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:

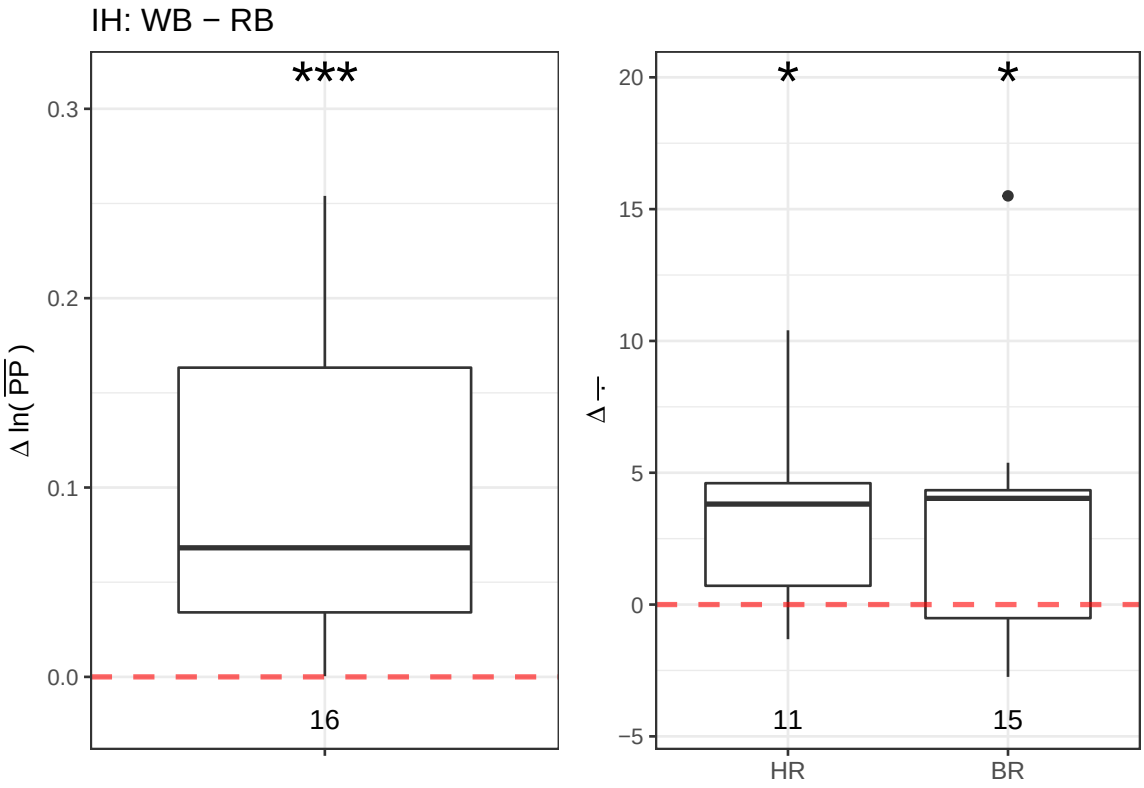
* = 0.01 < p <= 0.05
** = 0.001 < p <= 0.01
*** = p <= 0.001
? = Did not run statistical test ($n < 7$)

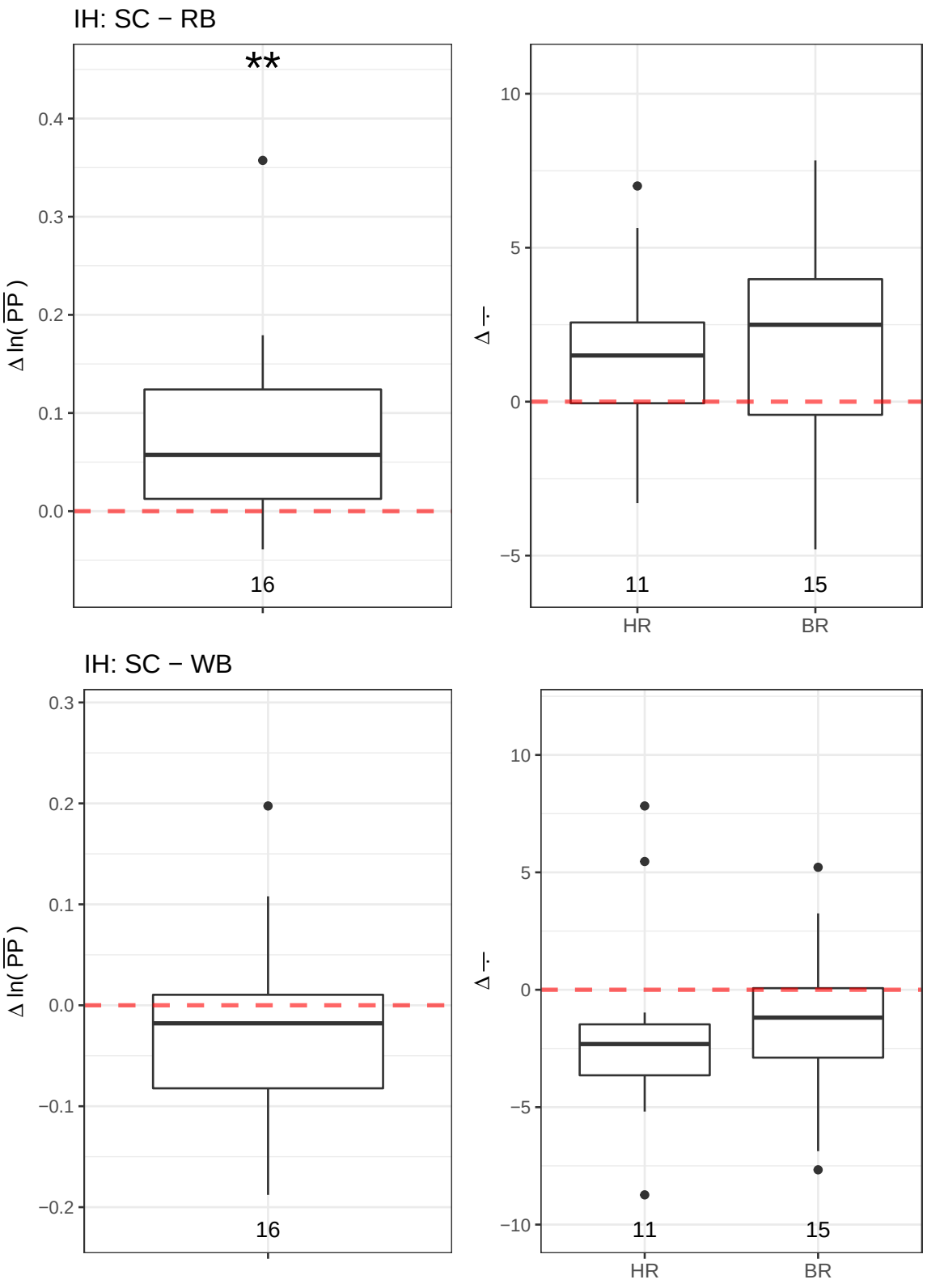
Differences in **Reduced Sensor Set**:

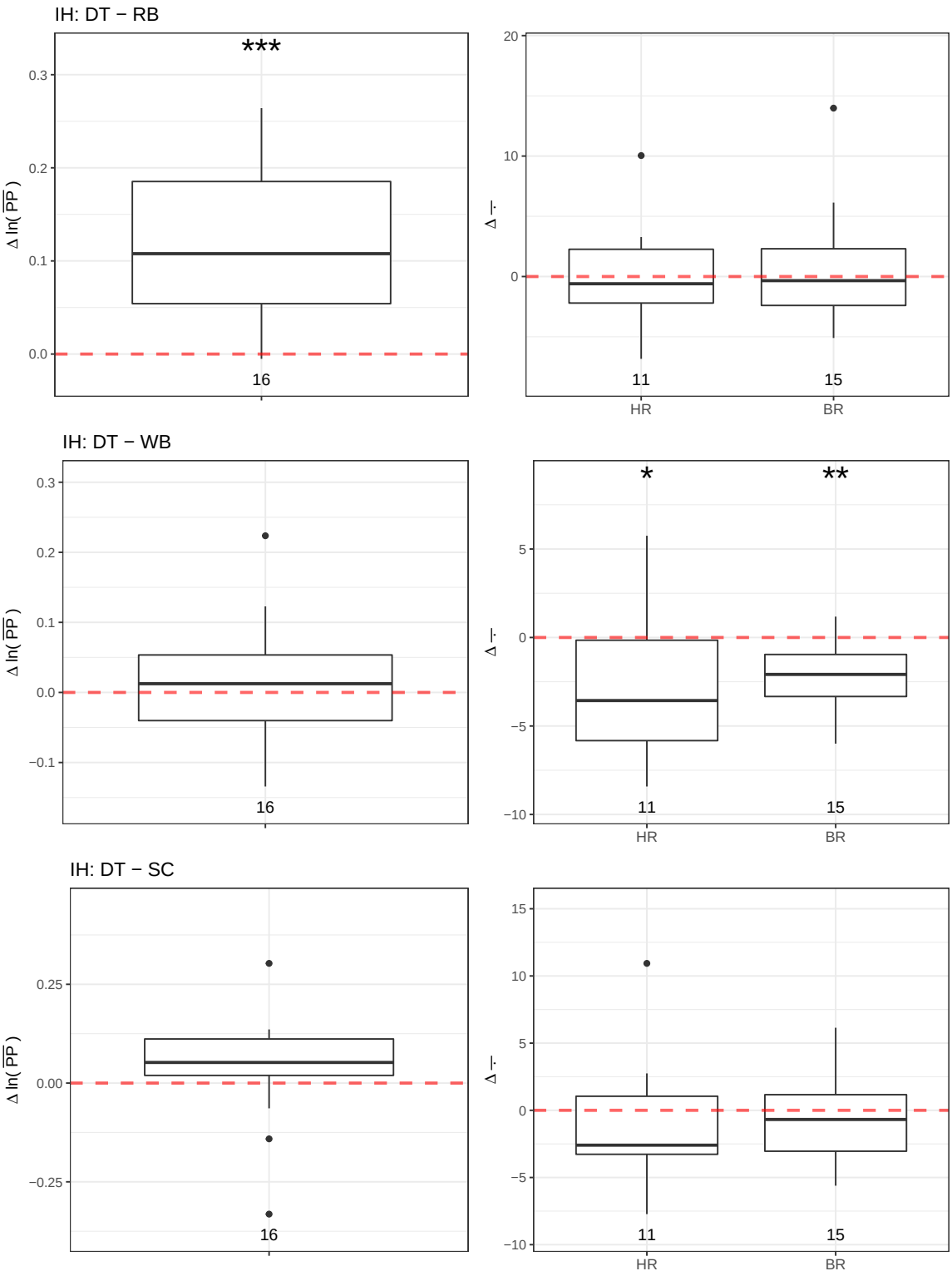
- Signals for `D.EDA`, `N.EDA`, `D.HR`, and `N.HR` and removed completely.
- `Breathing Rate (BR)` measurements for the `Presentation` session are removed completely.
- Easier on the eyes.

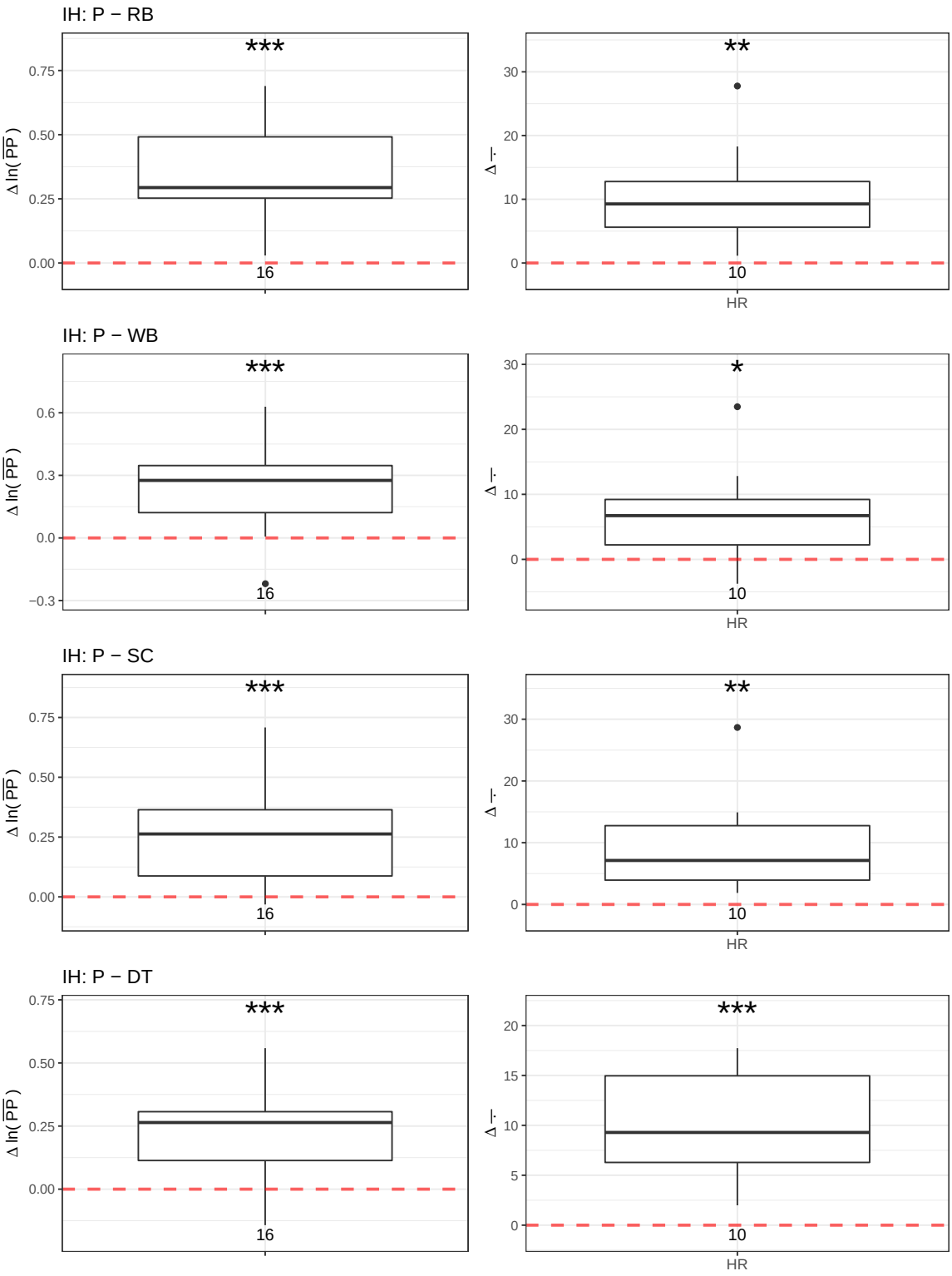
Intermittent-High (IH)

Sensor Channels per Session

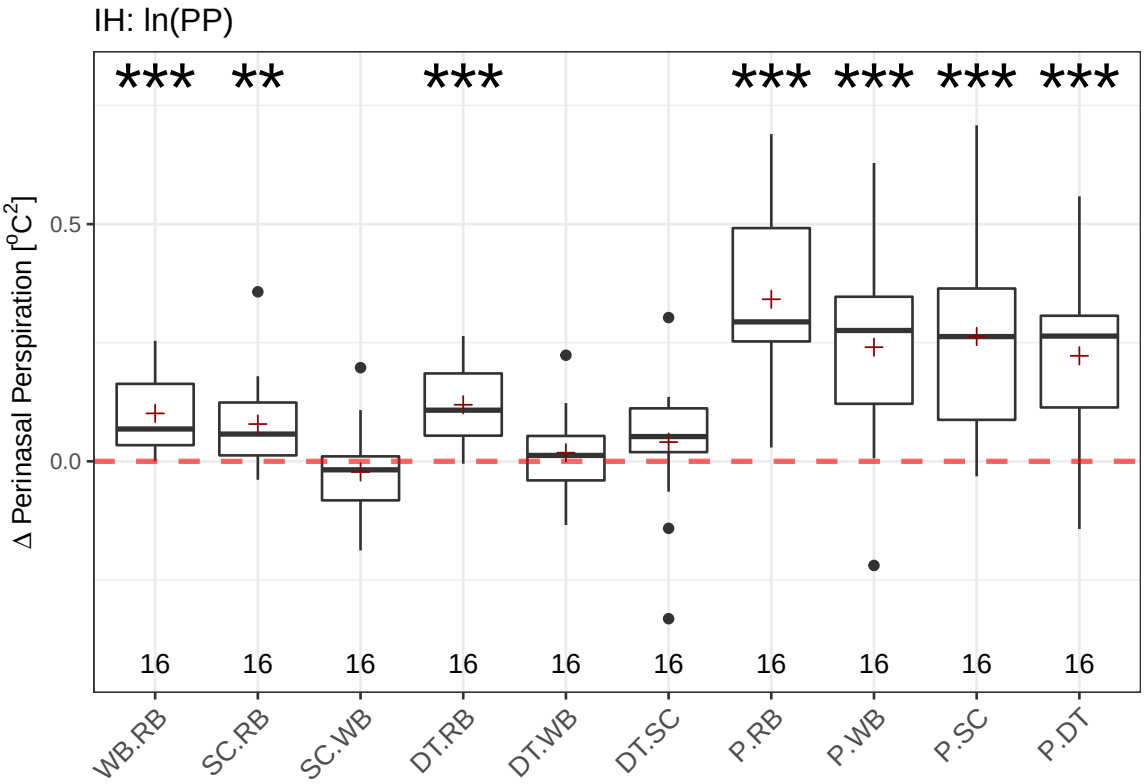



IH: SC − RB
**
0.4
0.3
0.2
0.1
0.0
Δ ln(PP)
16
10
5
0
−5
Δ
11
15
HR
BR
IH: SC − WB
0.3
0.2
0.1
0.0
−0.1
−0.2
Δ ln(PP)
16
10
5
0
−5
−10
Δ
11
15
HR
BR


