

Reply to PCIRR Stage 2 decision letter reviews: Arkes (1996) replication and extensions

We would like to thank the editor and the reviewers for their useful suggestions and below we provide a detailed response to each item. We also provide a summary table of changes. Please note that the editor's and reviewers' comments are in bold with our reply underneath in normal script.

A track-changes comparison of the previous submission and the revised submission can be found on: <https://draftable.com/compare/mWyCOjDWvcfU> (<https://osf.io/9tya3>)

A track-changes manuscript is provided with the file:
“PCIRR-S2-RNR-Arkes-1996-replication-main-manuscript-trackchanges.docx”
(<https://osf.io/ycwtk>)

Summary of changes

Below we provide a table with a summary of the main changes to the manuscript and our response to the editor and reviewers:

Section	Actions taken in the current manuscript
General	Ed & R1: We corrected typos throughout the report. We removed Bayes Factor from all our ggstatsplots.
Results	R1: We corrected 95% CI for Willingness extension.
Discussion	Ed: We corrected the footnote on significance threshold. We added the link to the PCIRR page in the footnote. We updated the interpretation for “Reason” extension result.

Note. Ed = Editor, R1/R2/R3 = Reviewer 1/2/3

[We note that we are not familiar with the titles and ranks of the reviewers, and looking for that information proves tricky. To try and err on the side of caution, we refer to all reviewers with the rank Dr./Prof. We apologize for any possible misalignments and are happy to amend that in future correspondence.]

Reply to Editor: Dr./Prof. Douglas Markant

Thank you for submitting your Stage 2 registered report entitled “Revisiting the Psychology of Waste: Replication and Extensions Registered Report of Arkes (1996)” to PCI: Registered Reports. I have received comments from the same reviewers from Round 1 and have reviewed the report myself. Overall, we are in agreement that the updated submission largely meets the Stage 2 review criteria, and that the resulting report is impressive in its clarity, attention to detail, and thorough documentation of the methods and analyses.

There are a few details related to the results and discussion that are in need of revision before moving to a final acceptance. Please address the following points in your revision:

Thank you for the reviews obtained, your feedback, and the invitation to revise and resubmit.

.1. Address the inconsistencies in the results noted by reviewer TC below.

Thank you, corrected. Please refer to our reply to Dr./Prof. Travis Carter (2) below.

.2. Clarify details of the order effect analyses:

.2.1. There appears to be an incomplete footnote on pg. 59. Please correct with the justification for any departure from the Stage 1 submission. Wasn't the intention simply to use a stricter .005 threshold for any significance tests?

Thank you for catching that. Indeed, there was an oversight in our description of this finding.

We adjusted the footnote to state:

¹ Reminder: We pre-registered the following in Stage 1: “To compensate for multiple comparisons and the increased likelihood of capitalizing on chance, we set the alpha for the additional analyses to a stricter .005.”

Given that, we changed our description of the findings of the order effects to:

We did not find any indication for order effects in Scenarios 1 (movie package) and 2 (tax program). In Scenario 3 (tent project), the order effect analysis resulted in no support for differences between the waste conditions when Scenario 3 was presented first ($\chi^2(1, N = 225) = 0.60, p = .438, w = 0.05, 95\% \text{ CI } [0.00, 0.17]$) or when Scenario 3 was not the first scenario presented ($\chi^2(1, N = 434) = 7.08, p = .008, w = 0.13, 95\% \text{ CI } [0.03, 0.22]$; alpha

set to .005), likely due to the lower power and stricter alpha threshold we set for order analysis in Stage 1¹.

As we previously noted in the peer review in Stage 12, we caution against over-interpreting these order analysis findings due to the numerous ways in which order effects can be conducted, and especially given that the additional analyses severely restrict the power to detect effects. Our main focus in interpretation is the better powered overall sample with lower alpha mirroring the analyses in the target article.

.2.2. “We suggest caution in over-interpreting these effects, and as we noted in the peer review in Stage 1.” — I’d recommend providing a brief explanation of this point rather than alluding to an external document. You might consider instead providing a link to the PCI:RR page in the footnote.

Thanks for your suggestion. We agree.

We amended to the following:

As we previously noted in the peer review in Stage 1², we caution against over-interpreting these order analysis findings due to the numerous ways in which order effects can be conducted, and especially given that the additional analyses severely restrict the power to detect effects. Our main focus in interpretation is the better powered overall sample with lower alpha mirroring the analyses in the target article.

And the footnote now reads:

² See our reply to the editor in the first revision round of the Stage 1 in <https://osf.io/6aksx> (p.4 #2)

.3. Clarify interpretation and discussion of “reasons” for choice:

.3.1. Pg. 49: “Thus, we found support for minimizing waste as the most important reason, with no support for differences between the waste and no waste conditions.” — This obscures the finding that waste and value were indistinguishable as reported reasons for this scenario.

Thank you for the feedback and catching that. We agree.

