

# Does Wishing Lead to Seeing? A Registered Replication Report (RRR): Balcetis & Dunning (2010)

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## Introduction

In an article published in *Psychological Science*, a flagship journal in psychology, Balcetis and Dunning found that people with induced thirst perceived a filled water bottle (desirable object) to be significantly closer than those whose thirst was quenched. They argue that people perceived *desirable* objects to be physically closer.

Their original experiments, however, were underpowered. Z-curve analysis revealed a 6% replication rate. We report results from 11 independent replication efforts and their findings. We aim to answer the question: Does wishing really lead to seeing?

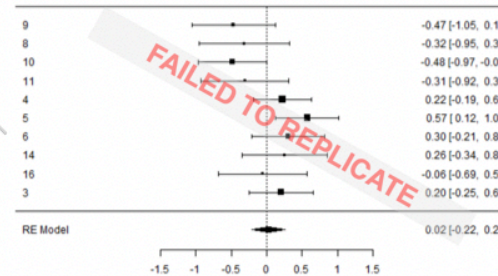
## Procedure

- Participants randomly assigned to either "thirsty" or "quenched" condition
- Thirsty – thirst was induced when participants ate an amount of pretzels equivalent to 40% of their daily sodium intake
- Quenched – allowed to drink as much water as they desired, with a maximum amount of 32 oz.
- In order to measure how this motivation affected distance perception, a filled water bottle was placed 36 in. away from the participant
- Participant ranked current thirst level and water bottle desirability in order to establish if thirst manipulation was successful
- Participant then asked to estimate in inches the distance between them and this "desirable" object (given one-inch reference for scale)

## Results

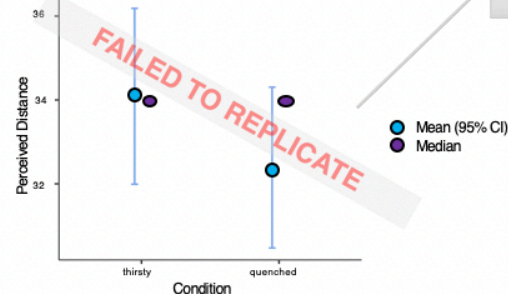
### Study 1 Mini Meta-Analysis (N<sub>meta</sub> = 583)

Student-led replications of the 2010 study found varied results. Two out of the 10 replications were found to be statistically significant, but in different directions. Overall, the meta-analytic effect size of the experimental manipulation was near zero and **not statistically significant**.



### Study 2 High-Powered Replication (N = 209)

Differences in distance estimates between thirsty (pretzels) and quenched (water) conditions were **not statistically significant**.  $t(210) = 1.11$ , *n.s.*,  $p = 0.866$ . Cohen's  $d = 0.153$



## Analysis

### STUDENT-LED REPLICATIONS

- Conducted in various uncontrolled environments around Louisiana State University campus
- Projects analyzed based on group findings
- 48 papers checked for accuracy through coding templates
- 48 conducted correct statistical test
- 45 reported t-statistic
- 13 discussed possible outliers – 2 groups removed data points

### HIGH-POWERED LAB REPLICATION

- Conducted in controlled lab setting (see Fig. 1 below)
- 6 outliers identified and removed (estimates greater than 77 inches)
- 3 participants removed due to prior knowledge of experiment and results

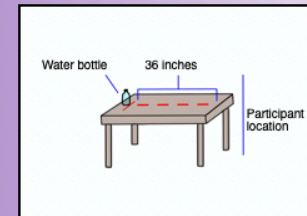


Figure 1  
Visual representation of Study 1 replication setup.

## Conclusion and Discussion

Analyses of results from both the meta-analysis and high-powered replication revealed that Balcetis & Dunning's original 2010 study replicated only once. This translates to a 9.09% replication rate—a mere 3% higher than the predicted 6%. This implies that the original researchers may not have followed Open Science guidelines when publishing their results. The same implications are held for the 4 other studies included in Balcetis & Dunning's 2010 publication. Are they, too, proponents of the file drawer problem?

## Literature cited

Balcetis, E., & Dunning, D. (2010). Wishful seeing: More desired objects are seen as closer. *Psychological science*, 21(1), 147-152.

## Acknowledgments

We would like to thank Gloria Foret, for her assistance with data collection of the replication experiment, and Charlotte Streat and Elizabeth Duplechain for their contributions to coding resulting data.

## Zoom Link

<https://lsu.zoom.us/j/3760051123>