- We can work out for how many of the 100 tests we have found a significant difference at < .05 - and remember, there is actually a real difference (of 20 ms.) in the two population distributions we sampled from!

```
> count(filter(result, p.value < .05))
# A tibble: 1 x 1
      n
  <int>
1    17
```

- So, less than a fifth of the time are we finding a significant difference even though one exists in the distributions we sampled from. So with a sample size of 24 (12 per group) power to detect the effect we are looking for is .17

- 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.