IH: DT − RB
***
0.3
0.2
0.1
0.0
Δ ln(PP)
16
20
10
0
Δ
11
15
HR
BR
IH: DT − WB
0.3
0.2
0.1
0.0
−0.1
Δ ln(PP)
16
*
**
5
0
−5
−10
Δ
11
15
HR
BR
IH: DT − SC
0.25
0.00
−0.25
Δ ln(PP)
16
15
10
5
0
−5
−10
Δ
11
15
HR
BR

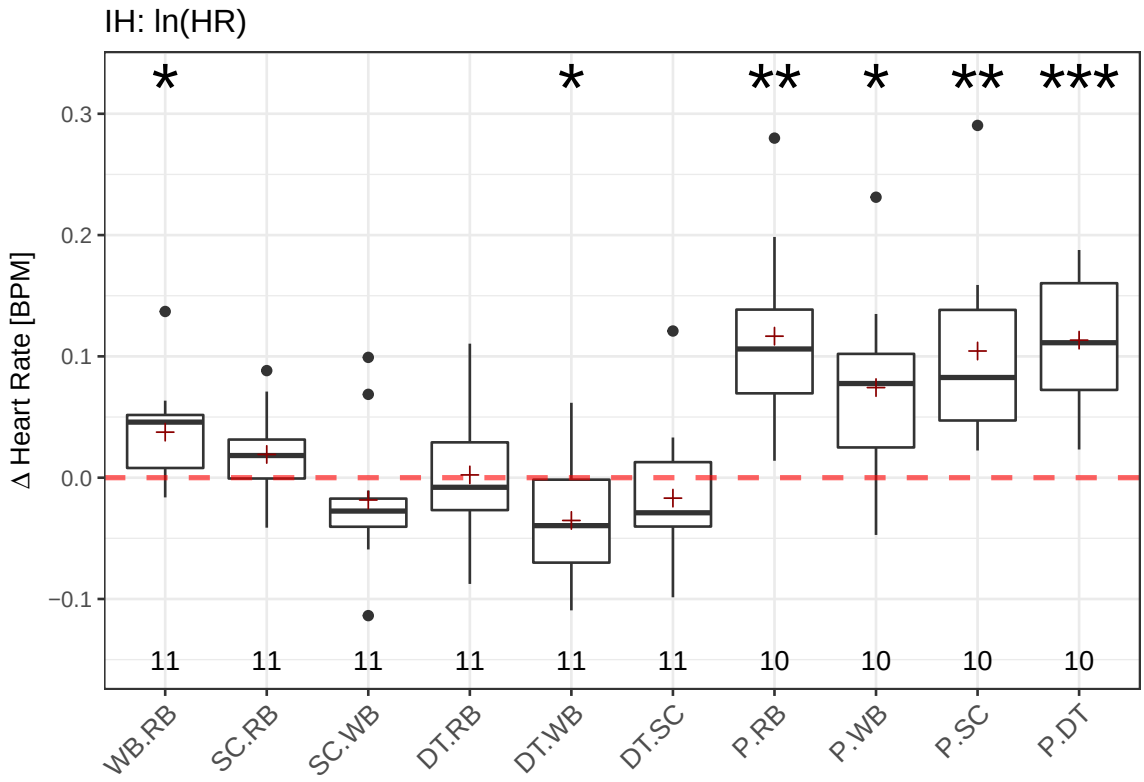

IH: P − RB
***
**
IH: P − WB
***
*
IH: P − SC
***
**
IH: P − DT
***
***
16
10
HR

Sensor Channel across Session



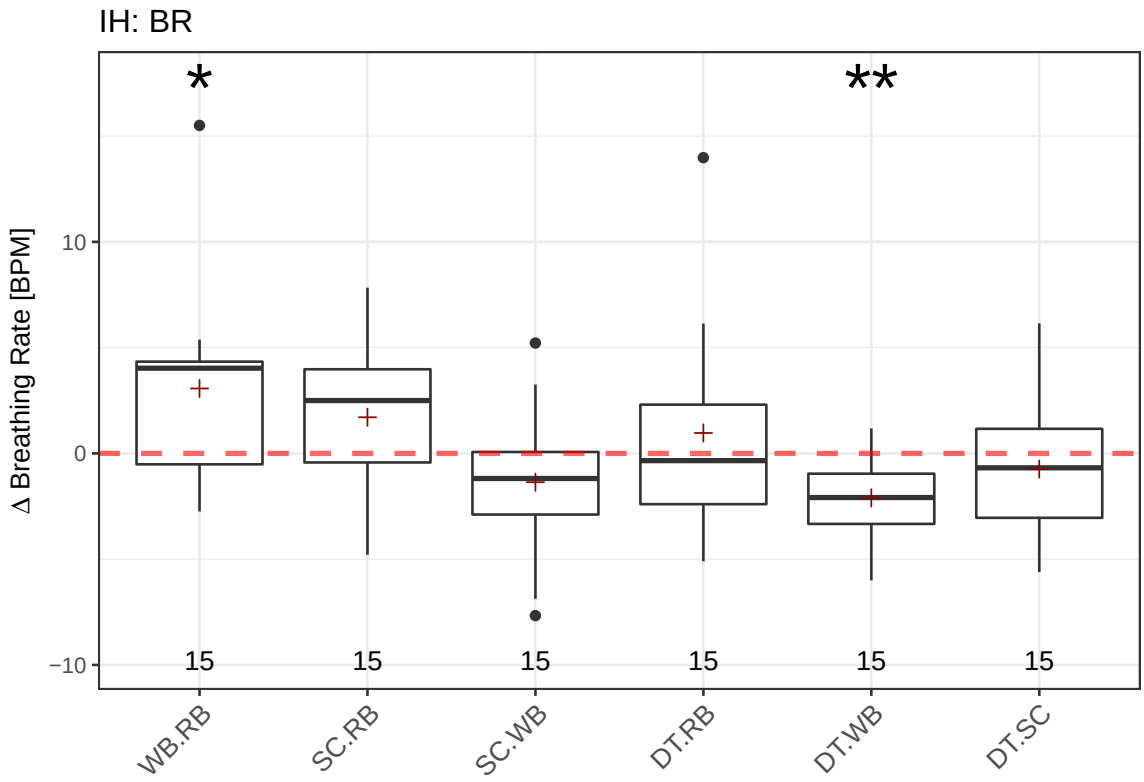

```
## In the following tests, we applied ln(PP).
##
## Writing Baseline - Resting Baseline
## t-test p = 2e-04 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0072 < 0.01  **
##
## StressCondition - Writing Baseline
## t-test p = 0.3534 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Dual Task - Writing Baseline
## t-test p = 0.4225 > 0.05
##
## Dual Task - Stress Condition
## t-test p = 0.257 > 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 = 1e-04 < 0.001  ***
##
## Presentation - Dual Task
## t-test p = 4e-04 < 0.001  ***
```




```
## Writing Baseline - Resting Baseline
## Transformed t-test p = 0.0156 < 0.05  *
##
## Stress Condition - Resting Baseline
## Transformed t-test p = 0.1143 > 0.05
##
## StressCondition - Writing Baseline
## Transformed t-test p = 0.317 > 0.05
##
## Dual Task - Resting Baseline
## Transformed t-test p = 0.885 > 0.05
##
## Dual Task - Writing Baseline
## Transformed t-test p = 0.0361 < 0.05  *
##
## Dual Task - Stress Condition
## Transformed t-test p = 0.3857 > 0.05
##
## Presentation - Resting Baseline
## Transformed t-test p = 0.0011 < 0.01  **
##
## Presentation - Writing Baseline
## Transformed t-test p = 0.0133 < 0.05  *
##
## Presentation - Stress Condition
```

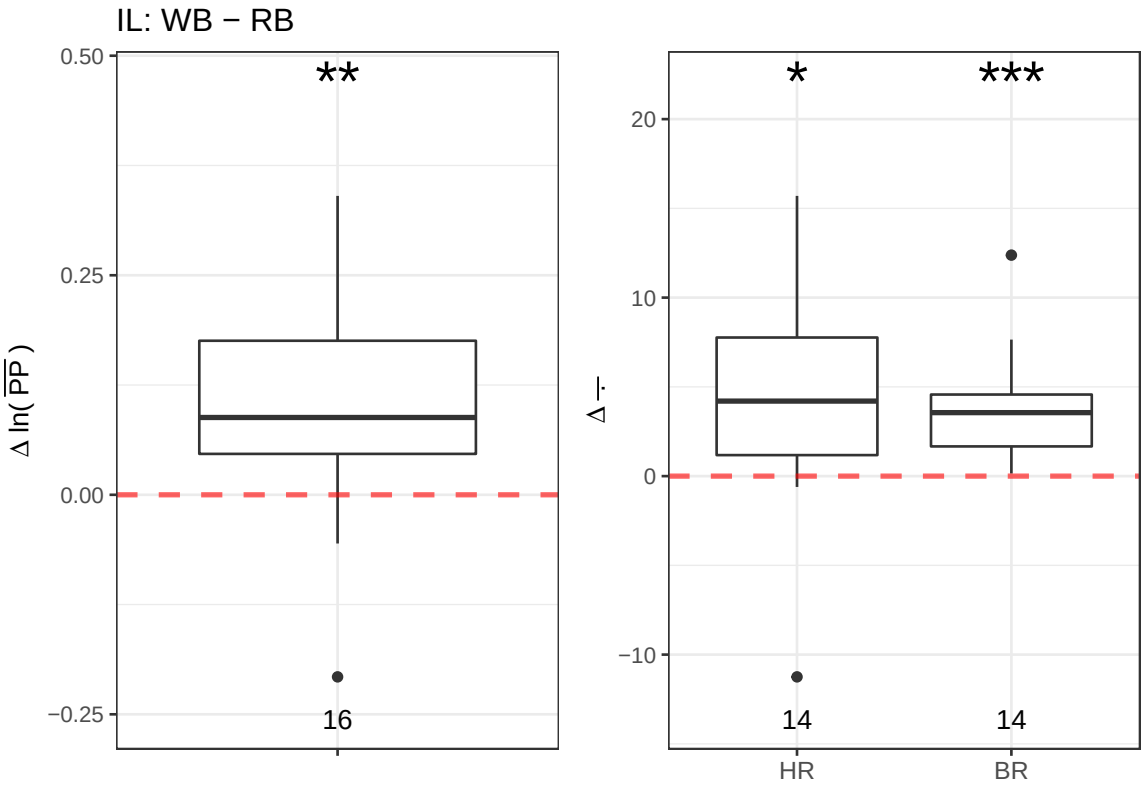
```
## Transformed t-test p = 0.0027 < 0.01  **
##
## Presentation - Dual Task
## Transformed t-test p = 1e-04 < 0.001  ***
```

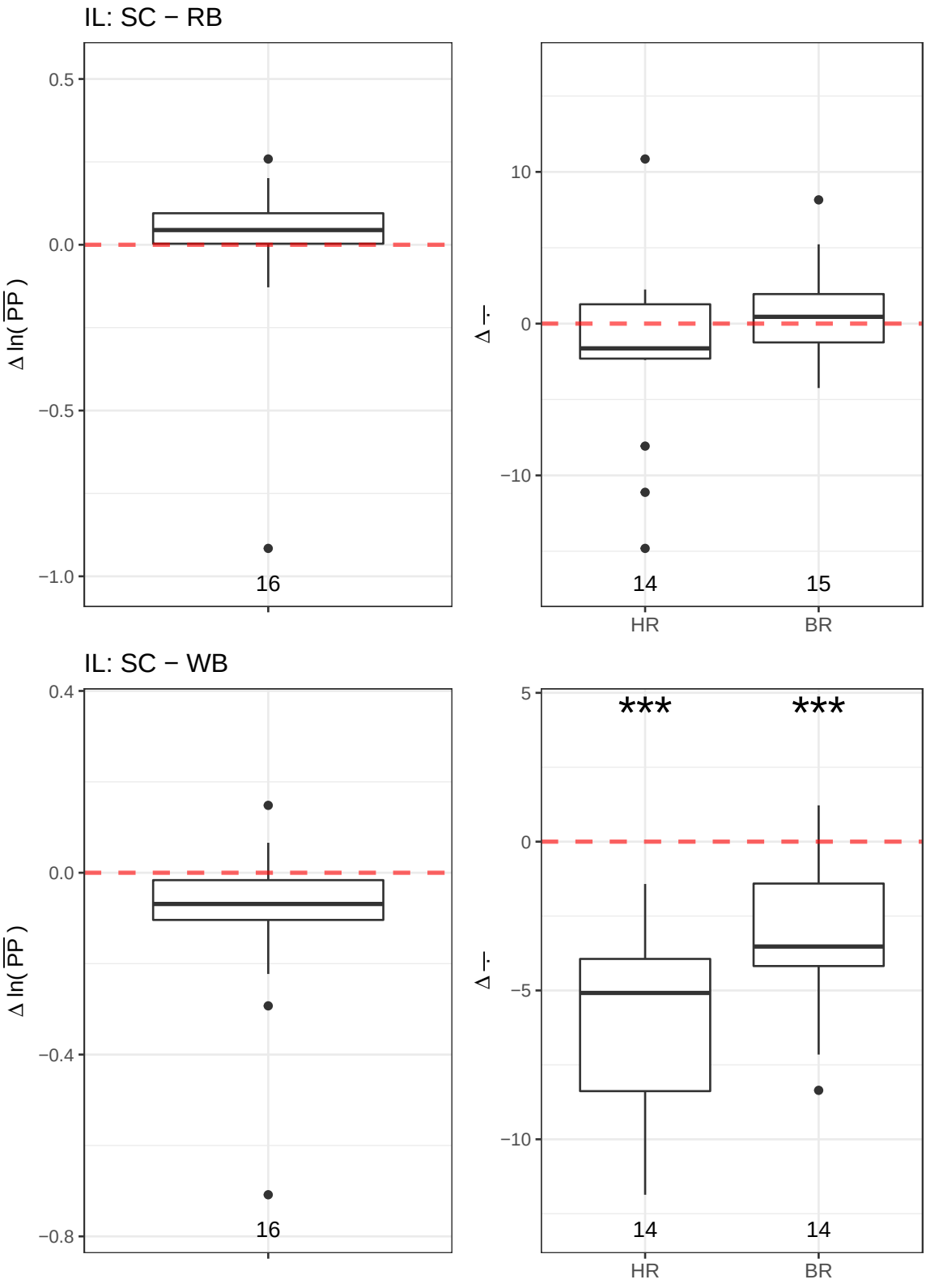


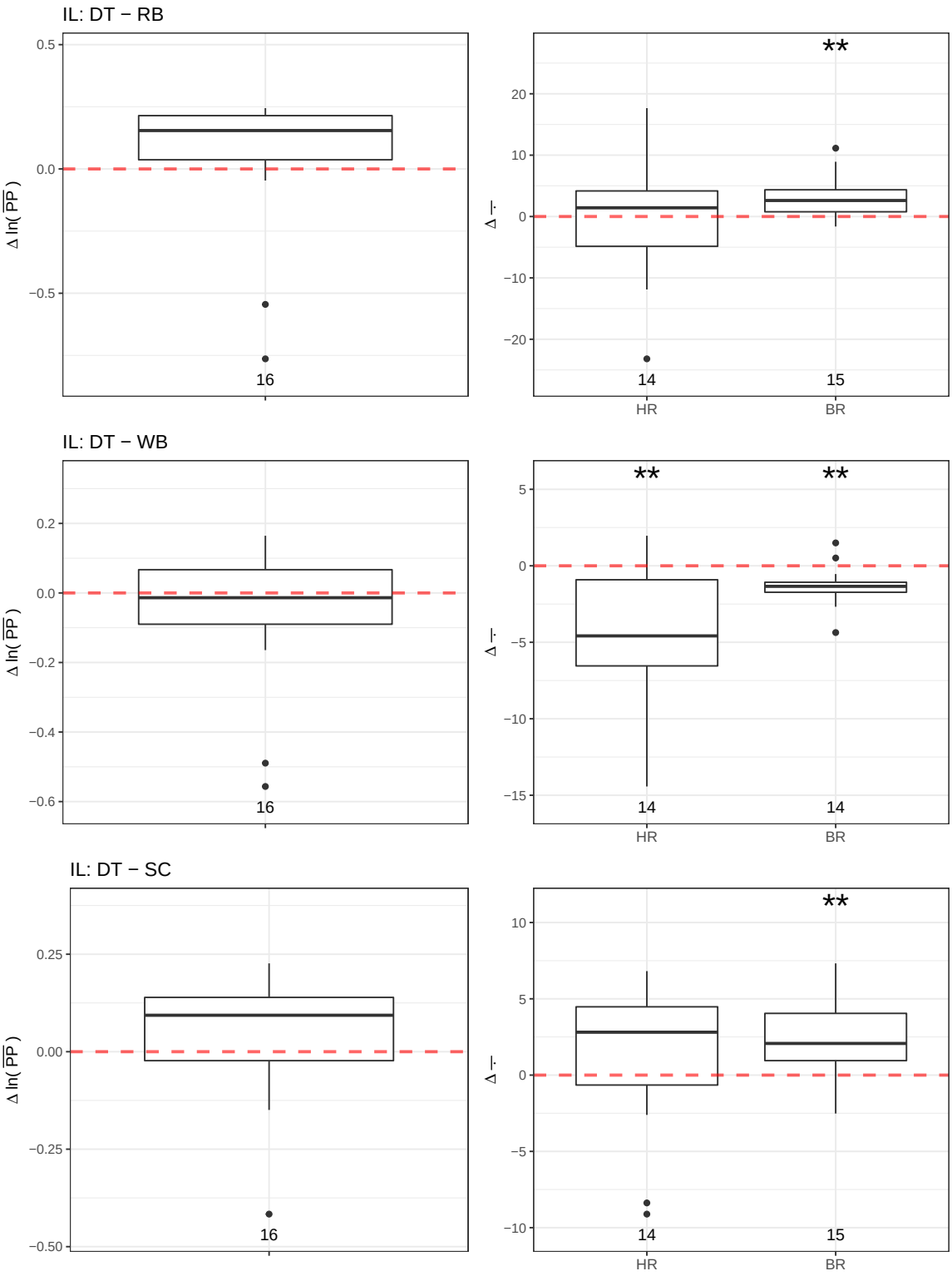

```
## Writing Baseline - Resting Baseline
## t-test p = 0.0184 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.0865 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.1405 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.4484 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0012 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.3441 > 0.05
```

