What limits more widespread pro-environmental behaviour on the part of individuals for whom such actions are feasible?

Obstacles to desired behavioural goals, or 'dragons of inaction' ... fall into seven genera, each of which contains subspecies, and all 30 dragons hinder positive action.

Dragons, mules, and honeybees: Why we do less than we should, and how we can overcome

Professor Robert Gifford
University of Victoria, Canada

If so many people are concerned about the environment, why aren't more of us doing what is necessary to ameliorate the problems?

Of course, many individuals and organisations have taken many steps in this direction, and others actually are helping the environment without intending to; these are mentioned later. However, as a whole, humans continue to degrade the environment and produce massive quantities of GHGs.

In some cases, the reasons for this are structural, and therefore beyond an individual's reasonable control. For example, a low income severely limits one's ability to purchase solar panels, living in a rural area usually means that public transport does not exist as an option to driving, and living in a region with very cold winters greatly restricts one's ability to reduce home-heating-based energy use. However, for many others who are not held back by structural barriers, many beneficial environmental choices are possible, but are not adopted, at least to the extent necessary. Thus, the question remains: What limits more widespread pro-environmental behaviour on the part of individuals for whom such actions are feasible?

Obstacles to desired behavioural goals, or 'dragons of inaction' as I call them, fall into seven genera, each of which contains subspecies, and all 30 dragons hinder positive action.

Limited cognition

Humans are famously less rational than once believed. This is as true for thinking about environmental issues as it is in other behaviour domains.

Ancient brain

The human brain has not evolved much in thousands of years. At the time it reached its current physical development, before the development of agriculture, our ancestors were mainly concerned with their immediate tribe, immediate risks, exploitable resources, and the present. These here-and-now concerns are incompatible with solving environmental problems, which often involve distant risks and delayed impacts. Our ancient brain is capable of dealing with global climate change, but it does not come naturally.

Ignorance

Some people simply remain unaware of key environmental realities. Others are paralysed by a lack of knowledge about which actions to take, how to undertake actions of which they are aware, and the relative benefits of different actions.

Environmental numbness

Our phenomenal world is composed of more cues than we can monitor, so we attend to selected elements of it. Thus, people often are unaware of problematic environmental elements, such as subtle changes in the climate. Behaviour change is unlikely when this is the case.

Uncertainty

Research demonstrates that perceived or real uncertainty reduces the frequency of pro-environmental behaviour. In general, people interpret uncertainty in ways that serve their self-interest. If I believe that global warming may not be occurring, and I desire a fuel-inefficient vehicle, I will be tempted to buy it.

Judgemental discounting

The discounting dragon leads people to undervalue geographically distant risks. We recently found in a multi-national study that people believed environmental conditions were worse in countries other than their own—and, of course, people in those countries believed the same thing about other countries. When problems are presumed to be worse elsewhere, people are less motivated to improve their own environment.

Humans are famously less rational than once believed. This is as true for thinking about environmental issues as it is in other behaviour domains.

Participant comment

If our brains are not designed to think about future impacts of our current behaviours, how has the act of booking Rugby World Cup tickets years in advance become normal for some people? Others buy antiques or art, thinking now about the value they will have in the future (50–100 years). There is a whole international market set up to trade in future shares—anticipated values for stocks not yet in circulation. How do so many brains engage with that? Seems to me we do imagine our futures and act on these imaginings in many ways every day, so we can imagine futures where we take better care of our environments and act on that aspiration right now and here today.

Some belief systems are so broad that they pervade many aspects of a person's life. Among these are religious and political views that can be strong barriers to behaviour change.

Optimism bias

Optimism generally is healthy, but it can be overdone. For example, people underestimate their risk from 22 environmental hazards. Underestimation of risk obviously hinders pro-environmental action.

Lack of perceived behavioural control

Because some problems, like climate change, are global, many people believe that, as individuals, they can do nothing about it. Similarly, some believe that nothing can be done even by collective human action.

Ideologies

Some belief systems are so broad that they pervade many aspects of a person's life. Among these are religious and political views that can be strong barriers to behaviour change.

