

Human exceptionalism hinders environmental action, scientists find

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Johanna L’Heureux, who studies marine and environmental science, works on field research at Plum Island Estuary in Rowley, Massachusetts. Credit: Matthew Modoono/Northeastern University

What is nature? When Northeastern University researchers asked a

sample of undergraduate students this question last spring, many of their responses included "the outdoors," "flora and fauna that exist without human interference" or "natural environment."

"That's a very typical response," says John Coley, professor of psychology at Northeastern. "It's like there's us—and then nature is all the stuff that's not us."

Scientists call this widely spread way of thinking about the human-nature relationship "human exceptionalism"—when people believe that they exist independently of the ecosystems they live in and draw a sharp line between themselves and what is considered nature.

However, from the scientific point of view, humans are part of the living organisms within an ecosystem that interact with the nonliving environment, says Brian Helmuth, professor in the Department of Marine and Environmental Sciences and School of Public Policy and Urban Affairs at Northeastern.

Coley and Helmuth are co-authors of new research that aims to decipher how human exceptionalism impacts people's understanding of environmental issues and, ultimately, pro-environmental behavior. This exploration was inspired by another co-author, Nicole Betz, who had found that human exceptionalism appeared to play an important role in how people think about climate change, while working on her [doctoral dissertation](#) at Coley's lab.

The conclusions they have arrived at thus far in a recently published paper explain why some proposed solutions never made a difference. The paper is published in the journal *Topics in Cognitive Science*.

"We can come up with all sorts of intricate and cutting-edge science and engineering solutions to [environmental problems](#), but unless those are

accepted and taken up by people, and consistent with their worldviews, it's all for nothing," Helmuth says.

There's a growing understanding among experts, he says, that science and engineering need to be interfaced with social and cognitive sciences in order to understand how people think about environmental and climate-related issues.

People respond to representations of the world that their mind constructs rather than the actual world, Coley says. Understanding how people construct their comprehension of nature and perceive environmental issues can help experts create interventions and start finding common ground with the public, he says.

After conducting several studies among Northeastern undergraduate students and outside respondents through Amazon Mechanical Turk, the scientists concluded that human exceptionalism is especially true for Western, educated, industrialized, rich and democratic populations.

"As the West influences the rest of the world, I think human exceptionalism is one of the lovely cultural gifts that we've brought [to other places]," Coley says.

The researchers also argue that human exceptionalism has serious implications in terms of environmental decision-making, conservation, [environmental science](#), nature management and climate change adaptation. Sometimes, it can invoke feelings of guilt and moral obligation to bear the responsibility for climate change, they say, but if it leads to out-of-context environmental decisions made without an accurate or holistic understanding of natural systems, it can cause further ecological damage.

For example, wetlands are really good at absorbing storm surge, Helmuth

says, removing pollutants from water and preventing flooding. When a wetland gets destroyed, humans usually build a seawall in order to replace those services. But a seawall creates further erosion that then needs to be mitigated again.

Exceptionalist culture, Helmuth says, may take it as a given that when humans destroy something like other organisms, they can just put a monetary value on the problem and try to mitigate it. However, people don't really pay attention to what nature does for humanity, what kinds of ecosystem services it provides.

"Part of what we're advocating for is that we can't operate independently of nature and not expect to be part of that feedback loop, whether we recognize it or not," Helmuth says. "Once something is on a decline, bringing it back is so much harder than protecting it to begin with."

This research also shows that higher levels of human exceptionalism discourage pro-environmental attitudes, values and behaviors like mitigating [climate change](#) or investing in environmental cleanups.

"There is probably the idea that if I'm not a part of this system, then it's less important for me to be invested in preserving and protecting the system," Coley says. "Whereas if I'm intimately connected to the system, then you could even say it's in my own selfish, best interest to be environmental because I depend on the environment."

Although people do have some cognitive patterns or biases that seem universal and are built into human cognitive architecture, Coley says, he thinks human exceptionalism is not one of them.

"Some research suggests that human exceptionalism is a learned cultural phenomenon," says Joan Kim, a doctoral degree candidate and another co-author of the research. "So, maybe, given a huge cultural shift, we

will see a significant decrease in human exceptionalism in the future."

The researchers are suggesting that pointed interventions can help decrease human exceptionalism and change the ways in which people are currently thinking about nature and environmental problems.

"You don't need to ship people off to Yosemite to get people to start to think about ways in which they're connected to the natural world," Coley says.

Instead, interventions can emphasize what local effects pollution of urban waterways, for example, have on people and eventually help them realize that they're completely surrounded and embedded in nature.

"By adding the tools and insights of social and cognitive science to those of environmental and biogeophysical science and engineering, we can address the complexity of these problems with a correspondingly complex, interdisciplinary and transcultural response," the researchers say.

Making humans overcome an anthropocentric mindset by considering potential impacts on ecosystems is the ultimate challenge before people run into snowballed unintended environmental consequences.

"We need to have larger conversations," Kim says. "And I don't think that we can do that until people largely come to an understanding that we're not isolated from nature."

More information: Joan J. H. Kim et al, Conceptualizing Human–Nature Relationships: Implications of Human Exceptionalist Thinking for Sustainability and Conservation, *Topics in Cognitive Science* (2023). [DOI: 10.1111/tops.12653](https://doi.org/10.1111/tops.12653)

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