

Contents

1 Interviews	2
1.1 General	3
1.1.1 Gender	3
1.1.2 Age	3
1.1.3 order	4
1.1.4 Preferred style parent	4
1.1.5 Preferred style children	5
1.2 COIRS - CHILD ORIENTAION IN INTERACTING WITH ROBOT	5
1.2.1 Child-parent correlation in object ranking	7
1.3 Functionality preferences	9
1.3.1 Child-parent correlation in functionality preferrence	12
2 Features	14
2.1 Static Features	14
2.1.1 Body Volume	14
2.1.2 Distance	20
2.1.3 Center of Mass	26
2.1.4 Center of Mass Displacement	26
2.1.5 Distance Covered	26
2.1.6 Hand Relationship - Distance	26
2.1.7 Hand Relationship - Displacement	31
2.1.8 Hand Relationship - Asymmetry	37
2.1.9 Shoulder Angle	44
2.1.10 Elbow Flexion	44
2.1.11 Feet Relationship	44
2.1.12 Torso Neck Orientation	44
2.1.13 Body lean angle - Frontal	44
2.1.14 Hands Status	48
2.2 Dynamic Features	48
3 Postures	48

Stylebot Experiment

Wafa Johal

October 11, 2016

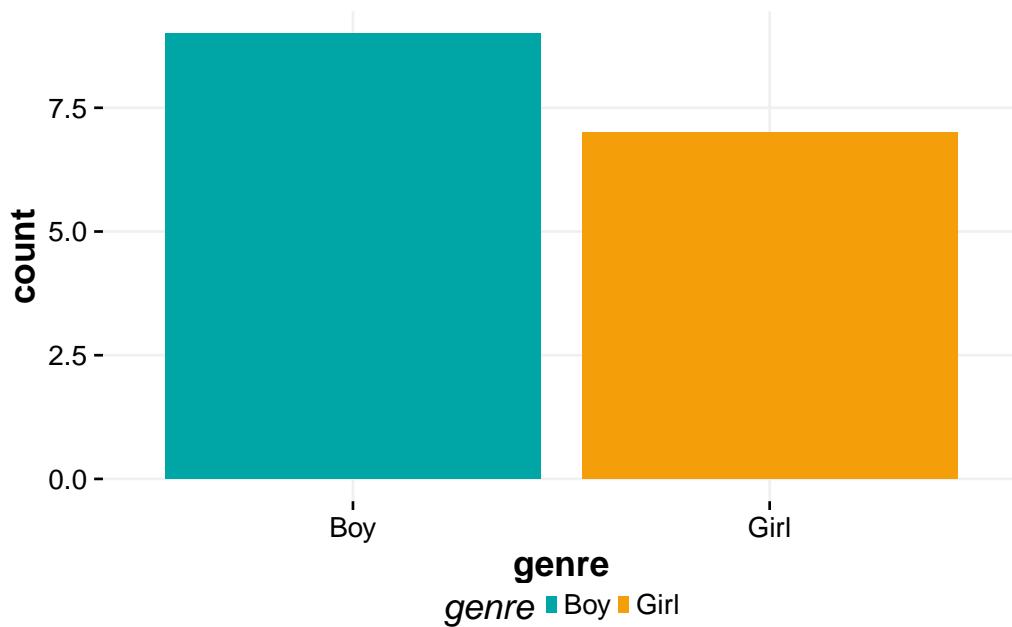
1 Interviews

Table 1: Summary statistics of activities metadata

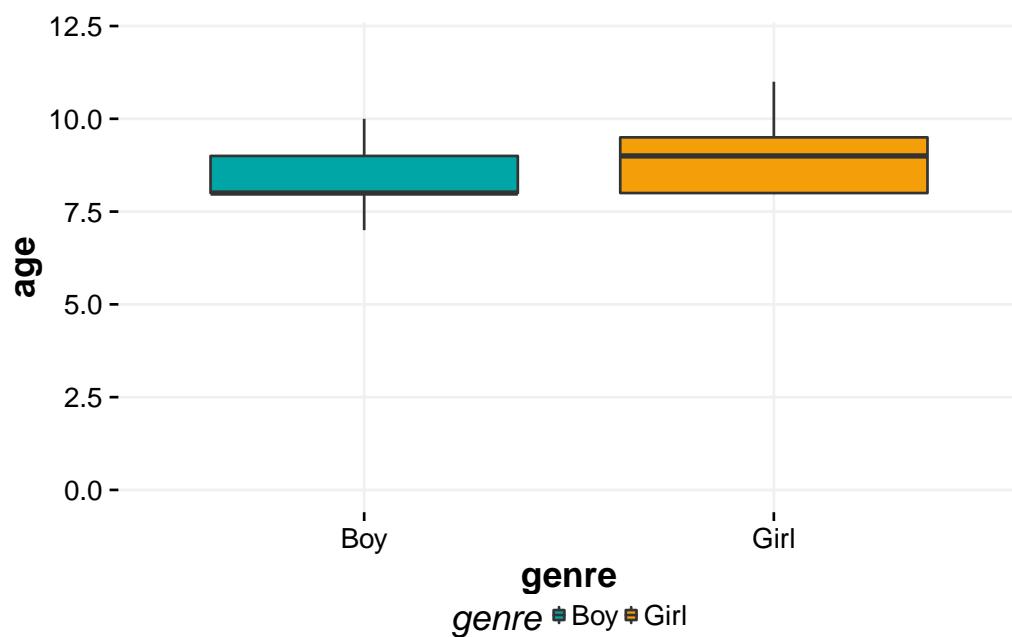
Statistic	N	Mean	St. Dev.	Min	Max
ordre	16	8.500	4.761	1	16
age	16	8.688	1.014	7	11
p_robot	16	3.125	1.258	1	5
p_videogame	16	3.500	1.414	1	5
p_bike	16	2.375	1.310	1	5
p_book	16	2.312	1.138	1	4
p_clothes	16	3.688	1.537	1	5
p_homeworks	16	3.375	1.147	1	4
p_play	16	3.562	0.892	1	4
p_teach	16	3.938	0.250	3	4
p_phone	15	1.867	1.302	1	4
p_webbrowser	15	2.067	1.335	1	4
prefered_session	14	1.643	0.497	1	2
e_robot	13	1.077	0.277	1	2
e_videogame	13	2.615	1.193	1	5
e_bike	12	3.250	0.965	2	5
e_book	12	3.417	1.379	1	5
e_clothes	13	4.308	0.751	3	5
e_homeworks	13	3.115	0.650	2.000	4.000
e_play	13	3.115	0.618	2.000	4.000
e_rules	12	3.167	0.577	2	4
e_learn	13	3.500	0.577	2.500	4.000
e_sport	12	3.000	0.603	2	4
e_teach	12	3.500	0.674	2	4
e_outside	12	2.917	0.900	1	4
e_mood	12	3.375	0.569	2.500	4.000
e_phone	13	2.308	1.109	1	4
e_webbrowser	13	2.500	0.957	1.000	4.000

1.1 General

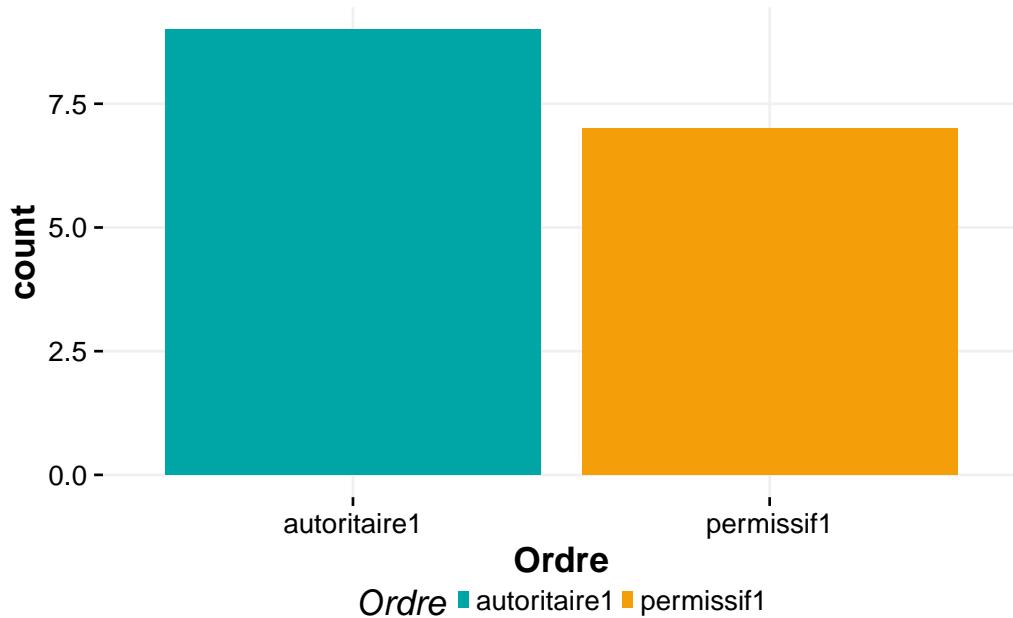
1.1.1 Gender



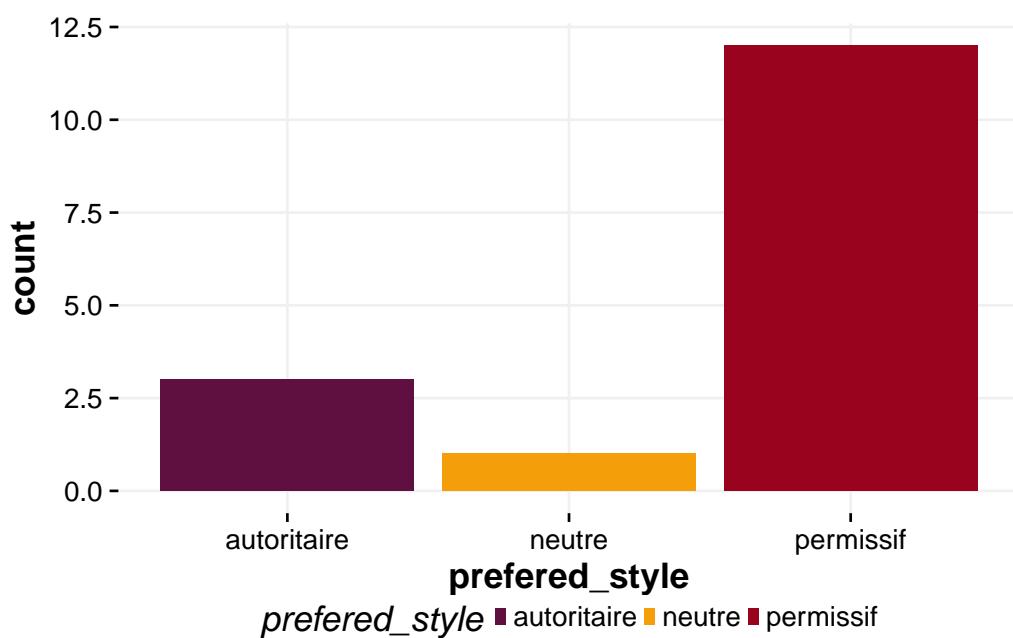
1.1.2 Age



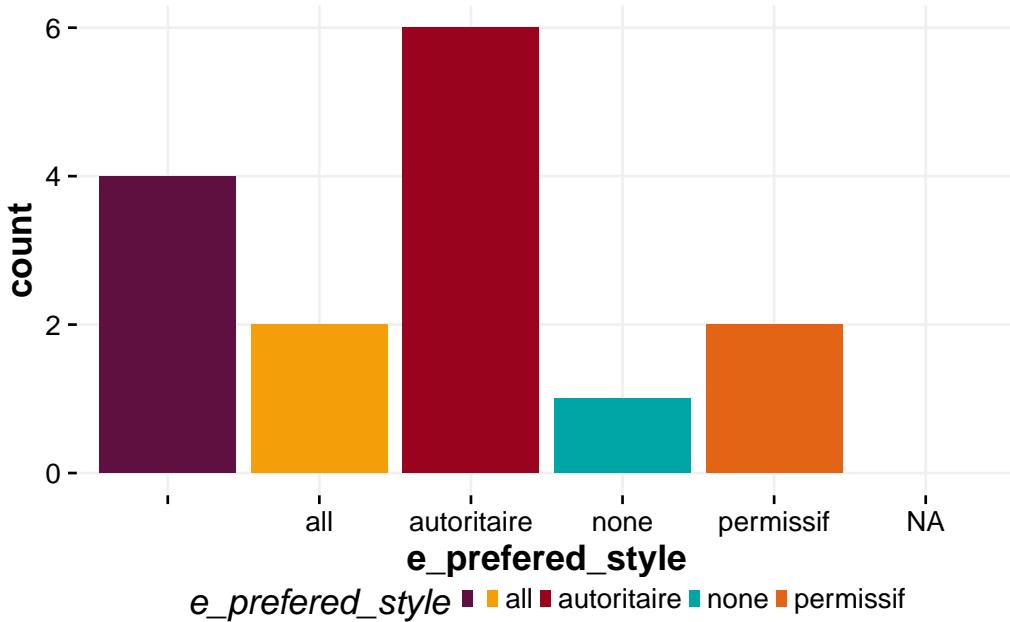
1.1.3 order



1.1.4 Preferred style parent

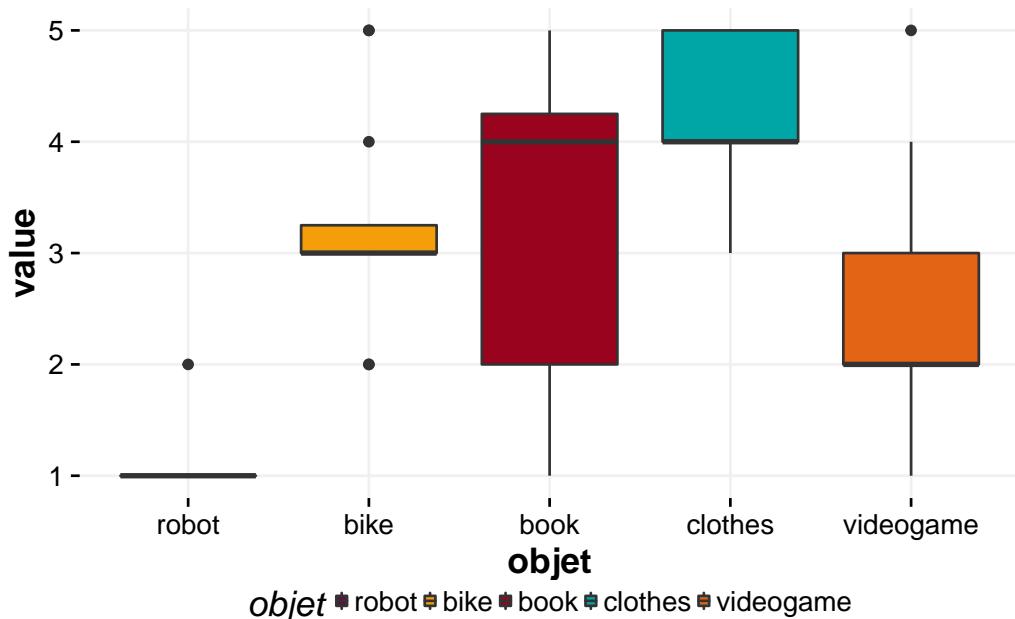


1.1.5 Preferred style children

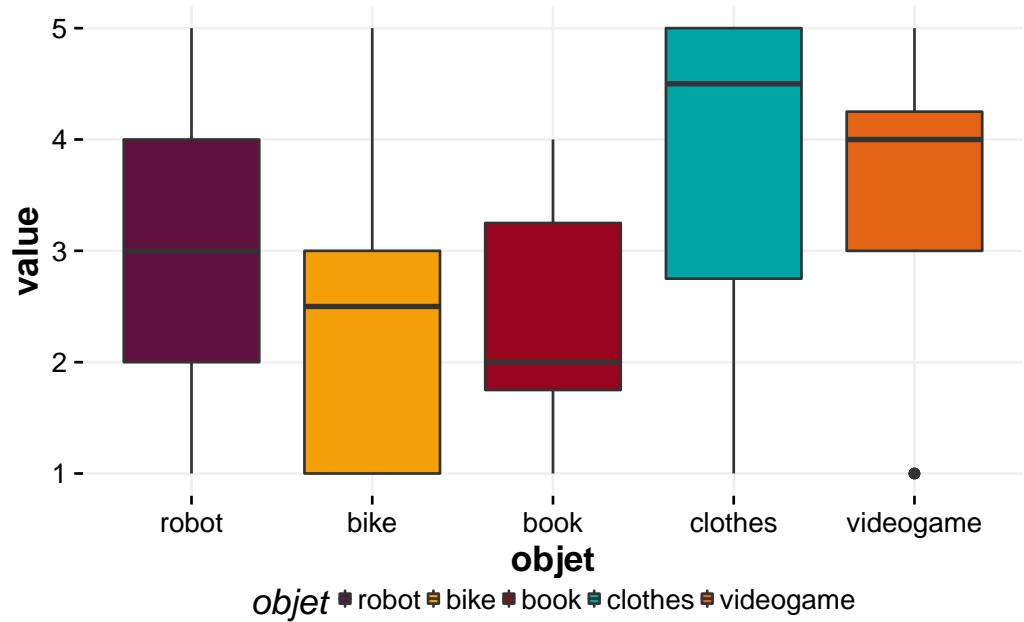


1.2 COIRS - CHILD ORIENTATION IN INTERACTING WITH ROBOT

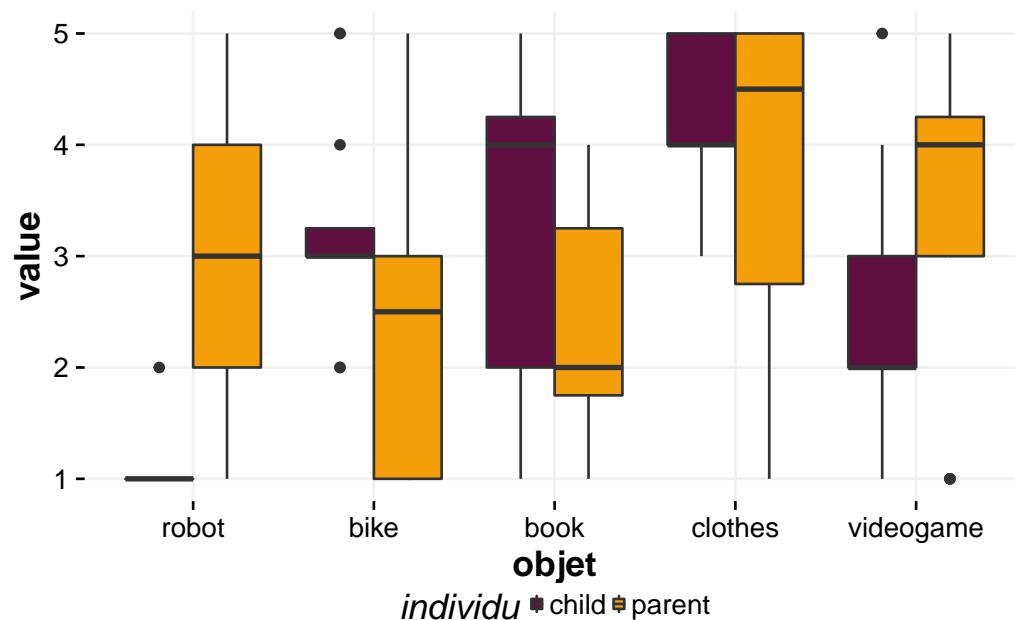
The following plot shows the average ranking for children for each of the object (1: first in the child's wish list)



The following plot shows the average ranking for parents for each of the object (1: first in the parent's wish list as

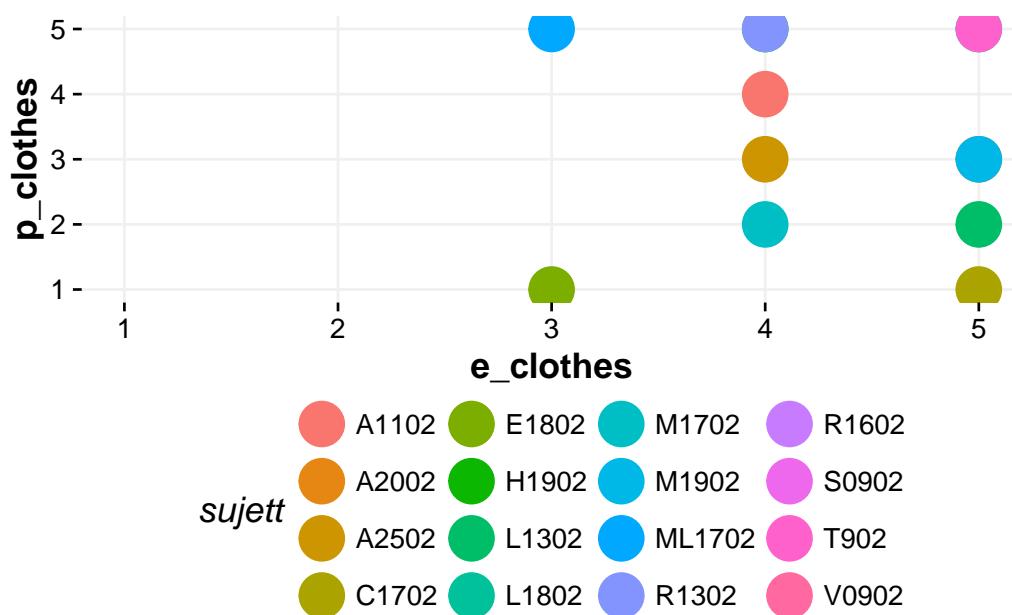
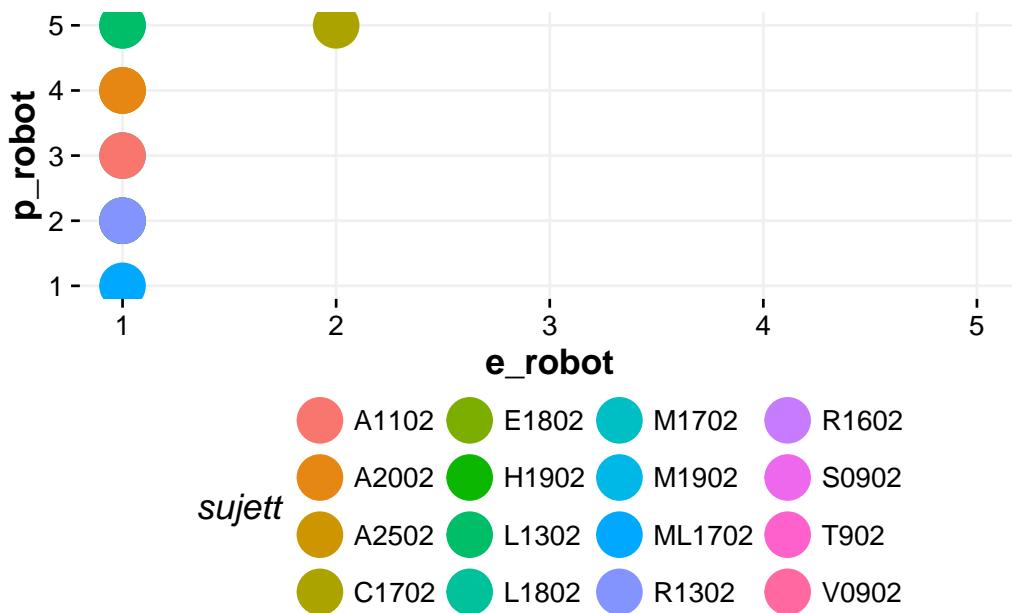


