

Ninja Warrior - Part 1

Approximately many times would you say the ‘Salmon Ladder’ was used?

Whole Population

	Control	Truncated	Logarithmic
N	70.0000000	70.0000000	6.700000e+01
Min.	40.0000000	40.0000000	9.000000e+00
1st Qu.	41.0000000	41.0000000	3.000000e+01
Median	41.0000000	41.0000000	3.500000e+01
Mean	41.2071429	41.3535714	1.492539e+13
3rd Qu.	42.0000000	42.0000000	4.050000e+01
Max.	45.0000000	45.0000000	1.000000e+15
Var	0.7427019	0.7527045	1.492537e+28

Control - Language comparison

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	40.0000000	40.0000000	40.0000000
1st Qu.	41.0000000	41.0000000	40.0000000
Median	41.0000000	41.0000000	41.0000000
Mean	41.2071429	41.4868421	40.8750000
3rd Qu.	42.0000000	42.0000000	41.0000000
Max.	45.0000000	43.0000000	45.0000000
Var	0.7427019	0.4119844	0.9516129

Truncated - Language comparison

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	40.0000000	40.0000000	40.0000000
1st Qu.	41.0000000	41.0000000	41.0000000
Median	41.0000000	41.0000000	41.0000000
Mean	41.3535714	41.5657895	41.1015625

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3rd Qu.	42.0000000	42.0000000	41.2500000
Max.	45.0000000	45.0000000	44.0000000
Var	0.7527045	0.7590683	0.6486265

Logarithmic - Language comparison

	Whole Pop	R	Python
N	6.700000e+01	38.00000	2.900000e+01
Min.	9.000000e+00	30.00000	9.000000e+00
1st Qu.	3.000000e+01	35.00000	1.200000e+01
Median	3.500000e+01	35.00000	1.500000e+01
Mean	1.492539e+13	39.73684	3.448279e+13
3rd Qu.	4.050000e+01	40.00000	5.000000e+01
Max.	1.000000e+15	120.00000	1.000000e+15
Var	1.492537e+28	206.95590	3.448276e+28

Control - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.0000000	3.000000	30.0000000	2.00	4.0000000	1
Min.	40.0000000	40.000000	40.0000000	41.00	40.0000000	41
1st Qu.	41.0000000	40.500000	41.0000000	41.25	40.7500000	41
Median	41.0000000	41.000000	41.0000000	41.50	41.5000000	41
Mean	41.1379310	41.333333	41.2333333	41.50	41.2500000	41
3rd Qu.	42.0000000	42.000000	41.0000000	41.75	42.0000000	41
Max.	42.0000000	43.000000	45.0000000	42.00	42.0000000	41
Var	0.5517241	2.333333	0.9436782	0.50	0.9166667	NA

Truncated - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.0000000	3.00	31.000000	2	4.0000000	1
Min.	40.0000000	42.00	40.000000	42	40.0000000	41
1st Qu.	41.0000000	42.25	41.000000	42	40.7500000	41
Median	41.0000000	42.50	41.000000	42	41.5000000	41
Mean	41.0775862	42.50	41.483871	42	41.2500000	41
3rd Qu.	41.0000000	42.75	42.000000	42	42.0000000	41
Max.	42.0000000	43.00	45.000000	42	42.0000000	41
Var	0.2638547	0.25	1.120565	0	0.9166667	NA

Logarithmic - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	28.00000	3.00000	3.000000e+01	2.00	4.0000	1
Min.	10.00000	9.00000	1.000000e+01	33.00	10.0000	NA

1st Qu.	26.25000	21.50000	3.400000e+01	34.75	10.3750	NA
Median	35.00000	34.00000	3.850000e+01	36.50	10.7500	NA
Mean	34.46429	26.33333	3.333337e+13	36.50	16.6250	NaN
3rd Qu.	40.00000	35.00000	5.375000e+01	38.25	17.0000	NA
Max.	120.00000	36.00000	1.000000e+15	40.00	35.0000	NA
NA's	10.00000	9.00000	1.000000e+01	33.00	10.0000	1
Var	422.10979	226.33333	3.333333e+28	24.50	150.2292	NA

Num skills - log

	uni	sp_aware	obs_skl	num_skl		log_1	log_2	log_3	log_4
101	Technology	4	4	3	Don't know	4	2	0.5	
121	None	4	3	3	Next to none.	1	1	5	
102	Social Sciences	5	5	4	10 ¹⁵	5	3	0.85	
84	psychology	3	5	1	10 ⁹	3	2	0.9	

Shapiro Tests - Whole

Shapiro-Wilk normality test

data: control_1

W = 0.81359, p-value = 5.596e-08

Shapiro-Wilk normality test

data: truncated_1

W = 0.82679, p-value = 1.327e-07

Shapiro-Wilk normality test

data: logarithmic_1

W = 0.10138, p-value < 2.2e-16

Symmetry Tests - Whole

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_1

Test statistic = 3.3278, p-value = 0.014

alternative hypothesis: the distribution is asymmetric.

sample estimates:

6 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

bootstrap optimal m
17

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: truncated_1
Test statistic = 5.5016, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
17

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: logarithmic_1
Test statistic = 8.6444, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
23

Shapiro Tests - Language comp

Shapiro-Wilk normality test

data: control_1_r
W = 0.80497, p-value = 1.322e-05

Shapiro-Wilk normality test

data: truncated_1_r
W = 0.77542, p-value = 3.428e-06

Shapiro-Wilk normality test

data: logarithmic_1_r
W = 0.43931, p-value = 6.923e-11

Shapiro-Wilk normality test

data: control_1_py
W = 0.67942, p-value = 4.341e-07

Shapiro-Wilk normality test

data: truncated_1_py
W = 0.82735, p-value = 0.0001392

Shapiro-Wilk normality test

data: logarithmic_1_py
W = 0.18384, p-value = 1.315e-11

symmetry Tests - Language comp

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_1_r
Test statistic = 5.875, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
17

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: truncated_1_r
Test statistic = 5.713, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
15

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: logarithmic_1_r
Test statistic = 5.3265, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: control_1_py
Test statistic = -1.3276, p-value = 0.328
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
18
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: truncated_1_py
Test statistic = 1.2732, p-value = 0.37
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
16
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: logarithmic_1_py
Test statistic = 5.6872, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
16
```

Sign tests - Whole pop

One-sample Sign-Test