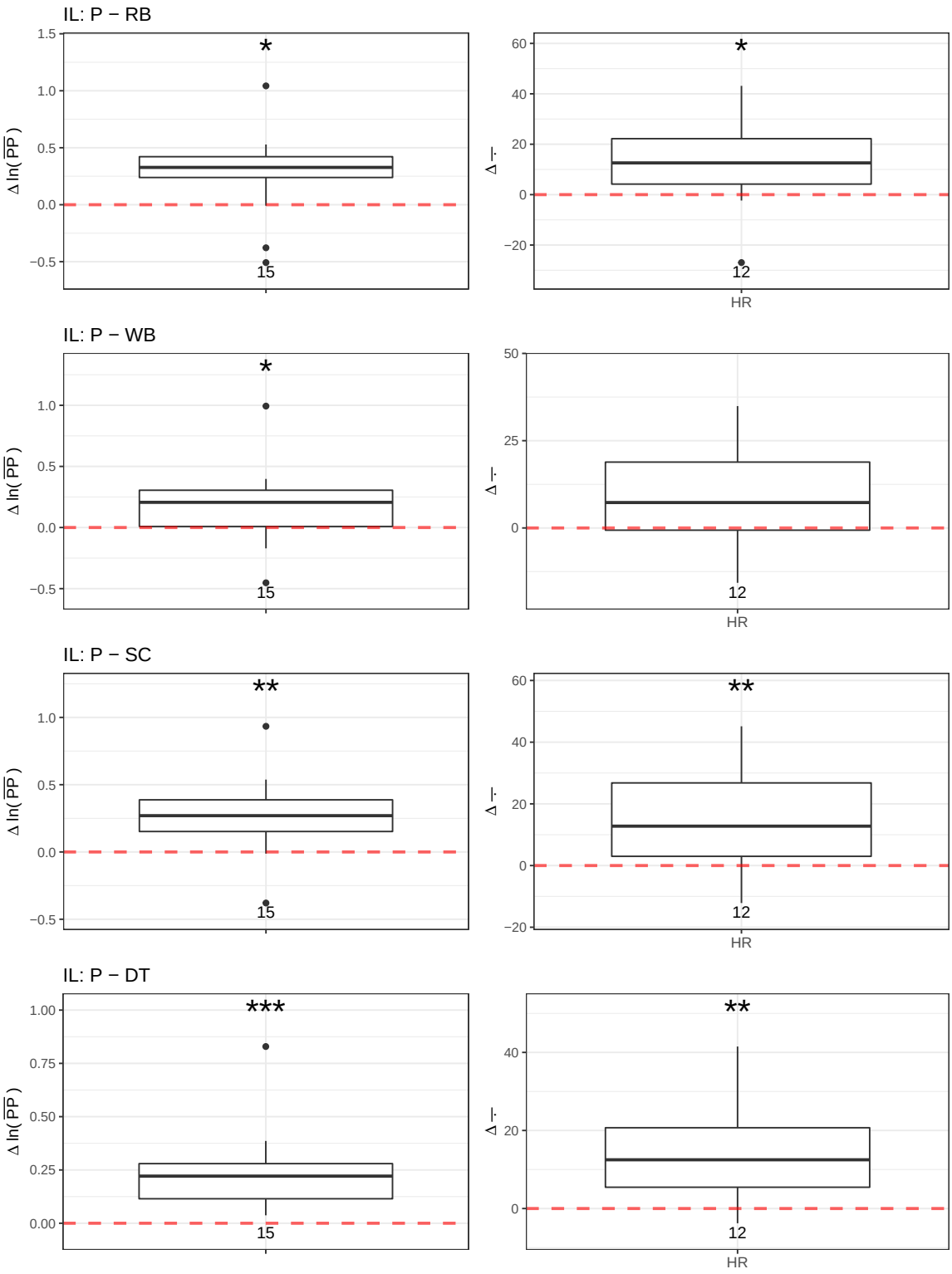
Intermittent-Low (IL)

Sensor Channels per Session

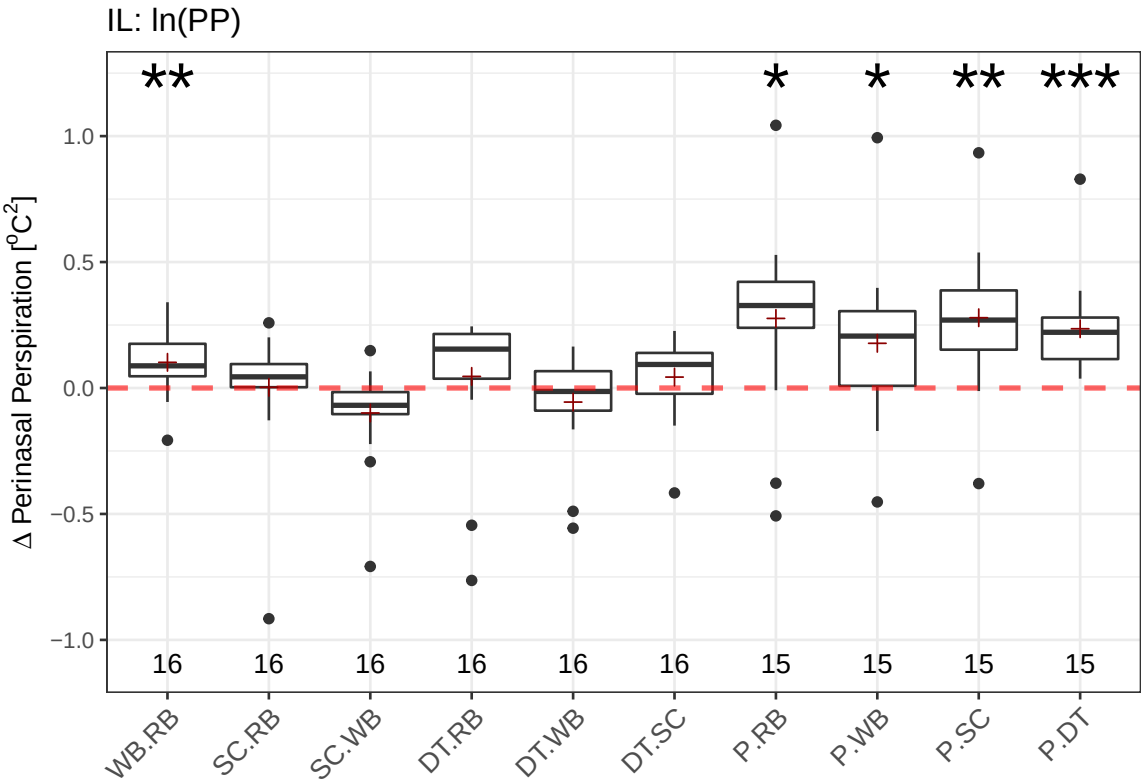



IL: SC − RB
0.5
0.0
−0.5
−1.0
Δ ln(PP)
16
10
0
−10
Δ
14
15
HR
BR
IL: SC − WB
0.4
0.0
−0.4
−0.8
Δ ln(PP)
16
5
0
−5
−10
Δ
***
***
14
14
HR
BR


IL: DT − RB
Δ ln(PP)
16
**
Δ
14
15
HR
BR
IL: DT − WB
Δ ln(PP)
16
**
**
Δ
14
14
HR
BR
IL: DT − SC
Δ ln(PP)
16
**
Δ
14
15
HR
BR

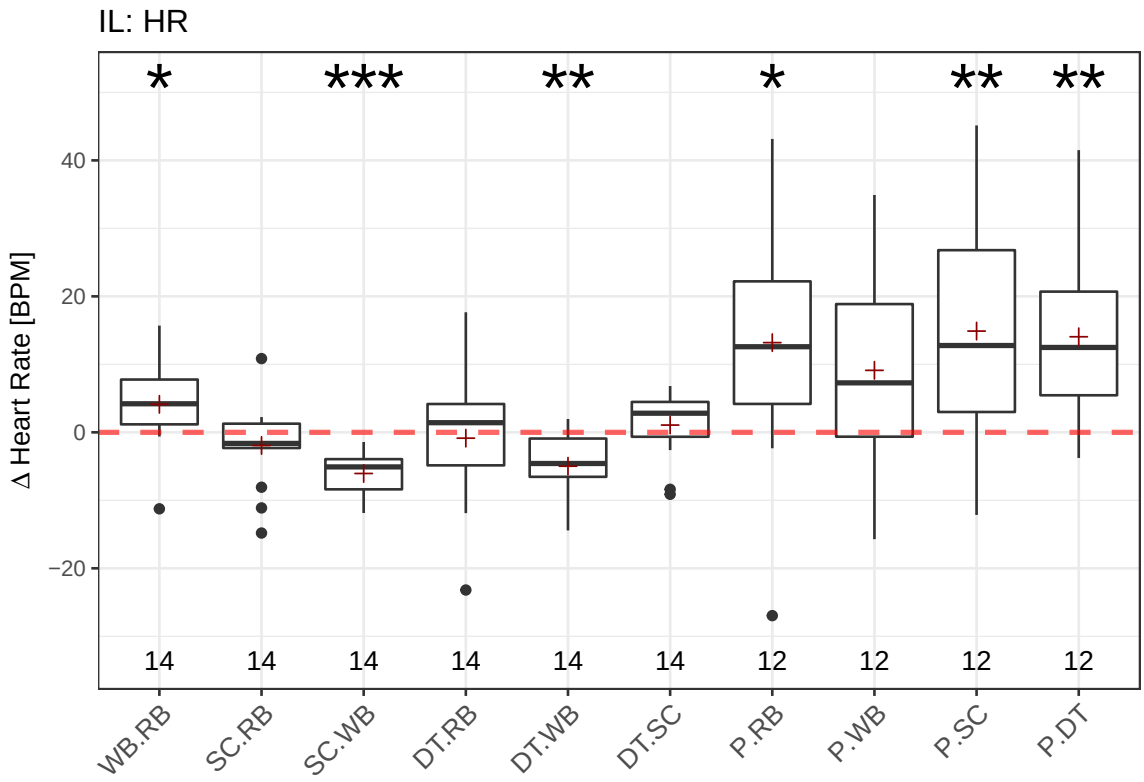

IL: P − RB
IL: P − WB
IL: P − SC
IL: P − DT
Δ ln(PP)
Δ –.
*
**
***
15
12
HR

Sensor Channel across Session



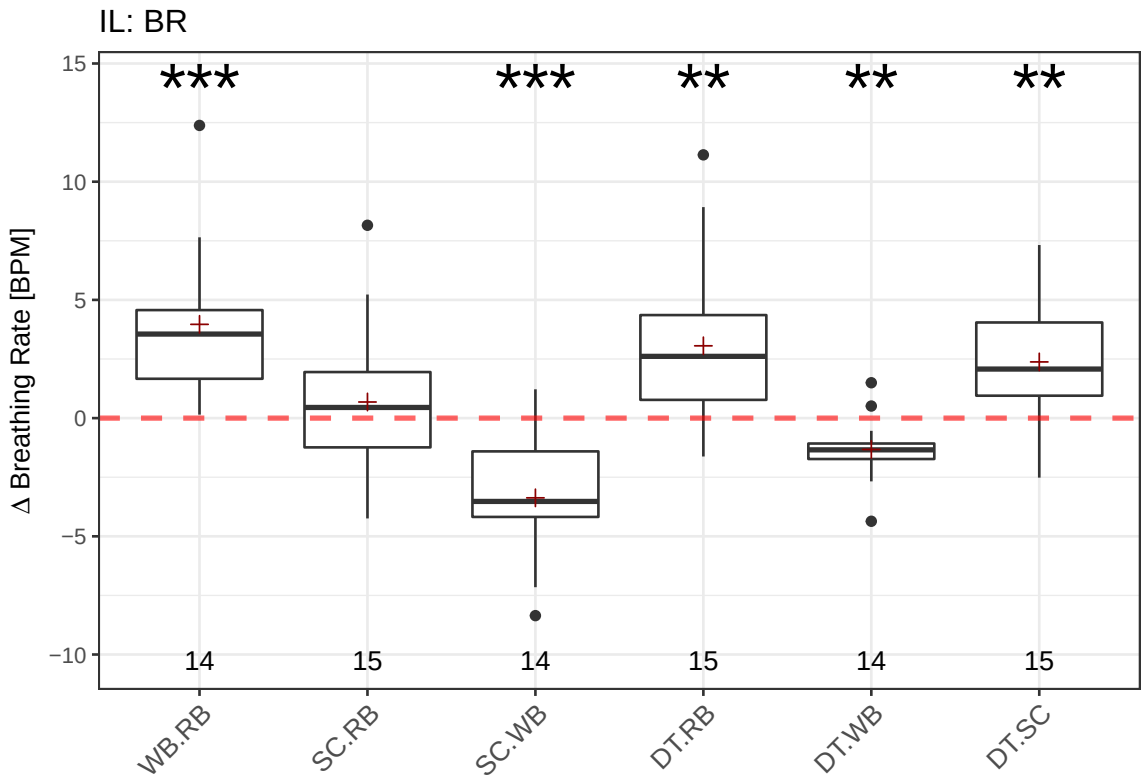

```
## Writing Baseline - Resting Baseline
## t-test p = 0.0081 < 0.01  **
##
## Stress Condition - Resting Baseline
## t-test p = 0.9677 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.0589 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.5346 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.2923 > 0.05
##
## Dual Task - Stress Condition
## t-test p = 0.2891 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0114 < 0.05  *
##
## Presentation - Writing Baseline
## t-test p = 0.0499 < 0.05  *
```

```
##
## Presentation - Stress Condition
## t-test p = 0.002 < 0.01  **
##
## Presentation - Dual Task
## t-test p = 4e-04 < 0.001  ***
```




```
## Writing Baseline - Resting Baseline
## t-test p = 0.0296 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.2669 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0 < 0.001  ***
##
## Dual Task - Resting Baseline
## t-test p = 0.7416 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0038 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.4266 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0326 < 0.05  *
##
## Presentation - Writing Baseline
## t-test p = 0.0531 > 0.05
##
## Presentation - Stress Condition
```

