

CBF Correlations

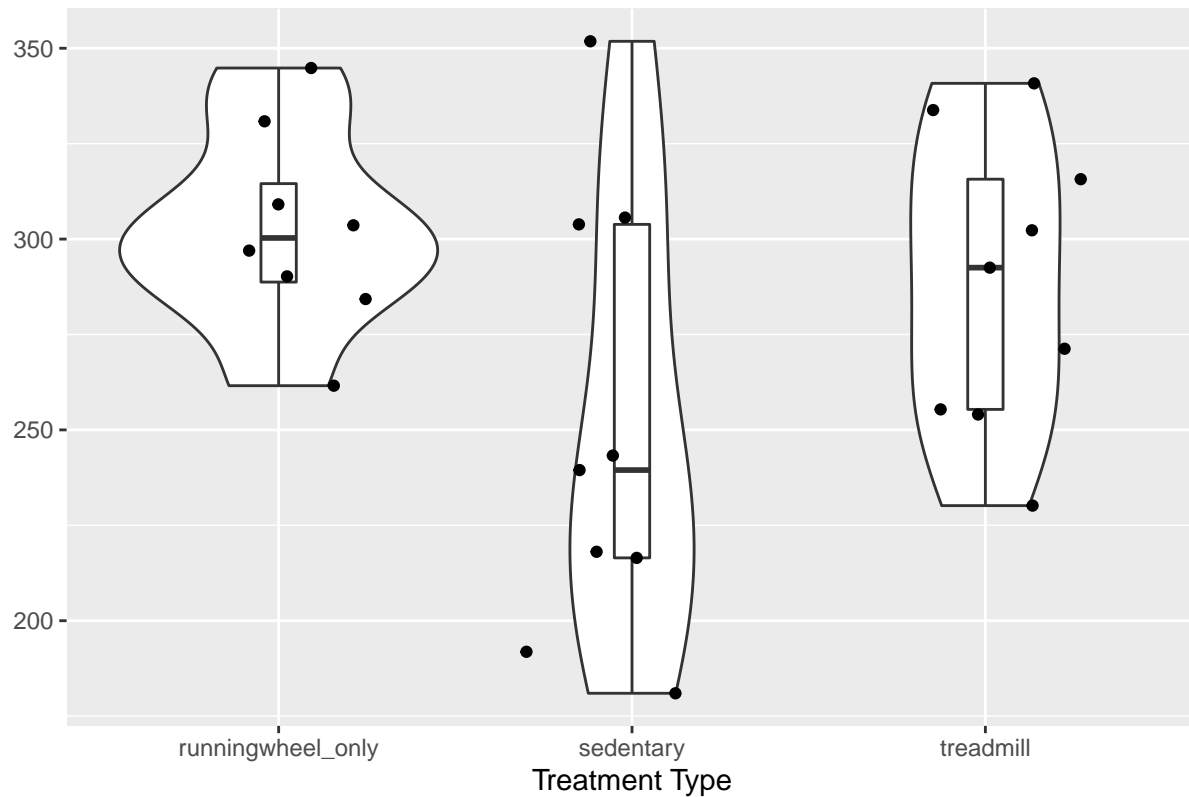
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Correlations CBF and Exercise Treatment

```
ggplot(data = cbf, aes(factor(Treatment), CBF)) +  
  geom_violin() +  
  geom_boxplot(width = 0.1, outlier.color = "red") +  
  geom_jitter(height = 0, width = 0.3) +  
  labs(x = "Treatment Type",  
       y = "",  
       title = "CBF distrubution by treatment type")
```

CBF distrubution by treatment type



```
res.aov <- aov(CBF ~ Treatment, data = cbf)  
summary(res.aov)
```

