

Behind the Scenes at the New New York Times

David Corcoran 5/26/10

Here's the article I'll be discussing on Wednesday. The first 500 words, highlighted in yellow, are all you need to read (though you're welcome to read all the way to the end). Among the questions we'll discuss:

Does this meet the description in the writer's pitch?

What's its point, and does it make that point effectively?

In what ways does it or doesn't it make you want to go on reading?

WALNUT CREEK, California – I'm sitting in front of a gray plastic console that resembles an airplane cockpit. Each time I move, a small reflector on a makeshift tiara resting on my forehead alerts an infrared tracking device pointing down at me from above a computer monitor.

Watching the screen, I'm supposed to click a mouse each time I see a star with five or eight points, but not for stars with only four points.

It's a truly simple task, and I'm a college-educated professional.

So why the heck do I keep getting it wrong?

Ten minutes into this 20-minute high-tech torture session, I find myself clicking at a lot of four-point stars, while sighing and swearing

and stamping my feet with each new mistake, sending further unflattering information to the contraption, via tracking straps Velcro-ed to my legs.

Harvard University researcher Martin Teicher, who came up with this system, has a simple explanation for my predicament.

“You have some objective evidence for an impairment in attention,” he tells me, adding, in an apparent effort to reassure, that it’s “a very subtle” case of Attention-deficit/Hyperactivity Disorder.

The evidence, as Dr. Teicher explains, derives not only from my having clicked the mouse so many times when I shouldn’t have, and occasionally from *not* clicking when I *should* have, but from less readily discernible phenomena, picked up by his gizmos, such as the unusually high frequency with which I shifted attention states – from on-task to impulsive to distracted and back again– and the patterns of my head movements.

Such clues, says Dr. Teicher, promise new hope of clarity in detecting an exceptionally elusive disorder. His “Quotient ADHD System” – being sold nation-wide as of last January -- is in fact one of the latest spin-offs in an increasingly determined if controversial quest to find a “bio-marker” – or smoking gun – for this impairment.

The past several decades have produced a rapidly multiplying number of ADHD diagnoses – and debates. Is clinical-grade distraction just a symptom of our hyper-plugged-in, frazzled era? A disorder or a personality flaw? The product of naughty genes or bad parenting?

Is ADHD rampantly over-diagnosed in children, due to over-anxious parents and pill-pushing shrinks? Or even as some kids may be treated without just cause, is it truly, as Teicher and most other mainstream researchers insist, an unequivocal neurological deficit that, left *untreated*, can ruin school report cards, marriages, and careers?

These questions are doubly difficult in light of the standard treatment for ADHD: stimulant medications, with all their potential for side-effects and abuse.

Despite the perils pertaining to a wrong diagnosis, however, the most common way of detecting ADHD is still a patient's – combined, for children, with a parent's and teacher's – highly variable answers to a checklist of questions about symptoms that most mortals suffer at one time or another. Do you, or your child, often make careless mistakes? Do you often seem not to listen when spoken to directly? Do you often not follow through on instructions...etc.? Then you may be on the spectrum.

“The method is incredibly subjective,” argues Teicher, noting that

answers may depend on how distressed a parent or teacher was feeling on a given day. Yet another problem is that parents and teachers, and, indeed, mothers and fathers, often disagree, obliging a doctor to choose whom to believe.

No wonder, in this context, that the BioBehavioral Diagnostics Company, the Westford, Mass. startup marketing Dr. Teicher's system (and paying him royalties) emphasizes the alluring hope of certainty.

"Finally, a clear picture of ADHD," say the promotional brochures.

"We see this as a billion-dollar market," says company vice president Carrie Mulherin. "The need is so great for objective information."

Starting in the summer of 2008, when the company began regional marketing, this pitch has helped convince 70 clinicians, in 21 states, to lease or buy a Quotient system, the list price of which is \$19,500. (In January, BioBehavioral Diagnostics added a national sales force.) Walnut Creek psychiatrist Randy Bloch, who is demonstrating the program for me today, has been leasing it since last September, while considering a purchase.