```
data: control_1
s = 22, p-value = 0.1214
alternative hypothesis: true median is not equal to 41
95 percent confidence interval:
41 41
sample estimates:
median of x
41
```


Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	41	41
Interpolated CI	0.9500	41	41
Upper Achieved CI	0.9586	41	41

One-sample Sign-Test

data: truncated_1
s = 28, p-value = 0.002563
alternative hypothesis: true median is not equal to 41
95 percent confidence interval:
41.00 41.25
sample estimates:
median of x
41

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	41	41.25
Interpolated CI	0.9500	41	41.25
Upper Achieved CI	0.9586	41	41.25

One-sample Sign-Test

data: logarithmic_1
s = 15, p-value = 1.572e-05
alternative hypothesis: true median is not equal to 41
95 percent confidence interval:
34.00546 40.00000
sample estimates:
median of x
35

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9136	35.0000	40
Interpolated CI	0.9500	34.0055	40
Upper Achieved CI	0.9502	34.0000	40

10 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Dependent-samples Sign-Test

data: control_1 and truncated_1
S = 14, p-value = 0.1877
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0 0
sample estimates:
median of x-y
0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Sign tests - Lang comp

One-sample Sign-Test

data: control_1_r
s = 18, p-value = 7.629e-05
alternative hypothesis: true median is not equal to 41
95 percent confidence interval:
41 42
sample estimates:
median of x
41

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	41	42
Interpolated CI	0.9500	41	42
Upper Achieved CI	0.9664	41	42

One-sample Sign-Test

data: truncated_1_r
s = 18, p-value = 0.0004025

alternative hypothesis: true median is not equal to 41
 95 percent confidence interval:
 41 42
 sample estimates:
 median of x
 41

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	41	42
Interpolated CI	0.9500	41	42
Upper Achieved CI	0.9664	41	42

One-sample Sign-Test

data: logarithmic_1_r
 s = 5, p-value = 1.291e-05
 alternative hypothesis: true median is not equal to 41
 95 percent confidence interval:
 35 40
 sample estimates:
 median of x
 35

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	35	40
Interpolated CI	0.9500	35	40
Upper Achieved CI	0.9664	35	40

One-sample Sign-Test

data: control_1_py
 s = 4, p-value = 0.1185
 alternative hypothesis: true median is not equal to 41
 95 percent confidence interval:
 40 41
 sample estimates:
 median of x
 41

12APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	40	41
Interpolated CI	0.9500	40	41
Upper Achieved CI	0.9799	40	41

Wilcoxon rank sum test with continuity correction

data: control_1_r and control_1_py
W = 908.5, p-value = 0.0001161
alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: truncated_1_r and truncated_1_py
W = 791, p-value = 0.02163
alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: logarithmic_1_r and logarithmic_1_py
W = 679, p-value = 0.1049
alternative hypothesis: true location shift is not equal to 0

Wilcox tests - Py

Wilcoxon signed rank test with continuity correction

data: truncated_1_py
V = 84.5, p-value = 0.7188
alternative hypothesis: true location is not equal to 41

Wilcoxon signed rank test with continuity correction

data: logarithmic_1_py
V = 194, p-value = 0.6187
alternative hypothesis: true location is not equal to 41

APPROXIMATELY HOW MUCH MORE THAN 'LOG GRIP' WOULD YOU SAY 'SALMON LADDER'

First Plot Comp

	Control	Truncated	Logarithmic
N	25.000000	23.000000	2.200000e+01
Min.	40.000000	40.000000	9.000000e+00
1st Qu.	41.000000	41.000000	3.075000e+01
Median	41.000000	41.250000	3.750000e+01
Mean	41.160000	41.695652	4.545455e+14
3rd Qu.	41.000000	42.000000	4.375000e+01
Max.	45.000000	45.000000	1.000000e+16
Var	1.056667	1.192935	4.545455e+30

Wilcoxon rank sum test with continuity correction

data: con_first_1 and trn_first_1

W = 184.5, p-value = 0.02354

alternative hypothesis: true location shift is not equal to 0

Approximately how much more than 'Log Grip' would you say 'Salmon Ladder' was was used?

Whole pop summary

	Control	Truncated	Logarithmic
N	70.000000	70.000000	70.000000
Min.	3.000000	1.000000	1.000000
1st Qu.	4.250000	5.000000	2.250000
Median	5.000000	6.000000	3.500000
Mean	5.357143	5.871429	3.671429
3rd Qu.	6.000000	7.000000	5.000000
Max.	7.000000	7.000000	7.000000
Var	1.334369	1.997723	2.745549

Shapiro tests

Shapiro-Wilk normality test

data: control_2

W = 0.90456, p-value = 5.895e-05

Shapiro-Wilk normality test

14APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

```
data:  truncated_2
W = 0.76579, p-value = 3.263e-09
```

Shapiro-Wilk normality test

```
data:  logarithmic_2
W = 0.93942, p-value = 0.002105
```

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data:  control_2
Test statistic = 3.297, p-value = 0.008
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data:  truncated_2
Test statistic = -1.1525, p-value = 0.38
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  27
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data:  logarithmic_2
Test statistic = 1.071, p-value = 0.456
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  24
```

Pairwise Sign Tests

Dependent-samples Sign-Test

APPROXIMATELY HOW MUCH MORE THAN 'LOG GRIP' WOULD YOU SAY 'SALMON LADDER'

data: control_2 and truncated_2
S = 7, p-value = 0.0001911
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1 0
sample estimates:
median of x-y
0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9586	-1	0

Dependent-samples Sign-Test

data: control_2 and logarithmic_2
S = 51, p-value = 2.047e-11
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
1 2
sample estimates:
median of x-y
2

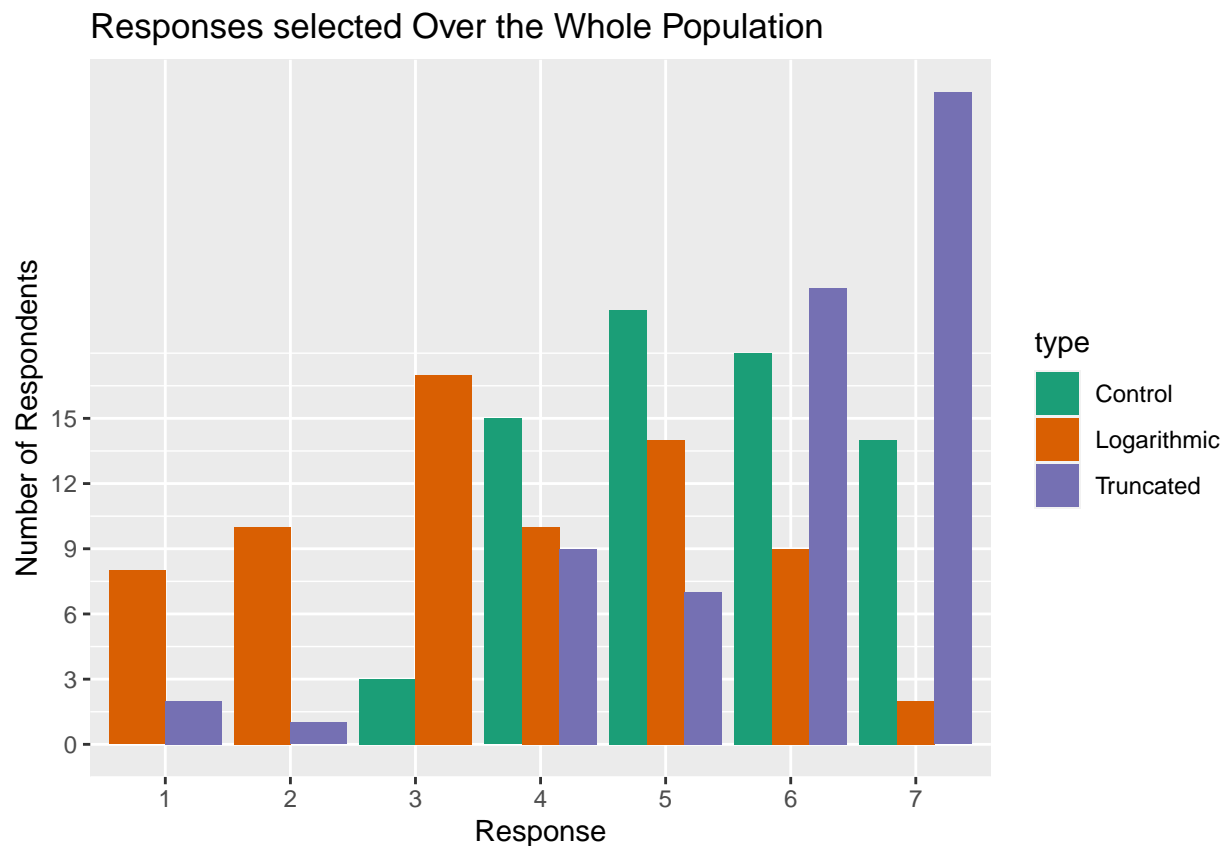
Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	1	2
Interpolated CI	0.9500	1	2
Upper Achieved CI	0.9586	1	2