We revised accordingly under “Scenario 3 (sunk cost): Tent project” (changes underlined):

“Maximizing value (M = 3.94, SE = 0.06) was higher than past behavior (M = 3.46, SE = 0.07, $p < .001$) and similar to minimizing waste. Thus, we found support for minimizing waste and maximizing value as the most important reasons.”

We also amended the discussion (see below).

.3.2. While there is discussion of the reported reasons for Scenario 1, the discussion for Scenarios 2 and 3 focuses only on differences between conditions. For example there is no discussion of the notable finding that waste was the least endorsed reason in Scenario 2, an interesting result that appears to be at odds with the intention of the target article. I'd recommend providing further discussion of these results that revisits the "Exploratory competing hypotheses" listed in Table 1 for all 3 scenarios.

We appreciate the feedback and suggestions. Addressing your next point (3.3), indeed we concluded the findings for Scenario 2 as a failed replication, and so all findings in regards to this scenario are not inline with the target article's. We added the following to the discussion:

"In Scenario 2 (tax program), the reason of minimizing waste was rated as the lowest, not in-line with our exploratory hypotheses for a higher emphasis on avoiding waste. Instead, participants prioritized maximization of utility, supporting the neo-classical hypothesis. The results suggest that in some decisions, the perceived necessity and functionality outweigh concerns about the waste of previous investments. We caution against over-interpreting this result given the failed manipulation checks and replication of Scenario 2.

In Scenario 3 (tent project), the reason of minimizing waste was rated as high as maximizing value, both rated higher than minimizing negative emotions and past behavior. This supports the idea that decisions are influenced by factors that go beyond mere economic utility, or alternatively - that minimizing waste and maximizing utility are linked and related to one another. Future research may further investigate links between perceived waste and utility."

.3.3. Pg. 62: "The absence of significant effects suggests that the influence of various decision-making factors does not substantially vary across different conditions. This finding indicates that the decision-making process is stable, with participants consistently applying the same reasoning regardless of variations in the level of wastefulness."

— This conclusion seems tenuous in light of the manipulation checks, particularly in the case of Scenario 2 where there was no difference in perceived wastefulness. You might consider discussing the manipulation checks earlier, since they are important to the interpretation of the other effects. But absent such a change, I recommend revising this statement to

reflect the actual variation in perceived wastefulness (or lack thereof) seen in these scenarios.

Thank you, we agree and appreciate the suggestion. We removed the quoted text and replaced it with the text we quoted in the reply to the previous item (3.2).

We revised the results of reasons for Scenario 2 to also include the following (addition underlined):

Thus, we found support for the neo-classical hypothesis that people rate utility as the most important reason, with avoiding waste rated among the lowest, and with no support for differences between waste and no waste conditions. This is in line with the broader lack of support for waste as a factor in Scenario 2, and noting the failed manipulation checks (see “perceived wastefulness (manipulation check)” section below).

Reply to Reviewer #1: Dr./Prof. Travis Carter

The authors did an admirable job with a full and complete reporting of their analyses. I also appreciate the care with which they approached drawing conclusions, particularly with regard to Scenario 2, which did not yield results that were consistent with the original paper. Their thoughtful inclusion of a manipulation check was helpful in putting that null result into context.

Thank you for the positive and supportive opening note and the constructive feedback.

.1. I noticed a few typos, so I'd suggest the authors/editors give it a thorough proofreading.

Thank you for bringing this to our attention. We appreciate your careful reading of our manuscript. We reviewed and revised the manuscript and corrected several typos.

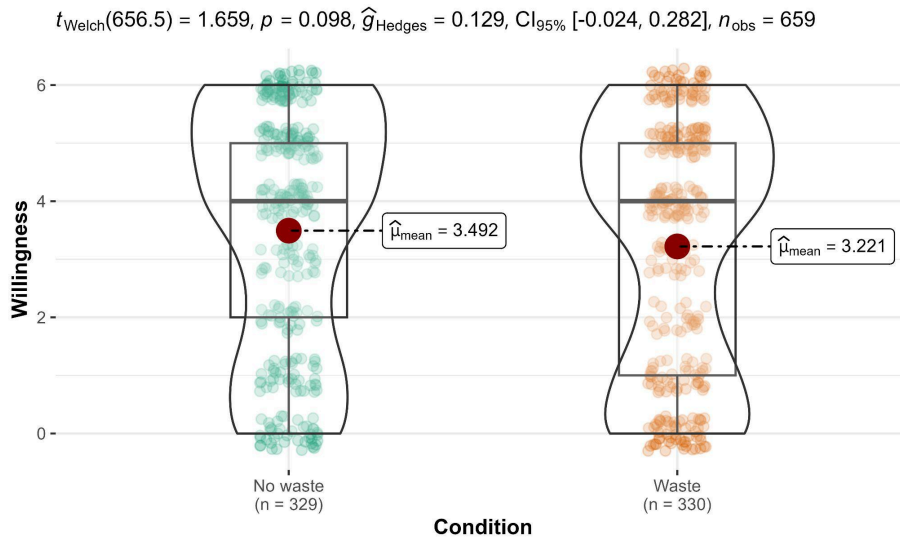
.2. I also noticed one small issue with the reporting of the results: As part of the Willingness extension, for Scenario 2, the 95% CI excludes zero, yet it yielded a non-significant p-value. Was the lower bound meant to be negative? The text (p. 53), Table 14, and caption for Figure 8 are inconsistent about the sign of the t-test, effect size, and CIs. Similar inconsistencies with Scenario 3 in the text (p. 54) between the table (14) and figure (9). These likely come down to slightly different defaults in the stats software about identifying Group 1 vs. 2.

