



*Towards Sustainability:
College Students'
Eco-Temporal Understandings,
Pro-Environmental Behaviors
and Numeracy*



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Sustainability is a concept that encompasses environmental, social, and economic domains.

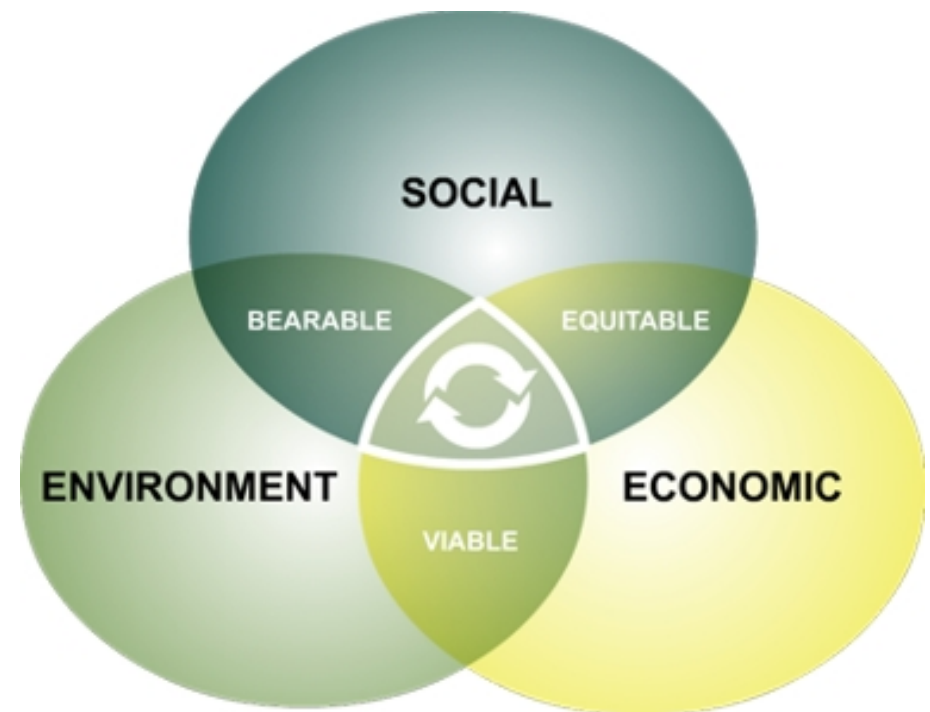


Image from <http://www.smallislandstates.org>

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In 1987, the Brundtland Commission defined sustainable development as “meeting the needs of the present without compromising the ability of *future generations* to meet their own needs.”

Sustainability is about economic growth while responsibly preserving natural resources.