Wilcoxon rank sum test with continuity correction

data: logarithmic_2 and truncated_2
W = 751.5, p-value = 6.669e-13
alternative hypothesis: true location shift is not equal to 0

Whole pop bars



Control - Lang comp

Control - Lang comp

	[,1]	[,2]	[,3]
N	70.000000	38.000000	32.000000
Min.	3.000000	3.000000	3.000000
1st Qu.	4.250000	5.000000	4.000000
Median	5.000000	6.000000	5.000000
Mean	5.357143	5.500000	5.187500
3rd Qu.	6.000000	6.000000	6.000000
Max.	7.000000	7.000000	7.000000
Var	1.334369	1.283784	1.383065

Wilcoxon rank sum test with continuity correction

data: control_2_r and control_2_py

W = 709.5, p-value = 0.2199

alternative hypothesis: true location shift is not equal to 0

APPROXIMATELY HOW MUCH MORE THAN 'LOG GRIP' WOULD YOU SAY 'SALMON LADDER'

Truncated - Lang comp

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	1.000000	1.000000
1st Qu.	5.000000	5.000000	5.750000
Median	6.000000	6.000000	6.000000
Mean	5.871429	5.894737	5.843750
3rd Qu.	7.000000	7.000000	7.000000
Max.	7.000000	7.000000	7.000000
Var	1.997723	1.772404	2.329637

Wilcoxon rank sum test with continuity correction

data: truncated_2_r and truncated_2_py

W = 598.5, p-value = 0.9105

alternative hypothesis: true location shift is not equal to 0

Logarithmic - Lang comp

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	1.000000	1.000000
1st Qu.	2.250000	3.000000	2.000000
Median	3.500000	5.000000	3.000000
Mean	3.671429	4.263158	2.968750
3rd Qu.	5.000000	5.750000	4.000000
Max.	7.000000	7.000000	7.000000
Var	2.745549	2.523471	2.160282

Wilcoxon rank sum test with continuity correction

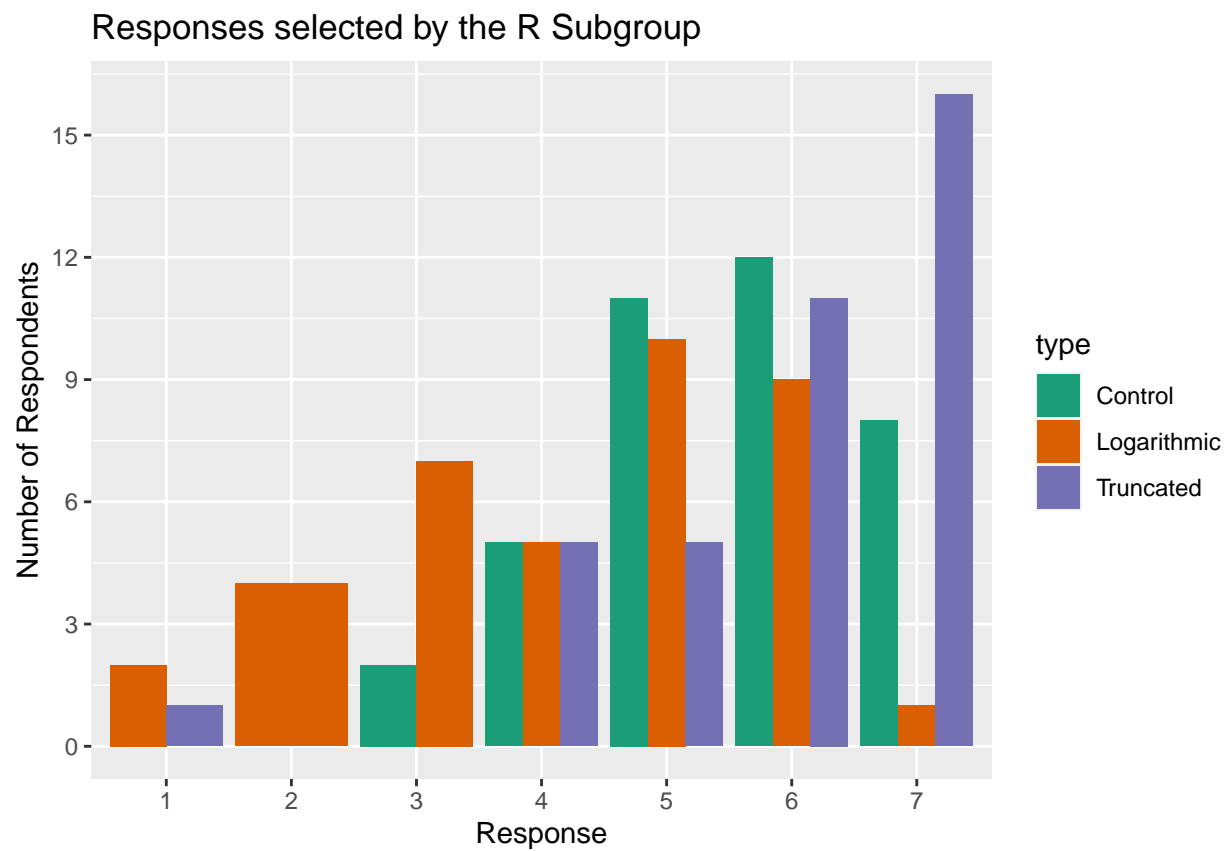
data: logarithmic_2_r and logarithmic_2_py