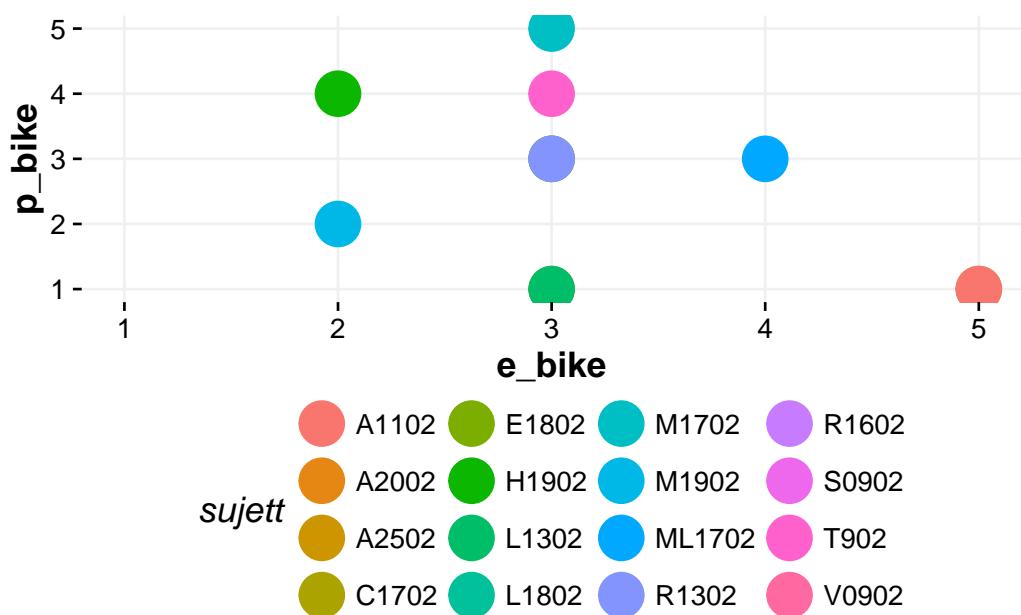
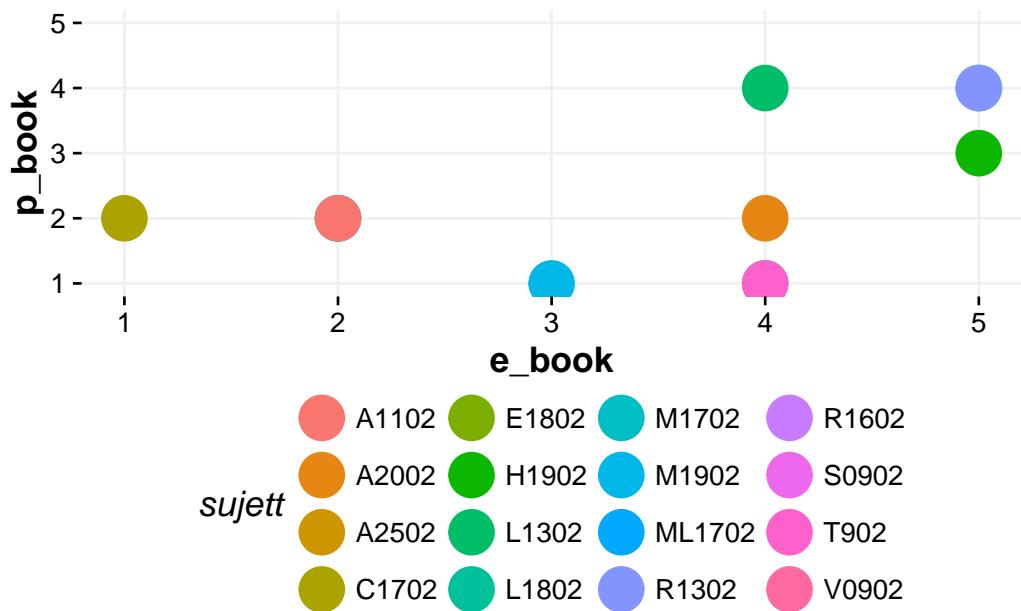
a gift for their child)

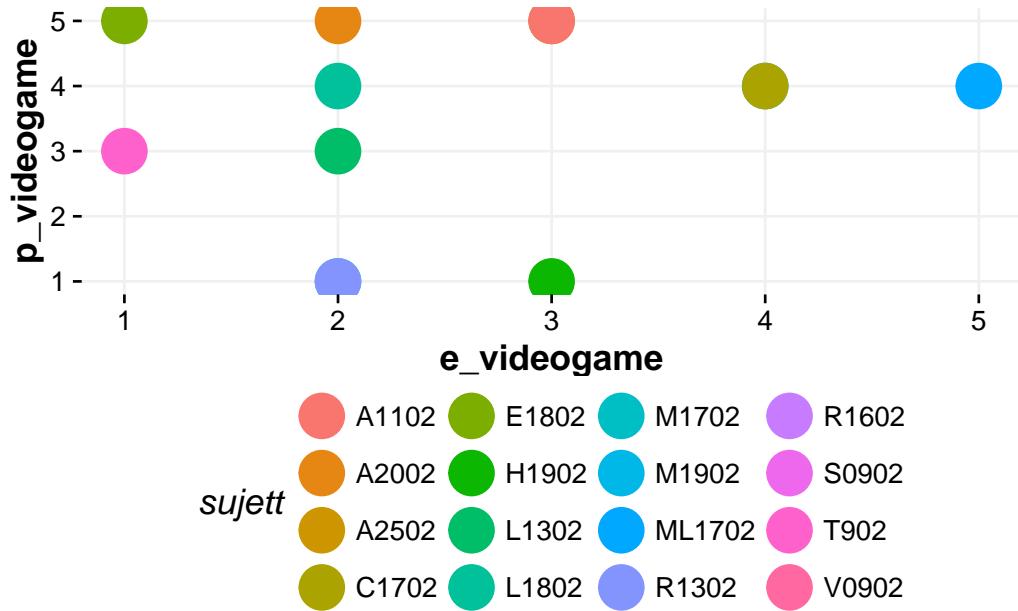


1.2.1 Child-parent correlation in object ranking

Next graphs show the correlation between parent and children ranking for each of the child subject

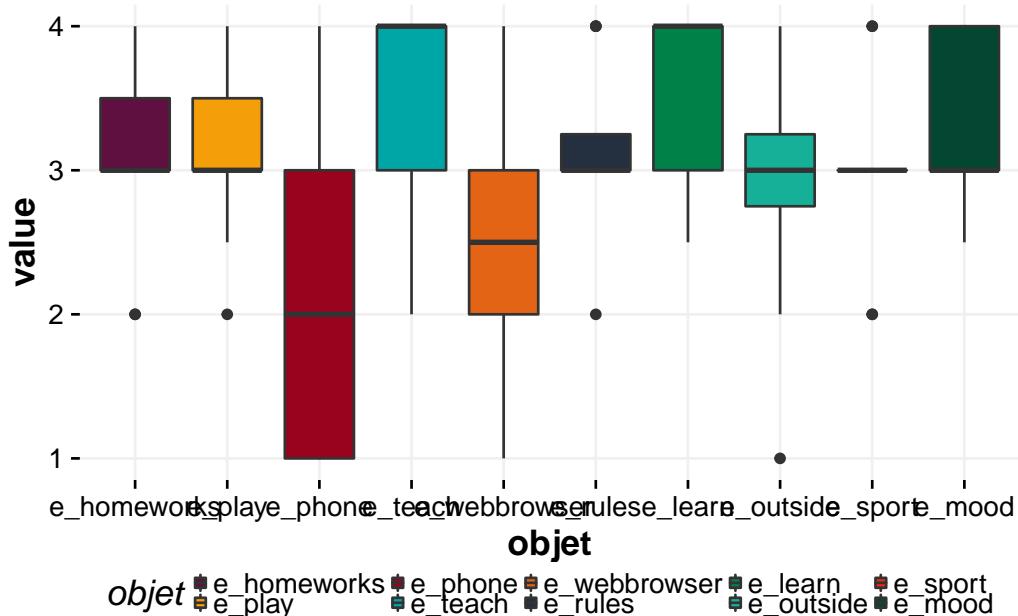




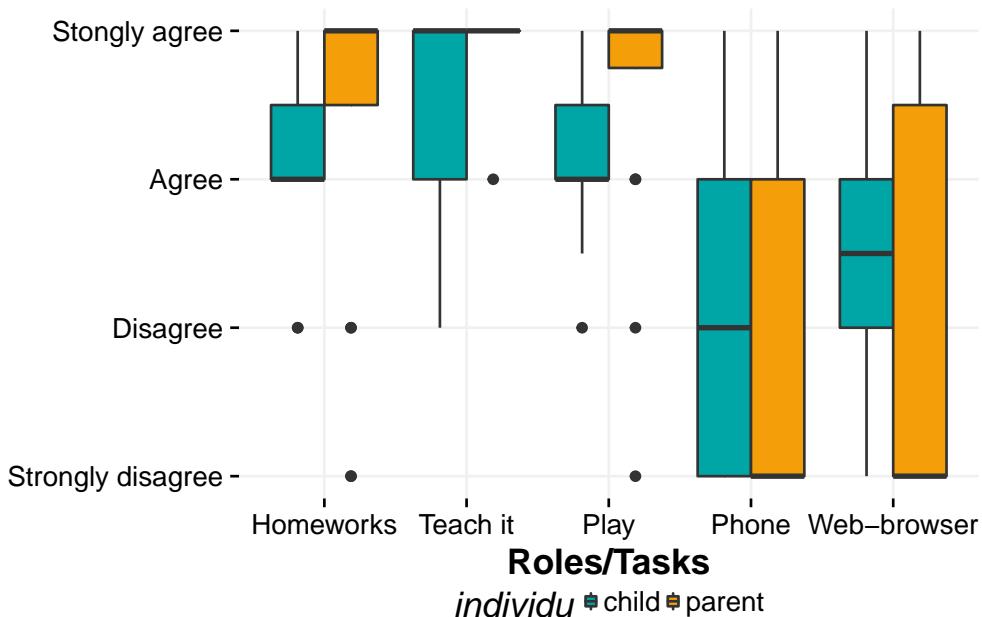
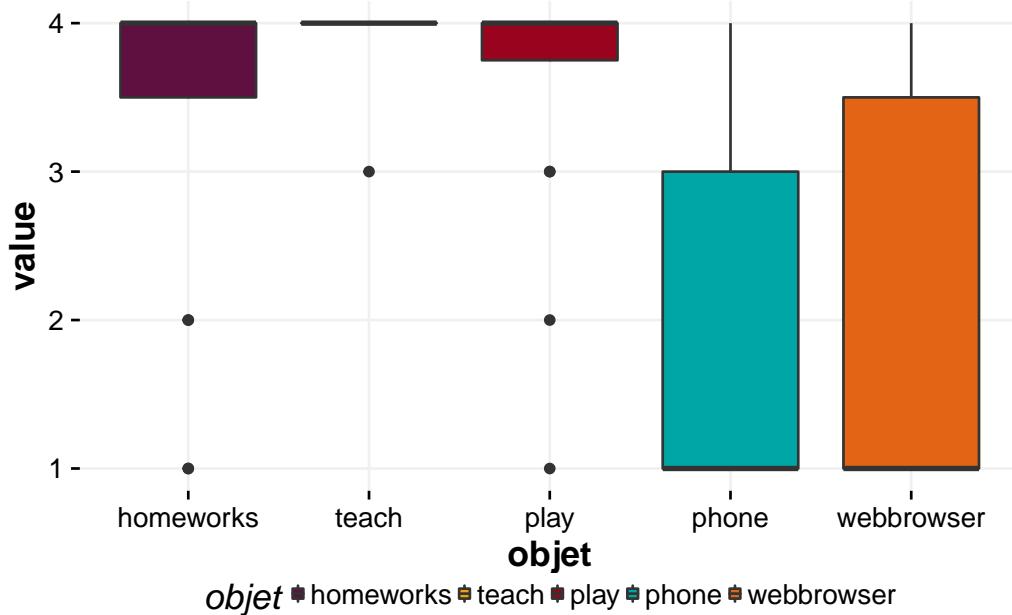


1.3 Functionality preferences

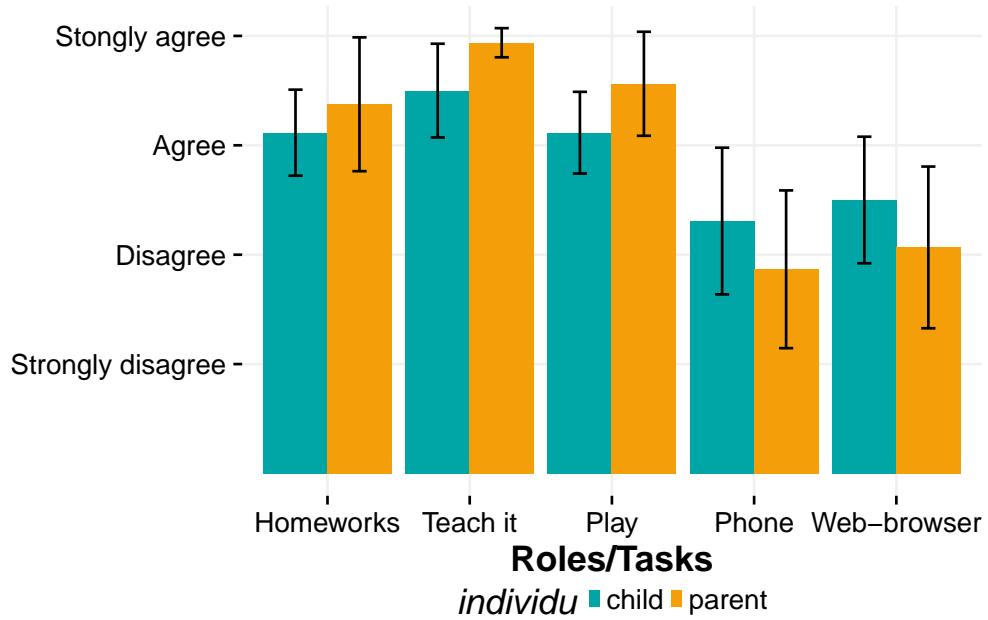
The following plot shows the average preference of children for each functionality (4: very preferred, 1: not preferred)



The following plot shows the average preference of parents for each functionality (4: very preferred, 1: not preferred)



	objet	individu	N	value	sd	se	ci
1	homeworks	child	13	3.115385	0.6504436	0.1804006	0.3930592
2	homeworks	parent	16	3.375000	1.1474610	0.2868652	0.6114388
3	teach	child	12	3.500000	0.6741999	0.1946247	0.4283662
4	teach	parent	16	3.937500	0.2500000	0.0625000	0.1332156
5	play	child	13	3.115385	0.6175842	0.1712870	0.3732024
6	play	parent	16	3.562500	0.8920949	0.2230237	0.4753638
7	phone	child	13	2.307692	1.1094004	0.3076923	0.6704039
8	phone	parent	15	1.866667	1.3020131	0.3361783	0.7210308
9	webbrowser	child	13	2.500000	0.9574271	0.2655425	0.5785674
10	webbrowser	parent	15	2.066667	1.3345233	0.3445724	0.7390344



```

> attach(df)
> summary(df)

      sujette       age       genre       Ordre      individu
A1102 : 10   Min.   : 7.000   Boy :90   autoritaire1:90  Length:160
A2002 : 10   1st Qu.: 8.000   Girl:70  permissif1   :70  Class  :character
A2502 : 10   Median  : 8.500
C1702 : 10   Mean    : 8.688
E1802 : 10   3rd Qu.: 9.000
H1902 : 10   Max.    :11.000
(Other):100

      objet        value
homeworks :32   Min.   :1.000
teach      :32   1st Qu.:2.000
play       :32   Median :3.000
phone      :32   Mean   :2.947
webbrowser:32   3rd Qu.:4.000
                  Max.   :4.000
                  NA's   :18

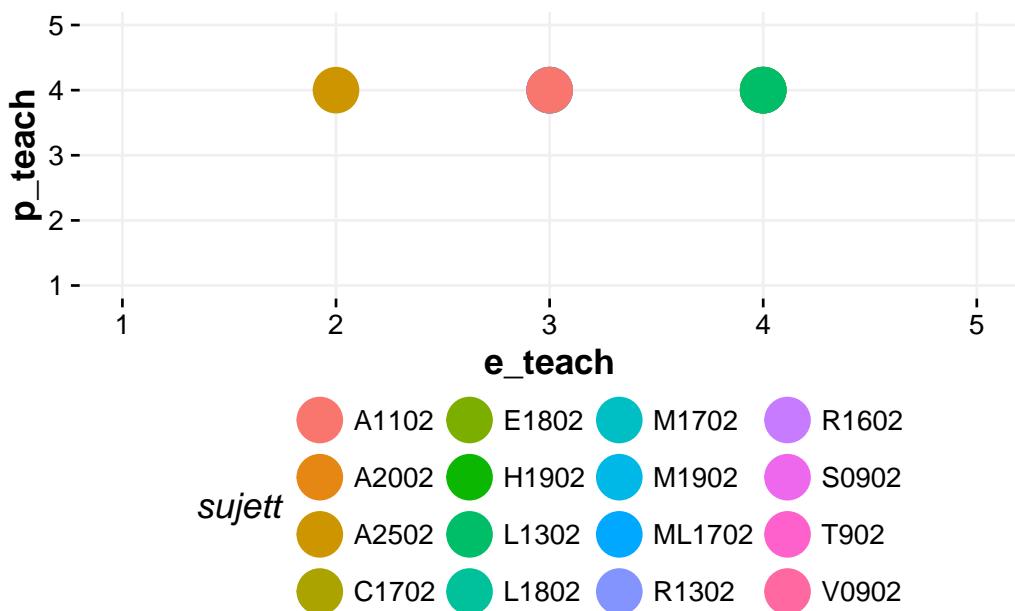
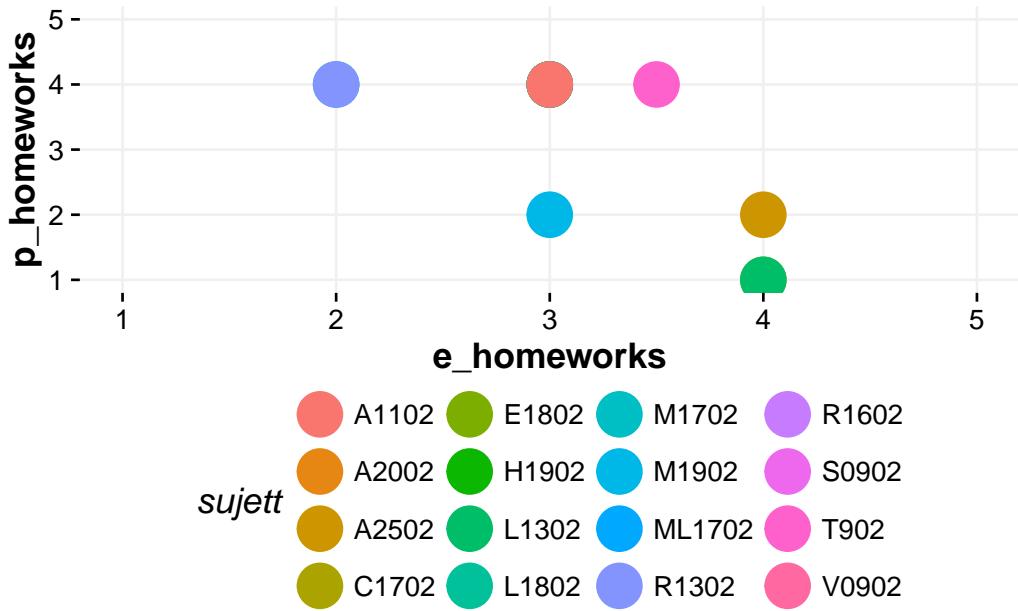
> summary(aov(df$value~df$objet*df$individu))

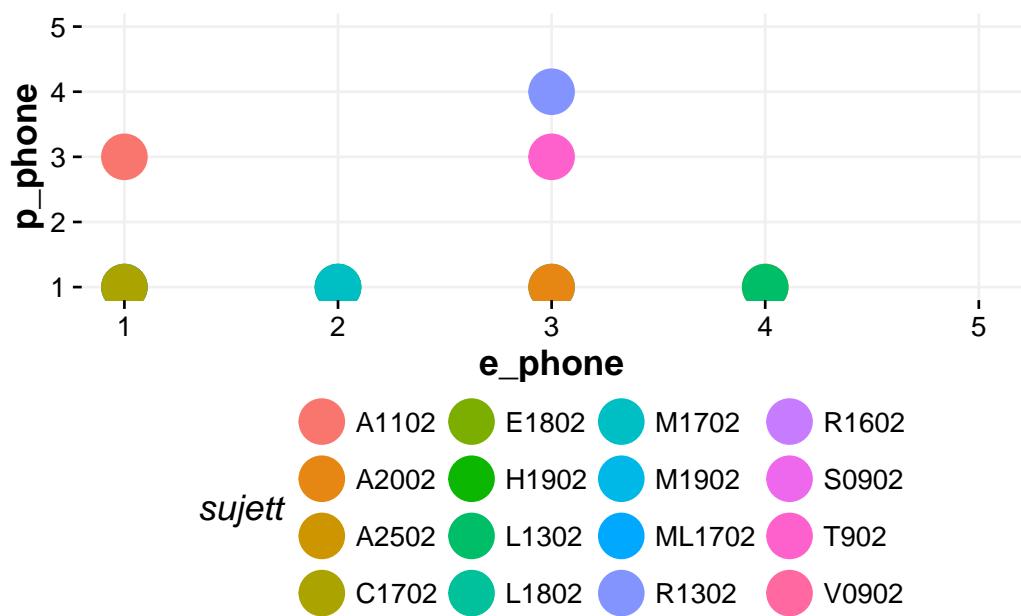
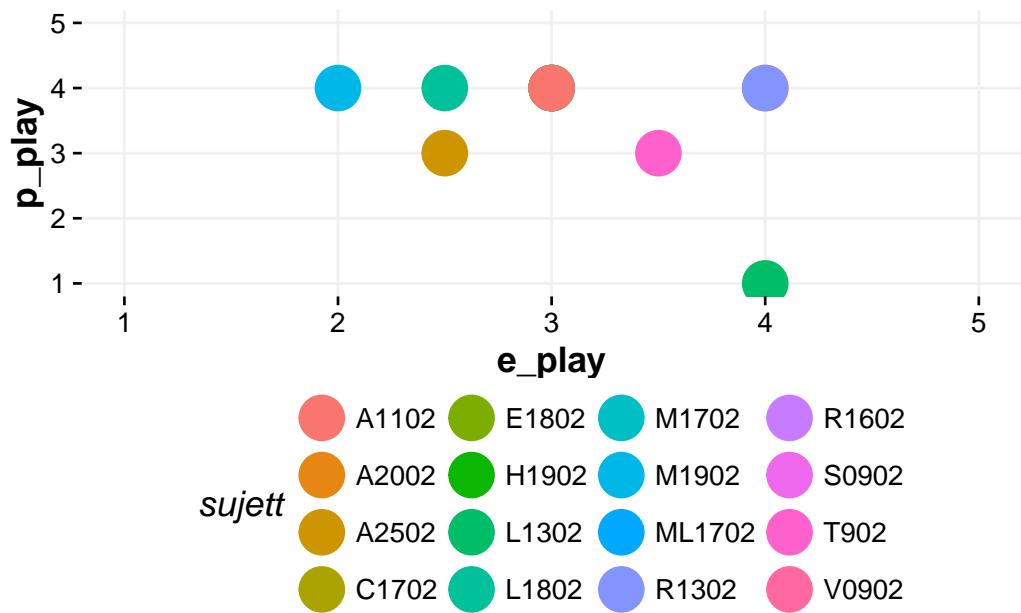
             Df Sum Sq Mean Sq F value    Pr(>F)
df$objet          4 60.25 15.062 16.335 6.81e-11 ***
df$individu       1  0.11  0.112  0.121    0.729
df$objet:df$individu 4  5.78  1.445  1.567    0.187
Residuals        132 121.71  0.922
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 0.1
18 observations deleted due to missingness

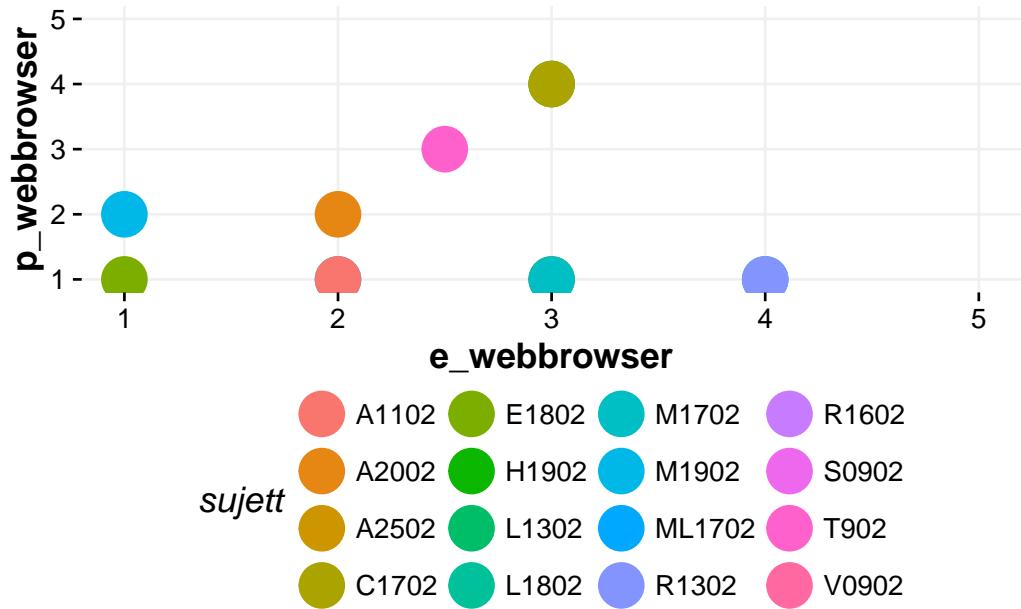
```

