Hypothesis Testing for NSF Office Stress Project - Reduced Sensor Set

Below are the test results for each of the Conditions that had n >= 7 subjects. Statistical testing can have three different possible outcomes: the data is already normal (t-test), the logarithm of the data is normal (t-test with log data), or the data is NOT normal (Wilcoxon test).

For notation, let:

WB-RB = Writing Baseline - Resting Baseline
SC-RB = Stress Condition - Resting Baseline
SC-WB = Stress Condition - Writing Baseline
DT-RB = Dual Task - Resting Baseline
DT-WB = Dual Task - Writing Baseline
DT-SC = Dual Task - Stress Condition
P-RB = Presentation - Resting Baseline
P-WB = Presentation - Writing Baseline
P-SC = Presentation - Stress Condition
P-DT = Presentation - Dual Task

For each of the graphs, let:

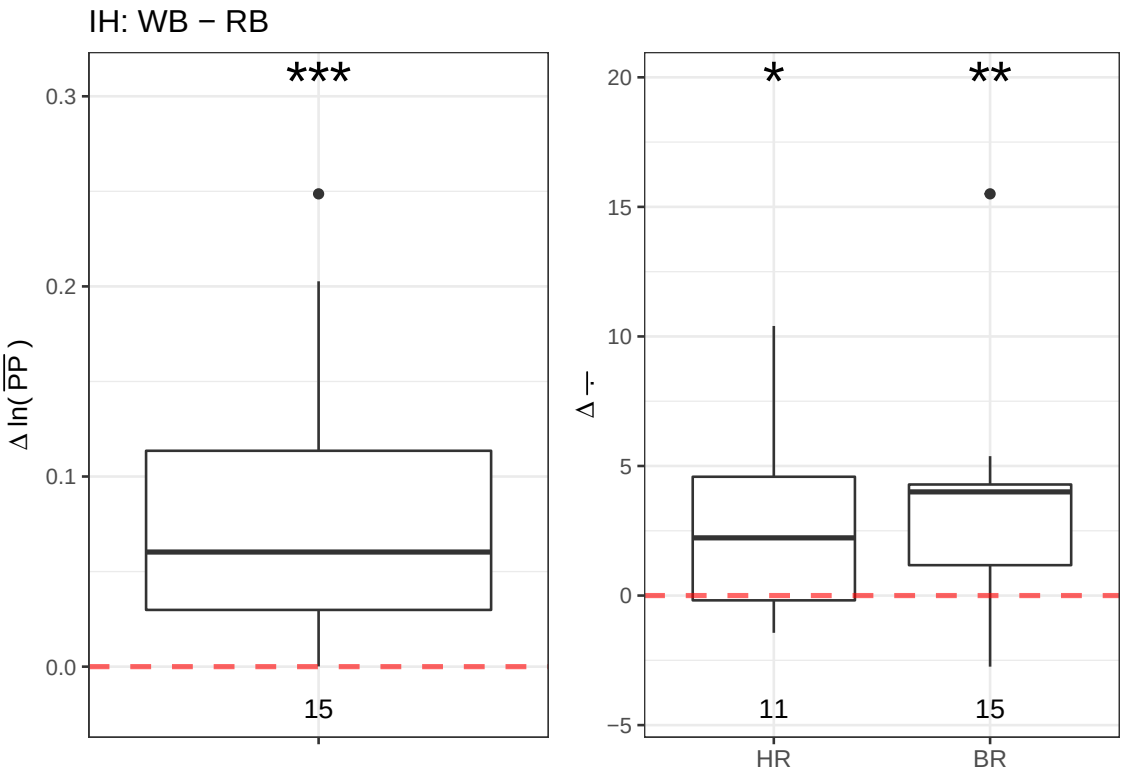
`*` = 0.01 < p <= 0.05
`**` = 0.001 < p <= 0.01
`***` = p <= 0.001
`?` = Did not run statistical test ($n < 7$)

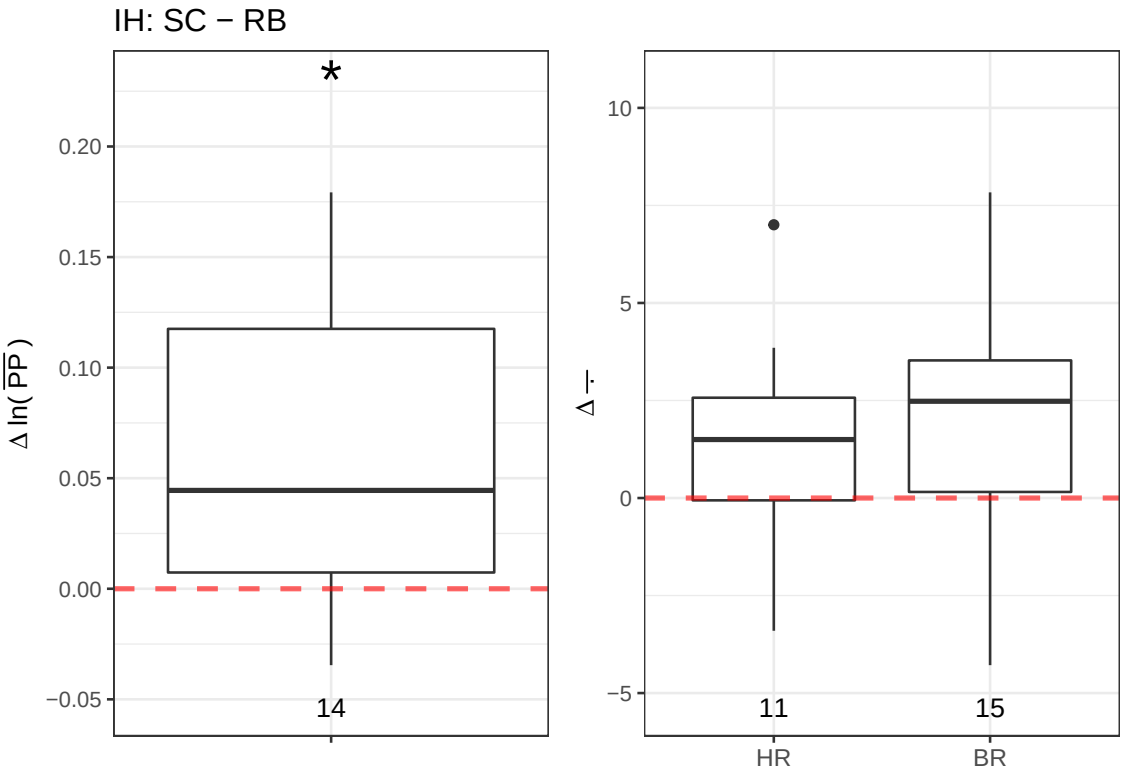
Differences in **Reduced Sensor Set**:

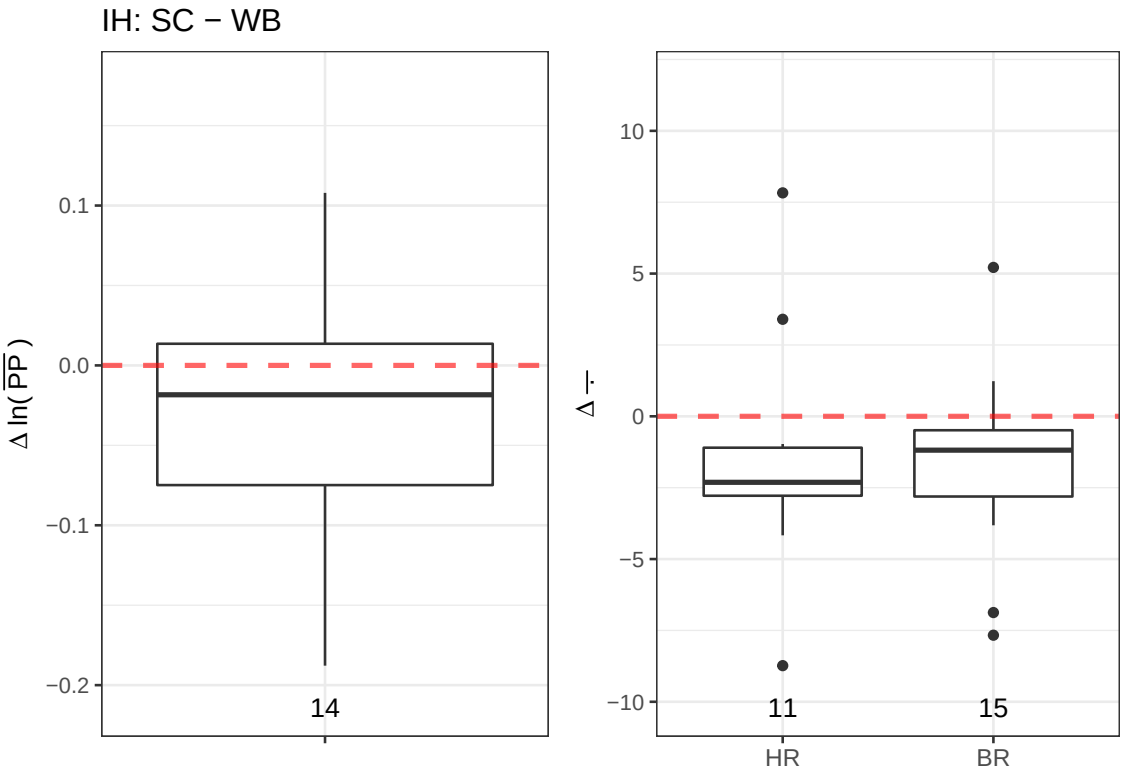
- Signals for `D.EDA`, `N.EDA`, `D.HR`, and `N.HR` and removed completely.
- `Breathing Rate (BR)` measurements for the `Presentation` session are removed completely.
- Easier on the eyes.

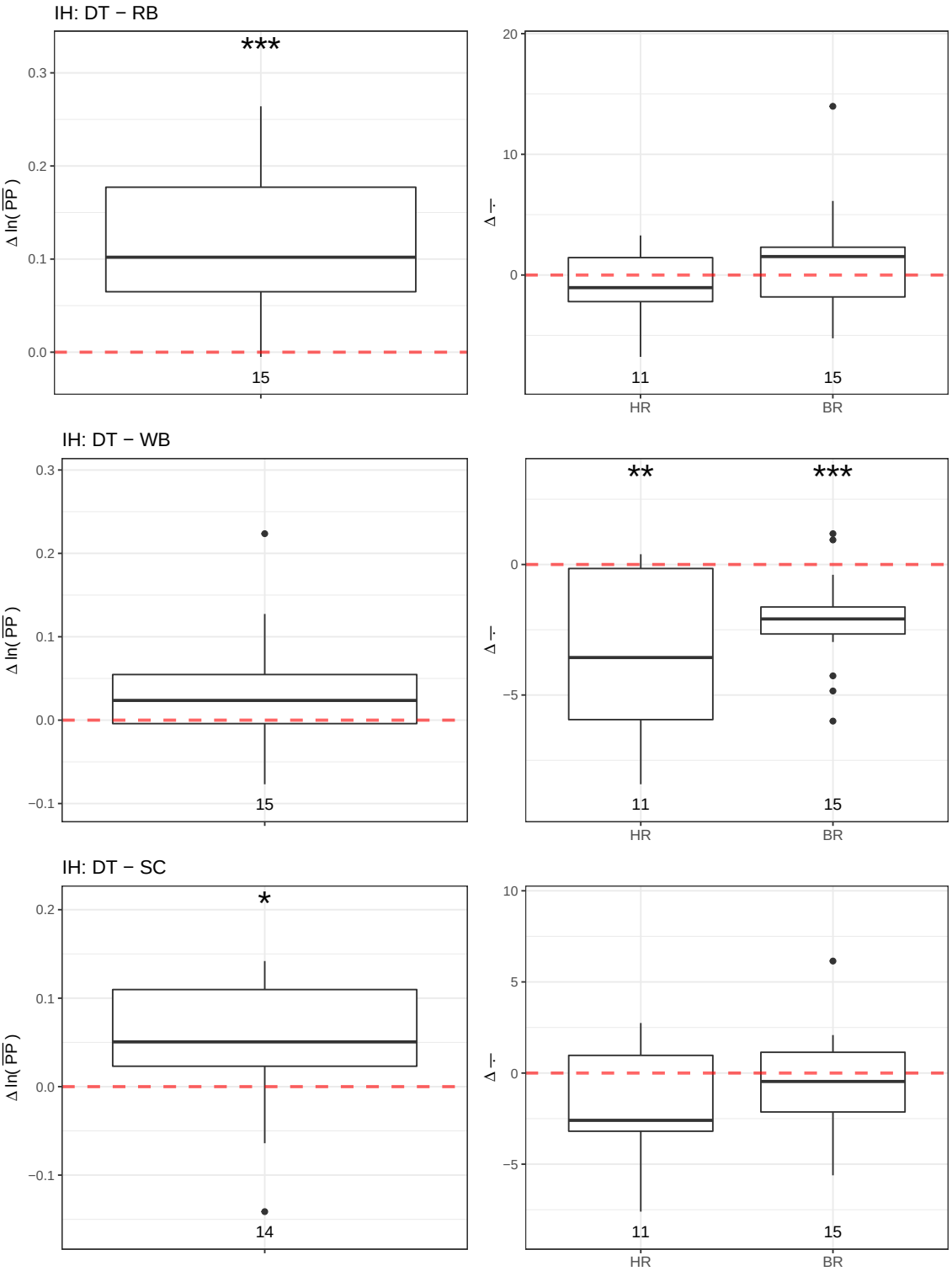
Intermittent-High (IH)

