

Measuring and Influencing Community College Students' Attitudes About Sustainability Issues: Sources of Recent Influences

Sustainability for Community Colleges
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Environmental Problems & Human Behavior Assignment

1. *Time Magazine* cover story and articles from April 3, 2006 for an overview of global warming issues and global efforts to reduce it.
 2. *National Geographic* "[Signs From Earth](#)" web site for an overview of global warming effects.
 3. "What on Earth Are We Doing?" – Chapter 1 in *The Psychology of Environmental Problems, 2nd ed.* by Debra DuNann Winter and Susan Koger or other reading for an introduction to the relevance of psychology to environmental issues or other reading of similar topic.
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Environmental Problems & Human Behavior Assignment (2)

4. Ecological Footprint web site to calculate one's footprint and experiment with the impact of changing one's behavioral choices.
 5. Portland, Oregon recycling web site for information about the benefits of recycling: Metro Recycling & Waste Prevention
 6. Natural Resources Defense Council web site ideas for reducing one's ecological impact & footprint
 7. Chief Seathl's famous speech or at least a version of it that illustrates a traditional Native American worldview.
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Environmental Problems & Human Behavior Assignment (3)

The student's writing assignment:

1. Describe your behaviors relating to either recycling or transportation.
 2. Identify the behavioral reinforcers, aversive outcomes, and barriers that influence your behavior. Describe your personal values and beliefs that influence the power of the reinforcers and aversive outcomes for you.
 3. Explain the reinforcers, aversive outcomes, and barriers that support your current ecological footprint and make it difficult to reduce.
 4. Compare the worldview described by Chief Seathl with the dominant American or Canadian worldview.
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Results

Individual Characteristics ⁽¹⁾

There are no discernable patterns in the scores on any attitude scale related to:

- ❖ student age
 - ❖ credits completed before the quarter began
 - ❖ across the 10 academic quarters of the study from Spring Quarter 2004 to Spring Quarter 2007.
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Results

Individual Characteristics (2)

❖ Age and Credits are mildly correlated with each other (+.263).

❖ The highest correlation involving credits and attitudes is with the statement #3 ($r = +.221$):

"My behavior around consuming the earth's resources and creating pollution is important enough for me to be concerned about."

While statistically significant, it is not a very powerful effect and is confounded with Age.

Results

Individual Characteristics (3)

- ❖ Gender is an important variable in environmental attitudes in this study.
 - ❖ Females score closer to the sustainability pole on all of the attitude ratings in this study. In 21 of the 35 attitude scales, the gender difference is statistically significant ($p < .05$).
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Results

Individual Characteristics (4)

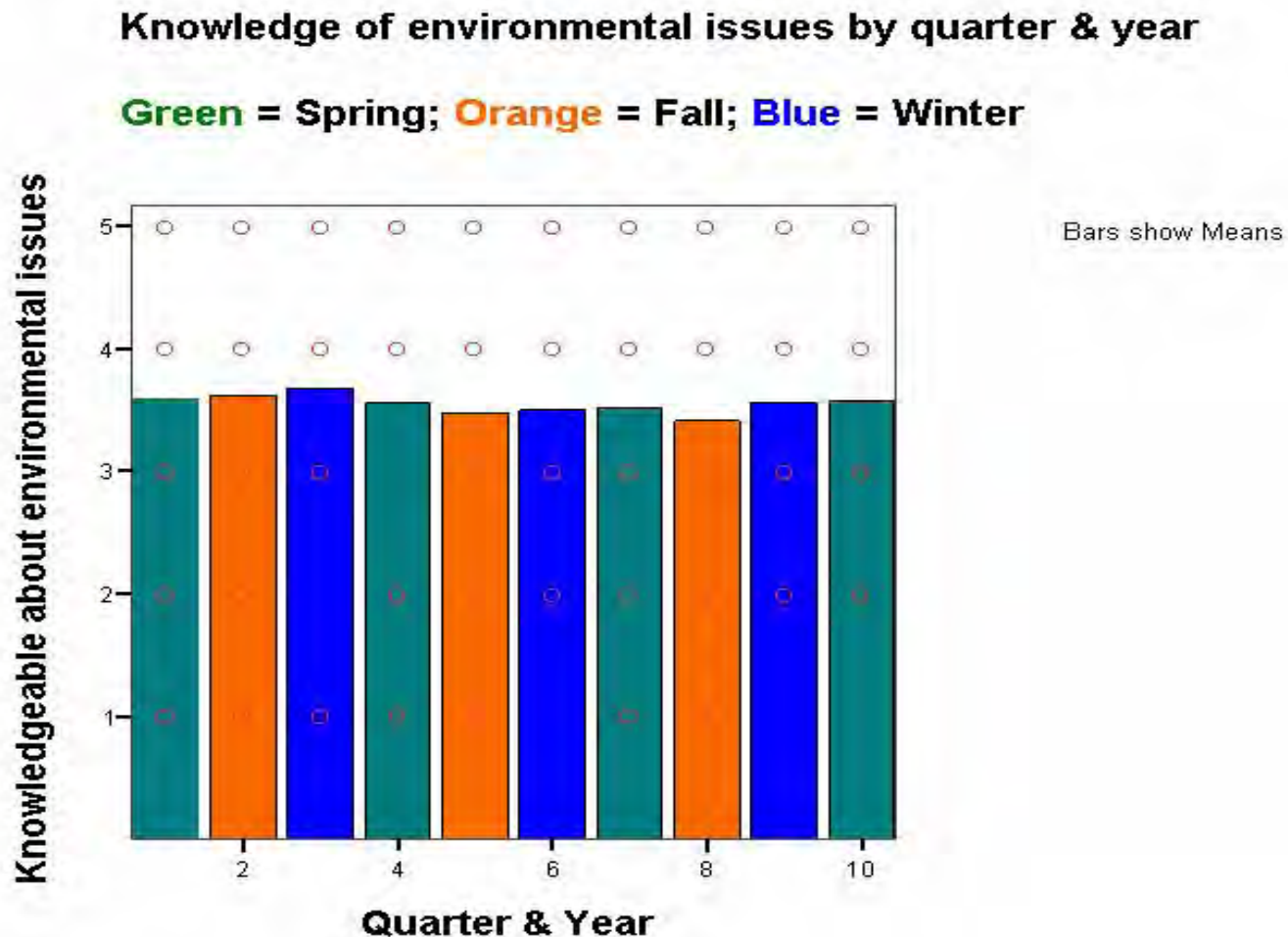
All 35 attitude statements were rated closer to the sustainability pole in the Post-assignment condition than in the Pre-assignment condition. The difference is statistically significant ($p < .05$) in 11 of the 35 attitude scales.

Variation in Ratings by Academic Quarter

The following slides illustrate the ratings of selected variables by quarter and year in the pre-assignment condition.

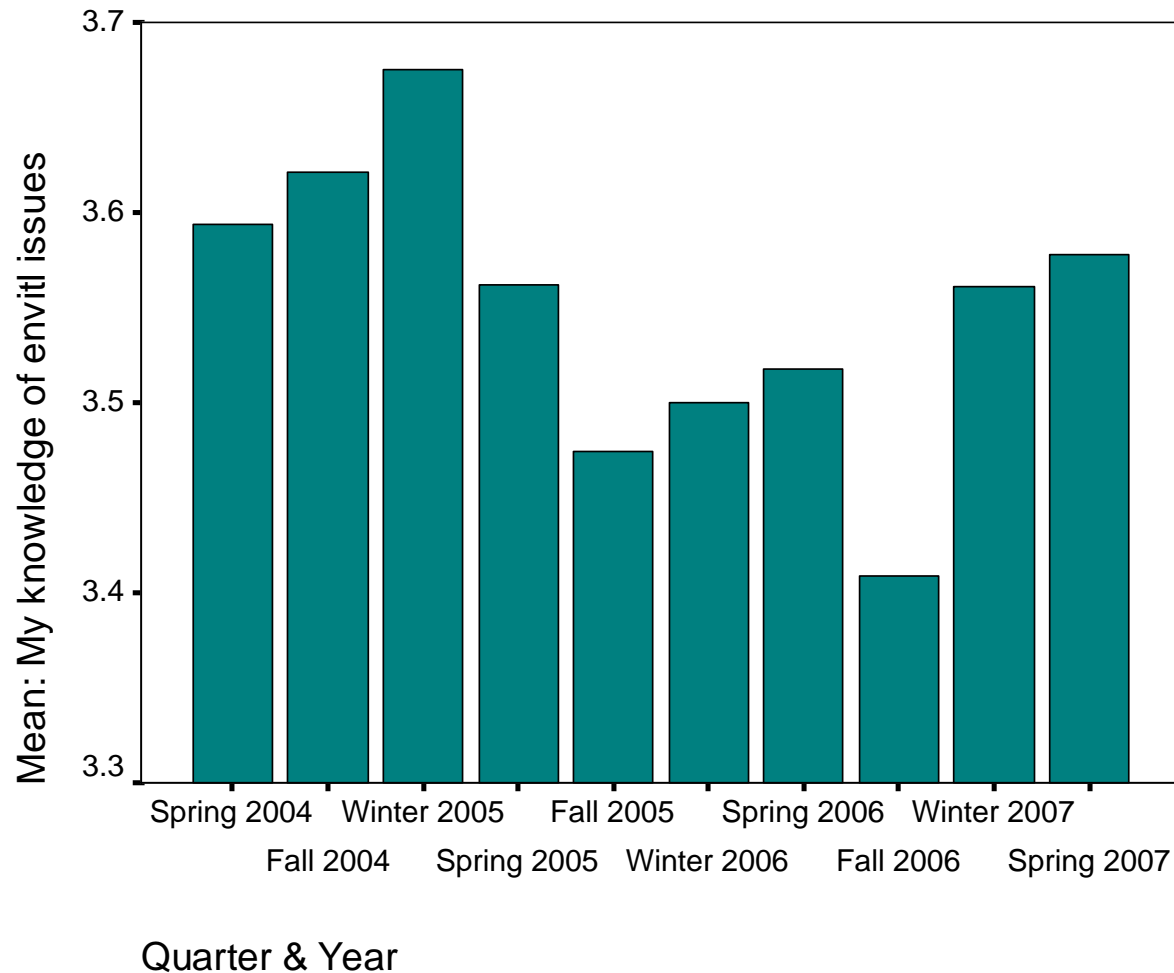
There are no statistically significant differences ($p < .05$) between quarters.

1. I am fairly knowledgeable about environmental issues and role of human behavior in environmental problems.
Pre-assignment: Spring 2004-Spring 2005



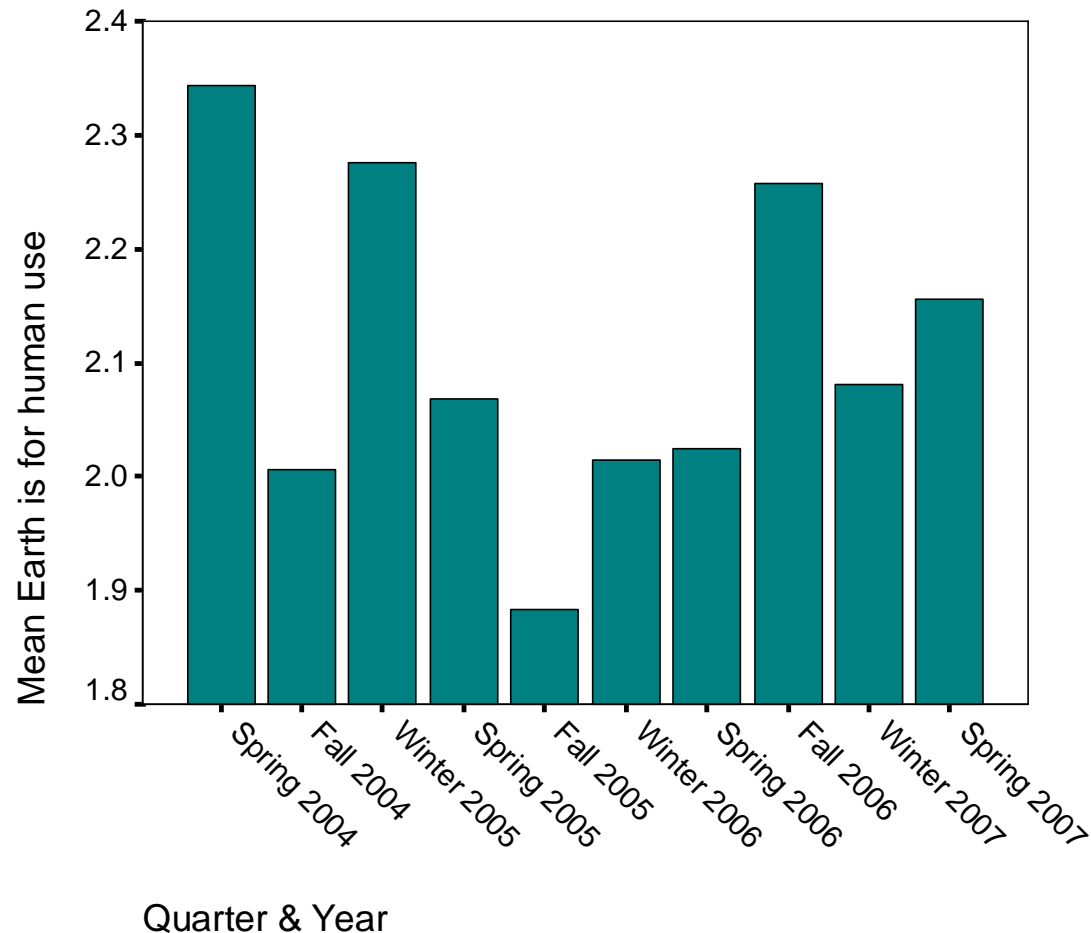
1. I am fairly knowledgeable about environmental issues and role of human behavior in environmental problems.

Pre-assignment by quarter



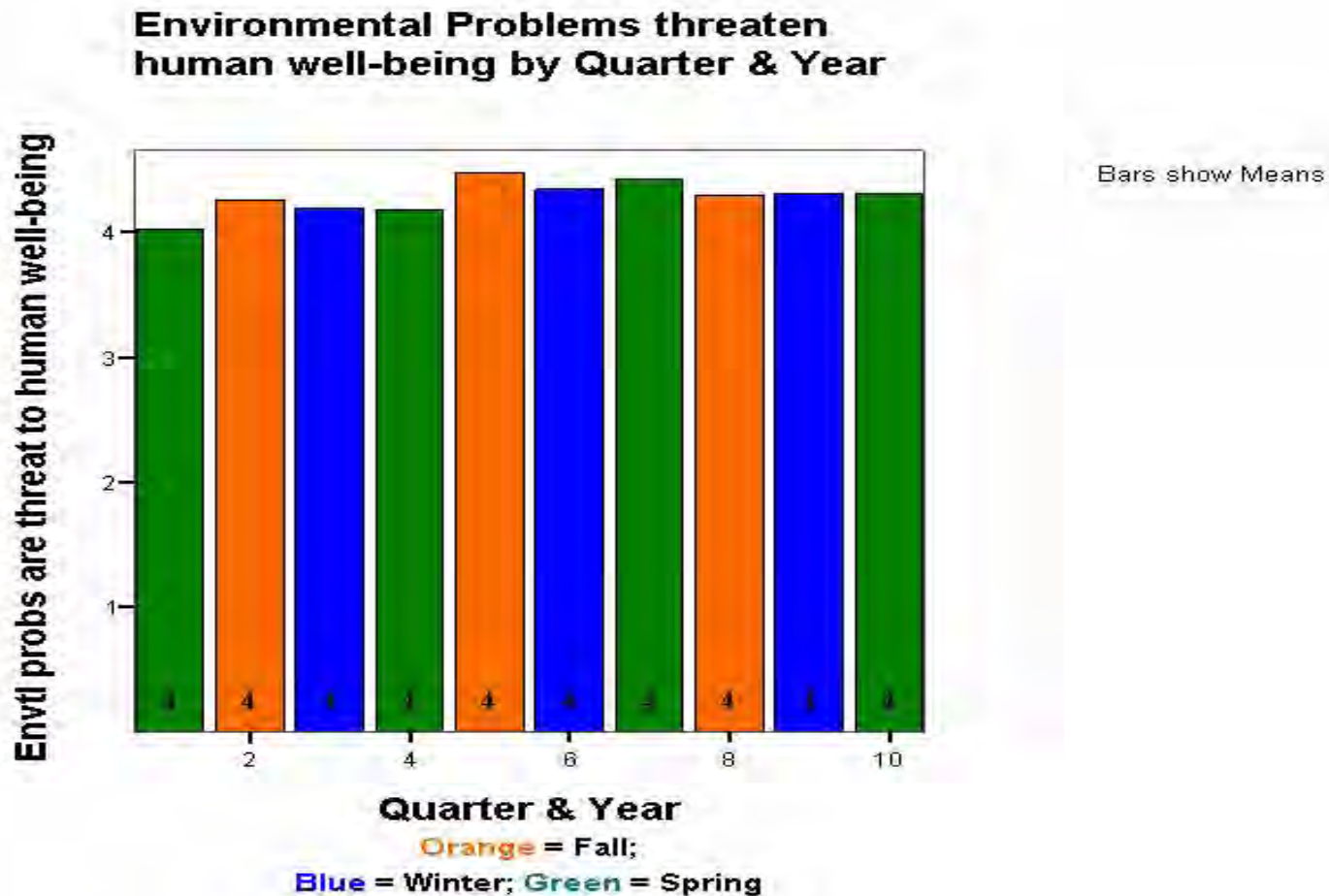
2. The earth exists primarily for humans to use for our own needs and desires.

Pre-assignment by quarter



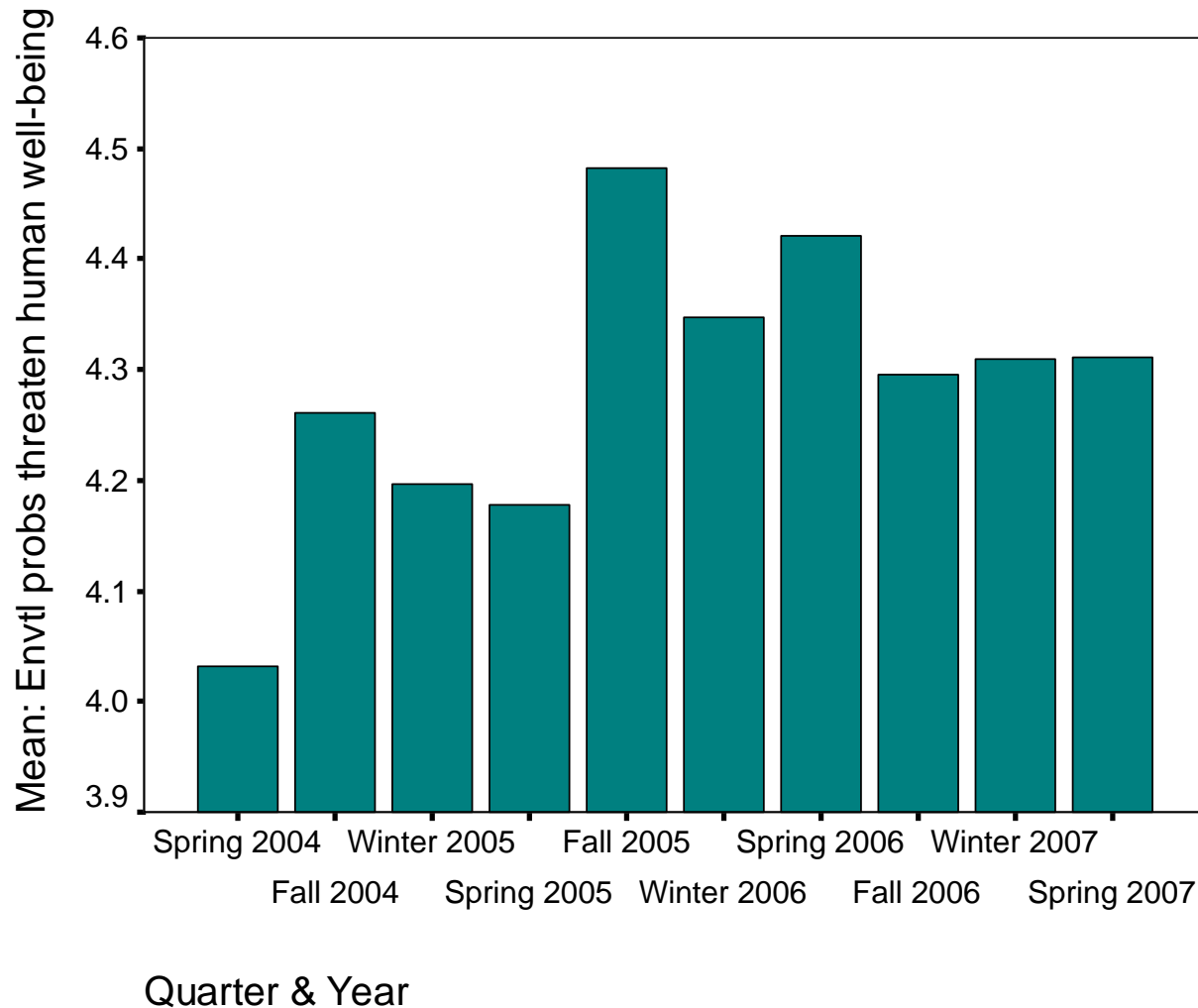
6. Environmental problems are a real threat to human well-being in the next few generations.

