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# Brainstorm: A Tale of Two Video Clips

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# A Tale of Two Video Clips

By: John Medina | Posted: January 3, 2012

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I have spent a lifetime trying to understand the distance between a gene and a behavior. Using the lens of psychiatric disorders, I've spent most of my professional life as a private research consultant, primarily to the pharmaceutical and biotech industries, on issues related to mental health. Despite great strides made in the field by literally thousands of colleagues, I am here to report that the rocky terrain between behaviors and genes lies mostly unmapped. For that I blame two video clips, both featuring legendary golfer and famously troubled ex-husband, Tiger Woods.

The first clip is a 30-second spot of Tiger and his father on an old TV program. Tiger runs gleefully out on the stage in a red cap and matching golf bag. He takes out a driver and whacks a golf ball straight to the back of the stage – seemingly into infinity, actually – to everyone's shock and amazement. Tiger is 2 years old. When viewing this clip with friends, I have often been asked: "What is happening here? Was Tiger *born* with this gift?" My answer is usually something like a shrug of the shoulders, and a nod. At 24 months, it sure seemed like it.

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The second video clip is actually a Nike commercial. Tiger's father is dead, his marriage is dying, and a very adult golfer is looking very forlorn. So is his golf game. As of November 2011, he had not yet won a single tournament. Why? Though Tiger still had his DNA, he did not seem to have his career. Again I am asked the same question: "What is happening here?" If Tiger's gift was exclusively sunk into his genes, he could no more alter it than he could change his eye color. Right? He has the same eye color. He does not have the same winning record.

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These two clips illustrate nicely why the distance between genes and behaviors is such a mysterious, complex rocky road. To this day, we have no idea why some people are born natural athletes and others are not. We also have no idea why these gifts can be altered, why batters get into slumps at the heights of their careers and golfers stop winning tournaments. The glib answer is that both DNA and environment are involved, each making

contributions, though the exact percentage depends upon the behavior. And the state of research. Where nature leaves off and nurture begins is an issue so murky that it may not even be the right question. You can reliably state for most behaviors that both genes and environments are involved, something we used to call nature versus nurture. (The *versus* was eventually rejected in favor of the more egalitarian, and more accurate, nature *and* nurture). Assessing the relative contributions of each is where the current shadow lies.

It is directly into this shadow that we are headed.

This blog is a lesson in cartography, dedicated to mapping the shadowy twists and turns along the highway connecting genes and behaviors. As Tiger dramatically illustrates, we will discover that DNA is ridiculously complex, human behavior notoriously messy, and bullet-proof explanations of their interactions as rare as a hole in one. Don't worry too much about the technical issues, however. Even though complexity abounds, I will assume you have only a basic high school recollection of biology in your intellectual golf bag. All that is needed is a sense of adventure, and a willingness to think critically about what human behavior actually means. And perhaps some tolerance for ambiguity.

We will not be able to explain the distance between Tiger's two videos. Yet we will see that science is not clueless about the issue. And — like Tiger, perhaps — we'll be a bit bewildered by what we see.

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## Comments

### ONE COMMENT TO "A TALE OF TWO VIDEO CLIPS"

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Ann Holm says:

January 3, 2012 at 8:20 am

Dr. Medina! I am a big fan of your work. You need a Twitter feed for this. Your work is too good to pass up, too good not to share!