

## Replication of Chao 2017

### “Demotivating incentives and motivation crowding out in charitable giving”

PNAS 114(28), 7301-7306.

<http://www.pnas.org/content/114/28/7301>

*The original paper includes two studies but only one on MTurk. In this between-subject experiment, participants are randomized to one of three conditions: they are asked whether they want to donate a bonus to a charity in either a control group with no gift offered, a second group with a gift and no image of the gift card, or a third group with a gift and image of the gift card. We focus on the comparison between the gift/no-image treatment versus the gift/image treatment. Visual saliency of the gift reduces donation rates i.e. increases crowding out in donations.*

**Hypothesis to replicate and bet on:** People donate less to a charity when offered a visible gift card for the donation compared to when the gift card is not visible. To evaluate this hypothesis, the author performs a *t*-test comparing the share of participants donating in the gift/no-image treatment versus the gift/image treatment ( $p = 0.021$ ); p.7305. We randomly picked the gift/no-image treatment as the comparison to the gift/image treatment.

**Criteria for replication:** The criteria for replication are an effect in the same direction as the original study and a  $p$ -value  $< 0.05$  in a two-sided independent samples *t*-test.

**Power analysis:** The original study had 519 participants in the gift/image treatment and the gift/no-image treatments. The standardized effect size (Cohen’s  $d$ ) was  $d = 0.204$ . To have 90% power to detect 67% of the original effect size, a sample size of  $n = 2267$  is required.

**Sample:** Only participants from the US were allowed to participate in the original study. Moreover, workers were required to have a HIT approval rate of 98% or higher, and at least 100 HITs completed. The replication experiment will implement the same criteria. Moreover, we will make sure that subjects only participate once in this study. We will also check all IP addresses via <https://www.ipqualityscore.com/>; and we will remove any participants where one or more of the following is true: fraud score  $\geq 85$ ; TOR = True; VPN = True; Bot = True; abuse velocity = high. The replication sample size is the sample size after any exclusions of participants.

**Materials:** We will use the same material as in the original study, kindly provided by the original authors. In particular, the experiment will be conducted using the original *Qualtrics* survey, including the same titles and images as in the original study.

**Procedure:** We will closely follow the procedure of the original experiment. The following summary of the experimental procedure is therefore largely based on the description of the experiment in the article (p. 7305).

Participants will first be shown a Captcha, and will thereafter provide informed consent. After this we will include an attention check that participants will need to pass to continue to the study. This attention check is in addition to any other potential attention check(s) used in the original study. Participants will be paid a show-up fee and a bonus for completing the study. After they are randomly sorted into two groups (the two treatments), participants will be asked whether they would like to donate their \$0.15 bonus to the Red Cross. Participants in the gift/no-image treatment will be offered an opt-in \$0.01 Staples egift code in exchange for donating

while participants in the gift/image treatment will be offered the same gift but are also presented with an image of a \$0.01 Staples gift card during the ask.

After the donation question, participants will fill out a survey including demographics and filler questions.

**Note:** In the original study, participants who requested the Staples gift code were instead paid \$0.01 via a Mechanical Turk bonus. This was done because it turns out that Staples does not offer \$0.01 gift codes for purchase. The situation was explained to participants when they were paid the bonus. We will follow the same procedure as the original study. In addition, in the original study, subjects were offered a show-up fee of \$0.30. In our replication, we will be offering a slightly higher show-up fee to match an hourly wage rate of \$8 per hour.

**Analysis:** The analysis will be performed as in the original paper. In particular, the donation rate between the gift/no-image treatment and the gift/image treatment will be compared using an independent samples *t*-test.

**Subject payments:** We are standardizing payments across all replications so that studies have a certain show-up fee depending on the expected length of the study, with an hourly wage from the show-up fee of \$8 and a minimum payment of \$1 (for studies with incentive payment we use the same incentive payment as in the original study; and this payment is paid in addition to the show-up fee). If we have problems recruiting, we will increase the show-up fee.