

**Stimulus Materials Appendix**  
(Luttrell, Petty, Briñol, & Wagner, 2016)

**Experiment 1 Measures**

*Attitudes:*

1. Please rate the SENIOR COMPREHENSIVE EXAM POLICY on the following scale: (1 = Negative; 9 = Positive)
2. Please rate the SENIOR COMPREHENSIVE EXAM POLICY on the following scale: (1 = Bad; 9 = Good)
3. Please rate the SENIOR COMPREHENSIVE EXAM POLICY on the following scale: (1 = Unfavorable; 9 = Favorable)
4. Please rate the SENIOR COMPREHENSIVE EXAM POLICY on the following scale: (1 = Against; 9 = In favor)
5. Please rate the SENIOR COMPREHENSIVE EXAM POLICY on the following scale: (1 = Harmful; 9 = Beneficial)
6. Please rate the SENIOR COMPREHENSIVE EXAM POLICY on the following scale: (1 = Foolish; 9 = Wise)

*Attitude Strength Indicators:*

1. **Ambivalence:** To what extent do you feel conflict when you think about recycling? (1 = not at all; 9 = very much)
2. **Certainty:** How sure are you that your opinion about recycling is correct? (1 = Not sure at all; 9 = Extremely sure)

*Behavioral Intentions:*

1. Hypothetically, how willing would you be to sign a petition in favor of the SENIOR COMPREHENSIVE EXAM POLICY? (1 = Not at all; 9 = Completely)
2. Hypothetically, how willing would you be to let us add your name to the list of students who favor the SENIOR COMPREHENSIVE EXAM POLICY? (1 = Not at all; 9 = Completely)
3. If you were to place a vote right now on the SENIOR COMPREHENSIVE EXAM POLICY, which way would you vote? (1 = Definitely Against; 9 = Definitely For)

**Experiment 2 Measures [\*also used in Experiment 3]**

*Pre-Message Attitudes\*:*

1. Please rate RECYCLING on the following scale: (1 = Negative; 9 = Positive)
2. Please rate RECYCLING on the following scale: (1 = Bad; 9 = Good)
3. Please rate RECYCLING on the following scale: (1 = Unfavorable; 9 = Favorable)
4. Please rate RECYCLING on the following scale: (1 = Against; 9 = In favor)
5. Please rate RECYCLING on the following scale: (1 = Harmful; 9 = Beneficial)
6. Please rate RECYCLING on the following scale: (1 = Foolish; 9 = Wise)

*Attitude Strength Indicators:*

1. **Ambivalence:** To what extent do you feel conflict when you think about recycling? (1 = feel no conflict at all; 7 = feel maximum conflict)
2. **Certainty:** How sure are you that your opinion about recycling is correct? (1 = Not sure at all; 9 = Extremely sure)
3. **Importance:** How important is recycling to you personally? (1 = Not at all important; 5 = Extremely important)
4. **Perceived Knowledge:** How knowledgeable would you say you are about recycling? (1 = Not at all knowledgeable; 5 = Extremely knowledgeable)
5. **Perceived Elaboration:** In general, how much would you say you've thought about recycling? (1 = Not at all; 5 = Extremely frequently)
6. **Perceived Accessibility:** How easily does your evaluation of recycling come to mind? (1 = Not at all easily; 5 = Extremely easily)
7. **Centrality:** How much is your attitude toward recycling related to how you view yourself as a person? (1 = Not at all; 5 = Extremely)
8. **Moral Relevance:** To what extent is your attitude about recycling a reflection of your core moral beliefs and convictions? (1 = Not at all; 5 = Extremely)

*Post-Message Attitudes\*:*

1. Please rate RECYCLING on the following scale: (-4 = Bad; 4 = Good)
2. Please rate RECYCLING on the following scale: (-4 = Dislike; 4 = Like)
3. Please rate RECYCLING on the following scale: (-4 = Negative; 4 = Positive)

*Believability Check\*:*

- As a final control measure, we would like to ask you about the feedback we provided regarding your thoughts in response to recycling (i.e., when we compared your thoughts about recycling with the database of other students' thoughts). To what extent would you say that the feedback we provided was accurate? (1 = Extremely Inaccurate; 9 = Extremely Accurate)

*Perceived Practical Basis:*

- Regardless of your feedback, to what extent were your thoughts about recycling related to practical concerns? (1 = Not at all; 9 = Extremely)

## Example of False Feedback Manipulation

Please wait...

the computer is processing the thoughts you entered.



Your thoughts are being compared and matched with the responses from a pool of at least 5,924 other thoughts generated by at least 952 Ohio State University students.

We are comparing your thoughts along various dimensions, including values, affect-cognition, length, intensity, and stereotypicality, among others.

Our program has calculated that you score MUCH HIGHER than other students for...

## PRACTICALITY

That is, while your thoughts were similar to other students' on a variety of dimensions, you seem to have based your thoughts about RECYCLING on PRACTICAL CONCERNS more than the average student.

Our program has calculated that you score MUCH HIGHER than other students for...

## MORALITY

That is, while your thoughts were similar to other students' on a variety of dimensions, you seem to have based your thoughts about RECYCLING on MORAL BELIEFS AND CONVICTIONS more than the average student.

## **Persuasive Message (Experiment 2)**

### **Recycling Paper is Not the Answer**

Despite perceptions that recycling paper is a noble endeavor, scholars such as Clemson University professor of economics Daniel K. Benjamin argue that, in fact, recycling may not be as beneficial as previously thought. Benjamin writes that recycling programs “force people to squander valuable resources in a quixotic quest to save what they would sensibly discard.” Arguments against recycling include its failure to promote environmental sustainability goals and its unexpected high costs

First, despite recycling’s reputation for benefiting the environment, the process of recycling places additional burdens on the environment beyond those created by standard trash programs. Curbside recycling, for example, requires that more trucks be used to collect the same amount of waste materials, trucks that pick up perhaps four to eight pounds of recyclables, rather than forty or more pounds of trash. Los Angeles has estimated that because it has curbside recycling, its fleet of trucks is twice as large as it otherwise would be—800 versus 400 trucks. This means more iron ore and coal mining, more steel and rubber manufacturing, more petroleum extracted and refined for fuel—and of course all that extra air pollution in the Los Angeles basin as the 400 added trucks cruise the streets.