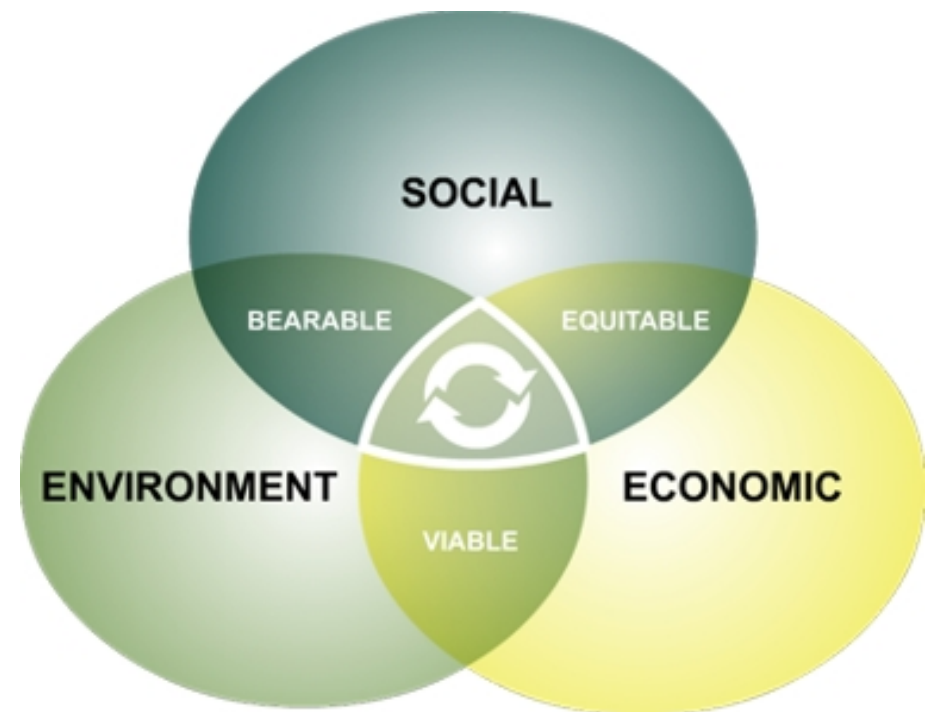


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Environmental risks differ from other risks:

- Complexity and uncertainty (e.g., climate change)
- Emerge from collective behaviors (e.g., fossil fuel use)
- Temporal delay in consequences
- Spatial separation between action and impact

(Bohm and Pfister, 2008)

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The Berlin Numeracy Test measures individuals' understanding of the operations of probabilistic and statistical computation, such as comparing and transforming probabilities and proportions.

(Lipkus et al., 2001; Schwartz et al., 1997)

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Values and emotions also affect risk perceptions ...

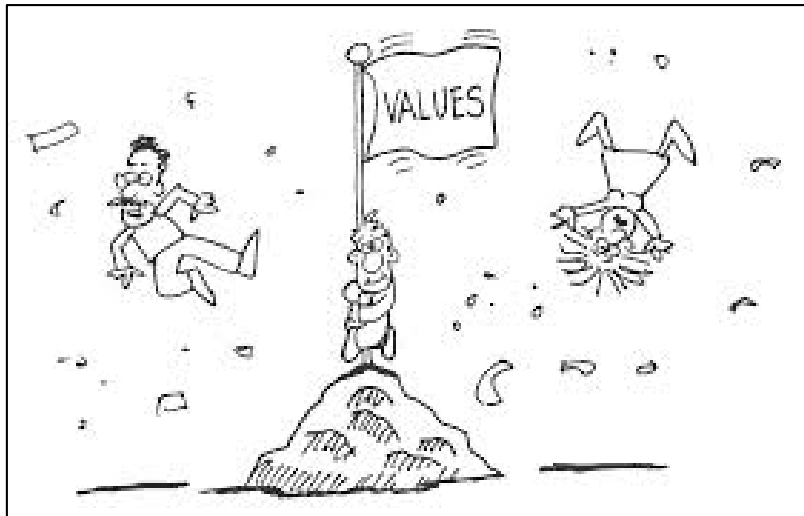


Image from <http://www.futureatwork.com>

and reactions to perceived risk.
(Bohm and Pfister, 2000)

The objectives of this pilot study:

- (1) Learn about our college students' behaviors and ego-temporal understandings (inc. emotions and values) as they pertain to the environment and sustainability
- (2) Determine whether or not numeracy and other factors might be correlated with college students' pro-environmental behaviors

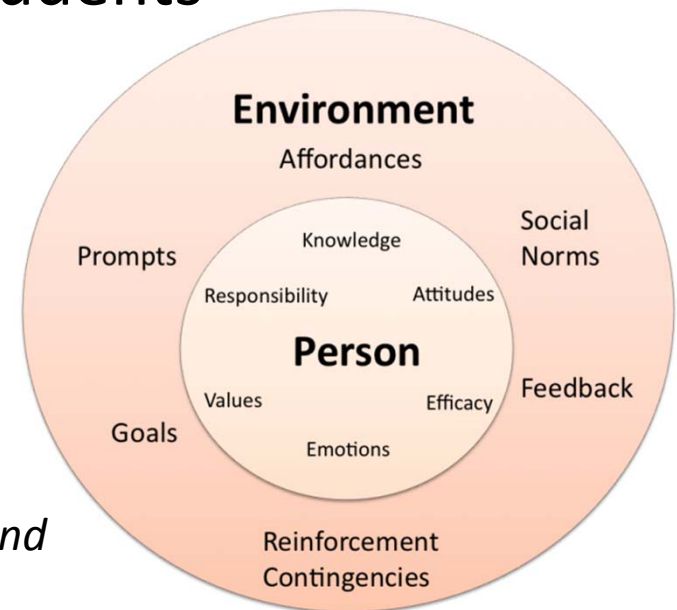


Image from *Conservation Psychology: Understanding and promoting human care for nature* (Myers, 2009)

