

Motor Neuron Experiment

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Loading Data & Cleaning For Experiment Attempt #1

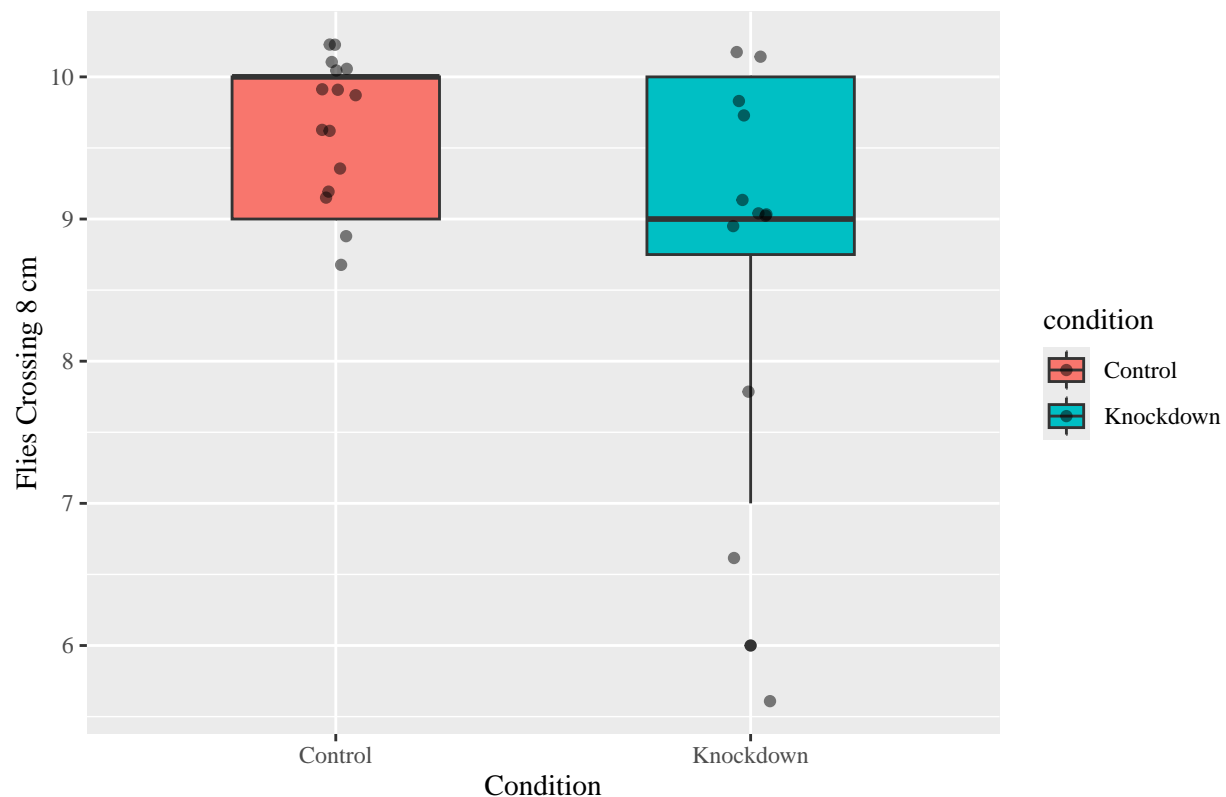
```
data.atmpt.1 <- read.csv("Motor Neuron Data/fly_motor_test_atmpt-1.csv")

data.clean.1 <- data.atmpt.1 %>%
  clean_names() %>%
  remove_empty(which = c("rows", "cols")) %>%
  na.omit(data)
```

Statistical Analysis For Experiment Attempt #1

```
ggplot(data.clean.1, aes(x = condition, y = flies_passed, fill = condition)) +
  geom_boxplot(width = 0.5) +
  geom_jitter(width = 0.05, alpha = 0.50) +
  labs(title = "Fly Climbing Performance: Control vs p58IPK Knockdown",
       x = "Condition",
       y = "Flies Crossing 8 cm") +
  theme(text = element_text(family = "serif"))
```

Fly Climbing Performance: Control vs p58IPK Knockdown



```
t.test(flies_passed ~ condition, data = data.clean.1, var.equal = FALSE)
```

```
##
## Welch Two Sample t-test
##
## data: flies_passed by condition
## t = 2.1537, df = 13.613, p-value = 0.0497
## alternative hypothesis: true difference in means between group Control and group Knockdown is not equal to 0
## 95 percent confidence interval:
##  0.001244289 1.665422378
## sample estimates:
## mean in group Control mean in group Knockdown
##           9.666667           8.833333
```

