



# Mixed evidence for the Appraisal-Tendency Framework in explaining links between emotion and decision-making

A recommendation by [Chris Chambers](#) <sup>ID</sup> based on peer reviews by [Max Primbs](#) and [Kelly Wolfe](#) <sup>ID</sup> of the STAGE 2 REPORT:

Sirui Lu; Emir Efendić; Gilad Feldman (2024) Associations of fear, anger, happiness, and hope with risk judgments: Revisiting appraisal-tendency framework with a replication and extensions Registered Report of Lerner and Keltner (2001). OSF, ver. 5, peer-reviewed and recommended by Peer Community in Registered Reports.

<https://doi.org/10.17605/OSF.IO/T5KZ9>

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How do emotions interact with cognition? The last 40 years has witnessed the rise of cognitive-appraisal theories, which propose that emotions can be differentiated along an axis of cognitive dimensions such as certainty, pleasantness, attentional activity, control, anticipated effort, and responsibility (Smith and Ellsworth, 1985). Early tests of such theories focused especially on the impact of the valence – pleasantness/unpleasantness – of emotions on judgment and decision-making, finding, for instance, that negative mood induction can heighten pessimistic estimates of risk (Johnson & Tversky, 1983). The Appraisal-Tendency Framework proposed by Lerner and Keltner (2000) refined cognitive-appraisal theory by proposing that *specific* emotions trigger a predisposition to appraise future (or hypothetical) events in line with the central appraisal dimensions that triggered the emotion, even when the emotion and the judgment are unrelated. For example, an individual who is triggered to become fearful of a heightened risk, such as nuclear war, may then exhibit heightened pessimism about risks unrelated to war. The Appraisal-Tendency Framework also predicts relationships between traits, such as fear, anger and risk-taking/risk-seeking tendencies. In an influential paper, Lerner and Keltner (2001) reported direct empirical support for the Appraisal-Tendency Framework, which aside from its influence in cognitive/affective psychology has had considerable impact in behavioural economics, moral psychology, and studies of consumer behaviour. In the current study, Lu et al. (2024) replicated three

key studies from Lerner and Keltner (2001) in a large online sample. Through a combination of replication and extension, the authors probed the relationship between various trait emotions (including fear, anger, happiness, and hope) and trait characteristics of risk seeking and optimistic risk assessment. The authors also examined how the ambiguity of triggering events moderates the relationship between specific emotions and risk judgments. Overall, the results provide mixed support for the predictions of the Appraisal-Tendency Framework. Trait anger and trait happiness were positively associated with risk-seeking and optimistic risk estimates, while trait fear was negatively associated with optimistic risk assessment (although a reliable association between fear and risk-seeking was not observed). The original finding of Lerner and Keltner (2001) that the valence-based approach applied to risk optimism for unambiguous events was not supported. In addition, there was no reliable evidence for a positive relationship between hope and risk-seeking preference or optimistic risk estimates. The authors conclude that future research should consider a wider range of emotions to develop a more complete understanding of the link to risk-related judgment and decision-making. The Stage 2 manuscript was evaluated over one round of in-depth review. Based on detailed responses to the reviewers' comments, the recommender judged that the manuscript met the Stage 2 criteria and therefore awarded a positive recommendation. **URL to the preregistered Stage 1 protocol:** <https://osf.io/8yu2x>  
**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:**

- [Advances in Cognitive Psychology](#)
- [Collabra: Psychology](#)
- [F1000Research](#)
- [International Review of Social Psychology](#)
- [Journal of Cognition](#)
- [Meta-Psychology](#)
- [Peer Community Journal](#)
- [PeerJ](#)
- [Royal Society Open Science](#)
- [Social Psychological Bulletin](#)
- [Studia Psychologica](#)
- [Swiss Psychology Open](#)

### **References:**

1. Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, 48, 813-838. <https://doi.org/10.1037/0022-3514.48.4.813>
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3. Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition & Emotion*, 14, 473-493. <https://doi.org/10.1080/026999300402763>

4. Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology*, 81, 146–159. <https://doi.org/10.1037/0022-3514.81.1.146>

5. Lu, S., Efendić, E., & Feldman, G. (2024). Associations of fear, anger, happiness, and hope with risk judgments: Revisiting appraisal-tendency framework with a replication and extensions Registered Report of Lerner and Keltner (2001) [Stage 2]. Acceptance of Version 2 by Peer Community in Registered Reports. <https://osf.io/xytsw>

## Reviews

### Evaluation round #1

DOI or URL of the preprint: <https://osf.io/aw6cb>

Version of the preprint: 4

### Authors' reply, 30 May 2024

Revised manuscript: <https://osf.io/xytsw>

All revised materials uploaded to: <https://osf.io/t5kz9/>, updated manuscript under sub-directory "PCIRR Stage 2\PCI-RR submission following R&R"

[Download author's reply](#)

[Download tracked changes file](#)

### Decision by [Chris Chambers](#) , posted 21 May 2024, validated 22 May 2024

#### Minor Revision

Two of the reviewers from Stage 1 were available to evaluate your completed Stage 2 submission. The reviews are broadly very positive, which is much as I expected based on my own reading of your submission. Among the suggestions for revision you will find requests for clarification of terminology and interpretation of results, as well as a useful suggestion for a (light) additional analysis. I look forward to receiving your revised manuscript and response in due course.

### Reviewed by [Kelly Wolfe](#) , 20 May 2024

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### Reviewed by [Max Primbs](#), 17 May 2024

Summary of the Article:

The conducted Registered Replication Report for the foundational Lerner & Keltner paper by 2001., which investigated associations between dispositional fear, anger, happiness and risk optimism or risk preference. The replication features an adapted design, improved analyses, and an extension (hope). The replication was partially successful.

Summary of the Review:

I recommend minor revisions. The authors report their results and conclusions faithful to the Stage 1 RR. Moreover, the track changed manuscript does not show that the authors unduly altered their introduction and methods sections. I have a few small comments:

Minor points:

1. I commend the authors for setting a SESOI. However, it would be even better if the SESOI was used more throughout the manuscript. Currently, the reporting of results very much focusses on statistical significance. I would suggest that the authors make use of their earlier work and discuss how their results relate to the SESOI.

2. Relatedly to 1, the authors present a series of null results for their hope extension. I would suggest that the authors make use of equivalence testing to increase the informativeness of these nulls. Equivalence testing rules out a few explanations for these null results.

3. Related to 2, I feel like the discussion of the results of the hope extension falls flat. The authors write that there are many possible reasons: Discuss those reasons! Why does the framework not extend to hope? And why and to which other positive emotions does it extend (the negativity bias discussion is good!)? And what makes these other positive emotions different than hope? More broadly, I often miss a discussion of what the results mean for the ATF – for both the successful and the failed replications.

Really minor points:

4. The authors report e.g., on page 32 and following results in both text and table form. The table contains the CI in addition. I feel like we can shorten the manuscript by moving the tables to an appendix and/or reporting the CIs in text.

5. The authors report Cronbach's alpha (e.g. page 20). Current papers recommend McDonald's Omega instead (<https://www.tandfonline.com/doi/full/10.1080/19312458.2020.1718629>). The authors might consider adding this to the manuscript.

6. I applaud the transparency and usefulness of Table 7.

7. Page 49: You mention that whether the ATF has constraints on population generalisability still needs further investigation. I'd ask the authors to discuss this a bit more: Why would there be constraints theoretically?

8. Page 11: Your description of what got Ethics approval changed. Why?

9. Make the number of total trials and the number of trials per ambiguity level clearer in the main text. The way it is presented in Table 4 was not super clear.

I congratulate the authors on their manuscript and regret that I cannot offer more content-related comments.

With Kind Regards,

Maximilian Primbs