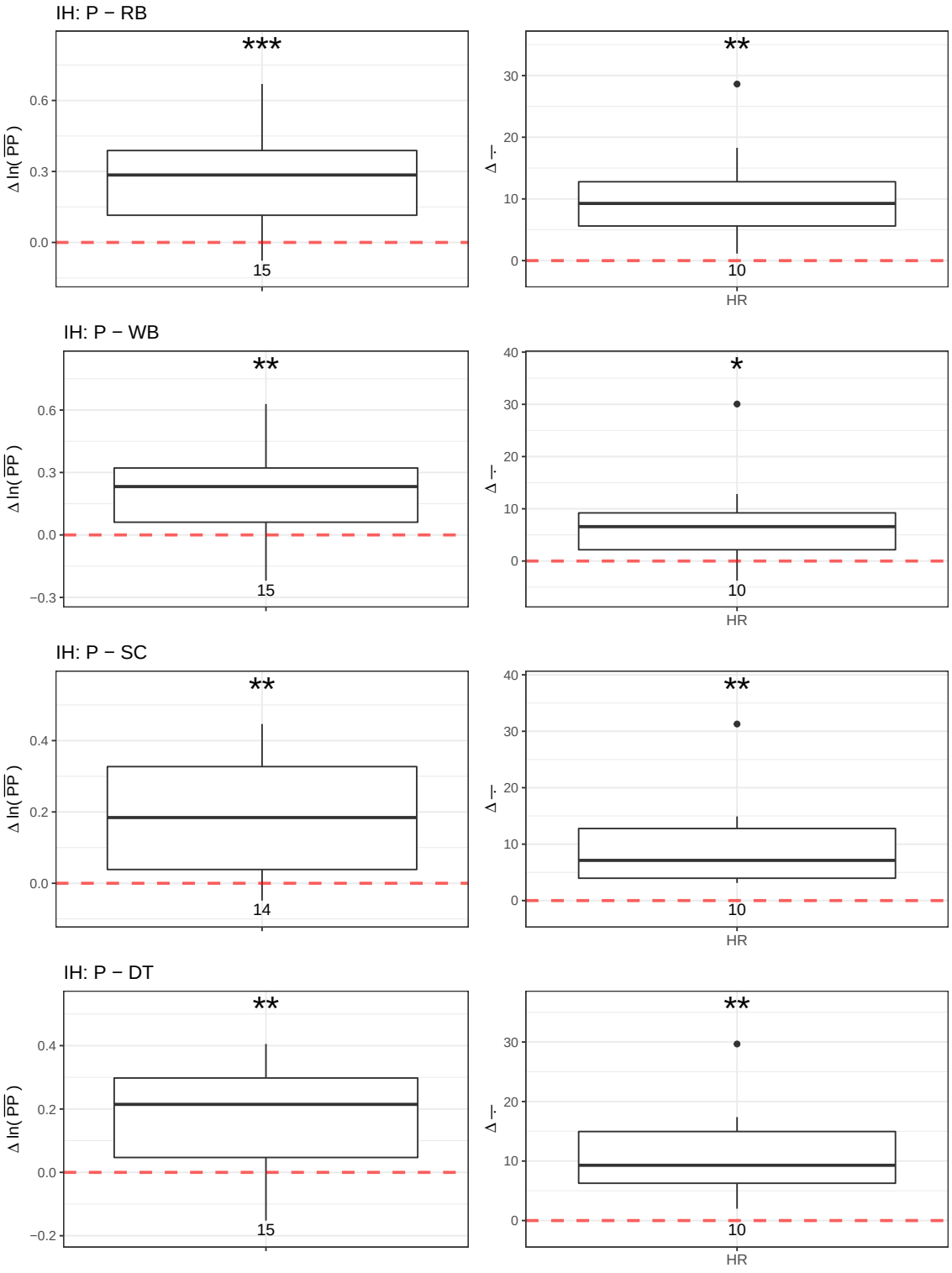
Sensor Channels per Session



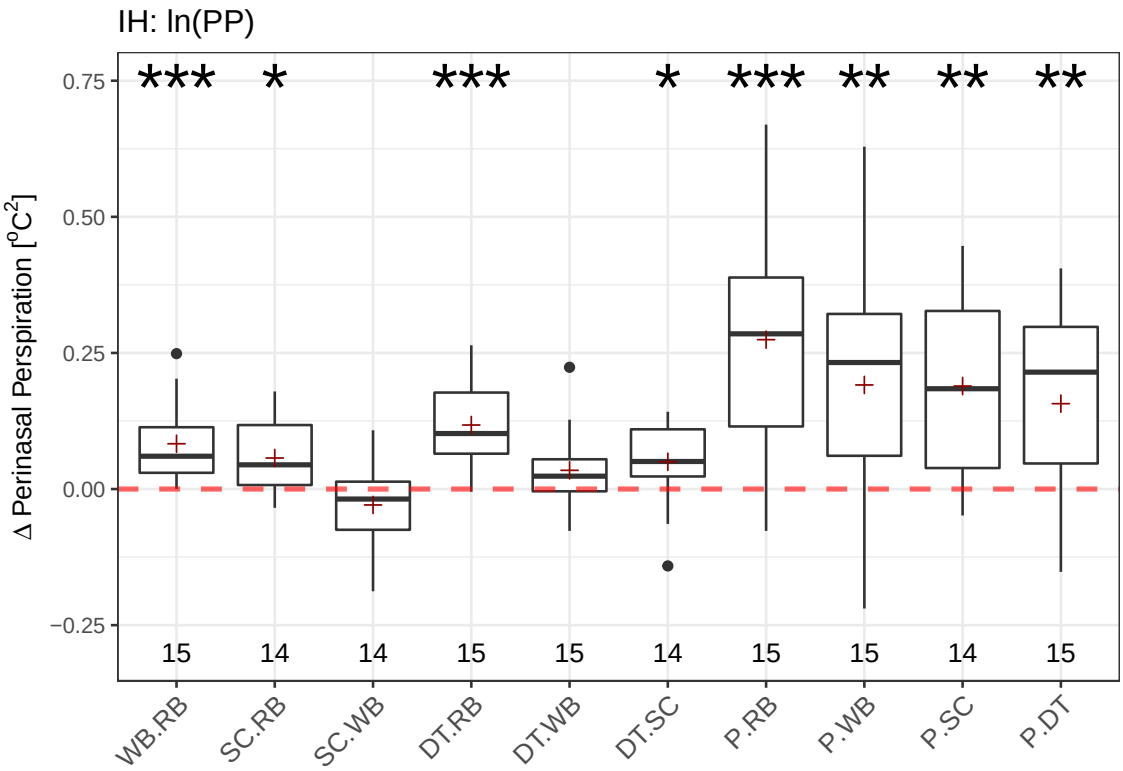

IH: SC − RB
*
0.20
0.15
0.10
0.05
0.00
−0.05
Δ ln(PP)
14
10
5
0
−5
Δ
11
15
HR
BR


IH: SC − WB
0.1
0.0
−0.1
−0.2
Δ ln(PP)
14
10
5
0
−5
−10
Δ
11
15
HR
BR


IH: DT − RB
***
0.3
0.2
0.1
0.0
Δ ln(PP)
15
20
10
0
Δ --
11
15
HR
BR
IH: DT − WB
0.3
0.2
0.1
0.0
−0.1
Δ ln(PP)
15
**
***
0
−5
Δ --
11
15
HR
BR
IH: DT − SC
*
0.2
0.1
0.0
−0.1
Δ ln(PP)
14
10
5
0
−5
Δ --
11
15
HR
BR

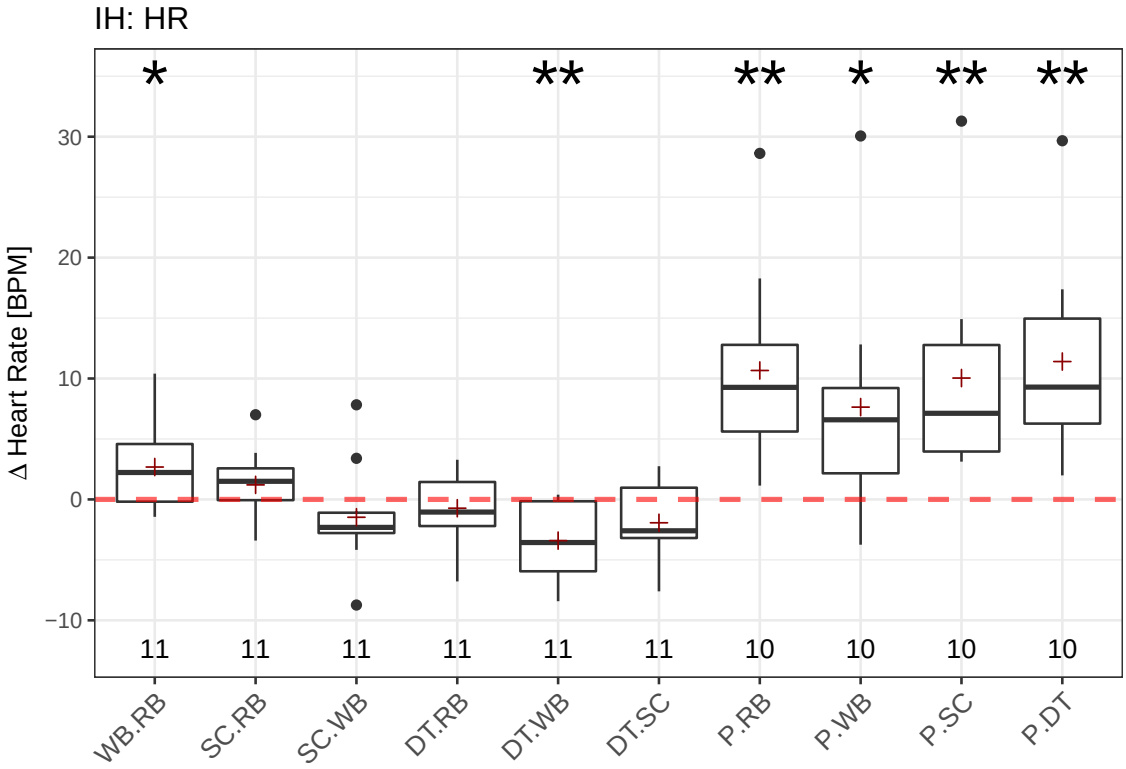

IH: P − RB
***
**
0.6
0.3
0.0
30
20
10
0
15
10
HR
IH: P − WB
**
*
0.6
0.3
0.0
−0.3
40
30
20
10
0
15
10
HR
IH: P − SC
**
**
0.4
0.2
0.0
40
30
20
10
0
14
10
HR
IH: P − DT
**
**
0.4
0.2
0.0
−0.2
30
20
10
0
15
10
HR

Sensor Channel across Session



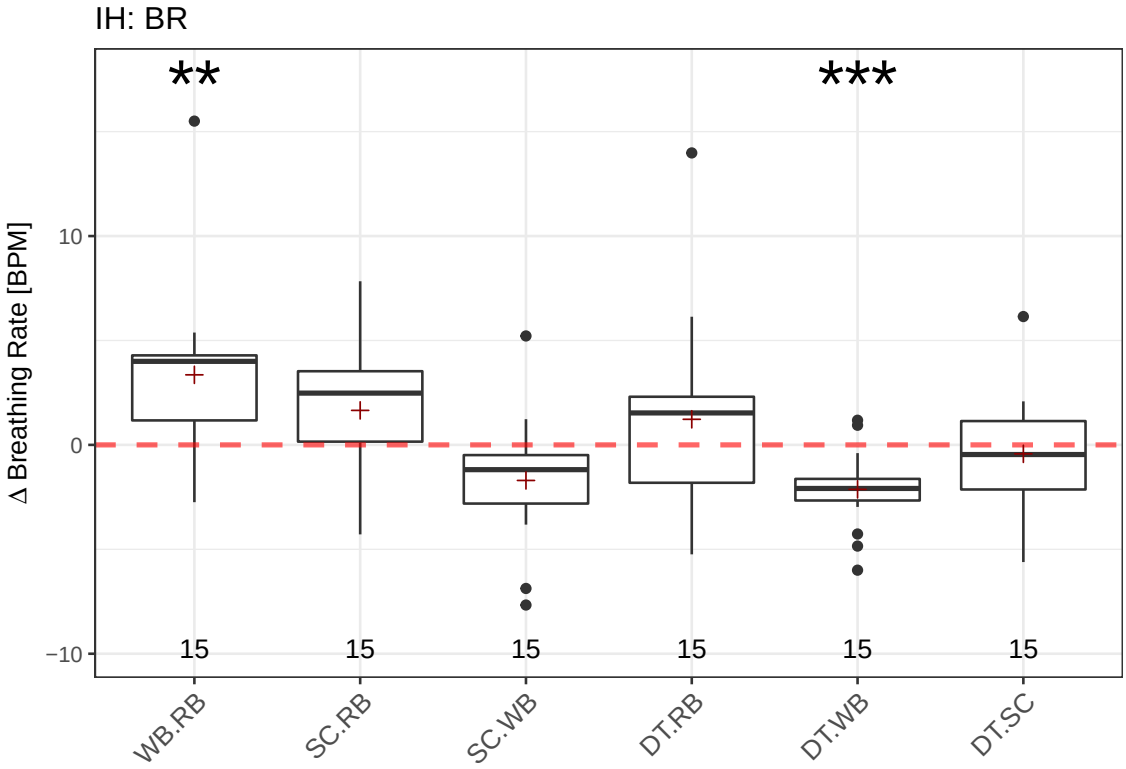

```
## In the following tests, we applied ln(PP).
##
## Writing Baseline - Resting Baseline
## t-test p = 6e-04 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0118 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.1644 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 1e-04 < 0.001  ***
##
## Dual Task - Writing Baseline
## t-test p = 0.107 > 0.05
##
## Dual Task - Stress Condition
## t-test p = 0.0331 < 0.05  *
##
## Presentation - Resting Baseline
## t-test p = 2e-04 < 0.001  ***
##
```

```
## Presentation - Writing Baseline
## t-test p = 0.0038 < 0.01  **
##
## Presentation - Stress Condition
## t-test p = 0.0011 < 0.01  **
##
## Presentation - Dual Task
## t-test p = 0.0049 < 0.01  **
```




```
## Writing Baseline - Resting Baseline
## t-test p = 0.0315 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.2035 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.2709 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.4189 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0054 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.0776 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0024 < 0.01  **
##
## Presentation - Writing Baseline
## t-test p = 0.0278 < 0.05  *
##
## Presentation - Stress Condition
```

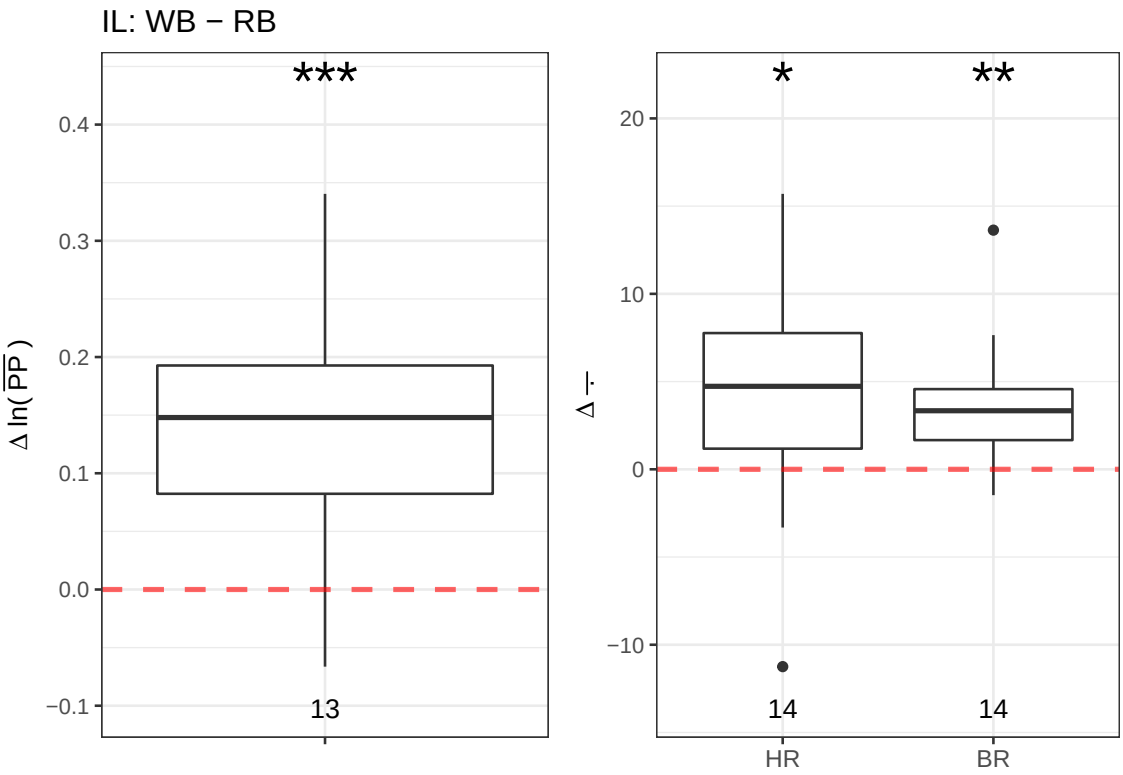
```
## t-test p = 0.0051 < 0.01  **
##
## Presentation - Dual Task
## t-test p = 0.0015 < 0.01  **
```