Political worldviews

One source of inaction on global warming is unfettered belief in free-enterprise capitalism.

System justification

"I'm all right Jack—don't rock the boat." This is the tendency to defend the societal status quo.

Suprahuman powers

Some people take little or no climate-positive action because they believe that a religious deity or Mother Nature (as a secular deity) is in complete control. Naturally, inaction follows.

Technosalvation

Mechanical innovation has an admirable history of improving our standard of living. Technology obviously can help with environmental problems, but some go further and believe that technology alone can solve the problems. Overconfidence in the efficacy of technology can serve as a barrier to one's own pro-environmental behaviour.

Significant others

Humans are social animals; we compare our situation to that of others. These comparisons take three main forms.

Social comparison

People compare their situation to others. If significant others, family, and friends are not doing their part, citizens are likely to decide that they should not exert efforts either.

Social norms

People look to others to derive their norms about what the 'proper' course of action is. Norms can be a force for progress in environmental issues, but they can also be forces for regress.

Perceived inequity

Perceived (in)equity is often heard as a reason for inaction: "Why should I change if they won't change?" Well-known persons, organisations, or other nations are cited as polluters, and these are used to justify one's own non-action.

Sunk costs

Investments of money, time, and in behaviour patterns are valuable—unless they are harmful to the environment.

Financial investments

Once invested in something, dispensing with it can be difficult. If one has purchased a car and is now paying for its insurance and other costs, why should this cosy portable living room be left at home?

Behavioural momentum

Many habits are extremely resistant to change. Some that contribute to environmental degradation (such as the use of cars) have a great deal of behavioural momentum.

Conflicting goals and aspirations

Everyone has multiple goals, and many of these clash with the goal to improve one's environmental choices. Being willing to combat climate change, for example, is not compatible with aspirations such as buying a larger house, flying to new locations, or driving a bigger car.

Humans are social animals; we compare our situation to that of others.

Everyone has multiple goals, and many of these clash with the goal to improve one's environmental choices.

When people begin with a basic disbelief in others' views, they are unlikely to take direction from them.

Participant comments

People believe those whom they know and trust.

Have people lost trust in the scientists? Have they lost trust in the news media? How do we regain that trust? Through more varied forms of media—blogs and alternative media sources.

'Trust' is relative. Compared to used car salesmen, scientists are well trusted.

If trusted advisers are important in the political process, should we be identifying them or providing them with a view to providing a common voice?

Lack of place attachment

Individuals may be more likely to care for a place to which they feel attachment than for one they do not. Place attachment is complex, but the lack of it probably acts as an impediment to action in some contexts. For example, evidence suggests that nature-based place attachment but not civic-based place attachment is related to pro-environmental behaviour.

Discredence

When people begin with a basic disbelief in others' views, they are unlikely to take direction from them. For example, if scientists and politicians are disbelieved as a matter of course, suggestions from them to be green are likely to be ignored.

Mistrust

Trust is essential for healthy relationships. When it is absent, as it is between some citizens and scientists or government officials, resistance to their behaviour-change suggestions will follow.

Perceived programme inadequacy

Policymakers have implemented many programmes designed to encourage climate-friendly behaviour. However, citizens choose whether to accept these offers, and often decide that the programme is not good enough for their participation.

Denial

Mistrust and reactance easily slide into denial. This may include denial that climate change is occurring, that it has any anthropogenic cause, or that one's own actions play a role in climate change. Mitigation is unlikely to follow.

Reactance

Some people strongly react against policy that seems to threaten their freedom. This can go beyond denial to actively choosing climate-harmful products to spite the policymaker.

Perceived risk

Changing behaviour holds at least six kinds of potential risk: functional, physical, financial, social, psychological, and temporal.

Functional risk

Will it work? For example, if one purchases an electric vehicle, it may, as a new technology, have battery problems. The same could be said for many new green technologies.

Physical risk

Some adaptations may have, or be perceived as having, danger to self or family. Is this electric vehicle as crash-safe as the SUV that I sold to buy it? Bicycles are great for climate change, but may result in a visit to an emergency room.