Methods

A. Sample Population:

38 college students recruited

18-19 years old

12 males, 26 females

13 STEM majors, 25 non-STEM majors

B. Procedure:

Proctored computer-based survey

Qs – behaviors (Nature Conservancy and others)

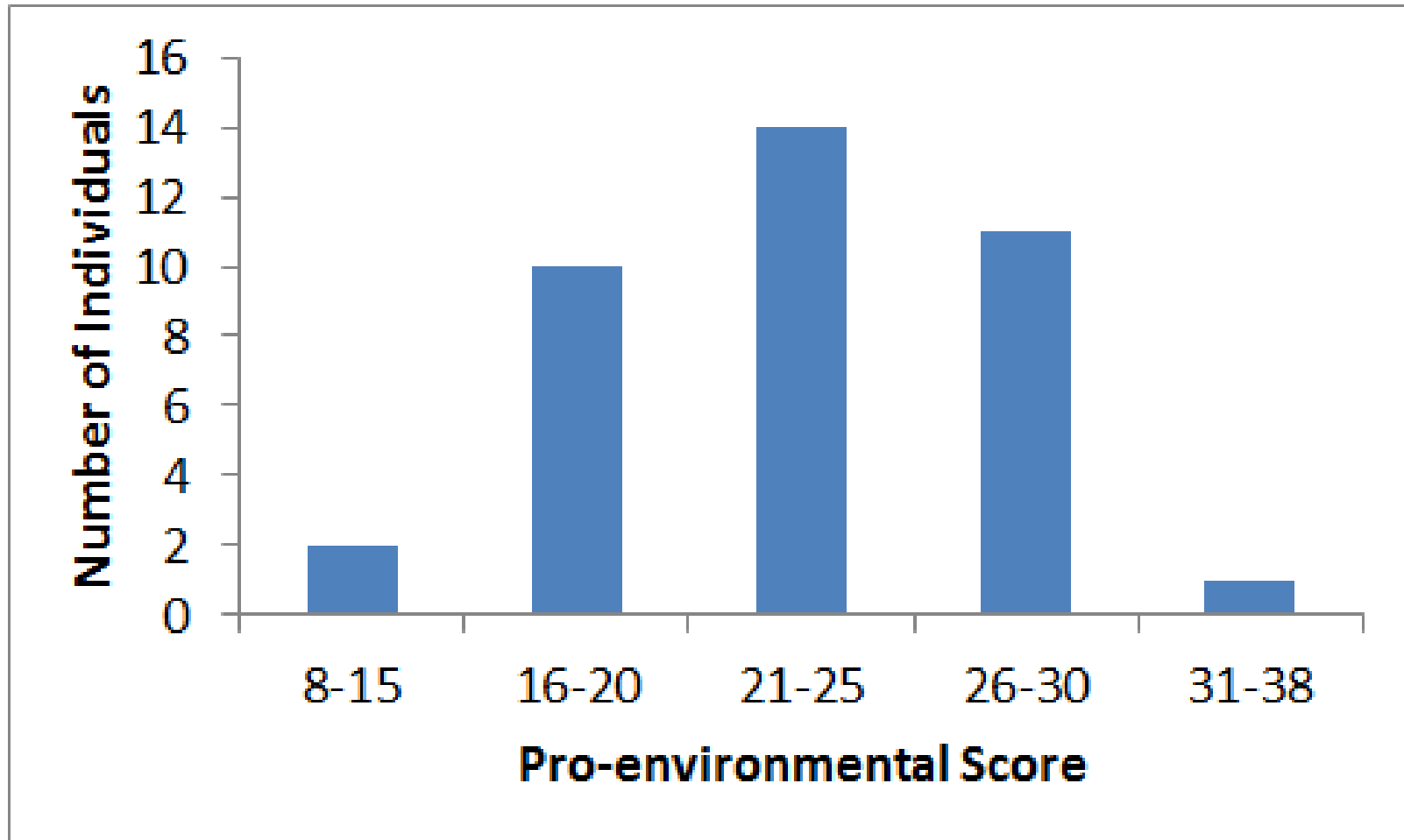
Qs – numeracy (Berlin Numeracy Test)

