*What's the main question being asked in this study?*

When facing difficult decisions with many options and limited time, people will generate a small subset of those options – a choice set – to actually evaluate, and they will be more likely to include options that were good in the past. We test this in an experiment with two stages. In Stage 1, people are trained to associate a series of twelve English words with different values. In Stage 2, people use these words as potential answers to a difficult decision.

*Describe the key dependent variables specifying how they will be measured.*

The dependent variable is word choice in Stage 2. We will describe the decision that needs to be made ("Give us a word from Stage 1 whose third-to-last letter is late in the alphabet. You'll win points based on the position of the word in the alphabet (i.e. A = 1, Z = 26)."), give an example, a comprehension check, and then a textbox to submit a response. (Participants will also get a “scratchpad” textbox to help them think.) To parse participants' answers, we will compare their response to the list of Stage 1 words using the Optimal String Alignment method in the "amatch" function of R package "stringdist" (with a maximum distance of 2). If their response fails to match a Stage 1 word, we will try the same parsing procedure on the scratchpad. If both responses fail to match a Stage 1 word, the trial will be coded as NA. The decision will have a 25-second time limit.

*How many and which conditions will participants be assigned to?*

Participants will be randomly assigned to one of two conditions: “anticorrelated” or “correlated”. In the “anticorrelated” condition, the Stage 1 word values will be: 1, 1, 3, 3, 3, 4, 6, 6, 7, 10, 14, and 15. In the “correlated” condition, the values will be 16 minus those values. In both conditions, the corresponding Stage 2 value of these words will be: 13, 22, 21, 12, 14, 18, 15, 10, 11, 7, 5, and 6. (The word instantiating each Stage 2 value will be randomly drawn from a set of words for each participant. For instance, the 22nd letter of the alphabet is “v”; to instantiate this Stage 2 value, some participants will see the word “trivia”, others will see “silver”, and so on.)

*Specify exactly which analyses you will conduct to examine the main question.*

First, to test for a basic influence of Stage 1 value on Stage 2 choice, we will analyze the average Stage 1 rank of people’s choices. We predict that they will be significantly above chance (where chance is a rank of 6.5), measured with a one-tailed one-sample Mann-Whitney U test.

Second, our model (but not its alternatives) predicts a positive interaction between Stage 1 and Stage 2 value in determining Stage 2 choice, when collapsing across the two conditions. To test for this positive interaction, we will fit a multinomial logistic regression model to people’s choices (using the R package “mlogit”), regressing Stage 2 choice on Stage 1 value, Stage 2 value, and their interaction. (We will omit word-specific intercepts. The regression analysis will only include, for each participant, the words that the participant was able to recall in a free recall test given at the end of the experiment.) We will calculate a one-tailed p value for the interaction coefficient.

Third, our model (but not its alternatives) predicts an interaction between conditions. Specifically, our model predicts that, when regressing Stage 2 choice on the combined (Stage 1 + Stage 2) value of the words, there will be more nonlinear curvature in the correlated condition. To test for this interaction, we will first compute the combined value of each word using the following formula: Combined = Stage 1 value / 15 + 4 \* Stage 2 value / 22. (The divisions normalize each value set to be between 0 and 1; the Stage 2 value term is multiplied by 4 because the best-fitting model from previous data indicated that Stage 2 value is weighted about 4 times as strongly in Stage 2 choice.)

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*How many observations will be collected?*

N = 600 (before exclusion). Our simulations indicated that this sample size would give us over 90% power.

*Anything else you would like to preregister?*

At the end of the experiment, we give people a free recall test for the words in Stage 1. We predict that people will remember words with a high Stage 1 value earlier then words with the low Stage 1 value. We will test this with a linear mixed effects model, regressing free recall order on Stage 1 value (with an uncorrelated random intercept and random slope for each subject).

We will exclude participants for whom any of the following is true: They don't complete the study, they successfully rewrite less than 75% of the words or values during Stage 1 training, they choose the better alternative in Stage 1 training on less than 75% of trials, they fail to give a word within the time limit in Stage 2, they fail the Stage 2 comprehension check, they recall less than 5 words in the free recall question, or they write things down physically during the experiment (as measured by a probe at the end).