Pre-assignment Spring 2004 through Spring 2007



6. Environmental problems are a real threat to human well-being in the next few generations.

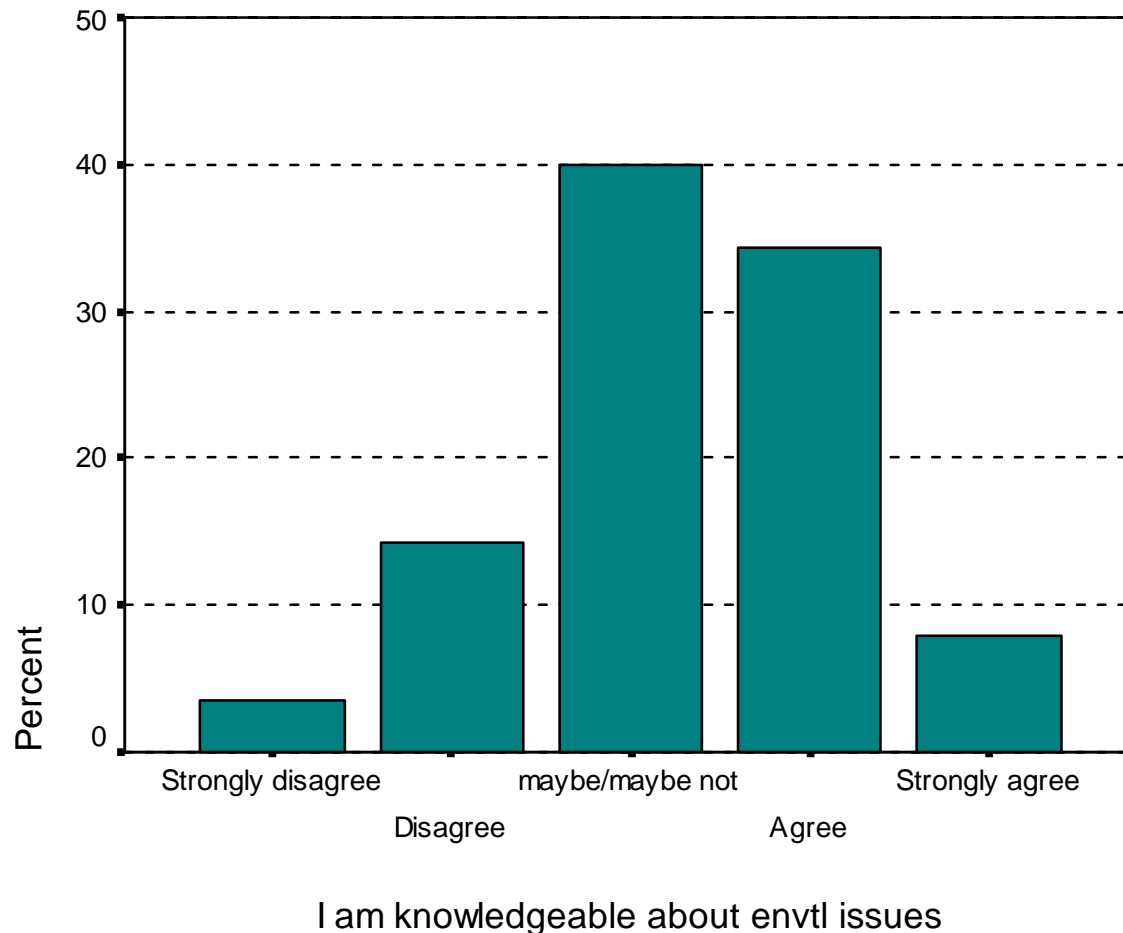
Pre-assignment by quarter



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- ❖ The following slides illustrate the pre-assignment mean rating of representative attitude statements across the 10 quarters.
 - ❖ The pre-assignment attitudes of General Psychology students are likely representative of WCC student attitudes.
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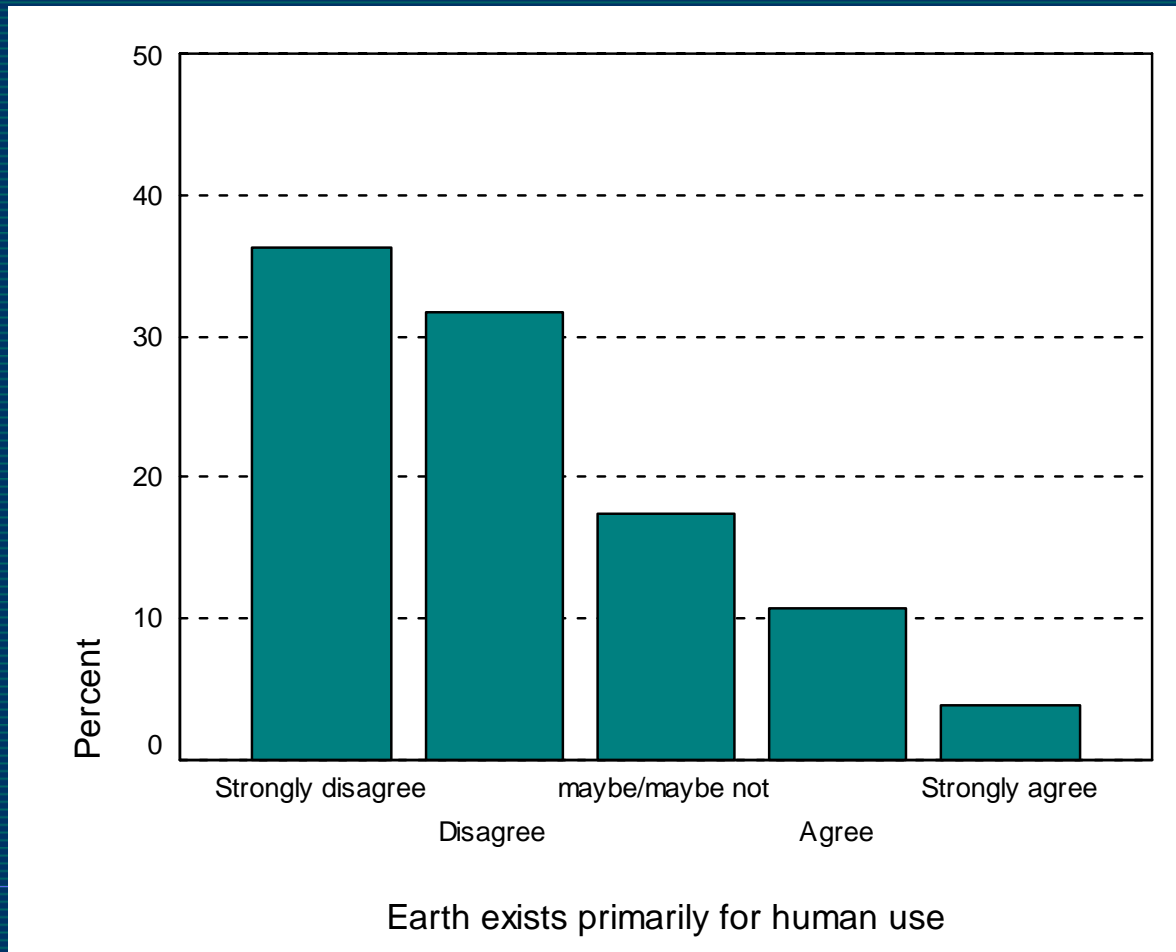
1. I am fairly knowledgeable about environmental issues and role of human behavior in environmental problems.

Pre-Assignment: Mean = 3.29; St.dev. = .93



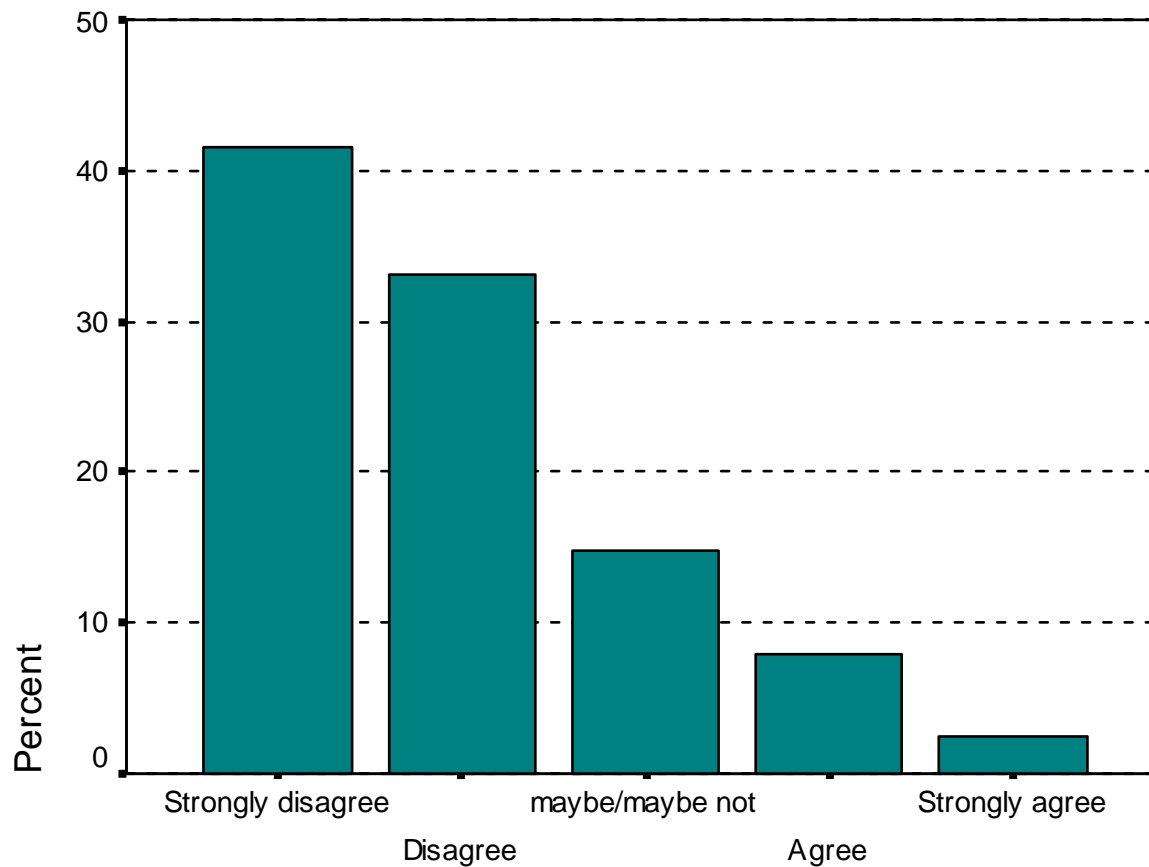
2. Earth exists primarily for human use

Pre-Assignment: Mean = 2.14; St.dev. = 1.14



7. Human satisfaction is more important than the well-being of any other species on earth.

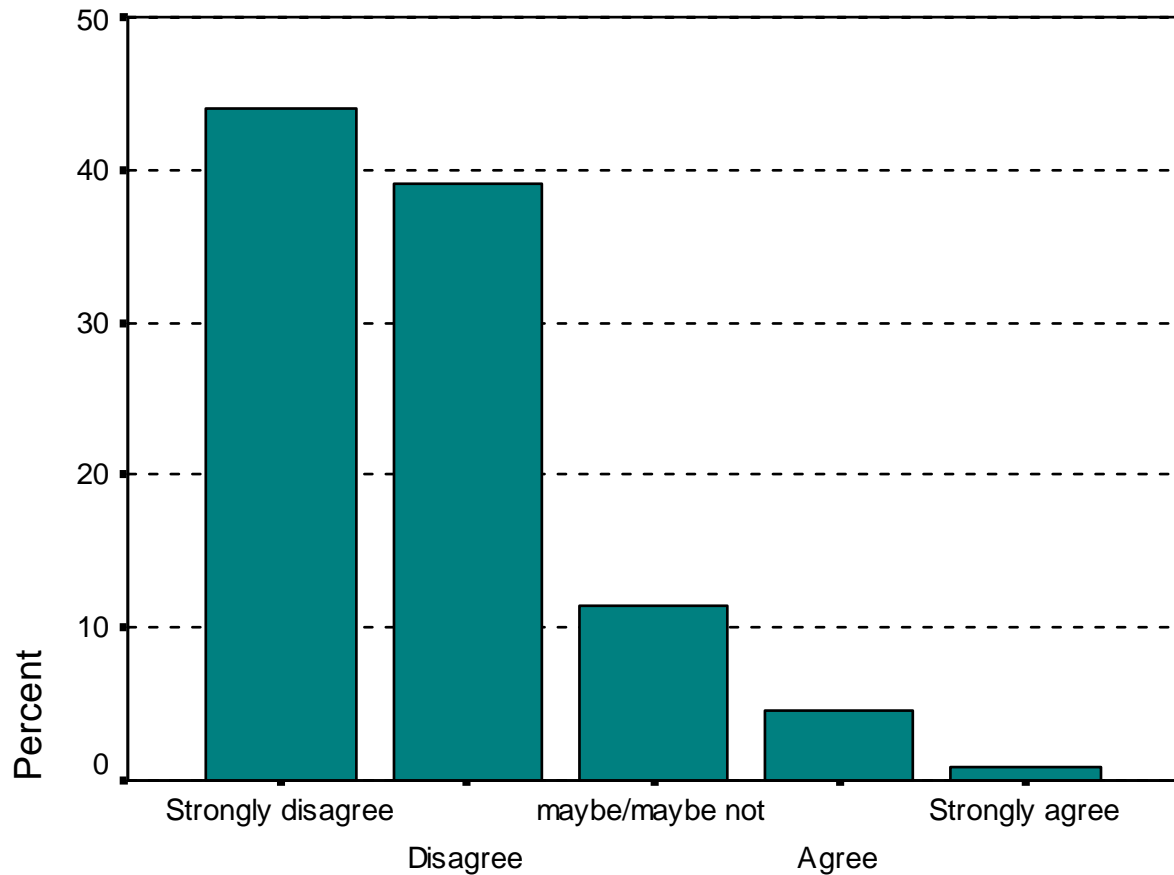
Pre-assignment Mean = 1.97; st.dev. 1.05



Human satisfaction more important than other species

29. The human impact on non-human species on the planet is of little interest to me.

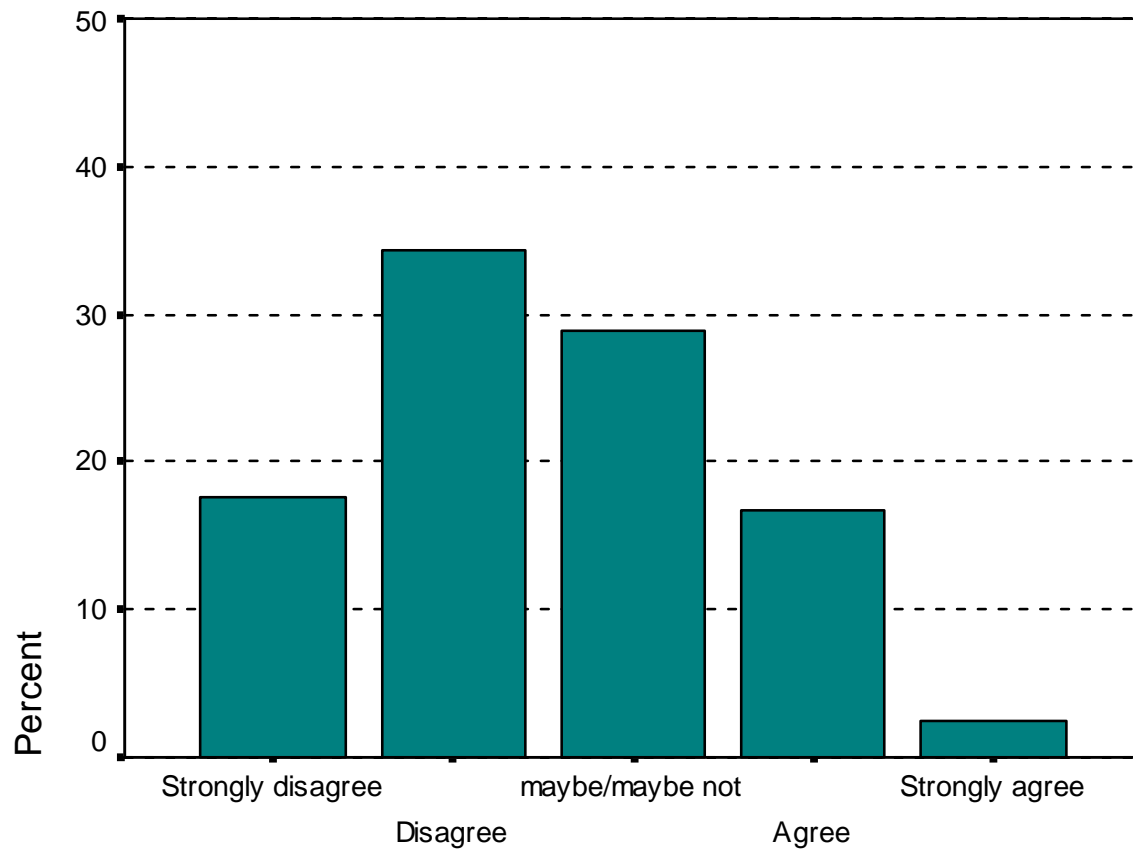
Pre-assignment Mean = 1.79; st.dev. = .883



Human impact on non-human species of little interest to me

14. Humans are NOT capable of changing their behavior patterns today for the long term well-being of ecosystems, even if our current behavior patterns will lead to the demise of the human species eventually.

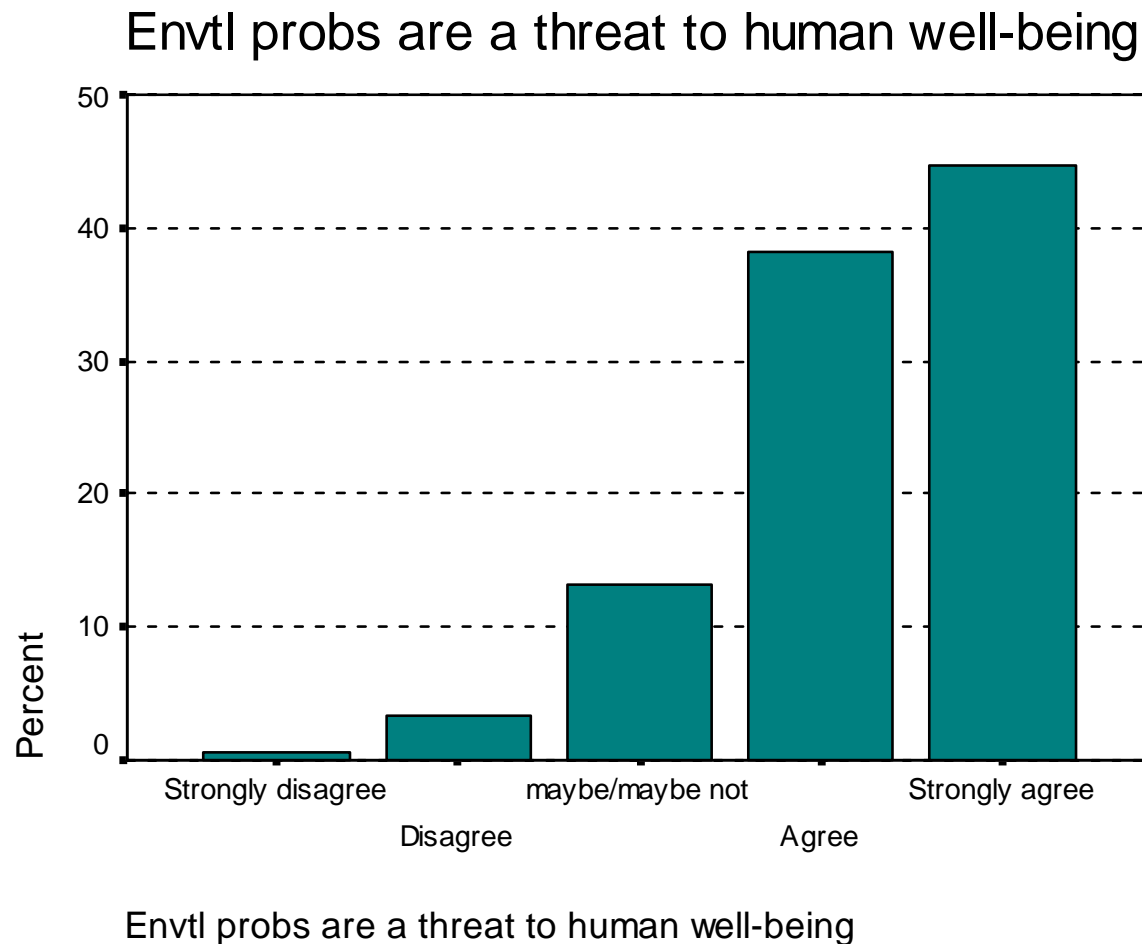
Pre-assignment Mean = 2.52; st. dev. 1.04



Humans CANNOT change behavior to benefit ecosystems

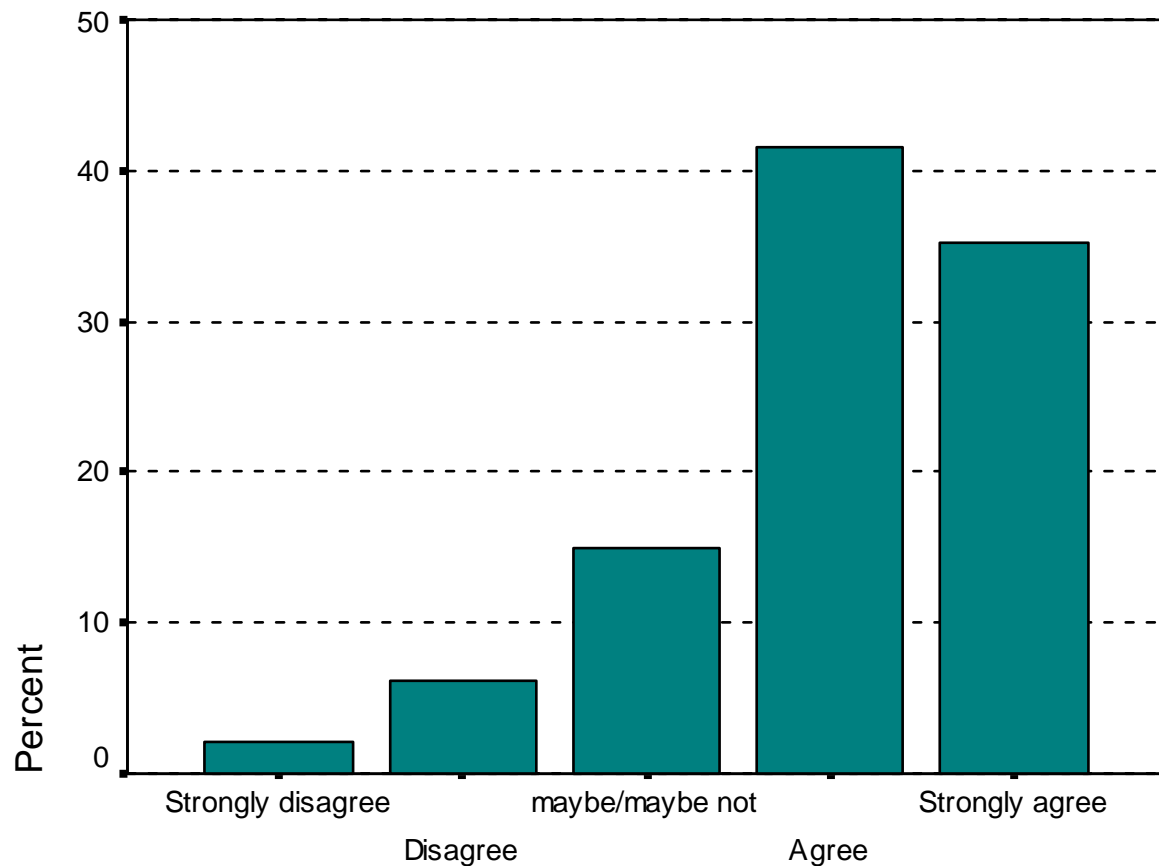
6. Environmental problems are a real threat to human well-being in the next few generations.