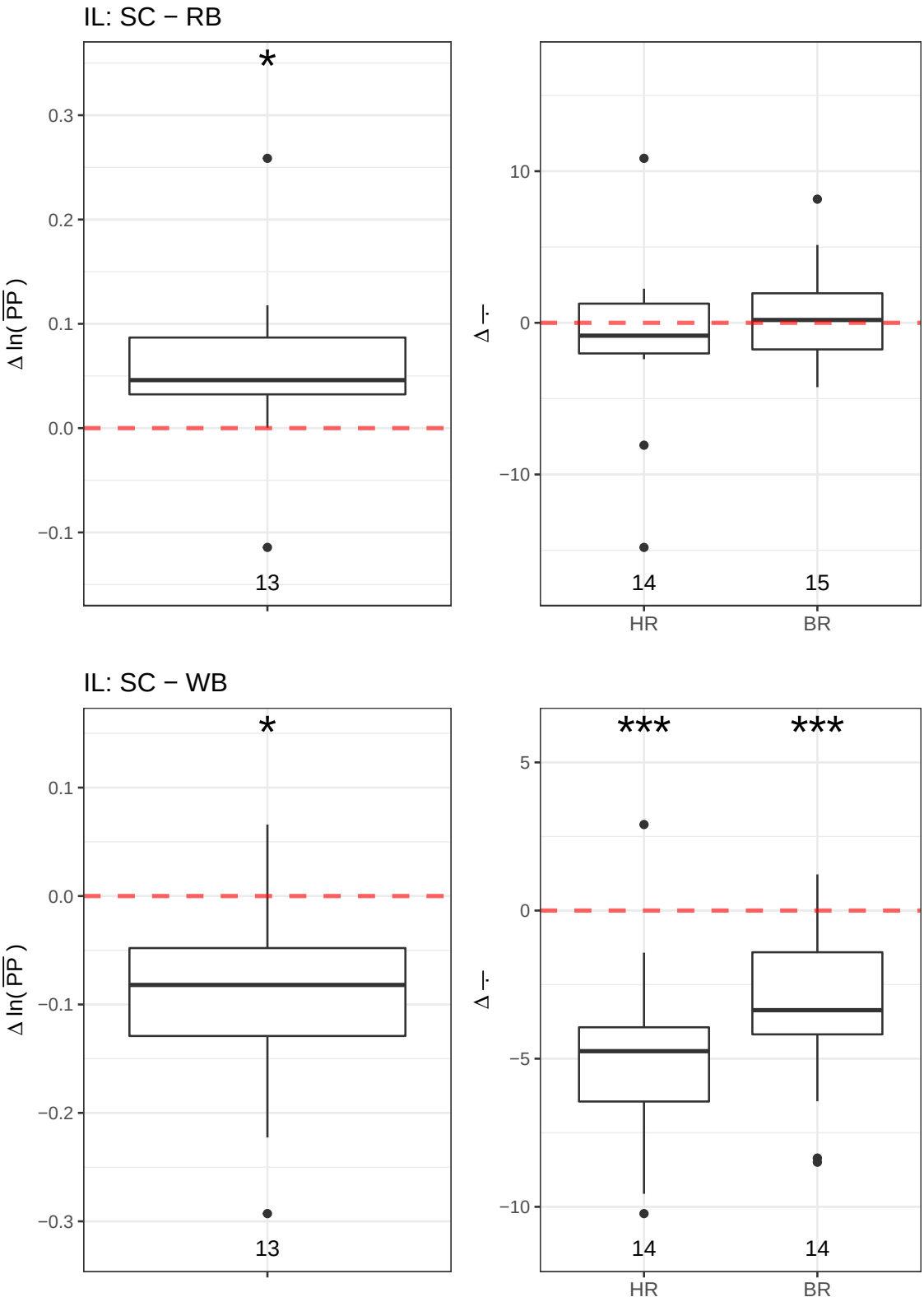


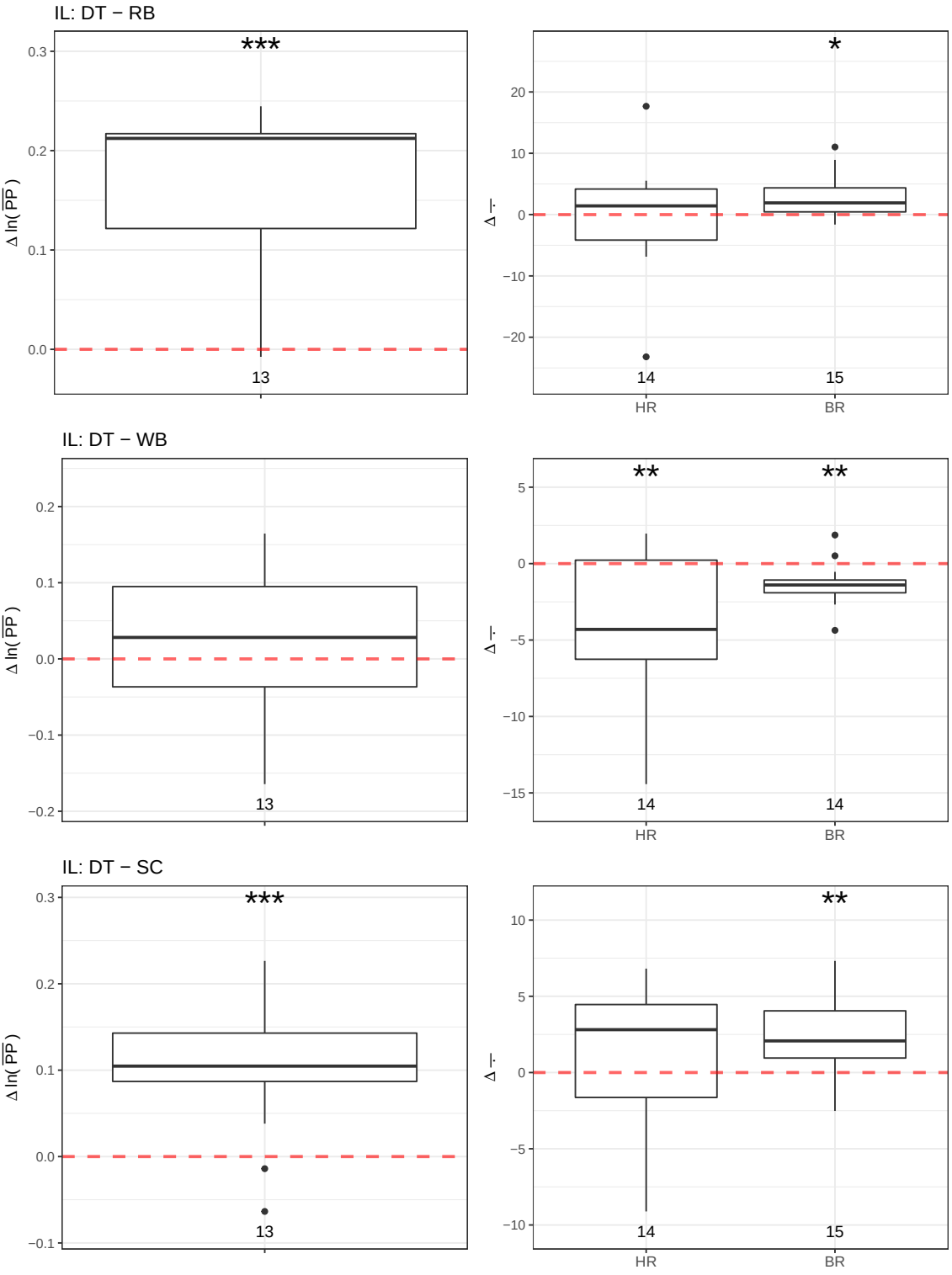

```
## Writing Baseline - Resting Baseline
## t-test p = 0.0083 < 0.01  **
##
## Stress Condition - Resting Baseline
## t-test p = 0.0916 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.0506 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.3327 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 7e-04 < 0.001  ***
##
## Dual Task - Stress Condition
## t-test p = 0.5657 > 0.05
```

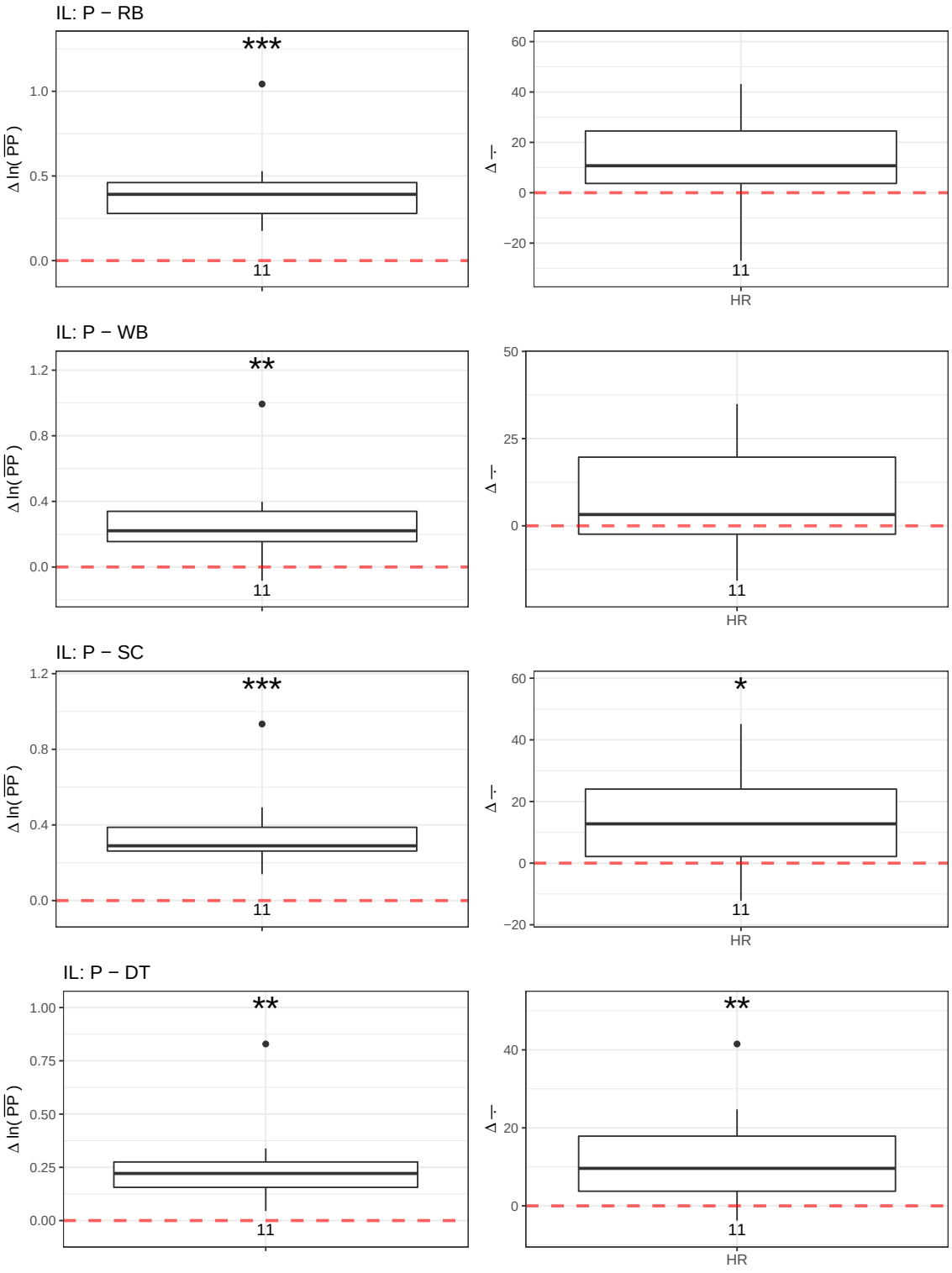
Intermittent-Low (IL)

Sensor Channels per Session

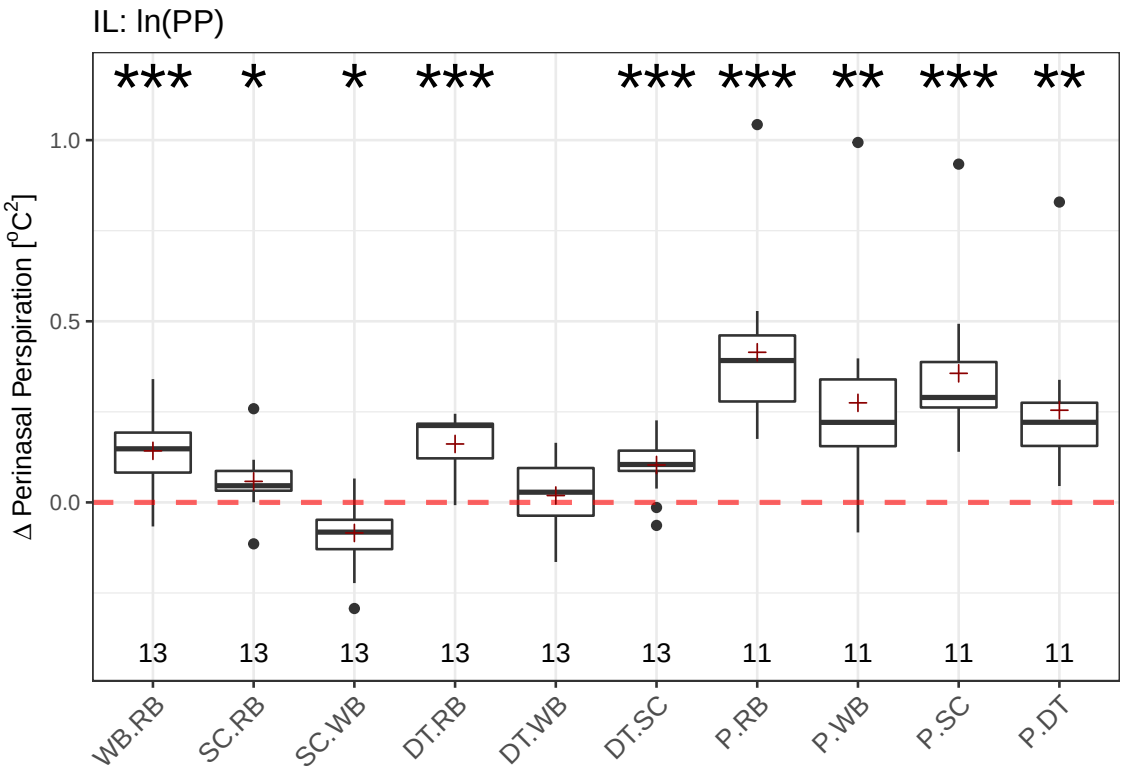



IL: SC − RB
*
0.3
0.2
0.1
0.0
−0.1
Δ ln(PP)
13
10
0
−10
Δ ·-
14
15
HR
BR
IL: SC − WB
*
0.1
0.0
−0.1
−0.2
−0.3
Δ ln(PP)
13
***
***
5
0
−5
−10
Δ ·-
14
14
HR
BR


IL: DT − RB
***
*
0.3
0.2
0.1
0.0
20
10
0
−10
−20
Δ ln(PP)
Δ
13
14
15
HR
BR
IL: DT − WB
**
**
0.2
0.1
0.0
−0.1
−0.2
5
0
−5
−10
−15
13
14
14
HR
BR
IL: DT − SC
***
**
0.3
0.2
0.1
0.0
−0.1
10
5
0
−5
−10
13
14
15
HR
BR

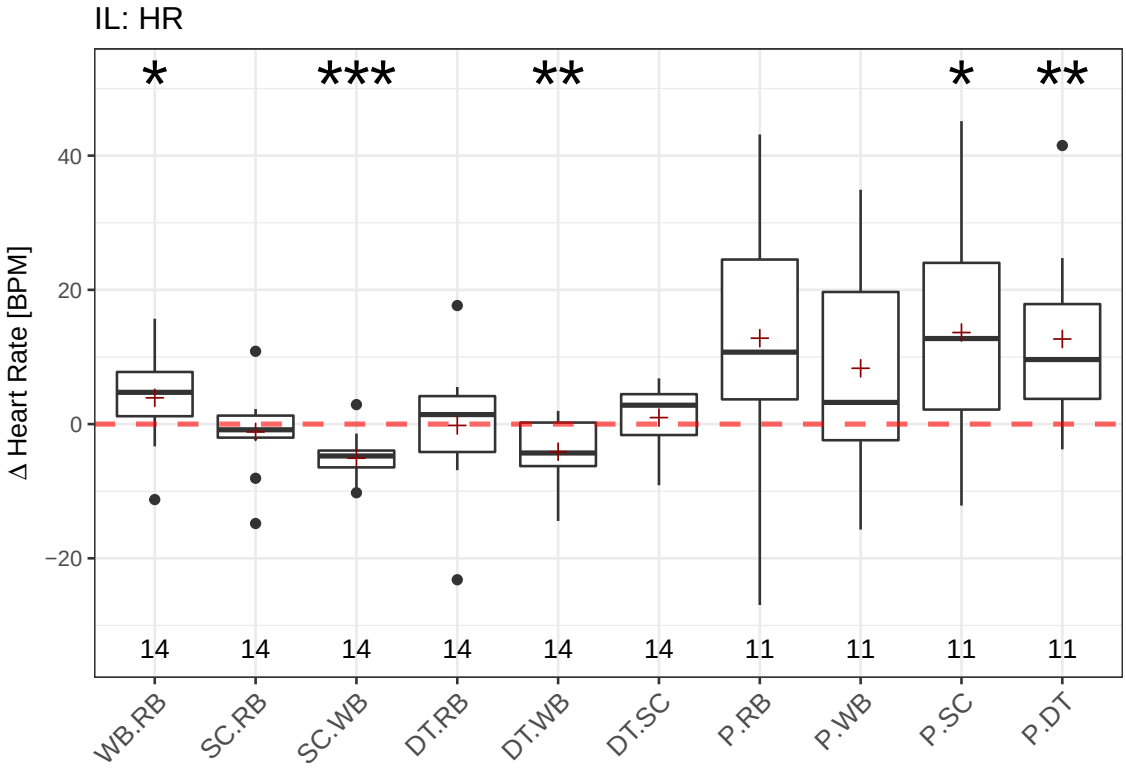

IL: P − RB
***
Δ ln(PP)
1.0
0.5
0.0
11
Δ --
60
40
20
0
−20
11
HR
IL: P − WB
**
Δ ln(PP)
1.2
0.8
0.4
0.0
11
Δ --
50
25
0
11
HR
IL: P − SC
***
Δ ln(PP)
1.2
0.8
0.4
0.0
11
Δ --
60
40
20
0
−20
*
11
HR
IL: P − DT
**
Δ ln(PP)
1.00
0.75
0.50
0.25
0.00
11
Δ --
40
20
0
**
11
HR

Sensor Channel across Session



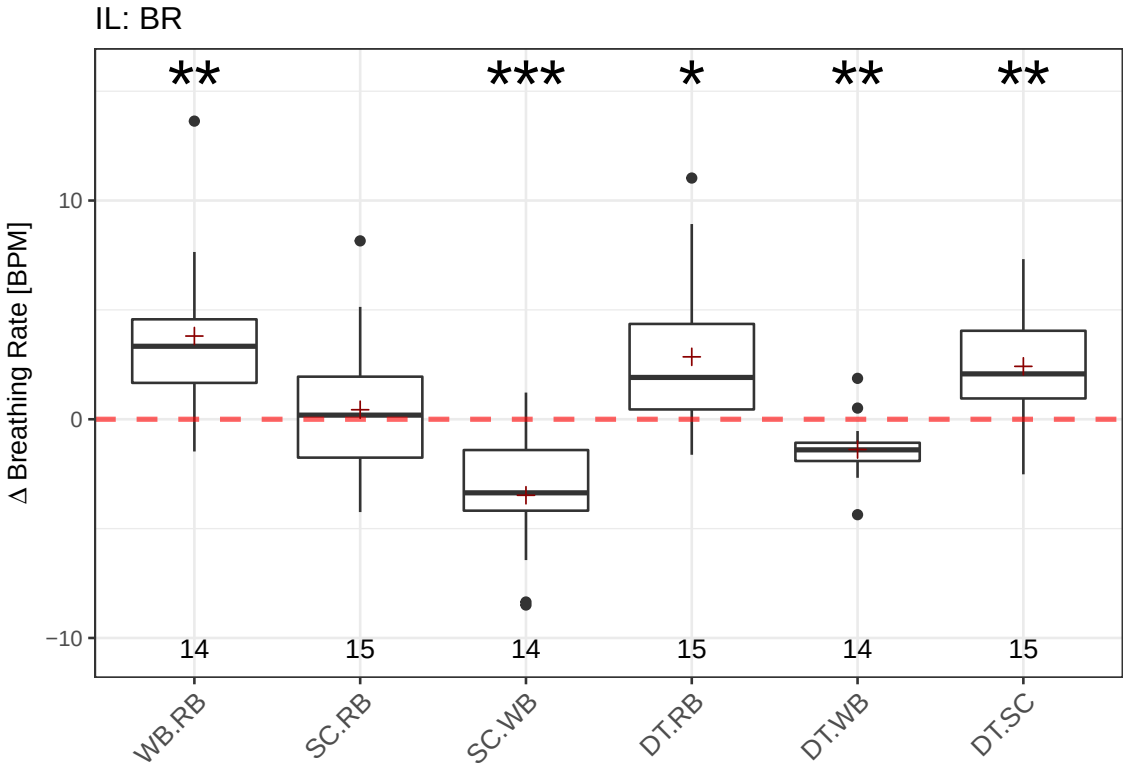

```
## Writing Baseline - Resting Baseline
## t-test p = 7e-04 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0291 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.0113 < 0.05  *
##
## Dual Task - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Dual Task - Writing Baseline
## t-test p = 0.5015 > 0.05
##
## Dual Task - Stress Condition
## t-test p = 6e-04 < 0.001  ***
##
## Presentation - Resting Baseline
## t-test p = 2e-04 < 0.001  ***
##
## Presentation - Writing Baseline
## t-test p = 0.0078 < 0.01  **
```

```
##
## Presentation - Stress Condition
## t-test p = 3e-04 < 0.001  ***
##
## Presentation - Dual Task
## t-test p = 0.0024 < 0.01  **
```




```
## Writing Baseline - Resting Baseline
## t-test p = 0.0444 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.4522 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 1e-04 < 0.001  ***
##
## Dual Task - Resting Baseline
## t-test p = 0.9351 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0079 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.4751 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0552 > 0.05
##
## Presentation - Writing Baseline
## t-test p = 0.0986 > 0.05
##
## Presentation - Stress Condition
```