1.3.1 Child-parent correlation in functionality preference

Next graphs show the correlation between parent and children ranking for each of the child subject





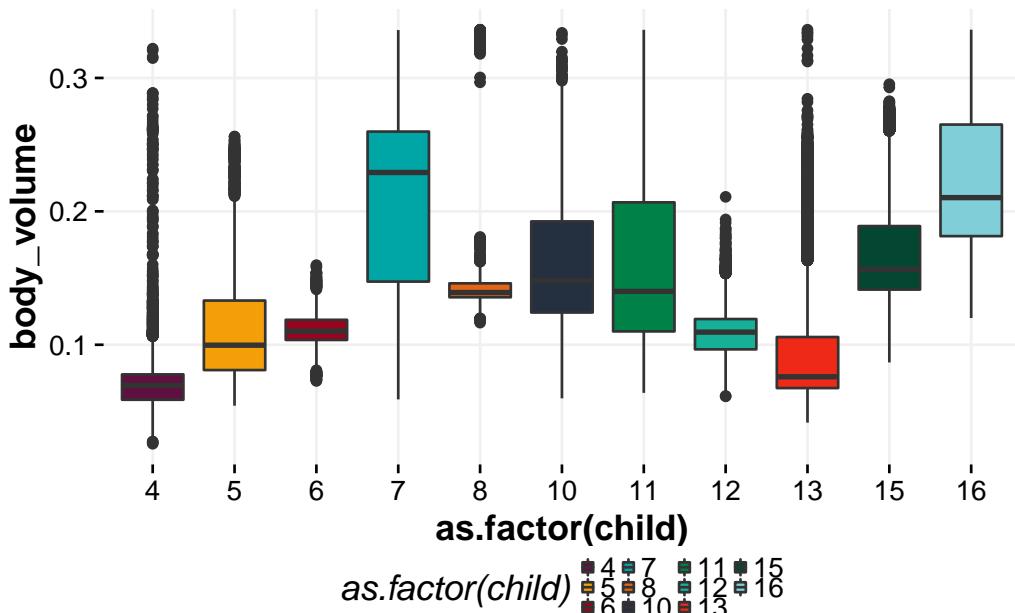


2 Features

2.1 Static Features

2.1.1 Body Volume

We filtered the data as follow



Child

```
Error: session
      Df Sum Sq Mean Sq
factor(child) 1 49.97 49.97
```

```
Error: style
      Df Sum Sq Mean Sq
factor(child) 1 0.5028 0.5028
```

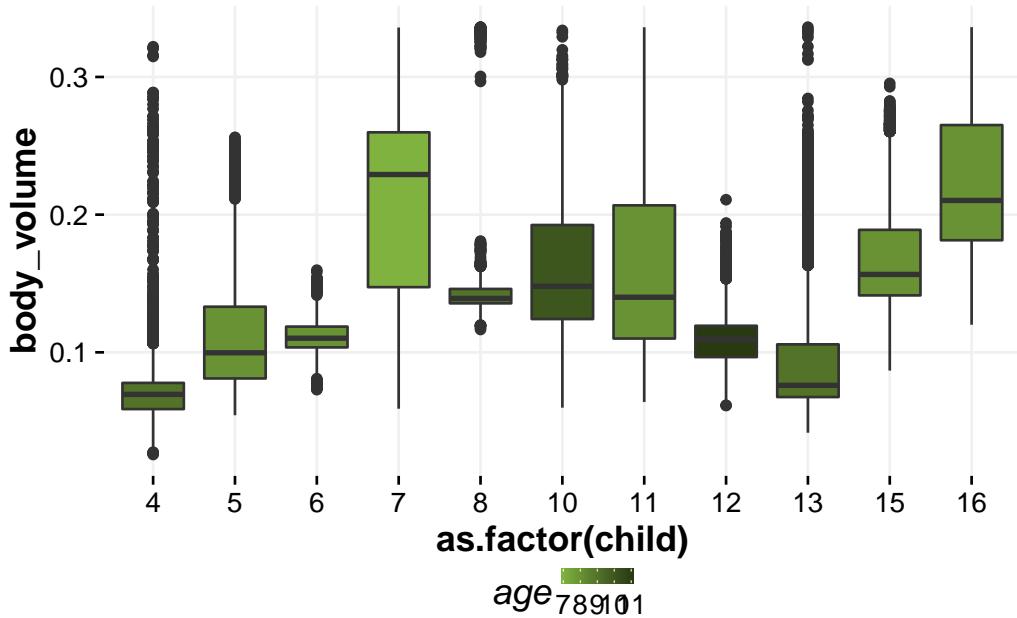
```
Error: session:style
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(child)	1	91.12	91.12		

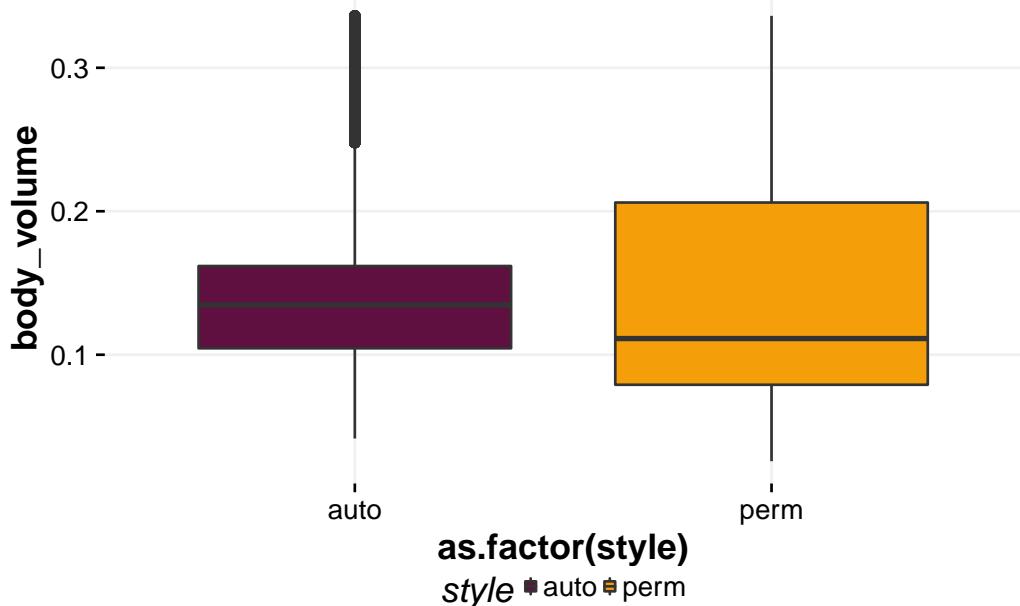
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(child)	9	152.5	16.941	7978	<2e-16 ***
Residuals	138529	294.2	0.002		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



Age

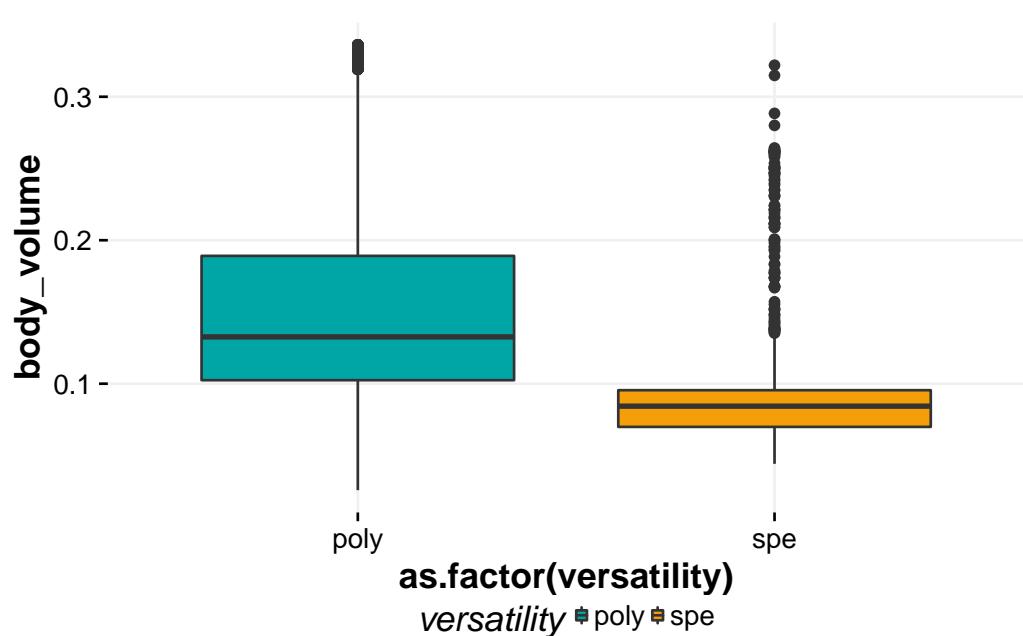
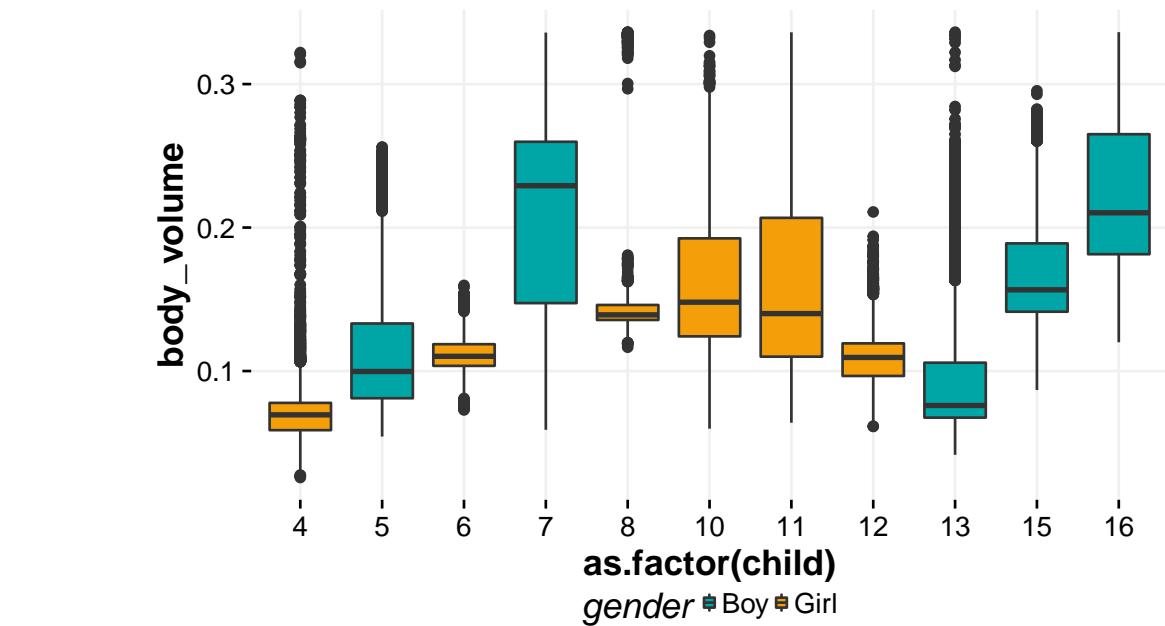


	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(age)	4	185.0	46.24	15883	<2e-16 ***

Residuals 138537 403.3 0.00

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

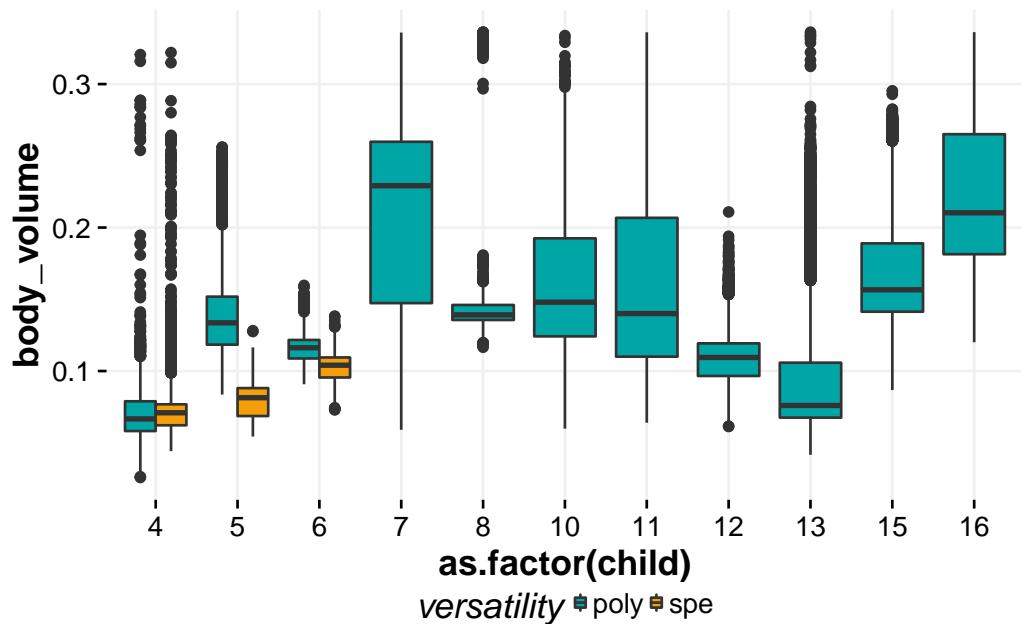
15181 observations deleted due to missingness



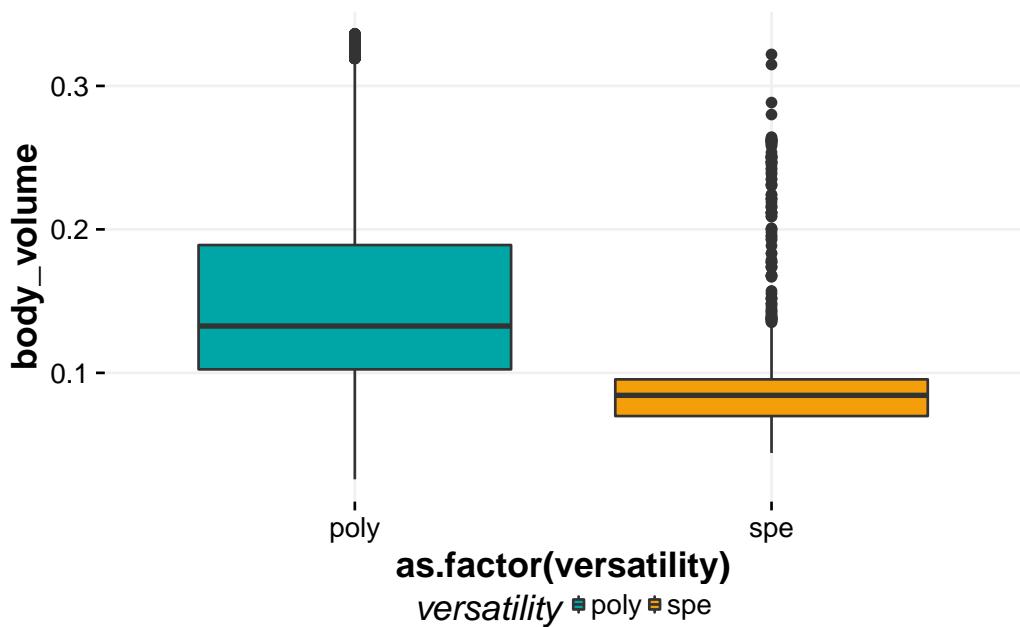
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(gender)	1	22.5	22.472	5503	<2e-16 ***
Residuals	138540	565.8	0.004		

Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1

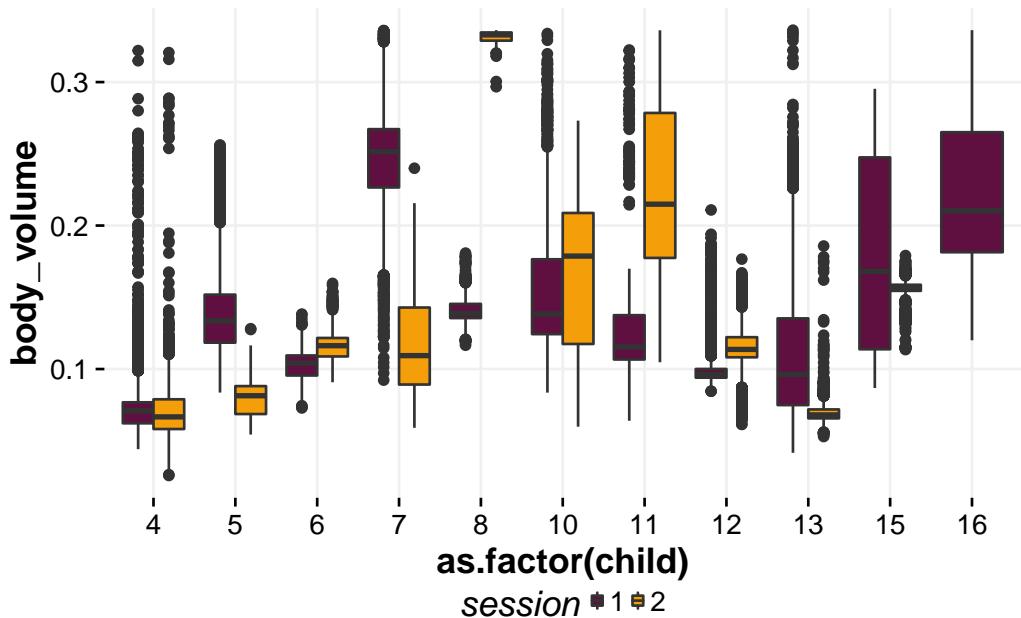
15181 observations deleted due to missingness



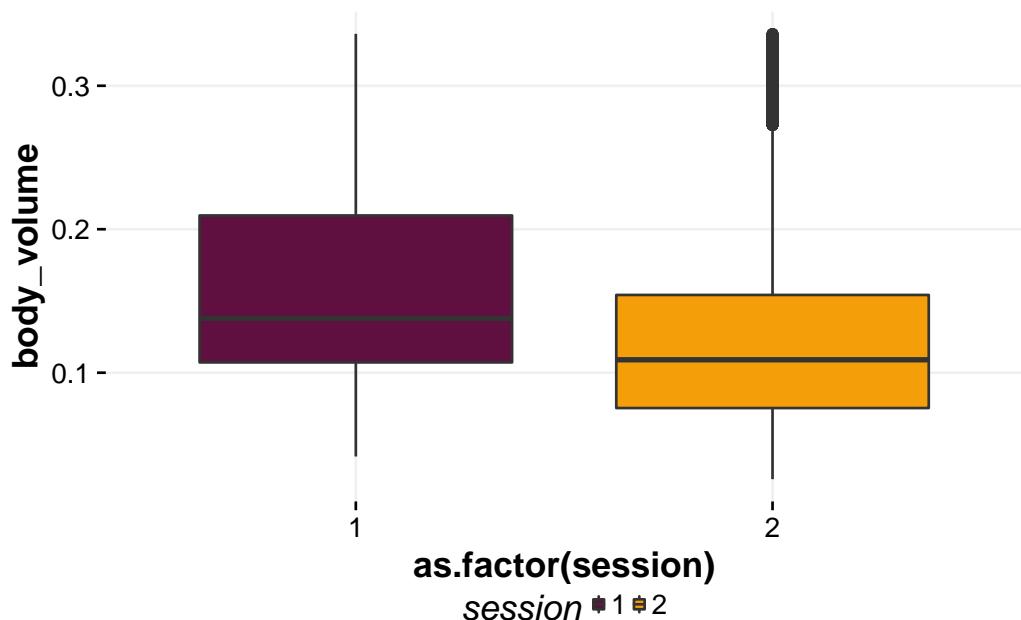
Versatility