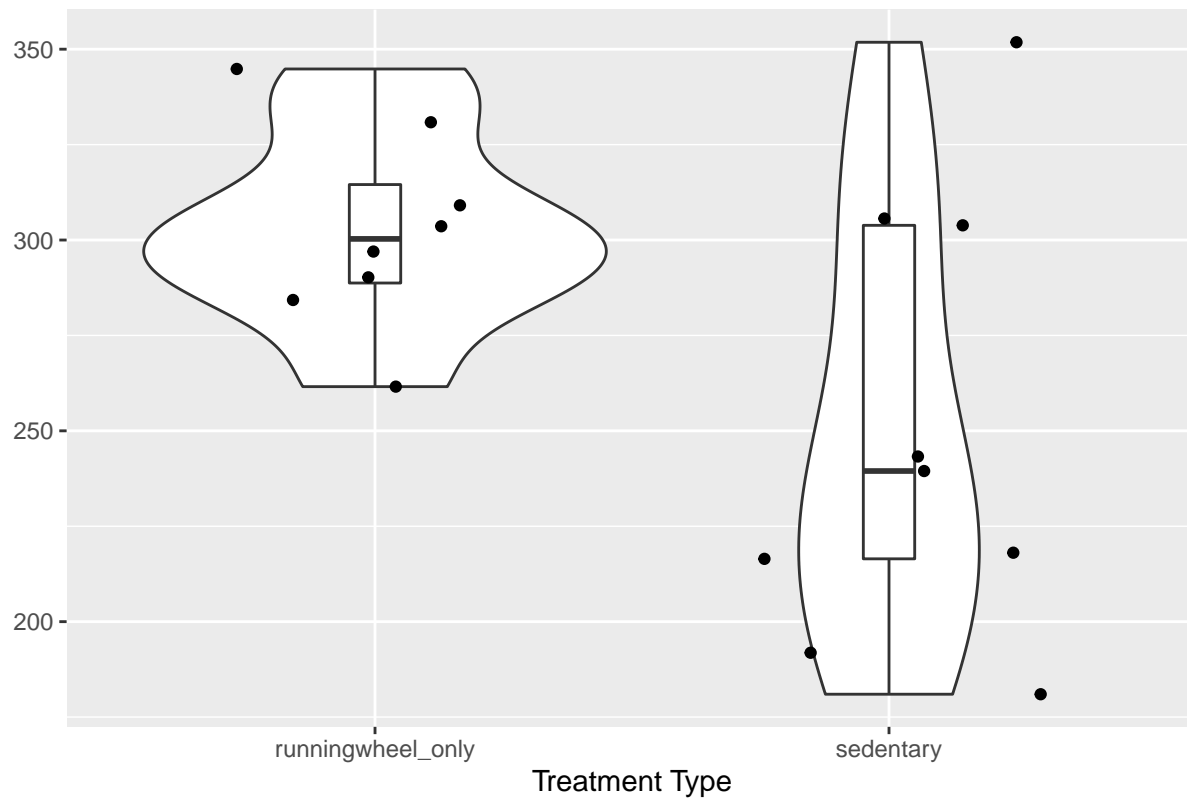
```
##           Df Sum Sq Mean Sq F value Pr(>F)  
## Treatment  2  12767    6384   3.386 0.0514 .  
## Residuals 23  43356    1885
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

specific correlations

```
ggplot(data = cbf1, aes(factor(Treatment), CBF)) +
  geom_violin() +
  geom_boxplot(width = 0.1, outlier.color = "red") +
  geom_jitter(height = 0, width = 0.3) +
  labs(x = "Treatment Type",
       y = "",
       title = "CBF distrubution between running wheel and sedentary treatments")
```

CBF distrubution between running wheel and sedentary treatments



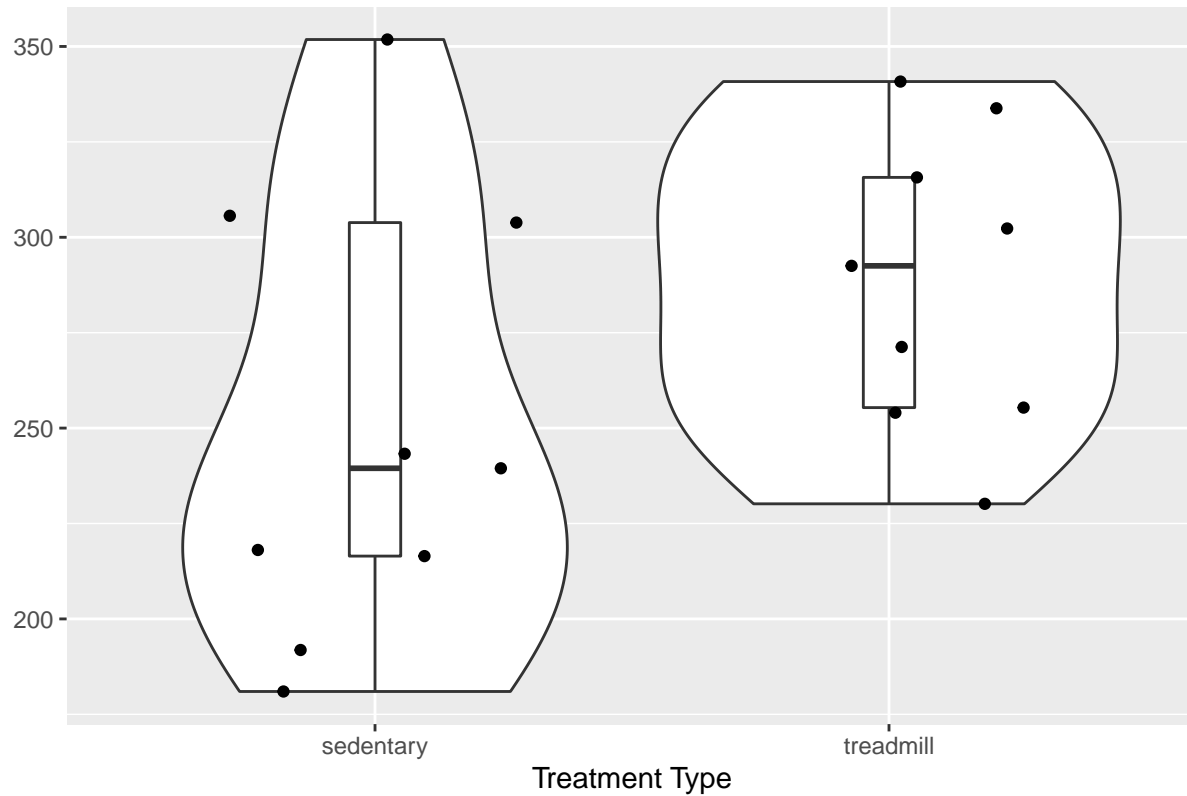
```
res.aov <- aov(CBF ~ Treatment, data = cbf1)
summary(res.aov)
```

