Extinction Denialism and Other Environmental Conspiracies: The Psychology

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I am proposing that more research be conducted on extinction denialists: a niche group of people who believe that we are not in an anthropogenic mass extinction today. The reasoning behind this scientific rejection varies from questioning the possibility of extinction in itself to denying the human causation of said extinction. Many of these people, particularly those outside of the scientific community, belong to other environmental conspiracy groups as well, such as the climate change denialists. Acknowledging this correlation, I suggest that further research must be conducted to find psychological patterns between these conspiracists. Methodology includes case study, survey, and neuroimaging. I predict that extinction denialism generally derives from teleologic bias combined with higher anxiety, distrust, and social isolation. These results could be useful for those in the scientific community who are trying to prevent the spread of scientific conspiracy as well as its dangers.

2020

**Introduction**

Scientific denialism has likely existed for as long as science has existed, but it is becoming increasingly accessible to the public and as a result, increasingly dangerous. For a long time, scientific news spread incredibly slowly, so denialism and conspiracy theories spread just as slowly, if at all. The majority of news was entirely localized. Today, people are exposed to thousands of opinions a day through the Internet, many of which they never would have heard of otherwise. As a result, opinions outside of the norm circulate quickly and tend to generate more publicity from blogs and journalistic sites for the sheer shock factor. This can create a media frenzy as we have seen with the climate change denialist movement, gaining these groups more and more support simply from the increased exposure. Just today, November 5th, 2020, a celebrity posted a video on Instagram about the dangers of mask-wearing and received millions of views. The information was completely fabricated but had been circulated so much that people were unable to trace the root which would have led them to realize its lack of evidence. The newest group of these frenzying conspiracists are extinction denialists: people who believe that species extinction is either impossible or not a major problem. The spread of this idea is increasingly dangerous as it makes factual extinctions a debate, causing people to take conservation lightly and underestimate our effects on the planet. This attitude exactly, particularly in big corporations, is what keeps us from making progress with environmental restoration. But to stop this problem of “alternative facts”, we must look at the root. What causes this mob mentality and rejection of science? What is the psychology behind environmental conspiracy? I intend to answer these questions.

**Background**

Extinction denialism varies in belief a great deal more than other environmental conspiracy theories. Some believe that extinction is not happening all together simply because we haven’t heard of “major” species dying off (Shanahan 2020). Others believe that extinction is real, but we are not experiencing the 6th mass extinction currently. They argue that species extinction is a natural cycle of Earth and that it is not our place nor our problem to tamper with that (Shanahan 2020). Still others believe that extinction is a problem, but it is not a human-caused problem and therefore out of our management (Boyle 2020). The (current) sixth mass die-off, the Anthropocene, has been scientifically proven by comparing the extinction rate of the last two hundred years with the extinction rates in previous mass die-off periods like the Crestaceous. By comparing fossil records and carbon dating, paleontologists have determined that we are currently in the very beginning of the largest die-off in Earth’s history, and directly because of human activity like industrialization (Dirzo 2014). As of today, 32% of the known vertebrate species on Earth are in significant decline either directly or indirectly due to human activity (BioInteractive 2015). To put this into perspective, humanity makes up only 200,000 of 4.5 billion years of Earth history. We have only existed for .004% of Earth’s life and a geological epoch generally lasts longer than 3 million years. During the entire Devonian Mass Extinction, 75% of vertebrate species went extinct (BioInteractive 2015). We are almost halfway to that point while only existing for 6% of the time of an average epoch, with almost all of our major environmental impacts taking place in the last 200 years post-industry (BioInteractive 2015).

As I had mentioned in my introduction, extinction denialism is one of the newest environmental conspiracies to gain traction in the media, but its psychology can be traced through other conspiracy research. In 2014, Gallup reported that half of the United States population still rejected the evolution theory (Levy 2019). Neil Levy argues that this rejection of strong evidence can be explained by how we interpret testimonial cues. The politicization of science has made it so that those leaning right are less likely to believe that science is reliable through its association with the left (Levy 2019). This is amplified by the right’s tendency to distrust government or overhead powers. Levy believes that this aspect of dissent easily rivals the common idea that those who believe in conspiracy theories are uninformed and irrational (2019). He argues that a deficit in both would not explain the full picture, and he has strikingly found that conspirers are often are very informed on the subject (2019).

**Methods**

Because my research includes human psychology, I will need to appeal to the IRB to have my experiment approved as ethical for human subjects. As there is no perceived threat to the participants in this experiment besides the normal radiation from a single MRI, I do not anticipate any problems here. My methodology would then include a campus-wide survey that would ask students and faculty how much of a problem special extinction poses to our environment and us. Considering that LMU primarily consists of the young, educated, and liberal, I will conduct an identical survey in a rural, older town by my home in Maryland. First, demographics will be recorded followed by extinction specific questions, then general environmental opinions. The survey will consist of questions like:

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| Do you believe that many of our species are at risk for extinction? |
| If yes, are many of those extinctions human-caused? |
| Are you aware of mass extinction cycles on Earth? |
| Do you believe that we are in a mass extinction currently? |
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| What past or present policies are you in support of regarding environmental management? |
| Do you believe that the climate is changing? |
| If yes, is it significant enough to be a problem? |
| If yes to the first question, is climate change human-caused? |
| Should the government prioritize environmental conservation over economic practices like fracking? |
| What is your experience and relationship with the environment? |

Then, after analyzing the results of the survey, I will conduct an experiment with five people that can be described as “extinction denialists” and five people that can be described as anti-denialist conservationists. There will also be a control group of five people that test as neutral on the survey and do not follow related environmental conspiracies. I will conduct an MRI scan on each participant while they read news stories, talk about their daily lives, and perform basic trust exercises. Then each person will take a detailed paper scenario test (“Your boss calls you into his office, what is your first thought?”) designed to assess their reasoning/logic, agreeability, impulsivity, adaptability, trust (particularly of authority), self-esteem, anxiety, and sociability. Finally, each person will be asked simply to explain their environmental beliefs and how they think those beliefs manifested in their lives. I will perform a thematic analysis on the results of all three separate portions of the study, and assign each person a 0-10 rating for anxiety, social isolation, and distrustfulness.

**Expected Results**

I predict that people who are noted to have lower adaptability, trust, agreeability, and self-esteem with an increased self-isolation are most likely to be involved with conspiracy theories like extinction denialism. A lower adaptability score means that someone is less open to change in their life, so new ideas naturally are not easily accepted. We see this with older generations many times as they refuse to believe new science because it’s simply contradictory to when they were growing up, also leading to decreased trust. Someone with a low adaptability score might find extinction denialism attractive because of the nostalgia of when they were unaware of the possibility or imminence of the problem. Things were fine (to them) \_\_\_ years ago, and things seem fine enough to them now; therefore the problem must not exist. This nostalgia has been incredibly dangerous for the country as people favor the old over the better. This also connects with my prediction that trust is the most important component in this study. Those that do not perform the trust exercises easily and create ulterior motives out of news articles likely hold the least amount of trust for the US federal government. As we saw with the “fake news” presidential campaign, playing on people’s fears of being deceived can be incredibly powerful. This lowered trust can be a major factor in increased anxiety, the next (predicted) crucial factor in the experiment. The more unnecessary anxiety a person has, the more they begin to rationalize it and will look for people with similar distrusting views like extinction denialism. This can increase social isolation from the outside world and restrain the person to their small group with very specific, identical views. Simply put, the higher the total score on the Trust-Anxiety-Social Isolation scale, the more likely someone is to rationalize extinction denialism and other conspiracies. They then are within their rights to create movements based on these beliefs despite lack of evidence in the name of freedom. In a “free” country, we tend to value that freedom to express dissent while also dramatizing perceived “threats” to that freedom (“Bush did 9/11” etc), making the government and higher powers appear perpetually suspicious and inherently malevolent.

**Conclusion**

In conclusion, extinction denialism is just another product of American democracy. By creating a country that values freedom of expression over truth, we forever run the risk of “alternative fact” campaigns like extinction denialism becoming popular and taking power away from legitimate scientific research. The danger is that people begin to view conservation for the sake of slowing mass extinction as debatable, making them far less likely to become concerned enough to act. This is a very difficult situation to resolve as any attempt to dispel false facts is automatically viewed as censorship or a cover-up. These conspiracy theories have found the perfect formula (fear + distrust + shock factor + freedom) that cannot be replicated by the scientific community for the sake of scientific integrity. I do not believe that the viable solution here is accountability. With the Internet, it is growing closer to impossible to trace false facts and have them be definitively debunked, less so outrightly denied by the public. I believe that the solution is for the scientific community to become more accessible and approachable to the public. This has been a problem for decades now as we tend to reach for the easy and dramatic; we would rather read “The government faked the mass extinction!” than “University of Florida students find an old dating error leading us to believe that current extinction predictions are grossly underestimated.” National Geographic and other magazines have attempted to make scientific research more accessible, but these magazines are not regularly read by enough demographics (particularly the lower class as they require an expensive subscription) to counter the flash journalism siding with extinction denialists. The scientific community has for so long attempted to remain above American politics but has found itself more buried in it than ever. This is of course inevitable, but because there is no escaping, the scientific community needs to accept this fact and use it to spread true evidence. Conspiracy theories will never leave the spotlight, so if the scientific community creates a brief, interesting, and accessible way to communicate with the general public, I believe that more people will trust scientific evidence in the future.

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**Budget**

Six months prior to the 2024 presidential election, I will submit the proposal to the IRB. Assuming I receive results in two to three weeks, this allows time for changes and resubmission. Certification costs $2500. 15 MRI scans will amount to roughly $8000 and each participant will be given $200 for their time, making the grand total $13,500. The surveys will be conducted over paper, and the interviews verbally with a recording. The participants would be chosen around three months before the US presidential election, 2024. Their demographic information would be recorded along with their neuroimaging the second month of the study. The scans would be recorded first to diminish targeted questioning during scans. The surveys would be conducted about a week later. After the presidential election, there would ideally be a follow-up survey designed to test changes in boldness of assertions in order to account for politicization of environmental beliefs.