**Risen & Gilovich: Revised Protocol**

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Differences from the original RPP protocol are highlighted in green.

**Introduction**

Risen & Gilovich (2008) performed a series of six experiments examining the existence and mechanisms of the belief that “tempting fate” is punished with ironic bad outcomes. For example, the authors postulate, a student may perceive himself as more likely to be called on in class to answer a question if he failed to do the assigned reading than if he had come to class prepared. This form of irrational thinking was hypothesized to originate from System 1 cognitive processes, which use simple cognitive heuristics to render fast, effortless judgments. In contrast, System 2 processes can override System 1’s sometimes inaccurate judgments using rule-based, “rational” thinking.

The authors hypothesized that System 2 processes can act to suppress irrational aversion to tempting fate, and thus that under a cognitive load that preoccupies System 2 resources, the effect tempting fate on perceived likelihood of bad luck would be magnified. Study 6, the target of replication, assessed this possibility by manipulating in a between-subjects factorial design the behavior of a character in a scenario (had done the assigned reading vs. had not) and the presence of cognitive load (load vs. no load) on participants. The key finding, as predicted, was a significant interaction between behavior and load, such that the presence of cognitive load increased the effect of tempting fate vs. not.

**Methods**

Power analysis

Using the effect size for the key interaction from the original report (η 2 = .035), 400 participants total would achieve 95% power.

Planned sample

Subjects will be university undergraduates sampled in a lecture setting, as in the original study. We will collect participants from multiple sites, aiming to achieve 95% power (400 participants) at each site. If each site is not able to achieve this sample size, we will allocate additional sites to this project to maximize power. We will target at least three collection sites for this protocol.

For the online comparison group, we will collect another sample from Mturk (n>400).

Designation of site endorsement levels

We designate three levels of endorsement, defined at the level of sites. The use of these endorsement levels in analyses is documented in the supplementary file “Risen & Gilovich Across-Site Analyses”.

* “Fully endorsed”: The site enrolls university undergraduates at an academic environment similar to that of Cornell University (the site of the original study). We operationalize this by requiring that the replication university’s current median SAT scores are within 150 points of Cornell on all sections of the SAT.
* “Semi-endorsed”: The site enrolls university undergraduates, but does not meet the above criterion for academic similarity to Cornell.
* “Non-endorsed”: This category comprises only Mechanical Turk.

Materials

The original study questionnaire consisted of a scenario, a cognitive load task, and a manipulation check will be replicated in online format. To assess whether the endorsed protocol indeed resolves the proposed mechanisms of non-replication (suggested by the original author), we will add the following new items:

1. “If you were a student in the class you just read about, how important would it be to you to answer questions correctly in class?” [a measure of perceived importance of the scenario]
2. “How difficult was the counting task?” [a manipulation check for the cognitive load task]
3. “How much effort did the counting task require?” [a manipulation check for the cognitive load task]

These new items will appear at the very end of the questionnaire to minimize the possibility that their addition could affect responses to the existing items.

Procedure

In accordance with the original study: “Participants read one of the self-scenarios … which asked them to imagine themselves in a large lecture and to imagine that the professor is planning to call on a student because no one has volunteered to answer the question. Participants either read that they have done the reading for class or that they have not done the reading. Half of the participants who read each scenario were under cognitive load. While reading the story and answering the likelihood question, participants under load were required to count backwards by 3s, starting with 564. Participants indicated how likely they believed it was that they would be called on by circling a number between 0 and 10, anchored at 0 with *not at all likely* and at 10 with *extremely likely*. After answering the question, participants under load were told to stop counting and to report the number on which they ended. They also indicated how much effort they put into the two tasks by circling a number between 0 and 6, anchored at 0 with *I put all my effort into reading* and at 6 with *I put all my effort into counting.”*

This procedure will be replicated exactly using questionnaire materials provided by the original authors.

Analysis plan (within-site)

No specific data cleaning or exclusion rules are mentioned, although the authors report excluding 2 subjects “because they ended on a number less than 3 away from their starting number (561 and 563), suggesting that they did not count backwards while they read the story. This was confirmed by the manipulation check, in which both participants indicated putting all their effort into reading the story.”

In this spirit, we will exclude any participants who report an ending number > 561 (since this would indicate either having failed to do the counting task or having counted forward instead of backward) and/or indicate having put all their effort into reading the story.

Risen & Gilovich report the following statistical analyses and descriptive statistics:

1. A “2 (behavior: had read vs. had not read) X 2 (load: yes vs. no) ANOVA,” revealing two main effects and the predicted interaction

2. Two pairwise t-tests and Cohen’s d statistics for effect of behavior (had read vs. had not read), stratifying by load (yes vs. no)

The above analyses will be replicated exactly provided that statistical assumptions hold.

Analysis plan (across sites)

These analyses are documented in the supplementary file “Risen & Gilovich Across-Site Analyses”.