RMarkdown_j3456_Keele_Simple_Report_5

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Subject: Report 5

Introduction

We now consider the number of variants observed for each macaque. For the two Ctrl animals, the observations were 7 & 8. For the two Expt animals, the observations were 3 & 5. (Here, we deal only with the observations, not with the theoretical distributions.)

You indcicated that the Scientific Community would be in agreement with the idea that the treatment effect could **not** increase the number of variants in a macaque.

```
Ctrl <- c(7, 8)
Expt <- c(3, 5)
```

We perform a two-sample, *one-sided* t-test. Here it is:

```
t.test(Ctrl, Expt, alternative = 'greater')
```

```
##
##  Welch Two Sample t-test
##
## data:  Ctrl and Expt
## t = 3.131, df = 1.471, p-value = 0.06452
## alternative hypothesis: true difference in means is greater than 0
## 95 percent confidence interval:
##  -0.726    Inf
## sample estimates:
## mean of x mean of y
##       7.5       4.0
```

We have used the default t-test, called Welch's Modified t-test. It accomodates sames with possibly different variances. Now, we will assume that the variances are equialent. Here is the code:

```r
t.test(Ctrl, Expt, alternative = 'greater', var.equal = TRUE)
```

```
##
##  Two Sample t-test
##
## data:  Ctrl and Expt
## t = 3.131, df = 2, p-value = 0.04434
## alternative hypothesis: true difference in means is greater than 0
## 95 percent confidence interval:
##  0.2354    Inf
## sample estimates:
## mean of x mean of y
##       7.5       4.0
```