Pre-assignment Mean = 4.23; st.dev. .842



8. I am concerned about human well-being in the future after I am dead.

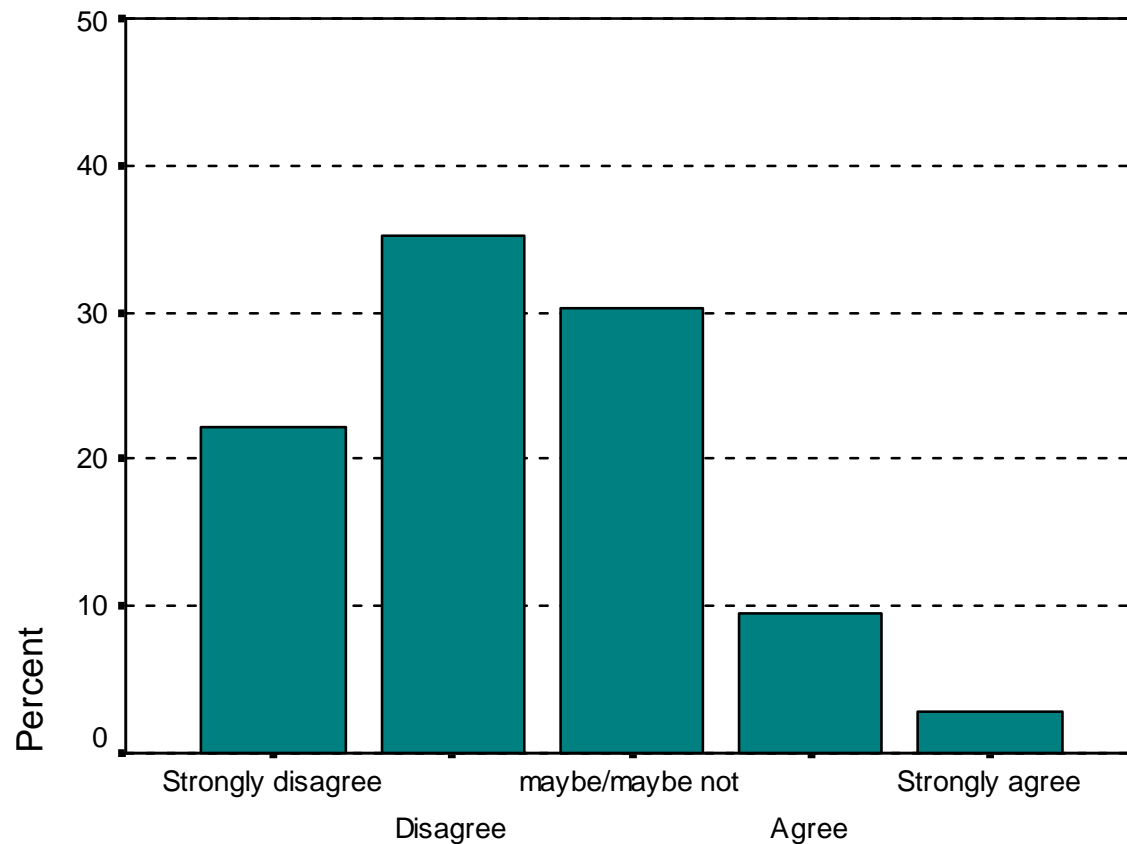
Pre-assignment Mean = 4.01; st. dev. = .971



I am concerned about human well-being after my death

19. Government should not make regulations and laws that impact human behavior and choices in order to protect the quality of the environment and ecosystems.

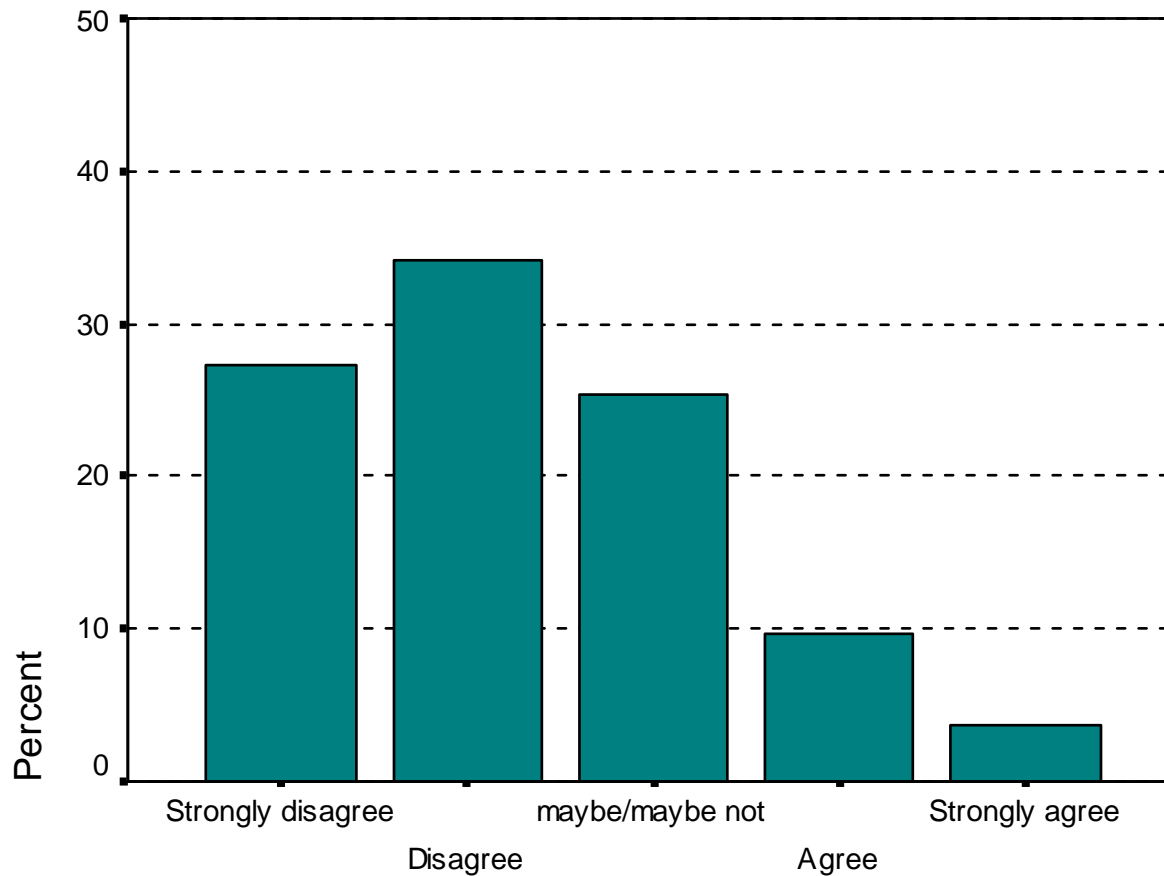
Pre-assignment Mean = 2.10; st. dev. = .970



Threat to ecosystems exaggerated by envtl organizations

23. Global warming is a naturally occurring process that is not significantly affected by human activities.

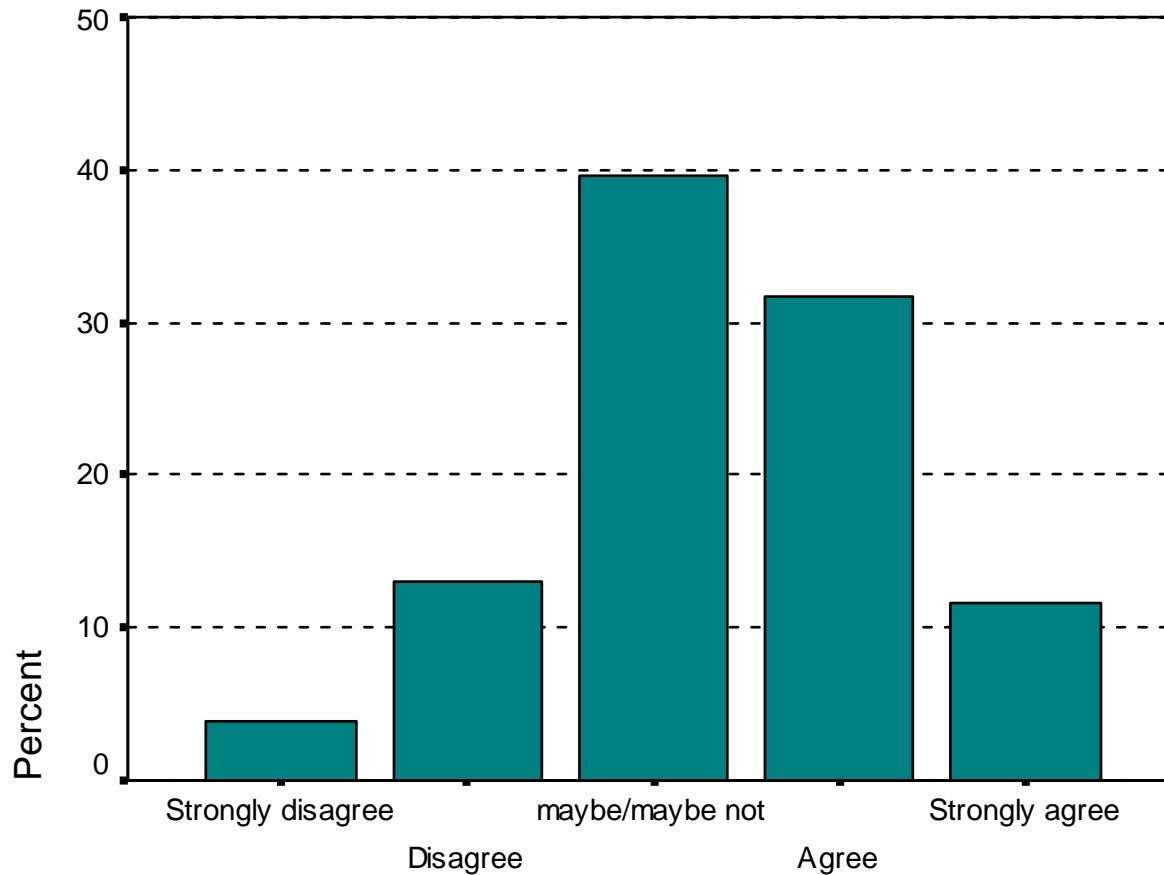
Pre-assignment Mean = 2.28; st.dev. 1.08



Global warming is natural and NOT caused by human activity

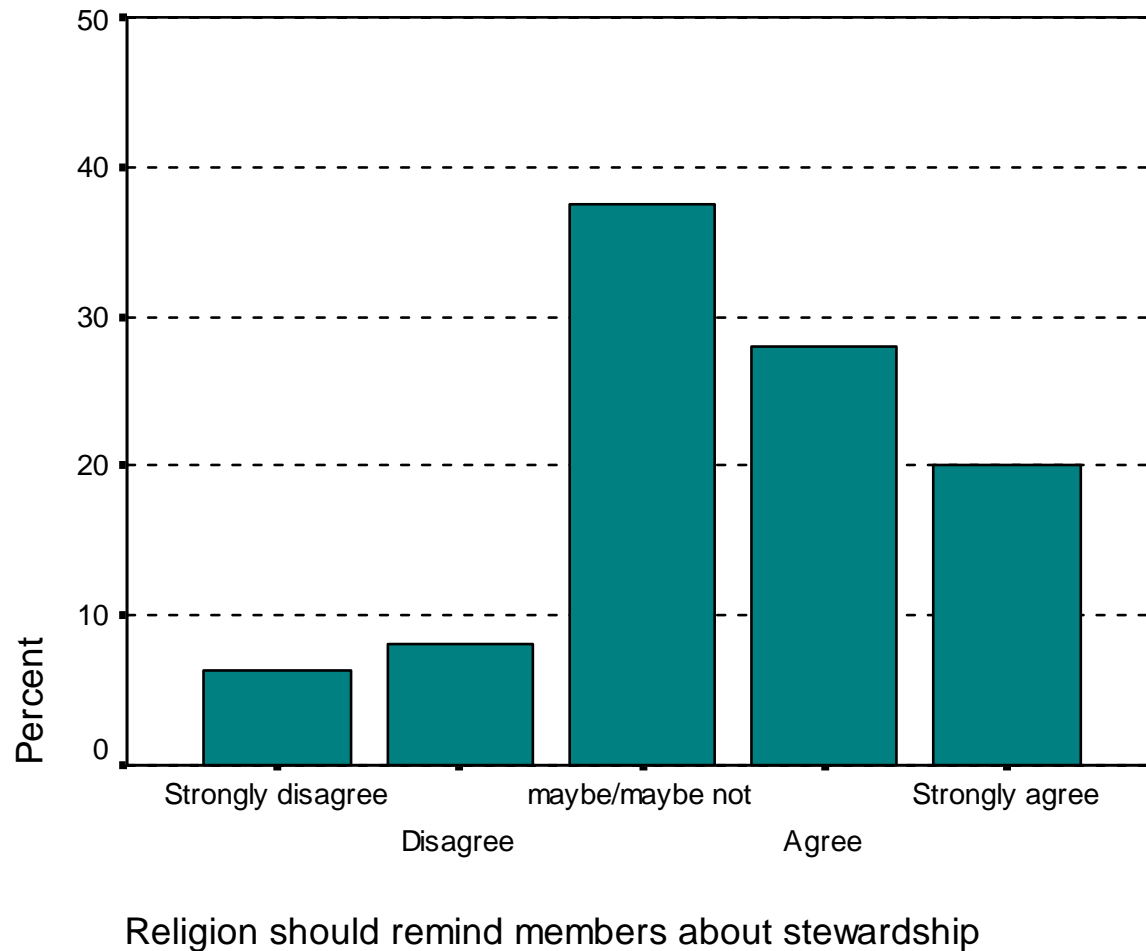
30. It is morally and/or ethically wrong for me choose behaviors and products that threaten the long term well-being of the planet's ecosystems

Pre-assignment Mean = 3.34; st.dev. = .978



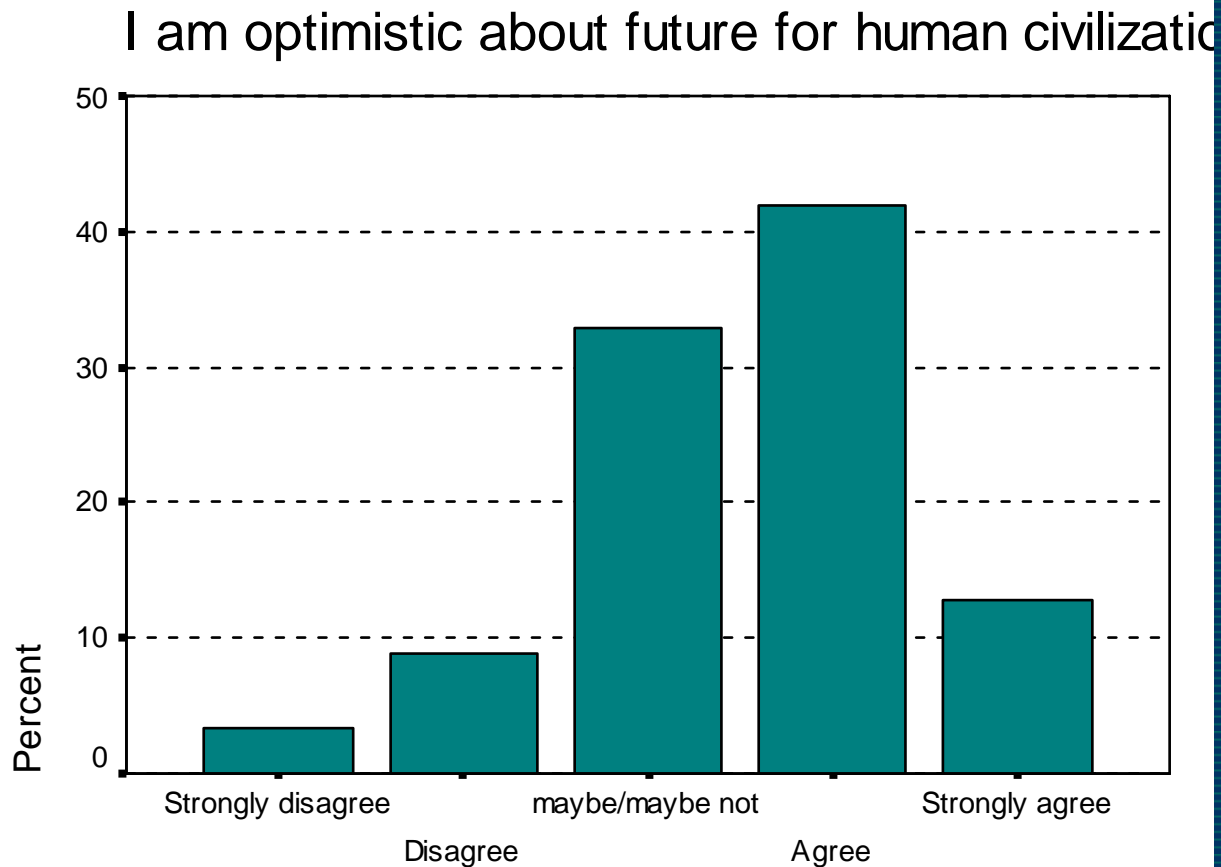
Morally/ethically wrong to be ecologically destructive

31. Religious organizations should remind their members that humans were made stewards of the Creation and are morally responsible for its well-being while we are here. Pre-assignment Mean = 3.50; st. dev. = .965



32. Overall, I am optimistic that human civilizations will progress to higher levels of intelligence and well-being on earth in the future.

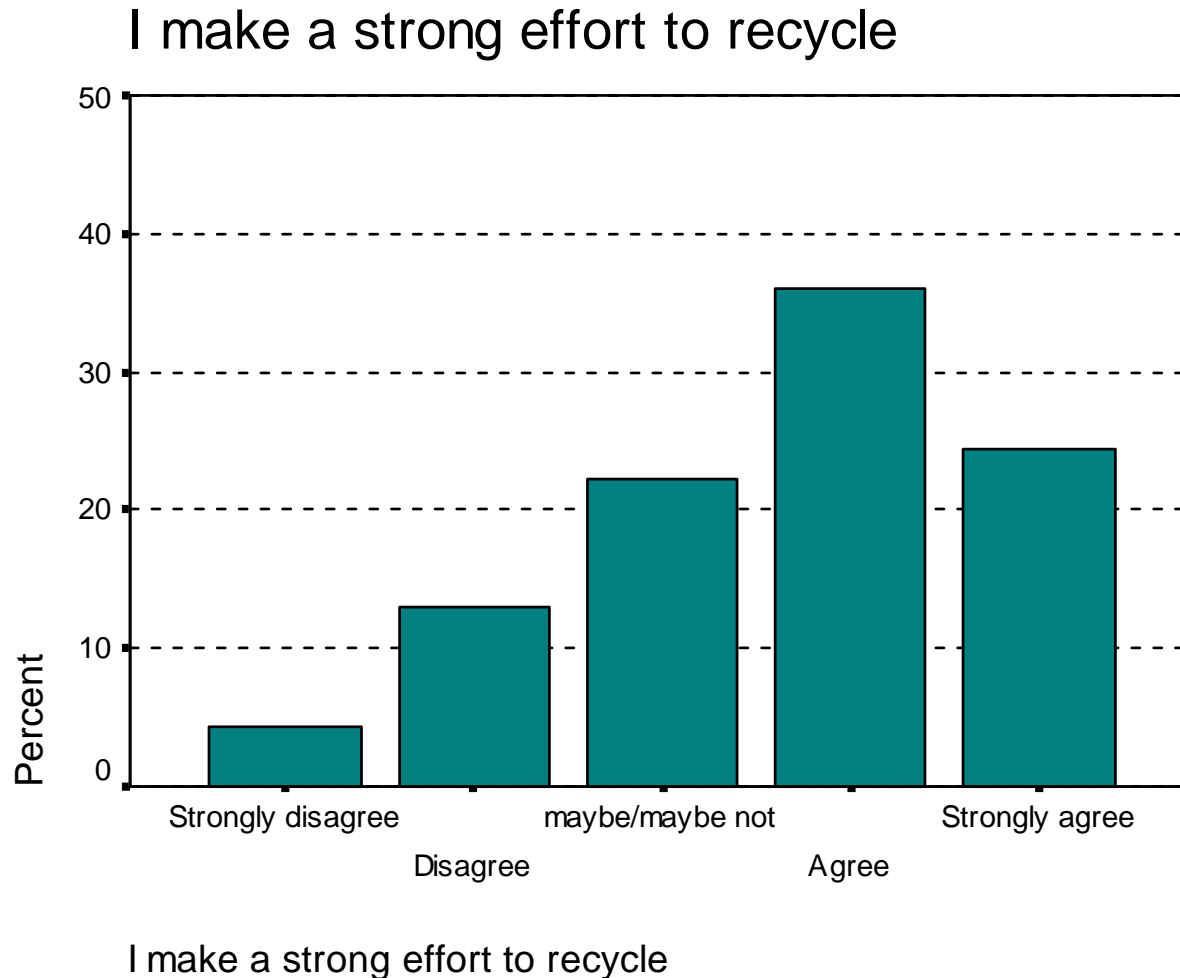
Pre-assignment Mean = 3.50; st.dev. = .965



I am optimistic about future for human civilization and well-being

34. I recycle any recyclable plastic, glass, cans, and paper even if I have to go to considerable effort to get the materials into the recycling system.