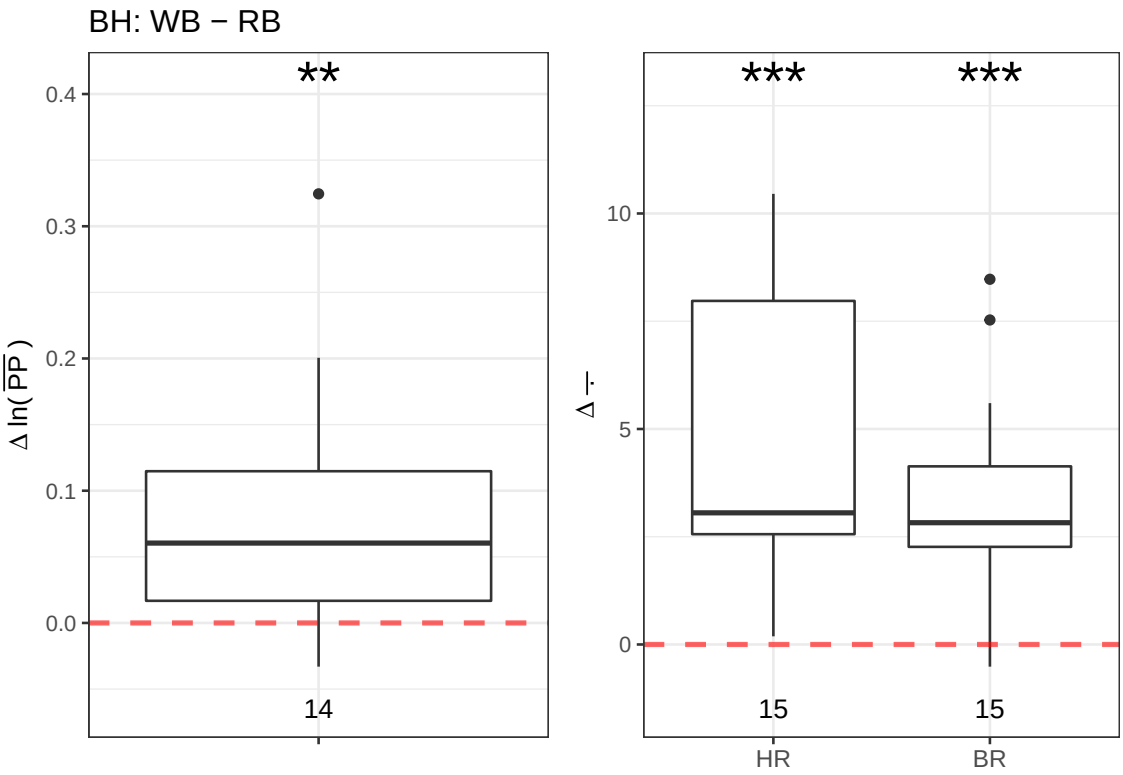
```
## t-test p = 0.0187 < 0.05  *
##
## Presentation - Dual Task
## t-test p = 0.0091 < 0.01  **
```

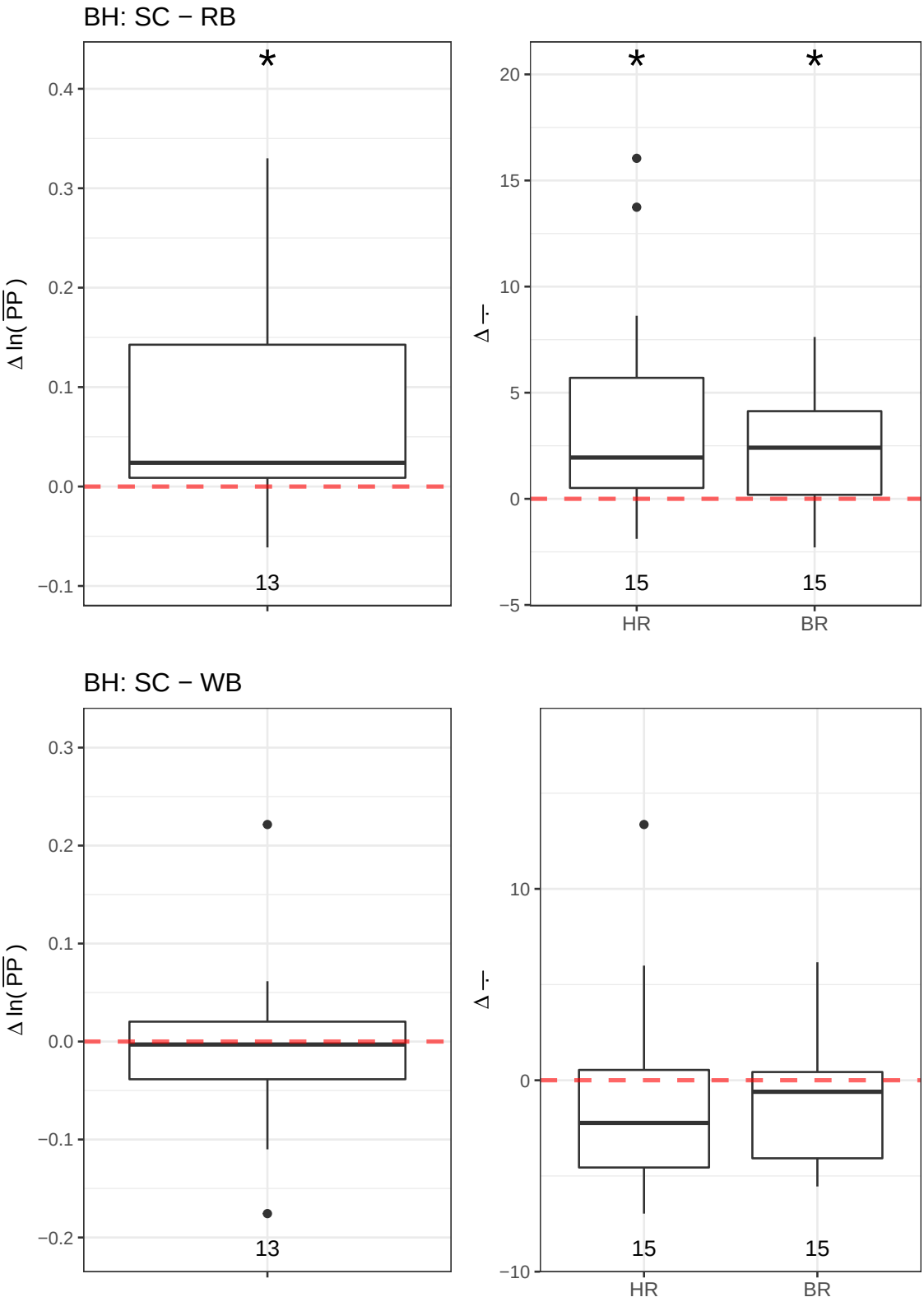


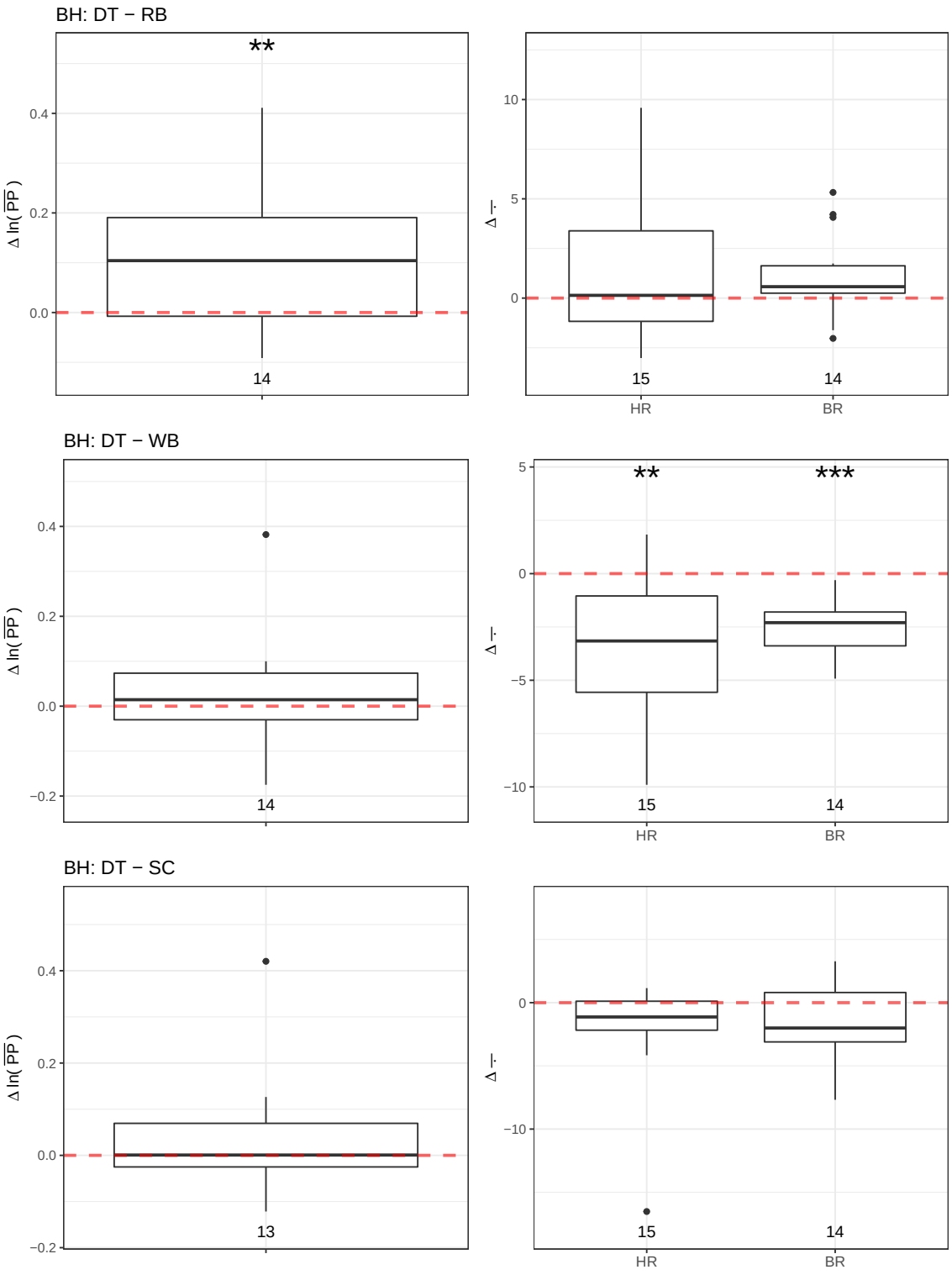

```
## Writing Baseline - Resting Baseline
## t-test p = 0.0021 < 0.01  **
##
## Stress Condition - Resting Baseline
## t-test p = 0.6182 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 4e-04 < 0.001  ***
##
## Dual Task - Resting Baseline
## t-test p = 0.0106 < 0.05  *
##
## Dual Task - Writing Baseline
## t-test p = 0.0035 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.0057 < 0.01  **
```

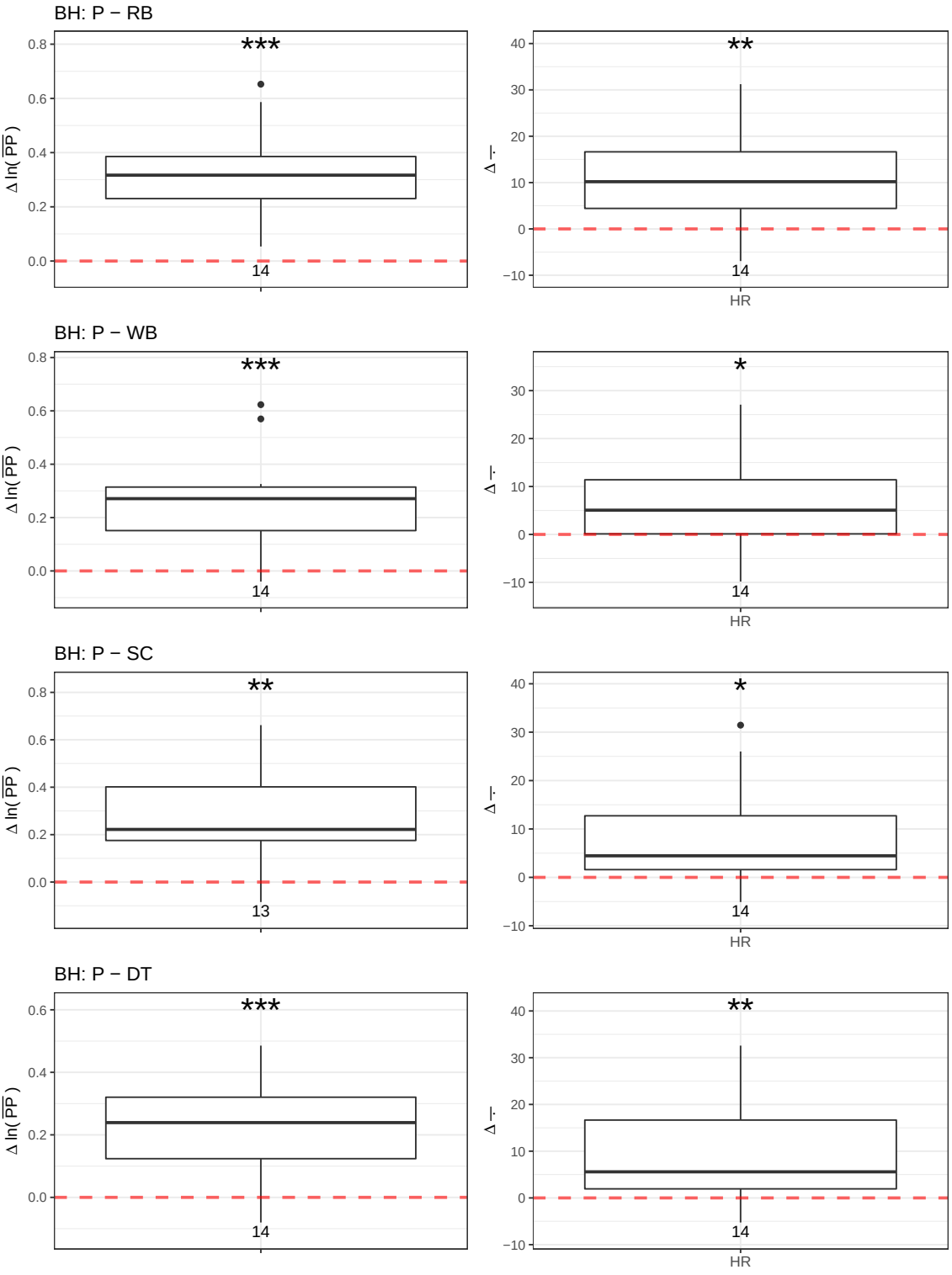
Batch-High (BH)