"I think it's really cool," Dr. Bloch says. "It would be great to have more objectivity."

((Young, energetic, and educated at Yale and Stanford, Dr. Bloch is

what marketing experts might call a classic early adopter. He learned of the Quotient system through his brother, a venture capitalist, although neither of them has invested in the company. In addition to his lease payments, Dr. Bloch pays BioBehavioral Diagnostics \$55 for each patient taking the test, while charging insurance companies as much as \$200.))

While he says he wouldn't diagnose the disorder on the basis of test scores alone, he has often found it to be a useful deal-clincher. One recent patient was a 17-year-old girl whose parents didn't initially "buy in" to the diagnosis, he says. Seeing the scores from the machine helped convince them to try medication.

The Quotient system has also helped Dr. Bloch discourage new patients who've come to his office with claims of attention problems, but whom, he suspects, were merely interested in taking stimulants for fun, or in hopes of more productivity.

((("You can tell if they're trying to game the test," he tells me, pointing to a colored graph on my own assessment denoting attention states. Green marks attentive; yellow is impulsive; red is distracted, and blue is "disengaged." A lot of blue might lead you to suspect someone is failing on purpose.

((While I frequently switched between green, red, and yellow, I didn't

have any blue on my graph.

“You were working hard,” Dr. Bloch says, approvingly.

“It’s how I cope,” I mutter.))

Dr. Teicher says another advantage of the Quotient system is that it provides an efficient way to figure out the most helpful kind and dose of medication to treat attention problems. “The stimulants work very quickly,” he explains. “So once we’ve tested a child, we could give him a dose, wait ninety minutes, and if he’s a responder, his performance will improve enormously. If not, we can bring him back the following week and try a different medication. This is a process that normally takes months or years.”

The Quotient system isn’t the first attempt of its kind, nor will it be the last, say other attention researchers. In southern California, Dr. Daniel Amen has built a business empire on his claims that he can detect a patient’s ADHD with a brain scan using Single Photon Emission Computed Tomography (SPECT) – despite arguments from many mainstream researchers that the technology isn’t up to that task.

Dr. Teicher’s program is on more solid ground, since its main feature is a variety of the so-called Continuous Performance Test, which mainstream research has shown to be a significant indicator of

ADHD. Yet Dr. Teicher says the state-of-the-art continuous performance tests offer a detection rate that's only "slightly better than flipping a coin," while his addition of the head-movement detector improves that rate to the level of "extraordinarily accurate."

The key, he says, is what he suspects is the true bio-marker for ADHD: an unstable control of head movements and posture, particularly while paying attention to a boring task.

The National Institutes of Health has supported this line of reasoning, awarding Dr. Teicher a \$1 million grant last fall, with funds from the federal stimulus package, to delve further into the quest for a definitive test or biomarker for ADHD. He plans to focus his research on three detective strategies: his Quotient system, MRI brain scans to compare blood flows in targeted brain regions, and the ActiGraph, an activity monitor widely used by medical researchers. ((To be sure, however, the fact that the government has given him funds to continue his research into "potential bio-markers" begs the question of whether it's premature to sell devices based on the validity of those bio-markers.))

James Swanson, a developmental psychologist and ADHD researcher based at the University of California at Irvine, praises Dr. Teicher's research, echoing his concerns about the need for a more objective test to detect the disorder. But he questions whether the Quotient system

truly produces more reliable diagnoses than a doctor's dogged questioning of a child's parents and teachers, and also whether it's an appropriate way to figure out the right dose of medication. "It's essentially a dull, boring task," he notes, "so do you want to medicate your child to pay attention to dull, boring tasks?"

As I leave Dr. Bloch's office with my printed-out assessment, I'm pondering some questions of my own. How much of my supposed impairment is rooted in my brain, and how much in a culture that daily trains me to jerk my focus back and forth between emails, cellphones, and "tweets"? Do I need Ritalin or a meditation retreat – or just more interesting work, or maybe more peaceful children?

I crave objective answers – but I may just have to wait for *Quotient – the Sequel*.

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