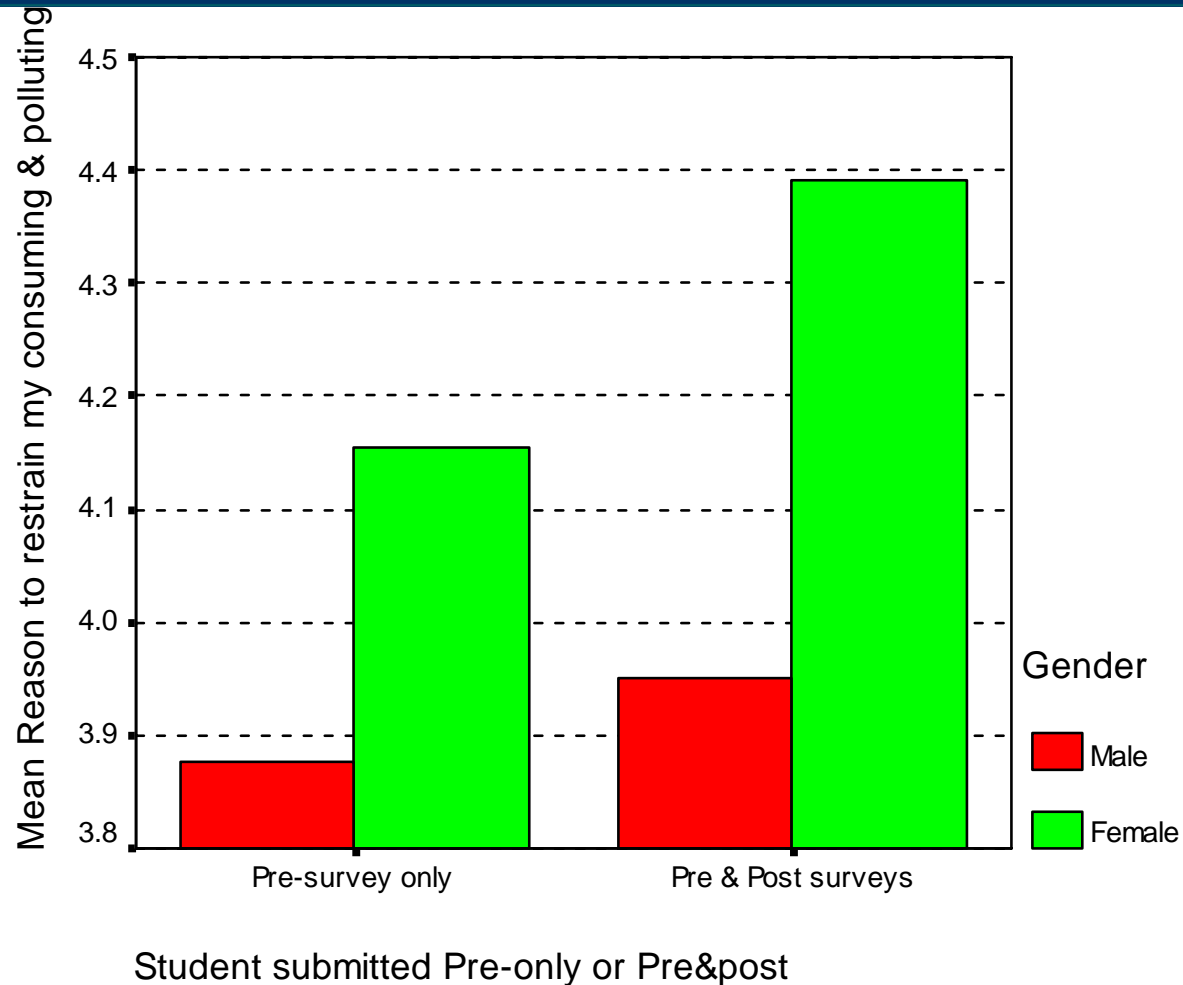
Pre-assignment Mean = 3.63; st.dev. = 1.117



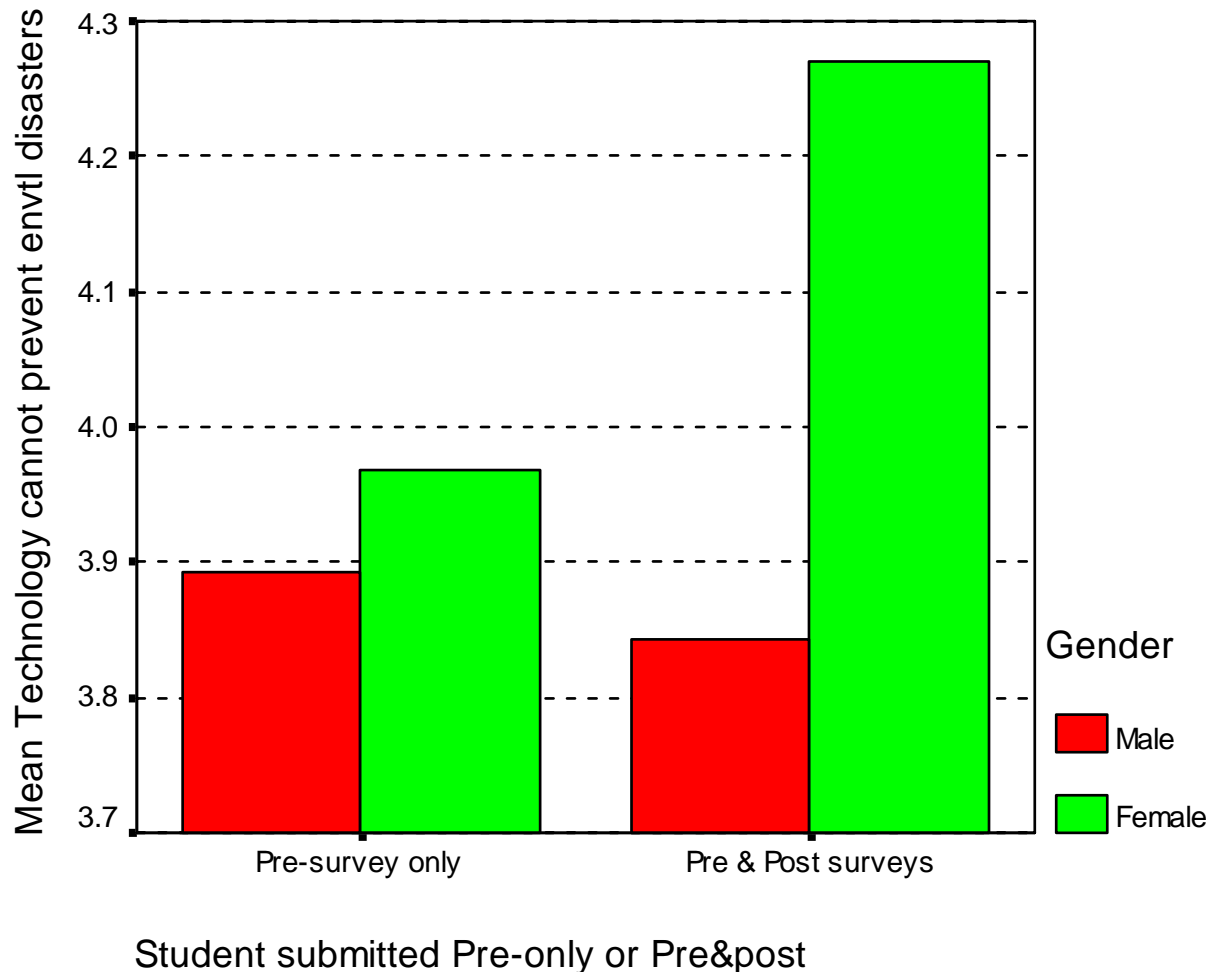
Gender Differences Pre vs. Post Assignment Ratings

- ❖ The following slides illustrate gender differences in ratings.
 - ❖ There are three groups:
Pre-only; Post-only; and Pre-Post Matched groups.
The matched group's mean rating is the pre-assignment rating.
 - ❖ Females consistently score higher in sustainability attitudes than males in all three groups.
 - ❖ A sample of statements with statistically significant differences ($p < .05$) between genders are illustrated.
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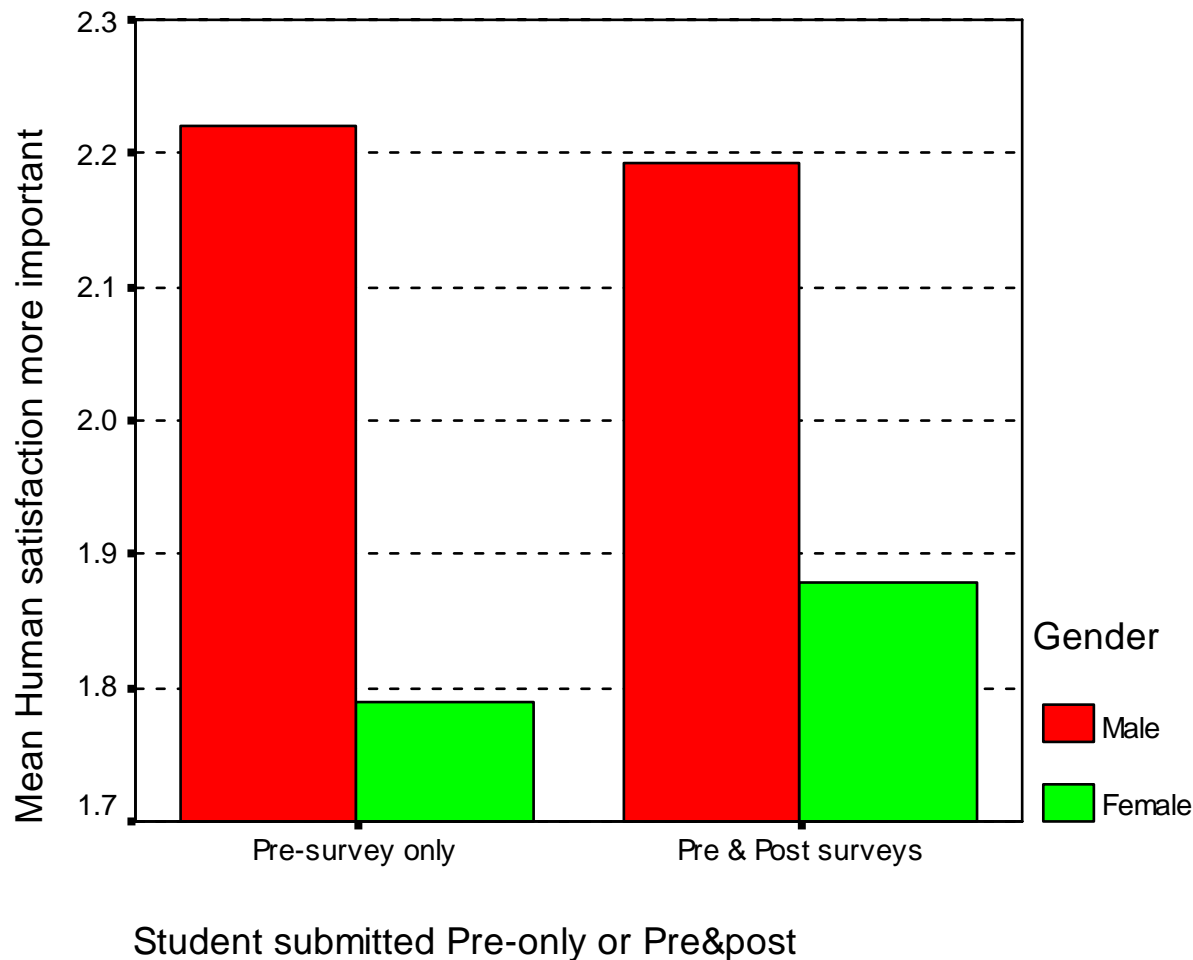
4. There is good reason for me to restrain my consuming and polluting behaviors even if most other people will not.
Gender $p = .000$; pre-only $p = .013$



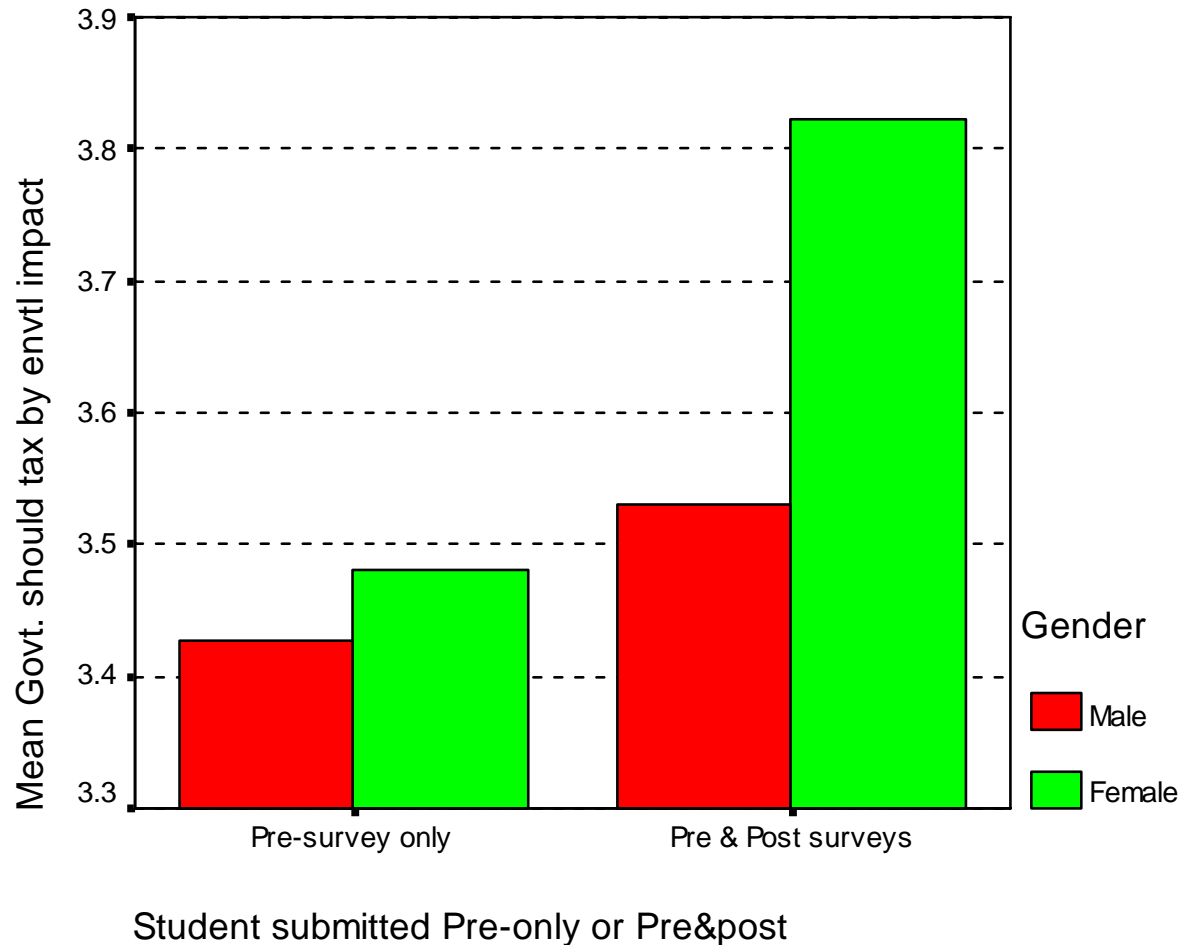
5. There is significant need for humans to change their consuming and polluting behaviors because better technology will NOT solve these problems in time.
Gender $p = .000$; pre-only $p = .032$



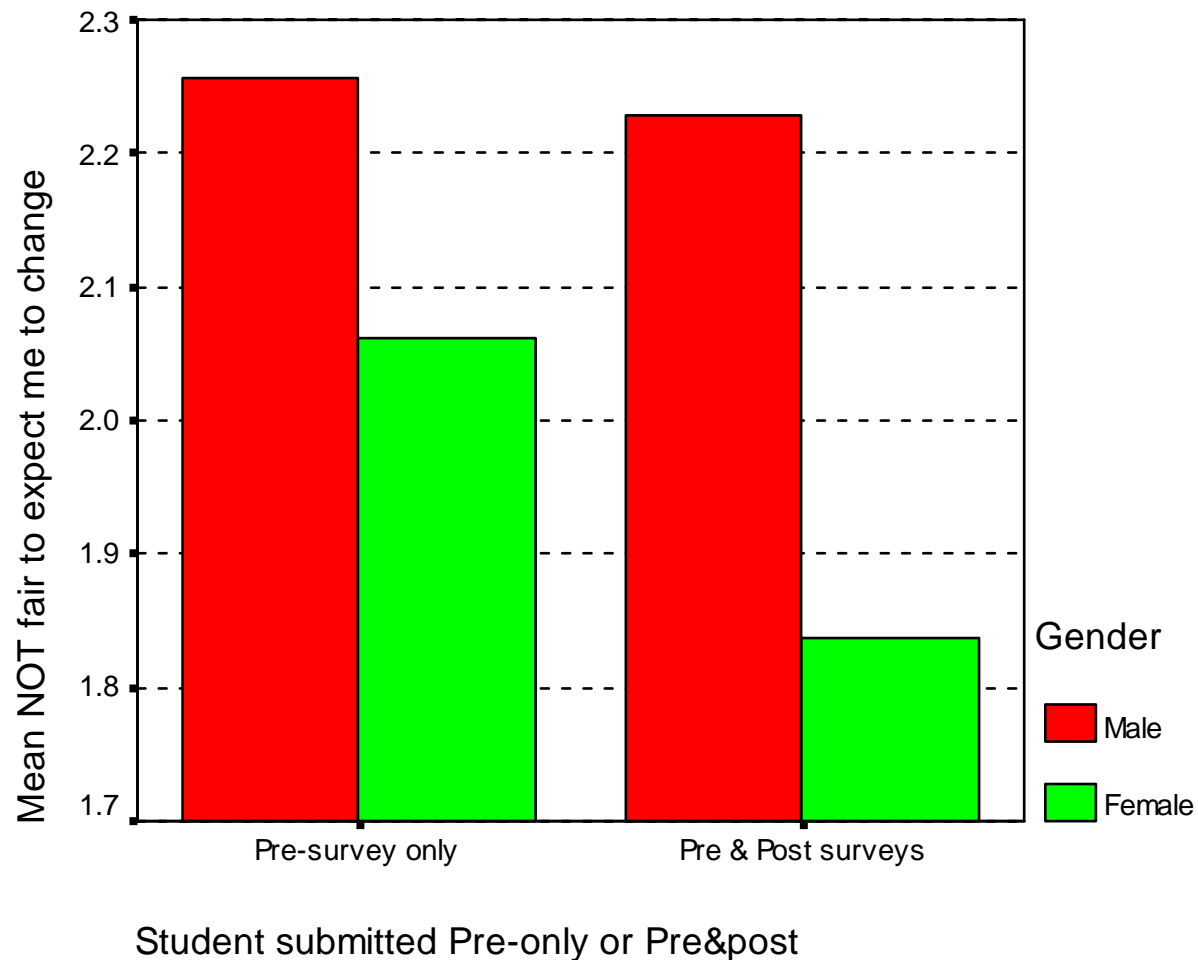
7. Human satisfaction is more important than the well-being of any other species on earth.
Gender $p = .000$



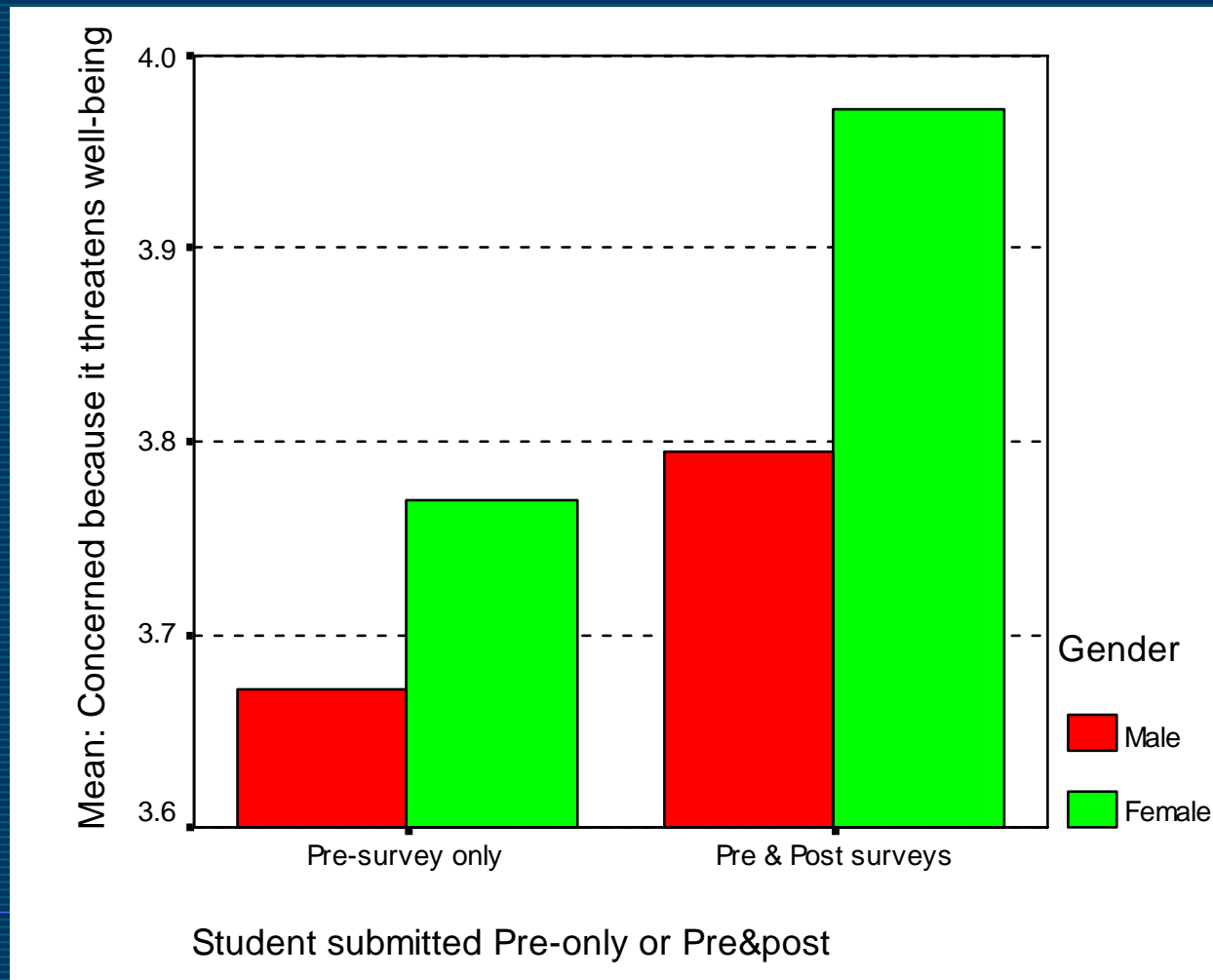
10. The government should tax goods and services according to their environmental impact.
Gender $p = .049$; pre-only $p = .007$



