

## Can you slow global climate change?

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### Introduction

Climate change is an ominous phenomenon that is altering the lives of animals, plants and, consequently, is threatening the survival of our civilization (Gore 2007). Al Gore (2006) produced a movie titled "Inconvenient Truth" that won him the Nobel peace prize in 2007, creating a new international perception about the climate phenomenon worldwide. Even though the purpose of the movie was to alert people about the consequences of our actions in the planet, the movie only mentions written examples of what can "ordinary citizens" do to help ameliorate climate change at the end of the film, making it confusing to identify between recommendations for climate change and the movie credits. I was interested in identifying freshman students' conservation values if they were exposed to this movie, and determining if students would choose actions to slow climate change if they were given examples on how to help. I was also interested on knowing what would be the attitudes of freshman high school students compared to adult participants.

### Objective

To measure the extent of opportunities for action that freshman high school students and adults may take if given examples of activities to help decrease climate change.

### Audience

Freshman High school students and adults.

### Predictions

Teenagers will decide that nothing can be done. Adults will find actions that can ameliorate climate change. These predictions were based on my own observations immediately after the freshman students watched the movie. When they were asked what could be done to slow climate change, one of the students responded an ominous "Nothing." Because of time constraints, students did not discuss the possibilities of action. Adults have been exposed to information regarding climate change. Therefore, I assumed that they could bring forth new ideas that they were already implementing or that they have heard about in the media.

### Methods

A 10-question -survey created in Survey Monkey (Puche 2010 ; Appendix A) was available in the internet for a cohort of 56 freshman students (33 male, 25 female) and 25 adults (all women). High school students were encouraged to answer the questions as part of an activity in class. Most of the questions were bimodal (Yes/No), one question had a 5 point scale, question 7 had multiple answers, and a final question asked to name four possible actions to slow climate change, 11 of which were already mentioned in the survey. I calculated the percent responses of actions to slow climate change that were suggested in the survey (YY), those that were not included in the survey (NY), and those that were not applicable (NN). Descriptive statistics were used to identify the distribution and range of responses for each question (Williams 2003).

### Results/Discussion

The majority of participants liked the movie.

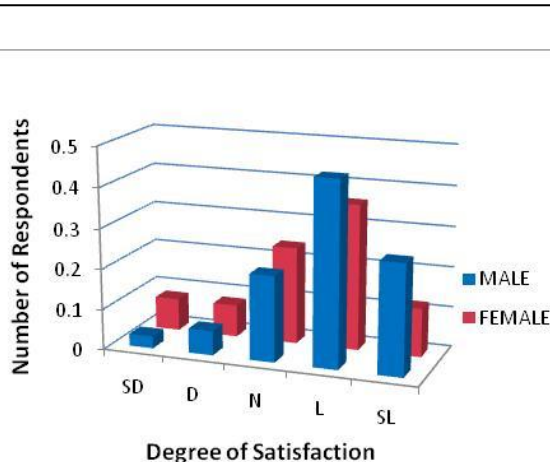


Figure 1: Did you like "Inconvenient Truth"?

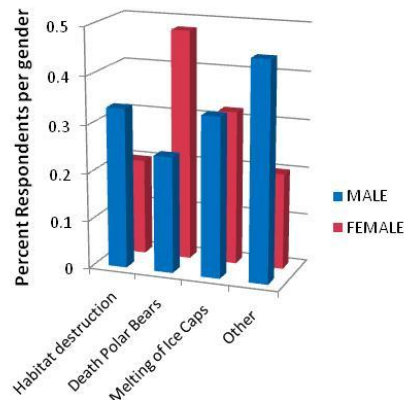
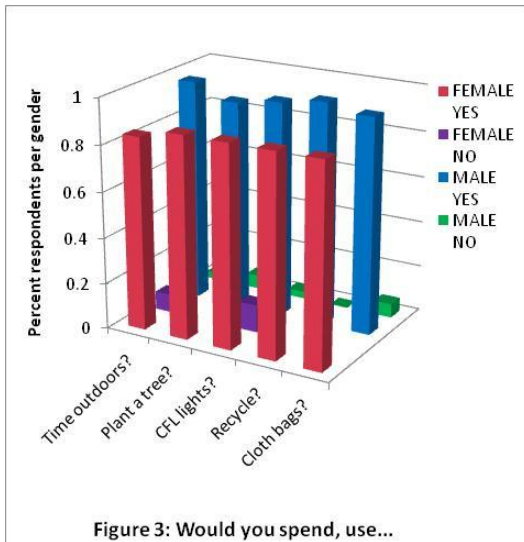


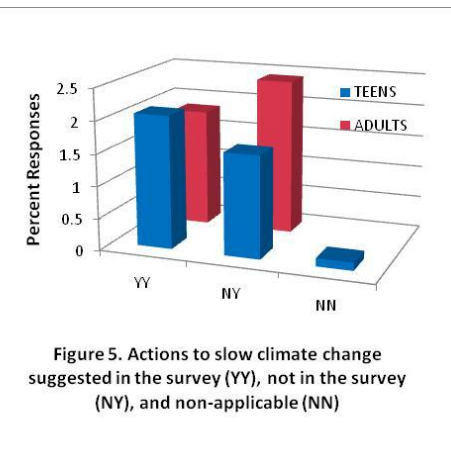
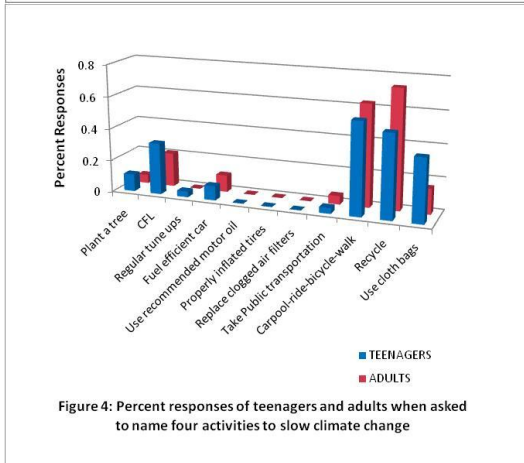
Figure 2: What impacted you the most?