W = 884, p-value = 0.0009649

alternative hypothesis: true location shift is not equal to 0

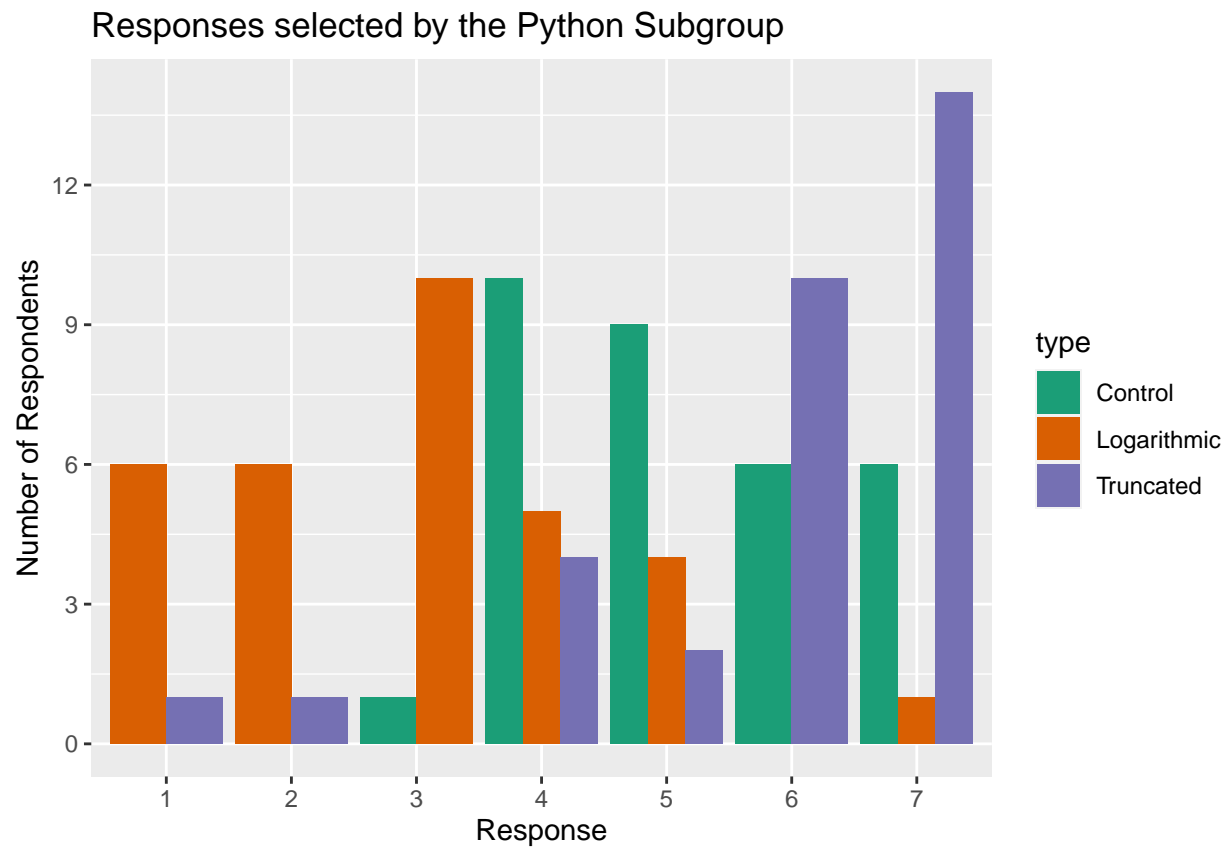
18 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

R bars



APPROXIMATELY HOW MUCH MORE THAN ‘LOG GRIP’ WOULD YOU SAY ‘SALMON LADDER’

Py bars



Control - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.000000	3.000000	31.000000	2.0	4.000000	1
Min.	4.000000	3.000000	3.000000	4.0	4.000000	7
1st Qu.	5.000000	4.000000	4.500000	4.5	4.750000	7
Median	5.000000	5.000000	5.000000	5.0	5.500000	7
Mean	5.344828	4.333333	5.419355	5.0	5.500000	7
3rd Qu.	6.000000	5.000000	6.500000	5.5	6.250000	7
Max.	7.000000	5.000000	7.000000	6.0	7.000000	7
Var	1.019704	1.333333	1.584946	2.0	1.666667	NA

Truncated - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.000000	3.000000	31.000000	2.0	4	1
Min.	1.000000	4.000000	1.000000	4.0	7	7
1st Qu.	5.000000	5.000000	5.500000	4.5	7	7
Median	6.000000	6.000000	6.000000	5.0	7	7
Mean	5.655172	5.333333	6.000000	5.0	7	7

20APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

3rd Qu.	7.000000	6.000000	7.000000	5.5	7	7
Max.	7.000000	6.000000	7.000000	6.0	7	7
Var	2.376847	1.333333	1.866667	2.0	0	NA

Logarithmic - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.000000	3.000000	31.000000	2.00	4.000000	1
Min.	1.000000	3.000000	1.000000	2.00	1.000000	1
1st Qu.	2.000000	3.000000	3.000000	2.75	1.750000	1
Median	4.000000	3.000000	4.000000	3.50	2.000000	1
Mean	3.827586	3.666667	3.838710	3.50	2.000000	1
3rd Qu.	5.000000	4.000000	5.000000	4.25	2.250000	1
Max.	6.000000	5.000000	7.000000	5.00	3.000000	1
Var	3.004926	1.333333	2.539785	4.50	0.666667	NA

First Plot Comp

	Control	Truncated	Logarithmic
N	25.00	23.000000	22.000000
Min.	4.00	1.000000	1.000000
1st Qu.	5.00	5.000000	3.000000
Median	6.00	6.000000	5.000000
Mean	5.56	5.565217	4.136364
3rd Qu.	7.00	7.000000	5.750000
Max.	7.00	7.000000	6.000000
Var	1.34	2.166008	3.075758

Wilcoxon rank sum test with continuity correction

data: con_first_2 and trn_first_2

W = 271.5, p-value = 0.7411

alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: con_first_2 and log_first_2

W = 400, p-value = 0.00669

alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

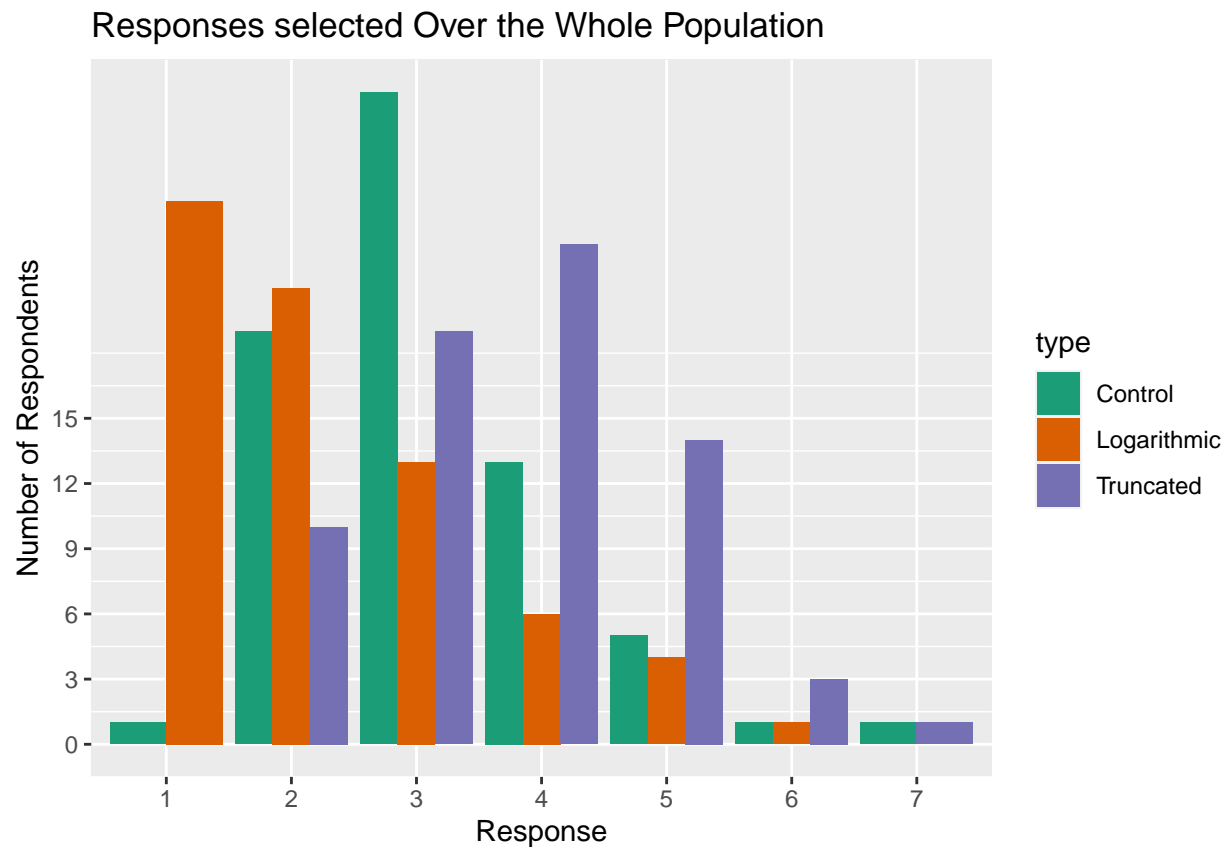
APPROXIMATELY HOW MUCH MORE THAN ‘QUINTUPLE STEPS’ WOULD YOU SAY ‘SALMON LADDER’ WAS USED?