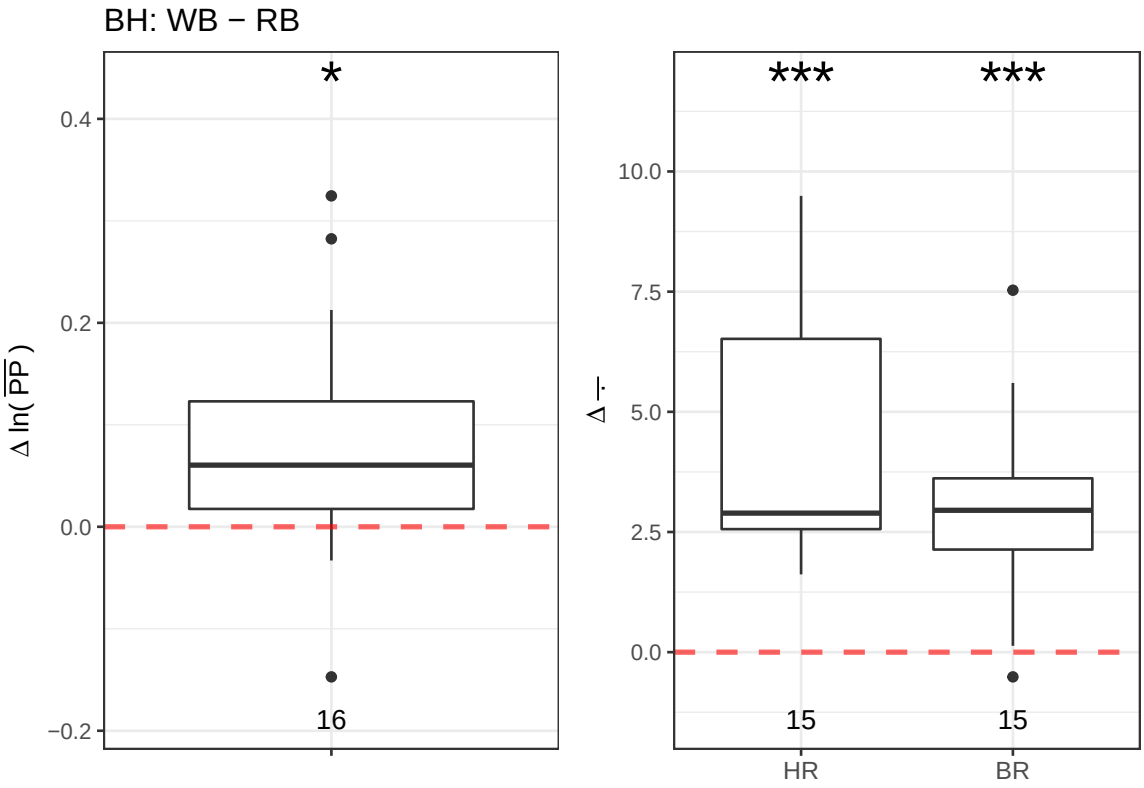
```
## t-test p = 0.0081 < 0.01  **
##
## Presentation - Dual Task
## t-test p = 0.0038 < 0.01  **
```

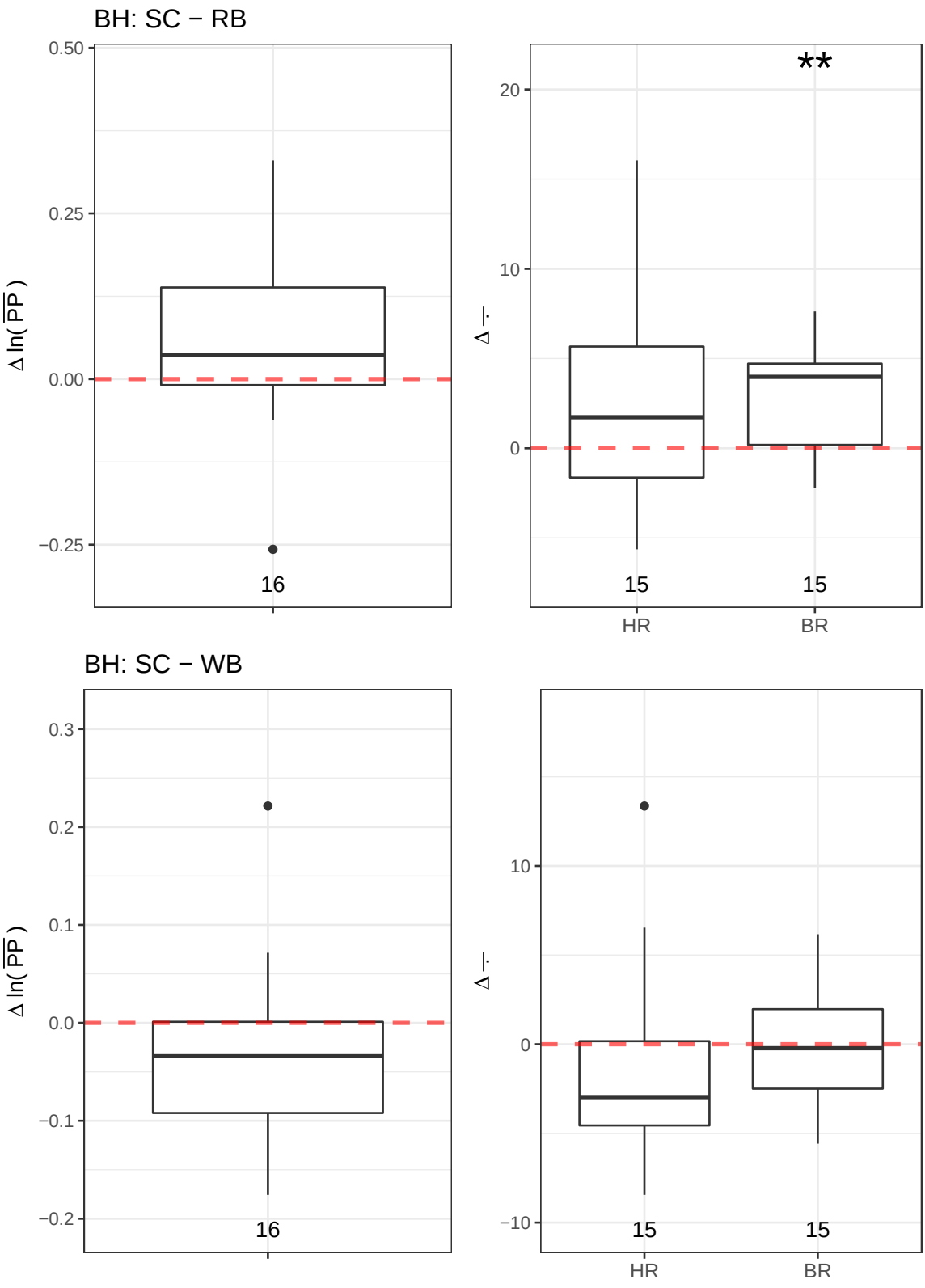


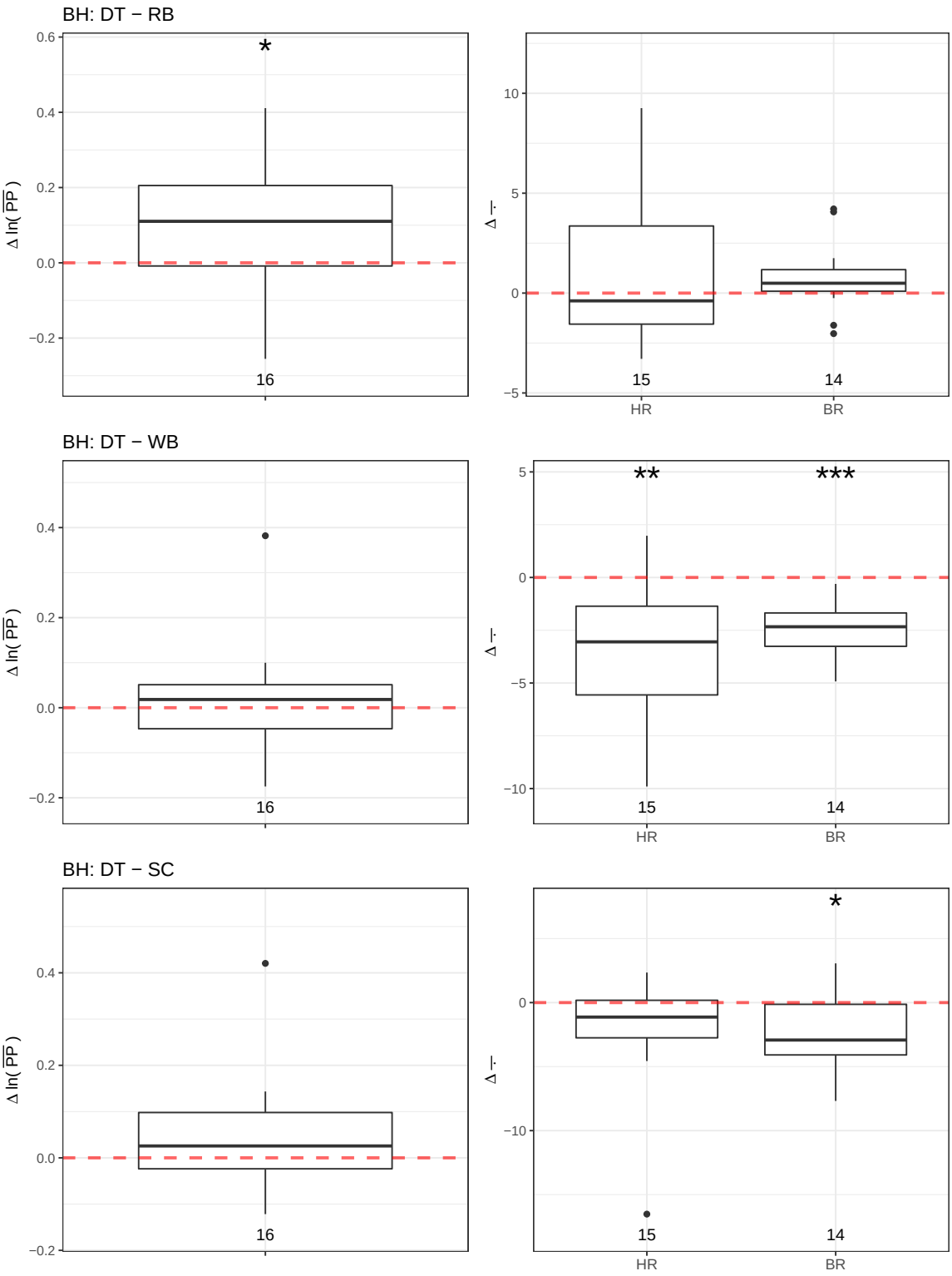

```
## Writing Baseline - Resting Baseline
## t-test p = 5e-04 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.4283 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 4e-04 < 0.001  ***
##
## Dual Task - Resting Baseline
## t-test p = 0.0063 < 0.01  **
##
## Dual Task - Writing Baseline
## t-test p = 0.0029 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.0065 < 0.01  **
```

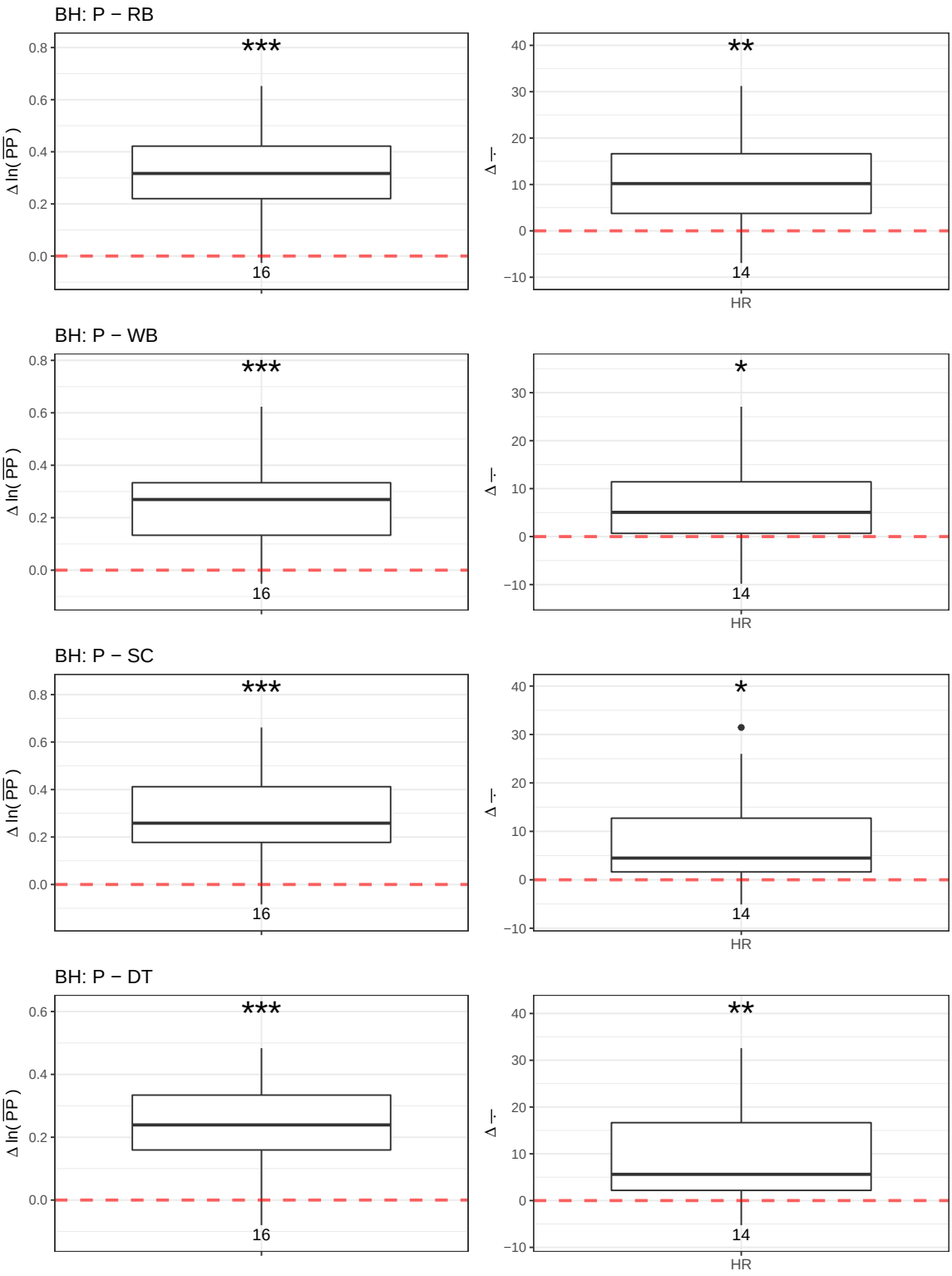
Batch-High (BH)

Sensor Channels per Session

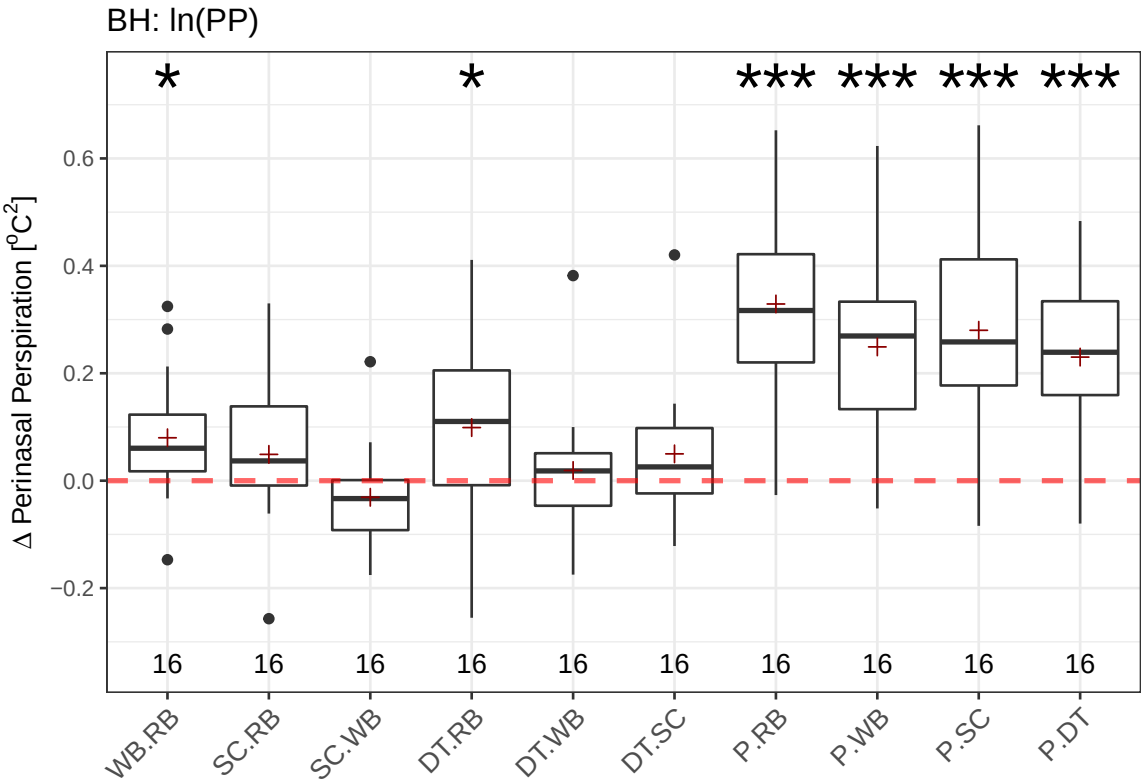



BH: SC − RB
0.50
0.25
0.00
−0.25
Δ ln(PP)
16
**
20
10
0
Δ
15
15
HR
BR
BH: SC − WB
0.3
0.2
0.1
0.0
−0.1
−0.2
Δ ln(PP)
16
10
0
−10
Δ
15
15
HR
BR


BH: DT − RB
Δ ln(PP)
0.6
0.4
0.2
0.0
−0.2
*
16
Δ
10
5
0
−5
15
14
HR
BR
BH: DT − WB
Δ ln(PP)
0.4
0.2
0.0
−0.2
16
Δ
5
0
−5
−10
**
***
15
14
HR
BR
BH: DT − SC
Δ ln(PP)
0.4
0.2
0.0
−0.2
16
Δ
0
−10
*
15
14
HR
BR

