

Supplementary material for Ma and Hmielowski, “Are You Threatening Me? Identity Threat, Resistance to Persuasion, and Boomerang Effects in Environmental Communication”, *Environmental Communication*, 2021

Online Appendix A: Messages Used in Studies

Anti-recycling message:

Recycling is useless (pointless) because it isn't working. The cost of recycling equipment obviously exceeds the value of the recyclable items recovered. It also costs millions in municipal budgets on labor. Not only does recycling cost a huge amount of money which does not benefit the economy, but the environmental benefits of it have been oversold. Sometimes, recycling takes more energy to collect recyclables than the energy saved by recycling.

Pro-recycling message:

Recycling is important (worth it), and there are many good reasons to recycle. It is cost-effective because it is always cheaper to make products using recycled materials. It also creates new business and jobs. Not only does recycling benefits the economy, but also it benefits the environment. The amount of waste reaching the landfill sites is reduced, so that a better land use and less pollution is ensured.

Anti-industrial composting message:

Industrial composting is useless (pointless) because it isn't working. The cost of industrial composting exceeds the value of the compost produced through this process. Industrial composting also takes millions of dollars from municipal budgets that is spent on labor and equipment that could be better spent on other things like fixing roads. Not only does the process of industrial composting cost a large amount of money, which does not benefit the economy, but the environmental benefits have also been oversold. Indeed, it often takes more energy to produce compost than would be used to just discard these materials into landfills.

Pro-industrial composting message:

Industrial composting is important (worth it), and there are many good reasons for more cities to engage in this behavior. It is cost-effective because it is always cheaper to reuse waste rather than tossing it into a landfill. It also creates new business and jobs. Not only does industrial recycling benefit the economy, but it also benefits the environment. The amount of waste reaching landfill sites is reduced because of industrial composting, which goes far to improve land use and reduce pollution.

Pro-pipeline (anti-environmental) message:

Keystone XL is a planned 1,179-mile (1,897km) pipeline running from the oil sands of Alberta, Canada, to Steele City, Nebraska, where it would join an existing pipe. It could carry 830,000 barrels of oil each day.

This pipeline is worth building because it has many benefits. It will lower petro prices because of increased supply. The increased supply from Canada means a decreased dependency on Middle Eastern supplies. Keystone XL will also create 20,000 well-paying jobs during manufacturing and construction. More importantly, it can increase revenue for local governments, generating an estimated \$138.4 million in annual property tax revenue for state governments and local entities where the pipeline is located.

Anti-pipeline (pro-environmental) message:

Keystone XL is a planned 1,179-mile (1,897km) pipeline running from the oil sands of Alberta, Canada, to Steele City, Nebraska, where it would join an existing pipe. It could carry 830,000 barrels of oil each day.

This pipeline is NOT worth building because it has many downsides. It will require far more fuel, water and carbon emissions to extract the petroleum from the Alberta oil sands than conventional oil and gas. The process of getting petroleum will damage the immediate environment from creating toxic environmental runoff and destroy many acres of Alberta forest. More importantly, a potential leak from a pipeline carrying the heavy oil-sands petroleum could cause more environmental damage than a leak from a standard oil pipeline.

Online Appendix B: Measures Used in Studies

All indexes used the same 7-point scaling structure of 1 (strongly disagree) to 7 (strongly agree)

Environmental Identity (all studies)

I think of myself as an environmentally-friendly consumer

I think of myself as someone who is very concerned with environmental issues

My own interests usually seem to coincide with the position advocated by environmentalists

Being part of the ecosystem is an important part of who I am

Engaging in environmental behavior is important to me

If I had enough time or money, I would certainly devote some of it to working for environmental causes

Living a sustainable lifestyle is part of my moral code

Identity threat (Note, in study three we modified the question to be specific to an environmental identity [e.g., makes me feel uncomfortable about my environmental beliefs])

The message I just read undermines my sense of self-worth

The message I just read makes me feel less unique as a person

The message I just read makes me feel uncomfortable

The message I just read attacks my beliefs

Reactance

I am being manipulated to form a certain view about recycling

I am being pressured to think a certain way about recycling

I feel that others are trying to force their opinions on me about recycling

Counter-Arguing

While reading the message, I sometimes found myself thinking of ways I disagreed with what was being presented