Qs – risk, patience, demographics, and climate change



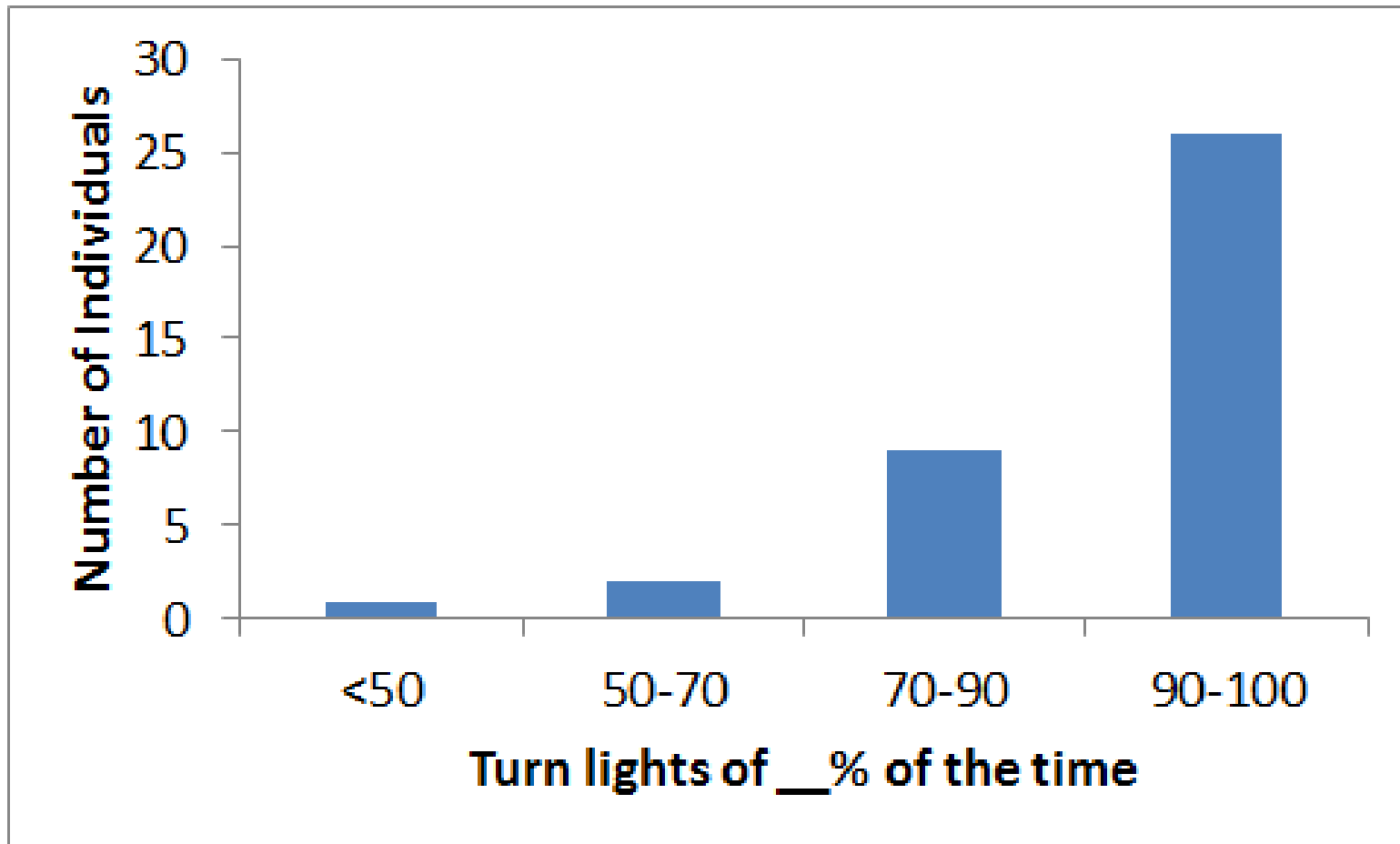
Results

There is a wide range in students' practice of pro-environmental behaviors.



