little different," says Melissa. "But I never really thought anything was wrong with her."

Girls are generally recognized as superior mimics, says Tony Attwood, a pioneering Asperger's researcher. Those with AS hold back and observe until they learn the "rules," then imitate their way through social situations. But for a girl like Kiriana with undiagnosed Asperger's, her ability to manage her symptoms better than a boy can be less than a blessing; often it's a curse that keeps her suffering in silence.

"Girls can fake it quite well," says Liane Willey, a psycholinguist with AS who describes how she assumes different personalities when switching social gears in her autobiography, *Pretending to Be Normal*.

Kiriana's similar strategy amounts to remembering and rehearsing scripts. When she walks into a clothing shop, for example, she pulls up a mental dialogue box: "No thanks, I'm just looking," is what one should say if a saleswoman offers help. But as Attwood points out, such playacting is not intuitive, and is therefore exhausting. Looking around Kiriana's apartment—at her collection of colored Easter eggs and logic games, her

Edward Gorey books and whimsical drawings—it occurs to me: She's a successful young woman who still inhabits the magical domain of a child. I'd anticipated an awkward encounter based on what I knew about her syndrome. But she was poised and attentive. She smiled and laughed while we spoke, displaying a wry sense of humor. Her eyes wandered to the side as she formulated her thoughts, but the conversation flowed. Though her demeanor was cool, she answered questions enthusiastically and thoroughly. A little too thoroughly at times: I could see how some would find her company exhausting.

Many children immerse themselves in creative projects, but Kiriana, like most kids with Asperger's, was an extreme case. "We didn't see her that much, honestly," Melissa says. "Every now and then I'd pass her in the hall, but she was always working on something." Kiriana never had a lot of friends, but she consistently had at least one close confidante, invariably a sensitive, reliable girl. The boys would provoke her—say, by stealing her pencils. Over time, she began to suspect that any time a boy spoke to her it was to mock her. She became defensively standoffish. "I just wanted them not to talk to me, so I pulled together as much blunt sarcasm as I could and established myself as a weird, unfriendly girl."

To any animal that crossed her path, however, Kiriana was the warmest creature imaginable. On rainy days, she would gingerly pick up earthworms from the sidewalk and move them to the grass. She once rescued a stray kitten that her neighbor's Rottweilers were hungrily circling and took her home.

At the age of 9, Kiriana, ever the scientist, asked her mother, "Does everyone see, hear, smell, taste, and feel exactly the same thing when they perceive the same object?" Around that same time, she developed a feverish curiosity about the medical experimentation the Nazis conducted during the Holocaust. "All my obsessions related to something profoundly catastrophic," she says. "I have a really hard time feeling emotionally aroused. Brutal, violent, scary things were interesting to me because that was the best way to feel something."

In a similar effort to manufacture emotions, Kiriana found it exciting to jog through her high school's murky backwoods at midnight in the snow wearing a T-shirt, shorts, and sockless sneakers. And her repeated readings of Bret Easton Ellis' *American Psycho* soon surpassed those of *The Wonderful World of Prehistoric Animals*. "I was partly drawn to serial killers because of my interest in patterns, logical induction, and puzzle solving," she remembers. "These twisted individuals took puzzles to a whole new level of interest." Captivated by the process of piecing together an event based on its physical trace, she fell asleep each night trying to come up with the "perfect crime," one that could not be reconstructed.

Incessant puzzling wasn't necessarily an academic boon: Practicing for the math portion of the SAT, Kiriana says, "I would ponder the logic instead of just using shortcut strategies." Though her scores were good, she didn't get into Princeton, her first-choice school. She happily went to Vassar instead.

During her first year there, she found herself part of a group of friends—a first. But stressed out by greater academic challenges and increasingly aware that she could not process lectures as well as her classmates, she sought help from a doctor, and then

another. When a psychiatrist finally pulled the pieces together and diagnosed her with Asperger's, the label alone resolved a lifelong identity crisis. The diagnosis was the only one that reconciled, as she puts it, her special talent for being smart and stupid at the same time. "In this very small world of Asperger's," she says, "that's normal."

After graduation, driven partly by a desire to understand her own "neuro-atypical" mind, Kiriana set out for New York University to begin a Ph.D. program in neuroscience, where she now conducts emotion research on rats. Lacking the internal maps on which most of us depend, she often got lost in her lab, a stark maze of hallways lined with nondescript white doors. Toward the end of the school year, when no one was in sight, she stuck pieces of colored tape on the doors, visual cues to help her find her way.