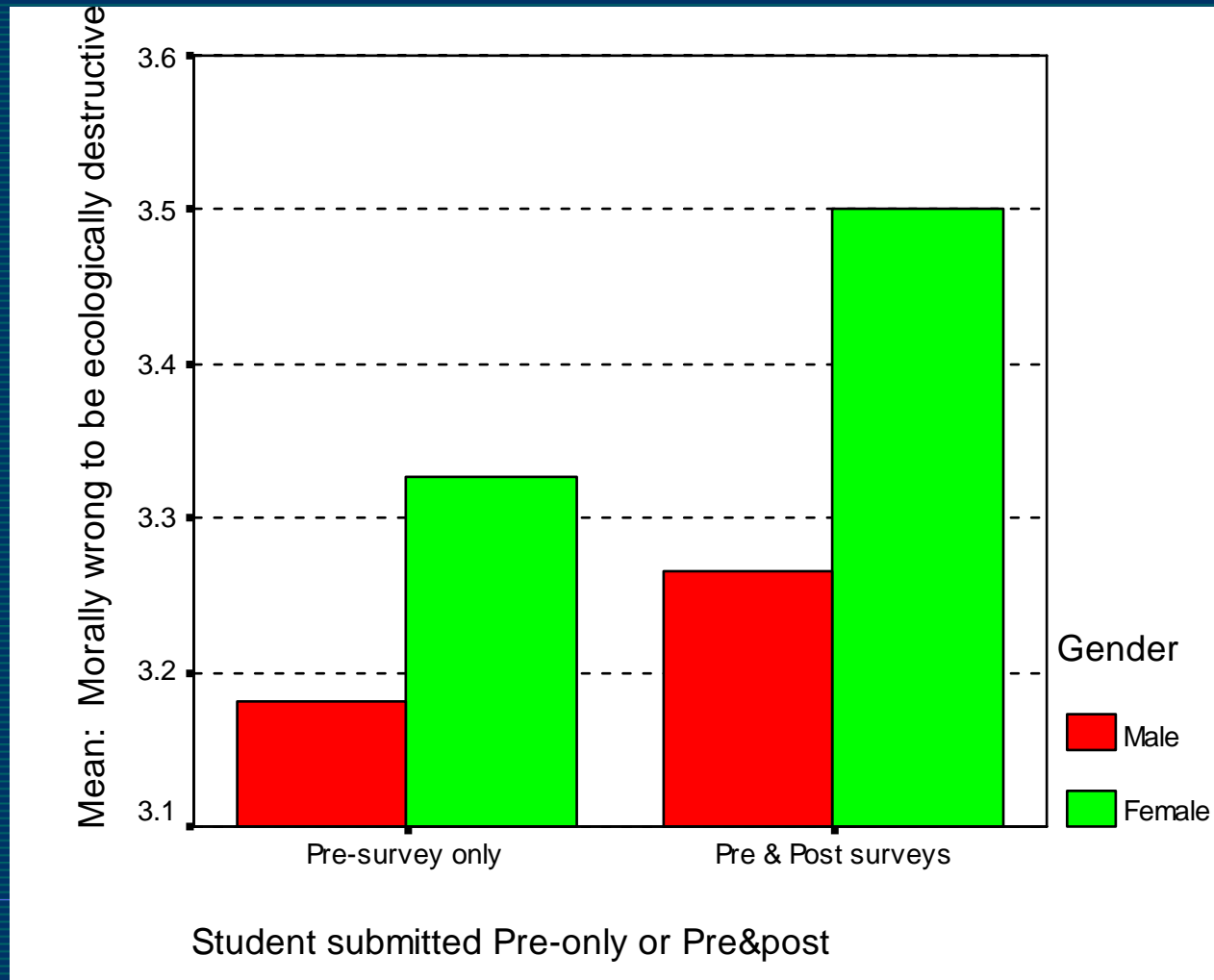
16. It is not fair to expect me to change my behavior in ways that I do not want to change, even if that change will enhance the long-term well-being of the planet's ecosystems. Gender $p = .000$



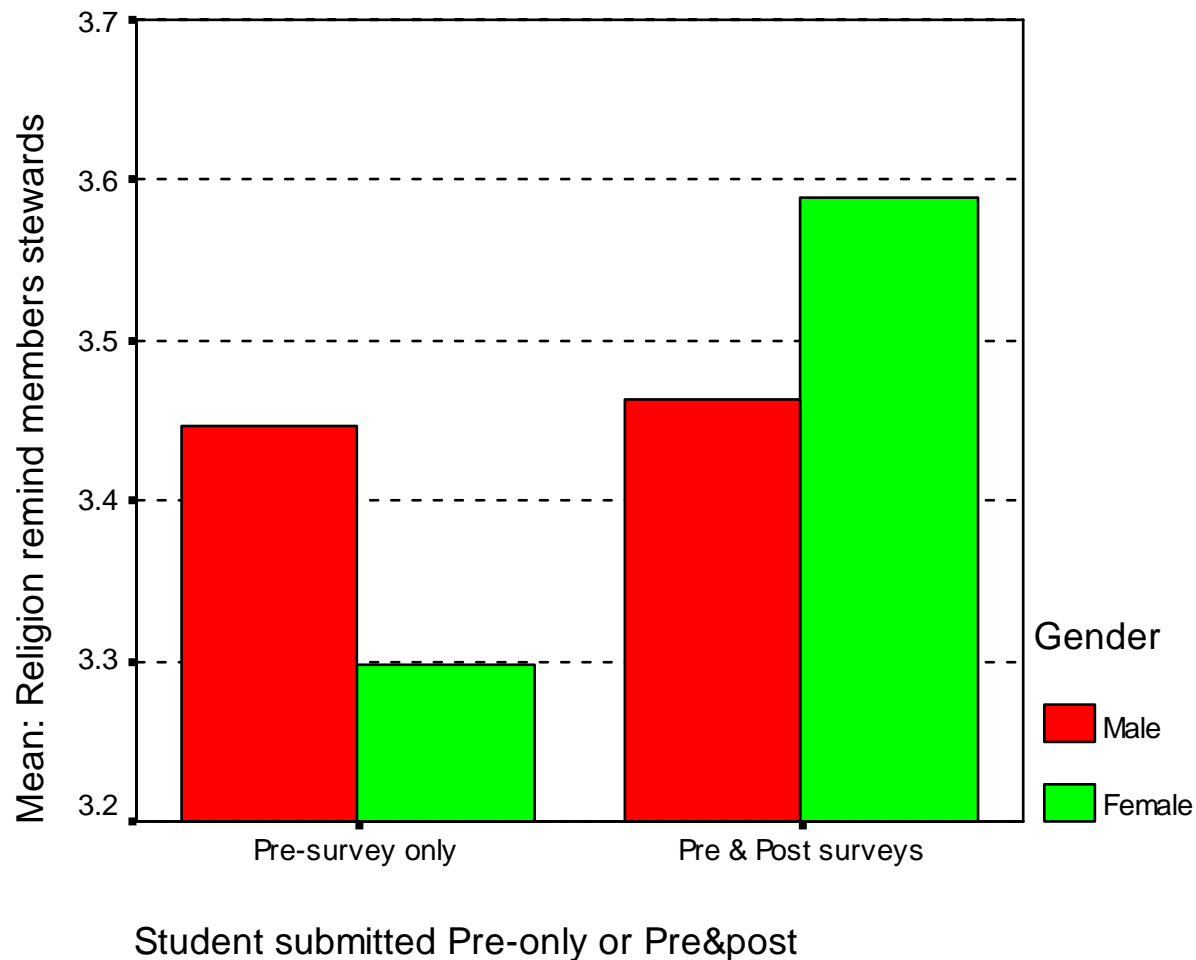
24. I am concerned about global warming because it threatens the well-being of humans in the future.
Gender $p = .011$; pre-only $p = .037$



30. It is morally and/or ethically wrong for me choose behaviors and products that threaten the long term well-being of the planet's ecosystems
Gender p = .034

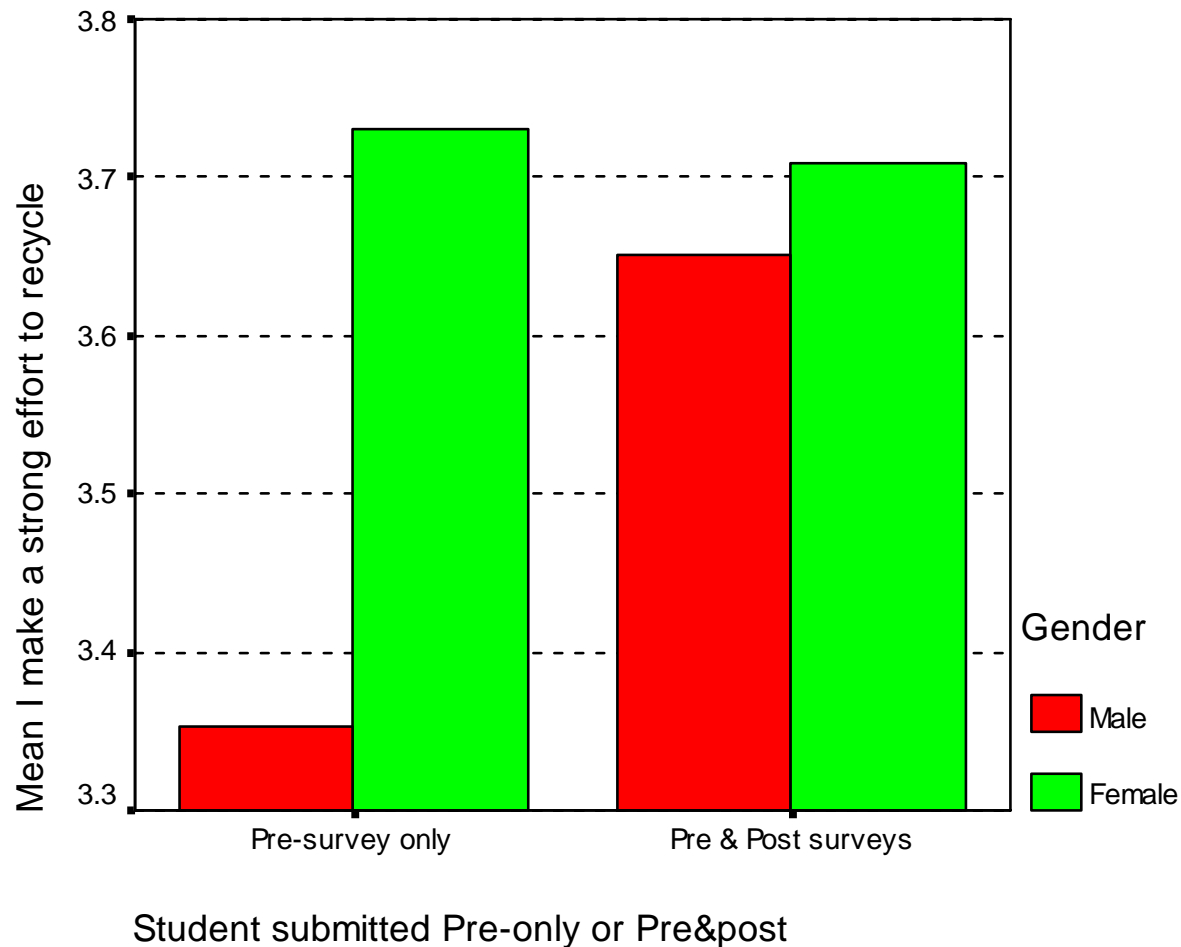


31. Religious organizations should remind their members that humans were made stewards of the Creation and are morally responsible for its well-being while we are here.
Pre-only $p = .04$

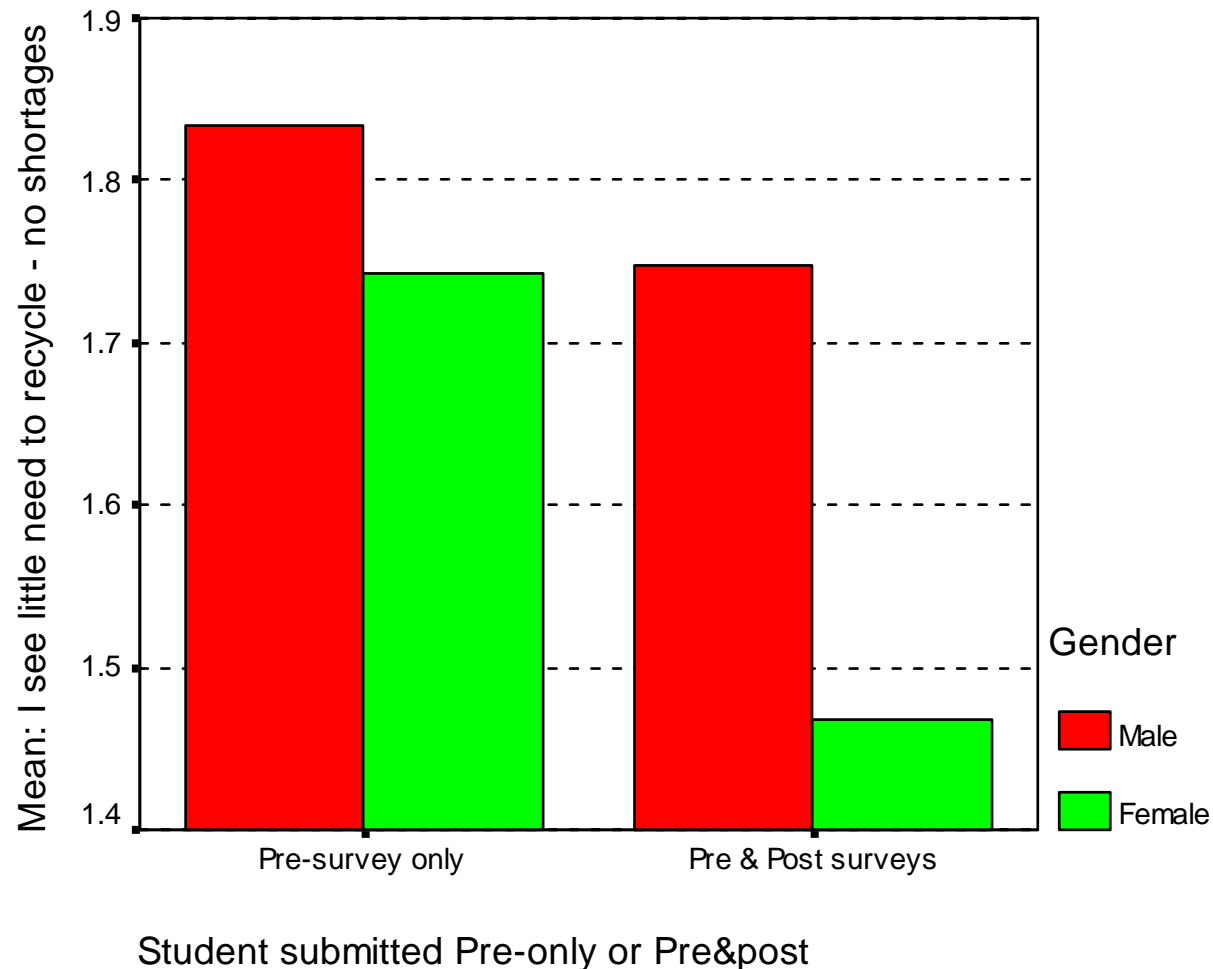


34. I recycle any recyclable plastic, glass, cans, and paper even if I have to go to considerable effort to get the materials into the recycling system.

Gender $p = .026$



35. I see little need to recycle most materials because I see no shortage of paper, glass, cans, and plastic.
Gender $p = .011$; Pre-only $p = .006$

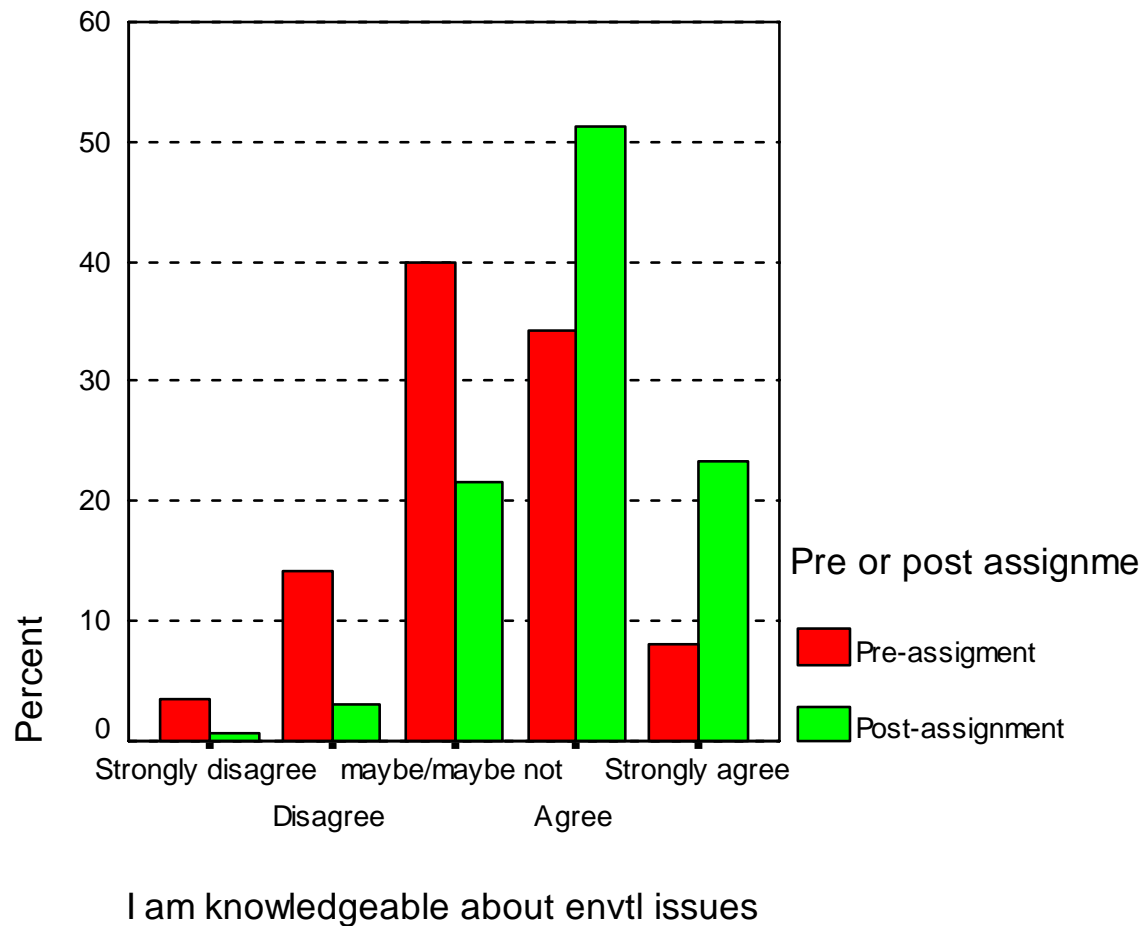


Pre- and Post Assignment Ratings

The following slides illustrate the percentage of students who selected each rating category for the 35 attitude statements.

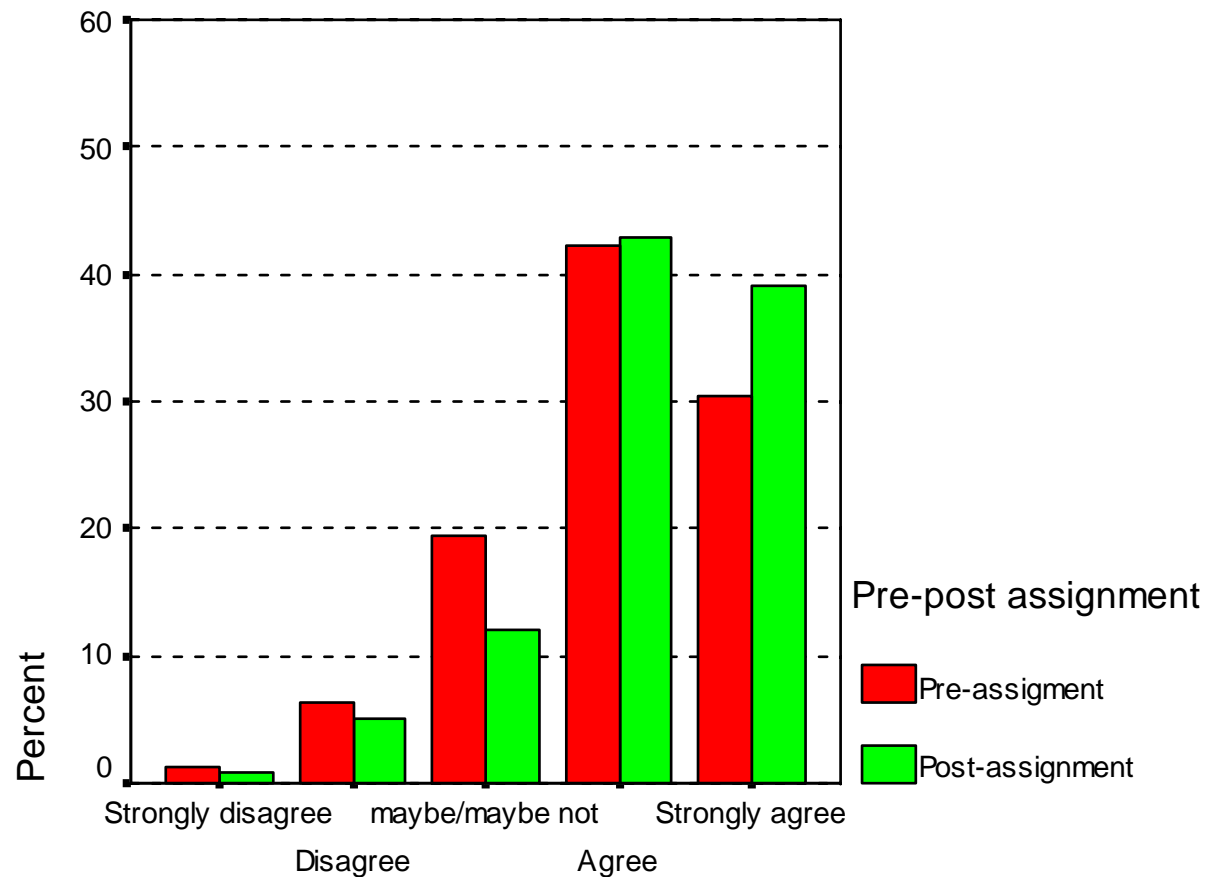
- ❖ Pre-assignment ratings are compared with post assignment ratings.
- ❖ Mean Post- ratings were more toward the ecologically sustainable pole than mean Pre-ratings for every statement.
- ❖ Statistically significant differences in the pre-post ratings $< .05$ are marked with *; $p < .01$ with **.

1.** I am fairly knowledgeable about environmental issues and the role of human behavior in environmental problems.
Pre-assignment mean = 3.29; st. dev. .93; p=.000



3.** My behavior around consuming the earth's resources and creating pollution is important enough for me to be concerned about.

