

APPENDIX A Pre-test 1 Results

The BIF had 25 randomized items, each of which presented a behavior (e.g. making a list) along with two alternate descriptions of the behavior, namely, the concrete identification (coded as 0; e.g. writing things down) emphasizing the means by which the behavior is performed and an abstract identification (coded as 1; e.g. getting organized) emphasizing the end for which the behavior is performed. Participants were asked to select their preferred alternate description for each given behavior. For each participant, all of their 25 responses on the BIF form were coded and then summed to create a score representing that participant's level of construal, with higher scores indicating higher level of (abstract) construal.

Pre-test 1: Preference for high-level (abstract) behavior description as a function of images' abstraction level

Behavioral Identification Form items	Treatment (% ^a)	
	Abstract images	Concrete images
1. Making a list	70.7	60.2
Getting organized* vs. Writing things down		
2. Reading	77.8	66.7
Following lines of print vs. Gaining knowledge*		
3. Joining the Army	65.7	46.2
Helping the Nation's defense* vs. Signing up		
4. Washing clothes	60.6	49.5
Removing odors from clothes* vs. Putting clothes into the machine		
5. Picking an apple	63.6	53.7
Getting something to eat* vs. Pulling an apple off a branch		
6. Chopping down a tree	62.6	44.1
Wielding an axe vs. Getting firewood*		
7. Measuring a room for carpeting	74.7	63.4
Getting ready to remodel* vs. Using a yard stick		
8. Cleaning the house	59.6	50.5
Showing one's cleanliness* vs. Vacuuming the floor		
9. Painting a room	70.7	58.1
Applying brush strokes vs. Making the room look fresh*		
10. Paying the rent	68.7	66.7
Maintaining a place to live* vs. Writing a check		
11. Caring for houseplants	43.4	35.5
Watering plants vs. Making the room look nice*		
12. Locking a door	68.7	76.3
Putting a key in the lock vs. Securing the house*		
13. Voting	65.7	53.8
Influencing the election* vs. Marking a ballot		
14. Climbing a tree	51.5	46.2
Getting a good view* vs. Holding on to branches		
15. Filling out a personality test	60.6	50.5
Answering questions vs. Revealing what you're like*		

16. Toothbrushing	76.8	62.4
Preventing tooth decay* Moving a brush around in one's mouth		
17. Taking a test	63.6	49.5
Answering questions vs. Showing one's knowledge*		
18. Greeting someone	52.5	43.0
Saying hello vs. Showing friendliness*		
19. Resisting temptation	50.5	39.8
Saying "no" vs. Showing moral courage*		
20. Eating		
Getting nutrition*vs. Chewing and swallowing	71.7	61.3
21. Growing a garden	58.6	46.2
Planting seeds vs. Getting fresh vegetables*		
22. Traveling by car	67.7	63.4
Following a map vs. Seeing countryside*		
23. Having a cavity filled	52.5	48.4
Protecting your teeth* vs. Going to the dentist		
24. Talking to a child	71.7	63.4
Teaching a child something* vs. Using simple words		
25. Pushing a doorbell	81.8	78.5
Moving a finger vs. Seeing if someone's home*		

Note: * Higher level descriptions; a. Percent of participants who preferred higher level descriptions in the conditions.

APPENDIX B Example Interview Script

Researcher: Hello, I am XX from XX university. We are conducting a study on visual communication of climate change and would like to pilot test our survey questionnaire with you. Our goal is to understand how you, as a participant, interpret our survey questions. I will also ask you for your feedback regarding the clarity of some questions while you work on the survey. At the end, I will ask for your overall impressions and/or suggestions for our survey design. The whole process will take you 20-30 minutes.

1. Can you rephrase the question in your own words, or clarify what you just thought the question was asking?
2. Can you give a response before seeing the response options of this question?
3. What specific phrases meant to you? For example, how did you understand the phrase “negative impacts of climate change?”
4. How difficult/confusing was this question to you?
5. Any overall impressions, comments, or suggestions regarding issues such as the ordering of the questions/sections, length of the instruments, layout?

APPENDIX C Links to Image Stimuli

1. Abstract image sources (the image order was randomized)

Figure 1 Retrieved from: <https://smallseotools.com/sync/tempimgs/3240874891552871015.png>

Figure 2 Retrieved from: <https://smallseotools.com/sync/tempimgs/3887303191552878975.png>

Figure 3 Retrieved from: <https://smallseotools.com/sync/tempimgs/2697278831552879085.png>

Caption: The global effects of greenhouse gases.

