Bayesian Reanalysis of Shalvi, Eldar, and Bereby-Meyer (2012) Experiment2

The null hypothesis (H0) is that there is no difference between the time pressure and the self-paced conditions, the alternative hypothesis (H1) is that time pressure affects cheating (to correspond with the use of two-tailed test in original paper). We calculated, using JASP 0.10 the Bayes Factor (BF) for the Bayesian Mann-Whitney test that assesses the differences between the time pressured and self-paced condition on the self-reported die roll outcome (using JASP's default setting, i.e., Cauchy prior; but also provide robustness check for range of priors). BF_{10} expresses how more likely the data are to occur under H1 than under H0. BF_{01} expresses how more likely the data are to occur under H0 than under H1.

Descriptive statistics

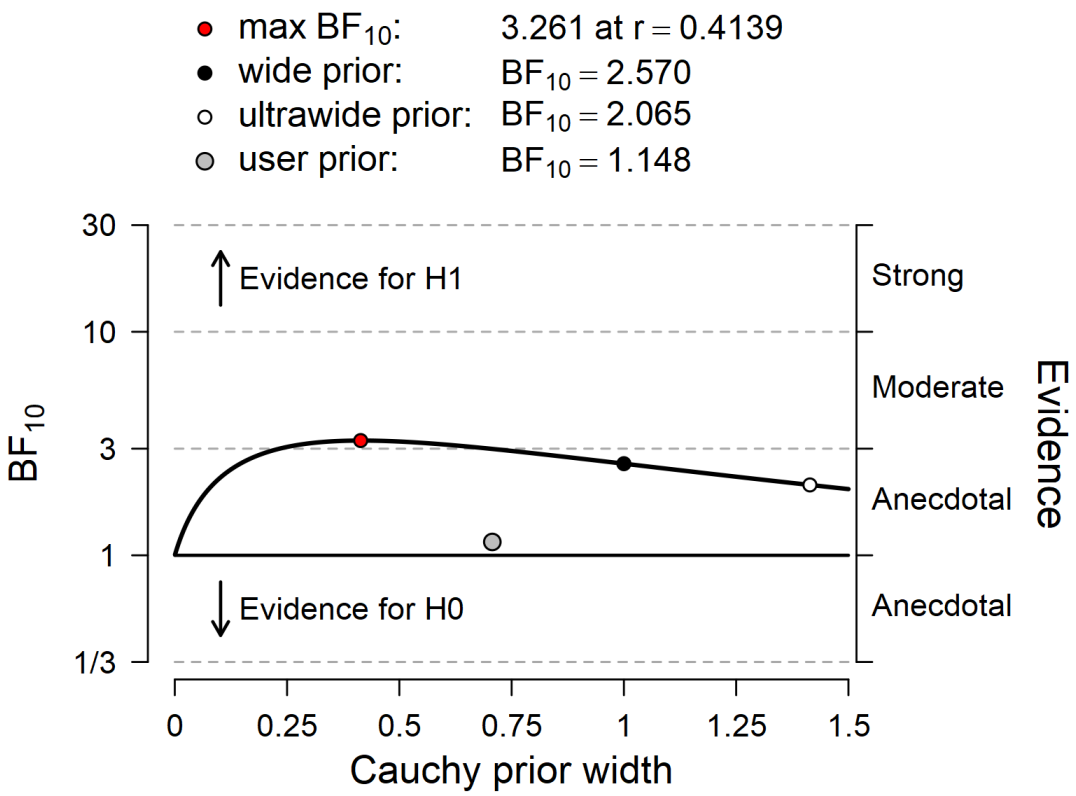
					95% Credible Interval	
	Group	N	Mean	SD	SE	Lower	Upper
Dice_report	0	33	3.424	1.838	0.320	2.773	4.076
	1	39	4.385	1.498	0.240	3.899	4.870

Note: 0=self-paced, 1 = time pressured

Bayesian Mann-Whitney U Test

	BF_{10}	W	R^
Die Report	1.148	455.0	1.000

Note. Result based on data augmentation algorithm with 5 chains of 10000 iterations.



Conclusion

The data of the original experiment 2 are 1.15 times more likely under H1 that time pressure affects cheating than under H0 that time pressure does not affect cheating. The Bayes Factor seems quite stable, as it maximally varies between 1.15 and 3.26 across a wide range of priors. Thus, the data of data of the original experiment 2 provide 'anecdotal', and maximally 'moderate', evidence for the hypothesis that time pressure affects cheating.