Thank you for your detailed review. Indeed, there was a minus sign missing in the CIs of Scenario 2 reported in the text (yet appearing in Figure 8), and the figure for Scenario 3 was indeed coded such that it appeared in the opposite direction. Both are now corrected.

For Scenario 2:

Text: “ $M = 3.22$, $SD = 2.13$; $t(656.5) = 1.66$, $p = .098$, $g = 0.13$, 95% CI [-0.02, 0.28].”

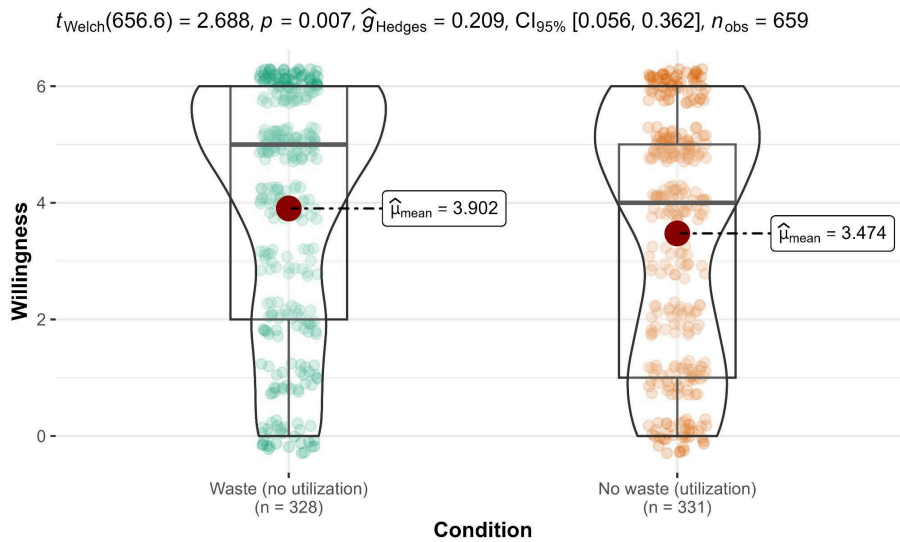
Figure 8:



For Scenario 3:

Text: “ $M = 3.47, SD = 2.08; t(656.6) = 2.69, p = .007, g = 0.21, 95\% \text{ CI } [0.06, 0.36].$ ”

Figure 9:



Both were already summarized accurately in Table 14:

Table 14

Scenarios 1-3 Willingness extension: Summary of statistical tests

Scenario	Statistical test	<i>t</i>	<i>df</i>	<i>p</i>	Hedges' <i>g</i> and <i>CI</i>
1	Paired t-test	12.46	658	< .001	0.49 [0.40, 0.57]
2	Welch two sample t-test	1.66	656.5	.098	0.13 [-0.02, 0.28]
3	Welch two sample t-test	2.69	656.6	.007	0.21 [0.06, 0.36]

Note. *CI* = 95% confidence intervals. The interpretation of the outcome was based on LeBel et al. (2019).

Reply to Reviewer #2: Dr./Prof. Quentin Andre

In generating this review, I have followed the guidelines for Stage 2 RR:

Have the authors provided a direct URL to the approved protocol in the Stage 2 manuscript? YES

Did they stay true to their protocol? Are any deviations from protocol clearly justified and fully documented? YES

Is the Introduction in the Stage 1 manuscript (including hypotheses) the same as in the Stage 2 manuscript? Are any changes transparently flagged? YES

Did any prespecified data quality checks, positive controls, or tests of intervention fidelity succeed? YES

Are any additional post hoc analyses justified, performed appropriately, and clearly distinguished from the preregistered analyses? YES

Are the conclusions appropriately centered on the outcomes of the preregistered analyses? YES

Are the overall conclusions based on the evidence? YES

My conclusion is thus that the authors have adhered to the methods and analysis reported in the in-principle acceptance of their stage 1 manuscript.

I found the results of the replication clearly reported, and the exploratory analysis of mechanisms to be enlightening and clear. The manuscript is long and dense, but is a nice piece of scholarly work, and I thank the authors for an enlightening read.

Thank you for the support and help throughout the project.