```
Df Sum Sq Mean Sq F value Pr(>F)
factor(versatility)    1  56.2   56.19   14631 <2e-16 ***
Residuals              138540  532.1     0.00
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  1
15181 observations deleted due to missingness
```



Session



Error: child

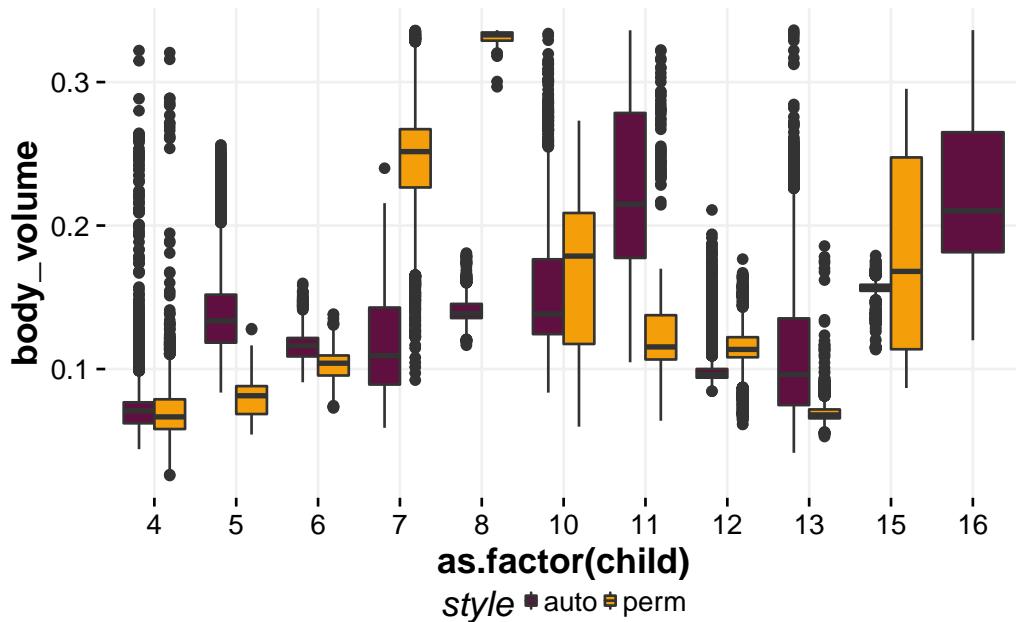
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	124.1	124.1	7.131	0.0256 *
Residuals	9	156.6	17.4		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

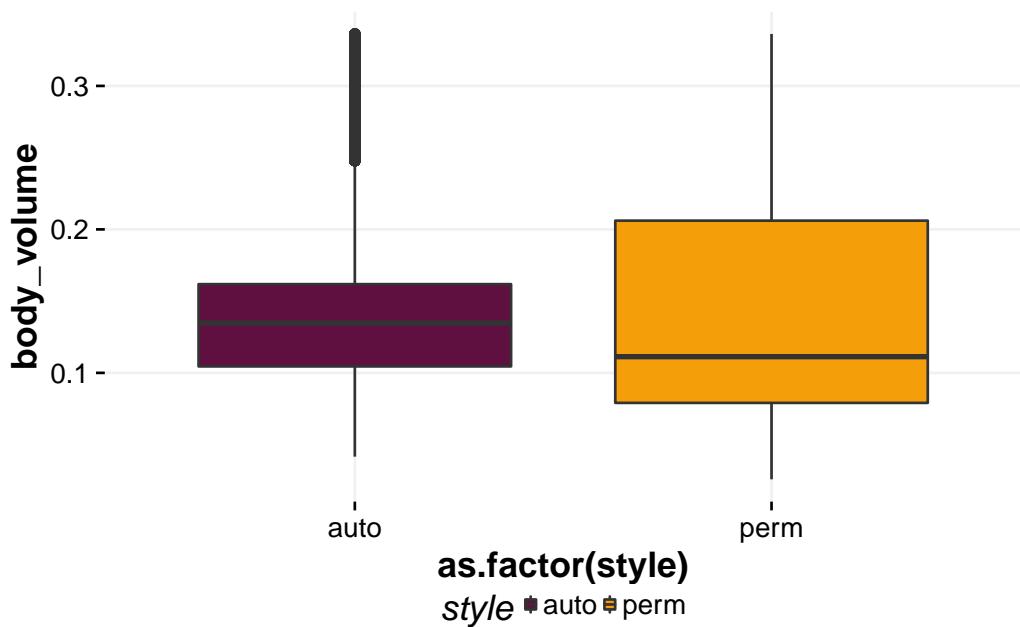
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	13.29	13.287	6256 <2e-16 ***	
Residuals	138530	294.22	0.002		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



Style



Error: child

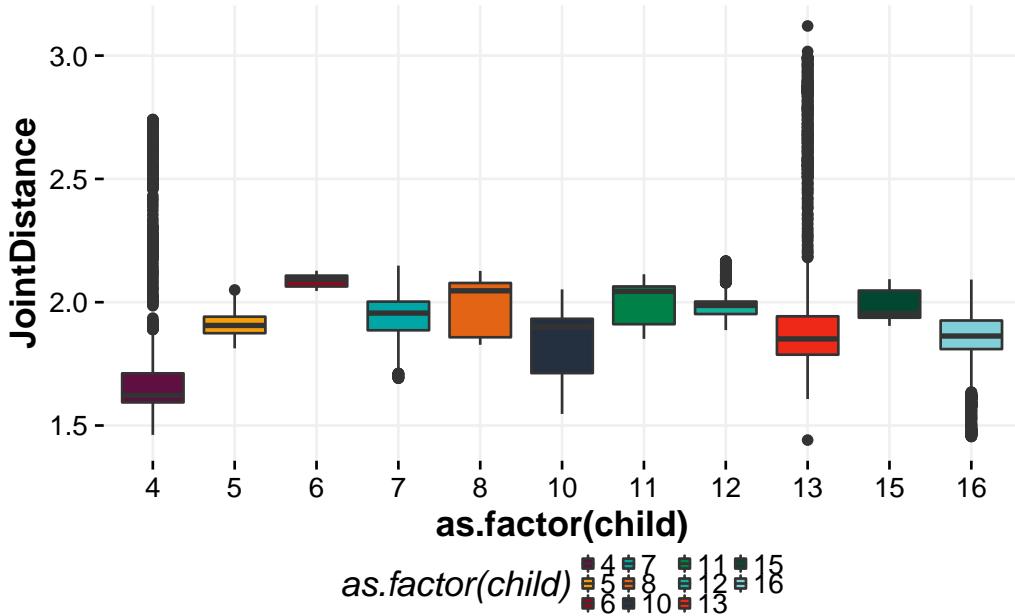
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	0.47	0.473	0.015	0.905
Residuals	9	280.26	31.140		

Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	0.02	0.02324	10.47	0.00121 **
Residuals	138530	307.48	0.00222		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

2.1.2 Distance



Child

Error: session

Df	Sum Sq	Mean Sq
factor(child)	1	60.39
		60.39

Error: style

Df	Sum Sq	Mean Sq
factor(child)	1	35.92
		35.92

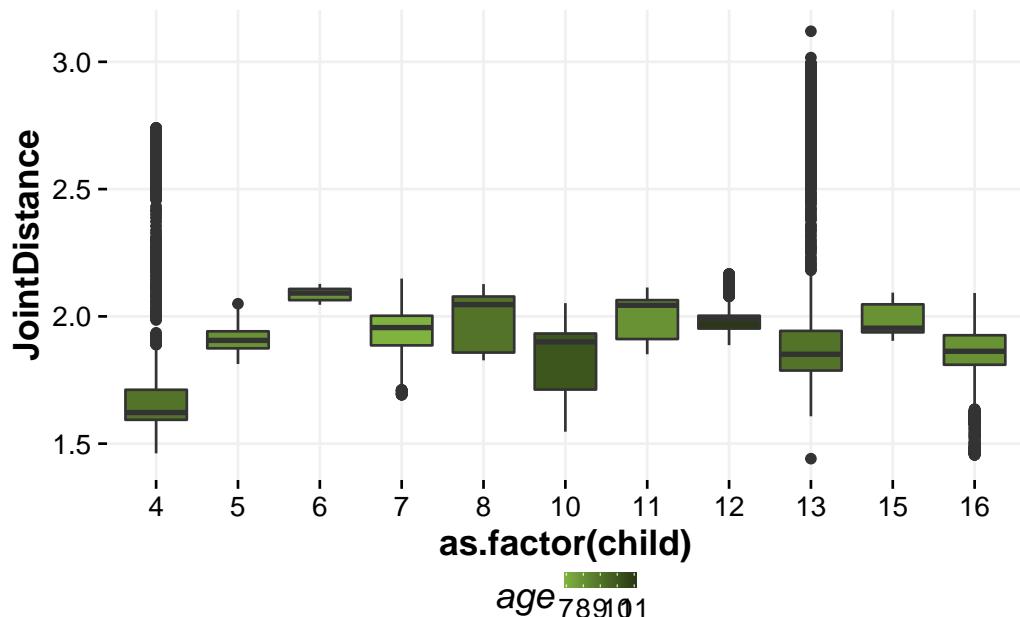
Error: session:style

Df	Sum Sq	Mean Sq
factor(child)	1	626.8
		626.8

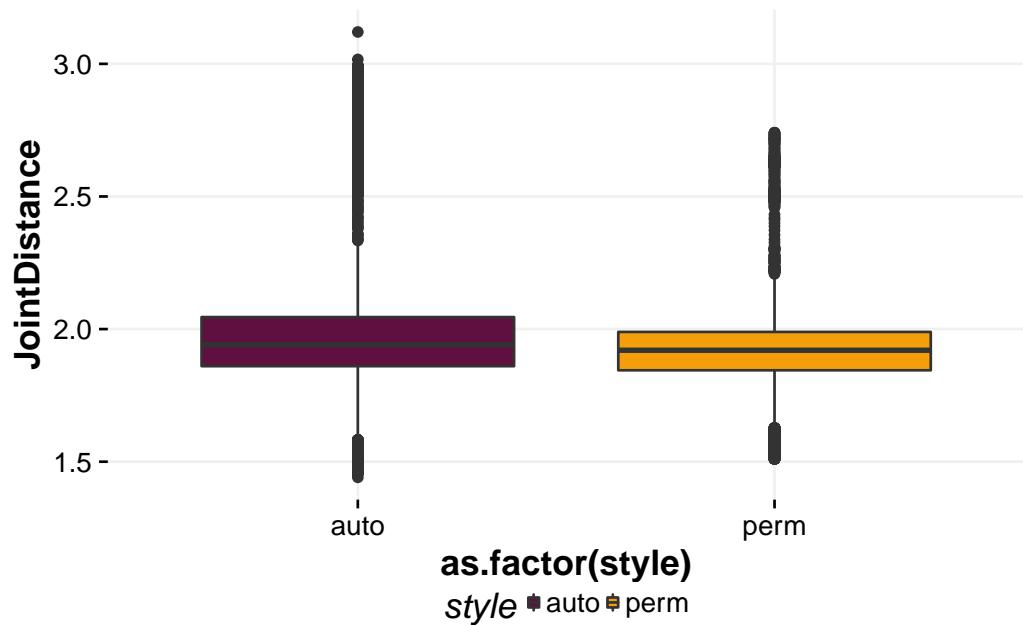
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(child)	9	882.9	98.10	9457	<2e-16 ***
Residuals	153710	1594.5	0.01		

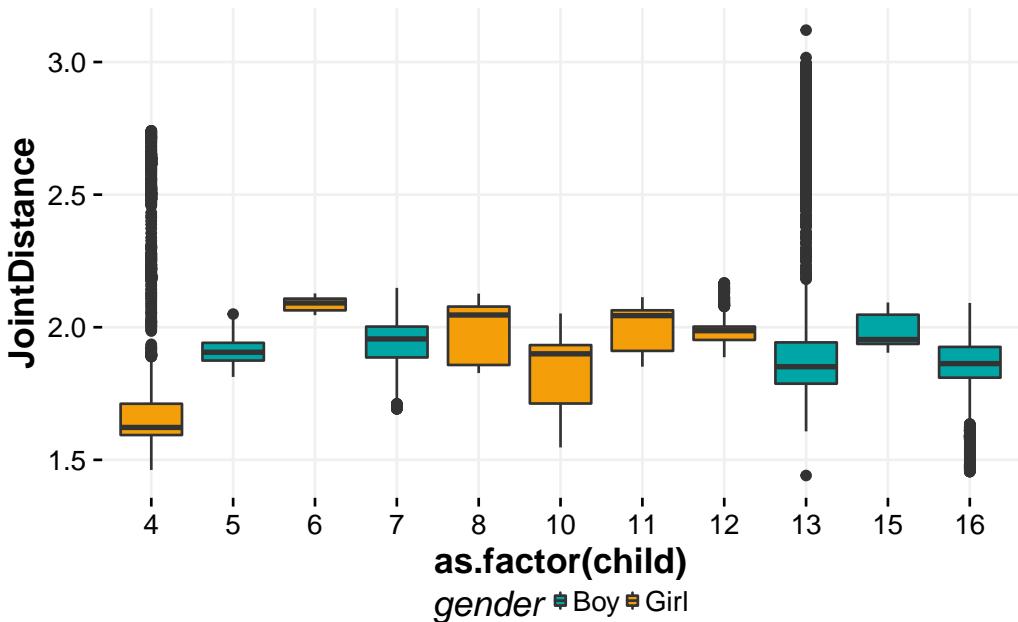
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



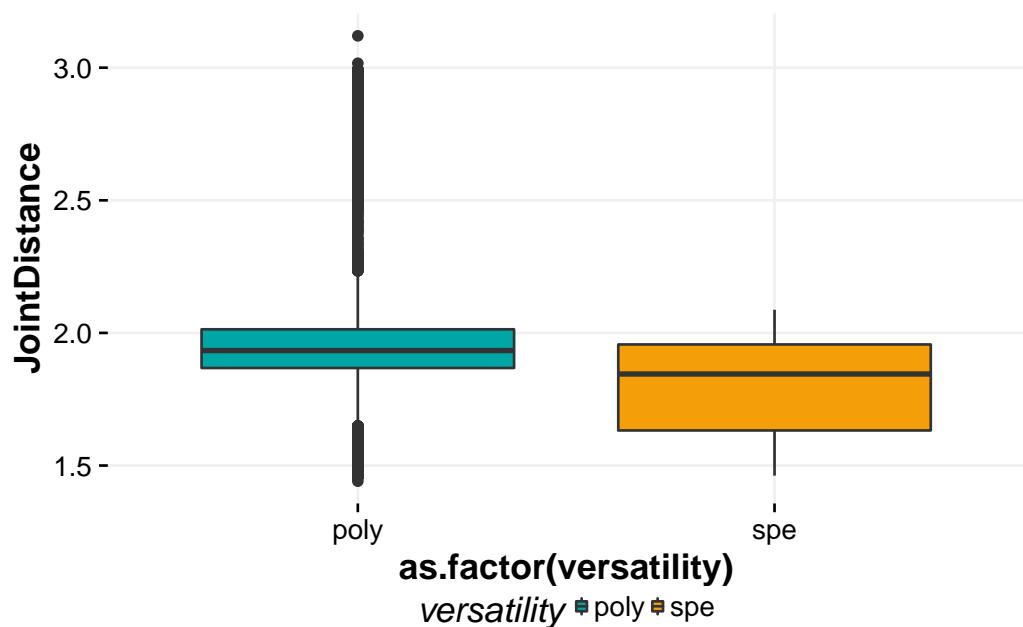
Age



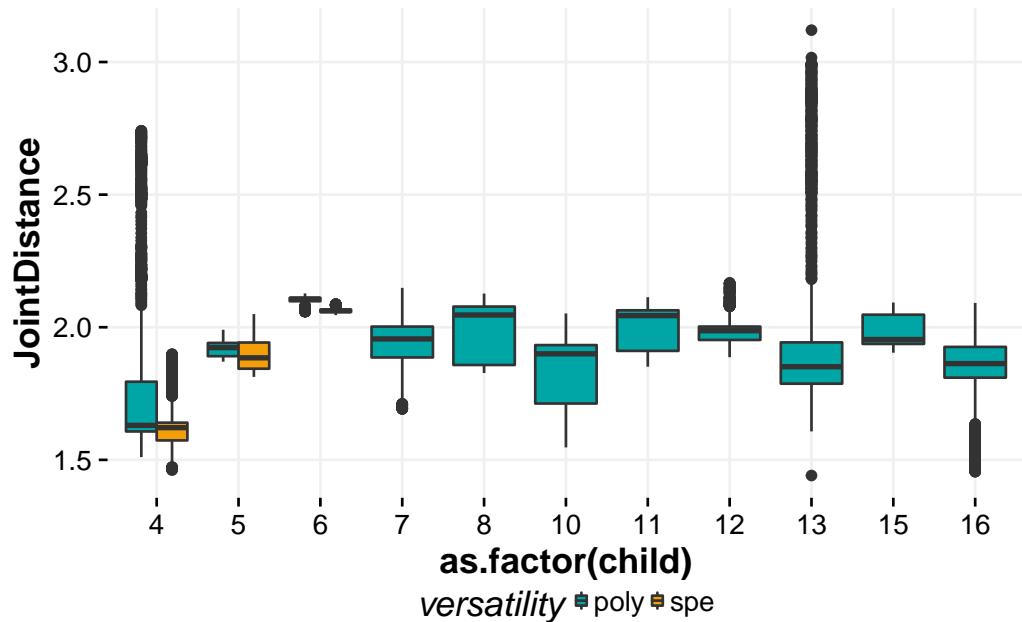
```
Df Sum Sq Mean Sq F value Pr(>F)
factor(age)    4   665.1   166.27   10080 <2e-16 ***
Residuals  153718  2535.4      0.02
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```



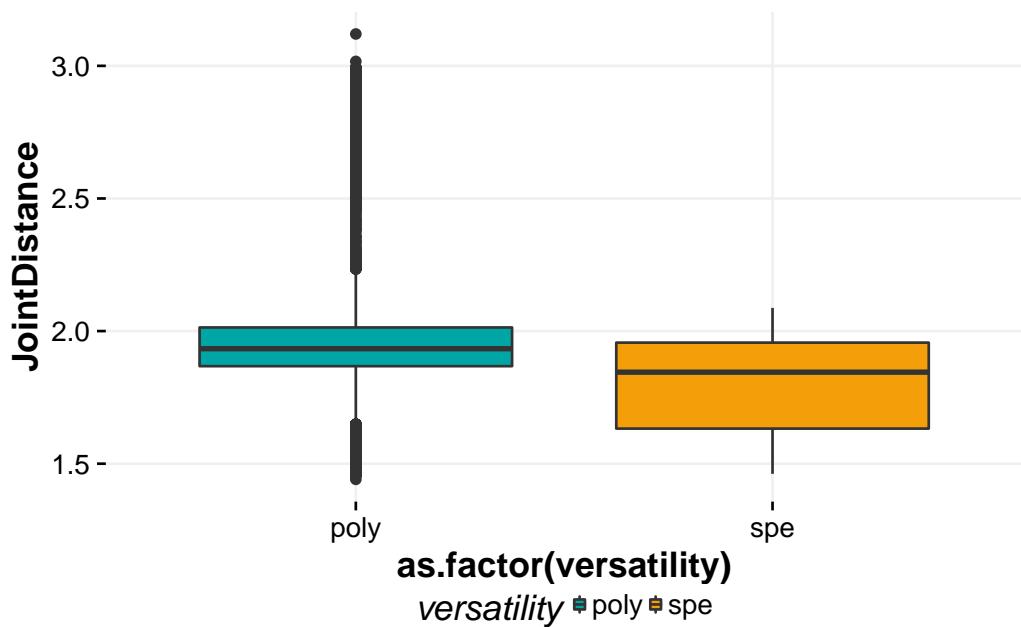
Gender



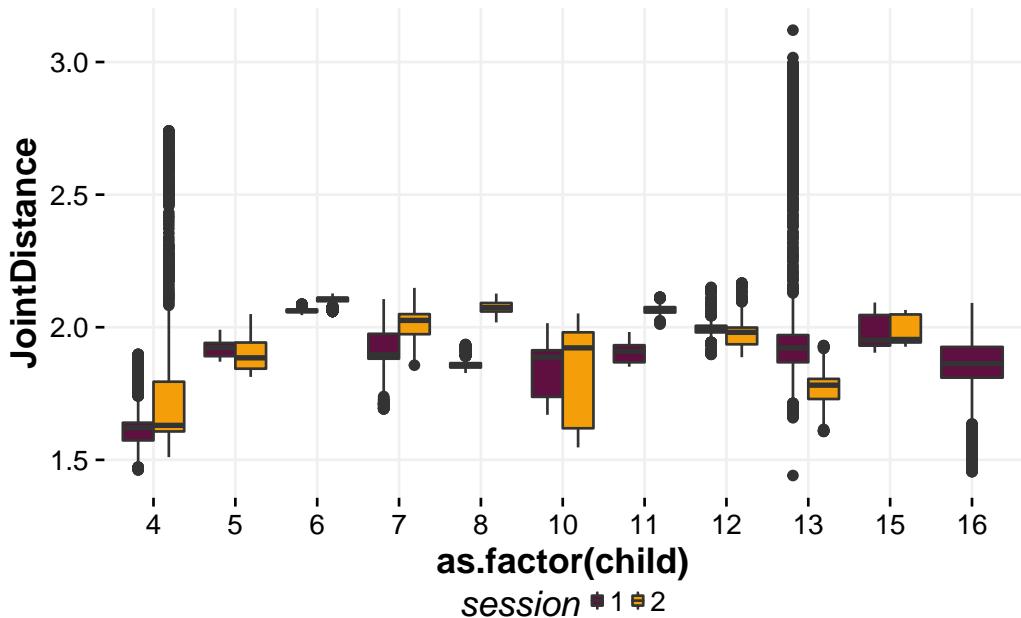
```
Df Sum Sq Mean Sq F value Pr(>F)
factor(gender)      1      5   5.478   263.6 <2e-16 ***
Residuals         153721   3195   0.021
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



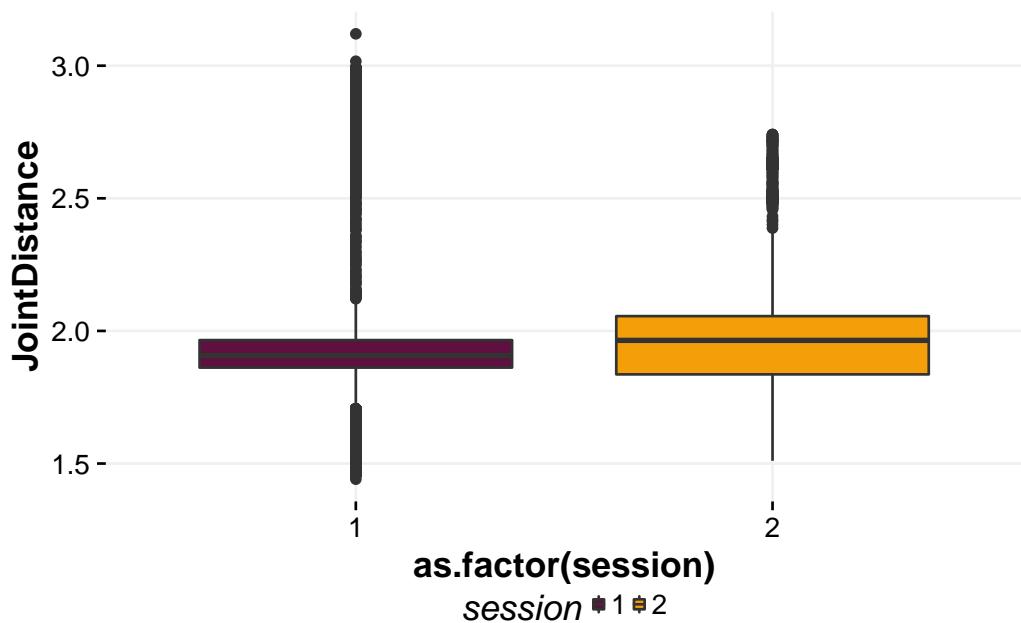
Versatility