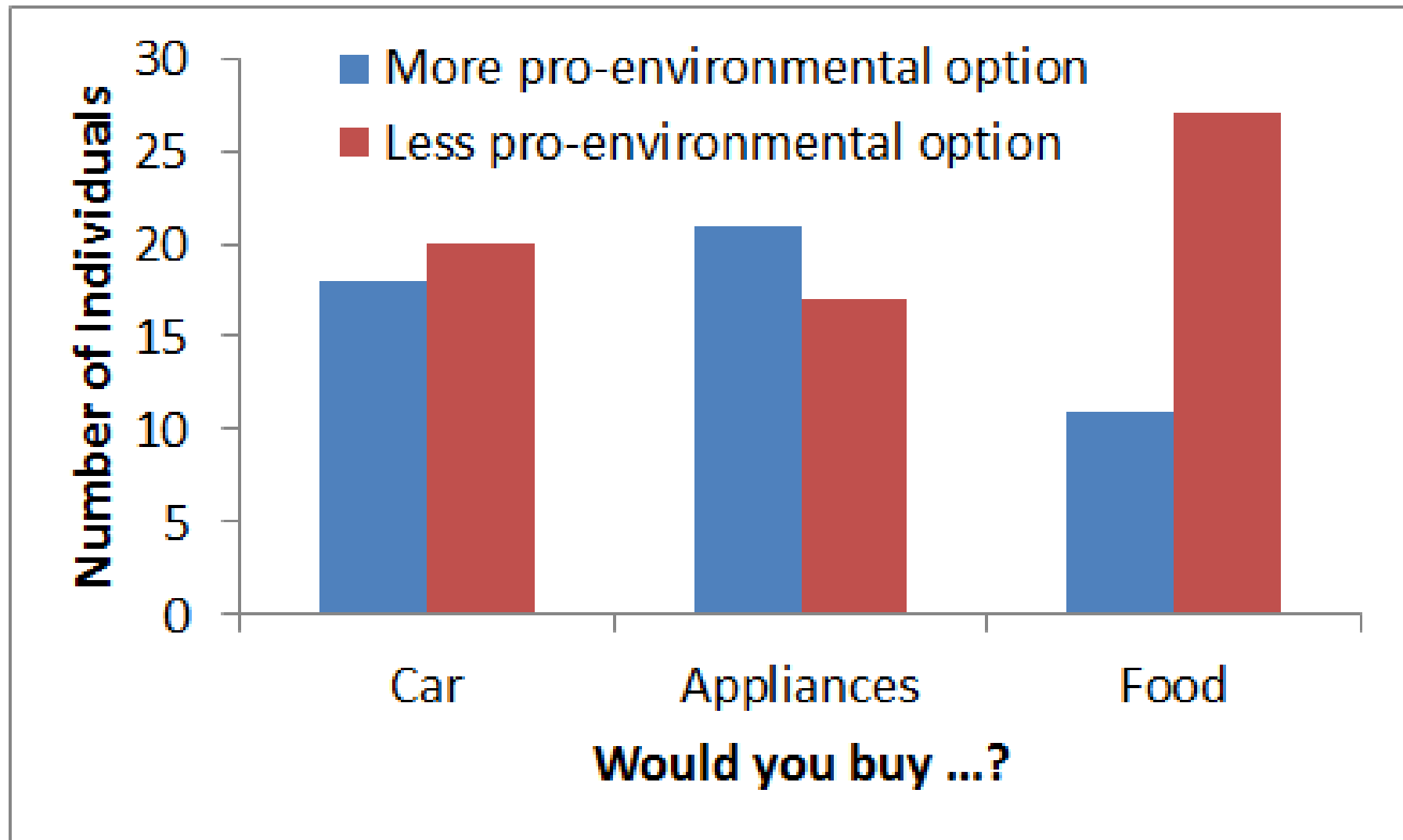
Lower score = More pro-environmental

Most students report frequent practices that conserve electricity.



e.g., When you are the last person to leave your dorm room, apartment, or house, do you turn off all the lights?

Students report financial costs can curb or inhibit their pro-environmental behaviors.