data: log_first_2 and trn_first_2
W = 129.5, p-value = 0.004323
alternative hypothesis: true location shift is not equal to 0

Approximately how much more than ‘Quintuple Steps’ would you say ‘Salmon Ladder’ was used?

Whole Population

	Control	Truncated	Logarithmic
N	70.000000	70.000000	70.000000
Min.	1.000000	2.000000	1.000000
1st Qu.	2.000000	3.000000	1.000000
Median	3.000000	4.000000	2.000000
Mean	3.128571	3.771429	2.228571
3rd Qu.	4.000000	4.750000	3.000000
Max.	7.000000	7.000000	6.000000
Var	1.157143	1.309317	1.599172



Shapiro tests

Shapiro-Wilk normality test

data: control_3
W = 0.86962, p-value = 2.966e-06

Shapiro-Wilk normality test

data: truncated_3
W = 0.92078, p-value = 0.0002851

Shapiro-Wilk normality test

data: logarithmic_3
W = 0.84623, p-value = 5.102e-07

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_3
Test statistic = 1.5593, p-value = 0.236
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
11

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: truncated_3
Test statistic = -2.2802, p-value = 0.046
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
11

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: logarithmic_3

APPROXIMATELY HOW MUCH MORE THAN 'QUINTUPLE STEPS' WOULD YOU SAY 'SALMON I

Test statistic = 2.142, p-value = 0.072
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
11

Pairwise Sign Tests

Dependent-samples Sign-Test

data: control_3 and truncated_3
S = 8, p-value = 9.248e-06
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1 0
sample estimates:
median of x-y
-1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9586	-1	0

Wilcoxon rank sum test with continuity correction

data: control_3 and logarithmic_3
W = 3542.5, p-value = 2.633e-06
alternative hypothesis: true location shift is not equal to 0

Dependent-samples Sign-Test

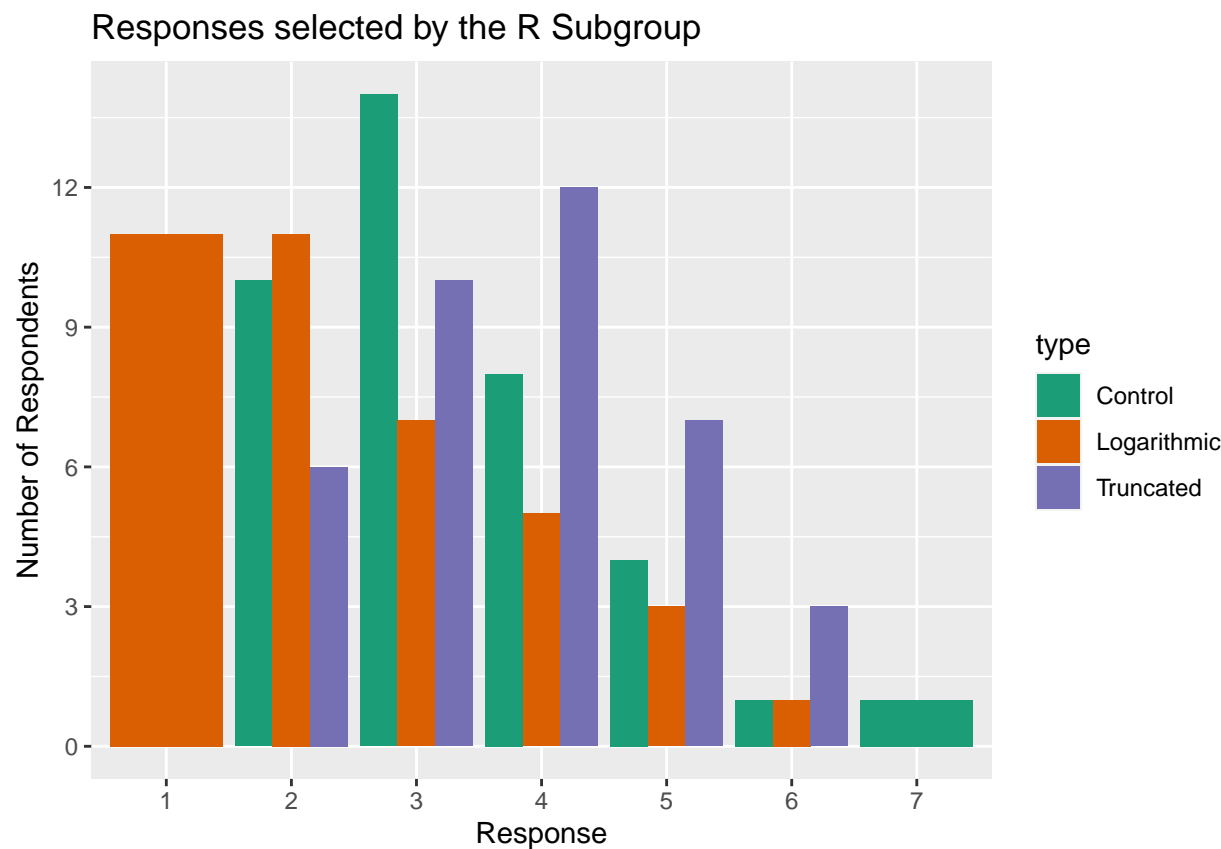
data: logarithmic_3 and truncated_3
S = 5, p-value = 1.17e-10
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-2 -1
sample estimates:
median of x-y
-1.5

24APPROXIMATELY MANY TIMES WOULD YOU SAY THE ‘SALMON LADDER’ WAS USED?

