

Replication of Isaac and Brough (2014), Study 3

Isaac, M. S., & Brough, A. R. (2014). Judging a Part by the Size of Its Whole: The Category Size Bias in Probability Judgments. *Journal of Consumer Research*, 41(2), 310-325.

Original (N=175):

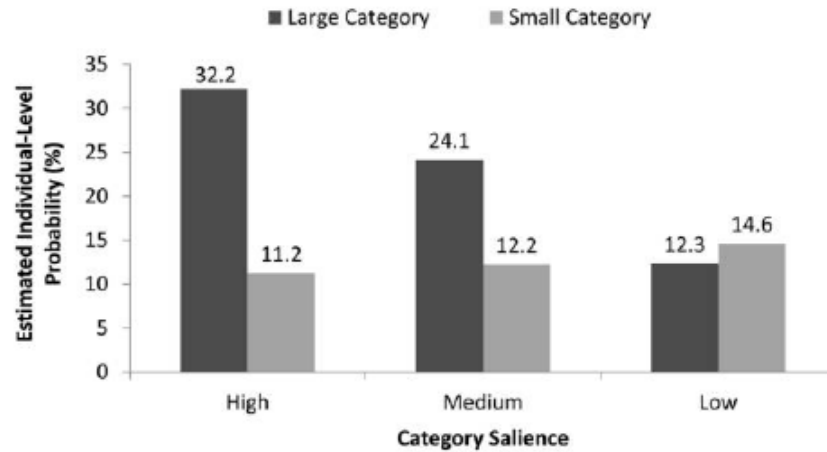
“A 2 (category size: large vs. small) x 3 (category salience: high, moderate, low) ANOVA produced a significant interaction ($F(2, 169) = 4.76, p < .02$). When category salience was high, the category size bias was most pronounced (see fig. 1). Participants in this condition estimated the likelihood of rolling a “T” to be significantly greater than the likelihood of rolling an “A” ($M_{\text{large}} = 32.2\%$ vs. $M_{\text{small}} = 11.2\%$; $t(54) = 3.29, p < .01$), even though the chance of rolling either letter is statistically identical. When category salience was moderate, the category size bias was observed but less pronounced ($M_{\text{large}} = 24.1\%$ vs. $M_{\text{small}} = 12.2\%$; $t(57) = 2.01, p < .05$). However, when category salience was low, the category size bias was not observed ($M_{\text{large}} = 12.3\%$ vs. $M_{\text{small}} = 14.6\%$; $t(58) = .64, p > .52$) (Isaac and Brough 2014, p316).”

For ease of comparison, we use the original authors’ phrasing for our replication below:

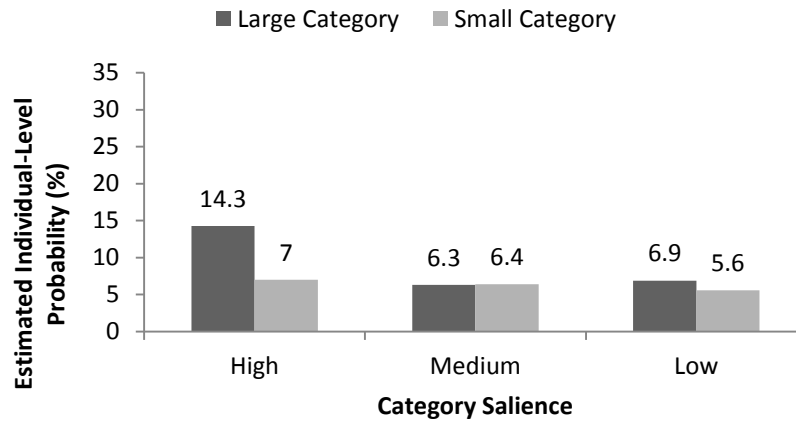
Replication (N=505):

A 2 (category size: large vs. small) x 3 (category salience: high, moderate, low) ANOVA produced a significant interaction ($F(2, 499) = 3.71, p < .03$). When category salience was high, the category size bias was most pronounced (see fig. 1). Participants in this condition estimated the likelihood of rolling a “T” to be significantly greater than the likelihood of rolling an “A” ($M_{\text{large}} = 14.3\%$ vs. $M_{\text{small}} = 7.0\%$; $t(162) = 2.54, p < .02$), even though the chance of rolling either letter is statistically identical. When category salience was moderate, the category size bias was not observed ($M_{\text{large}} = 6.3\%$ vs. $M_{\text{small}} = 6.4\%$; $t(164) = 0.03, p > .97$). Similarly, when category salience was low, the category size bias was not observed ($M_{\text{large}} = 6.9\%$ vs. $M_{\text{small}} = 5.6\%$; $t(158) = .64, p > .52$).

Original (N=175):



Replication (N=505):



Successful replication of the simple effect of high salience by $d_{33\%}$ standard (Simonsohn, 2013):
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2259879