The reasons provided for not choosing pro-environmental behaviors include, for example:

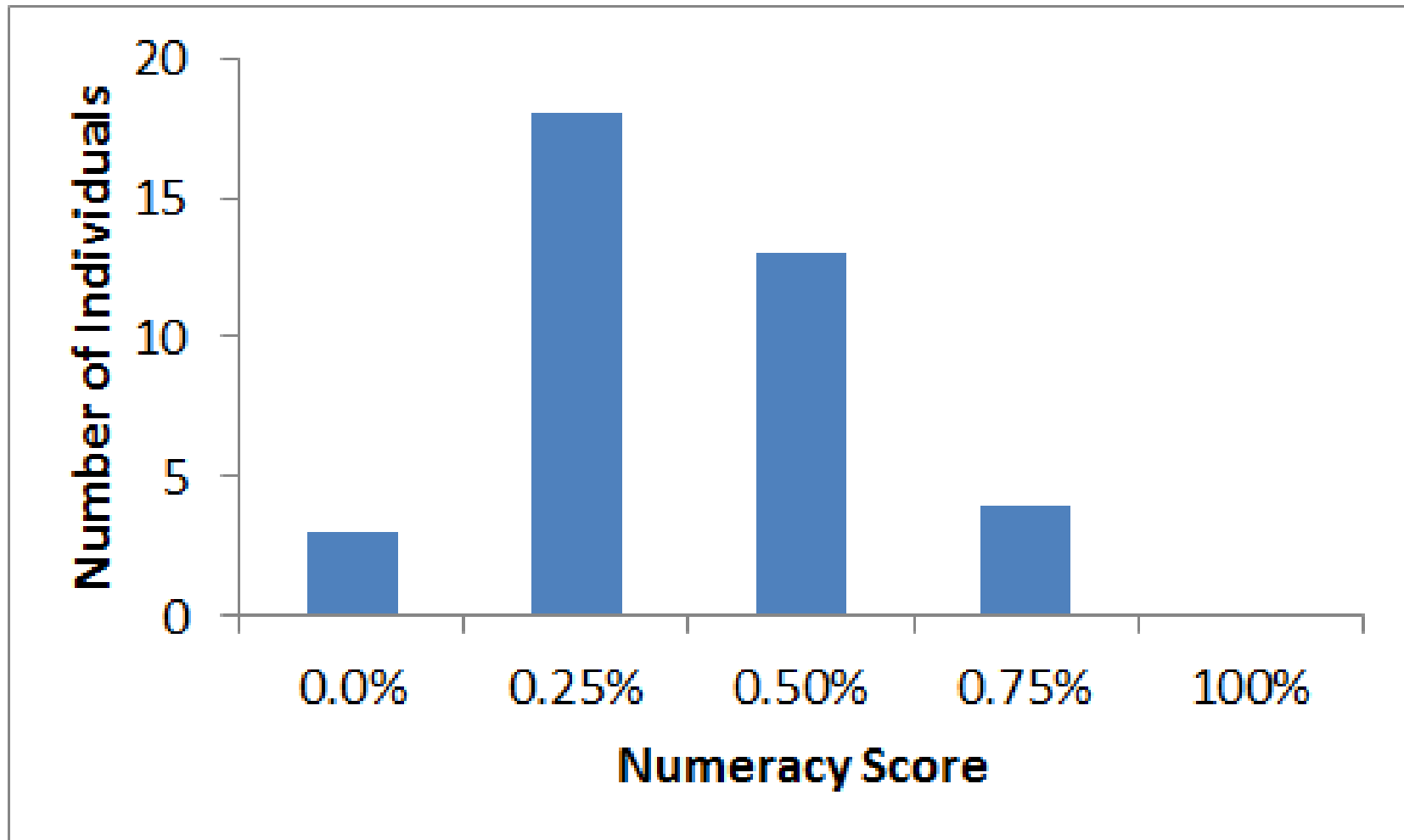
- *“I paid 7,000 dollars to live in that dorm, I'm going to leave the lights on when I want.”*
- *“I don't pay the electricity bills in the dorms.”*
- *“I forget to turn it off.”*
- *“I use my computer fairly often and it annoys me when it take 5 minutes to boot up, so normally I leave it on.”*
- *“That's because I'm really lazy or in a rush.”*
- *“Tradition, easier to get, cheaper.”*