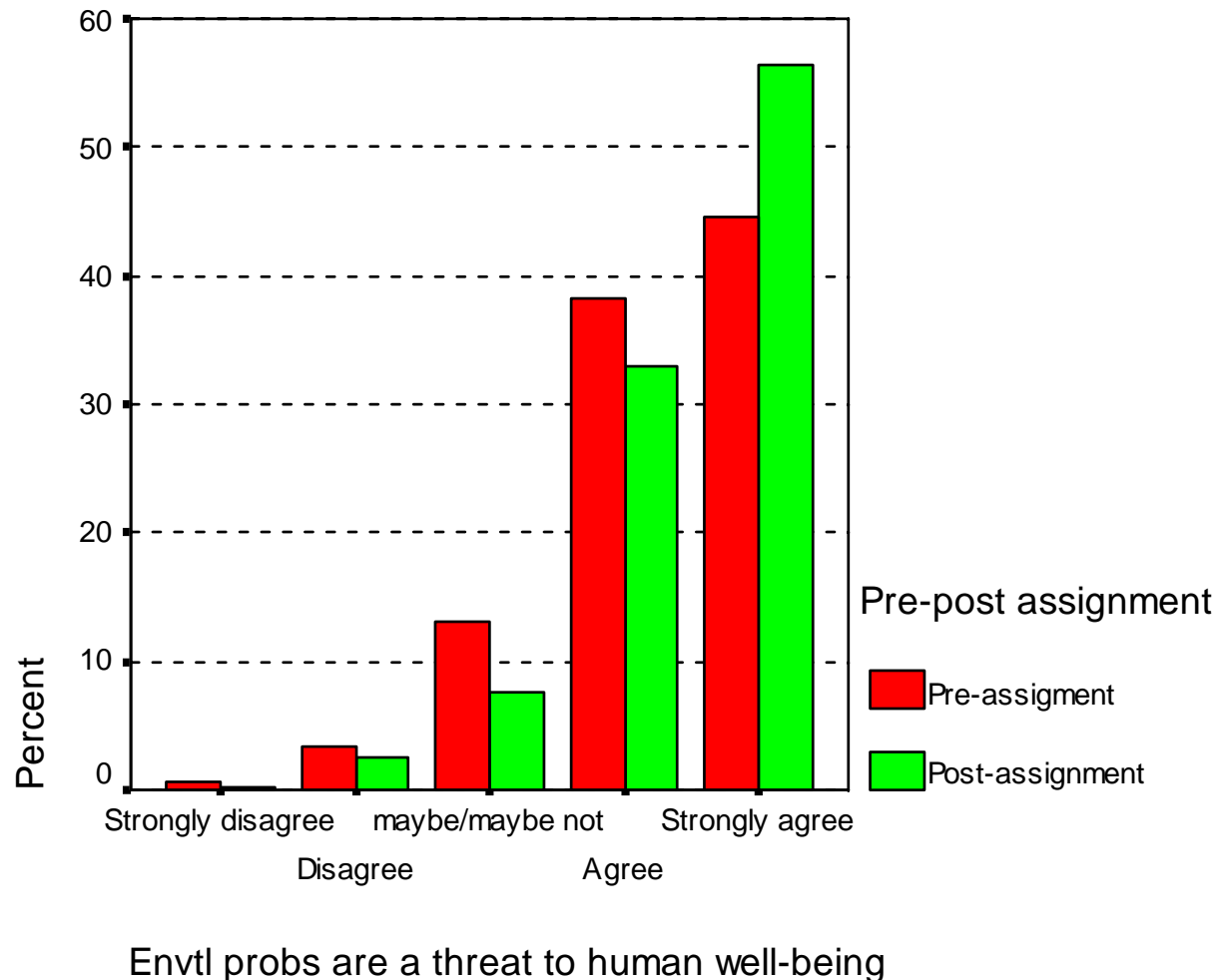
Pre assignment mean = 3.94; St.dev. = .931; Pre-post p=.001



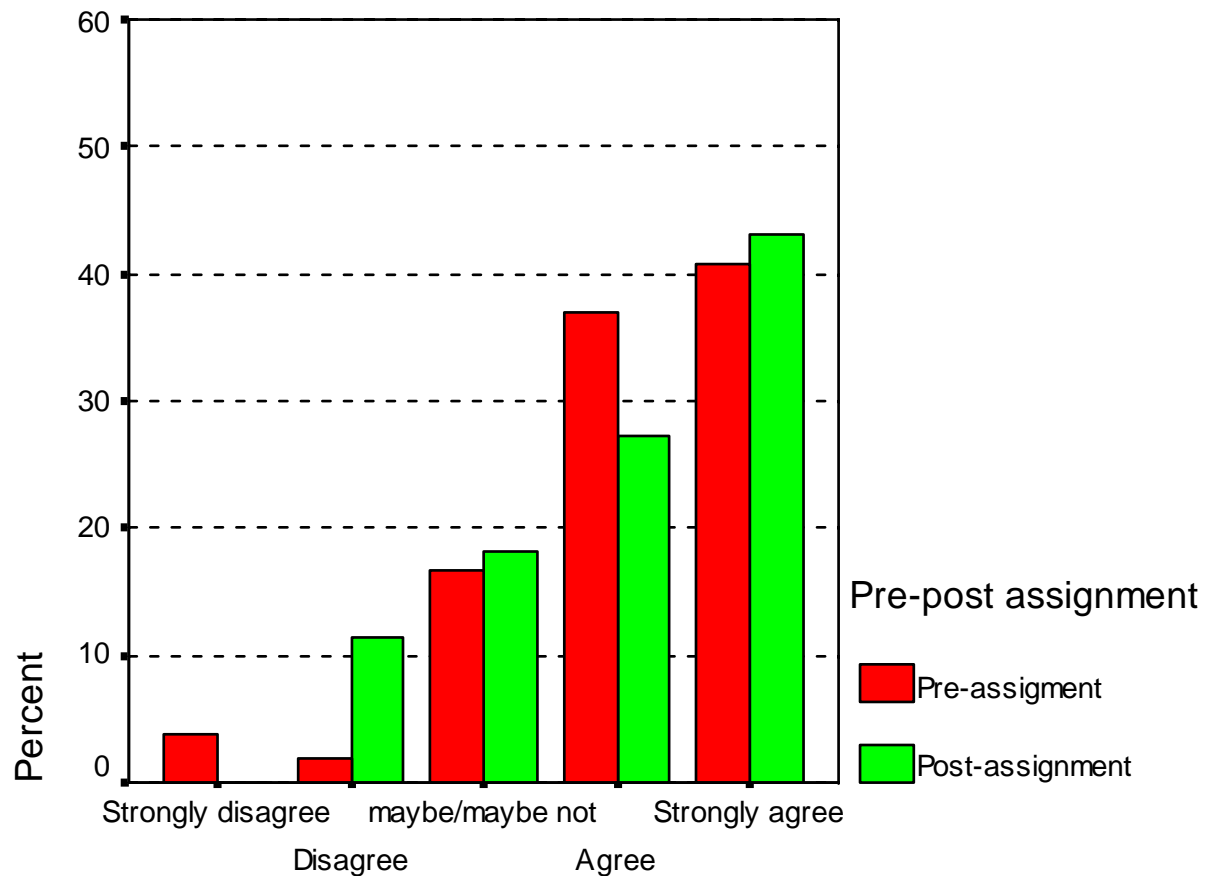
My behavior is important enough to be concerned about

6.** Environmental problems are a real threat to human well-being in the next few generations.

Pre-assignment mean = 4.23; st.dev. = .842; pre-post p=.000



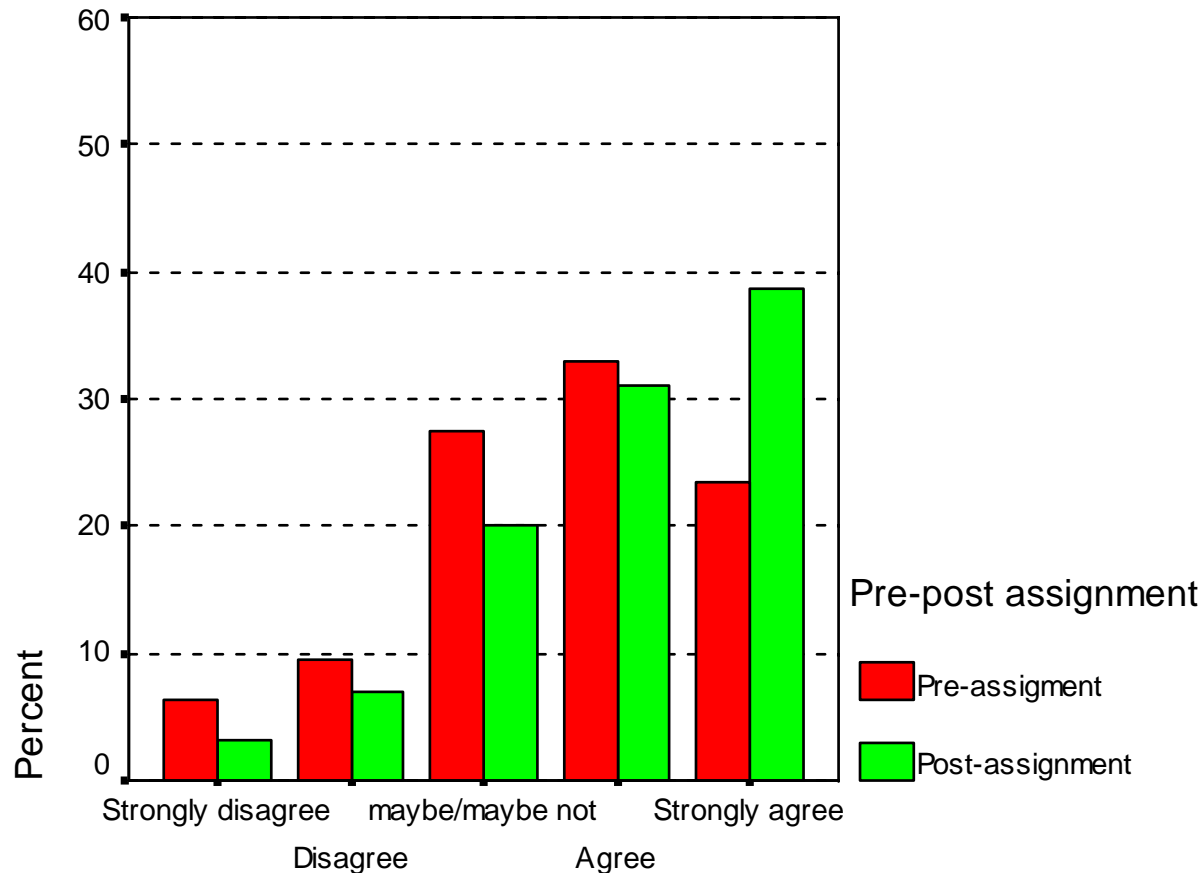
9. ** I am concerned about the health of the earth's ecosystems in the future after I am dead.
Pre-assignment mean = 3.96; st.dev. = .998; $p=.001$



I am concerned about ecosystem well-being after my death

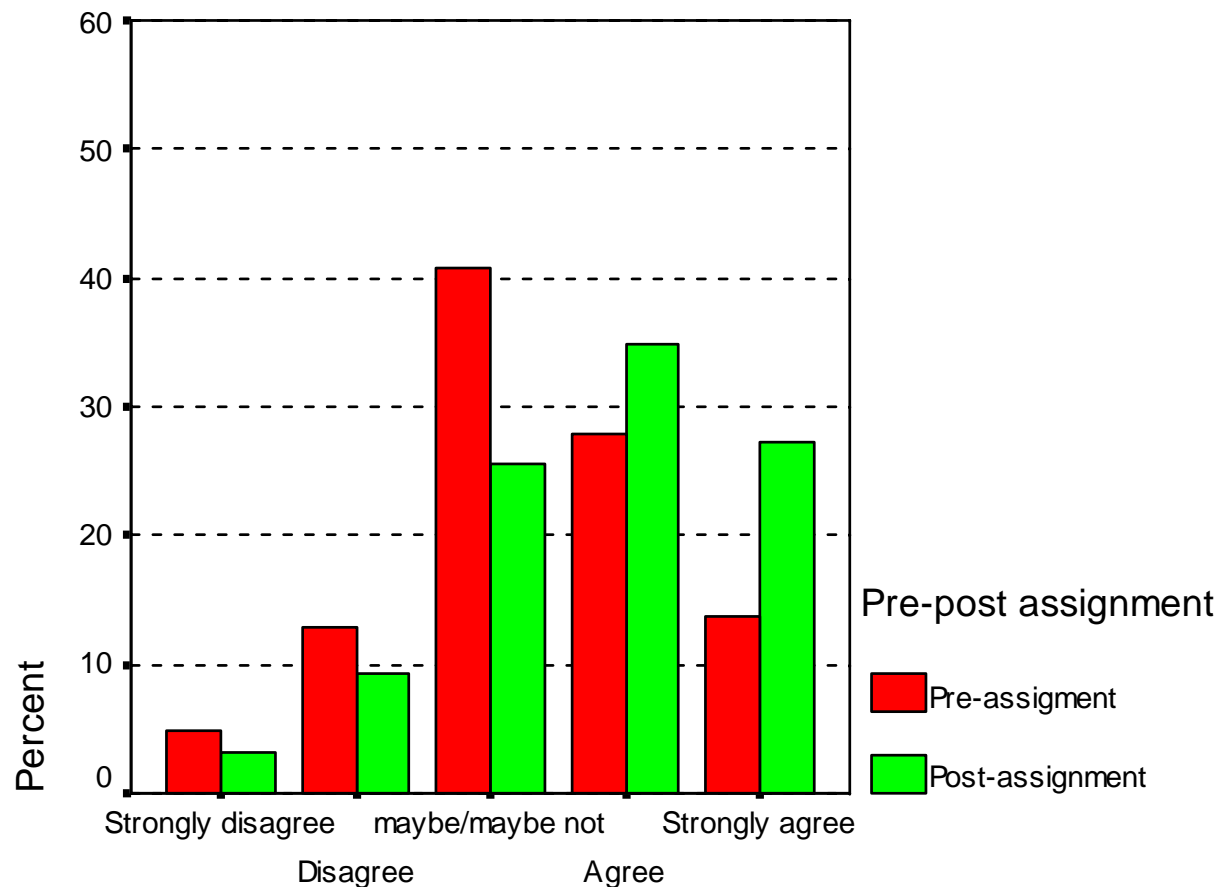
10. ** The government should tax goods and services according to their environmental impact.

Pre-assignment Mean = 3.58; st.dev. 1.14; $p = .000$



Govt. should tax by envtl impact of goods & services

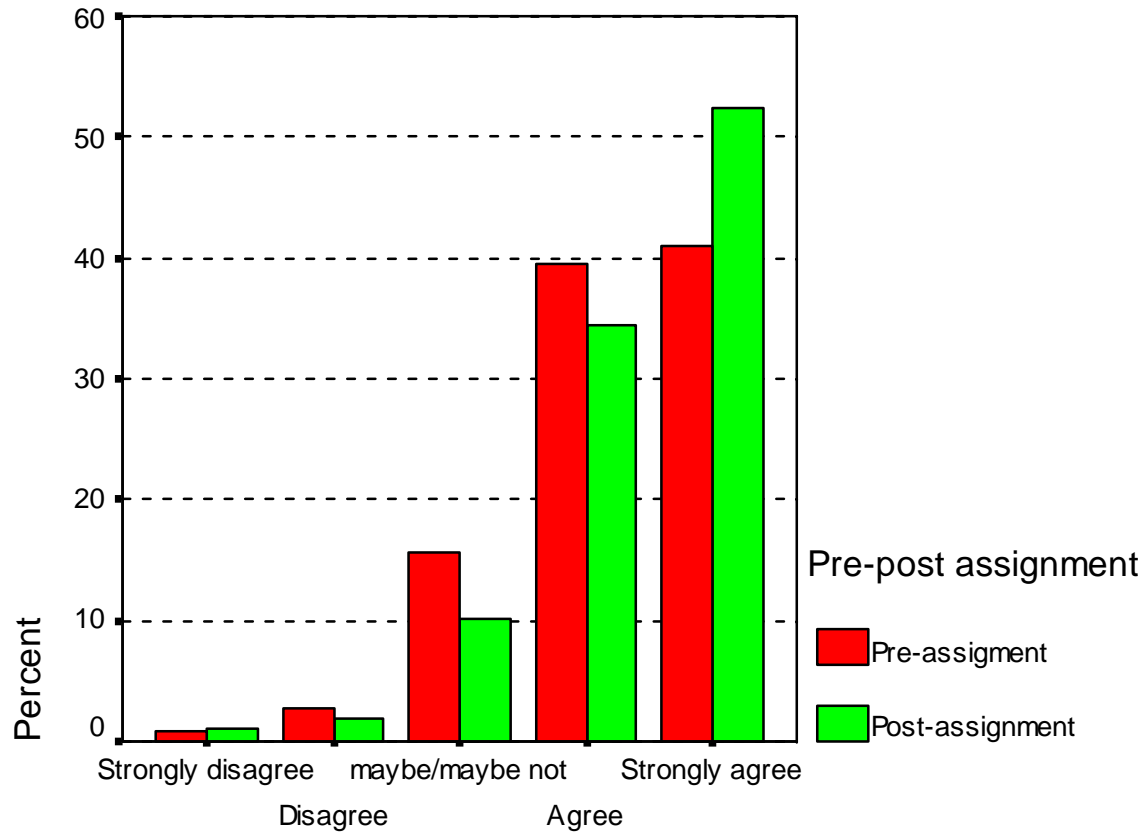
13.** Political office candidates must advocate strong environmental protection policies to have my support.
Pre-assignment mean = 3.33; st. dev.1.02; p=.000



Politicians must be for strong envtl protection

15.** Human well-being on earth in the long-term is dependent upon the long-term well-being of the earth's ecosystems.

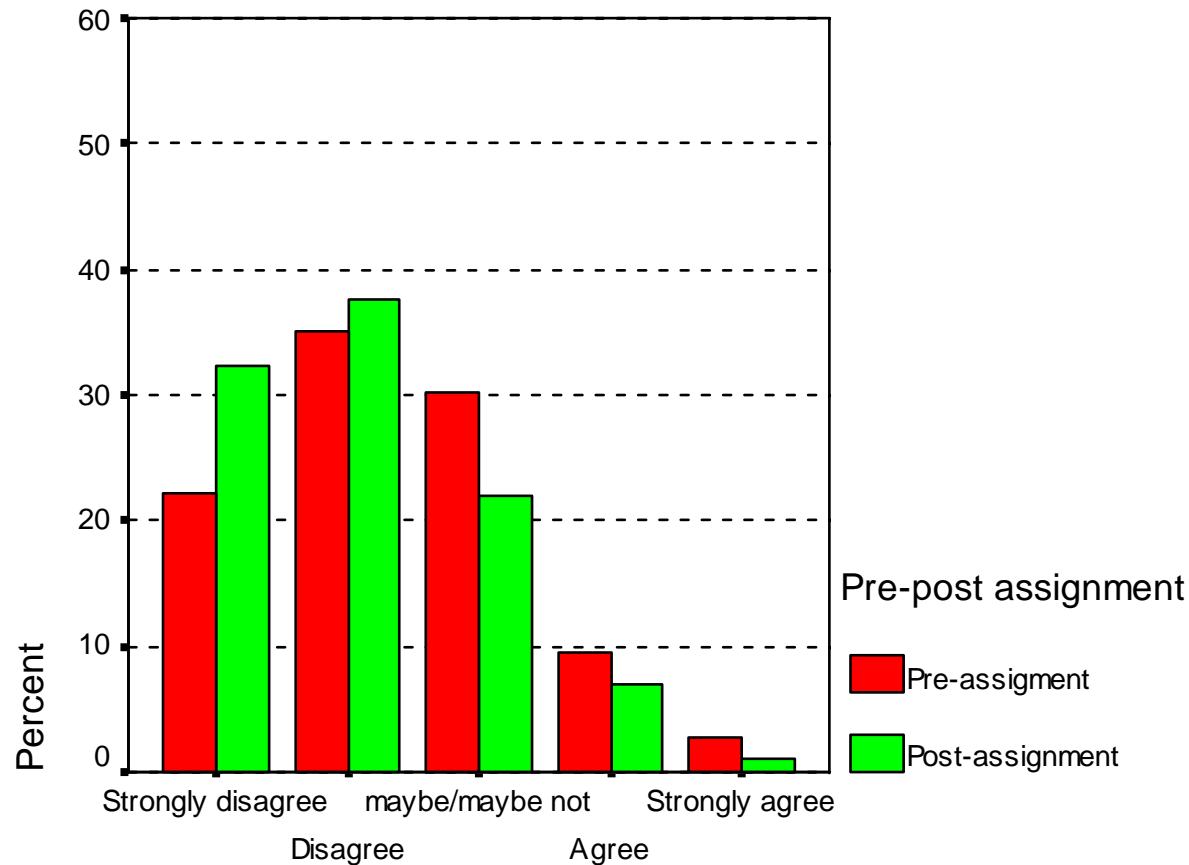
Pre-assignment mean = 4.17; st.dev. = .86; $p=.002$



Human well-being IS dependent on ecosystem well-being

18.** The degree of threat to the long-term health of the earth's ecosystems is not as bad as environmental organizations claim it is.

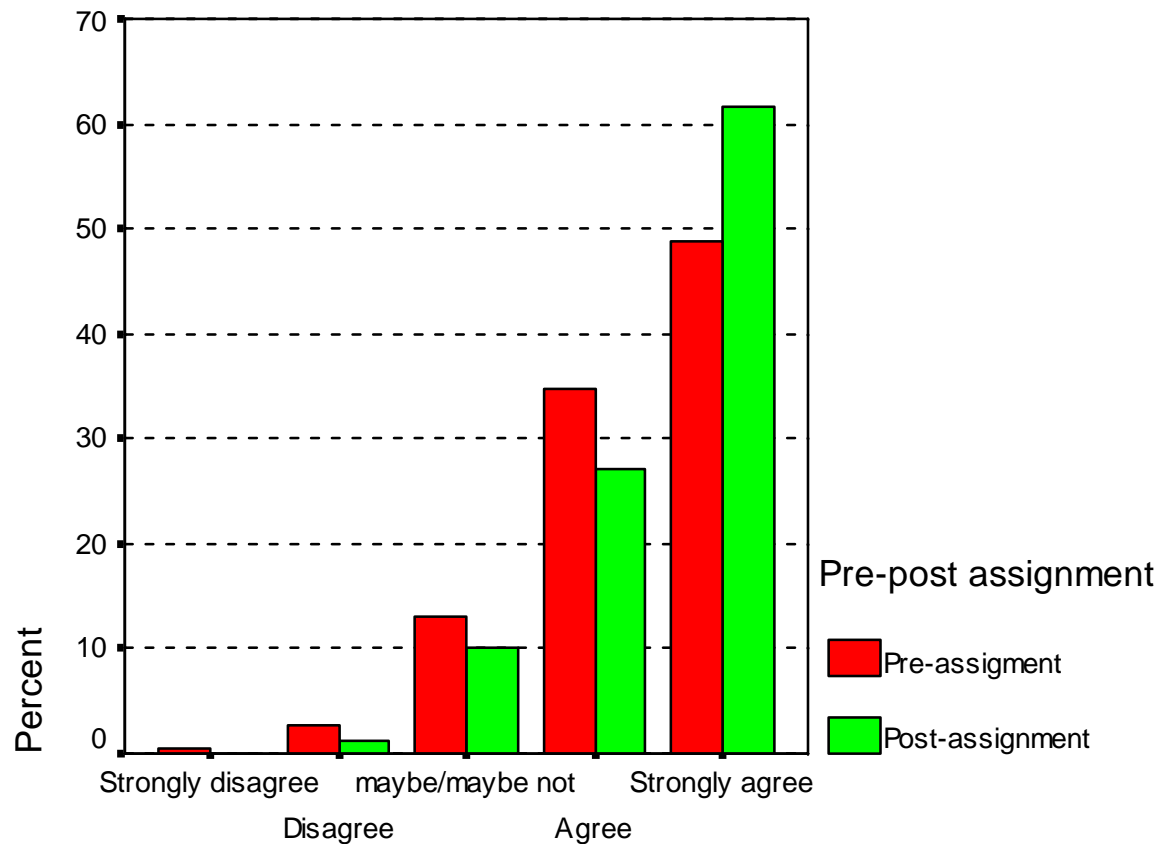
Pre-assignment mean = 2.36; st. dev. = 1.02; $p=.000$



Threat to ecosystems exaggerated by envtl organizations

22.** The United States should move faster to improve alternative transportation systems so they will be so attractive, convenient, and economical that most of us will choose to use them.

