

- We can now perform an independent samples t-test to see if the conditions differ:

```
> t.test(filter(data, condition == "fast")$dv, filter(data, condition == "slow")$dv,  
paired = FALSE)
```

```
Welch Two Sample t-test
```

```
data: filter(data, condition == "fast")$dv and filter(data, condition == "slow")$dv  
t = -2.202, df = 21.987, p-value = 0.03845  
alternative hypothesis: true difference in means is not equal to 0  
95 percent confidence interval:  
 -81.233786  -2.432881  
sample estimates:  
mean of x mean of y  
 977.4167 1019.2500
```

- The important stuff is a bit buried in the text - wouldn't it be great if we could somehow extract it and save it?
- Note the default t-test in R is Welch's t-test (rather than Student's) - do you know why?

- We can save the result of this t-test using the `broom::tidy()` function. This converts the output of the t-test into a tidy tibble.

```
> result <- tidy(t.test(filter(data, condition == "fast")$dv, filter(data, condition == "slow")$dv,
paired = FALSE))
> result
# A tibble: 1 x 10
  estimate estimate1 estimate2 statistic p.value parameter conf.low conf.high method
  <dbl>     <dbl>     <dbl>     <dbl>   <dbl>     <dbl>     <dbl>     <dbl> <chr>
1   -41.8       977.     1019.     -2.20  0.0385      22.0     -81.2     -2.43 Welch...
```

# ... with 1 more variable: alternative <chr>

- We can reference columns in this tibble - for example, just to get the p-value we can type:

```
> result$p.value
[1] 0.03845285
```

- Wouldn't it be amazing if we could run t-tests on 100 simulations and save the result of each in a tibble that ends up containing the p-values for all the results?
- We can, but first we need to learn about loops...