

InSights

The Real Reason Sharks Might Bite You

Only a few very bold sharks may pose a danger to humans.

SERIOUS SHARK BITES ARE

remarkably rare, but their randomness can still strike fear in the hearts of swimmers everywhere. A popular but unproven theory posits that sharks bite humans due to mistaken identity, confusing them for seals or other prey. But a new paper offers a more plausible explanation—one that could help make sharks a bit less scary.

Writing in the journal *Behaviour*, marine biologists Eric Clua and Carl Meyer argue that the mistaken-identity hypothesis, despite its appeal, has some glaring holes. For one, it assumes that sharks rely on vision as much as humans do. In reality, sharks rely on multiple senses when discriminating prey, making it unlikely that they would bite based on vision alone. What's more, bites often occur in clear water or are committed by species that don't prey on anything remotely human-size.

If sharks aren't making "mistakes," why do they bite? The authors propose a natural-exploration hypothesis, arguing that sharks continuously explore their environments and sometimes investigate novel objects by biting them. Because sharks don't teach their young, individuals must develop predatory skills on their own—and, lacking hands, have little choice but to use their mouths to examine unfamiliar objects.

But sharks, like people, have personalities, Clua explains. "The two main traits linked to shark bites are boldness vs. shyness and risk-taking vs. risk avoidance." The good news? The vast majority of sharks—upwards of 95 percent, he estimates—tend toward shyness and risk avoidance. Only a few bold risk-takers are likely to bite the unknown.

Disabusing ourselves of the idea that bites are mistakes could, Clua hopes, change our perception of sharks as mindless biting machines. "The fact that some 'deviant' sharks exist doesn't make all sharks a problem," he notes; most sharks, in fact, are nothing to fear.

—Mary Bates, Ph.D.