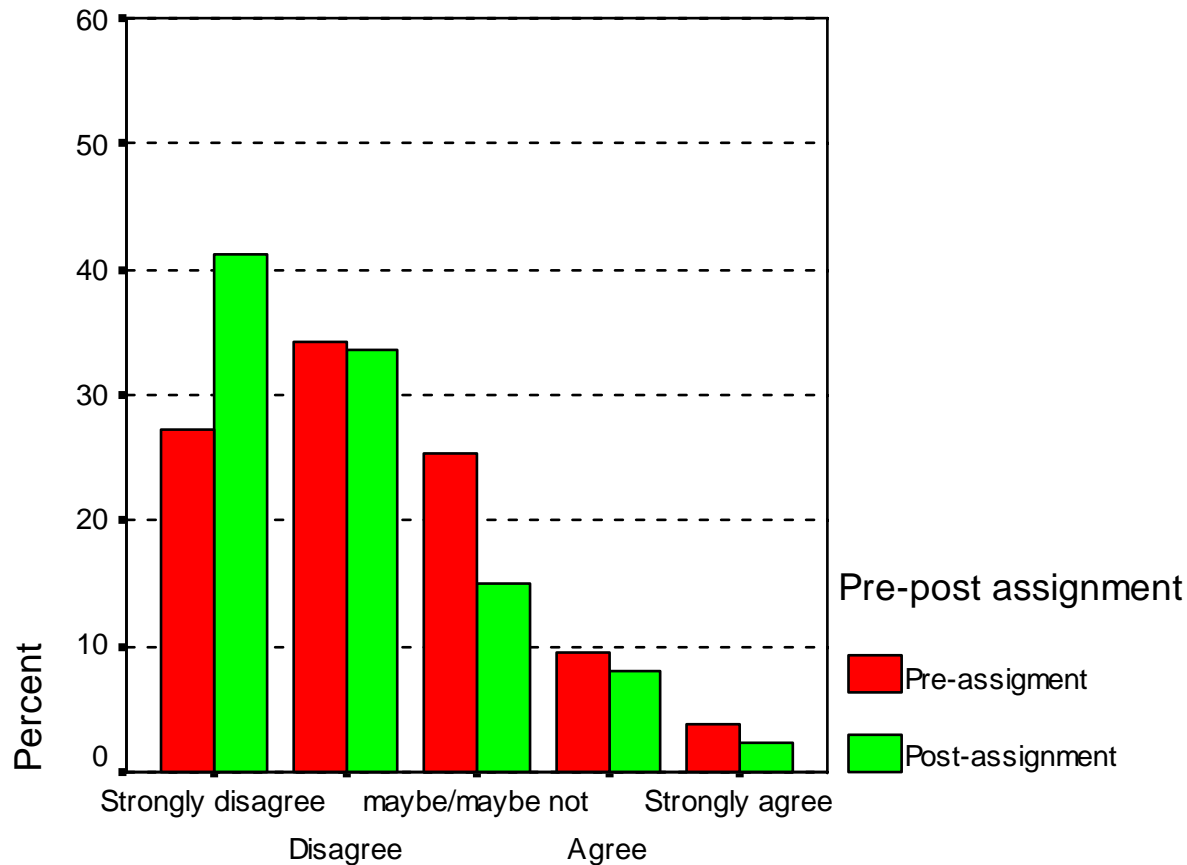
Pre-assignment mean = 4.29; st.dev. = .83; p=.000



U.S. should speed up development of alternative transportation

23.** Global warming is a naturally occurring process that is not significantly affected by human activities.

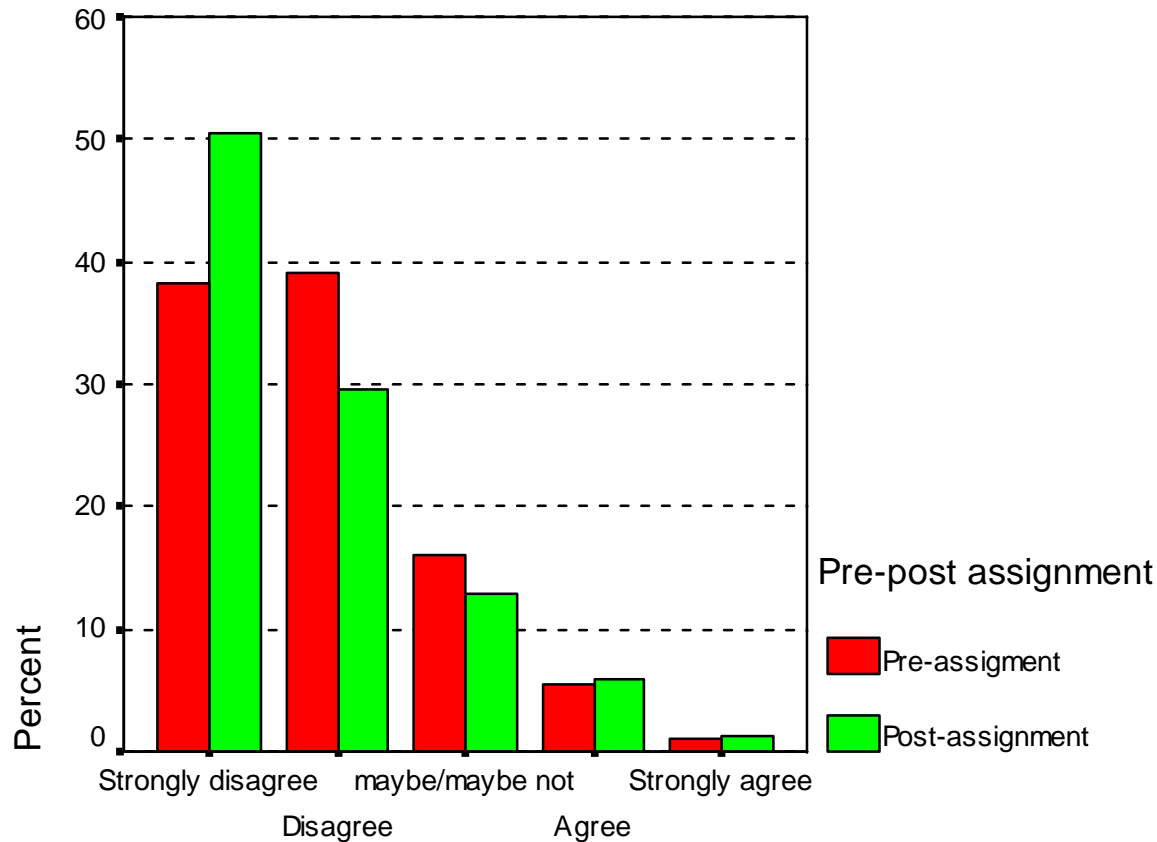
Pre-assignment mean = 2.28; st. dev. = 1.08; $p=.000$



Global warming is natural and NOT caused by human activity

28*. People with strong environmental protection values are mostly strange people and selfishly want to make the rest of the people live like they do.

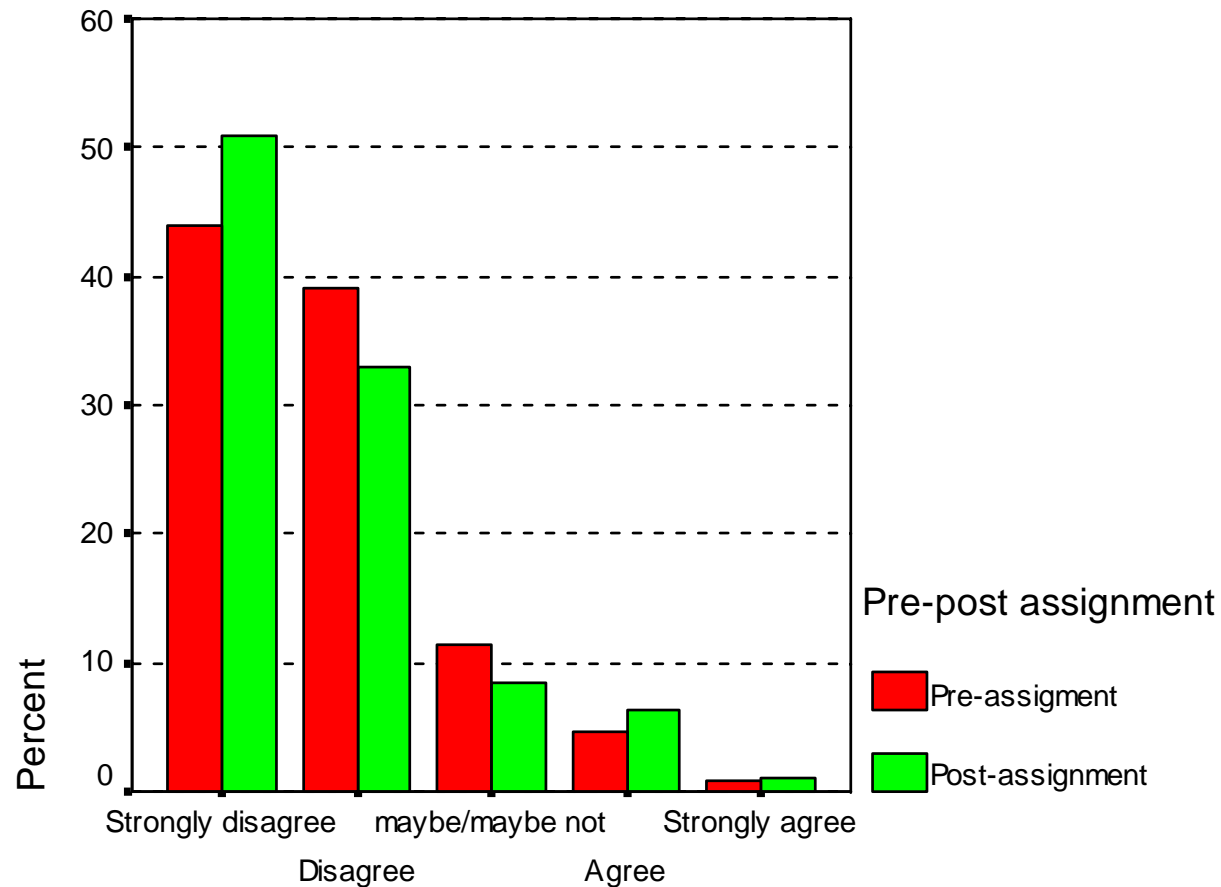
Pre-assignment mean = 1.92; st.dev. = .92; $p=.02$



Environmentalists: strange & want us to live like them

29. The human impact on non-human species on the planet is of little interest to me.

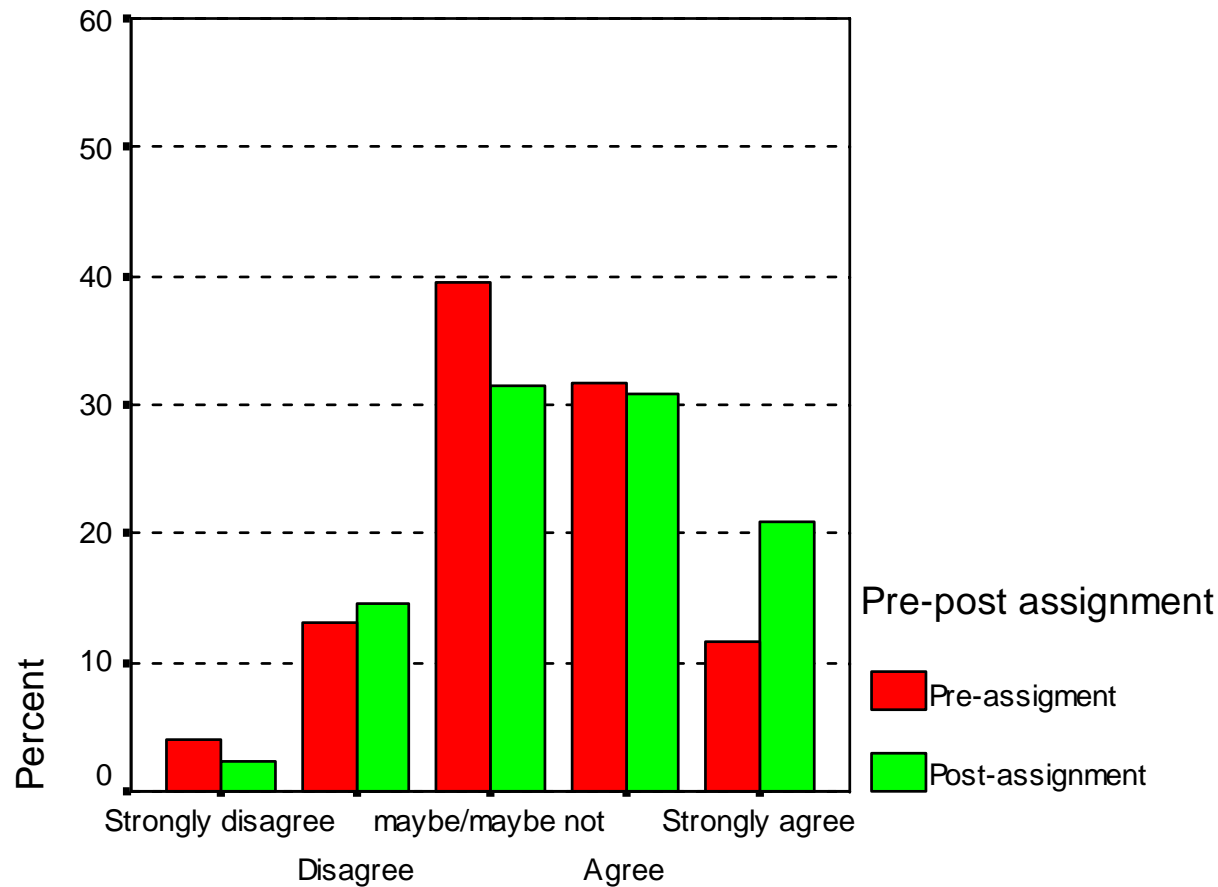
Pre-assignment mean = 1.79; st.dev. = .88



Human impact on species of little interest to me

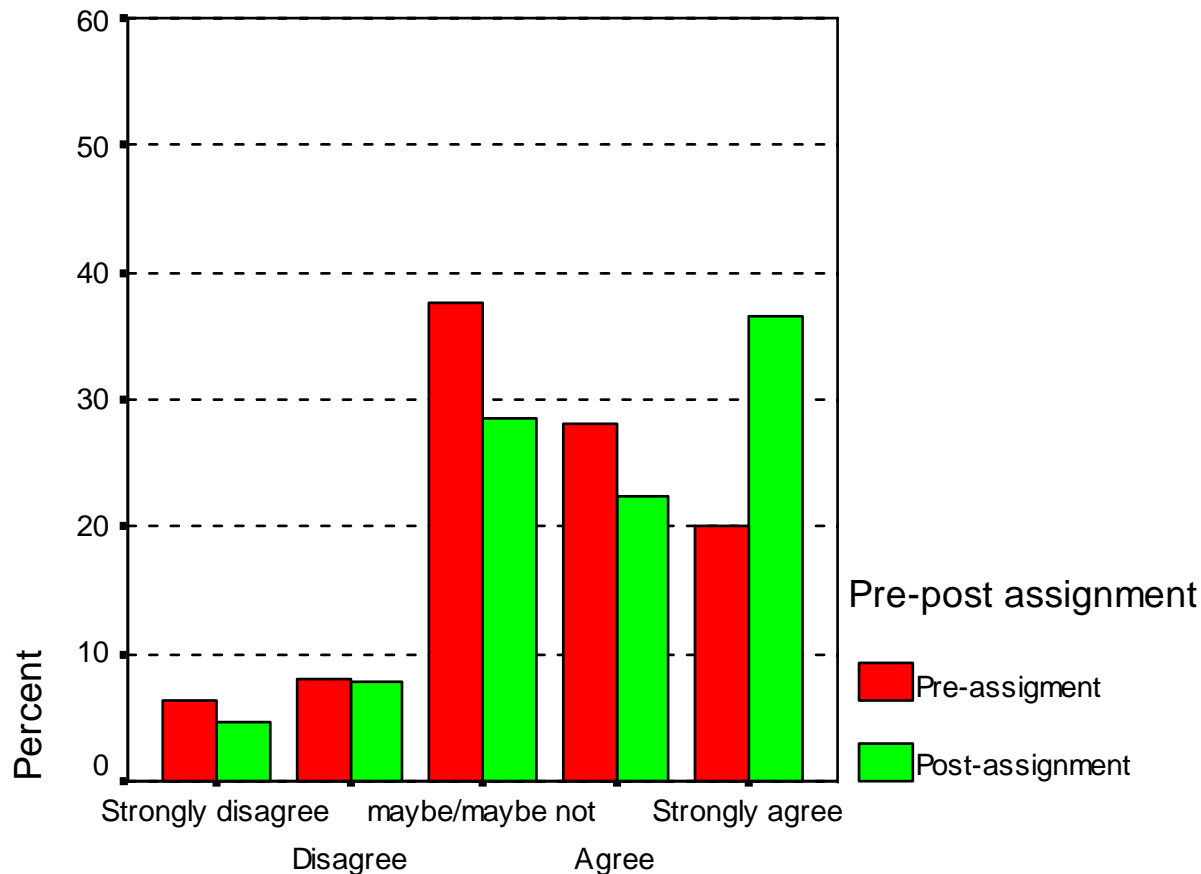
30.** It is morally and/or ethically wrong for me choose behaviors and products that threaten the long term well-being of the planet's ecosystems.

Pre-assignment mean = 3.34; st.dev. = .98; $p=.005$



It is morally/ethically wrong to be ecologically destructive

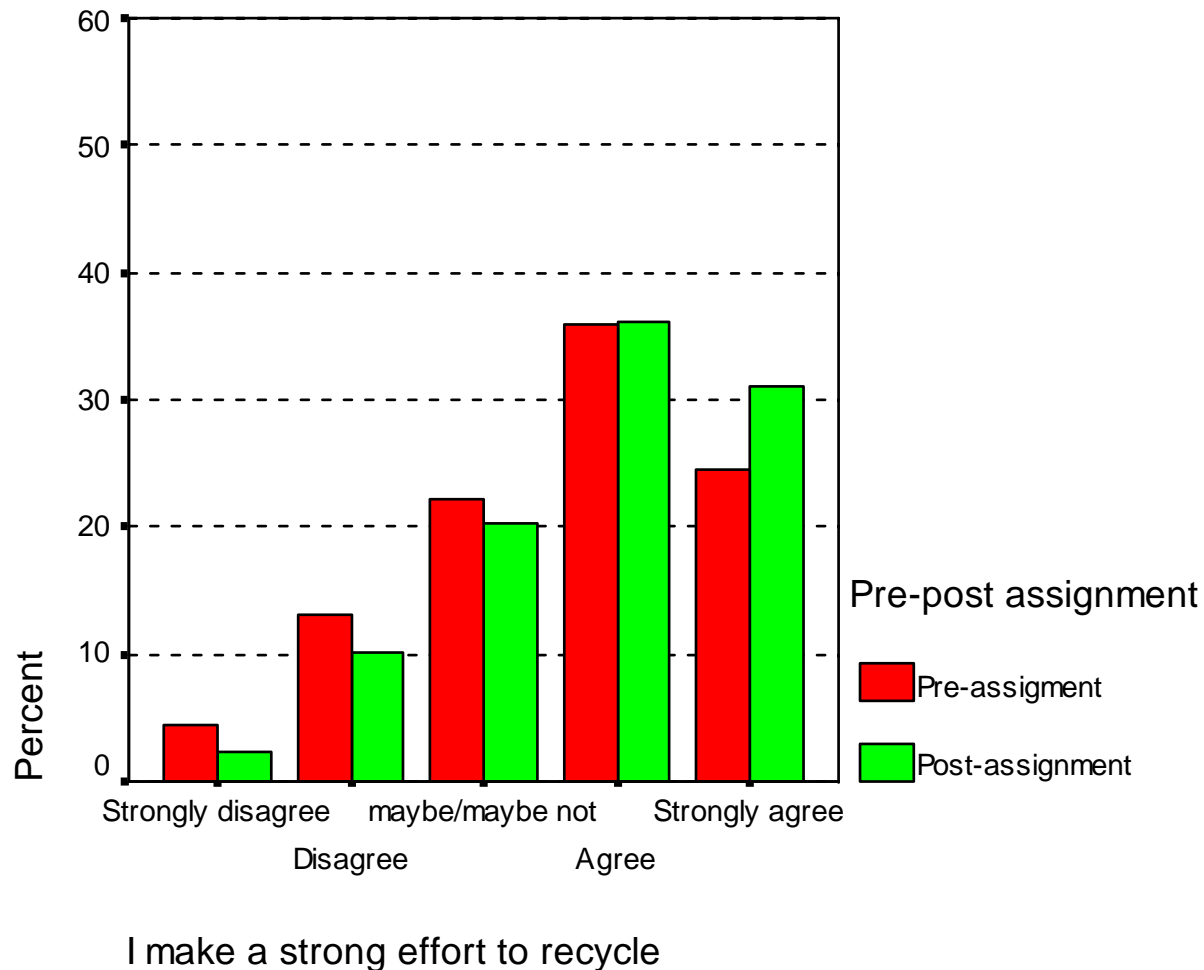
31.** Religious organizations should remind their members that humans were made stewards of the Creation and are morally responsible for its well-being while we are here. Pre-assignment mean = 3.48; st.dev = 1.09; p=.000



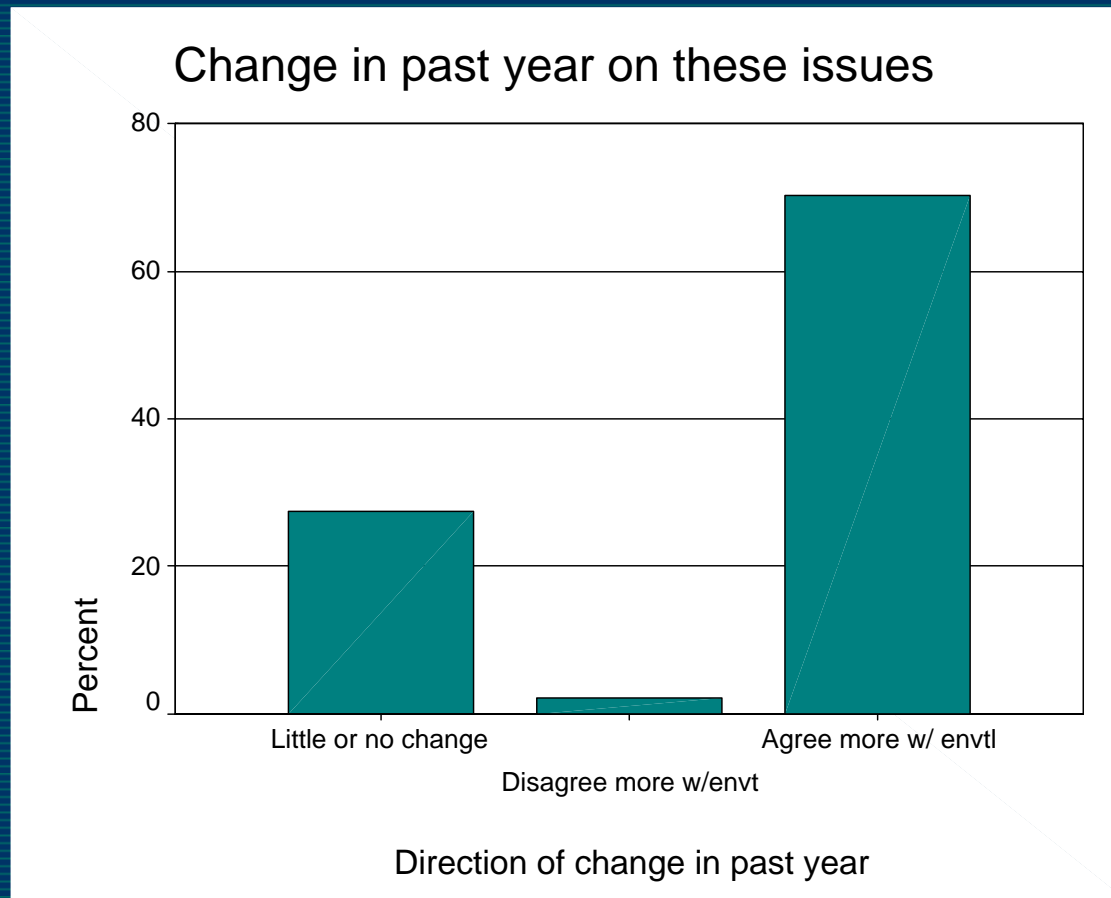
Religions should promote "stewards of the creation"

34.** I recycle any recyclable plastic, glass, cans, and paper even if I have to go to considerable effort to get the materials into the recycling system .