Figure 4 Retrieved from: https://earthobservatory.nasa.gov/features/Arrhenius/arrhenius_2.php

Caption: As Arrhenius predicted, both carbon dioxide levels and temperatures increased from 1900–1999. However, carbon dioxide in the atmosphere has increased much more quickly than he expected, but the Earth hasn't warmed as much as he thought it would.

Figure 5 Retrieved from:

https://www.washingtonpost.com/pb/news/opinions/wp/2016/08/29/scientists-have-discovered-a-new-planet-very-similar-to-earth/?nid=menu_nav_accessibilityforscreenreader&outputType=accessibility&utm_term=.f6c7a23be883

Figure 6 Retrieved from: <http://what-when-how.com/Tutorial/topic-95hdafh/Environmental-Science-216.html>

(Data Source: Boden, T.A., G. Marland, and R.J. Andres. 2013. Global, Regional, and National Fossil-Fuel CO₂ Emissions. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. doi 10.3334/CDIAC/00001_V2013)

Figure 7 Retrieved from: http://appinsys.com/GLocalWarming/RS_India_files/image008.jpg

Figure 8 Retrieved from: <https://neven1.typepad.com/.a/6a0133f03a1e37970b017615fe0d63970c-pi>

Caption: Satellite images of the ice field behind Jakobshavn Glacier in southwest Greenland.

Figure 9 Retrieved from: pixy.org/4851121/ (under [Creative Commons CC0](https://creativecommons.org/licenses/by/4.0/))



2. Concrete image sources (the image order was randomized)

Figure 1 Retrieved from: <https://oceanservice.noaa.gov/facts/sealevelclimate.html>

Caption: Storm surge on a Louisiana highway shows the effects of rising sea levels.

Figure 2 Retrieved from: <https://www.usatoday.com/story/news/nation/2013/07/14/dunes-reefs-protect-us-coastlines-from-climate-change-storms/2513299/>

Caption: Daniela Stefano, left, Carol McCarty, center, and Nicole Stefano stand on the remnants of a sand dune behind their Surf City, New Jersey, homes on July 9. A study finds, such dunes were built to protect coastlines against surges of catastrophic storms such as Superstorm Sandy.

Figure 3 Retrieved from: https://www.ucsusa.org/global_warming/regional_information/midwestern-states.html (Note: Bottom figure)

Caption: Rising temperatures are not just a concern for the future. Dangerously hot weather is already occurring more frequently in the Midwest than it did 60 years ago.

Figure 4 Retrieved from: https://www.ktoo.org/2014/12/05/2014-warmest-year-record-u-n-weather-agency-says/image-456082788_wide-83fca2d827c0044a8076e1a0efd136230dc0f2fc-s1000-jpg/

Caption: Marina owner Mitzi Richards carries her granddaughter as they walk on their boat dock at the dried up lake bed of Huntington Lake which is at only 30 percent capacity as a severe drought continues to affect California on Sept. 23, 2014.

Figure 5 Retrieved from: <http://publicradio1.wpengi.netdna-cdn.com/updraft/files/2013/06/Street-damage.jpg>

Caption: Duluth, MN, USA — Water flows down a damaged street in Duluth, Minn. on Wednesday, June 20, 2012

Figure 6 Retrieved from: <https://www.bostonglobe.com/opinion/2015/11/03/climate-change-fuels-cod-collapse/lyCrSy0atWxs2sNSFccOFL/story.html>

Caption: A new study links climate change and the collapse of New England's cod population.

Figure 7 Retrieved from: <https://www.csmonitor.com/Environment/2016/0321/Why-record-numbers-of-Americans-now-say-humans-cause-climate-change>

Caption: A woman looks at a roller coaster sitting in the ocean after Hurricane Sandy, in Seaside Heights, New Jersey, in this file photo taken November 28, 2012. The number of people who could be displaced in U.S. coastal regions due to rising sea levels this century as a result of climate change is much higher than previously thought, with more than 13 million Americans at risk with a 6-foot (1.8 meters) rise, scientists say.

Figure 8 Retrieved from: <https://www.cbsnews.com/pictures/california-battles-1000-acre-wildfire/6/>

Caption: Residents run as a wildfire driven by fierce Santa Ana winds closes in on them in Rancho Cucamonga, California, Apr. 30, 2014.

Figure 9



Photo credit to Matt Rath/Chesapeake Bay Program, retrieved from: <https://www.flickr.com/photos/chesbayprogram/5159403648/in/photostream/> (under [CC BY-NC 2.0](#))

Caption: As sea levels rise and weather events become more extreme, coastal flooding and erosion will increase across the Chesapeake Bay.