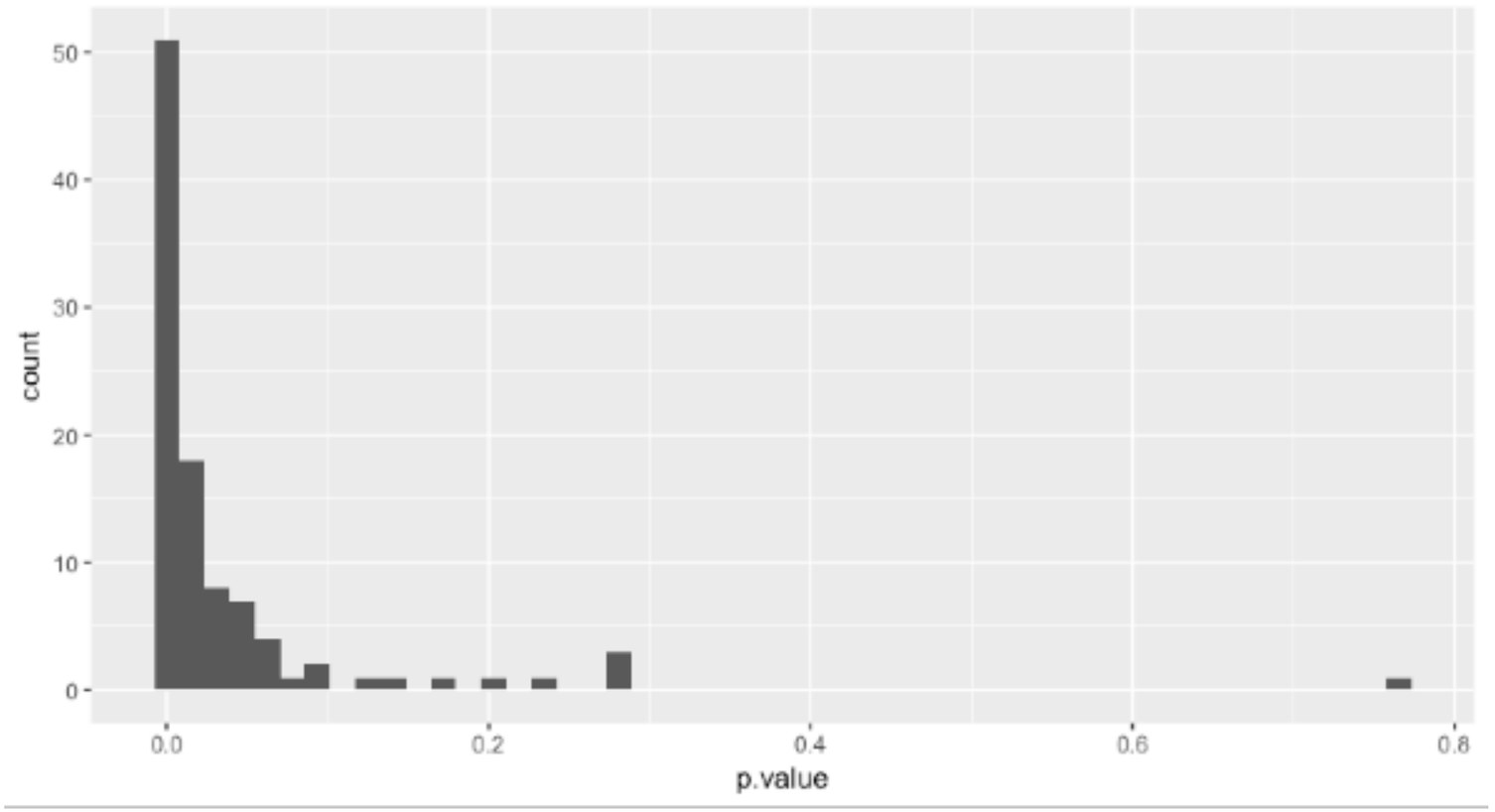
- So let’s work out Cohen’s d as a measure of our effect size - we can do this precisely because we know what the real effect size is comparing the two populations.

- The “classic” Cohen’s d calculation is the mean of one sample minus the mean of the other divided by the pooled standard deviation.

- In our case, it’s (1020 - 1000) / 50 which gives a Cohen’s d of 0.4 (which is a small to medium effect size) - standard in many areas of psychology.

- We actually need 200(!) participants to give us 80% power for a Cohen's d = .4

- Let's run the 100 simulations again but this time we'll set sample size to 200 - here's the histogram of the p-values - 80 of the t-tests are now significant at < .05:




```
> count(filter(result, p.value < .05))
# A tibble: 1 x 1
      n
  <int>
1    80
```