```
Df Sum Sq Mean Sq F value Pr(>F)
factor(versatility)    1 155.9   155.91    7872 <2e-16 ***
Residuals              153721 3044.6     0.02
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  1
```



Session



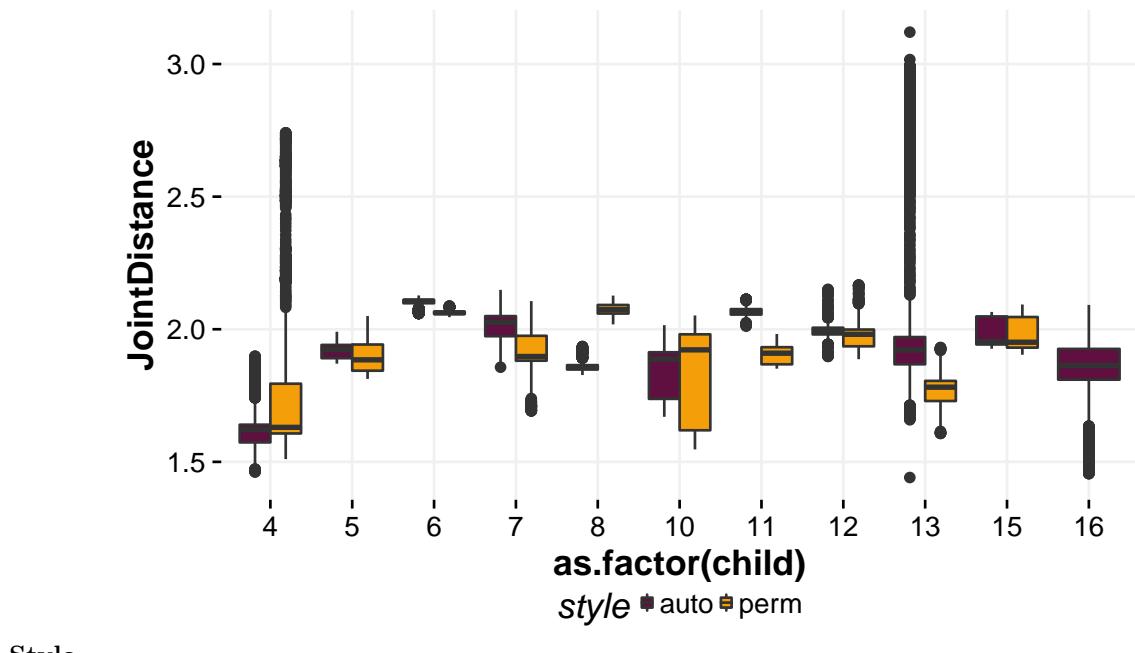
Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	59.1	59.08	0.368	0.559
Residuals	9	1446.0	160.67		

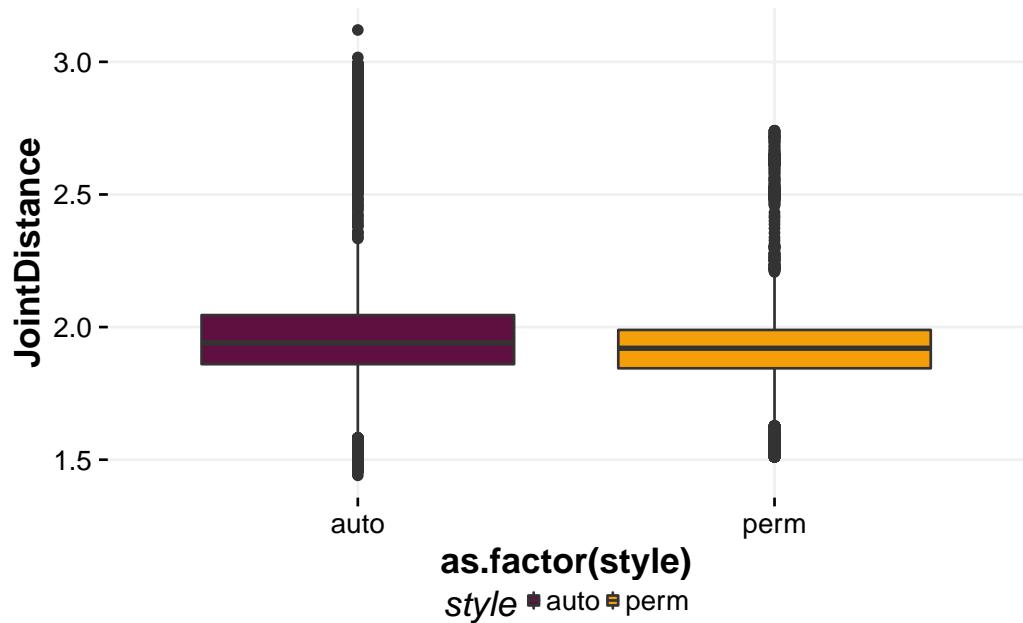
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	33.3	33.33	3082	<2e-16 ***
Residuals	153711	1662.1	0.01		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



Style



Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	64.1	64.12	0.4	0.543
Residuals	9	1441.0	160.11		

Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	52.5	52.47	4909	<2e-16 ***
Residuals	153711	1642.9	0.01		

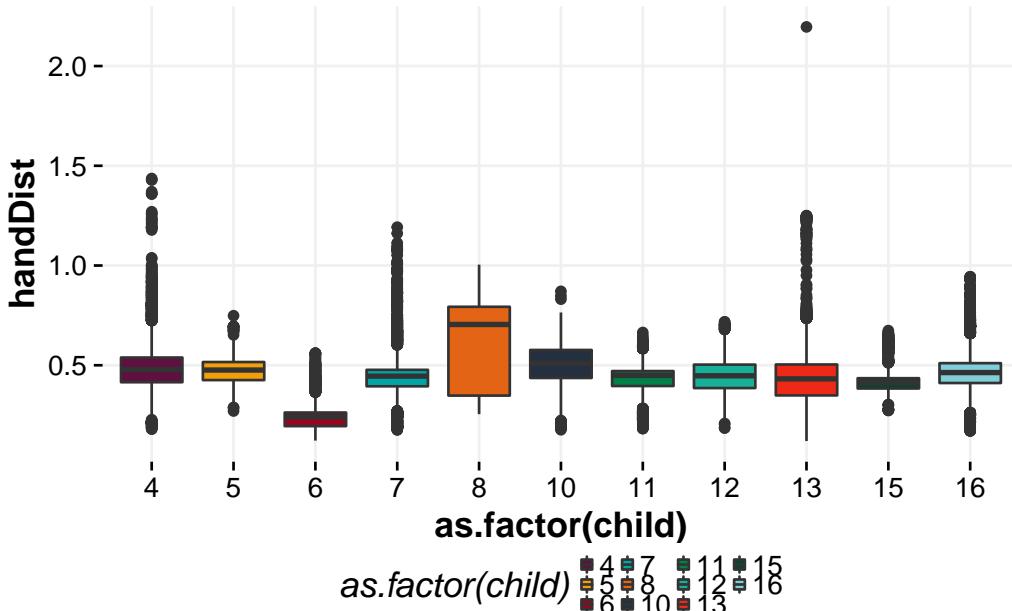
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

2.1.3 Center of Mass
2.1.4 Center of Mass Displacement
2.1.5 Distance Covered
2.1.6 Hand Relationship - Distance

```

group: auto
  vars     n mean   sd median trimmed mad   min max range skew kurtosis se
X1      1 86873 0.44 0.11    0.45    0.44 0.1 0.12 2.2  2.08 0.26    2.42  0
-----
group: perm
  vars     n mean   sd median trimmed mad   min max range skew kurtosis se
X1      1 94625 0.46 0.13    0.45    0.45 0.08 0.12 1.44  1.31 0.76    2.09  0

```



Child

```

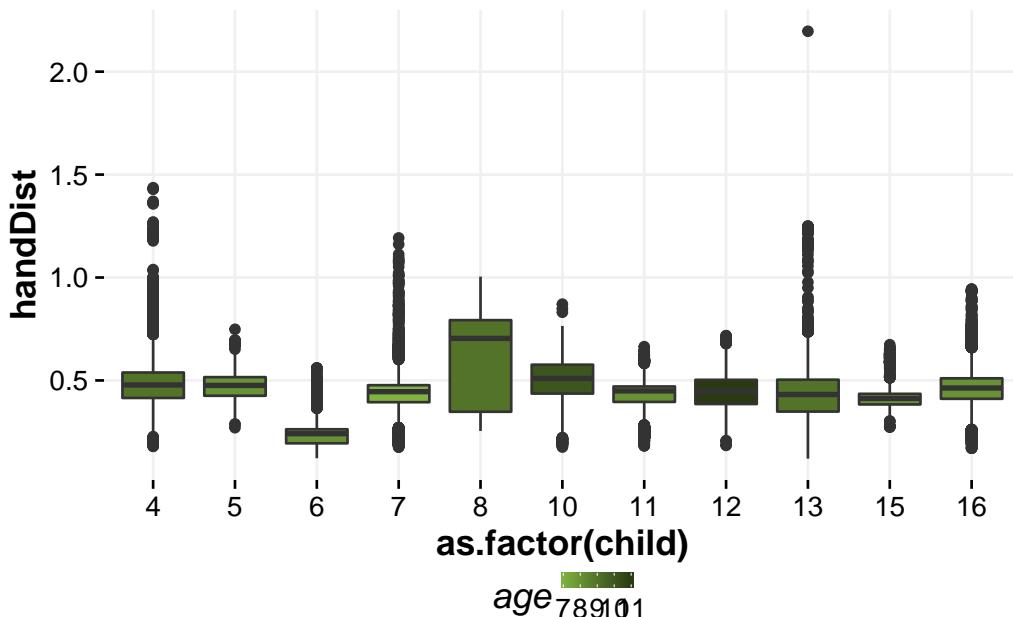
Error: session
      Df Sum Sq Mean Sq
factor(child) 1 4.369 4.369

Error: style
      Df Sum Sq Mean Sq
factor(child) 1 10.65 10.65

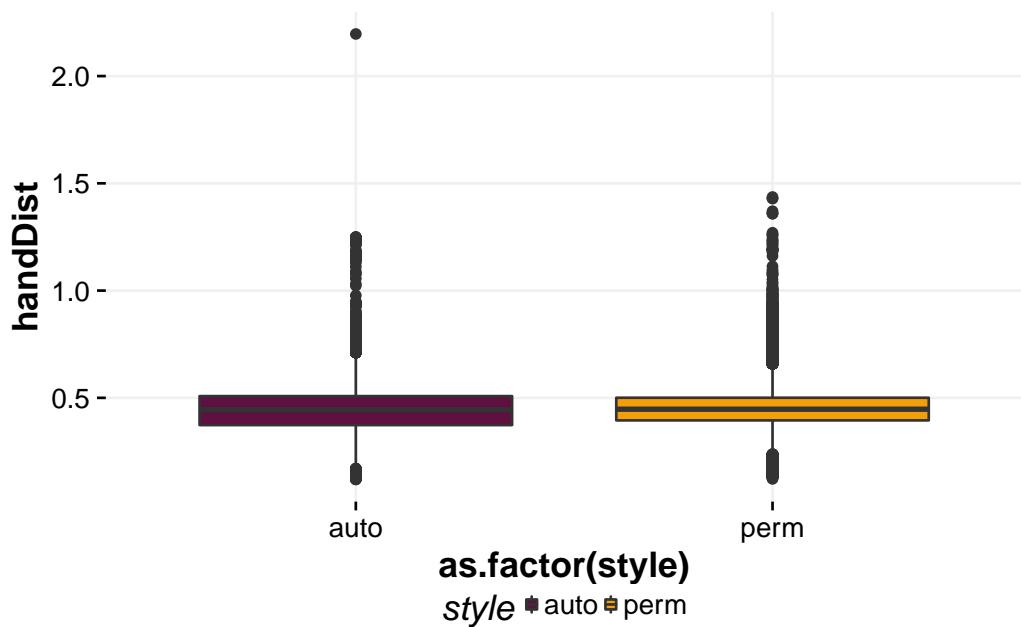
Error: session:style
      Df Sum Sq Mean Sq
factor(child) 1 218.6 218.6

Error: Within
      Df Sum Sq Mean Sq F value Pr(>F)
factor(child)  9 423.6 47.06   4645 <2e-16 ***
Residuals    181485 1839.0    0.01
---
Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1

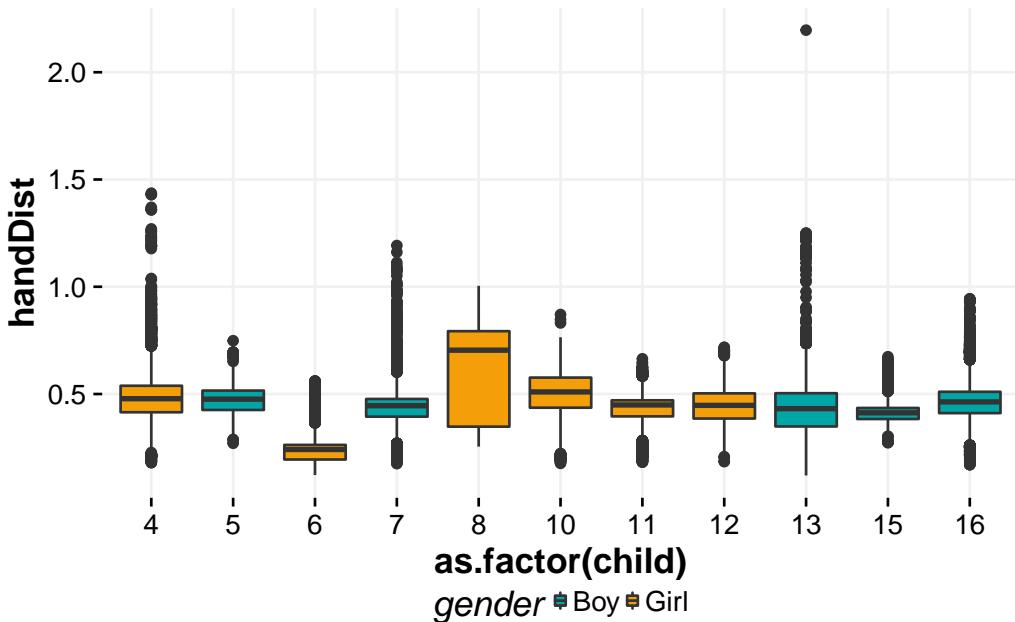
```



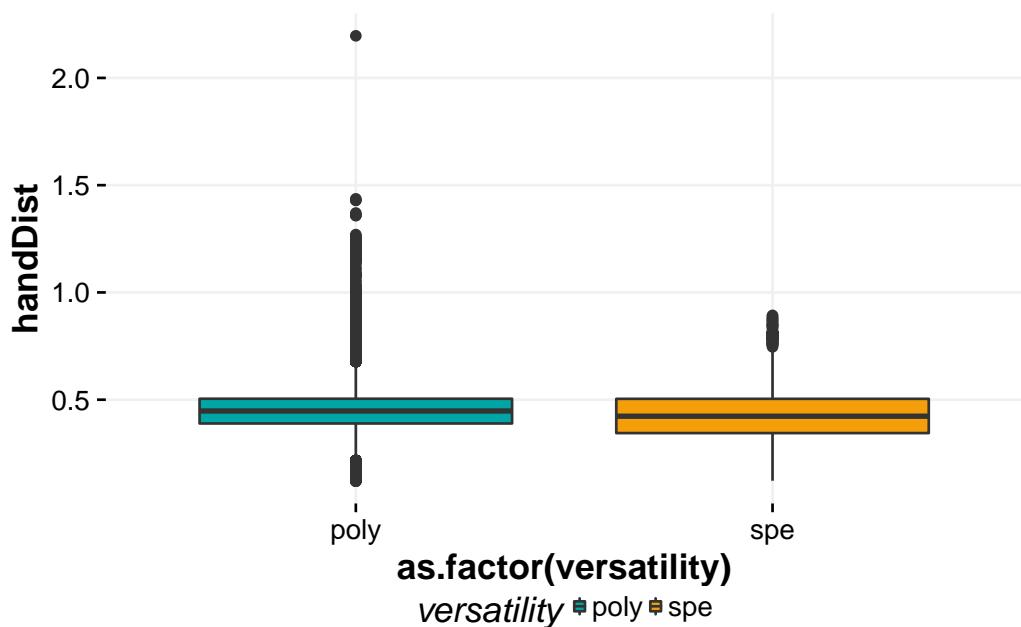
Age



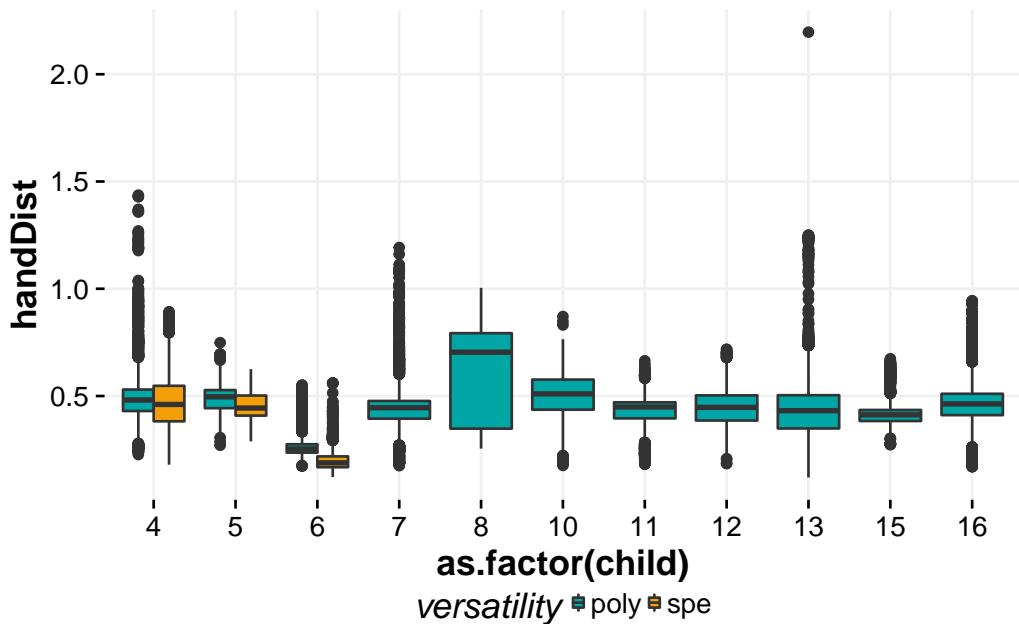
```
Df Sum Sq Mean Sq F value Pr(>F)
factor(age)    4 115.2  28.788    2194 <2e-16 ***
Residuals   181493 2381.0    0.013
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```



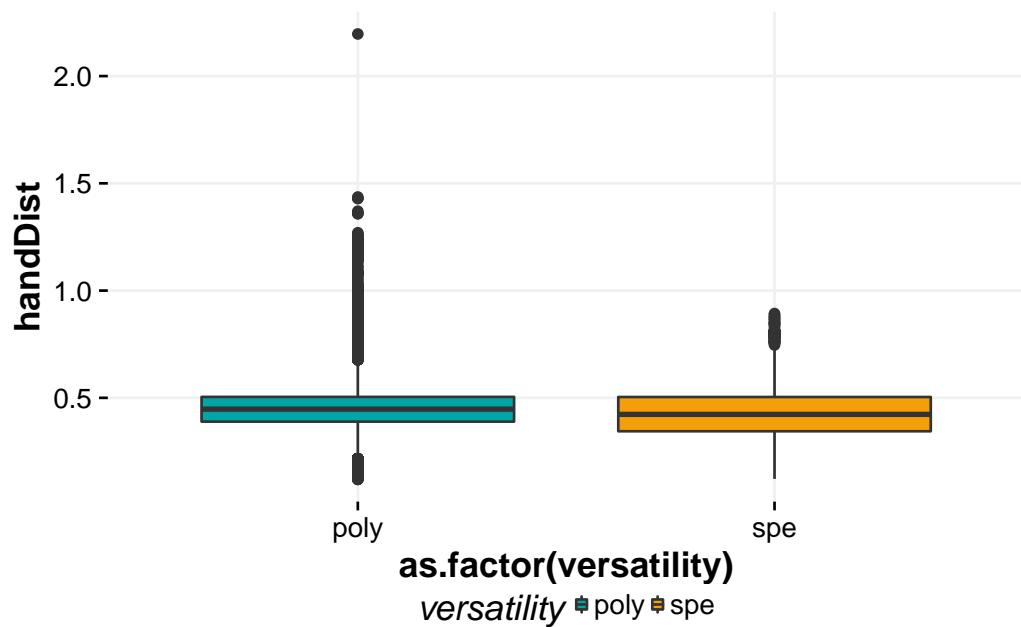
Gender



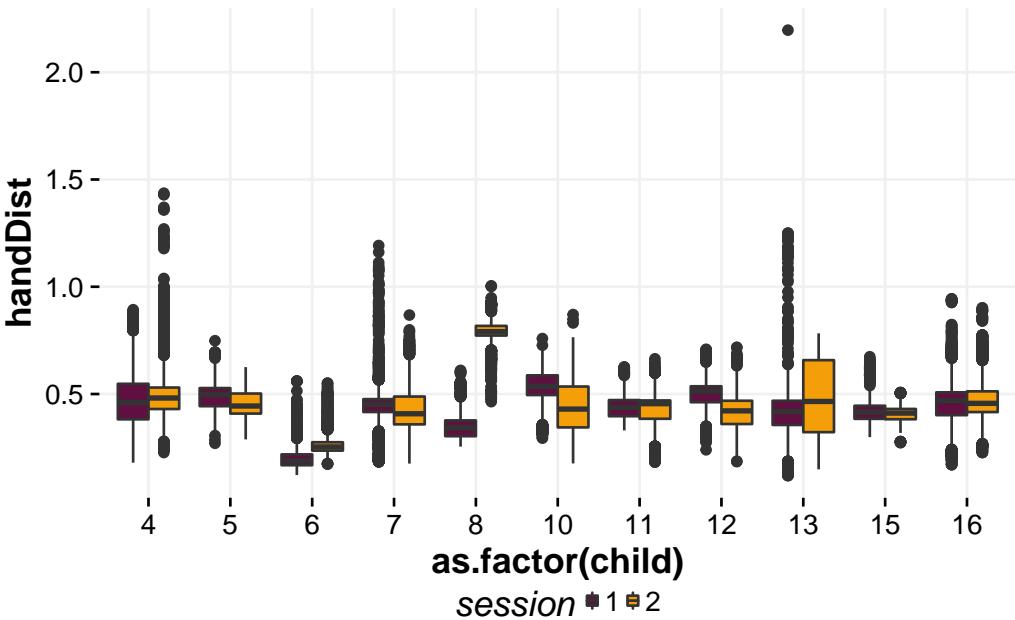
```
Df Sum Sq Mean Sq F value    Pr(>F)
factor(gender)     1   0.1  0.11017   8.011 0.00465 **
Residuals        181496 2496.1  0.01375
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```



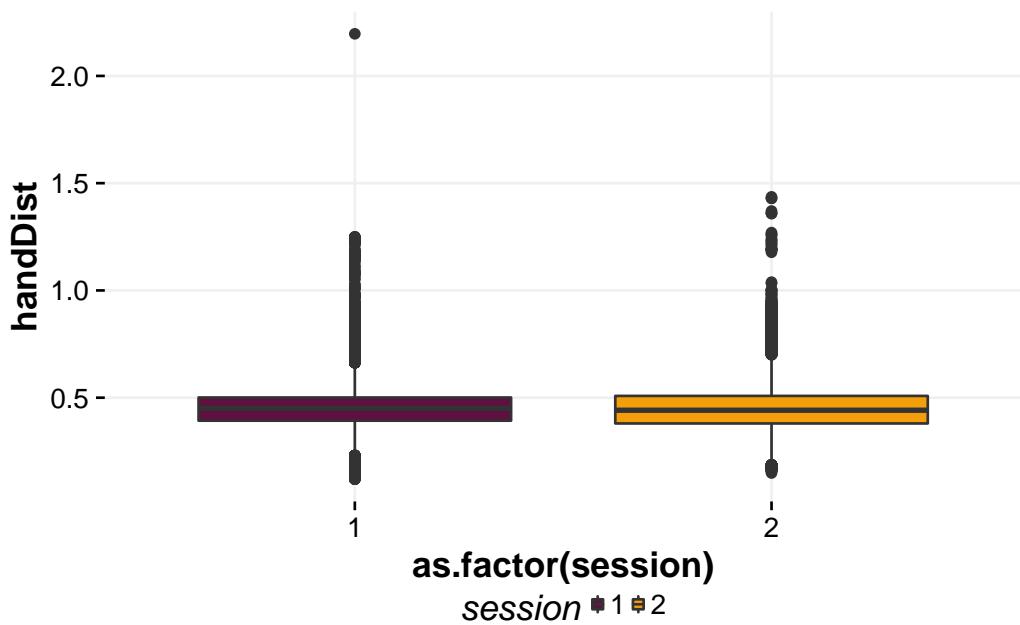
Versatility



```
Df Sum Sq Mean Sq F value Pr(>F)
factor(versatility)    1     26   25.990    1910 <2e-16 ***
Residuals             181496   2470   0.014
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```



