Peer Community In Registered Reports

Running pleasure results from finding it easier than you thought you would

*A recommendation by **Zoltan Dienes** based on peer reviews by **Jasmin Hutchinson** and 1 anonymous reviewer of the STAGE 2 REPORT:*

Damien Brevers, Guillaume Martinent, İrem Tuğçe Öz, Olivier Desmedt, Bas de Geus (2024) Do prediction errors of perceived exertion inform the level of running pleasure? OSF, ver. 3, peer-reviewed and recommended by Peer Community in Registered Reports.
https://doi.org/10.17605/OSF.IO/2SB86

Submitted: 30 April 2024, Recommended: 14 June 2024

Cite this recommendation as:
Dienes, Z. (2024) Running pleasure results from finding it easier than you thought you would. *Peer Community in Registered Reports*, 100771. 10.24072/pci.rr.100771

Published: 14 June 2024

The reward value of a stimulus is based on an error in prediction: Things going better than predicted. Could this learning principle, often tested on short acting stimuli, also apply to a long lasting episode, like going for a run? Could how rewarding a run is be based on the run going better than predicted? Understanding the conditions under which exercise is pleasurable could of course be relevant to tempting people to do more of it! In the current study, Brevers et al. (2024) asked people before a daily run to predict the amount of perceived exertion they would experience; then just after the run, to rate the retrospective amount of perceived exertion actually experienced. The difference between the two ratings was the prediction error. Participants also rated their remembered pleasure in running. As hypothesized, the authors found that running pleasure increased linearly with how much retrospective exertion was than predicted. The Stage 2 manuscript received one round of review from two external reviewers, then some minor comments from the recommender, after which it was judged to satisfy the Stage 2 criteria and was awarded a positive recommendation. **URL to the preregistered Stage 1 protocol:** https://osf.io/xh724

Level of bias control achieved: Level 6. *No part of the data or evidence that was used to answer the research question was generated until after IPA.* **List of eligible PCI RR-friendly journals:**

- Communications in Kinesiology
- In&Vertebrates

- Peer Community Journal
- PeerJ
- Psychology of Consciousness: Theory, Research and Practice
- Royal Society Open Science
- Studia Psychologica
- Swiss Psychology Open

References:

1. Brevers, D., Martinent, G., Oz, I. T., Desmedt, O. & de Geus, B. (2024). Do prediction errors of perceived exertion inform the level of running pleasure? [Stage 2]. In principle acceptance of Version 3 by Peer Community in Registered Reports. https://osf.io/xfgqp

Reviews

Evaluation round #2

DOI or URL of the preprint: https://osf.io/k8j5g
Version of the preprint: 2

Authors' reply, 13 June 2024

As suggest by the reommender, we deleted the paragraph on the difference between relative and absolute prediction error.

Download tracked changes file

Decision by Zoltan Dienes, posted 13 June 2024, validated 13 June 2024

Minor Revision

Thank you for your revision. I just have one point, namely I think the new paragraph you have added on the difference between relative and absolute prediction error is probably best dropped: You have not formally tested that one slope is steeper than the other. Given they are in different units,I am not sure anything could be made of any difference that was found. Further I didn't quite understand your explanation; to the extent I did, it may imply there should be non-linear slope of pleasure against absolute error. The simplest thing would seem to be to drop it; but you can argue otherwise as well.

best
Zoltan

Evaluation round #1

DOI or URL of the preprint: https://osf.io/4t8xn
Version of the preprint: 1

Authors' reply, 11 June 2024

A complete and detailed response to the last comments of the reviewer (Jasmin Hutchinson) is provided within the revised manuscript (with track changes).

Download tracked changes file

Decision by Zoltan Dienes, posted 07 June 2024, validated 07 June 2024

Minor Revision

Sorry for the delay in getting back; but the good news is the revewiers are happy with your Stage 2 bar some typos and minor amendments. Well done on a nice piece of research.

In the abstract, for the contradictory statement

"By using this approach, we showed that a positive RPE-based prediction error (lower score of retrospective RPE than prospective RPE) are associated with a higher level of retrospective pleasure, and that negative RPE-based prediction error (higher score of retrospective RPE than prospective RPE) are associated with a higher level of retrospective pleasure."

You can delete the second clause (even assuming the last "higher" was meant to be "lower"), as an association does not need to be stated both ways round. Note also "are" should be "is".

I look forward to receiving your revision.

best

Zoltan

Reviewed by Jasmin Hutchinson, 22 May 2024

In my opinion the authors have done a good job with this project and executed the study as planned. Below I will respond to the Stage 2 review criteria. **In the attached file I have shared recommended edits (using tracked changes) along with some additional comments.**

In evaluating Stage 2 manuscripts, we ask reviewers to assess:

· 2A. Whether the data are able to test the authors' proposed hypotheses (or answer the proposed research question) by passing the approved outcome-neutral criteria, such as absence of floor and ceiling effects or success of positive controls or other quality checks.

Yes, I believe the data can be used to test the authors' proposed hypotheses.

· 2B. Whether the introduction, rationale and stated hypotheses (where applicable) are the same as the approved Stage 1 submission.

Yes, they are the same.

· 2C. Whether the authors adhered precisely to the registered study procedures.

Yes

· 2D. Where applicable, whether any unregistered exploratory analyses are justified, methodologically sound, and informative.

Yes, the complementary analyses using relative prediction error are justified, methodologically sound, and informative.

· 2E. Whether the authors' conclusions are justified given the evidence.

Yes

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Reviewed by anonymous reviewer 1, 20 May 2024

I am completing my review based on the PCI Registered Reports Stage 2 Criteria.

1. Whether data are able to test the authors' original proposed hypotheses by passing approved outcome-neutral criteira, sucha s absence of floor and ceiling effects or success of positive controls or other quality checks.

    (a) This criterion is met.

2. Whether the introduction, rationale, and tated hypotheses (where applicable) are the same as the approved stage 1 submission.

    (a) This criterion is met.

3. Whether the authors adherenced precisely to study procedures.

    (a) This criterion is met.

4. Where applicable, whether any unregistered exploratory analyses are justified, methodologically sound, and informative.

    (a) This criterion is met. The authors do a good job clearly labeling their exploratory analyses.

5. Whether the authors'; conclusions are justified given the evidence.

    (a) This criterion is met.

The authors have been transparent throughout this process.

I believe there are some key typos or errors. The authors should proofread their manuscript to detect any remaining examples. The most clear example seems to be in the abstract.

In the abstract, the authors write:

"By using this approach, we showed that a positive RPE-based prediction error (lower score of retrospective RPE than prospective RPE) are associated with a **higher level of retrospective pleasure**, and that negative RPE-based prediction error (higher score of retrospective RPE than prospective RPE) are associated with a **higher level of retrospective pleasure**."

Higher level of retrospective pleasure is used in both sitautions, and so this needs to be changed.