Biology explains why men kill big game like Cecil the lion—and how that behavior might be stopped

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Why do some humans engage in expensive ventures to hunt lions, elephants and other big-game species that often are endangered or otherwise threatened?

The cost, according to a trio of scientists, is exactly the point: These pricey big-game hunts are meant to show off men's high social status to competitors and potential mates.

The findings, published in *Biology Letters*, offer an evolutionary hypothesis for why humans kill animals they don't need for sustenance - and hint at a possible tactic for discouraging that behavior.

The death in 2015 of Cecil the lion in Zimbabwe by an American recreational hunter triggered waves of international outrage. Trophy hunting is not new; in fact, many countries have tried to tie it economically to their conservation efforts. But the rise of the internet and social media - where hunters often share photos of themselves smiling next to their kills - has brought the practice to the forefront, particularly at a time when large predators are suffering precipitous population declines.

"The killing of Cecil the lion (Panthera leo) ignited enduring and increasingly global discussion about trophy hunting," the study authors wrote. "Yet, policy debate about its benefits and costs focuses only on

the hunted species and biodiversity, not the unique behaviour of hunters."

And much of human hunting behavior is indeed unique. Lead author Chris Darimont, Hakai-Raincoast professor at the University of Victoria in British Columbia, and his colleagues have described humans as "superpredators" who don't follow the typical rules of other carnivores in the animal kingdom - which can have devastating consequences for wildlife populations.

The average lion, hyena or wolf "typically picks prey that are newly born (the juveniles) or nearly dead (the sick and weak animals, the substandard animals in populations) and they eat them," the conservation scientist said. "And this really bizarre, unique predator, (the) human being, kind of does the opposite. We target the large; we target animals for characteristics that have nothing to do with their nutritional value; we target animals with big horns or antlers."

These also are more dangerous animals, which means a human hunter is raising his risk to life and limb. Attacking a large animal with big horns doesn't seem to make a lot of sense. But puzzling behaviors often have an evolutionary driver, so the scientists set out to see whether they could find a logical explanation for this human practice.

The researchers began by considering the subsistence hunting habits of "traditional hunter-gatherers" - modern-day populations whose lifestyles more closely mirror those of ancient humans.

Darimont pointed to the indigenous Meriam population of Australia as an example. Men and women both hunt for green turtles but employ different methods. Women nab the turtles when they come ashore to lay eggs - an efficient, low-cost way to get a meal. But men take boats to sea and dive into dangerous waters to pursue the same turtles. The hunt is

both costlier and riskier than the ostensibly far more effective method used by the women. In addition, men who return home with a big animal end up having to share it with their community rather than feeding it only to their families.

And yet the men continue to hunt in that manner because there is another advantage: Hunting turtles at sea falls into what scientists call "costly signaling behavior." Men show they have the resources to take on such a costly task - and if they have the resources to do that, the thinking goes, then they must have plenty to devote to offspring, making them more attractive to potential mates. In fact, those male Meriam turtle hunters gain social status in their communities, get married earlier to "higher quality" mates and have more surviving children (which, in many ways, may be the ultimate measure of reproductive success).

"For such behavior to be maintained, even the attempted hunt must signal that the hunter can sustain the handicap of high-cost, low-consumption activity, providing honest evidence of underlying phenotypic quality," the study authors wrote.

So these behaviors aren't about bringing home the bacon. They're about bragging rights and the social stature that comes with them.

While this seems to be a particularly human trait, it may not be unique. Chimpanzees also spend more time and effort hunting "without commensurate food consumption gains."

"Similarly, some seabirds like the pigeon guillemot (Cepphus columba) show off 'display fish,' sometimes for hours," the authors wrote. "Often discarding them, the behaviour is likewise thought to be social, related to site-ownership display."

With big guns and professional guides often helping them find targets

from a safe distance, big-game recreational hunters aren't spending a lot of physical effort hunting their quarry, compared to our ancestors, and they aren't risking life and limb in the same way either. But they are spending lots of money to kill these animals, they're choosing species typically not eaten, and they engage in display behavior - having photos taken next to their fallen prey.

The overall effect emanates a costly signaling behavior: Look at me! I can spend this much on an expensive activity I don't really need to do to survive. I would make a good mate, ladies - and you other males stay away from my turf, if you know what's good for you.

Social media has amplified these hunters' ability to signal their perceived social status. Such networking also could explain why some women hunt big game, even though it isn't a traditional evolutionary driver for them.

"We speculate that such behaviour, counter to expected gender norms (and their evolution), might allow for increased attention in an increasingly competitive social media and marketing world," the study authors wrote.

But social media is a double-edged sword. Just as it might fuel enthusiasm for big-game hunting, it also opens hunters up to shaming by critics (as Cecil's hunter, Walter Palmer, discovered). Such public outcry, Darimont and his colleagues point out, may be a key tactic among those who want to reduce the killing of such targets.

"If these hunters are hunting for status essentially, there's nothing like shame to erode status," Darimont said. "So where the internet might fuel this kill-and-tell generation, it might also provide a vehicle for those opposed to trophy hunting to emerge with a powerful strategy."