Sensor Channels per Session

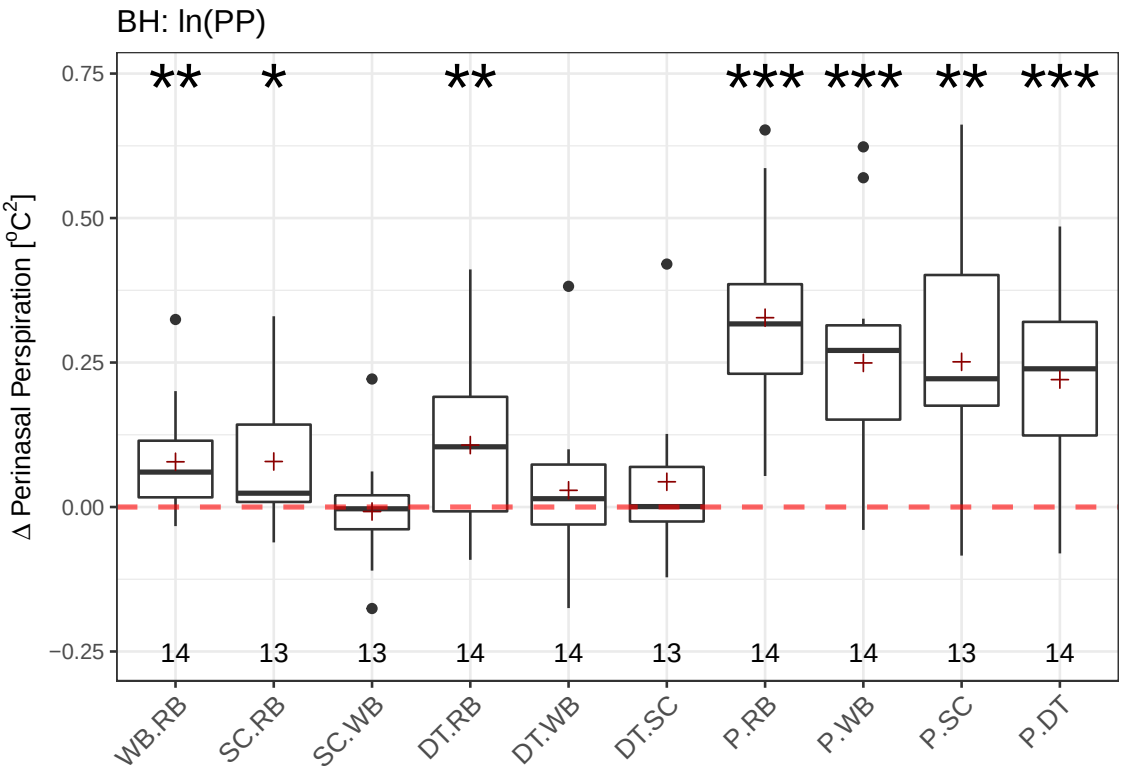



BH: SC − RB
Δ ln($\overline{PP}$)
0.4
0.3
0.2
0.1
0.0
−0.1
*
13
Δ ⋅-
20
15
10
5
0
−5
*
*
15
15
HR
BR
BH: SC − WB
Δ ln($\overline{PP}$)
0.3
0.2
0.1
0.0
−0.1
−0.2
13
Δ ⋅-
10
0
−10
15
15
HR
BR


BH: DT − RB
**
0.4
0.2
0.0
Δ ln(PP)
14
10
5
0
Δ --
15
14
HR
BR
BH: DT − WB
0.4
0.2
0.0
−0.2
Δ ln(PP)
14
5
0
−5
−10
Δ --
**
***
15
14
HR
BR
BH: DT − SC
0.4
0.2
0.0
−0.2
Δ ln(PP)
13
0
−10
Δ --
15
14
HR
BR

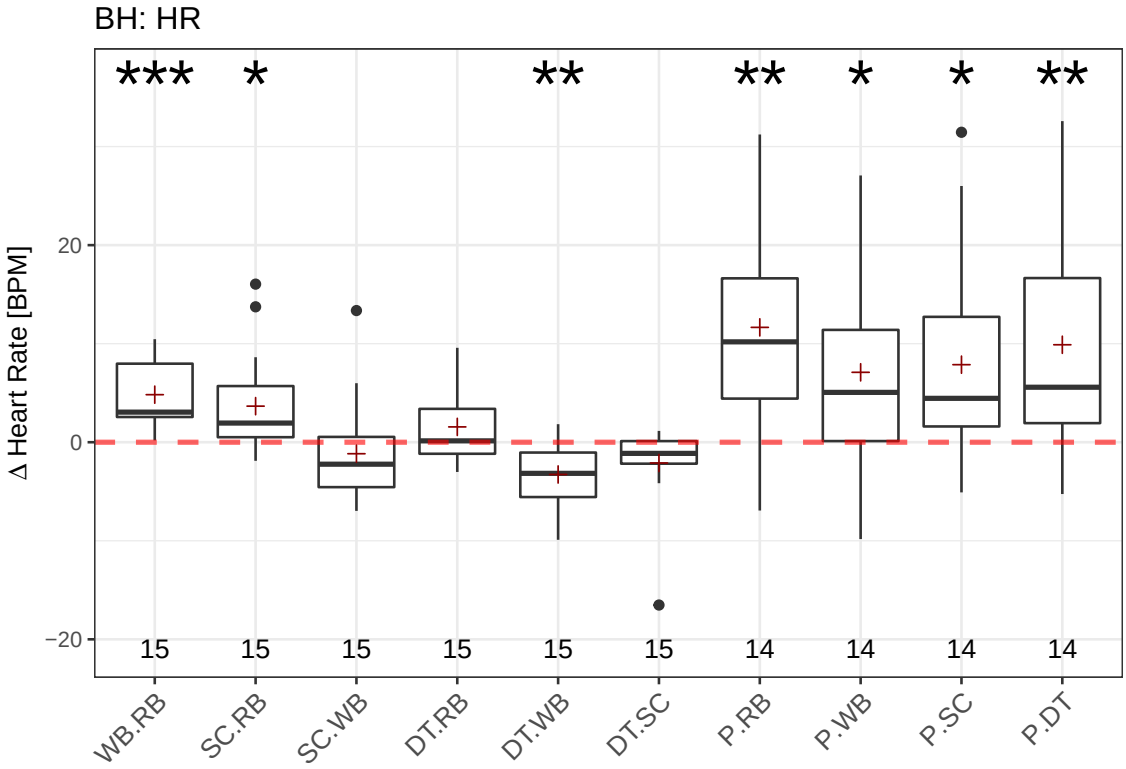

BH: P − RB
***
**
BH: P − WB
***
*
BH: P − SC
**
*
BH: P − DT
***
**
14
13
HR

Sensor Channel across Session



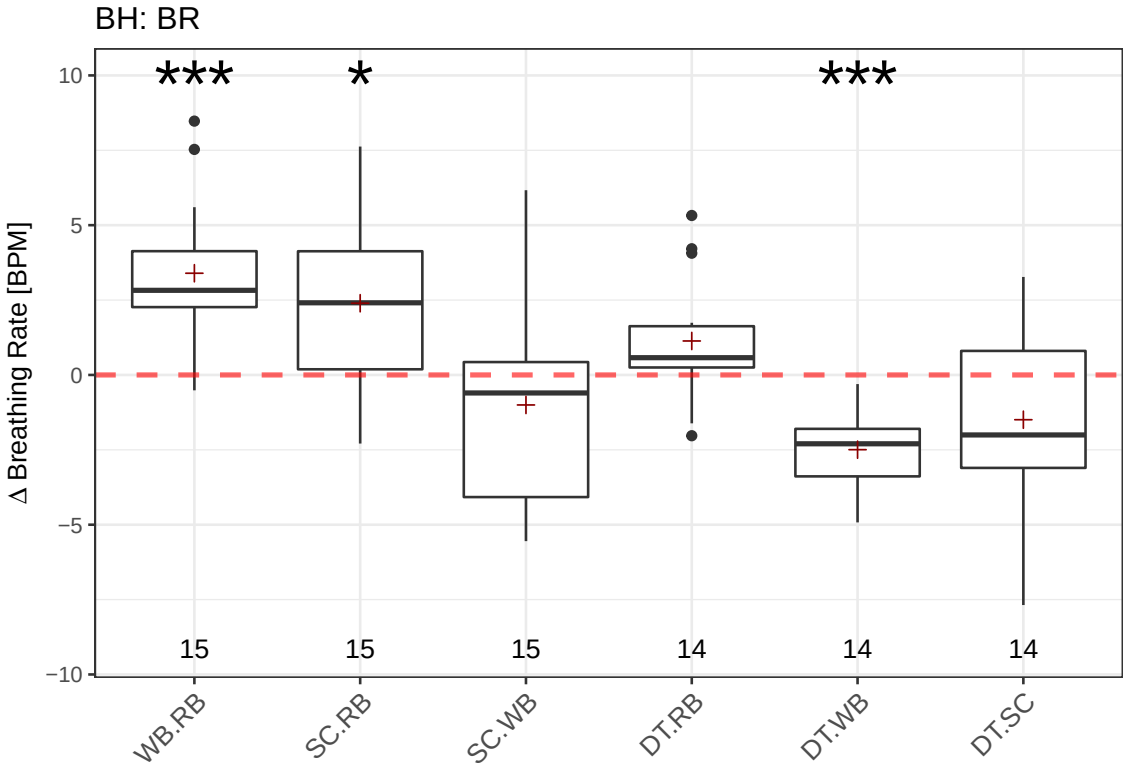

```
## Writing Baseline - Resting Baseline
## t-test p = 0.0094 < 0.01  **
##
## Stress Condition - Resting Baseline
## t-test p = 0.0274 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.7717 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.0095 < 0.01  **
##
## Dual Task - Writing Baseline
## t-test p = 0.4009 > 0.05
##
## Dual Task - Stress Condition
## t-test p = 0.2531 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Presentation - Writing Baseline
## t-test p = 3e-04 < 0.001  ***
```

```
##
## Presentation - Stress Condition
## t-test p = 0.0016 < 0.01  **
##
## Presentation - Dual Task
## t-test p = 1e-04 < 0.001  ***
```




```
## Writing Baseline - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0207 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.4186 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.1257 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0014 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.0755 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0026 < 0.01  **
##
## Presentation - Writing Baseline
## t-test p = 0.0385 < 0.05  *
##
## Presentation - Stress Condition
```

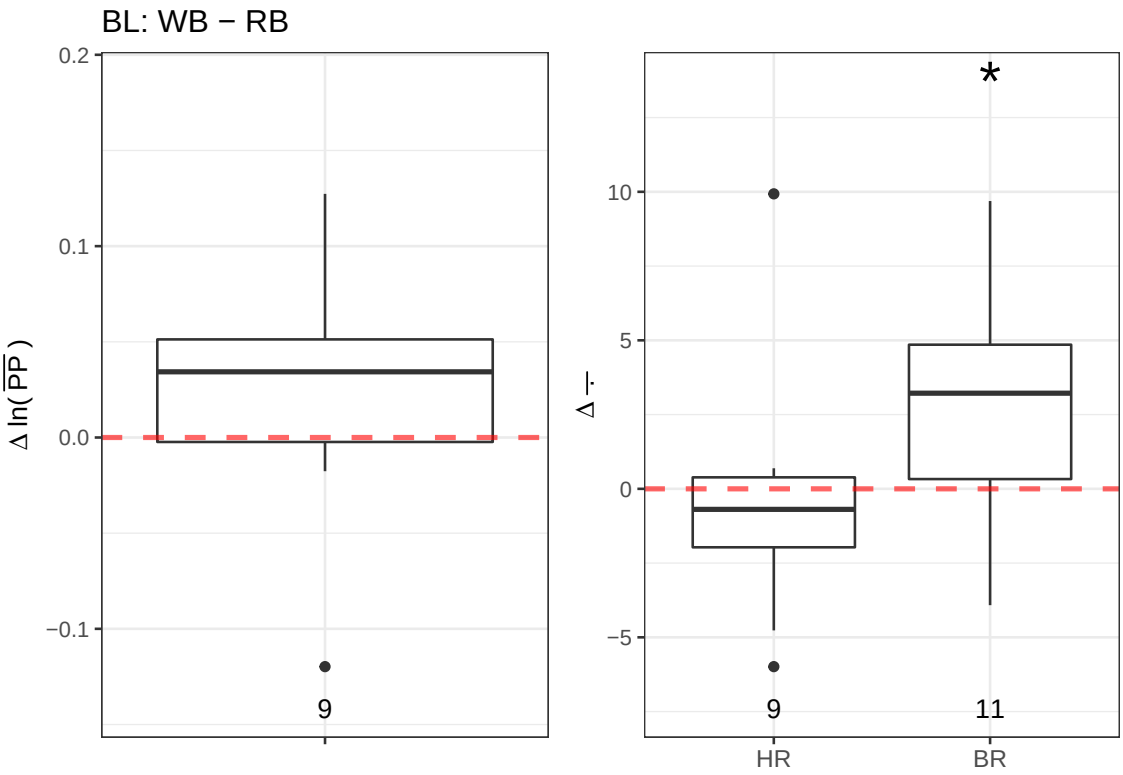
```
## t-test p = 0.0183 < 0.05  *
##
## Presentation - Dual Task
## t-test p = 0.0084 < 0.01  **
```

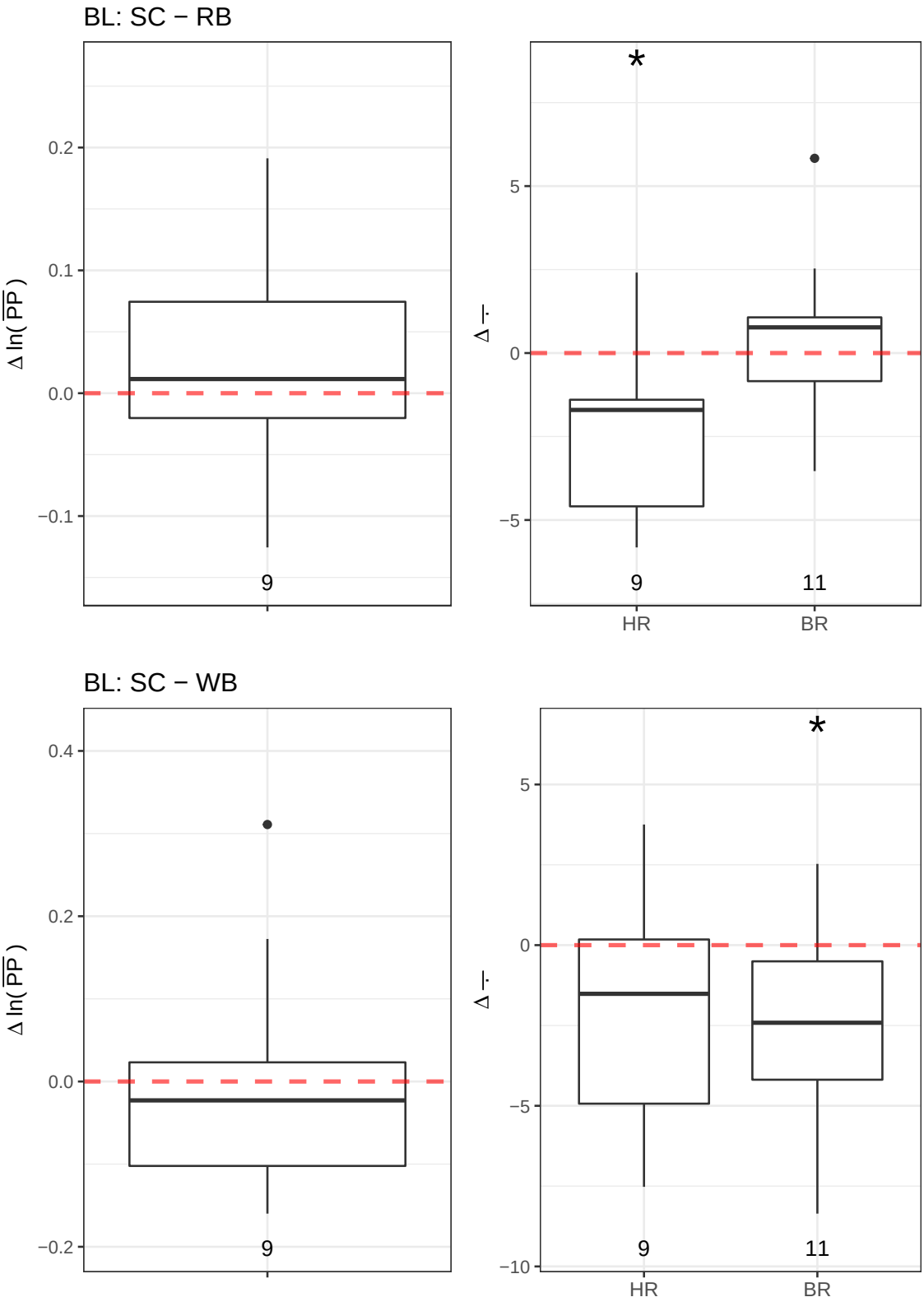


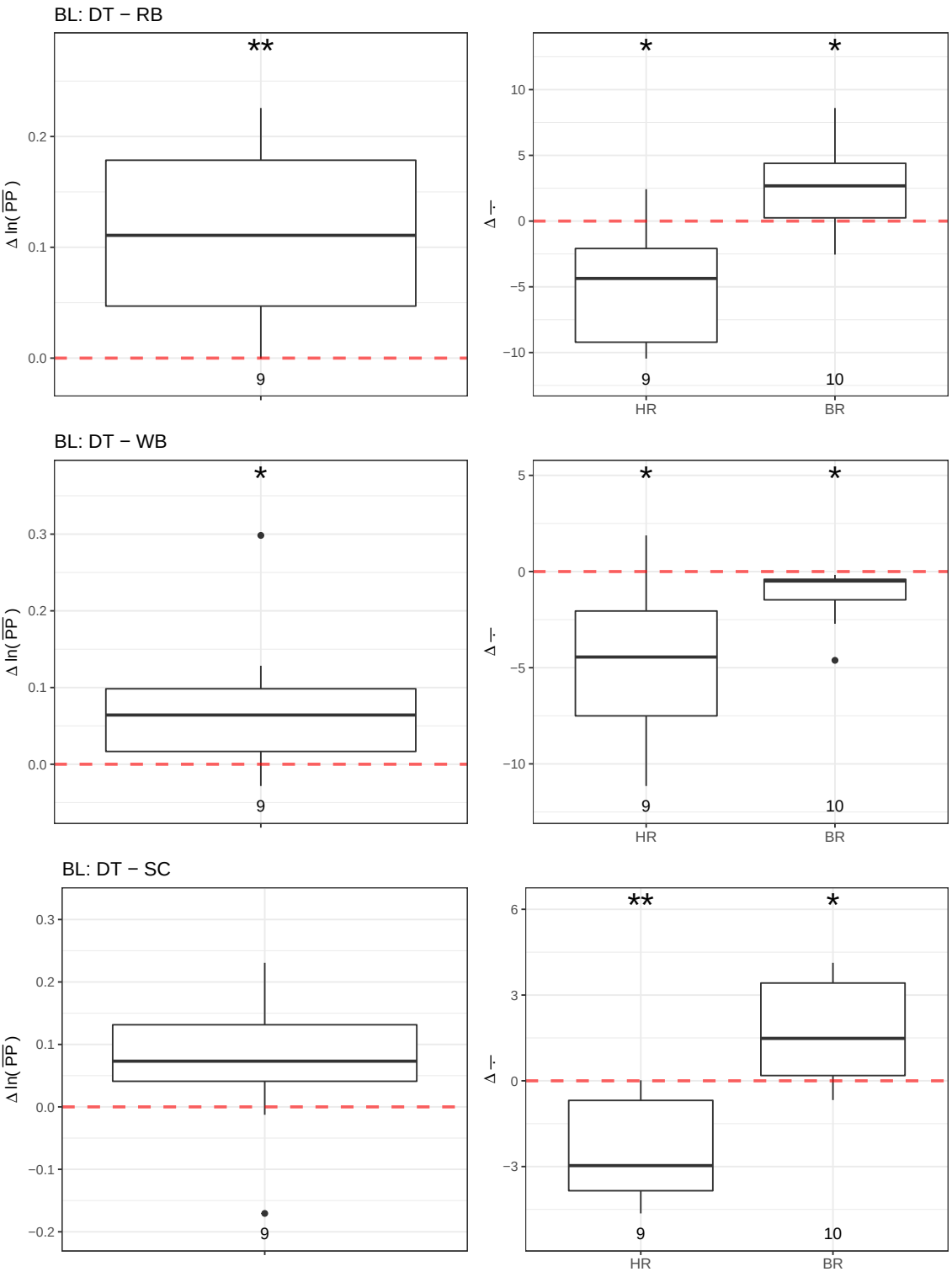

```
## Writing Baseline - Resting Baseline
## t-test p = 1e-04 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0101 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.2491 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.066 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0 < 0.001  ***
##
## Dual Task - Stress Condition
## t-test p = 0.0783 > 0.05
```