I found myself looking for flaws in the way information was presented in the message

I found myself actively agreeing with the author's points

It was easy to agree with the arguments made in the message

Anxiety

While reading the message, I felt worried

While reading the message, I felt anxious

While reading the message, I felt stressed

Attitudes***Recycling (Study 1)***

Recycling is important

People should be doing more recycling

It is NOT necessary for people to purchase products with a recycling label

Communities should encourage people to do more recycling

Communities should invest in recycling facilities

Government should encourage people to do more recycling

Government should invest in recycling facilities

Composting & Pipeline (Study 2 and 3)

Indicate the degree to which you feel about industrial composting/constructing the Keystone Pipeline. Corresponding scale ranges from 1 (negative evaluation) to 7 (positive evaluation)

Worthless (1). Valuable (7)

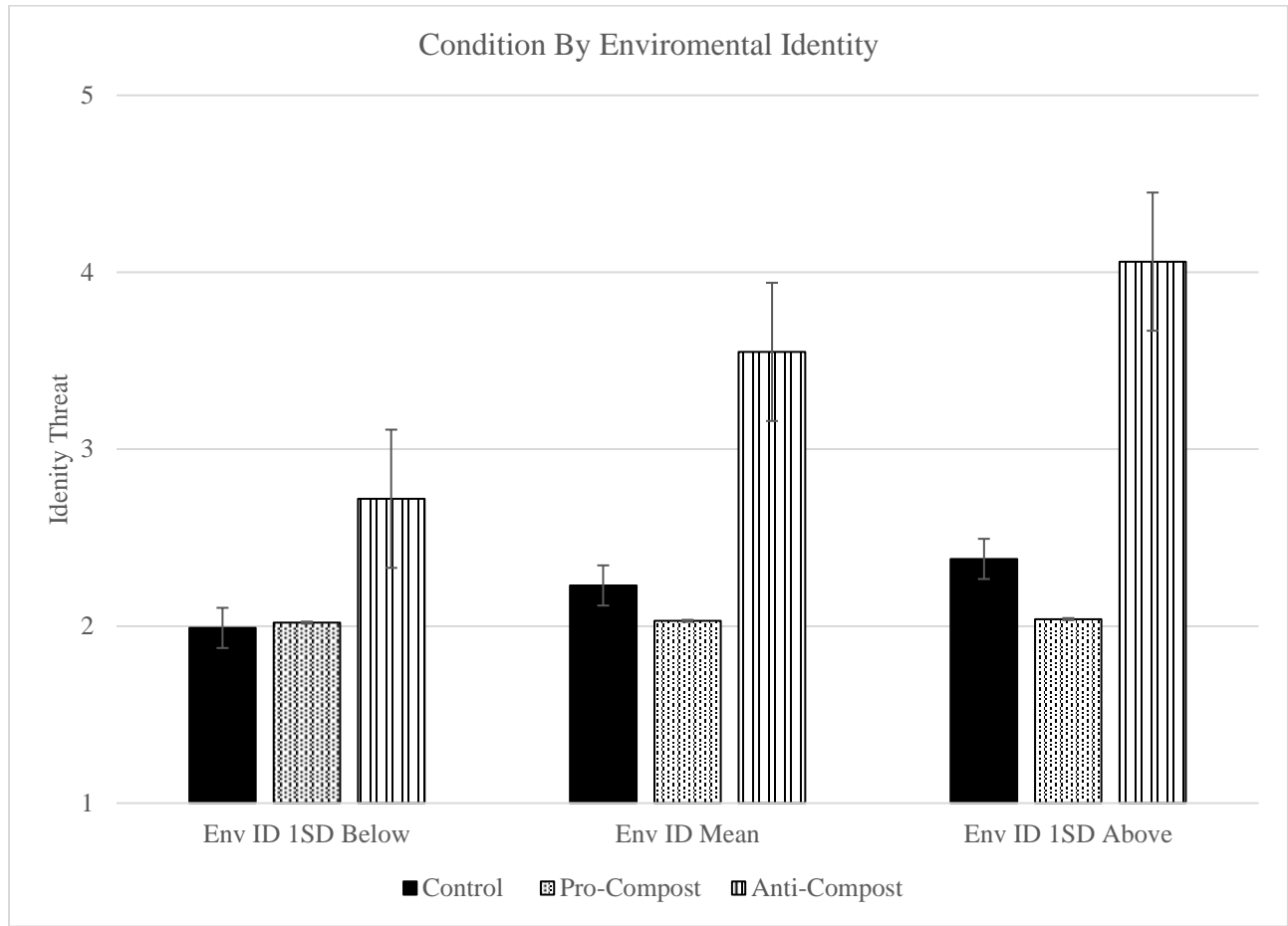
Bad. Good

Harmful. Beneficial

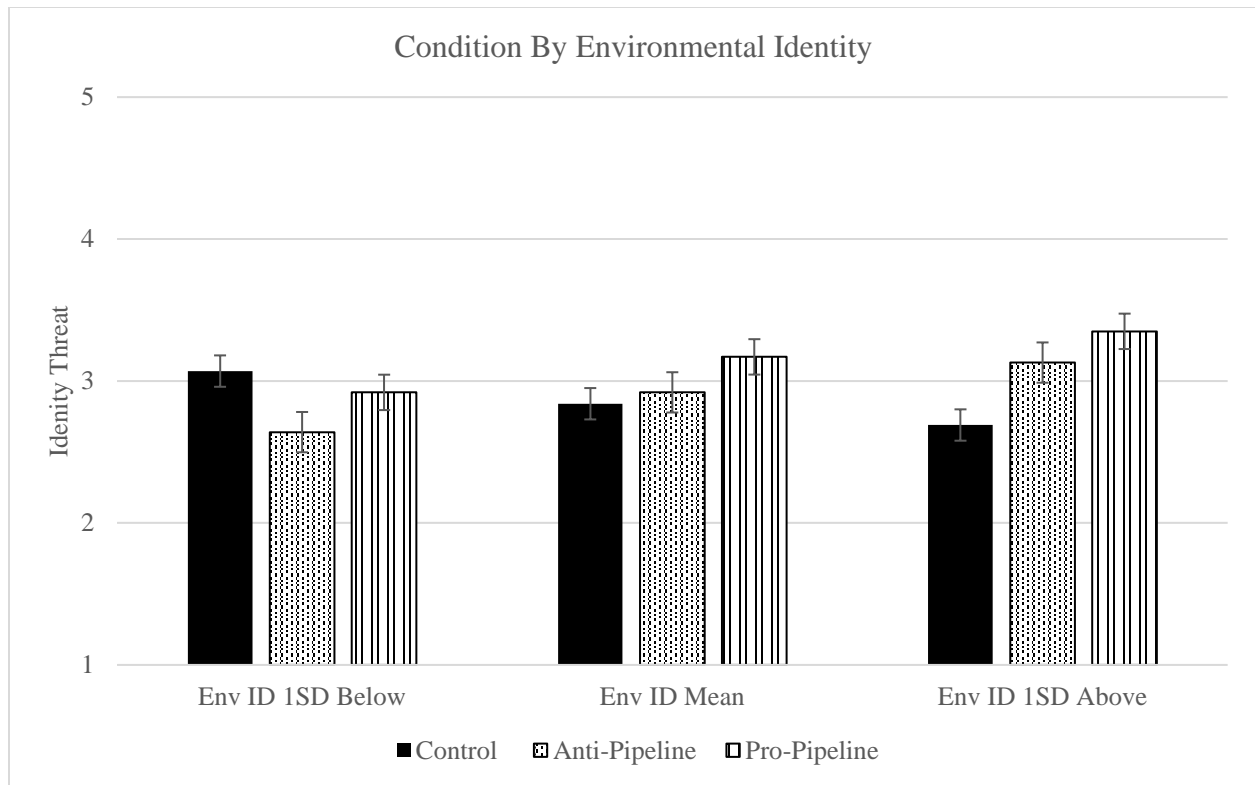
Not helpful. Helpful

Unproductive. Productive

Useless. Useful

Online Appendix C: Graphs of Interactions for Study 2 and 3

Online Appendix Figure 1. Interaction Effect between Messages and Environmental Identification on Identity Threat (Study 2)



Online Appendix Figure 2. Interaction Effects between Messages and Environmental Identification on Identity Threat (Study 3)