Pre-assignment mean = 3.63; st. dev. = 1.12; $p=.007$

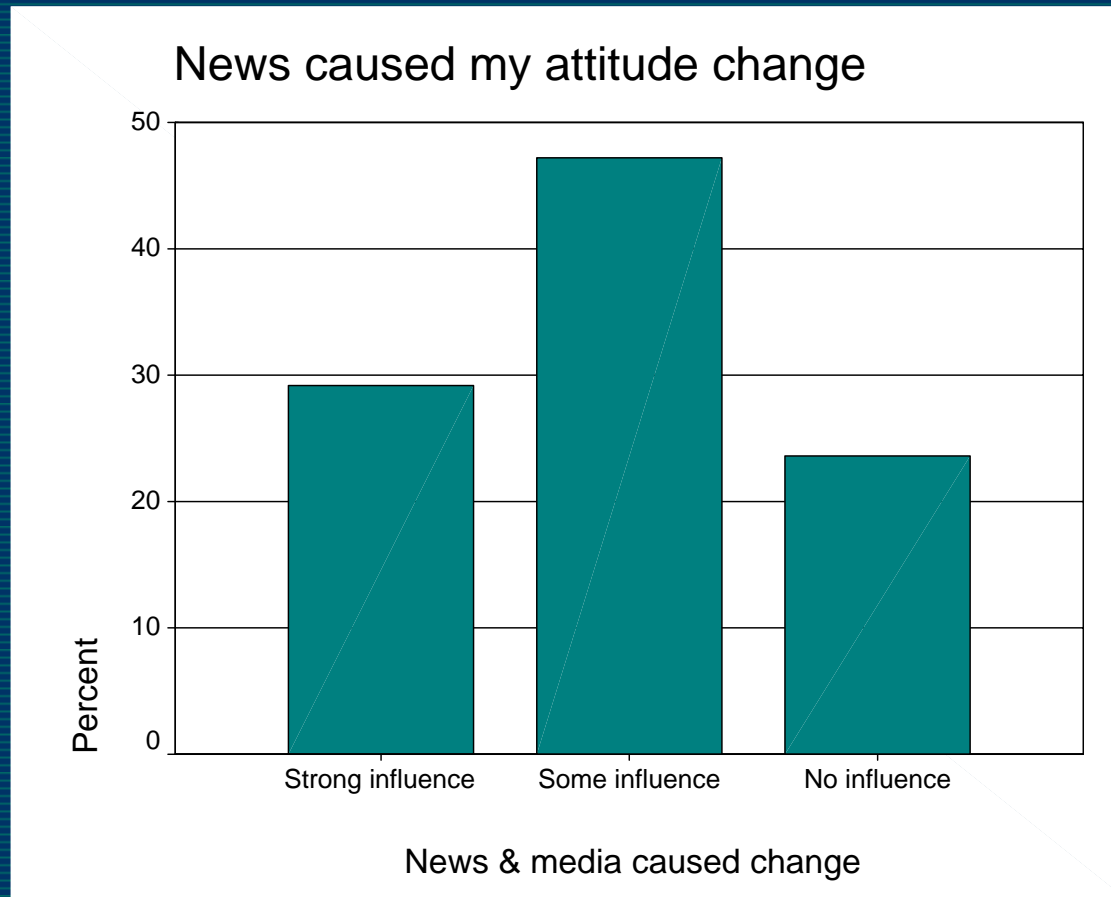


My views on several of these topics have been influenced significantly in the past year in the following direction:



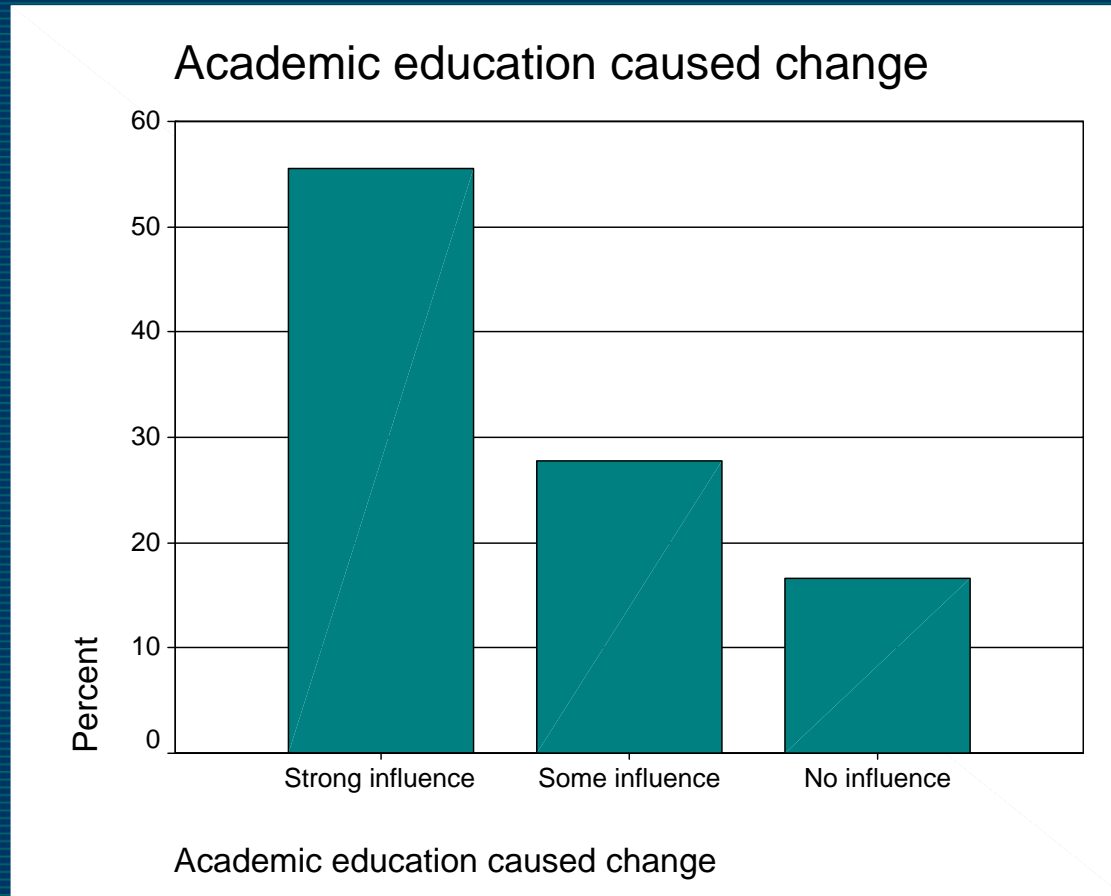
Cause of my attitude change in the past year:

Issues in the news and other media



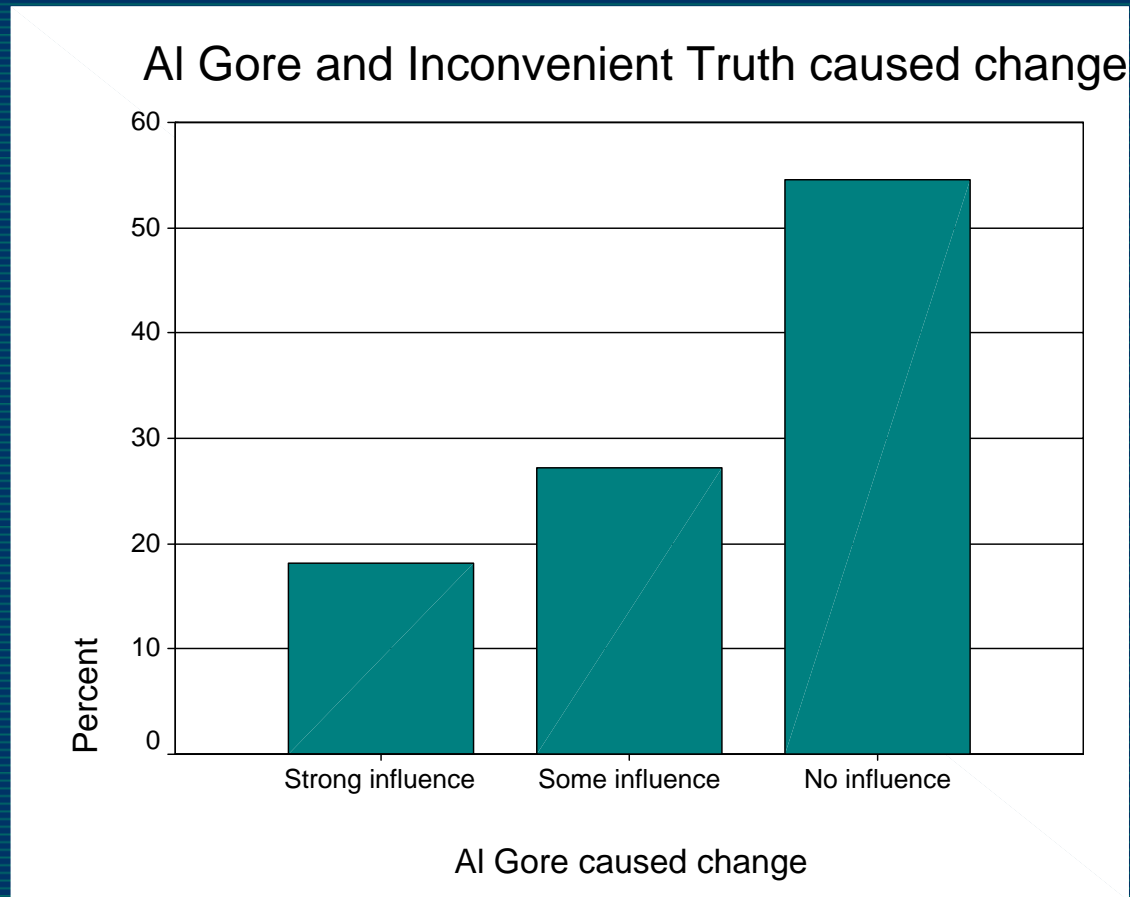
Cause of attitude change in past year:

My increasing academic education in general

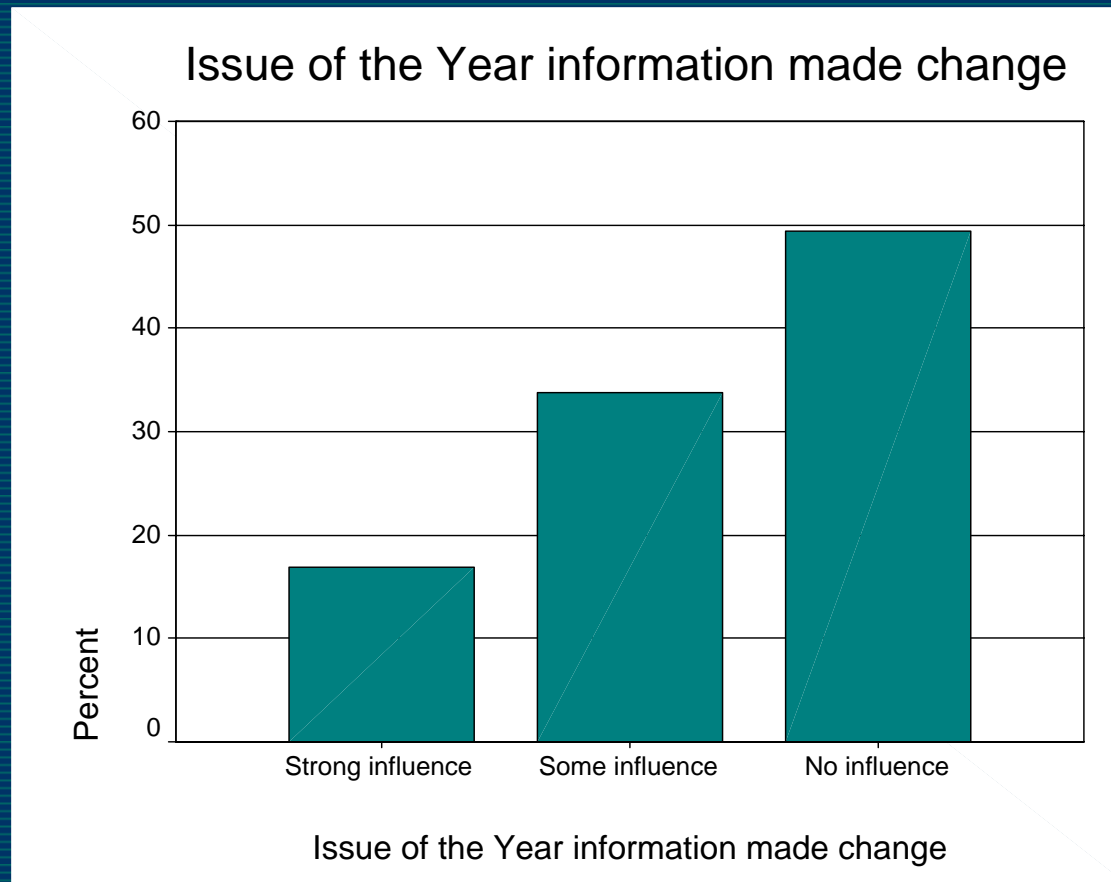


Cause of attitude change in past year:

Al Gore's movie "An Inconvenient Truth"

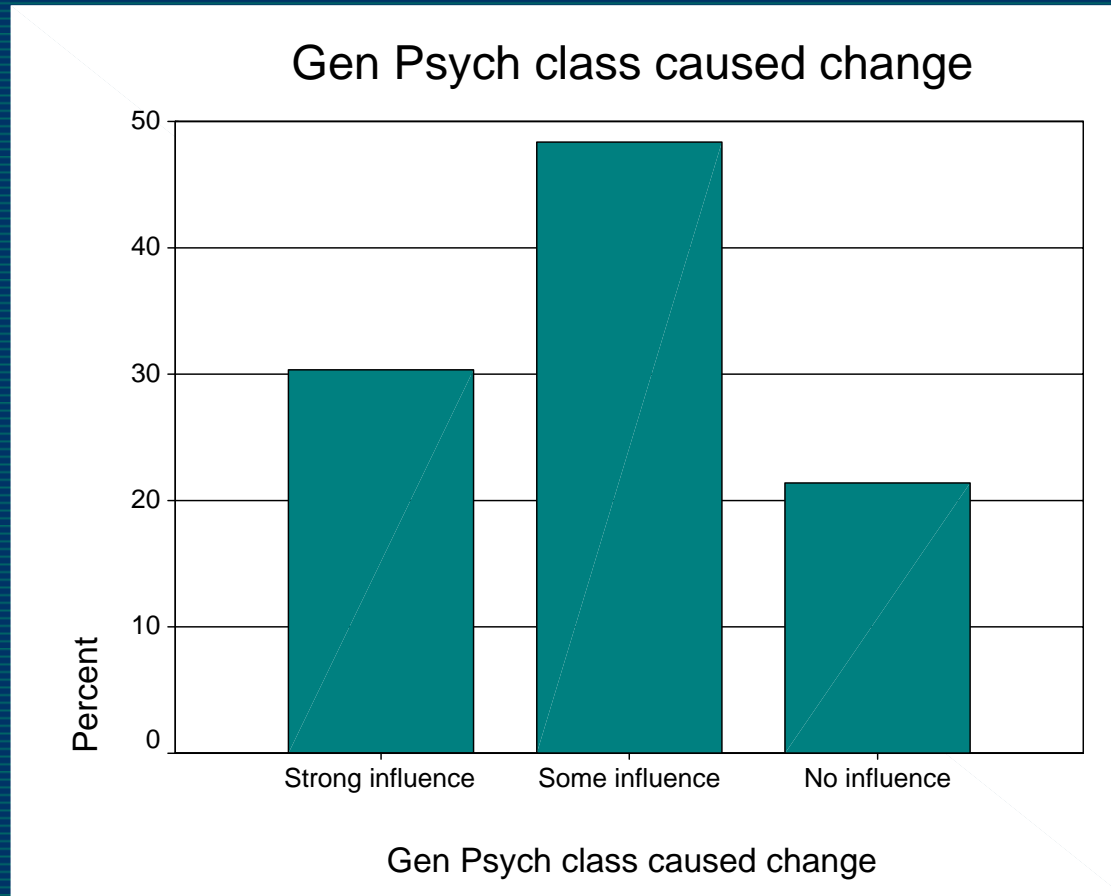


Cause of attitude change in past year: Information related to Whatcom Community College's Sustainability Initiative on creating a sustainable campus and community.

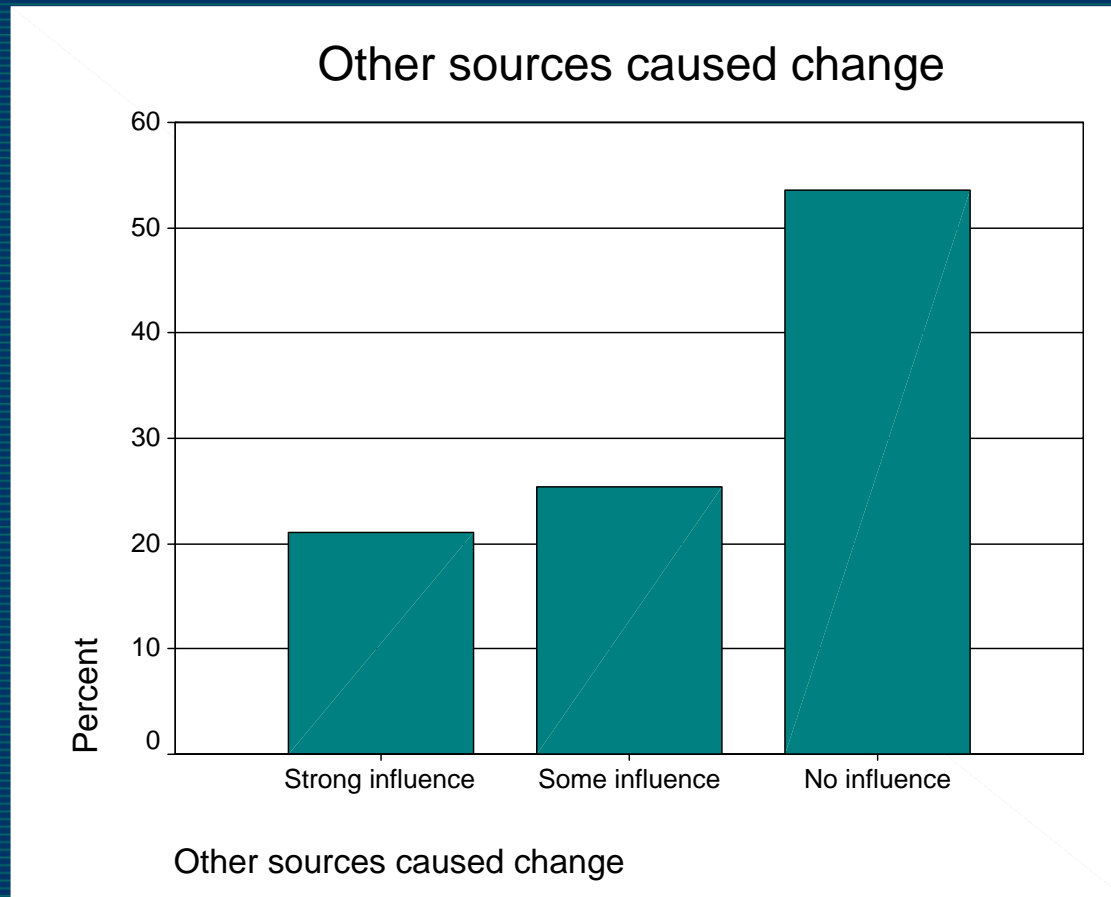


Cause of attitude change in past year:

Information in this General Psychology course specifically



Cause of attitude change in past year: Other sources (most frequently mentioned were peers and family)



Related web sites

- ❖ The Evangelical Environmental Network:
<http://www.creationcare.org/>
 - ❖ [What Would Jesus Drive?](#)
-

The End



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