Session



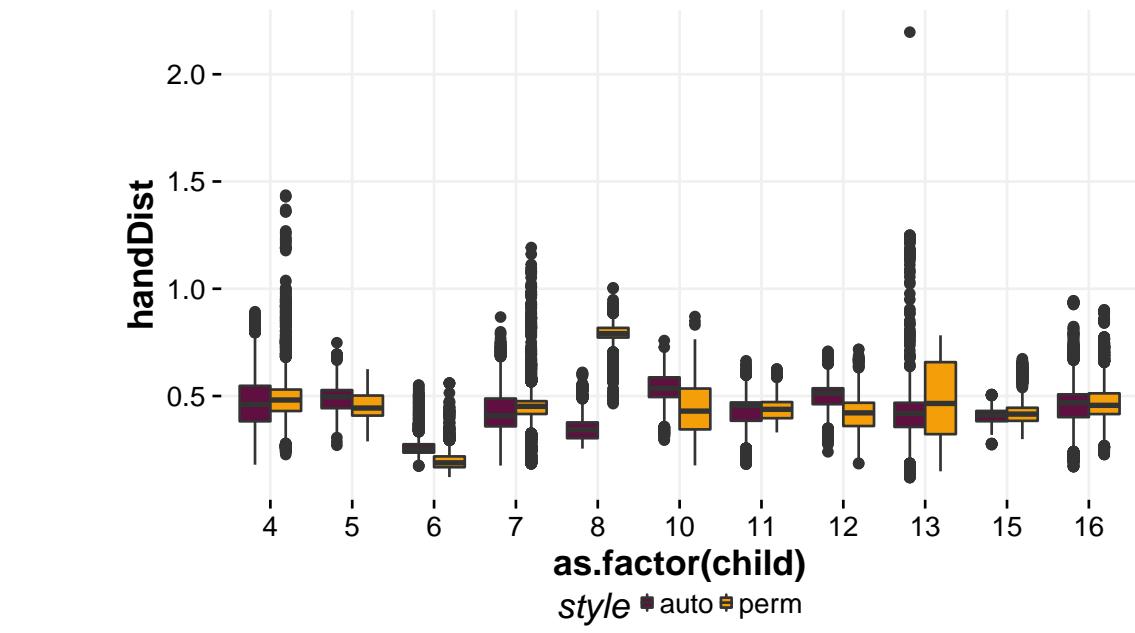
Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	8.2	8.25	0.117	0.74
Residuals	9	636.1	70.68		

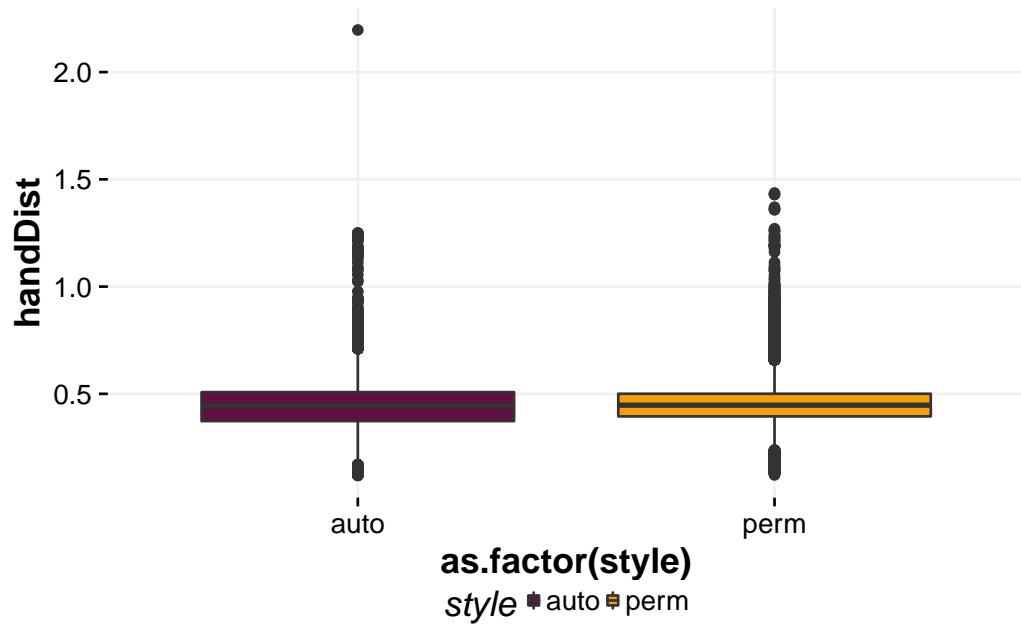
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	7	7.01	689.6	<2e-16 ***
Residuals	181486	1845	0.01		

Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ~ 1



Style



```
Error: child
      Df Sum Sq Mean Sq F value Pr(>F)
factor(style) 1   13.6   13.61   0.194   0.67
Residuals     9  630.7   70.08
```

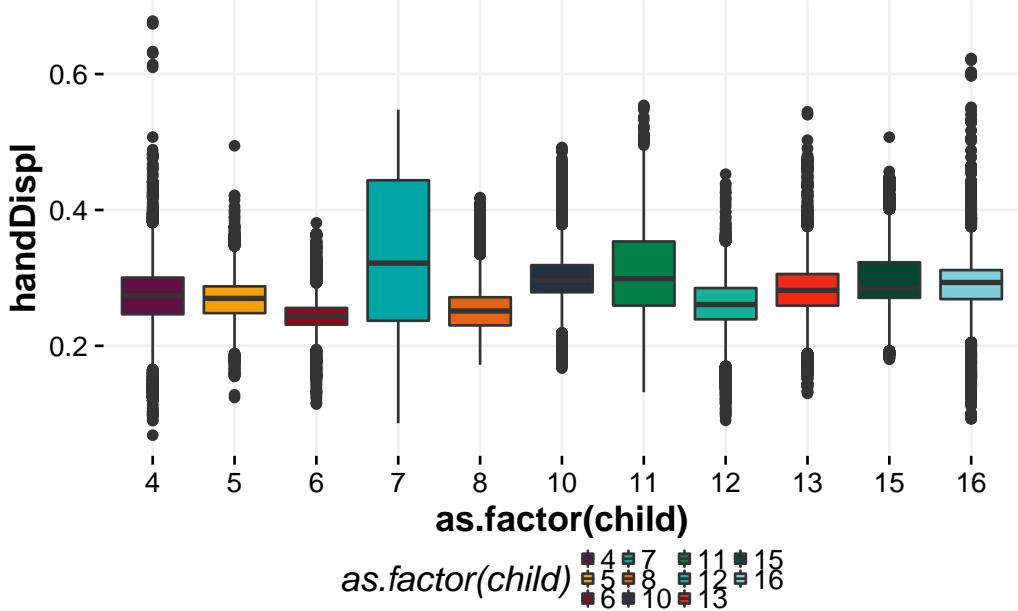
```
Error: Within
      Df Sum Sq Mean Sq F value Pr(>F)
factor(style) 1     9.9    9.943   979.7 <2e-16 ***
Residuals    181486 1841.9    0.010
---
```

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

2.1.7 Hand Relationship - Displacement

```
group: auto
vars      n mean   sd median trimmed  mad   min   max range skew kurtosis se
X1      1 86873 0.29 0.05    0.28    0.28 0.04 0.07 0.55 0.49 0.93    1.92 0
```

```
group: perm
  vars   n  mean    sd median trimmed   mad   min   max range skew kurtosis se
X1     1 94625 0.29 0.07     0.28    0.28 0.05 0.09 0.68 0.59 0.96      1.05  0
```



Child

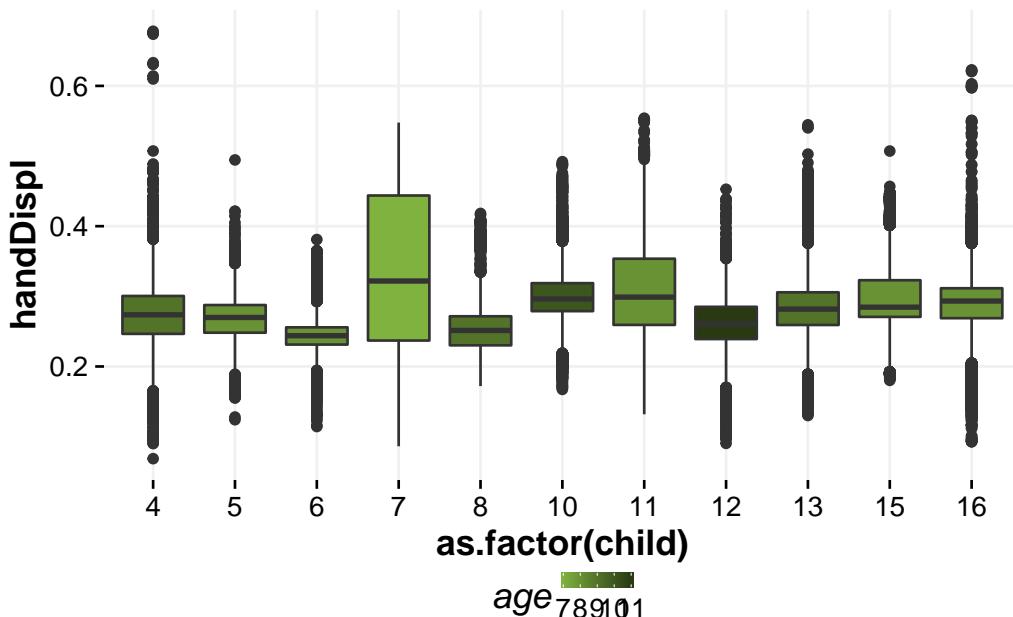
```
Error: session
  Df Sum Sq Mean Sq
factor(child) 1 3.475 3.475
```

```
Error: style
  Df Sum Sq Mean Sq
factor(child) 1 0.07948 0.07948
```

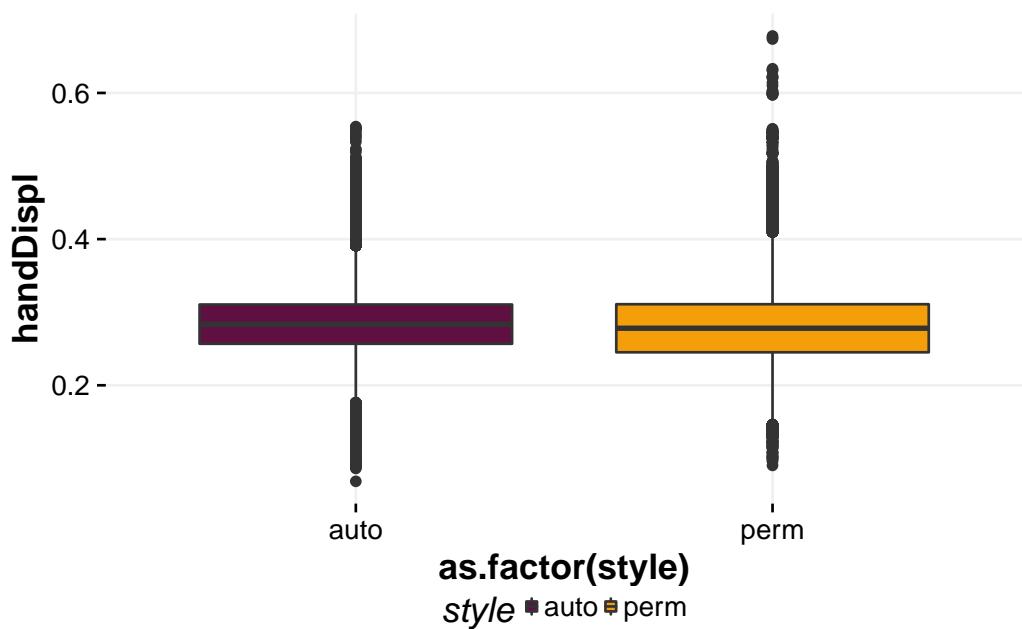
```
Error: session:style
  Df Sum Sq Mean Sq
factor(child) 1 33.14 33.14
```

```
Error: Within
  Df Sum Sq Mean Sq F value Pr(>F)
factor(child)  9 70.9  7.876    2309 <2e-16 ***
Residuals    181485 619.1   0.003
---
```

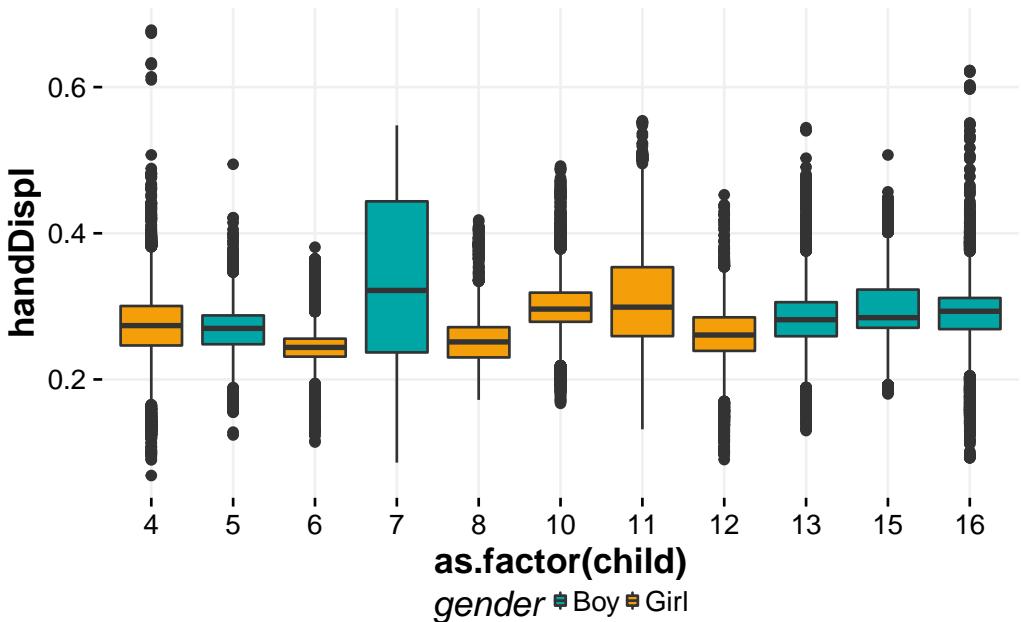
```
Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ~ 1
```



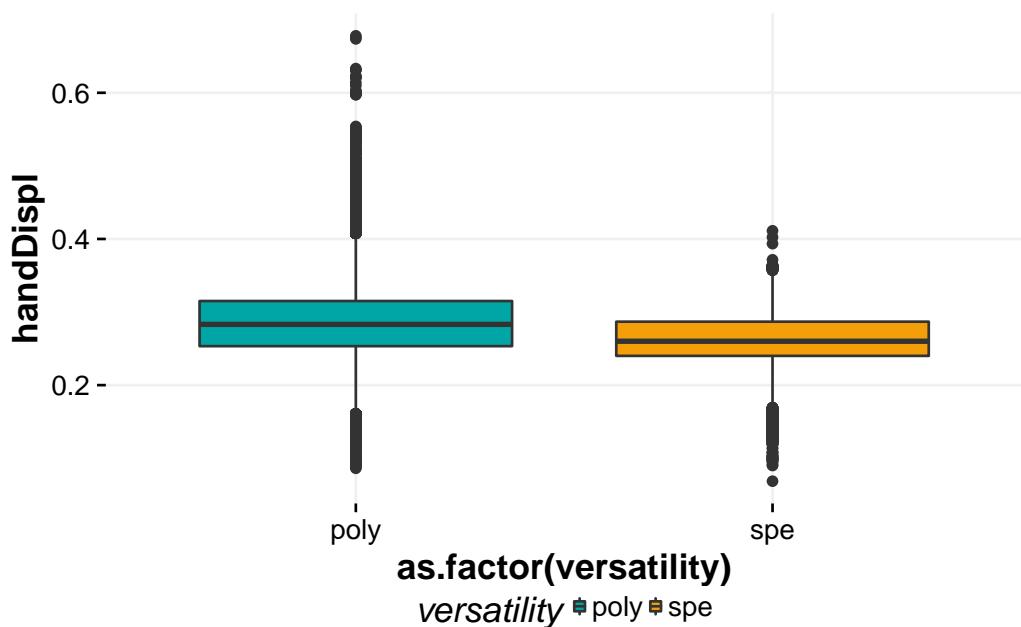
Age



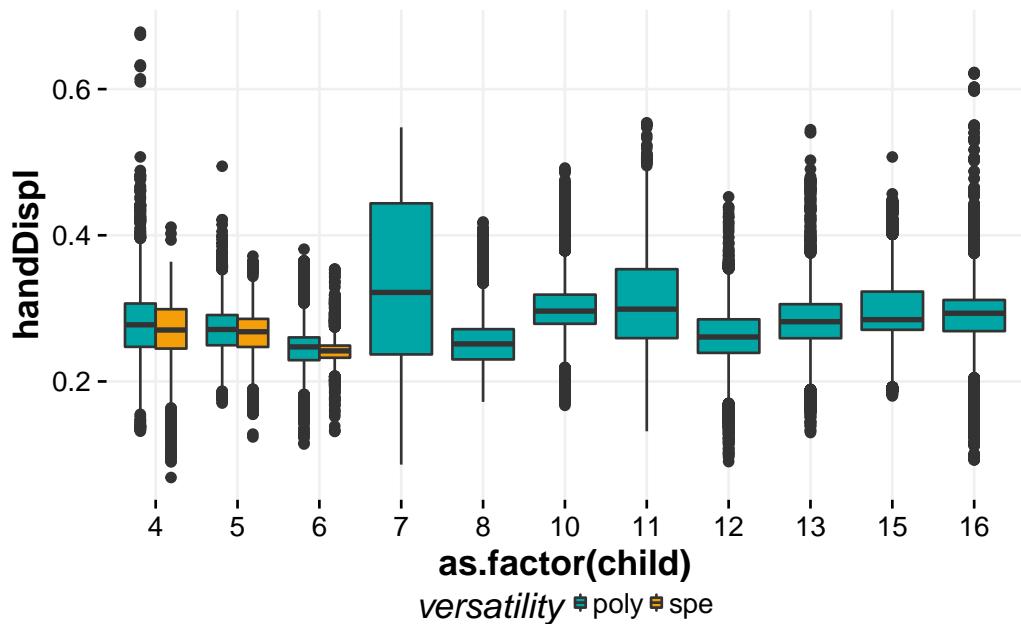
```
Df Sum Sq Mean Sq F value Pr(>F)
factor(age)    4   65.8   16.441     4515 <2e-16 ***
Residuals  181493   660.9     0.004
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



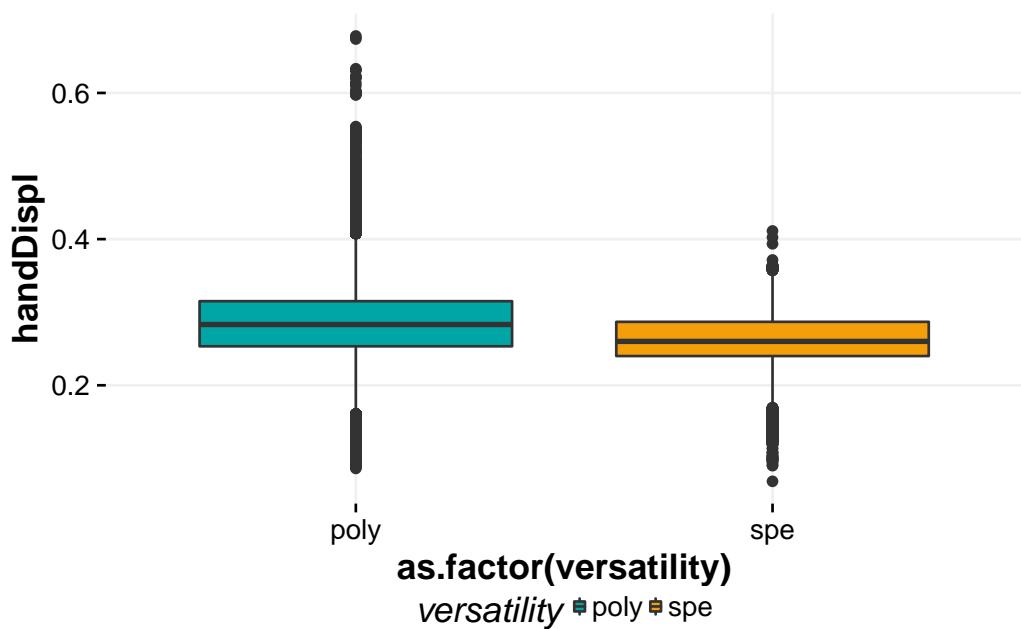
Gender



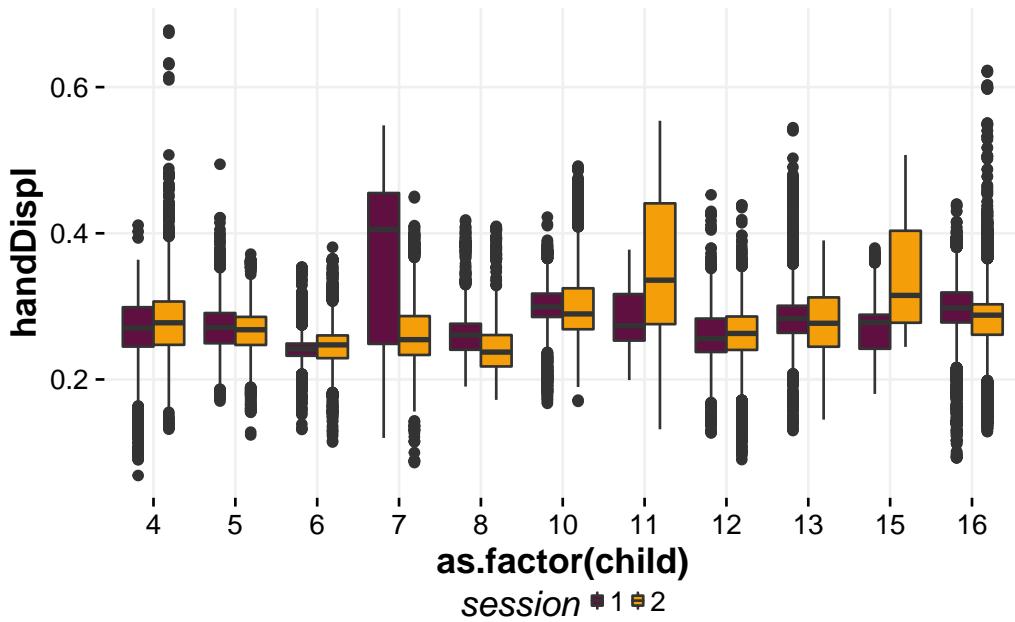
```
Df Sum Sq Mean Sq F value Pr(>F)
factor(gender)    1   11.8   11.834    3005 <2e-16 ***
Residuals       181496   714.8     0.004
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