Achieved and Interpolated Confidence Intervals:

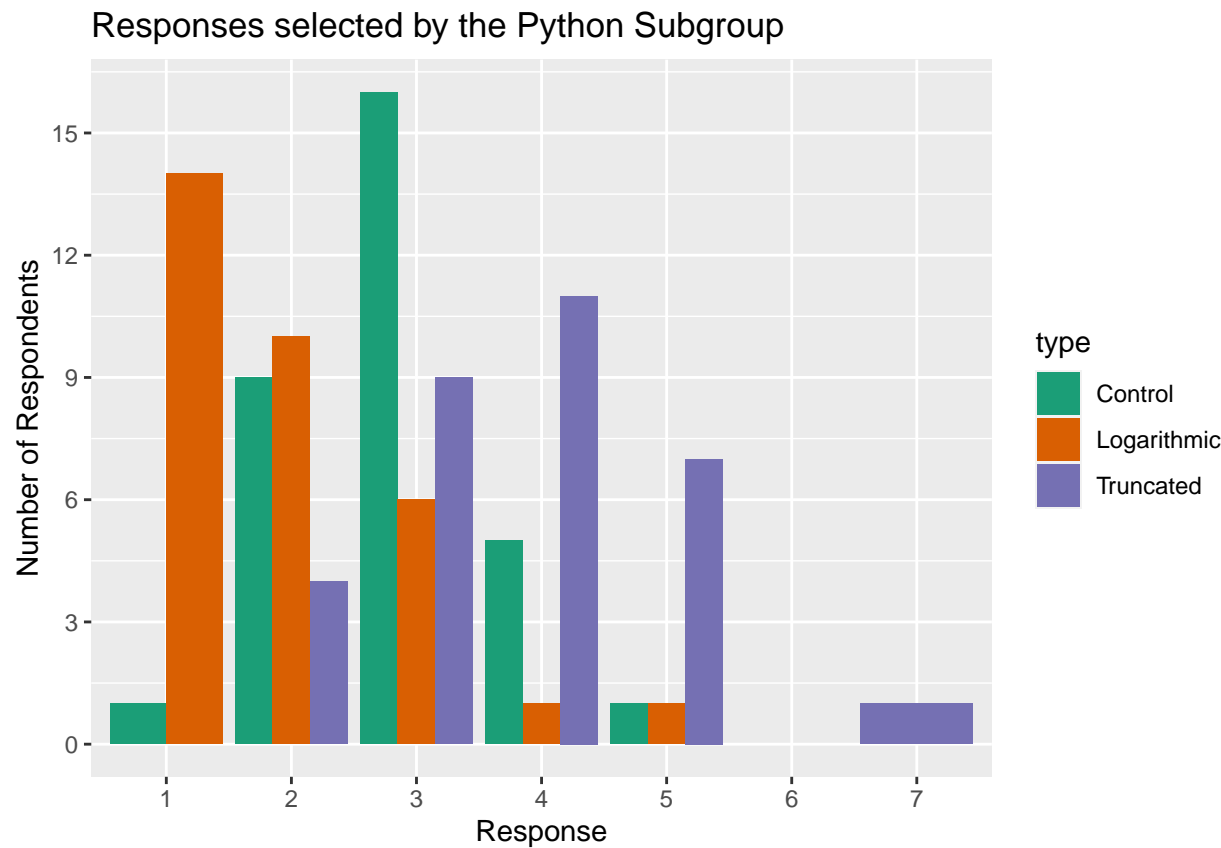
	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	-2	-1
Interpolated CI	0.9500	-2	-1
Upper Achieved CI	0.9586	-2	-1

R Population



APPROXIMATELY HOW MUCH MORE THAN ‘QUINTUPLE STEPS’ WOULD YOU SAY ‘SALMON I

Python Population



Control - Lang comp

	[,1]	[,2]	[,3]
N	70.000000	38.000000	32.000000
Min.	1.000000	2.000000	1.000000
1st Qu.	2.000000	2.250000	2.000000
Median	3.000000	3.000000	3.000000
Mean	3.128571	3.342105	2.875000
3rd Qu.	4.000000	4.000000	3.000000
Max.	7.000000	7.000000	5.000000
Var	1.157143	1.474395	0.6935484

Wilcoxon rank sum test with continuity correction

data: control_3_r and control_3_py
W = 725, p-value = 0.1465
alternative hypothesis: true location shift is not equal to 0

Truncated - Lang comp

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	2.000000	2.000000	2.000000
1st Qu.	3.000000	3.000000	3.000000
Median	4.000000	4.000000	4.000000
Mean	3.771429	3.763158	3.781250
3rd Qu.	4.750000	4.750000	4.250000
Max.	7.000000	6.000000	7.000000
Var	1.309317	1.374822	1.273185

Wilcoxon rank sum test with continuity correction

data: truncated_3_r and truncated_3_py

W = 604.5, p-value = 0.9708

alternative hypothesis: true location shift is not equal to 0

Logarithmic - Lang comp

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	1.000000	1.000000	1.000000
1st Qu.	1.000000	1.000000	1.000000
Median	2.000000	2.000000	2.000000
Mean	2.228571	2.500000	1.906250
3rd Qu.	3.000000	3.000000	2.250000
Max.	6.000000	6.000000	5.000000
Var	1.599172	1.932432	1.055444

Wilcoxon rank sum test with continuity correction

data: logarithmic_3_r and logarithmic_3_py

W = 754, p-value = 0.07378

alternative hypothesis: true location shift is not equal to 0

First Plot Comp

	Control	Truncated	Logarithmic
N	25.00	23.0000000	22.000000
Min.	2.00	2.0000000	1.000000
1st Qu.	2.00	3.0000000	1.250000
Median	3.00	3.0000000	2.500000
Mean	3.08	3.4782609	2.681818

3rd Qu.	4.00	4.0000000	4.000000
Max.	7.00	5.0000000	6.000000
Var	1.41	0.9881423	2.132035

Differences in means for Q2 and Q3

All

	Control	Truncated	Logarithmic
Control	0.0000000	-0.5142857	1.685714
Truncated	0.5142857	0.0000000	2.200000
Logarithmic	-1.6857143	-2.2000000	0.000000

Shapiro tests

Shapiro-Wilk normality test

data: control_2
W = 0.90456, p-value = 5.895e-05

Shapiro-Wilk normality test

data: truncated_2
W = 0.76579, p-value = 3.263e-09

Shapiro-Wilk normality test

data: logarithmic_2
W = 0.93942, p-value = 0.002105

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_2
Test statistic = 3.297, p-value = 0.018
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m

28 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: truncated_2
Test statistic = -1.1525, p-value = 0.41
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  17
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: logarithmic_2
Test statistic = 1.071, p-value = 0.368
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  11
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: control_2 and truncated_2
S = 7, p-value = 0.0001911
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1  0
sample estimates:
median of x-y
          0
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9586	-1	0

Dependent-samples Sign-Test

```
data: control_2 and logarithmic_2
```

S = 51, p-value = 2.047e-11
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 1 2
 sample estimates:
 median of x-y
 2

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	1	2
Interpolated CI	0.9500	1	2
Upper Achieved CI	0.9586	1	2

Dependent-samples Sign-Test

data: logarithmic_2 and truncated_2
 S = 5, p-value = 3.066e-12
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 -3 -1
 sample estimates:
 median of x-y
 -2

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	-3	-1
Interpolated CI	0.9500	-3	-1
Upper Achieved CI	0.9586	-3	-1

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

data: control_2 and truncated_2
 W = 1732.5, p-value = 0.002002
 alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

