

Dr. Stavroula Kousta  
Chief Editor  
*Nature Human Behaviour*

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## Cover Letter for a Stage 1 Registered Report

Dear Dr. Kousta,

we would like to submit the Stage 1 Registered Report titled "When easy is not preferred: An effort discounting paradigm for estimating subjective values of tasks" for consideration in *Nature Human Behaviour*.

In our study, we investigate the relationship between the cost of effort and the value of rewards, a trade-off that is relevant to everyday life but still poorly understood. We advance an existing effort discounting paradigm by Westbrook and colleagues (2013) for determining subjective values of different demand levels of a cognitive task. We implement two crucial improvements: First, subjective values for tasks with varying demand can be determined without assuming that the objectively easiest level is preferred. This is relevant given that individual differences exist in the preference for cognitive effort: individuals with a high Need for Cognition who dispositionally enjoy cognitive effort likely prefer a higher demand level. Second, our modification allows determining subjective values for tasks whose levels have no objective order of difficulty.

These improvements are used to target two research questions: (1) whether we can replicate the findings of the original study (Westbrook et al., 2013) with our new paradigm and describe individual differences in subjective values more accurately; and (2) whether our approach is suitable for determining subjective values in the context of an emotion regulation task for which no objectively easiest regulation strategy exists. To investigate both properties rigorously, these questions are covered in separate Registered Reports that we submit in parallel (see submission by Christoph Scheffel). Here we present the Report for the *first* question. We deem it of general interest for fields such as psychology, economics, and cognitive science, offering an effective and adaptable way to assess the preference for cognitive effort at varying demands and rewards.

Following Stage 1 in principle acceptance of both Reports, we will collect the data over a span of six months, and analyse the data and write the Stage 2 Report within four to six weeks, resulting in a total project duration of about seven to eight months. Depending on the progress of the pandemic, this estimation may vary.

We hereby confirm that all necessary support and approvals are in place for the study to commence immediately. We agree to share the raw data, study materials, and analysis code openly on the Open Science Framework. We agree to register the approved protocol as a publicly available preprint on the Open Science Framework following Stage 1 in principle acceptance. We agree to *Nature Human Behaviour* publishing a short summary under a section Withdrawn Registrations, should we choose to withdraw our paper.

Thank you very much for considering our manuscript.

Yours sincerely,

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