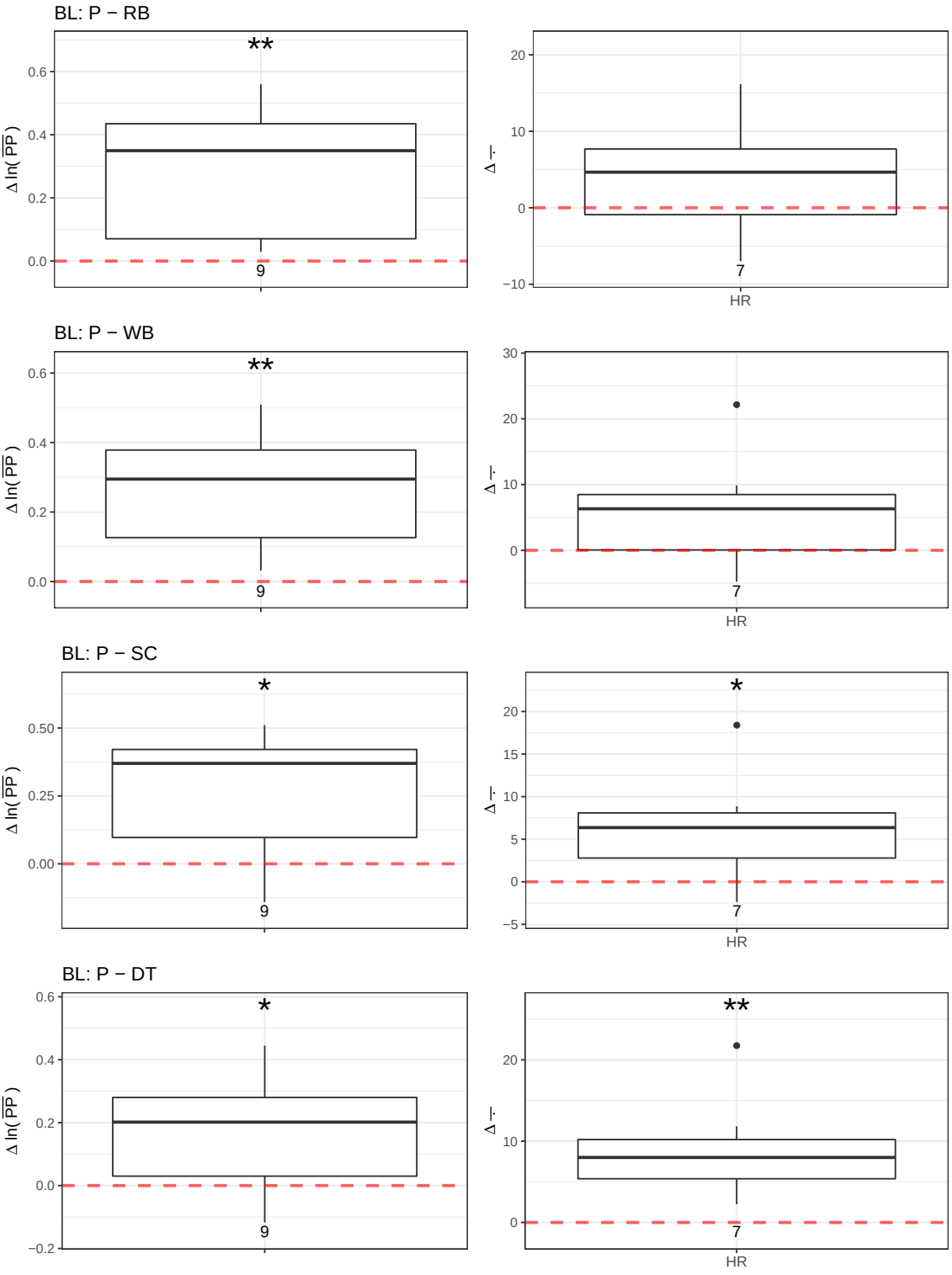
Batch-Low (BL)

Sensor Channels per Session

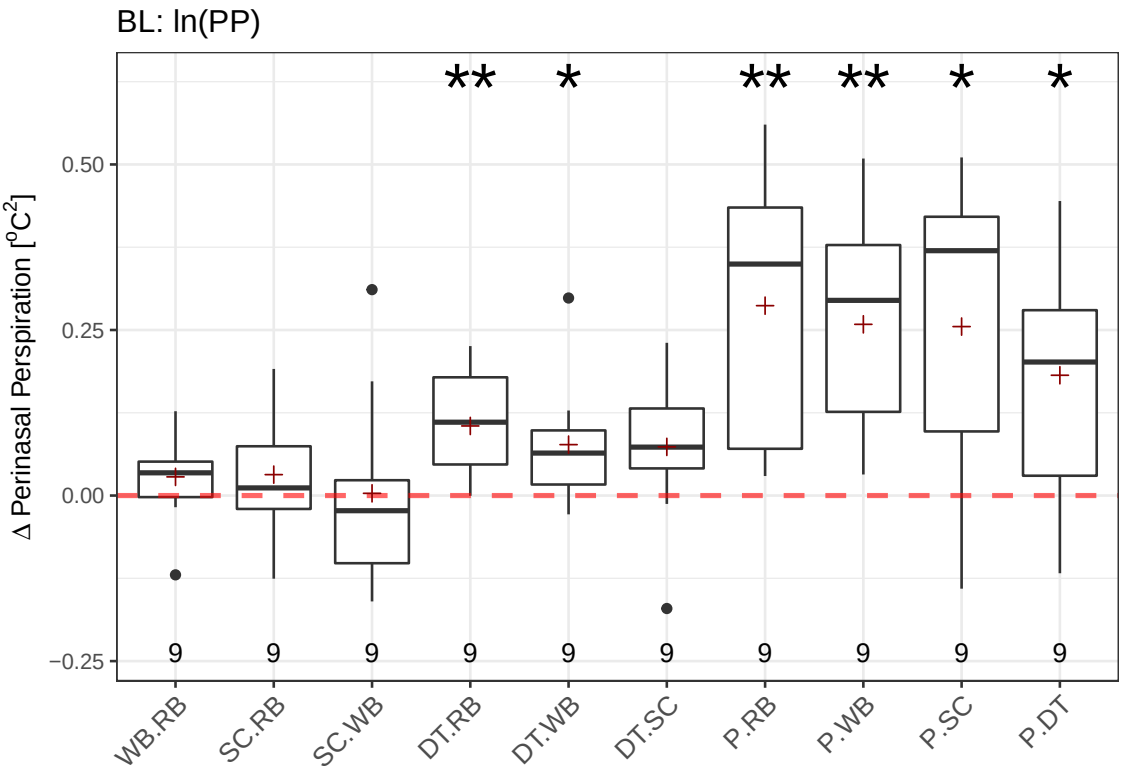



BL: SC − RB
Δ ln(PP)
0.2
0.1
0.0
−0.1
9
Δ ·-
5
0
−5
*
9
11
HR
BR
BL: SC − WB
Δ ln(PP)
0.4
0.2
0.0
−0.2
9
Δ ·-
5
0
−5
−10
*
9
11
HR
BR


BL: DT − RB
**
*
*
Δ ln(PP)
Δ
0.2
0.1
0.0
10
5
0
−5
−10
9
9
10
HR
BR
BL: DT − WB
*
*
*
Δ ln(PP)
Δ
0.3
0.2
0.1
0.0
5
0
−5
−10
9
9
10
HR
BR
BL: DT − SC
**
*
Δ ln(PP)
Δ
0.3
0.2
0.1
0.0
−0.1
−0.2
6
3
0
−3
9
9
10
HR
BR

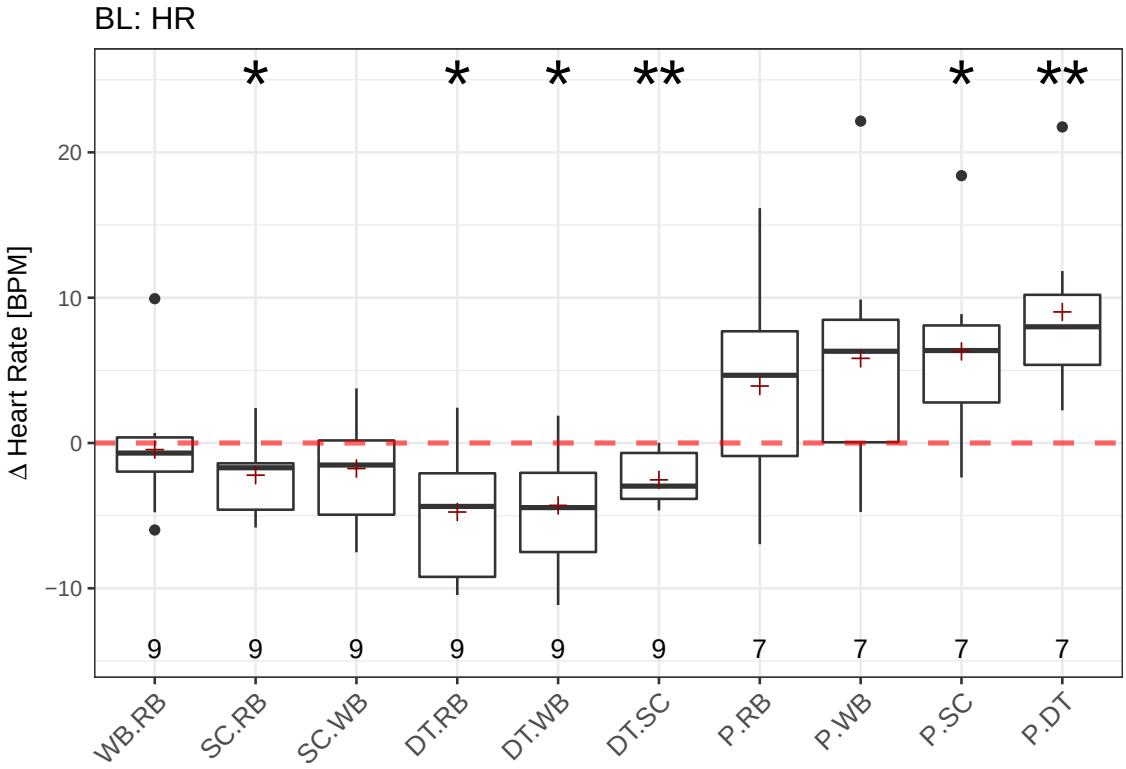

BL: P − RB
**
Δ ln(PP)
0.6
0.4
0.2
0.0
9
Δ
20
10
0
−10
7
HR
BL: P − WB
**
Δ ln(PP)
0.6
0.4
0.2
0.0
9
Δ
30
20
10
0
7
HR
BL: P − SC
*
Δ ln(PP)
0.50
0.25
0.00
9
Δ
*
20
15
10
5
0
−5
7
HR
BL: P − DT
*
Δ ln(PP)
0.6
0.4
0.2
0.0
−0.2
9
Δ
**
20
10
0
7
HR

Sensor Channel across Session



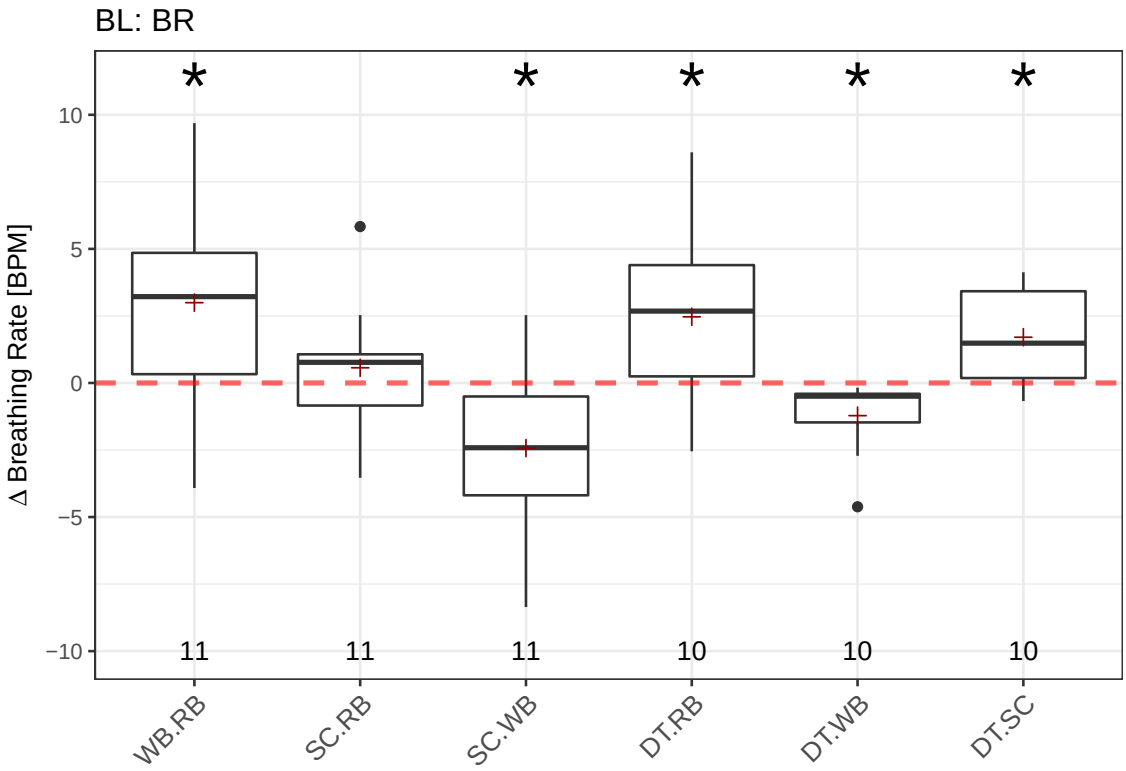

```
## Writing Baseline - Resting Baseline
## t-test p = 0.28 > 0.05
##
## Stress Condition - Resting Baseline
## t-test p = 0.3689 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.9484 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.0058 < 0.01  **
##
## Dual Task - Writing Baseline
## t-test p = 0.0457 < 0.05  *
##
## Dual Task - Stress Condition
## t-test p = 0.1034 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0032 < 0.01  **
##
## Presentation - Writing Baseline
## t-test p = 0.0019 < 0.01  **
```

```
##
## Presentation - Stress Condition
## t-test p = 0.0163 < 0.05  *
##
## Presentation - Dual Task
## t-test p = 0.0164 < 0.05  *
```