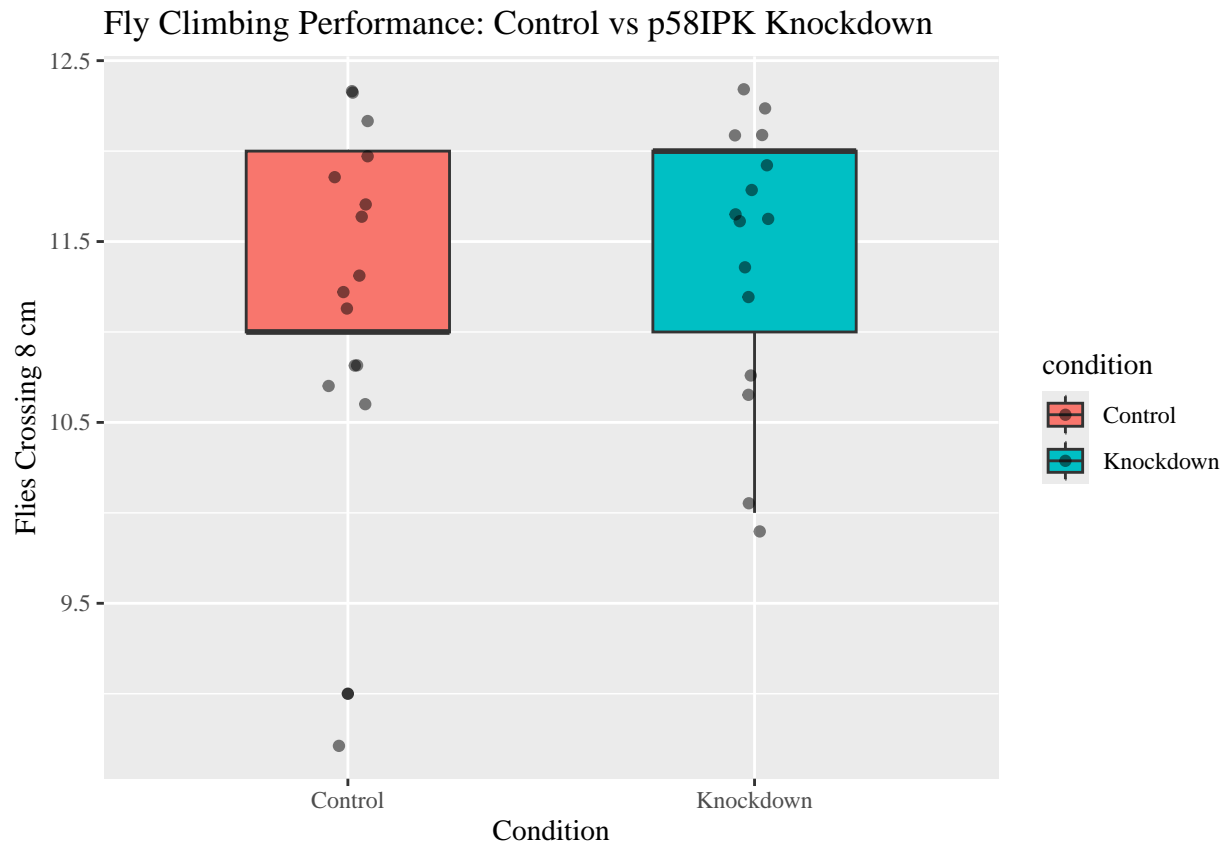
Loading Data & Cleaning For Experiment Attempt #2

```
data.atmpt.2 <- read.csv("Motor Neuron Data/fly_motor_test_atmpt-2.csv")

data.clean.2 <- data.atmpt.2 %>%
  clean_names() %>%
  remove_empty(which = c("rows", "cols")) %>%
  na.omit(data)
```

Statistical Analysis For Experiment Attempt #2

```
ggplot(data.clean.2, aes(x = condition, y = flies_passed, fill = condition)) +  
  geom_boxplot(width = 0.5) +  
  geom_jitter(width = 0.05, alpha = 0.50) +  
  labs(title = "Fly Climbing Performance: Control vs p58IPK Knockdown",  
        x = "Condition",  
        y = "Flies Crossing 8 cm") +  
  theme(text = element_text(family = "serif"))
```



```
t.test(flies_passed ~ condition, data = data.clean.2, var.equal = FALSE)
```

```
##  
## Welch Two Sample t-test  
##  
## data: flies_passed by condition  
## t = -0.46771, df = 27.756, p-value = 0.6436  
## alternative hypothesis: true difference in means between group Control and group Knockdown is not equal to 0  
## 95 percent confidence interval:  
## -0.7175218 0.4508551  
## sample estimates:  
## mean in group Control mean in group Knockdown  
## 11.33333 11.46667
```