Financial risk

Green solutions require capital outlays. How long is the payback? If the product becomes a fixed part of a residence (like solar panels), will the owner recoup the installation costs or accrue enough energy savings before moving?

Social risk

Others notice our choices. This leaves us open to judgement by our friends and colleagues, which could lead to damage to one's reputation. If I ride my bicycle, will my significant others deride me behind my back?

Psychological risk

If one is teased, criticised, or even rebuked by one's significant others for making some green choice, one risks damage to one's self-esteem in addition to the social loss.

Temporal risk

The time spent planning a green course of action might fail to produce the desired results. Most people spend considerable time deciding whether to buy an electric vehicle, become a vegetarian, or plan how to cycle to work or school. What if it doesn't work out? The time was wasted.

Changing behaviour holds at least six kinds of potential risk: functional, physical, financial, social, psychological, and temporal.

Many people are engaged in at least minimal pro-environmental action. However, most people could do more than they are. How do they justify doing less than they should?

Certain structural barriers stand in the way of behavioural changes that would help, [and] many psychological barriers remain for individuals who do not face structural barriers ...

Participant comments

We know attitudes don't lead to actions automatically.

Psychological barriers should be targeted!

How do we use behavioural/motivational studies at the individual level to mobilise community and national action on climate change?

Limited behaviour

Many people are engaged in at least minimal pro-environmental action. However, most people could do more than they are. How do they justify doing less than they should?

Tokenism

Some pro-environmental behaviours are easy to adopt, but have little impact on the big problems. "I recycle, so I've done my part." This ease of adoption means that these actions tend to be chosen over higher-cost but more effective actions.

The rebound effect

After some mitigating effort has been made, the gain is often diminished or erased by subsequent actions. For example, after buying an electric vehicle, people may drive further.

Is there any hope?

No

Certain structural barriers stand in the way of behavioural changes that would help, but many psychological barriers remain for individuals who do not face structural barriers, including limited cognition, ideologies, significant others, sunk costs, discredence, perceived risks, and limited behaviour. Some structural barriers might be removed, but this is not likely to be sufficient.

Maybe

Psychologists and other social scientists have an important role to play if these psychological barriers are to be overcome.

Briefly, five strategies are:

1 Better understand the barriers that different groups of people face:

- Which are easiest, cheapest to overcome?
- Which are simply not going to change?
- Conduct a psychological cost-benefit analysis.

2 Educate people about the differential efficacy of pro-environmental actions.

3 Improve education about climate change and communicate the problem more effectively.

4 Design, implement, and evaluate more attractive interventions.

5 Work with other experts and policymakers; each discipline has valuable skills, and all are necessary if we are to succeed in this grand challenge.

Yes

Mules

Many people are taking many steps to mitigate climate change. These people are in the minority, but are carrying heavy loads of responsibility and action. For that reason, I call them (with affection and admiration) the mules.

Honey bees

Another group is mitigating climate change and related sustainability problems, but, perhaps surprisingly they don't even claim to be doing so. These are the people who cycle for health reasons, remain childless because they choose not to have children, use very little in the way of resources either because they are poor or have chosen simplicity as a lifestyle. Because they help without intending to, I call these people honeybees; the insects of that name keep us all in food, but their own goals are to serve their hive, not to feed us.

Many people are taking many steps to mitigate climate change.

Another group is mitigating climate change and related sustainability problems, but, perhaps surprisingly, they don't even claim to be doing so.

Participant comment
What are the proportions of honey bees and mules in society?

Participant comments

I think there is a need to shift the focus of climate change away from 'climate change' as such. There are a number of other areas where significant changes could be made that would benefit climate change action without having any mention of climate change. There is a great need to reframe this issue.

When discussing specific jobs in green technology, describe the training, the actual work entailed—before speaking of the reasons for these jobs (ie combating climate change).

The co-benefits of action are more important motivators.

Framing messages

Which sorts of messages work?

- Use empowering messages, not sacrifice messages.
- Use identified messages for mules (but not for honey bees); use intrinsic messages for honey bees (but not for mules).
- Use messages about local issues.

Remember:

Climate action = Mules + Honey bees – Dragons