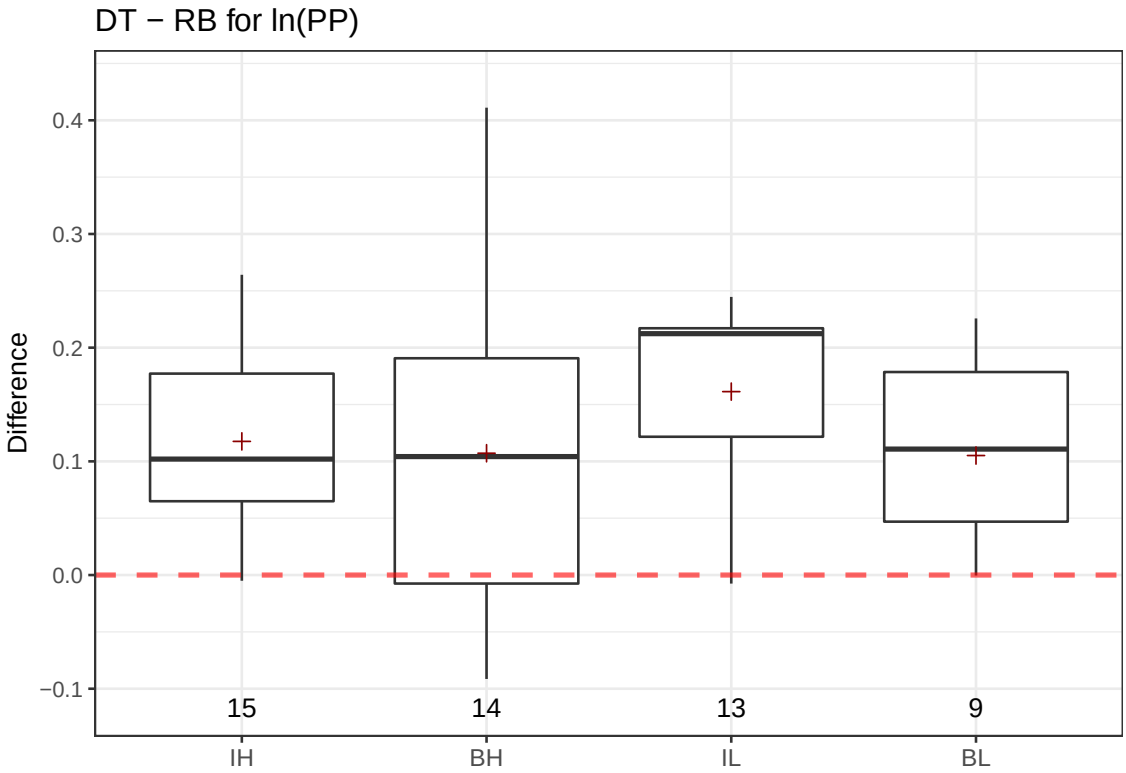

```
## Writing Baseline - Resting Baseline
## t-test p = 0.7702 > 0.05
##
## Stress Condition - Resting Baseline
## t-test p = 0.0428 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.2133 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.0122 < 0.05  *
##
## Dual Task - Writing Baseline
## t-test p = 0.0169 < 0.05  *
##
## Dual Task - Stress Condition
## t-test p = 0.0027 < 0.01  **
##
## Presentation - Resting Baseline
## t-test p = 0.2311 > 0.05
##
## Presentation - Writing Baseline
## t-test p = 0.1334 > 0.05
##
## Presentation - Stress Condition
```

```
## t-test p = 0.0432 < 0.05  *
##
## Presentation - Dual Task
## t-test p = 0.0097 < 0.01  **
```

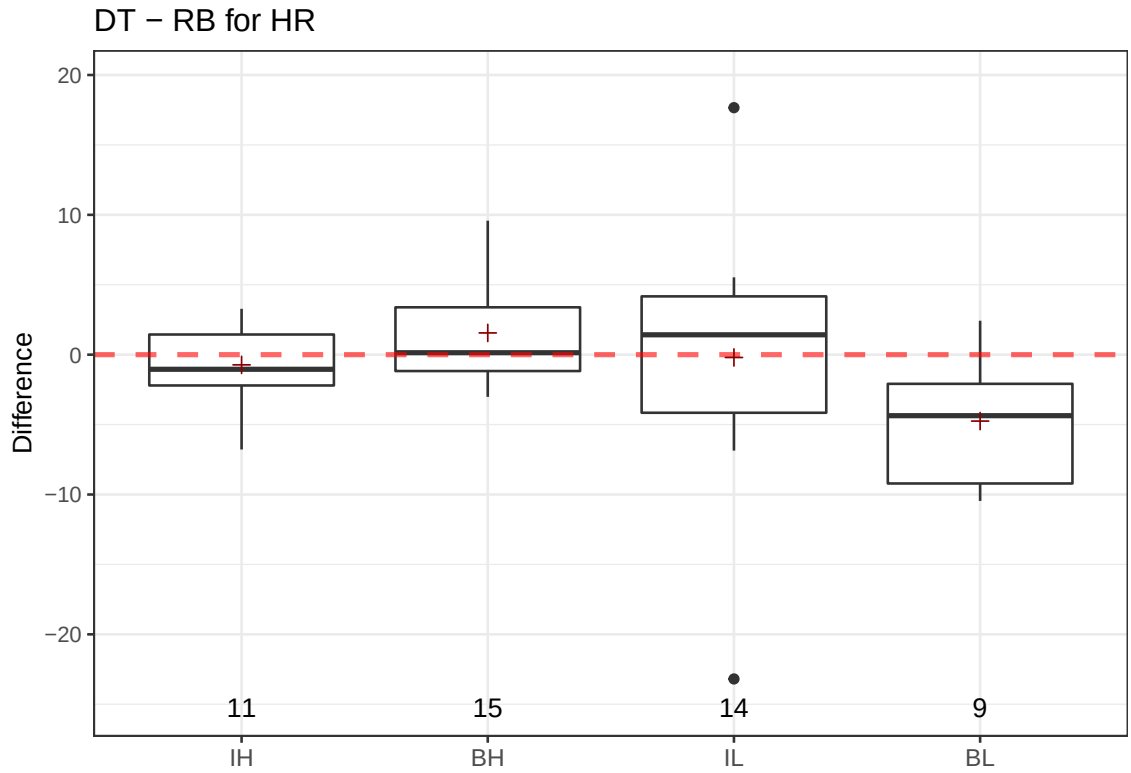



```
## Writing Baseline - Resting Baseline
## t-test p = 0.0333 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.4497 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.0213 < 0.05  *
##
## Dual Task - Resting Baseline
## t-test p = 0.0377 < 0.05  *
##
## Dual Task - Writing Baseline
## t-test p = 0.0248 < 0.05  *
##
## Dual Task - Stress Condition
## t-test p = 0.0141 < 0.05  *
```

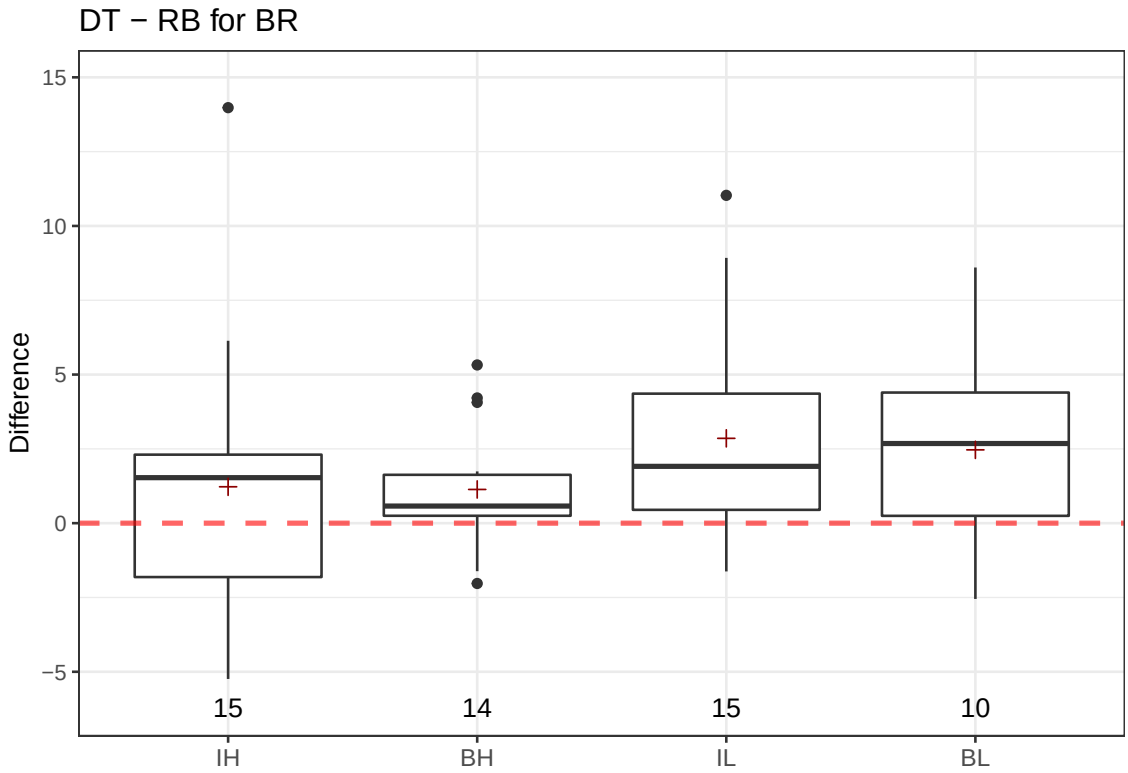
Across Sessions



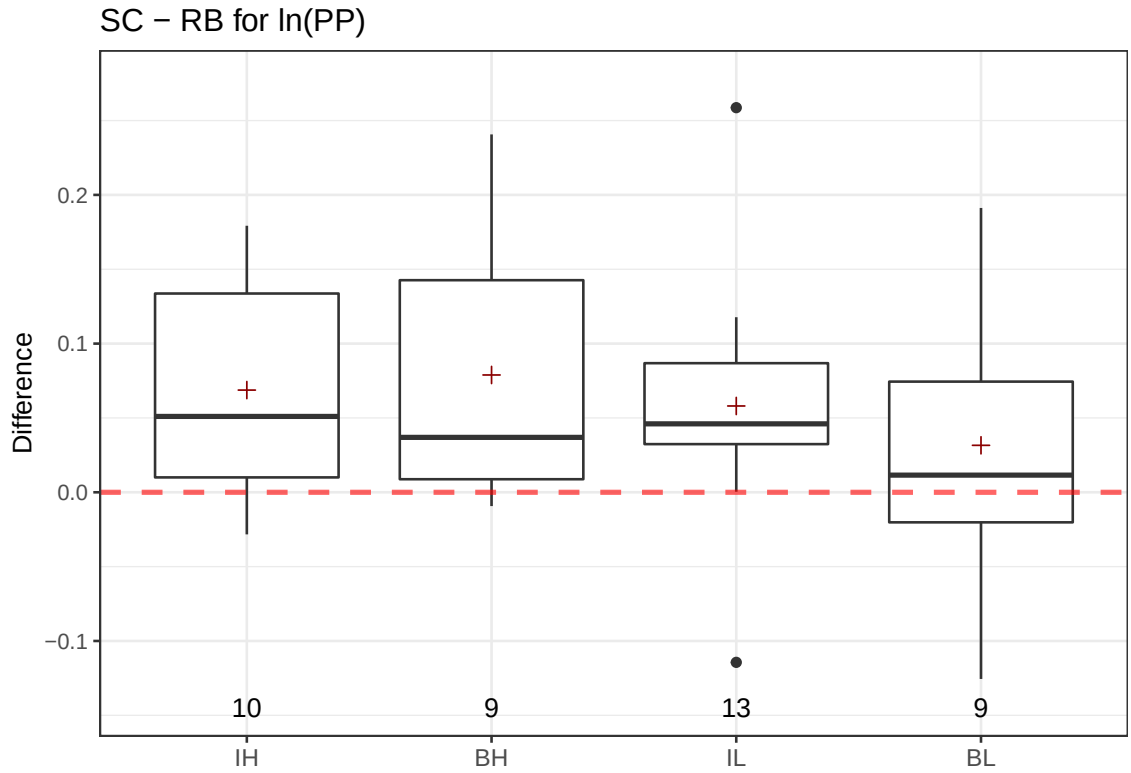

```
##             Df Sum Sq  Mean Sq F value Pr(>F)
## Condition    3 0.0259 0.008645   0.898  0.449
## Residuals   47 0.4523 0.009624
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##                diff         lwr       upr     p adj
## BL-BH -0.002026867 -0.11365724 0.1096035 0.9999588
## IH-BH  0.010411558 -0.08668260 0.1075057 0.9917712
## IL-BH  0.054202923 -0.04643228 0.1548381 0.4846737
## IH-BL  0.012438425 -0.09772628 0.1226031 0.9904277
## IL-BL  0.056229790 -0.05706818 0.1695278 0.5539309
## IL-IH  0.043791365 -0.05521553 0.1427983 0.6435213
```



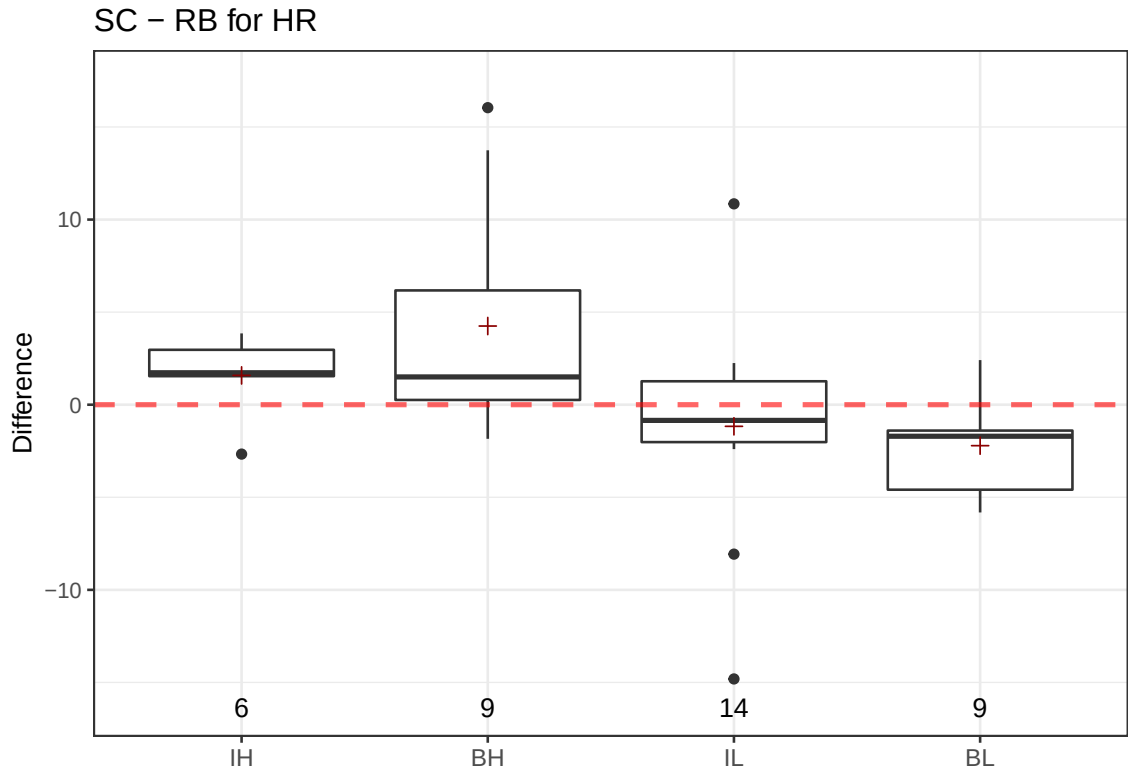

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3    227   75.68   2.292 0.0909 .
## Residuals   45   1486   33.02
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##              diff        lwr        upr     p adj
## BL-BH -6.3047285 -12.768469  0.1590117 0.0582857
## IH-BH -2.2826067  -8.368017  3.8028035 0.7497856
## IL-BH -1.7554538  -7.452300  3.9413926 0.8437379
## IH-BL  4.0221219  -2.868248 10.9124921 0.4129178
## IL-BL  4.5492748  -2.000461 11.0990109 0.2627547
## IL-IH  0.5271529  -5.649523  6.7038286 0.9957790
```



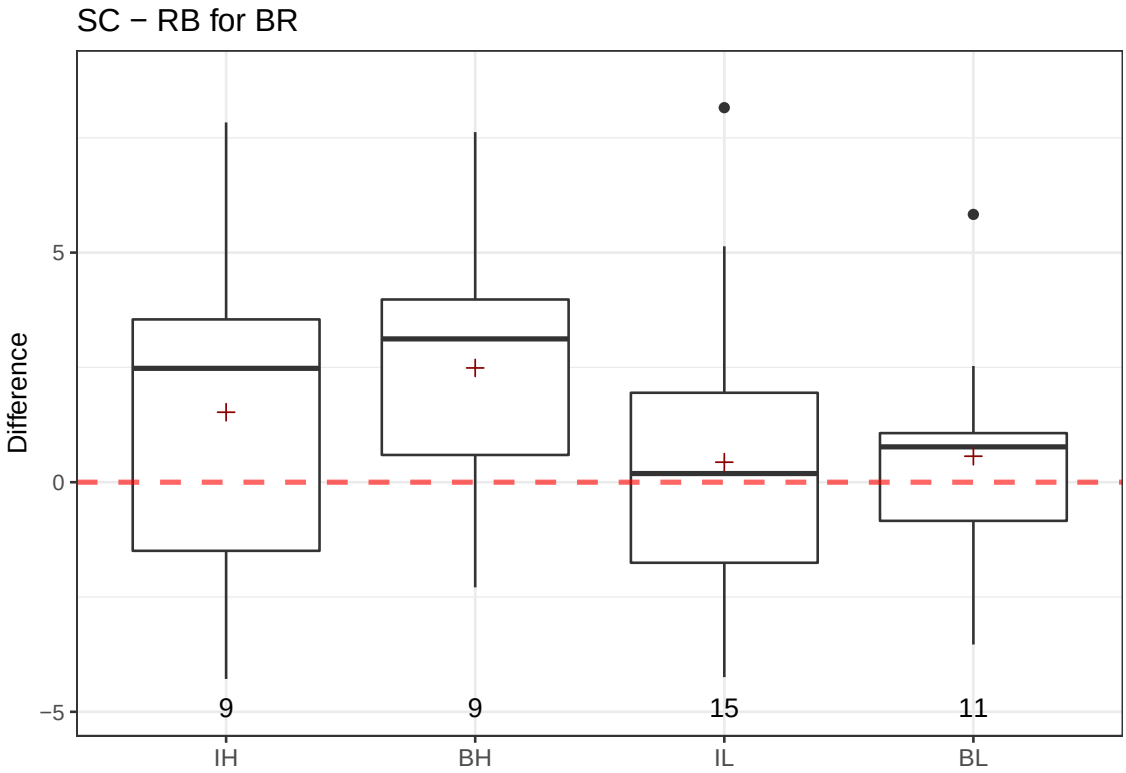

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3   31.9   10.64   0.806  0.497
## Residuals   50  660.1   13.20
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##               diff       lwr      upr     p adj
## BL-BH  1.33296028 -2.665173 5.331094 0.8120896
## IH-BH  0.09075228 -3.497682 3.679187 0.9998895
## IL-BH  1.72032421 -1.868110 5.308759 0.5834676
## IH-BL -1.24220800 -5.184421 2.700005 0.8363879
## IL-BL  0.38736393 -3.554849 4.329576 0.9936817
## IL-IH  1.62957193 -1.896450 5.155594 0.6121271
```