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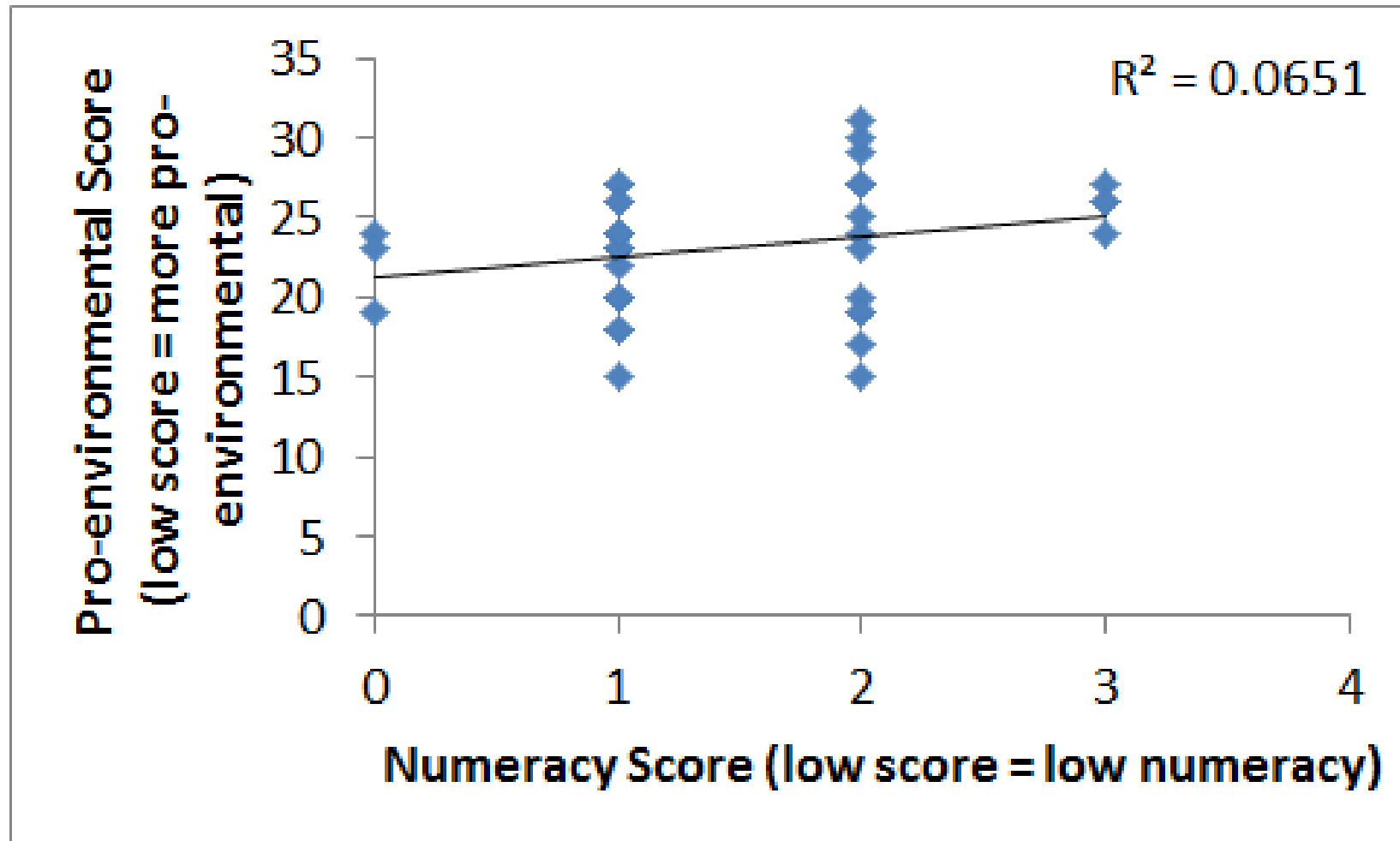
Reasons provided for choosing pro-environmental never mentioned future generations.

Students have poor numeracy skills.