Girls were more impacted by the death of the polar bears than boys; Boys had more "other" reasons that impacted them than the three choices presented compared to girls (Fig. 2). It would have been interesting to have an open question for "Other" to identify those other causes that impacted the participants.



Both boys and girls reported doing activities outdoors. In general, both were willing to take action to slow climate change as indicated by the 84-97% positive responses compared to the “no” responses in all questions (Fig 3). It would be interesting to find out what does “outdoors” mean for them

Both boys and girls chose similar actions to reduce car gas emissions (not included). However, this question (7) had too many options that did not sink into the participants, as indicated by the lack of use of these actions in the last question (10) where participants had to name four activities to slow climate change (Fig. 4). Neither teenagers nor adults ever mentioned using recommended motor oil, using inflated tires or replacing air filters in the four activities in question 10. Future surveys should include fewer options per question.



Adults had more ideas of actions to slow climate change that were not included in the survey compared to teenagers (Fig. 5). Teenagers selected 7 actions that would not help climate change such as “save my dog’s poop.”

### Reflections/Next steps

This survey demonstrated that people (teenagers and adults) are prone to take conservation actions to slow climate change. Contrary to my expectations, teenagers already had action ideas, although they might not have been aware that those actions could slow climate change until this survey. It would have been interesting to present the survey before projecting the Al Gore’s movie to compare reactions before and after as in Vaughan (2003). I would have been interested on identifying if the participants had already a connection to nature, using a nature relatedness scale (Nisbet *et al.* 2009), which has been used to identify if detachment from the natural world may be causative to our planet’s destruction. Therefore, if a person is detached from nature, she/he may not follow the recommendations to combat climate change and her/his responses will be negative. The survey had problems regarding choices of answers. As a result, some responses had to be eliminated due to dual answers such as both Female/Male, or Yes/No. Future surveys should only allow for one answer for each of these types of question. Easier actions that are already ingrained in the participants, such as carpooling, recycling, and reusing of cloth bags were preferred than other new options embedded in the survey. This is an indication that the cohort evaluated had already conservation values, and new actions to slow climate change would need to be slowly implanted in their everyday lives.

### References cited

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## Appendix A

**Can you slow climate change?**

Thank you for taking a few minutes to complete this survey based on the movie "Inconvenient Truth" by Al Gore. Your response will help us understand conservation values. We appreciate your feedback.

**1. Please enter your gender:**☐ Male☐ Female**2. Do you spend time outdoors on a typical weekend day?**☐ Yes☐ No**3. How well did you like the movie, "Inconvenient Truth"?**☐ Strongly  
Disliked☐ Disliked☐ neutral☐ Liked☐ Strongly Liked**4. What impacted you the most about the movie, "Inconvenient Truth"?**☐ Habitat destruction☐ Death of Polar Bears☐ Melting of the ice caps☐ Other

**5. Urban forests are plants and trees that beautify, protect the city, provide shade, and can remove a ton of greenhouse gas per tree from the air each year, slowing climate change. Knowing the extreme help that urban trees can give, would you consider planting a tree in the next 12 months?**

☐ Yes☐ No

**6. Compact fluorescent lights (CFLs) use about one quarter of the energy of incandescent bulbs and last 10 times longer than normal bulbs. Knowing that if every American household switched one light bulb to a CFL, it would save enough power to light 2.5 million homes for an entire year and slow climate change, would you recommend to your family and friends to use fluorescent lights (CFL)?**

☐ Yes☐ No

**7. Driving a car that can ride 25 miles to the gallon rather than 20 will eliminate 17 tons of carbon dioxide from the earth's atmosphere each year, slowing climate change. Knowing this, how could you reduce gas emissions in your household to help slow climate change? Indicate which actions.**

- ☐ Regular tune-ups to increase fuel efficiency
- ☐ Getting fuel efficient car (more miles to the gallon)
- ☐ Using the recommended motor oil
- ☐ Use properly inflated tires
- ☐ Checking and replacing clogged air filters
- ☐ Taking public transportation to lessen carbon emissions produced by driving
- ☐ Change your commute by carpooling
- ☐ All of the above

**8. If Americans recycled just 10 percent of their newspapers, it would save 25 million trees a year, and slow climate change. Knowing this fact, would you consider newspaper and magazine recycling in the next 10 months?**

- ☐ Yes ☐ No

**9. The average American uses more than 500 plastic shopping bags each year. Twelve million barrels of oil are used to manufacture plastic bags used annually. This manufacturing contributes to global climate change from the burning of fuels and gas emissions. Knowing this, would you consider recommending to your family to reuse cloth bags for grocery shopping?**

- ☐ Yes ☐ No

**10. "The ability to take action today is our only hope for tomorrow. "**

**Considering this statement, name four activities that you can do at home to slow global climate change today.**

- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_