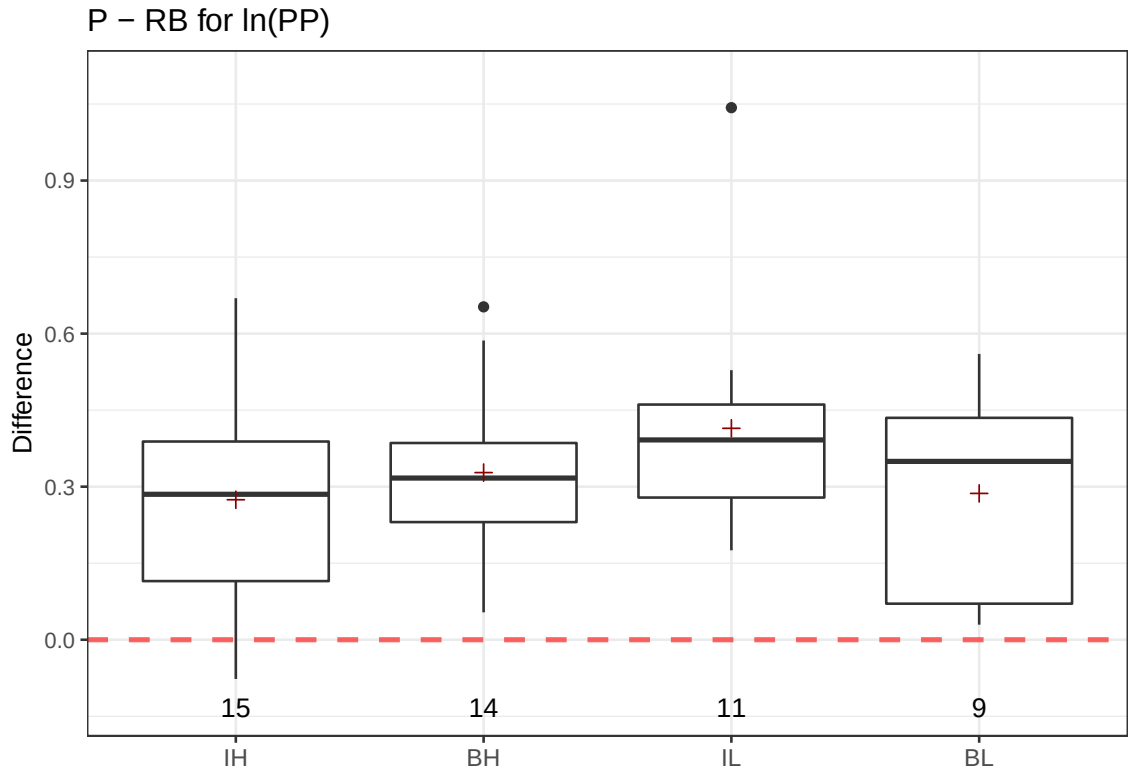

```
## [1] "Removed 12 subjects who had Stroop scores less than 30."
##
## ---
##               Df  Sum Sq  Mean Sq F value Pr(>F)
## Condition    3 0.01128 0.003759   0.501  0.684
## Residuals   37 0.27738 0.007497
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##              diff         lwr        upr     p adj
## BL-BH -0.04730947 -0.15709362 0.06247467 0.6558749
## IH-BH -0.01016759 -0.11717194 0.09683676 0.9940422
## IL-BH -0.02085243 -0.12183916 0.08013430 0.9444883
## IH-BL  0.03714188 -0.06986247 0.14414623 0.7870589
## IL-BL  0.02645704 -0.07452969 0.12744377 0.8945909
## IL-IH -0.01068484 -0.10864244 0.08727276 0.9910628
```



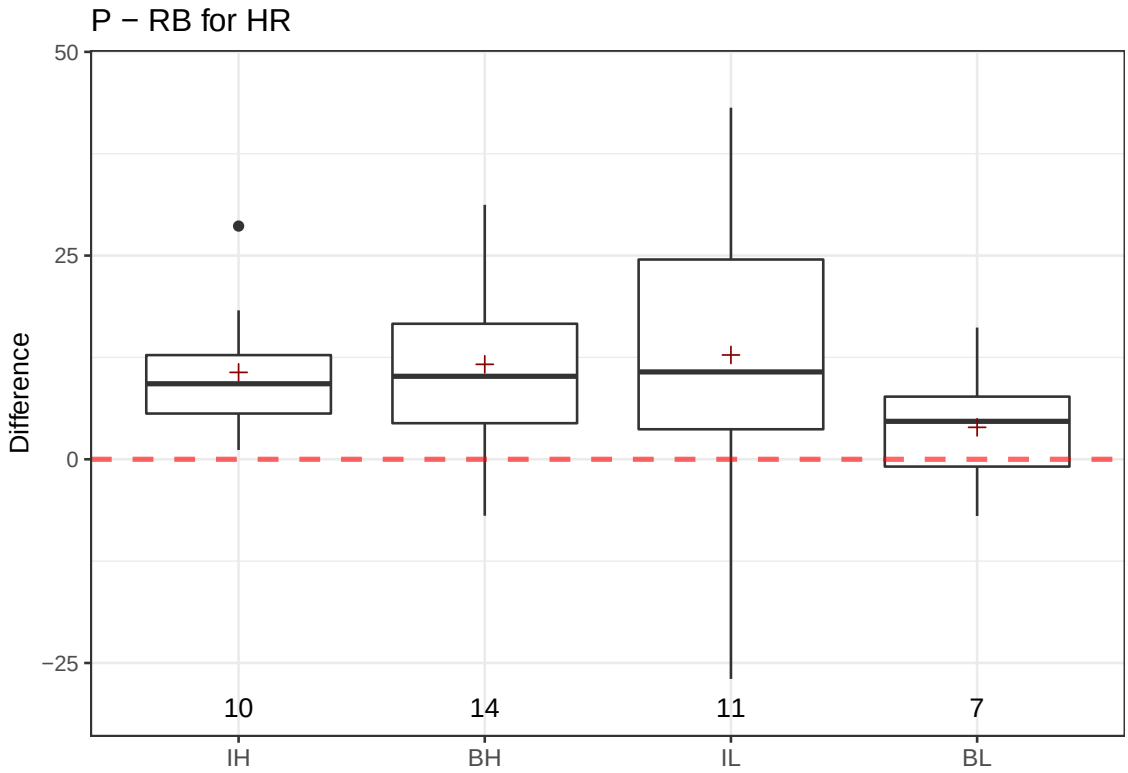

```
## [1] "Removed 12 subjects who had Stroop scores less than 30."
##
## ---
##               Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3  237.3   79.09   3.202 0.0354 *
## Residuals   34  839.8   24.70
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##            diff        lwr        upr     p adj
## BL-BH -6.462221 -12.789640 -0.1348014 0.0438279
## IH-BH -2.667175  -9.741445  4.4070944 0.7399742
## IL-BH -5.417700 -11.152411  0.3170101 0.0697190
## IH-BL  3.795045  -3.279224 10.8693150 0.4787008
## IL-BL  1.044520  -4.690191  6.7792307 0.9603634
## IL-IH -2.750525  -9.300026  3.7989759 0.6712975
```




```
## [1] "Removed 12 subjects who had Stroop scores less than 30."
##
## ---
##               Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3   28.7    9.57   0.916  0.442
## Residuals   40  417.7   10.44
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##             diff       lwr      upr     p adj
## BL-BH -1.9219267 -5.814979 1.971126 0.5538979
## IH-BH -0.9638753 -5.046943 3.119193 0.9208512
## IL-BH -2.0523985 -5.704406 1.599609 0.4432901
## IH-BL  0.9580514 -2.935001 4.851104 0.9115233
## IL-BL -0.1304718 -3.568723 3.307779 0.9996166
## IL-IH -1.0885232 -4.740530 2.563484 0.8544828
```




```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3 0.1395 0.04649   1.144  0.342
## Residuals   45 1.8293 0.04065
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##               diff         lwr       upr     p adj
## BL-BH -0.04081441 -0.27061319 0.1889844 0.9644607
## IH-BH -0.05321849 -0.25309347 0.1466565 0.8924948
## IL-BH  0.08681677 -0.12989311 0.3035267 0.7101002
## IH-BL -0.01240408 -0.23918568 0.2143775 0.9988753
## IL-BL  0.12763118 -0.11411882 0.3693812 0.5008186
## IL-IH  0.14003526 -0.07347256 0.3535431 0.3107749
```




```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3    380   126.6   0.732  0.539
## Residuals   38   6575   173.0
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##              diff        lwr       upr     p adj
## BL-BH -7.7337013 -24.092166  8.624763 0.5871706
## IH-BH -0.9906987 -15.622154 13.640757 0.9978251
## IL-BH  1.1453187 -13.092897 15.383535 0.9963734
## IH-BL  6.7430026 -10.671913 24.157918 0.7271380
## IL-BL  8.8790200  -8.206839 25.964879 0.5095144
## IL-IH  2.1360174 -13.304407 17.576442 0.9822160
```

Summary

Condition	Difference	Measure	p	Test	n	Significance
BH	WB - RB	PP	0.0094000	t-test	14	**
BH	WB - RB	HR	0.0000397	t-test	15	***
BH	WB - RB	BR	0.0000819	t-test	15	***
BH	SC - RB	PP	0.0274263	t-test	13	*
BH	SC - RB	HR	0.0206642	t-test	15	*
BH	SC - RB	BR	0.0101217	t-test	15	*
BH	SC - WB	PP	0.7716844	t-test	13	
BH	SC - WB	HR	0.4186405	t-test	15	
BH	SC - WB	BR	0.2490832	t-test	15	
BH	DT - RB	PP	0.0095054	t-test	14	**
BH	DT - RB	HR	0.1257425	t-test	15	
BH	DT - RB	BR	0.0659588	t-test	14	
BH	DT - WB	PP	0.4009000	t-test	14	
BH	DT - WB	HR	0.0014260	t-test	15	**
BH	DT - WB	BR	0.0000036	t-test	14	***
BH	DT - SC	PP	0.2531438	t-test	13	
BH	DT - SC	HR	0.0754511	t-test	15	
BH	DT - SC	BR	0.0783487	t-test	14	
BH	P - RB	PP	0.0000033	t-test	14	***
BH	P - RB	HR	0.0026135	t-test	14	**
BH	P - WB	PP	0.0003191	t-test	14	***
BH	P - WB	HR	0.0384611	t-test	14	*
BH	P - SC	PP	0.0016041	t-test	13	**
BH	P - SC	HR	0.0182793	t-test	14	*
BH	P - DT	PP	0.0001125	t-test	14	***
BH	P - DT	HR	0.0083713	t-test	14	**
BL	WB - RB	PP	0.2800303	t-test	9	
BL	WB - RB	HR	0.7702325	t-test	9	
BL	WB - RB	BR	0.0332722	t-test	11	*
BL	SC - RB	PP	0.3689067	t-test	9	
BL	SC - RB	HR	0.0428335	t-test	9	*
BL	SC - RB	BR	0.4496888	t-test	11	
BL	SC - WB	PP	0.9484117	t-test	9	
BL	SC - WB	HR	0.2133105	t-test	9	
BL	SC - WB	BR	0.0212998	t-test	11	*
BL	DT - RB	PP	0.0057841	t-test	9	**
BL	DT - RB	HR	0.0122494	t-test	9	*
BL	DT - RB	BR	0.0377051	t-test	10	*
BL	DT - WB	PP	0.0456952	t-test	9	*
BL	DT - WB	HR	0.0169332	t-test	9	*
BL	DT - WB	BR	0.0248169	t-test	10	*
BL	DT - SC	PP	0.1033784	t-test	9	
BL	DT - SC	HR	0.0027195	t-test	9	**
BL	DT - SC	BR	0.0141386	t-test	10	*
BL	P - RB	PP	0.0031874	t-test	9	**

(continued)

Condition	Difference	Measure	p	Test	n	Significance
BL	P - RB	HR	0.2311147	t-test	7	
BL	P - WB	PP	0.0018648	t-test	9	**
BL	P - WB	HR	0.1333641	t-test	7	
BL	P - SC	PP	0.0162708	t-test	9	*
BL	P - SC	HR	0.0432154	t-test	7	*
BL	P - DT	PP	0.0164035	t-test	9	*
BL	P - DT	HR	0.0097486	t-test	7	**
IH	WB - RB	PP	0.0006307	t-test	15	***
IH	WB - RB	HR	0.0314563	t-test	11	*
IH	WB - RB	BR	0.0083163	t-test	15	**
IH	SC - RB	PP	0.0118489	t-test	14	*
IH	SC - RB	HR	0.2034842	t-test	11	
IH	SC - RB	BR	0.0915599	t-test	15	
IH	SC - WB	PP	0.1644439	t-test	14	
IH	SC - WB	HR	0.2709306	t-test	11	
IH	SC - WB	BR	0.0506174	t-test	15	
IH	DT - RB	PP	0.0000508	t-test	15	***
IH	DT - RB	HR	0.4189483	t-test	11	
IH	DT - RB	BR	0.3327191	t-test	15	
IH	DT - WB	PP	0.1069883	t-test	15	
IH	DT - WB	HR	0.0053983	t-test	11	**
IH	DT - WB	BR	0.0007475	t-test	15	***
IH	DT - SC	PP	0.0330821	t-test	14	*
IH	DT - SC	HR	0.0775992	t-test	11	
IH	DT - SC	BR	0.5657289	t-test	15	
IH	P - RB	PP	0.0001504	t-test	15	***
IH	P - RB	HR	0.0023820	t-test	10	**
IH	P - WB	PP	0.0038361	t-test	15	**
IH	P - WB	HR	0.0278212	t-test	10	*
IH	P - SC	PP	0.0011403	t-test	14	**
IH	P - SC	HR	0.0051203	t-test	10	**
IH	P - DT	PP	0.0049034	t-test	15	**
IH	P - DT	HR	0.0014824	t-test	10	**
IL	WB - RB	PP	0.0006949	t-test	13	***
IL	WB - RB	HR	0.0444250	t-test	14	*
IL	WB - RB	BR	0.0021295	t-test	14	**
IL	SC - RB	PP	0.0290865	t-test	13	*
IL	SC - RB	HR	0.4521805	t-test	14	
IL	SC - RB	BR	0.6181948	t-test	15	
IL	SC - WB	PP	0.0112593	t-test	13	*
IL	SC - WB	HR	0.0000816	t-test	14	***
IL	SC - WB	BR	0.0004476	t-test	14	***
IL	DT - RB	PP	0.0000127	t-test	13	***
IL	DT - RB	HR	0.9350998	t-test	14	
IL	DT - RB	BR	0.0105619	t-test	15	*
IL	DT - WB	PP	0.5015041	t-test	13	
IL	DT - WB	HR	0.0079476	t-test	14	**

(continued)

Condition	Difference	Measure	p	Test	n	Significance
IL	DT - WB	BR	0.0035452	t-test	14	**
IL	DT - SC	PP	0.0005877	t-test	13	***
IL	DT - SC	HR	0.4751496	t-test	14	
IL	DT - SC	BR	0.0057118	t-test	15	**
IL	P - RB	PP	0.0001712	t-test	11	***
IL	P - RB	HR	0.0552440	t-test	11	
IL	P - WB	PP	0.0077659	t-test	11	**
IL	P - WB	HR	0.0985952	t-test	11	
IL	P - SC	PP	0.0002828	t-test	11	***
IL	P - SC	HR	0.0186726	t-test	11	*
IL	P - DT	PP	0.0023605	t-test	11	**
IL	P - DT	HR	0.0090699	t-test	11	**