30 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

```
data: control_2 and logarithmic_2
W = 3828.5, p-value = 5.303e-09
alternative hypothesis: true location shift is not equal to 0
```

Wilcoxon rank sum test with continuity correction

```
data: logarithmic_2 and truncated_2
W = 751.5, p-value = 6.669e-13
alternative hypothesis: true location shift is not equal to 0
```

	Control	Truncated	Logarithmic
Control	0.0000000	-0.6428571	0.9000000
Truncated	0.6428571	0.0000000	1.542857
Logarithmic	-0.9000000	-1.5428571	0.0000000

Shapiro tests

Shapiro-Wilk normality test

```
data: control_3_py
W = 0.87891, p-value = 0.001877
```

Shapiro-Wilk normality test

```
data: truncated_3_py
W = 0.90666, p-value = 0.009193
```

Shapiro-Wilk normality test

```
data: logarithmic_3_py
W = 0.80872, p-value = 5.969e-05
```

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: control_3_py
Test statistic = -1.3276, p-value = 0.216
alternative hypothesis: the distribution is asymmetric.
sample estimates:
```

```
bootstrap optimal m
                18
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: truncated_3_py
Test statistic = -1.5488, p-value = 0.152
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                20
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: logarithmic_3_py
Test statistic = -0.7169, p-value = 0.508
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                20
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: control_3_py and truncated_3_py
S = 2, p-value = 0.0001211
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1  0
sample estimates:
median of x-y
-1
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9799	-1	0

32APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Dependent-samples Sign-Test

data: control_3_py and logarithmic_3_py
S = 21, p-value = 0.0009105
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0 2
sample estimates:
median of x-y
1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0	2
Interpolated CI	0.9500	0	2
Upper Achieved CI	0.9799	0	2

Dependent-samples Sign-Test

data: logarithmic_3_py and truncated_3_py
S = 1, p-value = 8.047e-07
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-3 -1
sample estimates:
median of x-y
-2

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-3	-1
Interpolated CI	0.9500	-3	-1
Upper Achieved CI	0.9799	-3	-1

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

data: control_3_py and truncated_3_py
W = 274, p-value = 0.0008548
alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: control_3_py and logarithmic_3_py
 W = 794, p-value = 8.105e-05
 alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: logarithmic_3_py and truncated_3_py
 W = 117, p-value = 6.224e-08
 alternative hypothesis: true location shift is not equal to 0

R

	Control	Truncated	Logarithmic
Control	0.0000000	-0.3947368	1.236842
Truncated	0.3947368	0.0000000	1.631579
Logarithmic	-1.2368421	-1.6315789	0.000000

Shapiro tests

Shapiro-Wilk normality test

data: control_2_r
 W = 0.90334, p-value = 0.003172

Shapiro-Wilk normality test

data: truncated_2_r
 W = 0.78345, p-value = 4.896e-06

Shapiro-Wilk normality test

data: logarithmic_2_r
 W = 0.92234, p-value = 0.01159

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

34 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

```
data: control_2_r
Test statistic = -3.5341, p-value = 0.008
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  12
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: truncated_2_r
Test statistic = -0.72335, p-value = 0.584
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: logarithmic_2_r
Test statistic = -3.6457, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  12
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: control_2_r and truncated_2_r
S = 4, p-value = 0.01921
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1  0
sample estimates:
median of x-y
          0
```

Achieved and Interpolated Confidence Intervals:

Conf.Level	L.E.pt	U.E.pt
------------	--------	--------

Lower Achieved CI	0.9270	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9664	-1	0

Dependent-samples Sign-Test

data: control_2_r and logarithmic_2_r
 S = 25, p-value = 0.0001037
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 0.4174619 2.0000000
 sample estimates:
 median of x-y
 1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	1.0000	2
Interpolated CI	0.9500	0.4175	2
Upper Achieved CI	0.9664	0.0000	2

Dependent-samples Sign-Test

data: logarithmic_2_r and truncated_2_r
 S = 2, p-value = 2.463e-07
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 -2 -1
 sample estimates:
 median of x-y
 -1.5

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	-2	-1
Interpolated CI	0.9500	-2	-1
Upper Achieved CI	0.9664	-2	-1

	Control	Truncated	Logarithmic
Control	0.0000000	-0.4210526	0.8421053
Truncated	0.4210526	0.0000000	1.2631579

36 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Logarithmic -0.8421053 -1.2631579 0.0000000

Shapiro tests

Shapiro-Wilk normality test

data: control_3_r
W = 0.86888, p-value = 0.000377

Shapiro-Wilk normality test

data: truncated_3_r
W = 0.91674, p-value = 0.007836

Shapiro-Wilk normality test

data: logarithmic_3_r
W = 0.88157, p-value = 0.0008004

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_3_r
Test statistic = 2.5646, p-value = 0.064
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
17

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: truncated_3_r
Test statistic = -1.674, p-value = 0.174
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
17

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```

data: logarithmic_3_r
Test statistic = 3.0169, p-value = 0.038
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
19

```

Pairwise Wilcox Tests

Wilcoxon rank sum test with continuity correction

```

data: control_3_r and truncated_3_r
W = 560.5, p-value = 0.08416
alternative hypothesis: true location shift is not equal to 0

```

Wilcoxon rank sum test with continuity correction

```

data: control_3_r and logarithmic_3_r
W = 991.5, p-value = 0.004125
alternative hypothesis: true location shift is not equal to 0

```

Wilcoxon rank sum test with continuity correction

```

data: logarithmic_3_r and truncated_3_r
W = 351, p-value = 8.635e-05
alternative hypothesis: true location shift is not equal to 0

```

Py

	Control	Truncated	Logarithmic
Control	0.00000	-0.65625	2.21875
Truncated	0.65625	0.00000	2.87500
Logarithmic	-2.21875	-2.87500	0.00000

Shapiro tests

Shapiro-Wilk normality test