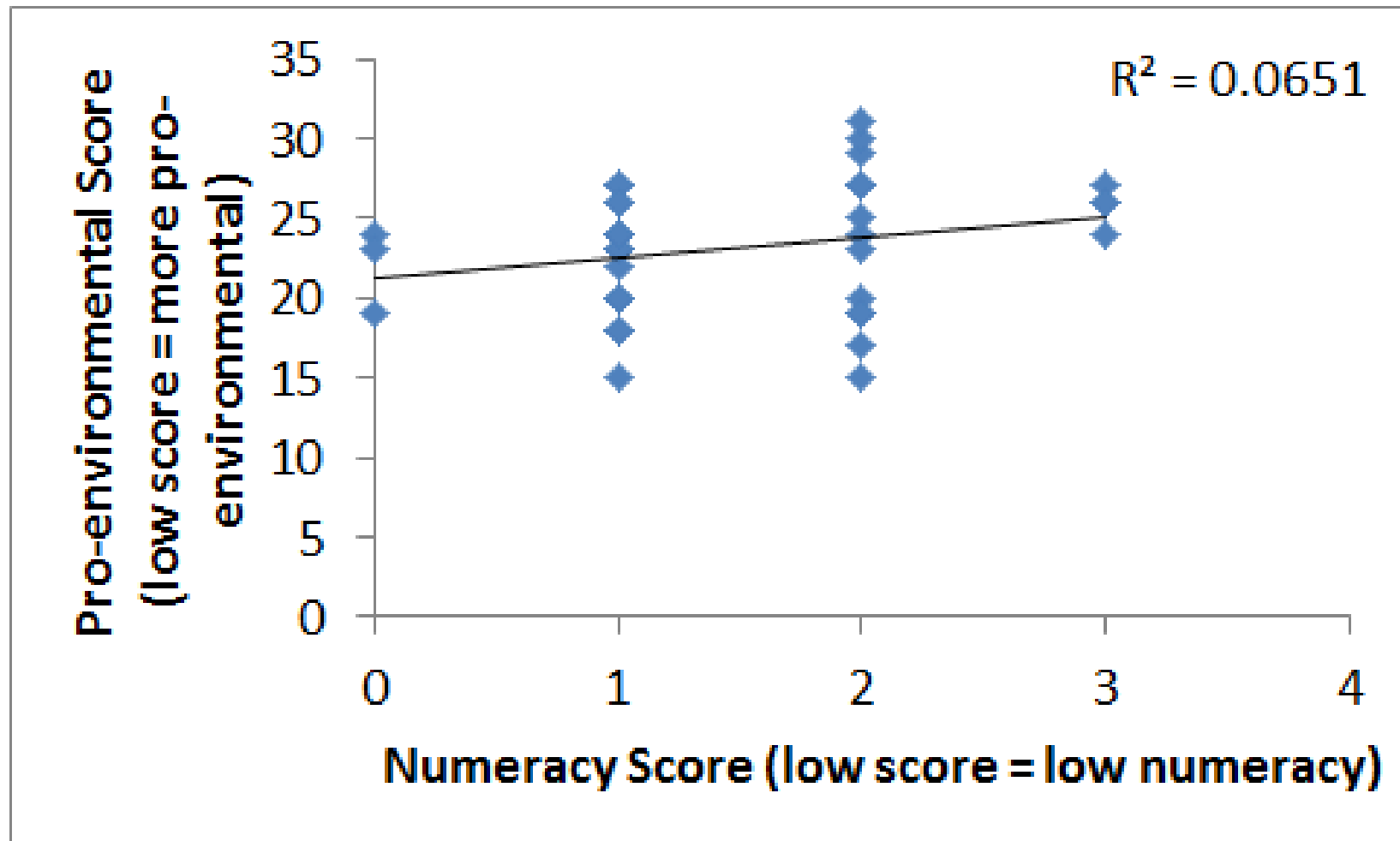


Lower score = Lower numeracy

We did not find a strong correlation between numeracy and reported pro-environmental behaviors.



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Very weak to no correlations with risk, patience, & political scores

Conclusions

- (1) In general, pro-environmental behaviors were reported by the larger part of the sampled population.
- (2) Pro-environmental behaviors are governed largely by perceived costs – financial and thriftiness values.
 - *No student mentioned future generations*
- (3) Numeracy skills are very low.
 - *The sampled population could benefit from further development of their numeracy skills.*
- (4) There is no strong correlation between numeracy and pro-environmental behaviors.

Future work ...

1. We now have data from 80 students that needs to be analyzed.
2. Depending on results of complete analysis, we may compare this population with the local public population.

Acknowledgements



Participating students

Bureau of Sociological Research

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Thank you!

Questions?



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