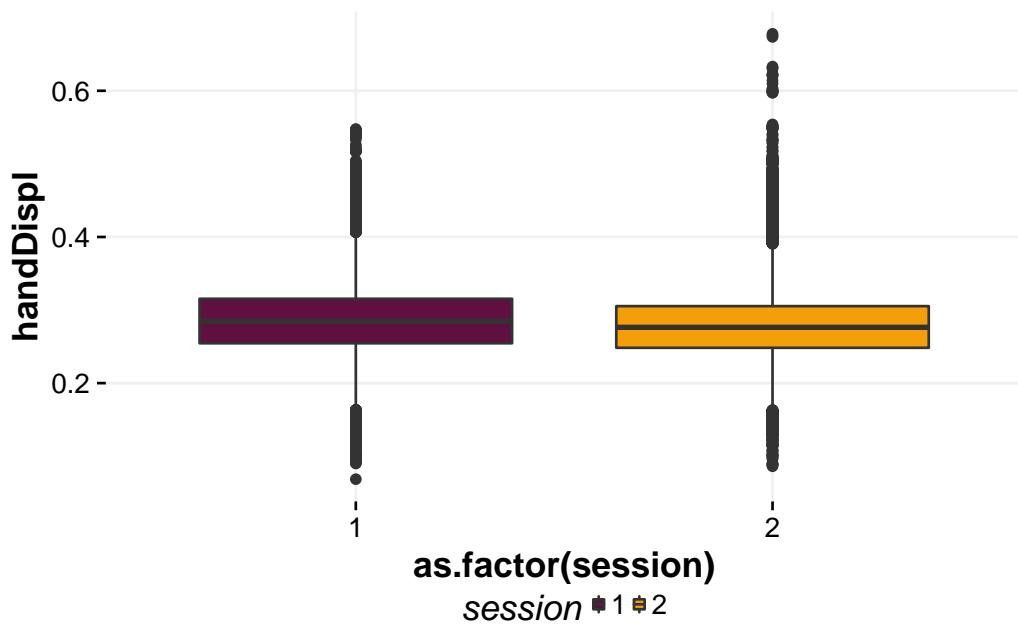
Versatility



```
Df Sum Sq Mean Sq F value Pr(>F)
factor(versatility)    1   16.0   16.007   4088 <2e-16 ***
Residuals             181496  710.6    0.004
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



Session



Error: child

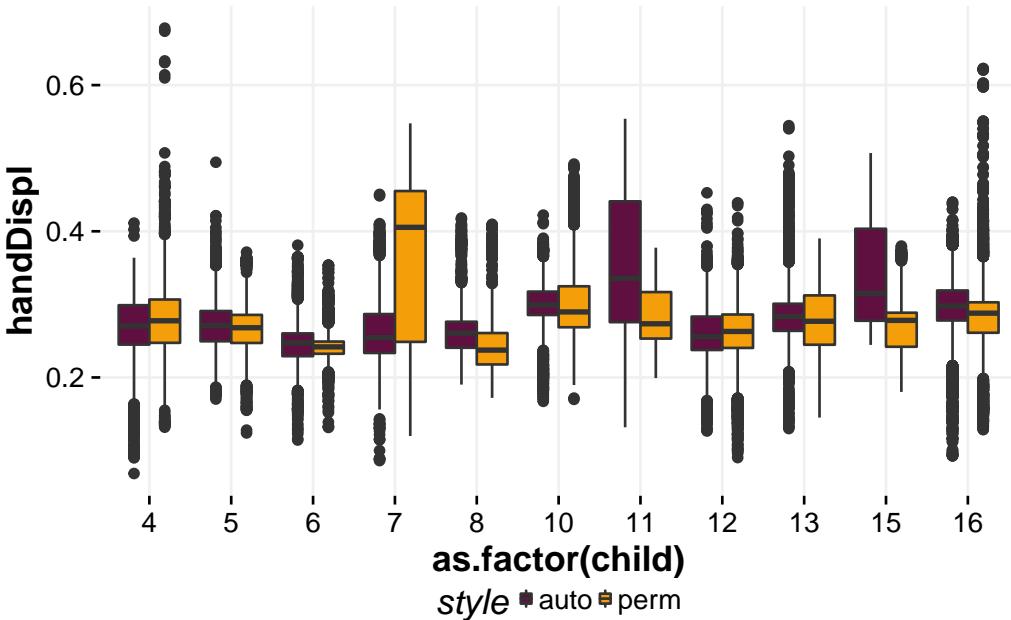
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	55.97	55.97	9.977	0.0116 *
Residuals	9	50.49	5.61		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

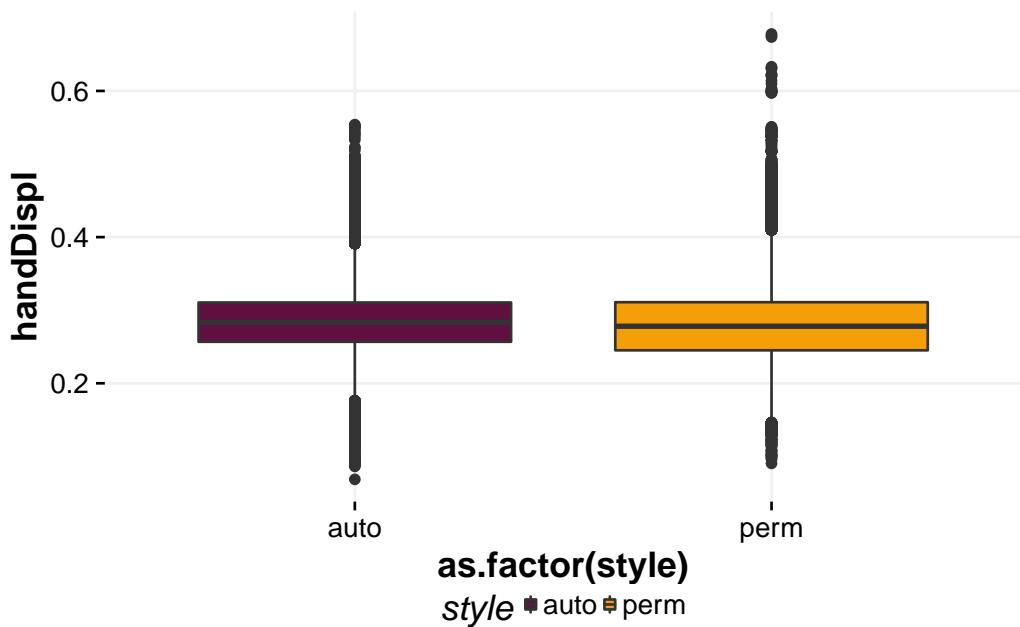
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	0.3	0.28293	82.83	<2e-16 ***
Residuals	181486	619.9	0.00342		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



Style



Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	15.36	15.36	1.518	0.249
Residuals	9	91.10	10.12		

Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	1.1	1.0661	312.5	<2e-16 ***
Residuals	181486	619.1	0.0034		

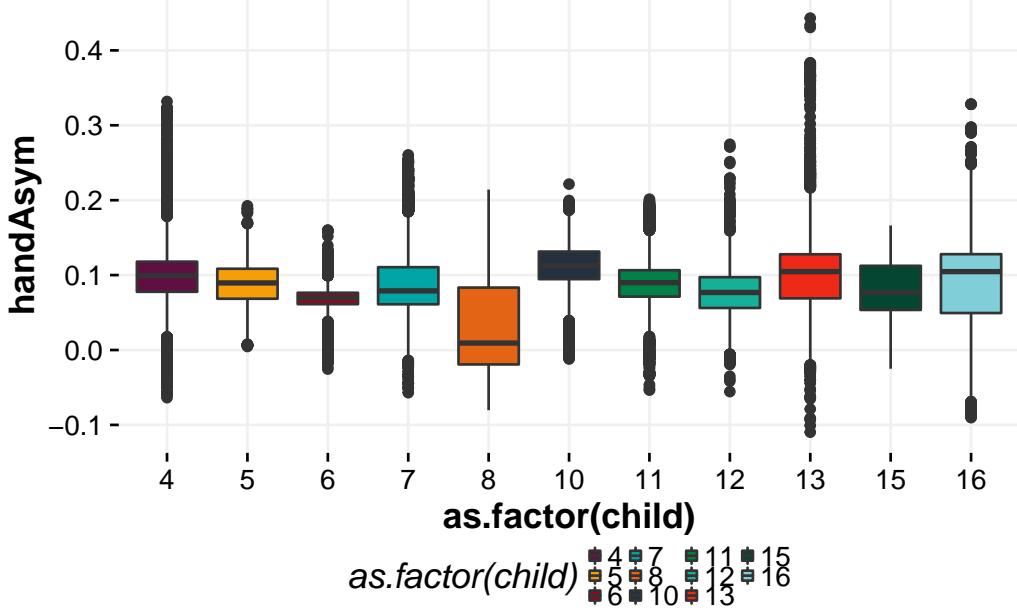
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

2.1.8 Hand Relationship - Asymmetry

group: auto

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
X1	1	86873	0.09	0.04	0.09	0.09	0.04	-0.11	0.44	0.55	-0.1	1.17	0

```
group: perm
vars   n mean   sd median trimmed   mad   min   max range skew kurtosis se
X1    1 94625 0.08 0.05    0.09    0.09 0.04 -0.09 0.33 0.42 -0.04      0.97  0
```



Error: session

	Df	Sum Sq	Mean Sq
factor(child)	1	19.02	19.02

Error: style

	Df	Sum Sq	Mean Sq
factor(child)	1	0.2141	0.2141

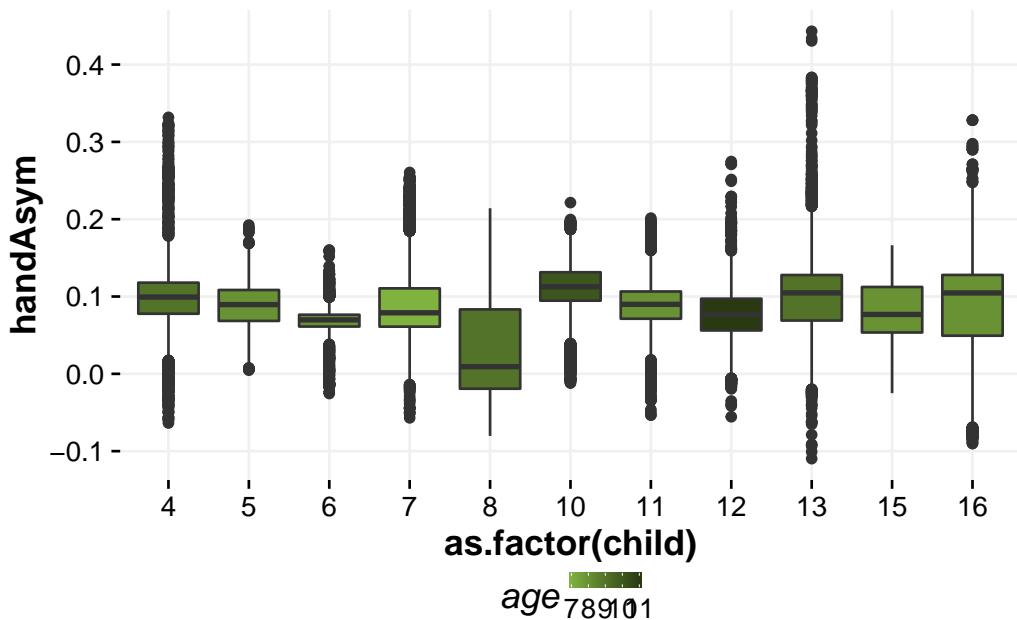
Error: session:style

	Df	Sum Sq	Mean Sq
factor(child)	1	2.414	2.414

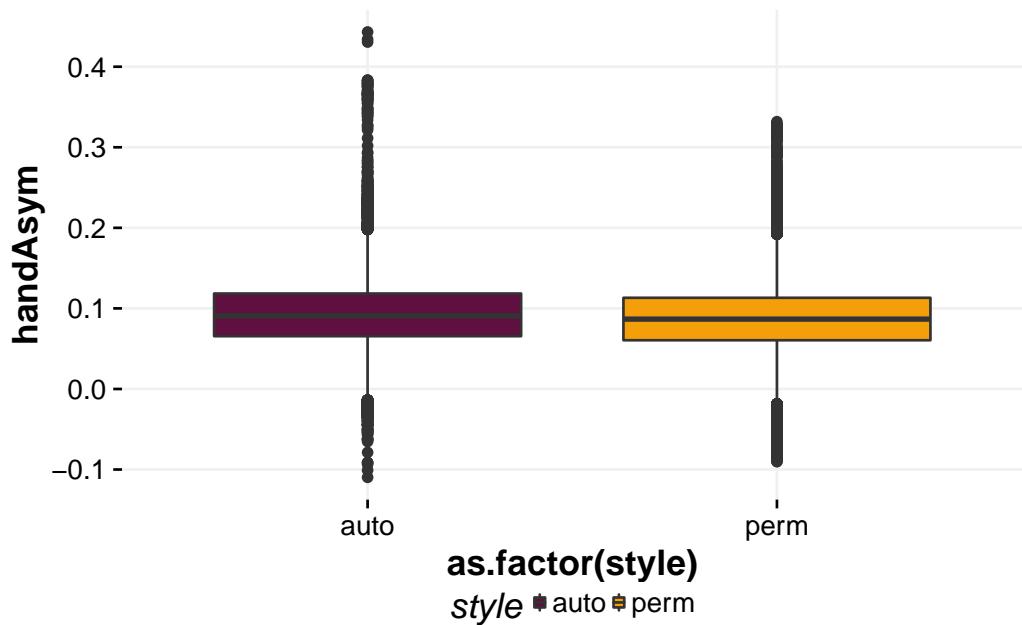
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(child)	9	38.9	4.320	2345	<2e-16 ***
Residuals	181485	334.3	0.002		

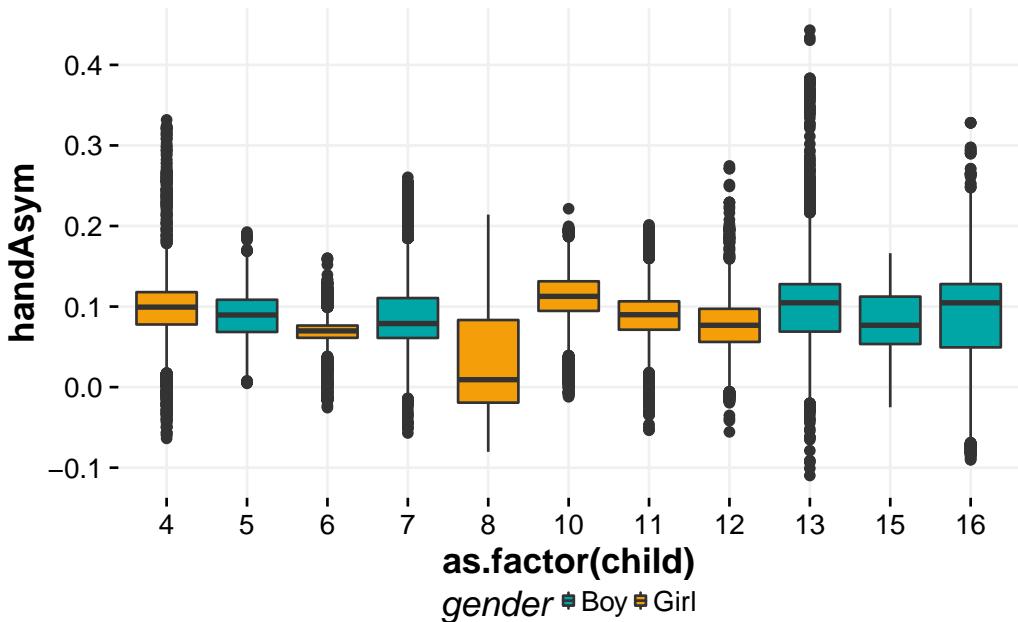
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



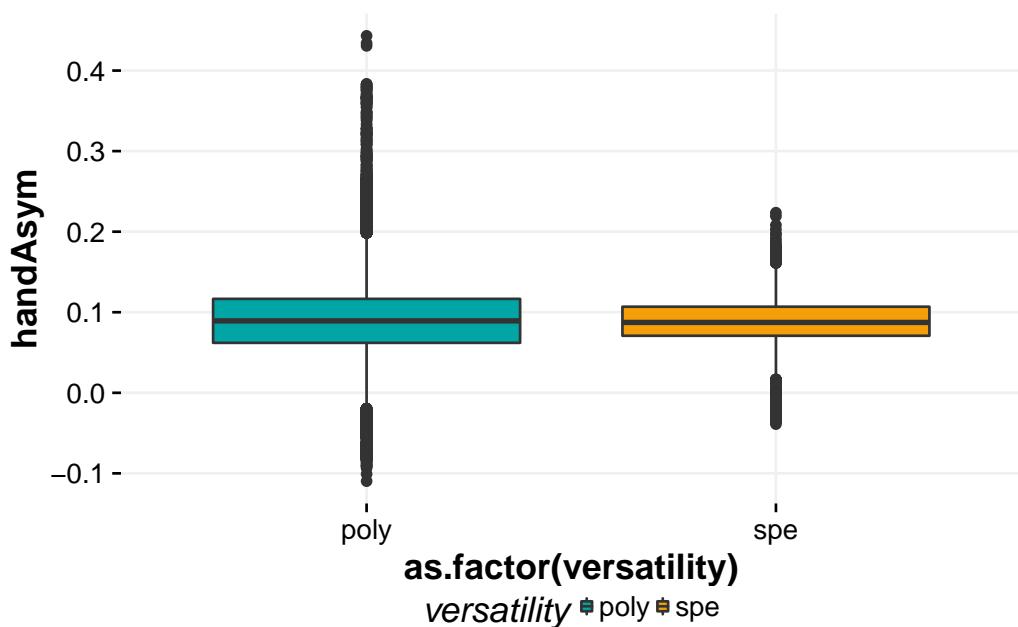
Age



```
Df Sum Sq Mean Sq F value Pr(>F)
factor(age)    4   10.4   2.5951    1225 <2e-16 ***
Residuals  181493   384.5   0.0021
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

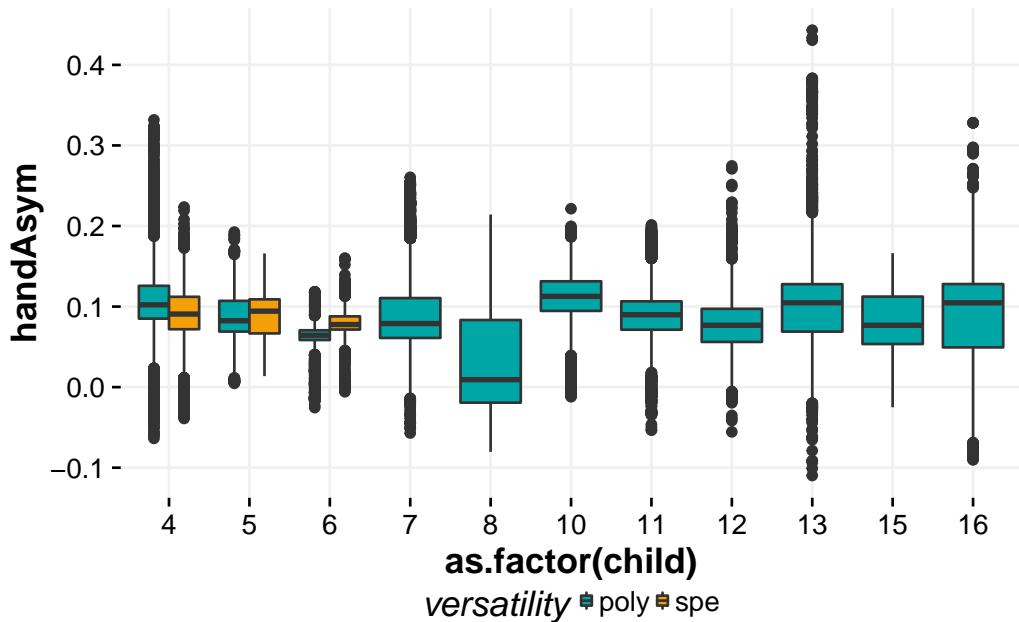


Gender

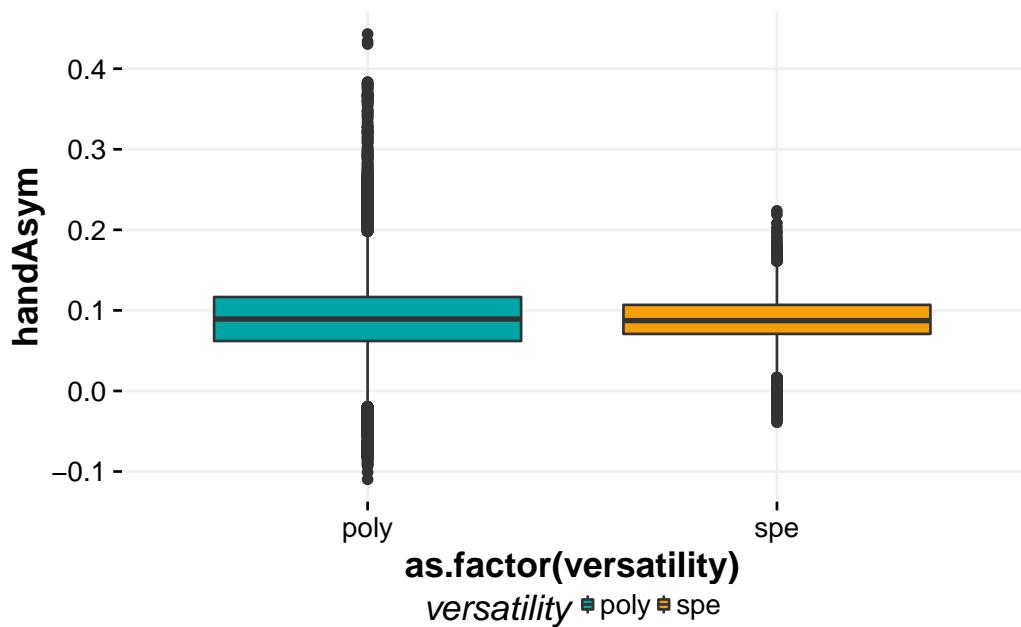


	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(gender)	1	1.4	1.4175	653.9	<2e-16 ***
Residuals	181496	393.5	0.0022		

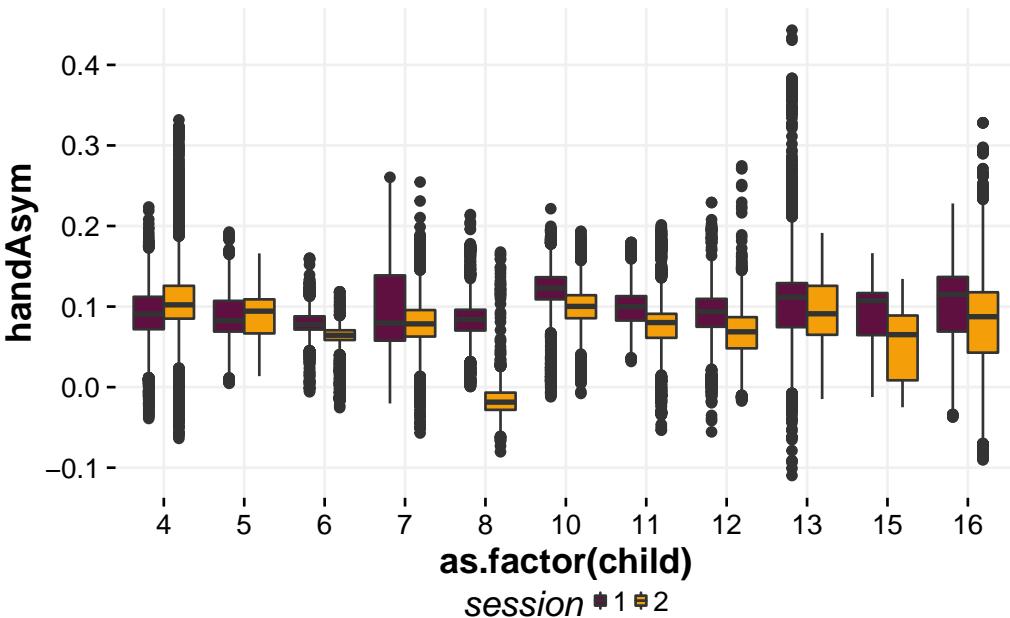
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1



