

Reply to PCIRR decision letter #452:
Soman (2001) replication extension [Stage 2]

We would like to thank the editor and the reviewers for their useful suggestions and below we provide a detailed response as well as a tally of all the changes that were made in the manuscript. For an easier overview of all the changes made, we also provide a summary 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/LNFPRXmuneyU>

A track-changes manuscript is provided with the file:

“PCIRR-S2-RNR-Soman 2001-Replication-Manuscript-v1-trackchanges.docx”

(<https://osf.io/7y5hk>)

Reply to Editor: Dr./Prof. Chris Chambers

I have now received evaluations of your Stage 2 manuscript from two of the reviewers who assessed the Stage 1 manuscript. As you can see, Soman is fully satisfied with your submission in its current state, while Olivola lists several points of concern. Given the specific and limited criteria by which Stage 2 submissions are assessed at PCI RR, I want to provide some guidance on how to respond to these points.

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

Concerning the reviewer's point 2a (table that summarising the subset of prior studies that examined sunk costs involving time), this was not a required element at Stage 1; therefore I am not going to require this at Stage 2, although I fully appreciate the reviewer's point that it would be a useful synthesis for readers; I will therefore leave this at your discretion to consider.

Concerning point 2b, factual accuracy and clarity is vital so please ensure that this issue is fully considered and revised as necessary (even if it involves some minor changes to the Introduction).

We responded to the reviewer on both points in detail below.

Concerning point 3: I agree with the reviewer that this would be an interesting exploratory analysis. Since it was not part of the preregistered and approved Stage 1 proposal, and since these analyses are not (in my view) required for the conclusions to be sufficiently supported by the evidence (Stage 2 criterion 2E), it is at your discretion to include these or not. Please consider the point carefully and include in your response to the reviewer a clear explanation for your decision (one way or the other).

This planned analysis was added during the Stage 1 revisions and has already been implemented in our first Stage 2 submission. As expected, we found no indication for order effects. We expanded on this below.

Concerning point 4: There seems to be a general tension with online studies between favouring participants with greater experience vs. favouring participants with a lower chance of prior exposure to key interventions; therefore I think this could be a useful point to consider in the Discussion (particularly if there is evidence that can inform the debate).

Please see our detailed response to the reviewer below.

Reply to Reviewer #1: Prof. Christopher Olivola

Unfortunately, the authors have (again) failed to address many of my comments and concerns:

Comment 2a: I still don't fully understand why the authors refuse to provide a table that summarizes the (relatively small) subset of prior studies that examined sunk-costs involving time. Doing so is not a huge endeavor (there are far fewer studies involving investments of time), yet it would provide a summary of all previous attempts to test time sunk-cost effects, and give us an idea of how replicable those effects are. I won't insist on this point, though I do think the authors are doing their paper (and readers) a disservice by limiting the scope of their paper to a replication of just a single paper examining sunk-time effects.

We understand that we have diverging goals for the manuscript. We explained our views in our reply to the Stage 1 review. We see the value in a summary of the literature yet do not see this fit within the scope of our project. Such a summary should follow a systematic process with clear inclusion and exclusion criteria to avoid situations like the one you mentioned in your next comments indicating a disagreement on whether a study should be included or not. Given that our aim is not to summarize this literature, we prefer to have to engage in the process of having to carefully consider what articles should or should not be included in such a summary.

To address this comment, we added a call for a systematic review of the literature as a future direction in the general discussion in the “Limitations of our replication and directions for future research” subsection:

In addition to repeating replications, we call for regular systematic reviews and/or meta-analyses that would help summarize the growing literature, address and help explain seemingly discrepant results (such as our differences in patterns of results across Studies 1 and 2), and would drive the development of better theories and empirical investigations.

We are open to changing this if given clear editorial guidelines.

Comment 2b: The authors incorrectly claim that Olivola (2018) did not contain any sunk time cost scenarios. To the contrary, that paper contained *multiple scenarios* involving sunk time costs (e.g., the "cello lessons" and "potluck cake" scenarios), including scenarios used in papers that the authors *did* choose to cite. Therefore, there is no reason for the authors to not cite that paper as demonstrating a sunk-cost effect for time. Moreover, that paper demonstrates both intra- and inter-personal versions of time sunk-cost effects (i.e., that we also honor *other people's* time investments), which is notable. This omission by the authors is far less justifiable (and requires even less work to correct) than their decision not to include a summary table.

Apologies, we were not careful and comprehensive enough in our reply. We assumed these were suggestions for us to consider, and did not realize that a failure to implement these suggestions or explain those in detail would be a point of contention. We do very much appreciate the feedback, and we are open to the possibility of being wrong.