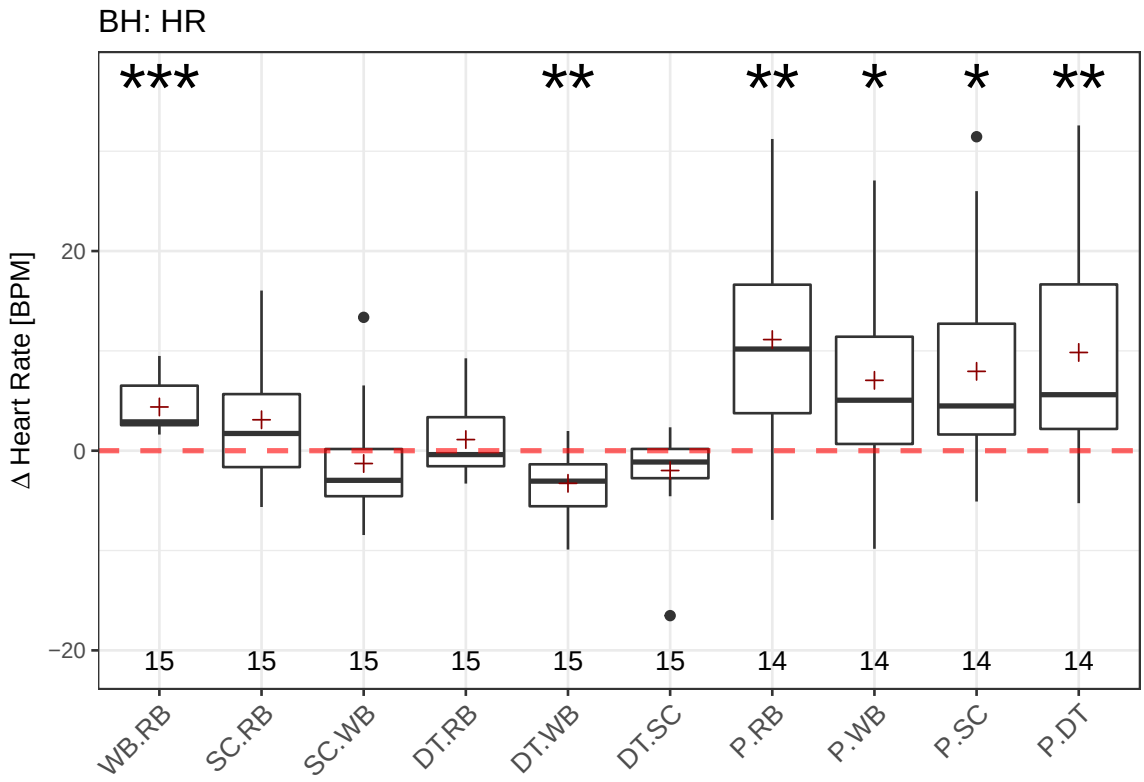

BH: P − RB
***
**
BH: P − WB
***
*
BH: P − SC
***
*
BH: P − DT
***
**
16
14
HR

Sensor Channel across Session



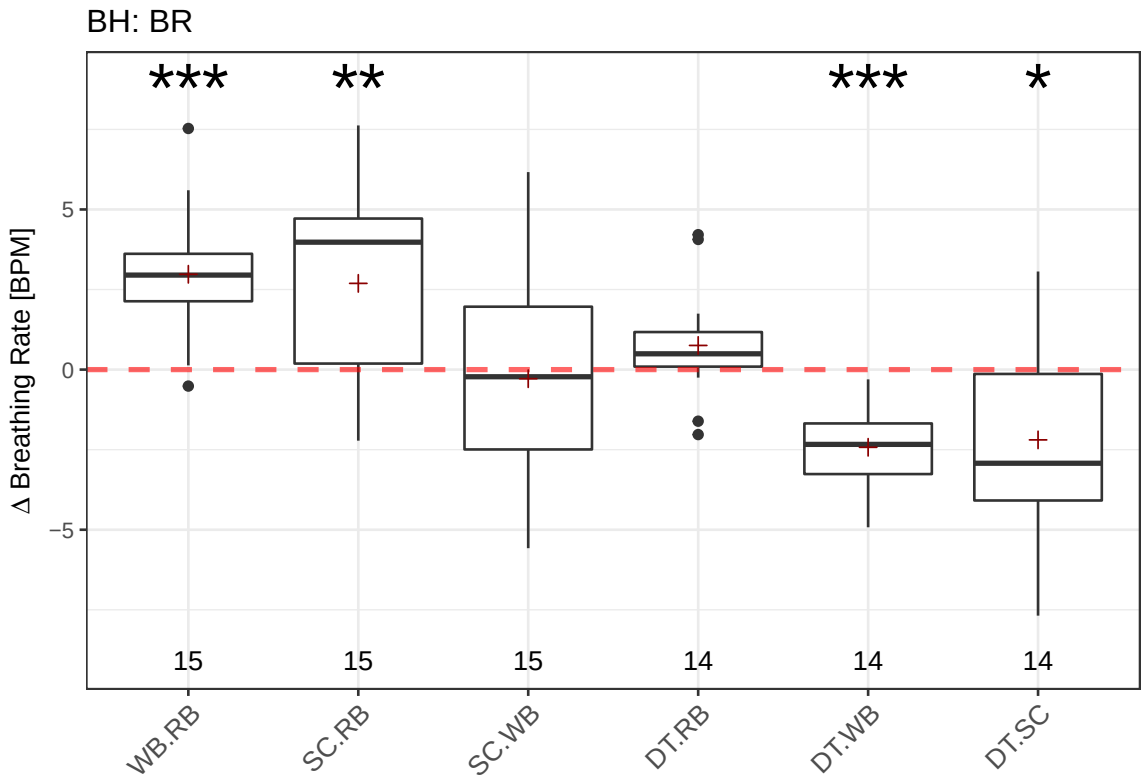

```
## Writing Baseline - Resting Baseline
## t-test p = 0.0173 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.1505 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.1982 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.0257 < 0.05  *
##
## Dual Task - Writing Baseline
## t-test p = 0.5396 > 0.05
##
## Dual Task - Stress Condition
## t-test p = 0.1253 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Presentation - Writing Baseline
## t-test p = 1e-04 < 0.001  ***
```

```
##
## Presentation - Stress Condition
## t-test p = 0 < 0.001  ***
##
## Presentation - Dual Task
## t-test p = 0 < 0.001  ***
```




```
## Writing Baseline - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0677 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.3915 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.2819 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0013 < 0.01  **
##
## Dual Task - Stress Condition
## t-test p = 0.1068 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.0048 < 0.01  **
##
## Presentation - Writing Baseline
## t-test p = 0.0414 < 0.05  *
##
## Presentation - Stress Condition
```

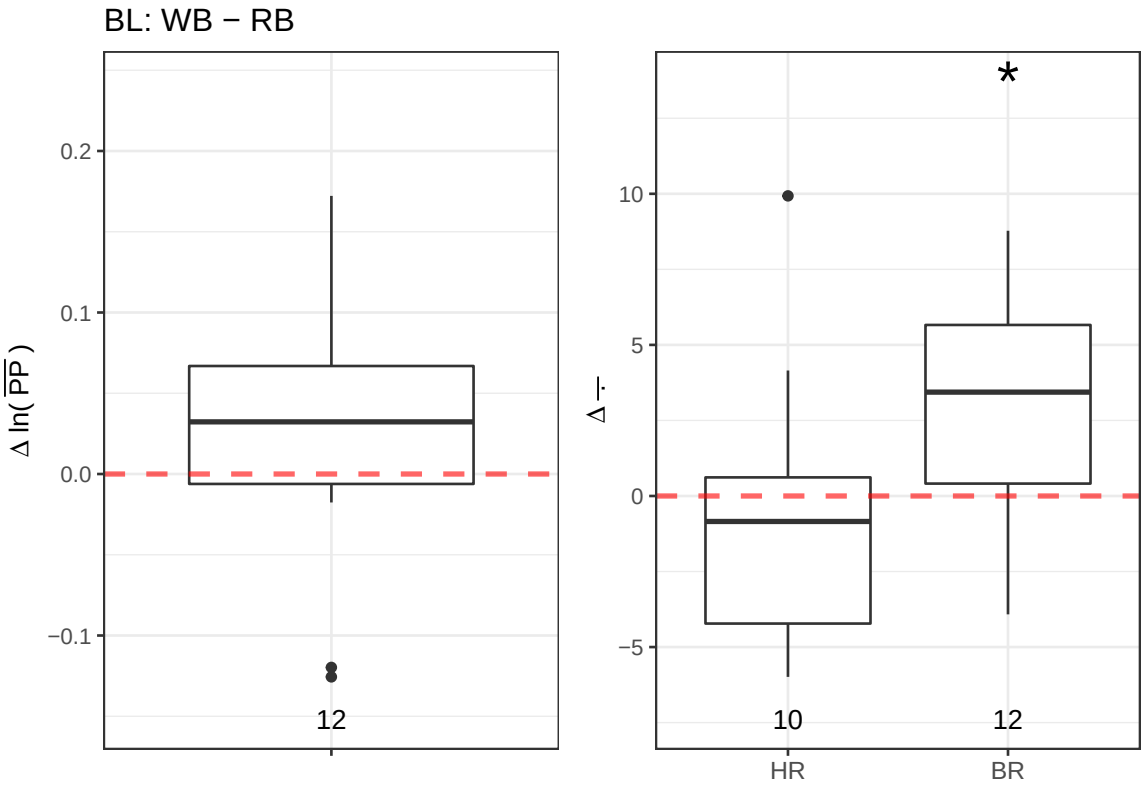
```
## t-test p = 0.0174 < 0.05  *
##
## Presentation - Dual Task
## t-test p = 0.0088 < 0.01  **
```

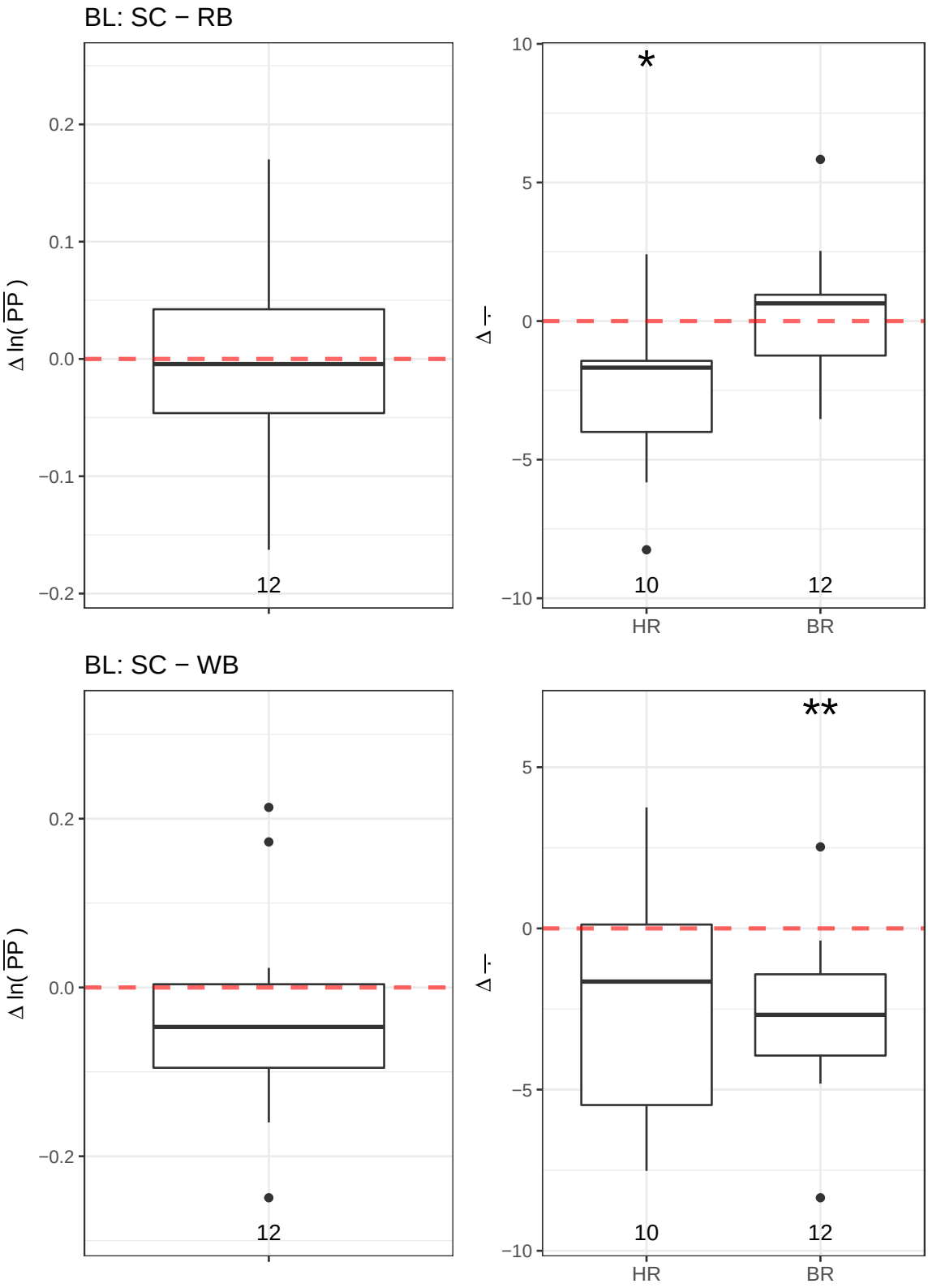


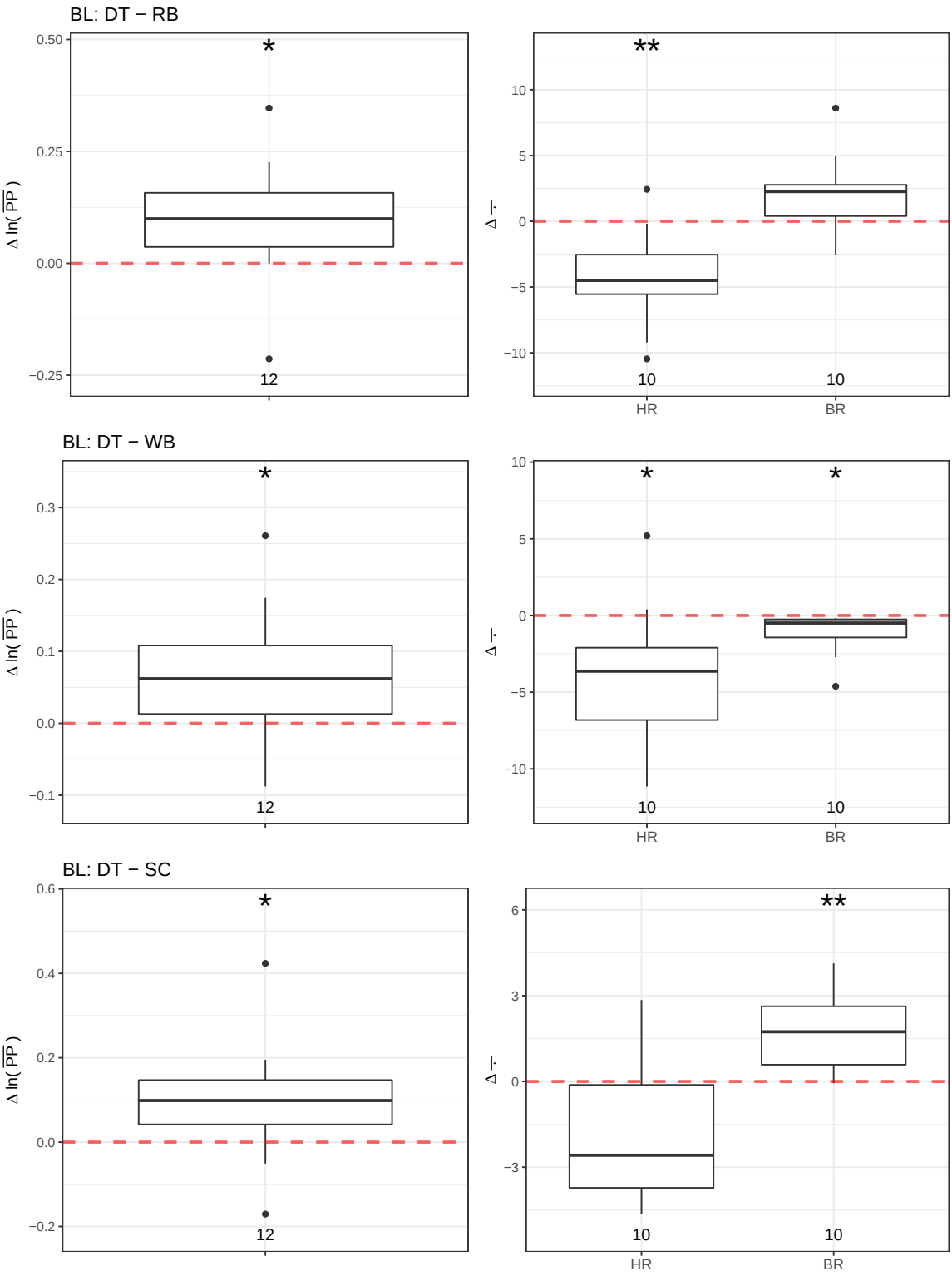

```
## Writing Baseline - Resting Baseline
## t-test p = 0 < 0.001  ***
##
## Stress Condition - Resting Baseline
## t-test p = 0.0061 < 0.01  **
##
## StressCondition - Writing Baseline
## t-test p = 0.7466 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.1299 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0 < 0.001  ***
##
## Dual Task - Stress Condition
## t-test p = 0.0223 < 0.05  *
```