Listening comprehension is still a source of strife for Kiriana. "When I watch a movie, I have to turn the volume way up to understand dialogue, but way down whenever there is background noise or music," she says. "When I go to hear a lecture on a subject, it's like I'm listening to a foreign language." But Kiriana makes efforts to work around her deficiencies. After a few mishaps, she explained to one scientist she works for that she just can't remember spoken instructions. "Now that he's aware of that, I can just run and get a pen and write it down." She tries to remind herself that as neuroscientists, her colleagues are particularly likely to understand that her brain is wired differently. Besides, she says, "It's a profession where everyone is a bit odd."

At the moment, Kiriana is combining her current fascinations for science, writing, and drawing as she translates a textbook on neurodevelopment into metaphorical scenes. One page of her sketchbook shows two rivers, labeled the "dorsal" and "ventral" streams, along which undifferentiated cells migrate to their destinations. Sharks in the water represent inhibitors to cell development. The project is time consuming, but it's the best way she's found for mastering complex ideas.

Kiriana's never taken an art class, though her drawings are sophisticated and beautiful. Her spatial orientation problems don't extend to her ability to imagine objects and render them on the page. "To me, art is a part of science, of observation—it's finding the details that define an object."

Last summer, Kiriana went several weeks without speaking to anyone she knew. "I feel most comfortable being alone," she says. "I don't feel lonely very often, and when I do, it's usually not a general feeling of loneliness as much as a wish to be with a certain person or people." Parties tire her, and when she meets someone new she fears she'll come off as boring. "The things most people think of as fun are work to me," she says, citing the complicated dynamics of relationships and social interaction. "To me, fun would be reading a textbook."

Friendships do bring her pleasure, though. When she was 18, she met the closest friend she's ever had, a gay man. "He was the only person I ever felt really connected to, where I didn't mind if he hugged me." When a friend is upset, she can give advice if she can relate to the dilemma. But when it comes to being there for someone who is crying, Kiriana writhes under the pressure to respond the way a "normal" person would. "Anything schmaltzy makes me squeamish," she says. "My parents try to be affectionate, and they get hurt feelings sometimes because I don't like to hug them."

Kiriana gets rushes of happiness, pride, and guilt, but abstract concepts—patriotism, for example, or spirituality—don't rouse her. "I do cry," she says, "but it's usually out of anger or frustration. Rarely do I feel true sadness." She did feel terribly sad this year over the death of Slinky, her cat.

Kiriana is attracted to men and sometimes longs to be in a relationship, yet it's hard for her to have any idea whether men she meets—such as the ones who, captivated by her looks, linger by her table at the cafe where she studies—are being flirtatious or merely polite. And maintaining eye contact is always a challenge. "There are so many situations where I'm talking to somebody and I can tell they've lost interest," she says. "A lot of times I'm not sure what I did." If she is really taken with someone, she often becomes so flustered that she drops something or starts choking—an adorable quirk, but one that leaves her even more ill at ease.

One remark that Kiriana has heard repeatedly is, you must have been a nerd growing up. "I wish I'd been a dork or a nerd, because those are things that people recognize," she says. "I was a different species." It's a perspective that may account for her fierce identification with animals. "If I saw a person lying on the street, my first response would be, I wonder what's wrong with them, I should call 911. It's not emotional, it's practical," she says. "If I saw a dog lying on the street, I would be on my knees, in pain."

Psychologist Shana Nichols has noticed that nearly all the girls with AS that she sees are avid animal lovers. "Animals don't care if you can't have small talk about the weather," she says. "There's just not as much anxiety as there is with human interactions, so you can really connect."

Kiriana behaves loyally toward her family and friends, but she balks at saying she loves anyone. "While there are many people who certainly matter to me, I'm not sure I can qualitatively summarize whether or not that constitutes love," she says. She doubts she could ever fall in love.

For as long as she can remember, she's had a need for rational understanding, to take things apart to know how they're put together. That kind of thinking has helped her become an ace science student, a precise artist, a forceful writer—all in spite of, or maybe because of, her Asperger's traits. The paradoxes of her personality—those exceptional bursts of creativity and disability, a desire for closeness that competes with her contented solitude—will keep generating tough puzzles for Kiriana to work on, even if the actual solutions are more elusive.

"I spend a lot of time watching the rats in the lab," she says. "Sometimes when I watch them, I feel jealous. The way they interact is so connected. And when they play, I often wish that I could join their party."