```
##           Df Sum Sq Mean Sq F value Pr(>F)
## Treatment   1  11684   11684    5.54 0.0326 *
## Residuals  15  31635    2109
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
ggplot(data = cbf2, aes(factor(Treatment), CBF)) +
  geom_violin() +
  geom_boxplot(width = 0.1, outlier.color = "red") +
  geom_jitter(height = 0, width = 0.3) +
  labs(x = "Treatment Type",
       y = "",
```

```
title = "CBF distrubution between treadmill and sedentary treatments")
```

CBF distrubution between treadmill and sedentary treatments

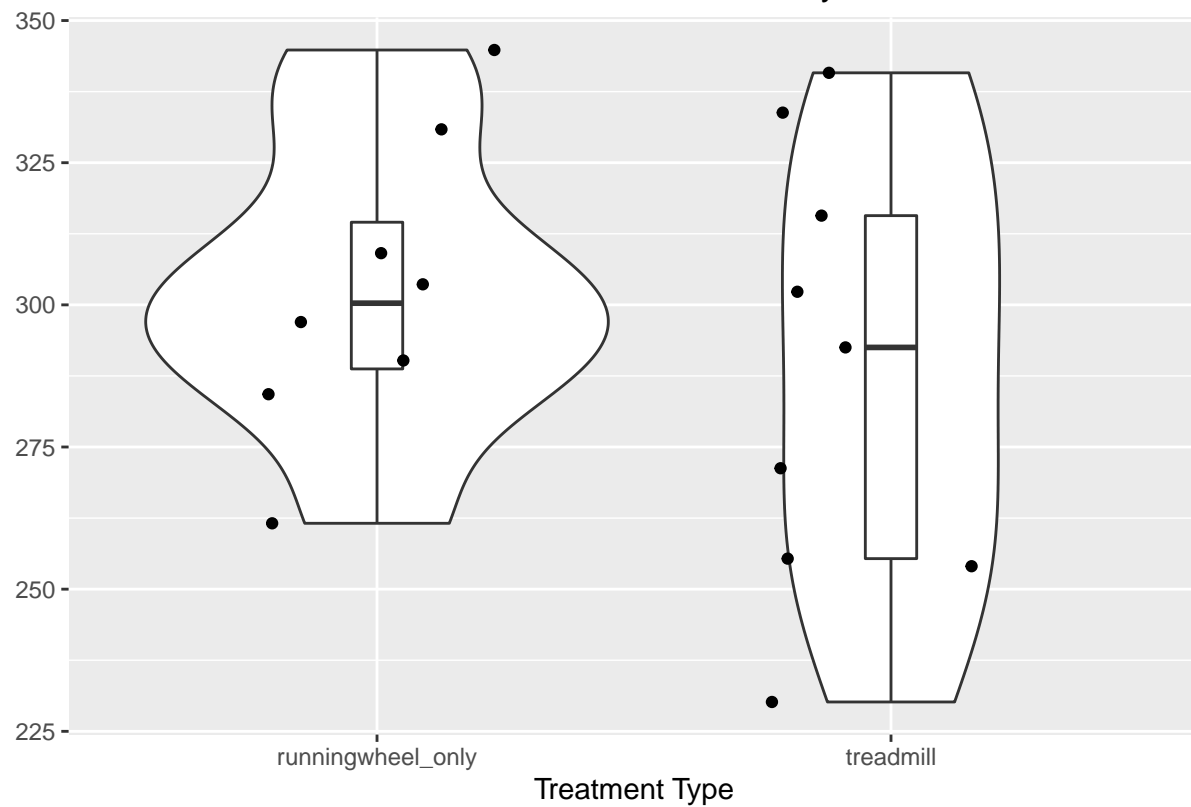