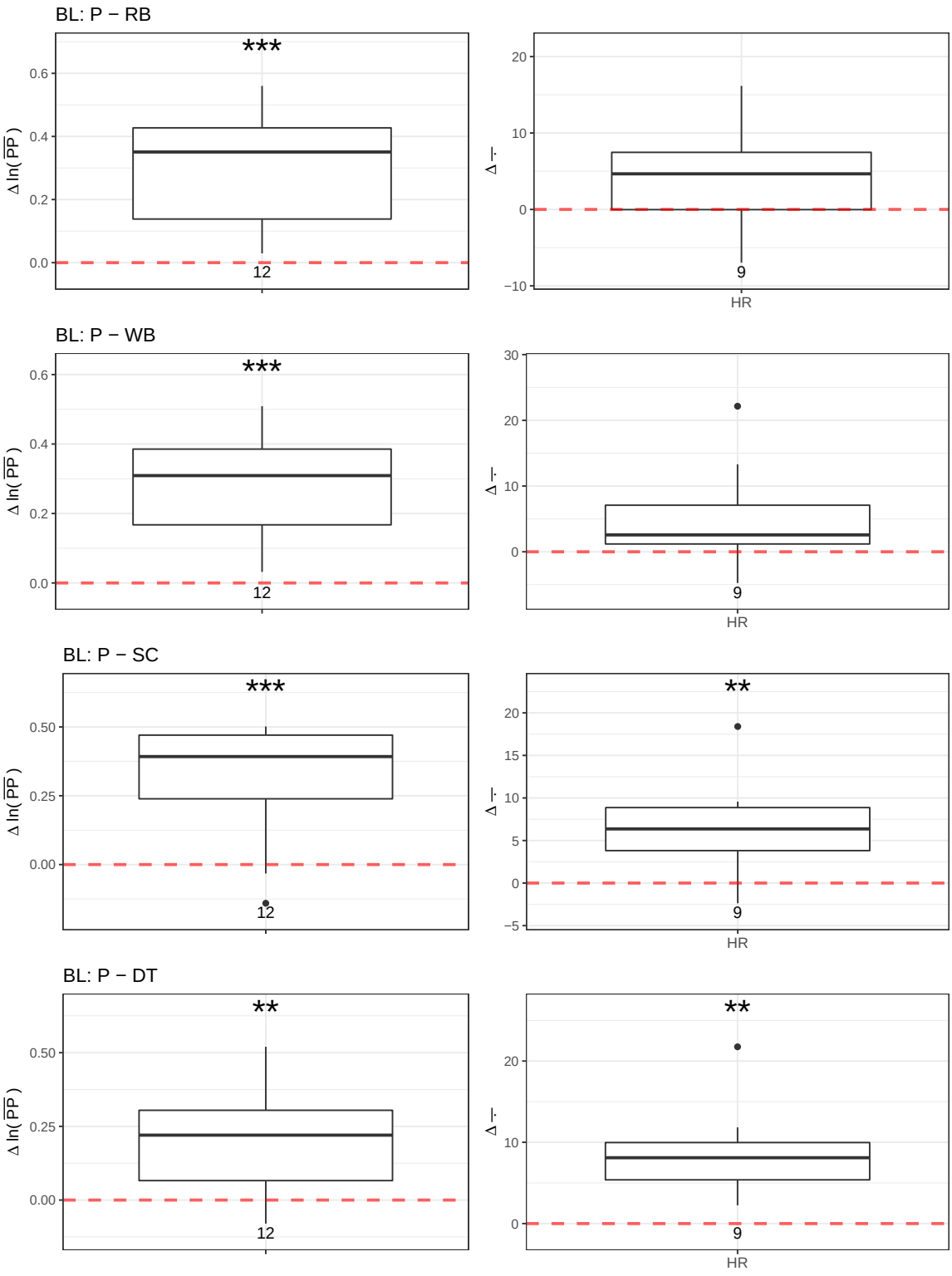
Batch-Low (BL)

Sensor Channels per Session

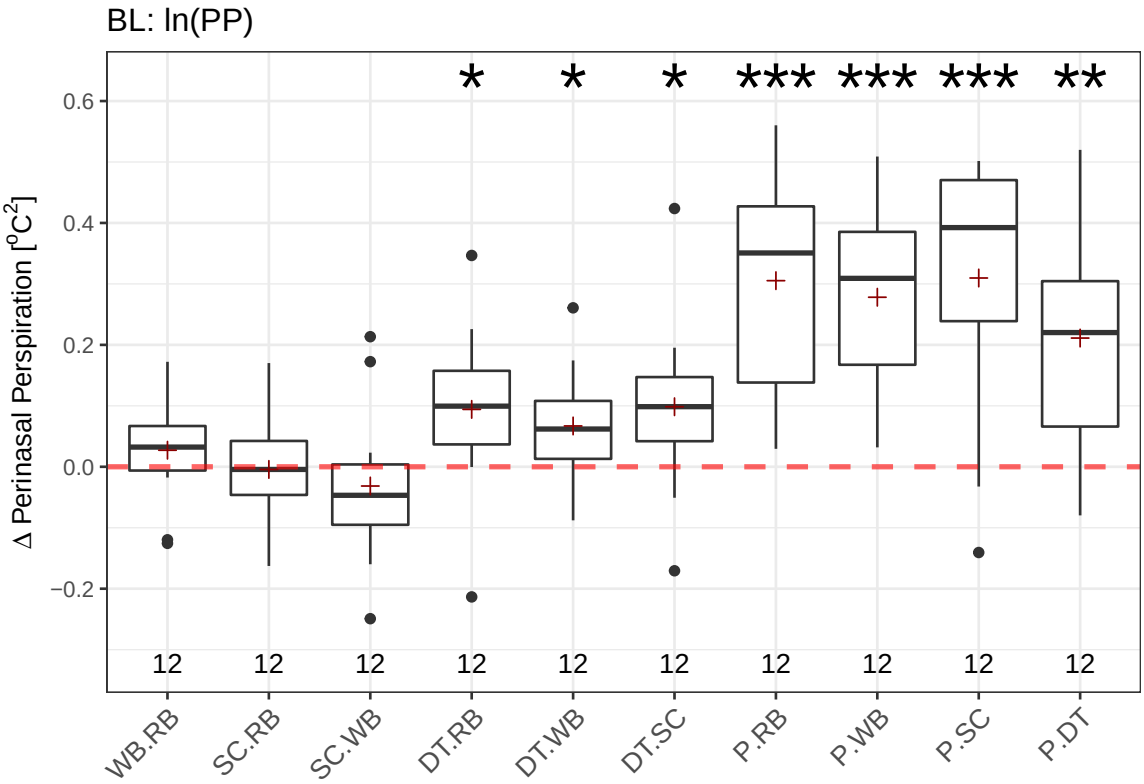



BL: SC − RB
Δ ln(PP)
0.2
0.1
0.0
−0.1
−0.2
12
*
10
5
0
−5
−10
10
12
HR
BR
BL: SC − WB
Δ ln(PP)
0.2
0.0
−0.2
12
**
5
0
−5
−10
10
12
HR
BR


BL: DT − RB
Δ ln(PP)
0.50
0.25
0.00
−0.25
*
12
Δ
10
5
0
−5
−10
**
10
10
HR
BR
BL: DT − WB
Δ ln(PP)
0.3
0.2
0.1
0.0
−0.1
*
12
Δ
10
5
0
−5
−10
*
*
10
10
HR
BR
BL: DT − SC
Δ ln(PP)
0.6
0.4
0.2
0.0
−0.2
*
12
Δ
6
3
0
−3
**
10
10
HR
BR

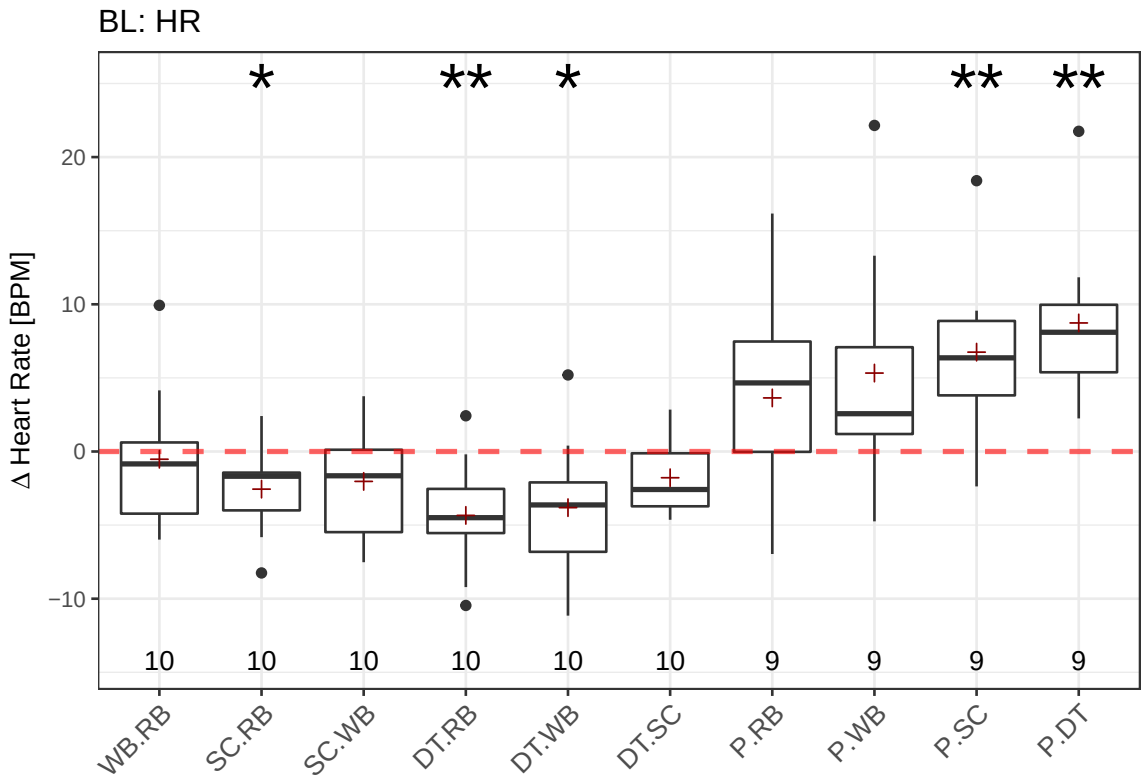

BL: P − RB
***
Δ ln(PP)
0.6
0.4
0.2
0.0
12
Δ HR
20
10
0
−10
9
HR
BL: P − WB
***
Δ ln(PP)
0.6
0.4
0.2
0.0
12
Δ HR
30
20
10
0
9
HR
BL: P − SC
***
Δ ln(PP)
0.50
0.25
0.00
12
**
Δ HR
20
15
10
5
0
−5
9
HR
BL: P − DT
**
Δ ln(PP)
0.50
0.25
0.00
12
**
Δ HR
20
10
0
9
HR

Sensor Channel across Session



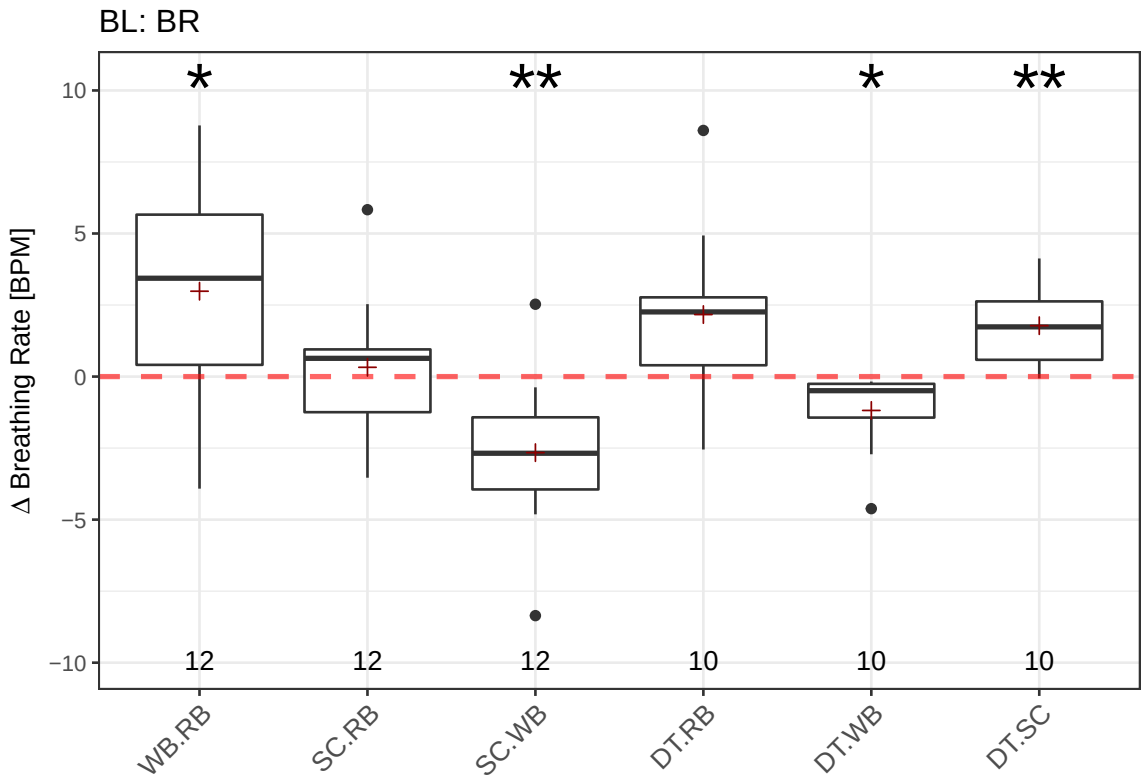

```
## Writing Baseline - Resting Baseline
## t-test p = 0.3112 > 0.05
##
## Stress Condition - Resting Baseline
## t-test p = 0.8742 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.4112 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.0384 < 0.05  *
##
## Dual Task - Writing Baseline
## t-test p = 0.031 < 0.05  *
##
## Dual Task - Stress Condition
## t-test p = 0.0383 < 0.05  *
##
## Presentation - Resting Baseline
## t-test p = 1e-04 < 0.001  ***
##
## Presentation - Writing Baseline
## t-test p = 1e-04 < 0.001  ***
```

```
##
## Presentation - Stress Condition
## t-test p = 4e-04 < 0.001  ***
##
## Presentation - Dual Task
## t-test p = 0.0019 < 0.01  **
```



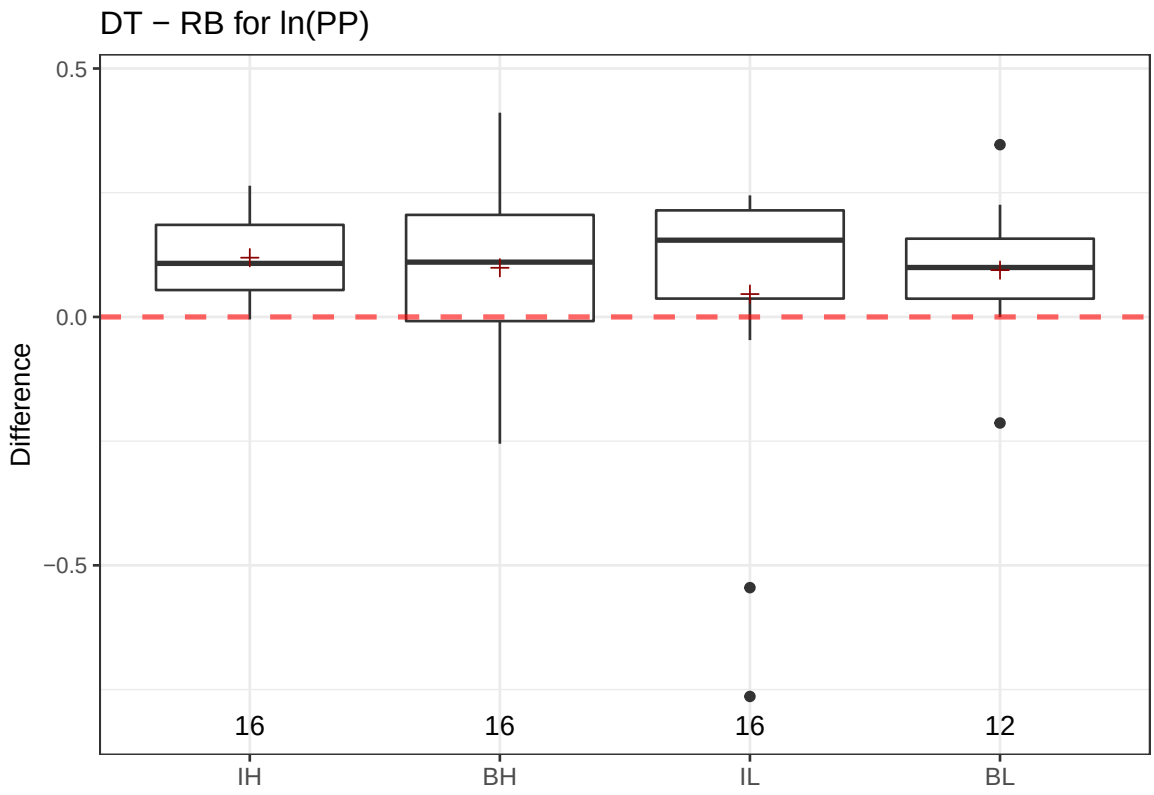

```
## Writing Baseline - Resting Baseline
## t-test p = 0.7388 > 0.05
##
## Stress Condition - Resting Baseline
## t-test p = 0.0232 < 0.05  *
##
## StressCondition - Writing Baseline
## t-test p = 0.1472 > 0.05
##
## Dual Task - Resting Baseline
## t-test p = 0.0059 < 0.01  **
##
## Dual Task - Writing Baseline
## t-test p = 0.0304 < 0.05  *
##
## Dual Task - Stress Condition
## t-test p = 0.059 > 0.05
##
## Presentation - Resting Baseline
## t-test p = 0.152 > 0.05
##
## Presentation - Writing Baseline
## t-test p = 0.0882 > 0.05
##
## Presentation - Stress Condition
```

```
## t-test p = 0.0081 < 0.01  **
##
## Presentation - Dual Task
## t-test p = 0.0017 < 0.01  **
```