To try and better explain our previous decision to not add Olivola (2018), we note that what we meant was that: 1) it did not compare sunk money vs sunk time costs, which is what we were focused on, and 2) it did not include scenarios that were solely focused on sunk time costs. We will try and elaborate on the second point.

Specifically, in Olivola (2018) (article: <https://osf.io/vg9t8/>; scenarios available on: <https://osf.io/tae9y>), experiments 1a (basketball game; free ticket vs \$200 ticket), 1b (tennis-club; free membership vs \$900 membership), 1c (hotel-TV-movie; free movie vs \$19.95 fee), 2 (weekend-trip; cost of tickets), and 3b (airline-investment; \$1M investment) were solely focused on sunk money costs.

The other two scenarios: potluck-cake (experiments 1d and 4) and cello lessons (experiment 3a) were more complicated. In the potluck-cake scenario, participants read that “had found the cake on sale for \$15 at a bakery located less than 5 min away (low sunk cost) or could only find it for \$60 at a bakery located more than 45 min away (high sunk cost)” and in the cello lessons scenario participants read that “[someone] had bought a \$100 cello and paid \$40 for 1 month of lessons (low sunk cost) or had bought a \$1,000 cello and paid \$200 for 3 months of lessons (high sunk cost)”. Thus, these two scenarios integrated sunk money and some aspect of time investment, rendering it unclear what the interpretation of the findings are for sunk time costs alone.

We are open to changing our handling of this issue if given clear editorial guidelines and further clarifications.

Comment 3: I'm glad that the authors have agreed to increase (specifically: double) their sample sizes. However, it seems the authors are resisting my suggestion that they *also* (not solely) carry out *additional* purely between-subjects analyses that only compare the first study/condition that participants were exposed to. The reasons for these *additional* between-subjects analyses were clearly explained in my prior review(s) and I don't see a reason not to include them as well (in addition to the analyses the authors had in mind). The authors' argument that "[their] experience has been that order had very little to no implications in [their] other PCIRRs and replications" is a poor one, and I can quickly counter it with my own experience, which has shown that exposure to prior studies (especially those examining the same concepts) can often impact subsequent responses.

We have already conducted and reported these analyses in our previous Stage 2 submission, as agreed upon during Stage 1 revisions and in the IPA-ed manuscript.

This is detailed in the "Order effects between studies" subsection in the main manuscript, which points to Table 7 where we summarized these analyses. The relevant code for these analyses can be found in the Rmarkdown in the OSF repository (<https://osf.io/qnr2t>; subsection "10 Order effects analyses").

Overall, order had no impact on our conclusions.

Comment 4: The authors are wrong to claim that participants with 100 studies have no commitment and little reputational concerns. I've carried out several MTurk studies in which I limit the sample to workers with 100 studies or less (but with a high reputation score from those studies they did complete), and found that they are no less attentive than MTurkers who have completed many hundreds of studies. I won't insist on this point, though I think the authors risk not being in a strong position to claim their study is a proper replication of Soman (2001), since his studies involved participants who were likely totally unfamiliar with sunk-cost scenarios, whereas experienced MTurk workers are likely to have been exposed to those scenarios (and debriefed about them).

We appreciate the feedback and sharing your experience with MTurk. It is an interesting point of debate, but not a crucial one, especially at the current point in time for our manuscript. Data has been collected, the results are rather clear.

We agree that our 100 studies threshold is rather subjective, and we came to that rule of thumb based on our experience with running similar replication studies, many of those already accepted at PCIRR and journals.

We included prompts in every section asking participants if they are familiar with the materials and excluded them if they indicated that they are (N excluded = 22). We explained in our “Exploratory comprehension questions analyses” subsection that we have implemented several methods to incentivise truthful thoughtful responding.

Furthermore, we already reported results in our Stage 2, with one successful replication and one study showing effects for both time and money. Even if somehow someone familiar with the scenarios and the study purpose were to slip through, it is unclear to us what the possible argument is regarding how familiarity would explain the pattern of results. We find it unlikely that participants took the time to consider which condition they’re in, that they recalled what pattern of findings experimenters were expecting from their hundreds of studies conducted on MTurk, and to then spent time (costing them money) to devise a response pattern that would meet to explain our mixed results.

Overall, we implemented best practices to try and address familiarity, and we see no concern regarding this point or the relevance to our currently reported findings.

Reply to Reviewer #2: Prof. Dilip Soman

The Stage 2 paper is ready for prime time! There were a lot of intriguing results - perhaps none more so than the differences in patterns of results across replicated Study 1 and Study 2. It does appear that time is a lot more malleable than most other resources, so the call for more research on what factors might drive the evaluation of time as a resource is a good one.

Thank you to the authors for their excellent work throughout the process!

We are deeply grateful for your assistance, feedback and encouragement during this process. We are glad that we could contribute to this literature and look forward to more studies to help better elucidate the nature of how people think about time.