```
res.aov <- aov(CBF ~ Treatment, data = cbf2)
summary(res.aov)
```

```
##           Df Sum Sq Mean Sq F value Pr(>F)
## Treatment    1   6595     6595   2.739  0.117
## Residuals   16  38528      2408
```

```
ggplot(data = cbf3, aes(factor(Treatment), CBF)) +
  geom_violin() +
  geom_boxplot(width = 0.1, outlier.color = "red") +
  geom_jitter(height = 0, width = 0.3) +
  labs(x = "Treatment Type",
       y = "",
       title = "CBF distrubution between treadmill and sedentary treatments")
```

CBF distrubution between treadmill and sedentary treatments

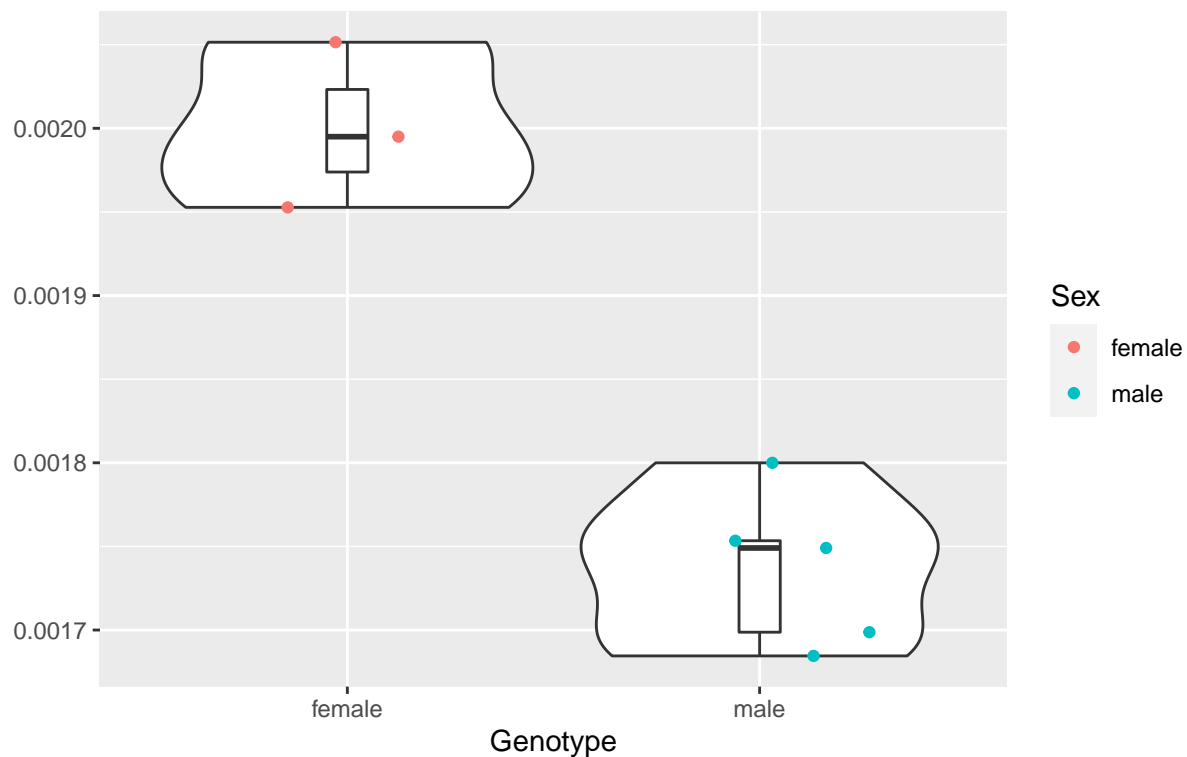


```
res.aov <- aov(CBF ~ Treatment, data = cbf3)
summary(res.aov)
```

```
##           Df Sum Sq Mean Sq F value Pr(>F)
## Treatment   1    859   859.1    0.779  0.391
## Residuals  15  16548  1103.2
```

Primary Somatosensory Cortex Hindlimb Region

Red points denoting outliers



```
##          Df    Sum Sq  Mean Sq F value    Pr(>F)
## Sex          1 1.293e-07 1.293e-07   57.42 0.000275 ***
## Residuals    6 1.351e-08 2.250e-09
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```