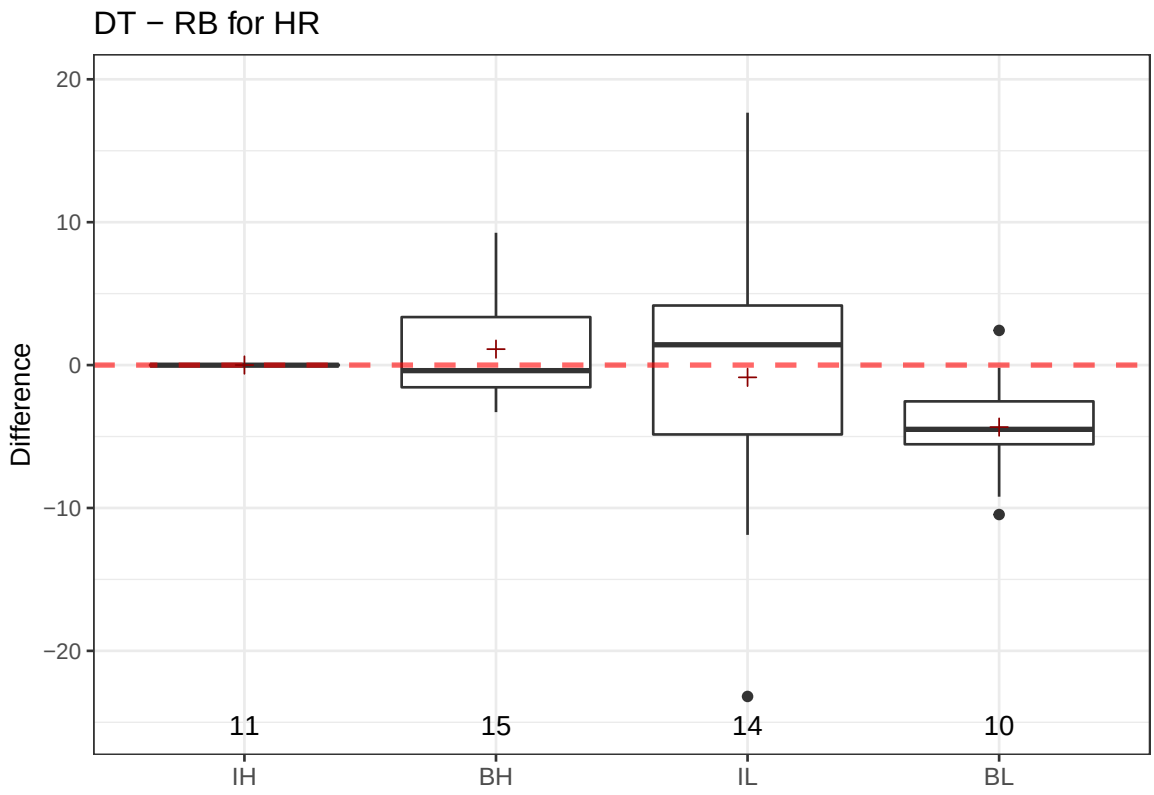



```
## Writing Baseline - Resting Baseline
## t-test p = 0.0144 < 0.05  *
##
## Stress Condition - Resting Baseline
## t-test p = 0.6486 > 0.05
##
## StressCondition - Writing Baseline
## t-test p = 0.0059 < 0.01  **
##
## Dual Task - Resting Baseline
## t-test p = 0.0517 > 0.05
##
## Dual Task - Writing Baseline
## t-test p = 0.0295 < 0.05  *
##
## Dual Task - Stress Condition
## t-test p = 0.0039 < 0.01  **
```

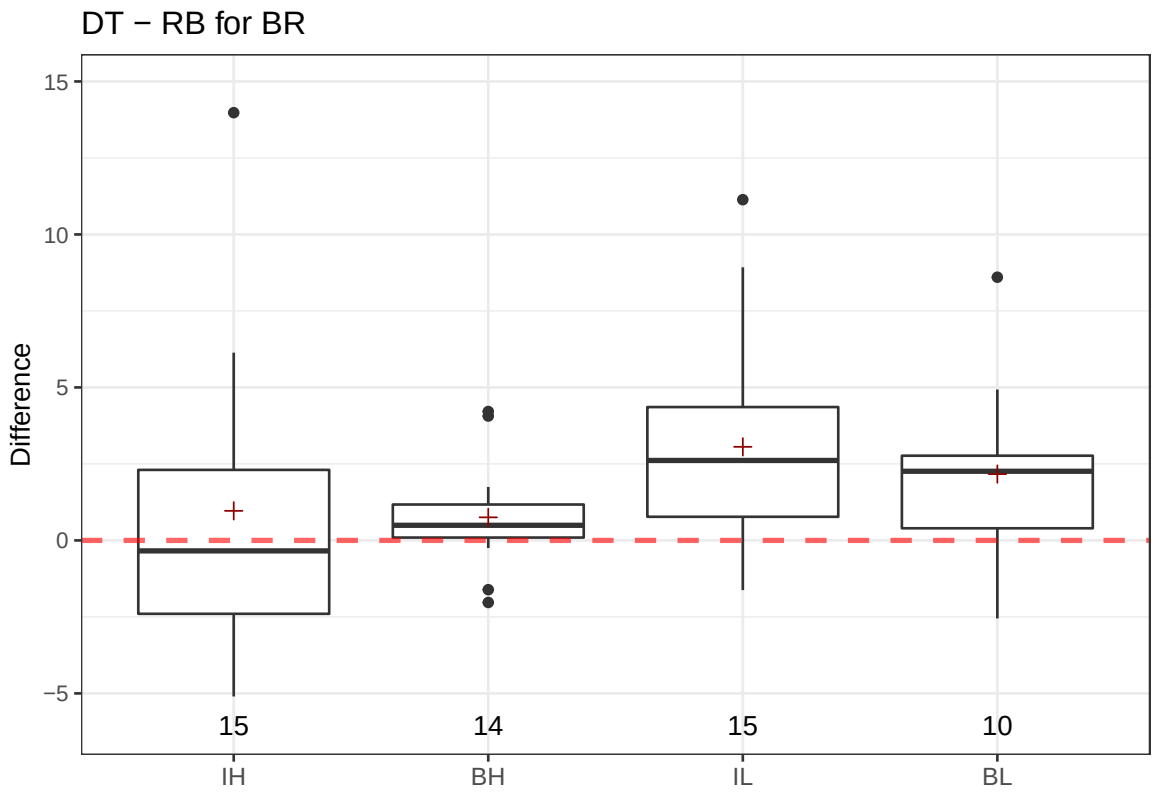
Across Sessions



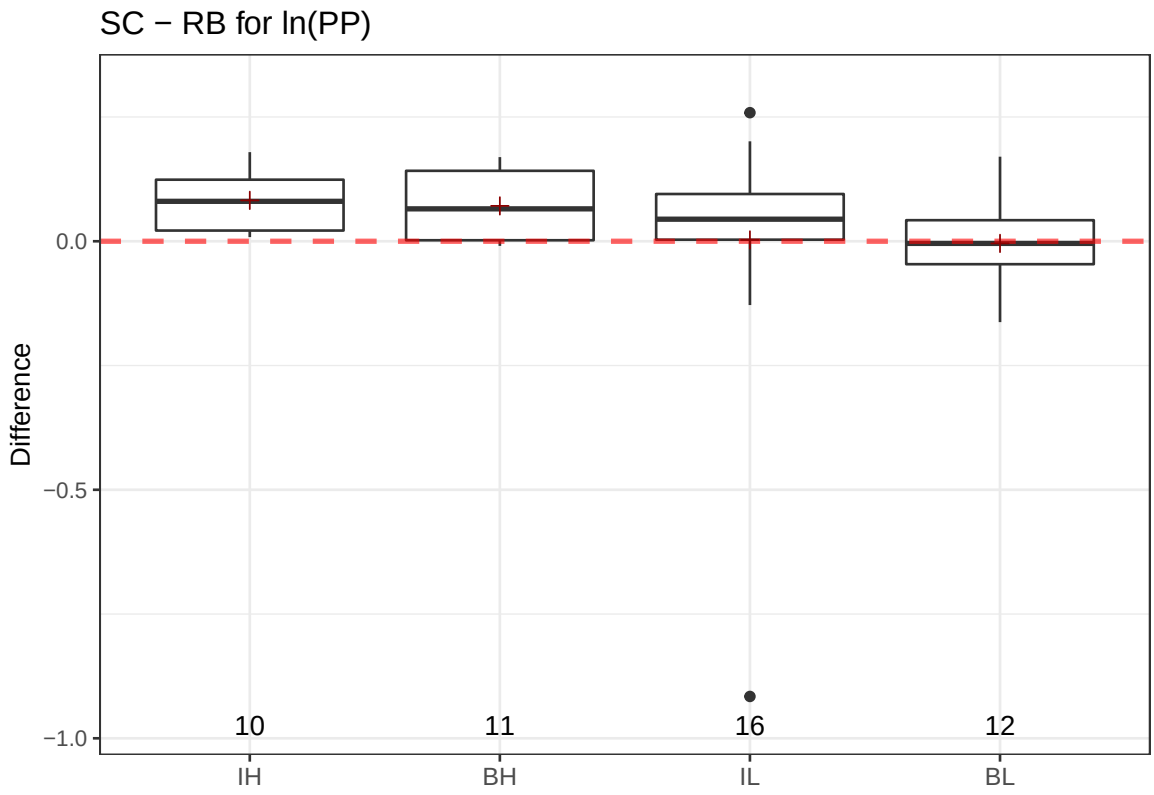

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3  0.046 0.01535    0.44  0.725
## Residuals   56  1.954 0.03490
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##                diff        lwr       upr     p adj
## BL-BH -0.004751779 -0.1936516 0.1841480 0.9998926
## IH-BH  0.020311813 -0.1545754 0.1951990 0.9898006
## IL-BH -0.052877931 -0.2277651 0.1220093 0.8538386
## IH-BL  0.025063592 -0.1638362 0.2139634 0.9849637
## IL-BL -0.048126152 -0.2370259 0.1407736 0.9062671
## IL-IH -0.073189744 -0.2480770 0.1016975 0.6860706
```



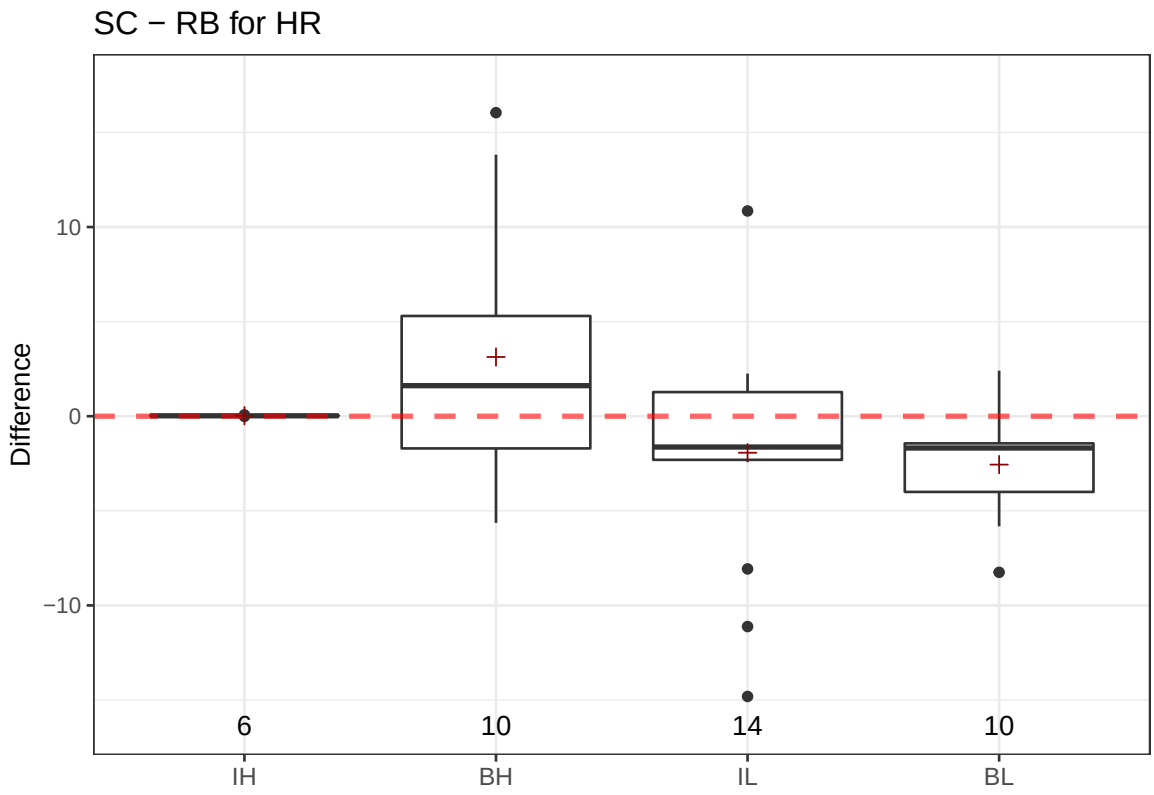

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3  187.5   62.50   1.887  0.145
## Residuals   46 1523.8   33.13
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##              diff        lwr        upr     p adj
## BL-BH -5.4561564 -11.719142  0.8068286 0.1077898
## IH-BH -1.1130302  -7.202812  4.9767512 0.9615697
## IL-BH -1.9740785  -7.675017  3.7268599 0.7927127
## IH-BL  4.3431262  -2.359891 11.0461430 0.3216979
## IL-BL  3.4820779  -2.869748  9.8339041 0.4687717
## IL-IH -0.8610483  -7.042161  5.3200641 0.9823088
```