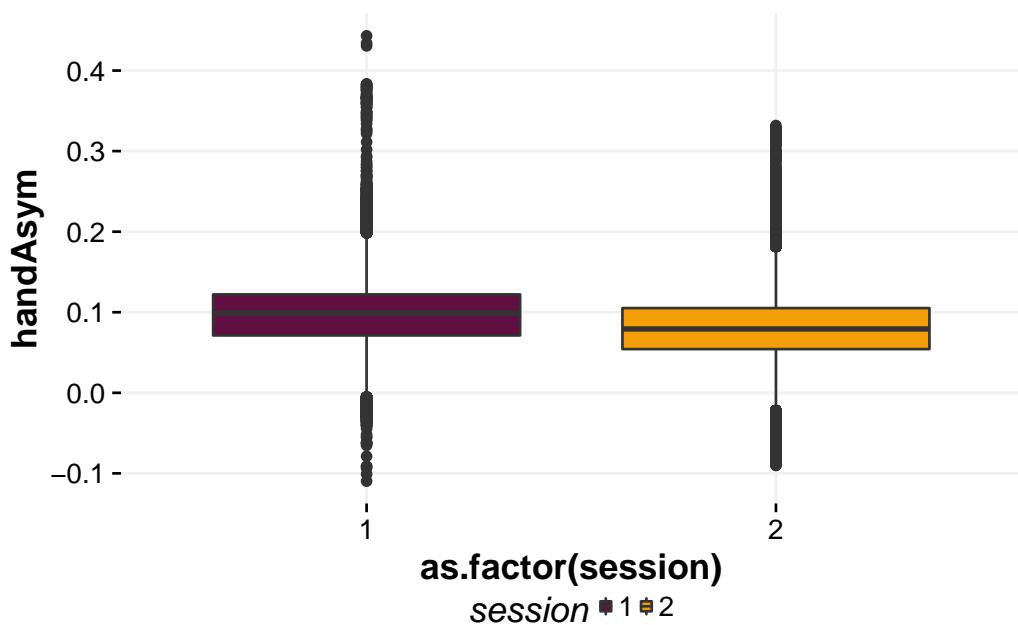
Versatility



```
Df Sum Sq Mean Sq F value Pr(>F)
factor(versatility) 1 0.0 0.012402 5.7 0.017 *
Residuals 181496 394.9 0.002176
---
Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ~ 1
```



Session



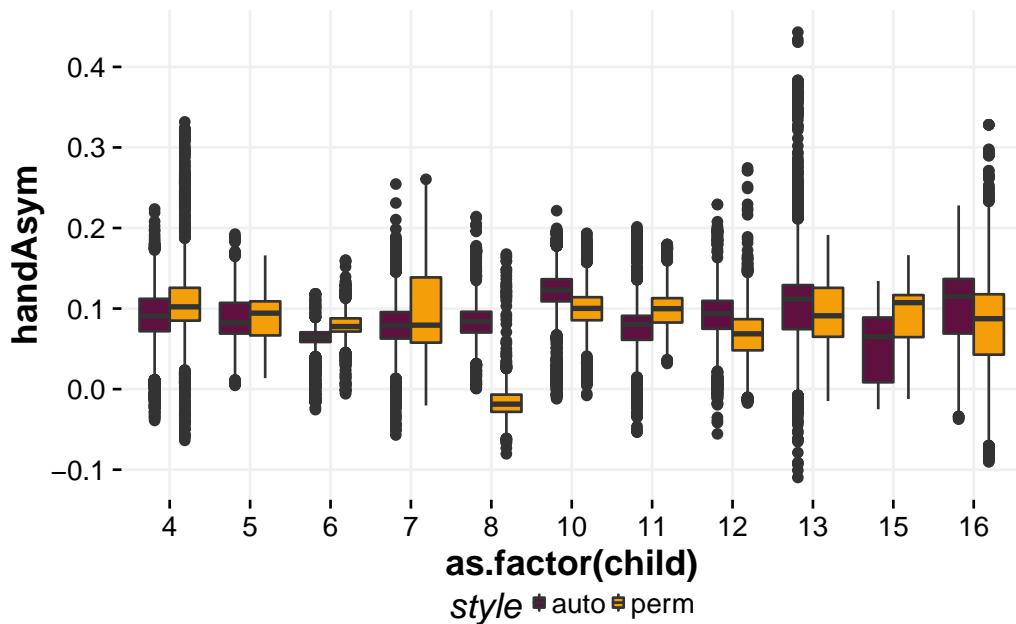
Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	6.30	6.299	1.49	0.253
Residuals	9	38.05	4.228		

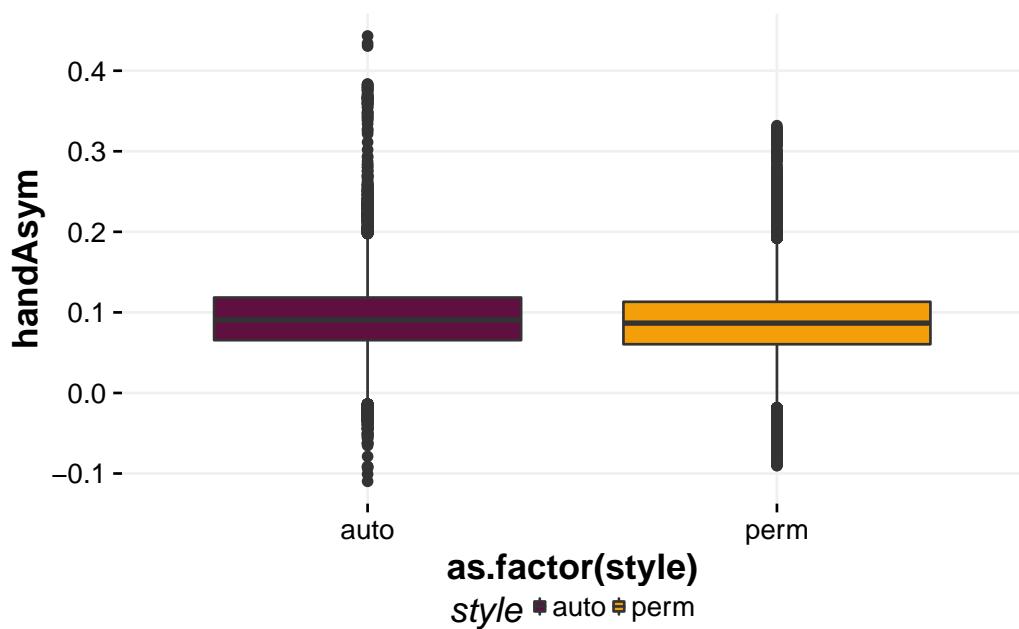
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	15.8	15.809	8572	<2e-16 ***
Residuals	181486	334.7	0.002		

Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ~ 1



Style



Error: child

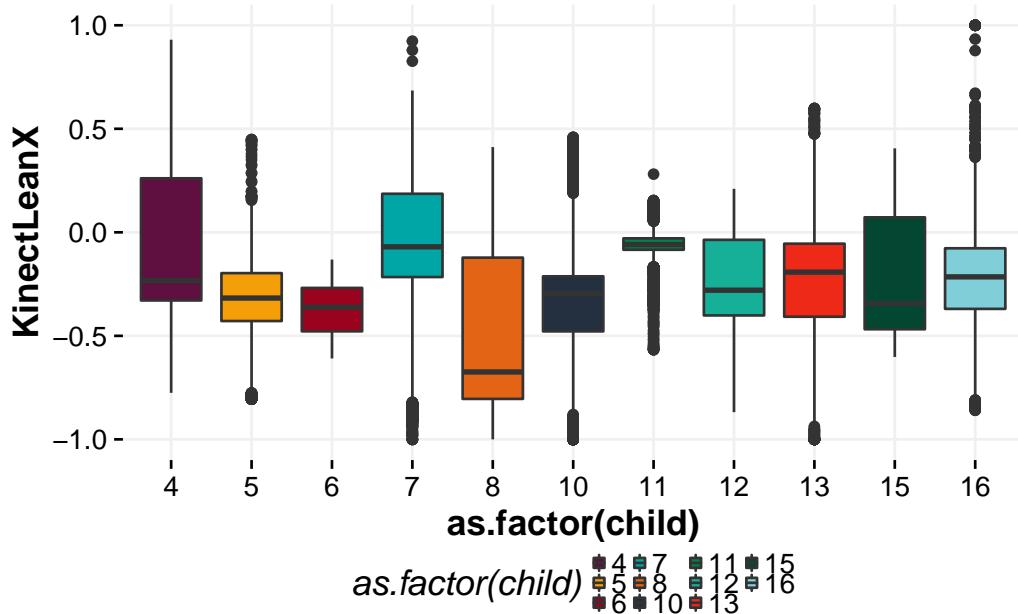
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	1.56	1.558	0.328	0.581
Residuals	9	42.79	4.755		

Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	0.5	0.5323	276	<2e-16 ***
Residuals	181486	350.0	0.0019		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

- 2.1.9 Shoulder Angle
- 2.1.10 Elbow Flexion
- 2.1.11 Feet Relationship
- 2.1.12 Torso Neck Orientation
- 2.1.13 Body lean angle - Frontal



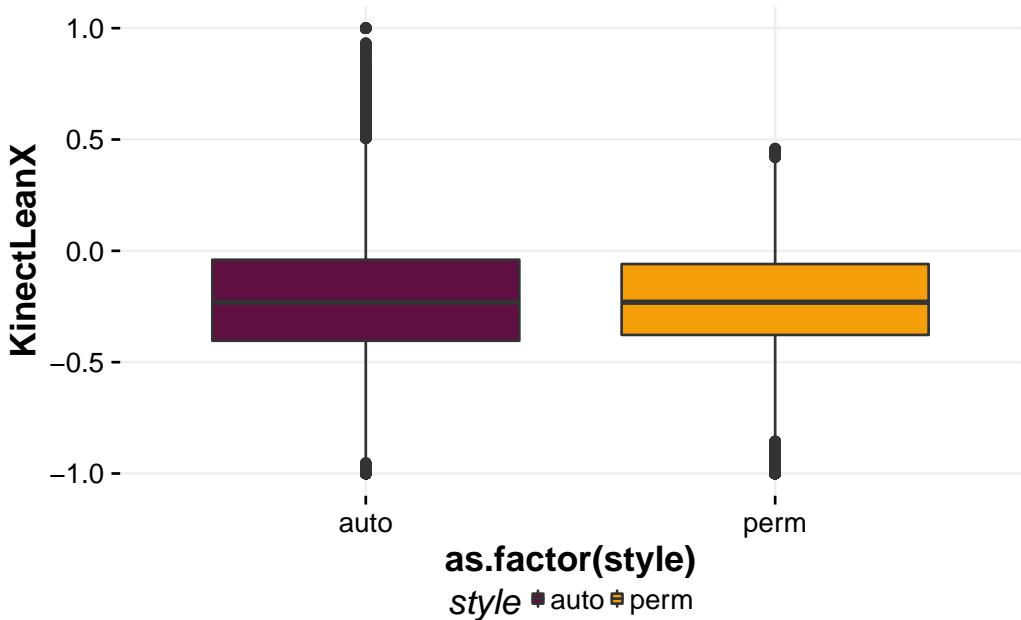
Child

```
Error: session
      Df Sum Sq Mean Sq
factor(child) 1 1307   1307

Error: style
      Df Sum Sq Mean Sq
factor(child) 1  6.239  6.239

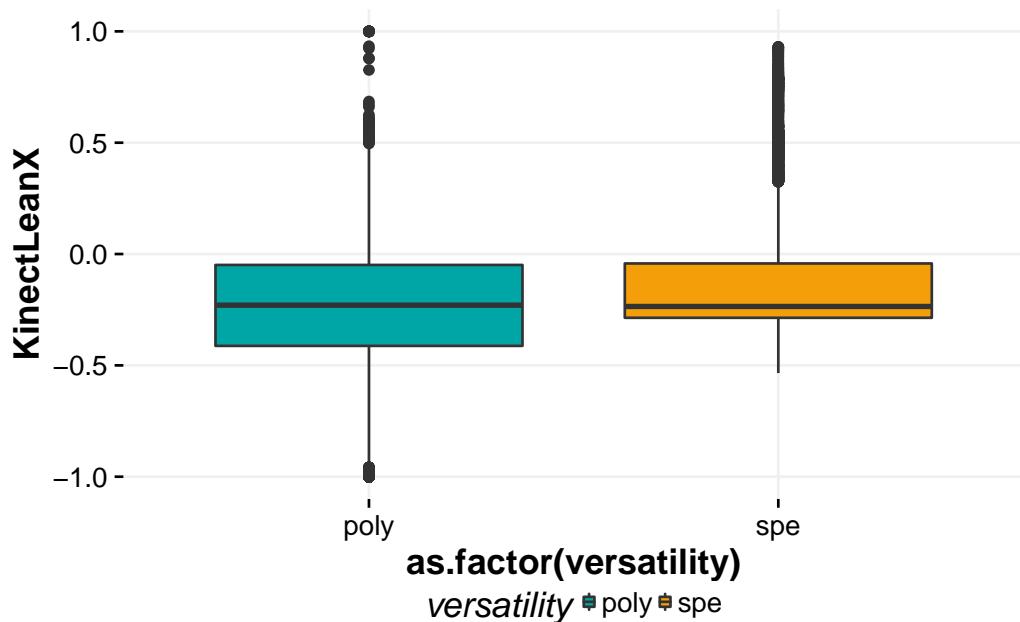
Error: session:style
      Df Sum Sq Mean Sq
factor(child) 1 343.9  343.9

Error: Within
      Df Sum Sq Mean Sq F value Pr(>F)
factor(child)  9 1728  192.03   3762 <2e-16 ***
Residuals    153710  7845     0.05
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



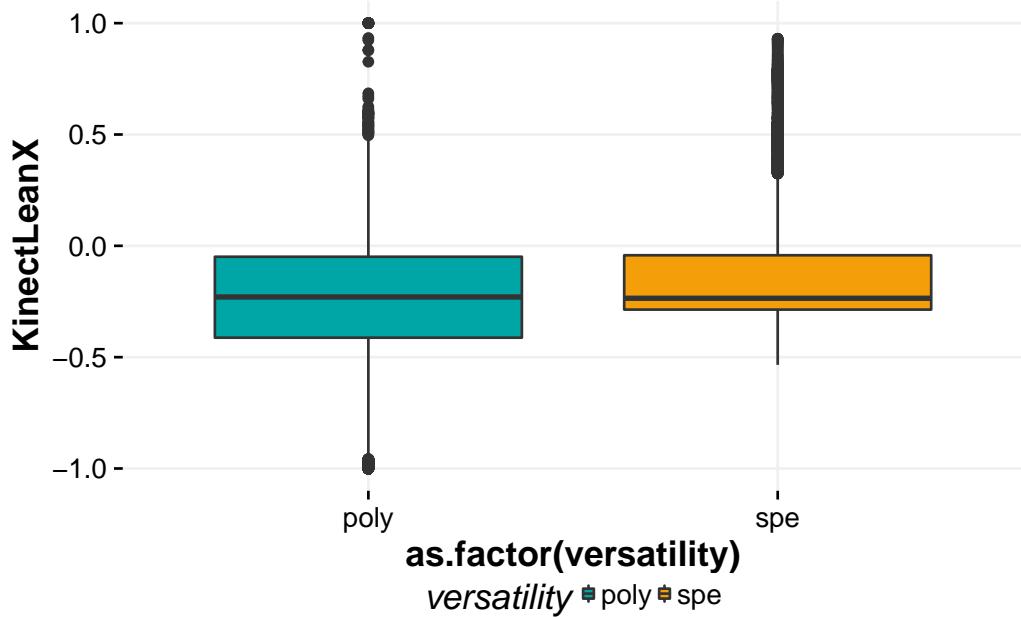
Age

```
Df Sum Sq Mean Sq F value Pr(>F)
factor(age)      4    743   185.85     2724 <2e-16 ***
Residuals    153718  10487     0.07
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



Gender

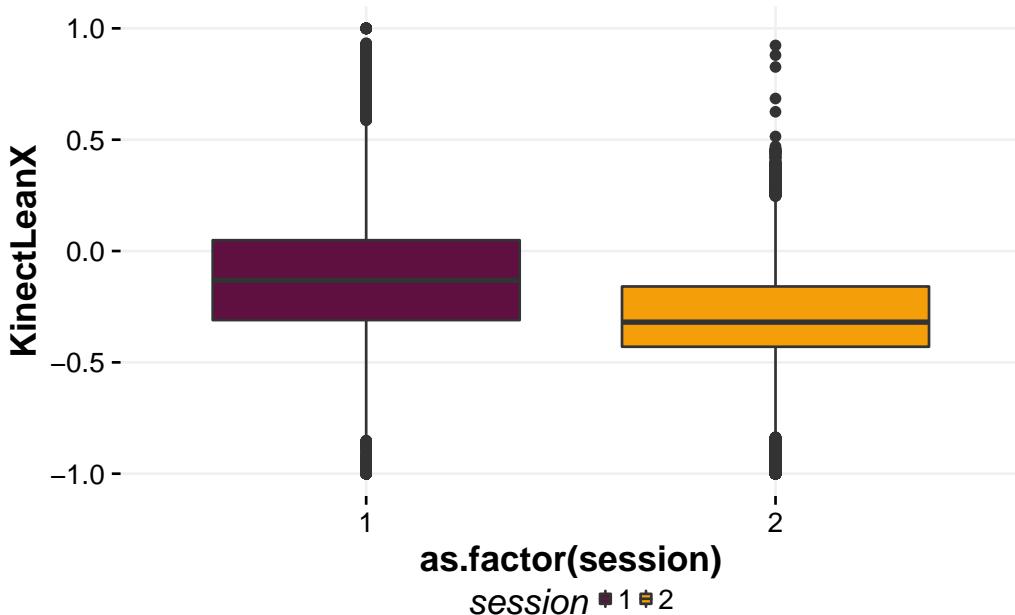
```
Df Sum Sq Mean Sq F value Pr(>F)
factor(gender)    1     40    40.39    554.9 <2e-16 ***
Residuals    153721  11190     0.07
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1  . 1
```



Versatility

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(versatility)	1	258	258.37	3620	<2e-16 ***
Residuals	153721	10972	0.07		

Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ~ 1



Session

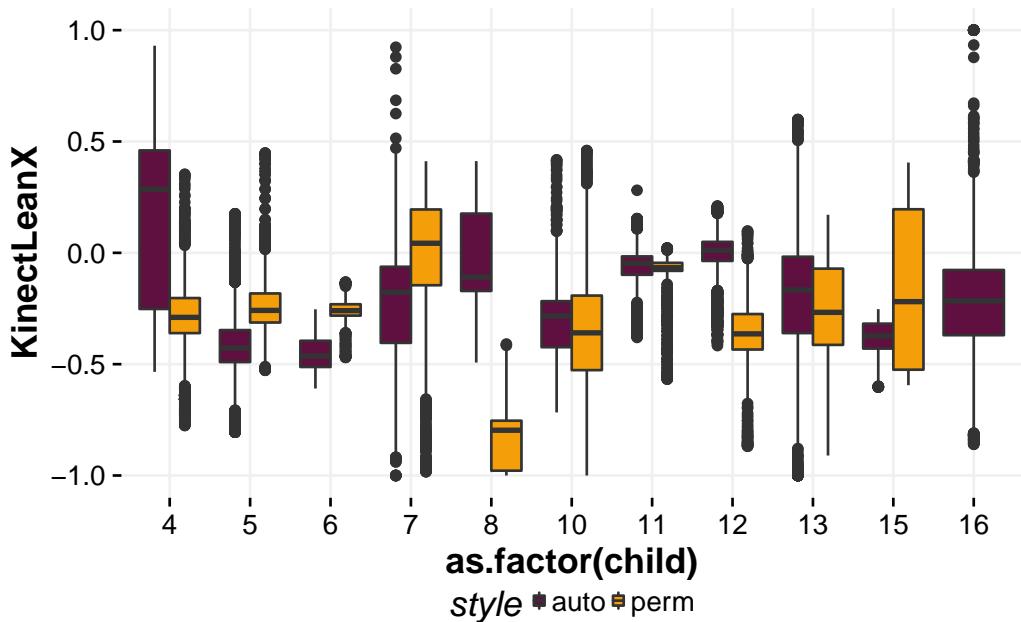
Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	166.6	166.6	0.727	0.416
Residuals	9	2061.7	229.1		

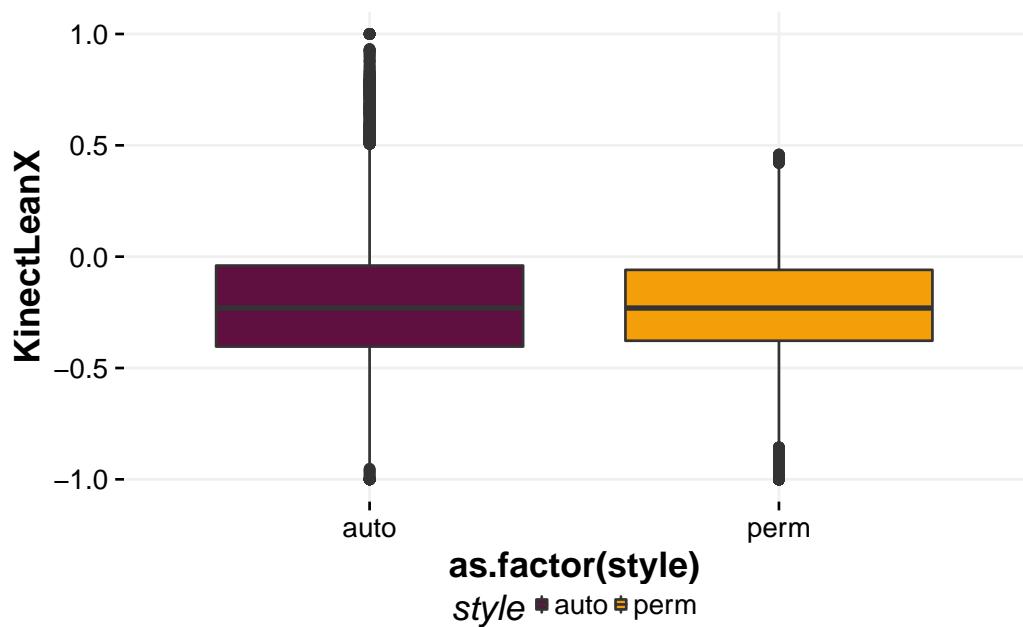
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(session)	1	1146	1145.9	22420	<2e-16 ***
Residuals	153711	7856	0.1		

Signif. codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ~ 1



Style



Error: child

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	64.1	64.12	0.4	0.543
Residuals	9	1441.0	160.11		

Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
factor(style)	1	52.5	52.47	4909	<2e-16 ***
Residuals	153711	1642.9	0.01		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

2.1.14 Hands Status

2.2 Dynamic Features

3 Postures

Table 2: Summary statistics of activities metadata

Statistic	N	Mean	St. Dev.	Min	Max
ordre	16	8.500	4.761	1	16
age	16	8.688	1.014	7	11
p_robot	16	3.125	1.258	1	5
p_videogame	16	3.500	1.414	1	5
p_bike	16	2.375	1.310	1	5
p_book	16	2.312	1.138	1	4
p_clothes	16	3.688	1.537	1	5
p_homeworks	16	3.375	1.147	1	4
p_play	16	3.562	0.892	1	4
p_teach	16	3.938	0.250	3	4
p_phone	15	1.867	1.302	1	4
p_webbrowser	15	2.067	1.335	1	4
prefered_session	14	1.643	0.497	1	2
e_robot	13	1.077	0.277	1	2
e_videogame	13	2.615	1.193	1	5
e_bike	12	3.250	0.965	2	5
e_book	12	3.417	1.379	1	5
e_clothes	13	4.308	0.751	3	5
e_homeworks	13	3.115	0.650	2.000	4.000
e_play	13	3.115	0.618	2.000	4.000
e_rules	12	3.167	0.577	2	4
e_learn	13	3.500	0.577	2.500	4.000
e_sport	12	3.000	0.603	2	4
e_teach	12	3.500	0.674	2	4
e_outside	12	2.917	0.900	1	4
e_mood	12	3.375	0.569	2.500	4.000
e_phone	13	2.308	1.109	1	4
e_webbrowser	13	2.500	0.957	1.000	4.000