Further, the processing of recycled materials demands additional environmental resources. After all, recycling is a manufacturing process, and therefore it too has environmental impact. In 1989, the Environmental Protection Agency examined both paper processing from new trees and paper processing from recycled materials for toxic substances. Five toxic substances were found only in paper processing from new trees, eight only in recycling processes, and twelve in both processes. Among these twelve, all but one were present in higher levels in the recycling processes.

## **Persuasive Message (Experiment 3)**

### **Recycling Paper is Immoral**

Despite perceptions that recycling paper is a noble endeavor, scholars such as Clemson University professor of economics Daniel K. Benjamin argue that, in fact, recycling is ultimately an immoral way to deal with waste. Benjamin writes that recycling programs are unethical because they “force people to squander valuable resources in a quixotic quest to save what they would sensibly discard.” Arguments against recycling include its failure to promote environmental sustainability goals and its unexpected high costs, both of which are affronts to our core moral principles.

First, despite recycling’s reputation for benefiting the environment, the process of recycling unethically places additional burdens on the environment beyond those created by standard trash programs. Curbside recycling, for example, requires that more trucks be used to collect the same amount of waste materials, trucks that pick up perhaps four to eight pounds of recyclables, rather

than forty or more pounds of trash. Los Angeles has estimated that because it has curbside recycling, its fleet of trucks is twice as large as it otherwise would be—800 versus 400 trucks. This means more iron ore and coal mining, more steel and rubber manufacturing, more petroleum extracted and refined for fuel—and of course all that extra air pollution in the Los Angeles basin as the 400 added trucks cruise the streets. This is a moral travesty.

Further, the processing of recycled materials places unjust demands on environmental resources. After all, recycling is a manufacturing process, and therefore it too has environmental impact. In 1989, the Environmental Protection Agency examined both paper processing from new trees and paper processing from recycled materials for toxic substances. Five toxic substances were found only in paper processing from new trees, eight only in recycling processes, and twelve in both processes. Among these twelve, all but one were present in higher levels in the recycling processes.

### Persuasive Message Pilot Testing

We conducted a pilot test to test whether the message used in Experiment 2 really was perceived as appealing more to practical concerns than moral concerns, which could suggest a matching mechanism for that experiment's attitude change results. We also conducted pilot testing on the modified message used in Experiment 3 to examine whether this message was, in fact, viewed as appealing more to moral concerns than the original message. Because Experiment 2 was conducted with university undergraduates and Experiment 3 was conducted on Mechanical Turk, it was important to collect these pilot data from the populations that each study drew upon. Thus, 50 participants were recruited from the Ohio State University participant pool (Experiment 2's population) and 50 participants were recruited on Mechanical Turk (Experiment 3's population). Due to scheduling dynamics, 46 of the university participants responded to the survey whereas all 50 Mechanical Turk participants responded to survey, resulting in a total sample size of  $N = 96$ .

Each sample read an anti-recycling persuasive message. The university participants read the version that was used in Experiment 2 (the "original" message) whereas the Mechanical Turk

participants read the version that was used in Experiment 3 (the “revised” message). After reading the message, all participants rated how much they thought it related to moral and practical concerns, using two 7-point scales anchored at “not at all” and “very much.” Specifically, the first item read: “To what extent did the essay make arguments related to moral concerns,” and the second item read: “To what extent did the essay make arguments related to practical concerns?”

These data were first submitted to a 2 (message: original vs. revised) x 2 (rating: practical vs. moral) mixed ANOVA. Results reveal a significant two-way interaction,  $F(1, 94) = 6.29, p = .01$ . The interaction is such that the original message was viewed as appealing to practical concerns ( $M = 5.13, SD = 1.09$ ) to a significantly greater extent than appealing to moral concerns ( $M = 3.80, SD = 1.28$ ),  $t(45) = -5.80, p < .001$ . The revised message, however, was not viewed as appealing to practical concerns ( $M = 5.34, SD = 1.30$ ) to a different extent than appealing to moral concerns ( $M = 4.94, SD = 1.53$ ),  $t(49) = -1.40, p = .17$ . Probing the interaction from a different perspective, the revised message was seen as appealing to moral concerns ( $M = 4.94, SD = 1.53$ ) significantly more than the original message ( $M = 3.80, SD = 1.28$ ),  $t(94) = 3.93, p < .001$ . Perceptions of the message appealing to practical concerns did not differ between the original and the revised message,  $t(94) = .85, p = .40$ .

In sum, these data show that the message used in Experiment 2 did, in fact, appear to appeal to practical concerns more than to moral concerns. Thus, that experiment could not rule out a matching account of the attitude change results. That is, people who were led to perceive a moral basis for their attitude may have changed their attitudes less than people who were led to perceive a practical basis simply because the message did not speak to those participants’ perceived bases for their attitudes on that topic. These data also show, however, that the

modifications implemented in Experiment 3 did result in a message that people see as appealing to moral concerns to a greater extent than the original message. Unlike the original message, there is no evidence that the revised message is seen as appealing to practical concerns any more than it is seen appealing to moral concerns. Overall, these data suggest that the persuasive message used in Experiment 3 successfully addresses a concern from Experiment 2 and offers a more stringent test of the attitude strength hypotheses.