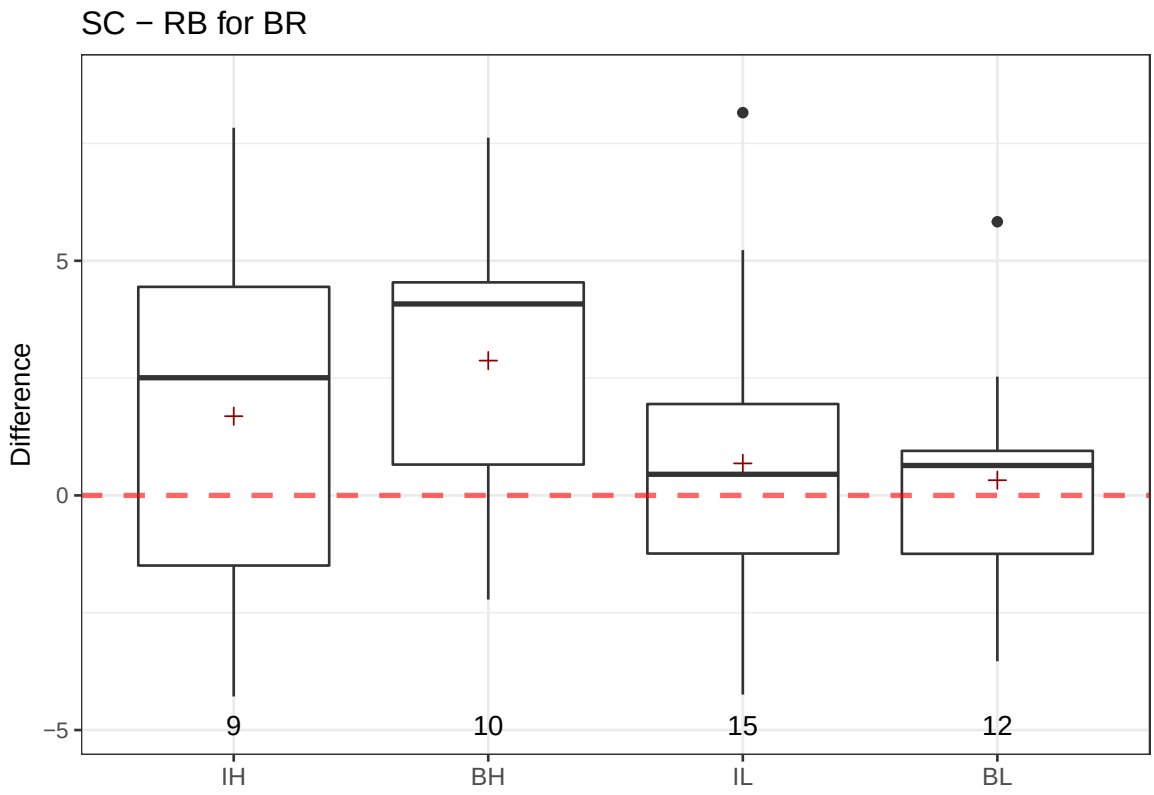

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3   50.5   16.82   1.321  0.278
## Residuals   50  636.8   12.74
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##             diff       lwr      upr     p adj
## BL-BH  1.4129937 -2.513885 5.339873 0.7746224
## IH-BH  0.2115210 -3.312961 3.736003 0.9985359
## IL-BH  2.3041802 -1.220302 5.828662 0.3155808
## IH-BL -1.2014727 -5.073428 2.670482 0.8425252
## IL-BL  0.8911865 -2.980768 4.763141 0.9278959
## IL-IH  2.0926593 -1.370523 5.555841 0.3846728
```



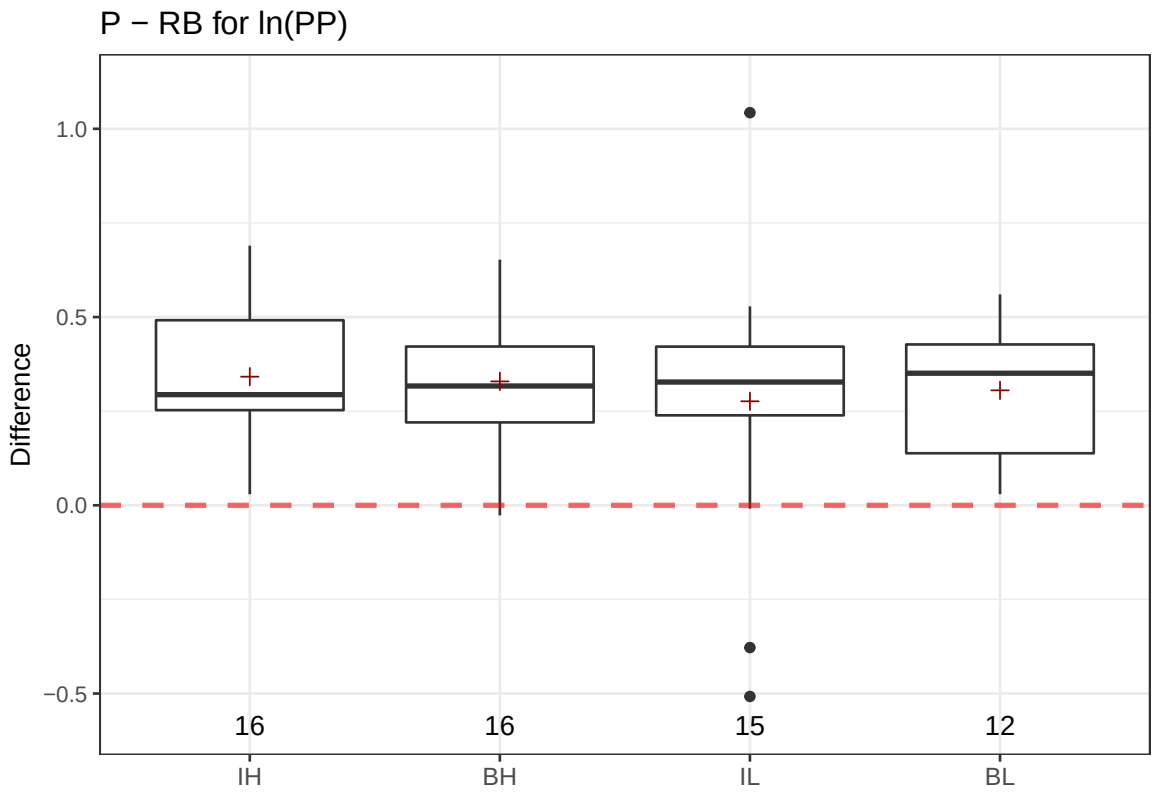

```
## [1] "Removed 12 subjects who had Stroop scores less than 30."
##
## ---
##               Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3 0.0717 0.02390     0.9  0.448
## Residuals   45 1.1944 0.02654
##
## ---
##
##     Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = formula(paste(diff, "~ Condition")), data = anova_df)
##
## $Condition
##               diff         lwr        upr     p adj
## BL-BH -0.075478820 -0.25689518 0.10593754 0.6853738
## IH-BH  0.011116132 -0.17877855 0.20101081 0.9986230
## IL-BH -0.068455385 -0.23868105 0.10177028 0.7076679
## IH-BL  0.086594952 -0.09949383 0.27268374 0.6042769
## IL-BL  0.007023435 -0.15894591 0.17299278 0.9994774
## IL-IH -0.079571517 -0.25476832 0.09562528 0.6228117
```



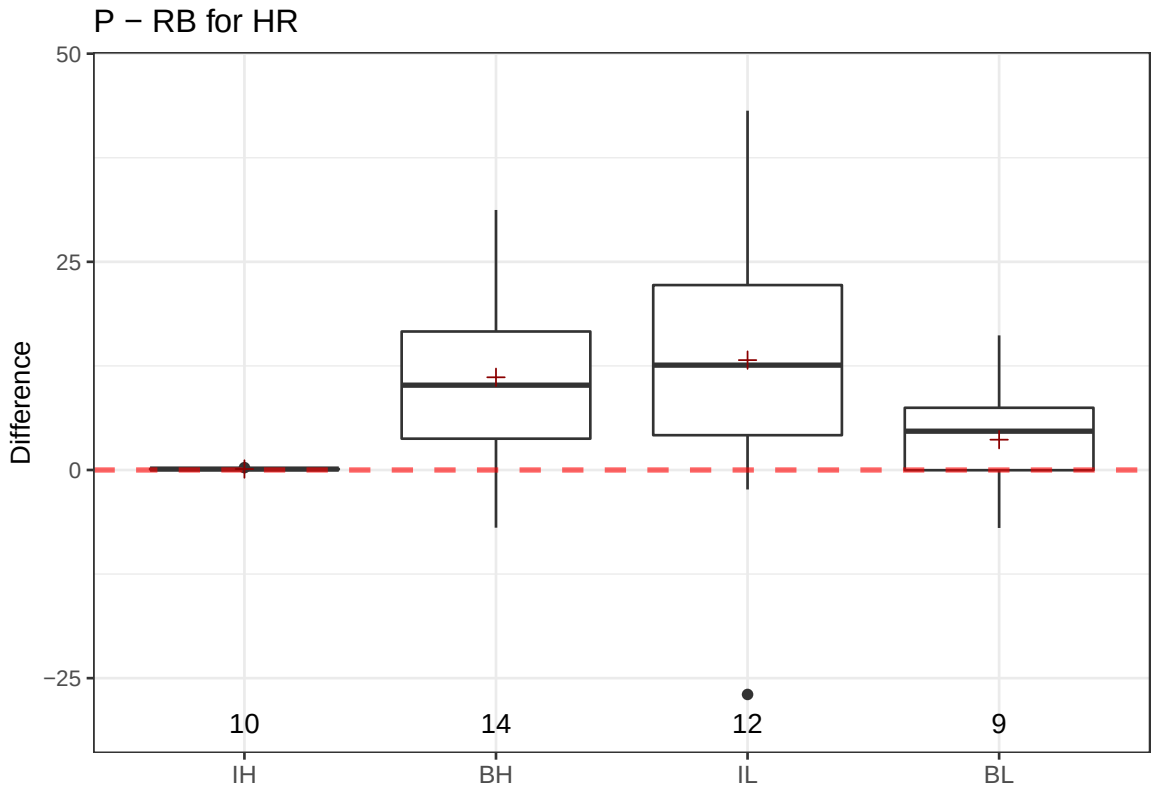

```
## [1] "Removed 12 subjects who had Stroop scores less than 30."
##
## ---
##               Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3  204.4   68.12   2.393 0.0845 .
## Residuals   36 1024.6   28.46
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## ---
##
##     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 -5.6876203 -12.113373  0.7381320 0.0984656
## IH-BH -3.1030319 -10.522852  4.3167878 0.6759273
## IL-BH -5.0598501 -11.008941  0.8892406 0.1191814
## IH-BL  2.5845884  -4.835231 10.0044081 0.7846339
## IL-BL  0.6277702  -5.321320  6.5768609 0.9918553
## IL-IH -1.9568182  -8.967889  5.0542524 0.8753411
```




```
## [1] "Removed 12 subjects who had Stroop scores less than 30."
##
## ---
##               Df Sum Sq Mean Sq F value Pr(>F)
## Condition      3   43.2   14.39   1.435  0.246
## Residuals     42  421.2   10.03
##
## ---
##
##     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 -2.5486249 -6.175665 1.078415 0.2521544
## IH-BH -1.1846675 -5.076796 2.707461 0.8474184
## IL-BH -2.1906250 -5.648872 1.267622 0.3393232
## IH-BL  1.3639574 -2.371376 5.099291 0.7633237
## IL-BL  0.3579999 -2.922781 3.638781 0.9912137
## IL-IH -1.0059575 -4.577619 2.565704 0.8746984
```




```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3  0.038 0.01271     0.2  0.896
## Residuals   55  3.492 0.06349
##
## ---
##
##     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 -0.02368803 -0.2786230 0.2312469 0.9946973
## IH-BH  0.01262150 -0.2234024 0.2486454 0.9989729
## IL-BH -0.05278427 -0.2927096 0.1871411 0.9368297
## IH-BL  0.03630953 -0.2186254 0.2912445 0.9815042
## IL-BL -0.02909625 -0.2876475 0.2294550 0.9906836
## IL-IH -0.06540578 -0.3053311 0.1745196 0.8878104
```




```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Condition    3   1251   417.0   2.759 0.0543 .
## Residuals   41   6196   151.1
## ---
## 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  -7.492688 -21.556292  6.570915 0.4904678
## IH-BH -11.016346 -24.645208  2.612515 0.1504340
## IL-BH   2.063625 -10.885785 15.013036 0.9735758
## IH-BL  -3.523658 -18.647896 11.600581 0.9238389
## IL-BL   9.556314  -4.958643 24.071270 0.3055791
## IL-IH  13.079972  -1.014172 27.174115 0.0773772
```

Summary

Condition	Difference	Measure	p	Test	n	Significance
BH	WB - RB	PP	0.0173080	t-test	16	*
BH	WB - RB	HR	0.0000221	t-test	15	***
BH	WB - RB	BR	0.0000456	t-test	15	***
BH	SC - RB	PP	0.1505156	t-test	16	
BH	SC - RB	HR	0.0676868	t-test	15	
BH	SC - RB	BR	0.0060548	t-test	15	**
BH	SC - WB	PP	0.1982421	t-test	16	
BH	SC - WB	HR	0.3915336	t-test	15	
BH	SC - WB	BR	0.7466036	t-test	15	
BH	DT - RB	PP	0.0257406	t-test	16	*
BH	DT - RB	HR	0.2818579	t-test	15	
BH	DT - RB	BR	0.1299423	t-test	14	
BH	DT - WB	PP	0.5396050	t-test	16	
BH	DT - WB	HR	0.0012903	t-test	15	**
BH	DT - WB	BR	0.0000039	t-test	14	***
BH	DT - SC	PP	0.1253277	t-test	16	
BH	DT - SC	HR	0.1067941	t-test	15	
BH	DT - SC	BR	0.0223007	t-test	14	*
BH	P - RB	PP	0.0000065	t-test	16	***
BH	P - RB	HR	0.0048470	t-test	14	**
BH	P - WB	PP	0.0000833	t-test	16	***
BH	P - WB	HR	0.0414463	t-test	14	*
BH	P - SC	PP	0.0000467	t-test	16	***
BH	P - SC	HR	0.0173810	t-test	14	*
BH	P - DT	PP	0.0000138	t-test	16	***
BH	P - DT	HR	0.0088212	t-test	14	**
BL	WB - RB	PP	0.3111512	t-test	12	
BL	WB - RB	HR	0.7387962	t-test	10	
BL	WB - RB	BR	0.0144324	t-test	12	*
BL	SC - RB	PP	0.8741675	t-test	12	
BL	SC - RB	HR	0.0232452	t-test	10	*
BL	SC - RB	BR	0.6485754	t-test	12	
BL	SC - WB	PP	0.4112087	t-test	12	
BL	SC - WB	HR	0.1472392	t-test	10	
BL	SC - WB	BR	0.0059262	t-test	12	**
BL	DT - RB	PP	0.0384288	t-test	12	*
BL	DT - RB	HR	0.0059170	t-test	10	**
BL	DT - RB	BR	0.0517248	t-test	10	
BL	DT - WB	PP	0.0310006	t-test	12	*
BL	DT - WB	HR	0.0304091	t-test	10	*
BL	DT - WB	BR	0.0294794	t-test	10	*
BL	DT - SC	PP	0.0383143	t-test	12	*
BL	DT - SC	HR	0.0589739	t-test	10	
BL	DT - SC	BR	0.0039438	t-test	10	**
BL	P - RB	PP	0.0001148	t-test	12	***

(continued)

Condition	Difference	Measure	p	Test	n	Significance
BL	P - RB	HR	0.1520301	t-test	9	
BL	P - WB	PP	0.0000638	t-test	12	***
BL	P - WB	HR	0.0882318	t-test	9	
BL	P - SC	PP	0.0004323	t-test	12	***
BL	P - SC	HR	0.0080584	t-test	9	**
BL	P - DT	PP	0.0019330	t-test	12	**
BL	P - DT	HR	0.0017449	t-test	9	**
IH	WB - RB	PP	0.0002132	t-test	16	***
IH	WB - RB	HR	0.0156014	Transformed t-test	11	*
IH	WB - RB	BR	0.0184463	t-test	15	*
IH	SC - RB	PP	0.0072317	t-test	16	**
IH	SC - RB	HR	0.1143439	Transformed t-test	11	
IH	SC - RB	BR	0.0864944	t-test	15	
IH	SC - WB	PP	0.3534362	t-test	16	
IH	SC - WB	HR	0.3169827	Transformed t-test	11	
IH	SC - WB	BR	0.1404898	t-test	15	
IH	DT - RB	PP	0.0000331	t-test	16	***
IH	DT - RB	HR	0.8850103	Transformed t-test	11	
IH	DT - RB	BR	0.4484333	t-test	15	
IH	DT - WB	PP	0.4225392	t-test	16	
IH	DT - WB	HR	0.0361008	Transformed t-test	11	*
IH	DT - WB	BR	0.0012299	t-test	15	**
IH	DT - SC	PP	0.2570218	t-test	16	
IH	DT - SC	HR	0.3856627	Transformed t-test	11	
IH	DT - SC	BR	0.3441009	t-test	15	
IH	P - RB	PP	0.0000107	t-test	16	***
IH	P - RB	HR	0.0011076	Transformed t-test	10	**
IH	P - WB	PP	0.0002569	t-test	16	***
IH	P - WB	HR	0.0132975	Transformed t-test	10	*
IH	P - SC	PP	0.0001499	t-test	16	***
IH	P - SC	HR	0.0027481	Transformed t-test	10	**
IH	P - DT	PP	0.0003933	t-test	16	***
IH	P - DT	HR	0.0000932	Transformed t-test	10	***
IL	WB - RB	PP	0.0081275	t-test	16	**
IL	WB - RB	HR	0.0296381	t-test	14	*
IL	WB - RB	BR	0.0005134	t-test	14	***
IL	SC - RB	PP	0.9676786	t-test	16	
IL	SC - RB	HR	0.2669373	t-test	14	
IL	SC - RB	BR	0.4282762	t-test	15	
IL	SC - WB	PP	0.0588774	t-test	16	
IL	SC - WB	HR	0.0000048	t-test	14	***
IL	SC - WB	BR	0.0004184	t-test	14	***
IL	DT - RB	PP	0.5346038	t-test	16	
IL	DT - RB	HR	0.7416151	t-test	14	
IL	DT - RB	BR	0.0063324	t-test	15	**
IL	DT - WB	PP	0.2922834	t-test	16	
IL	DT - WB	HR	0.0037787	t-test	14	**

(continued)

Condition	Difference	Measure	p	Test	n	Significance
IL	DT - WB	BR	0.0028507	t-test	14	**
IL	DT - SC	PP	0.2890821	t-test	16	
IL	DT - SC	HR	0.4266015	t-test	14	
IL	DT - SC	BR	0.0064712	t-test	15	**
IL	P - RB	PP	0.0113585	t-test	15	*
IL	P - RB	HR	0.0326350	t-test	12	*
IL	P - WB	PP	0.0499145	t-test	15	*
IL	P - WB	HR	0.0531180	t-test	12	
IL	P - SC	PP	0.0020385	t-test	15	**
IL	P - SC	HR	0.0080668	t-test	12	**
IL	P - DT	PP	0.0003956	t-test	15	***
IL	P - DT	HR	0.0038321	t-test	12	**