```

data: control_2_py
W = 0.88651, p-value = 0.002858

```

38 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Shapiro-Wilk normality test

data: truncated_2_py
W = 0.75295, p-value = 5.976e-06

Shapiro-Wilk normality test

data: logarithmic_2_py
W = 0.92098, p-value = 0.02211

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_2_py
Test statistic = 1.1948, p-value = 0.268
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
14

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: truncated_2_py
Test statistic = -0.90517, p-value = 0.436
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
16

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: logarithmic_2_py
Test statistic = -0.17069, p-value = 0.95
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
22

Pairwise Sign Tests

Dependent-samples Sign-Test

data: control_2_py and truncated_2_py
 S = 3, p-value = 0.007538
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 -1 0
 sample estimates:
 median of x-y
 0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9799	-1	0

Dependent-samples Sign-Test

data: control_2_py and logarithmic_2_py
 S = 26, p-value = 2.98e-08
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 1 3
 sample estimates:
 median of x-y
 2

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	1	3
Interpolated CI	0.9500	1	3
Upper Achieved CI	0.9799	1	3

Dependent-samples Sign-Test

data: logarithmic_2_py and truncated_2_py
 S = 3, p-value = 8.43e-06

40APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

alternative hypothesis: true median difference is not equal to 0

95 percent confidence interval:

-4 -2

sample estimates:

median of x-y

-3

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-4	-2
Interpolated CI	0.9500	-4	-2
Upper Achieved CI	0.9799	-4	-2

Pairwise Wilcoxon Test

Wilcoxon rank sum test with continuity correction

data: logarithmic_2_py and truncated_2_py

W = 105, p-value = 3.168e-08

alternative hypothesis: true location shift is not equal to 0

Pairwise T-Test

Welch Two Sample t-test

data: logarithmic_2_py and truncated_2_py

t = -7.6753, df = 61.912, p-value = 1.461e-10

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

-3.623795 -2.126205

sample estimates:

mean of x mean of y

2.96875 5.84375

Q3

	Control	Truncated	Logarithmic
Control	0.00000	-0.90625	0.96875
Truncated	0.90625	0.00000	1.87500
Logarithmic	-0.96875	-1.87500	0.00000

Shapiro tests

Shapiro-Wilk normality test

data: control_3_py
W = 0.87891, p-value = 0.001877

Shapiro-Wilk normality test

data: truncated_3_py
W = 0.90666, p-value = 0.009193

Shapiro-Wilk normality test

data: logarithmic_3_py
W = 0.80872, p-value = 5.969e-05

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: control_3_py
Test statistic = -1.3276, p-value = 0.29
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
16

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: truncated_3_py
Test statistic = -1.5488, p-value = 0.18
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
20

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: logarithmic_3_py

42APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Test statistic = -0.7169, p-value = 0.534
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
20

Pairwise Sign Tests

Dependent-samples Sign-Test

data: control_3_py and truncated_3_py
S = 2, p-value = 0.0001211
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1 0
sample estimates:
median of x-y
-1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9799	-1	0

Dependent-samples Sign-Test

data: control_3_py and logarithmic_3_py
S = 21, p-value = 0.0009105
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0 2
sample estimates:
median of x-y
1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0	2
Interpolated CI	0.9500	0	2
Upper Achieved CI	0.9799	0	2

Dependent-samples Sign-Test

```

data: logarithmic_3_py and truncated_3_py
S = 1, p-value = 8.047e-07
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 -3 -1
sample estimates:
median of x-y
      -2

```

Achieved and Interpolated Confidence Intervals:

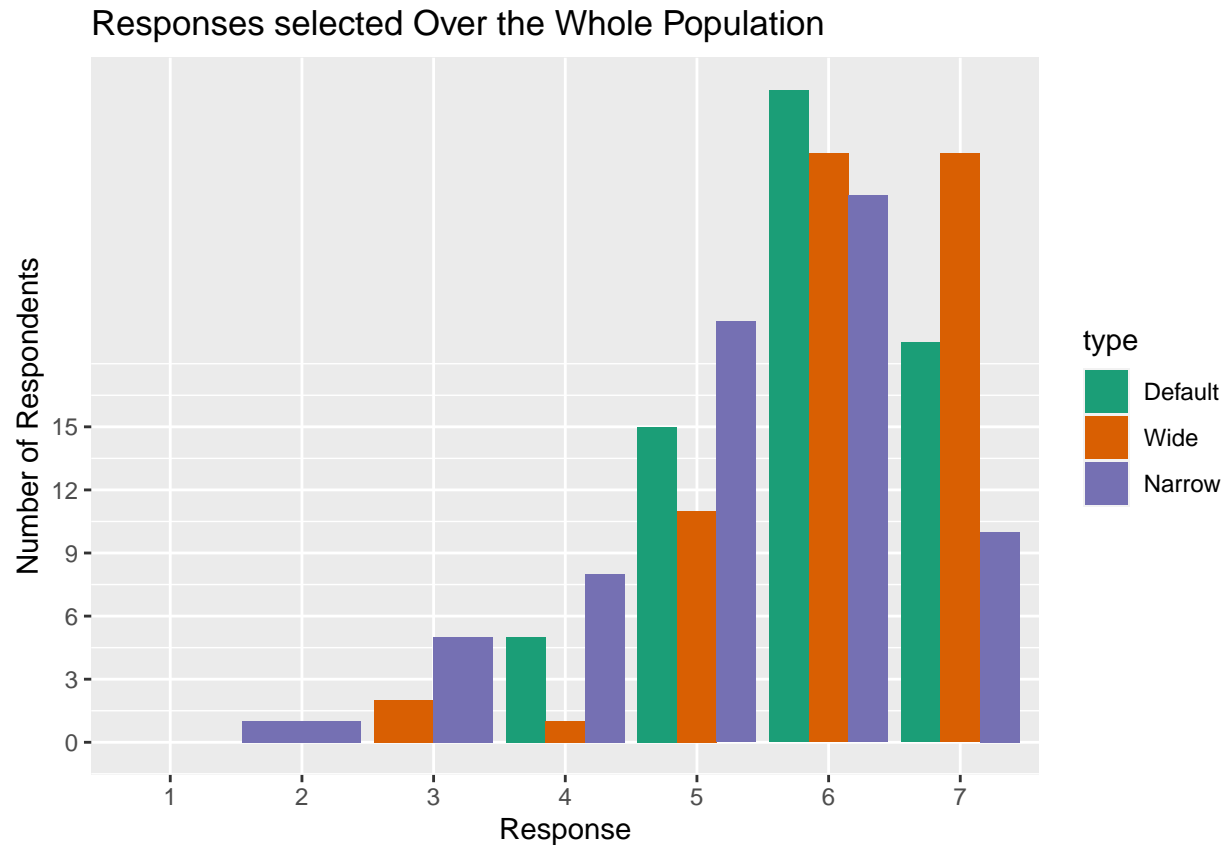
	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-3	-1
Interpolated CI	0.9500	-3	-1
Upper Achieved CI	0.9799	-3	-1

Ninja Warrior - Part 2

###How large would you say the difference between 'Jumping spider' and 'Salmon Ladder' is?

	Default	Narrow	Wide
N	70.0000000	70.0000000	70.0000000
Min.	4.0000000	3.0000000	2.0000000
1st Qu.	5.0000000	6.0000000	5.0000000
Median	6.0000000	6.0000000	6.0000000
Mean	5.9142857	6.1285714	5.357143
3rd Qu.	7.0000000	7.0000000	6.0000000
Max.	7.0000000	7.0000000	7.0000000
Var	0.7751553	0.8672878	1.363354

44APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?



Shapiro tests

Shapiro-Wilk normality test

data: default_1
W = 0.85456, p-value = 9.371e-07

Shapiro-Wilk normality test

data: narrow_1
W = 0.79448, p-value = 1.709e-08

Shapiro-Wilk normality test

data: wide_1
W = 0.89767, p-value = 3.141e-05

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: default_1
Test statistic = -1.2049, p-value = 0.278
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                    70
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: narrow_1
Test statistic = 1.692, p-value = 0.202
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                    70
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: wide_1
Test statistic = -6.1171, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                    17
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: default_1 and narrow_1
S = 8, p-value = 0.01612
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0 0
sample estimates:
median of x-y
 0
```

46APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Dependent-samples Sign-Test

data: default_1 and wide_1
S = 31, p-value = 1.291e-05
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0 1
sample estimates:
median of x-y
0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	1
Interpolated CI	0.9500	0	1
Upper Achieved CI	0.9586	0	1

Dependent-samples Sign-Test

data: wide_1 and narrow_1
S = 4, p-value = 1.705e-08
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
-1 0
sample estimates:
median of x-y
-1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9586	-1	0

Lang comp - Default

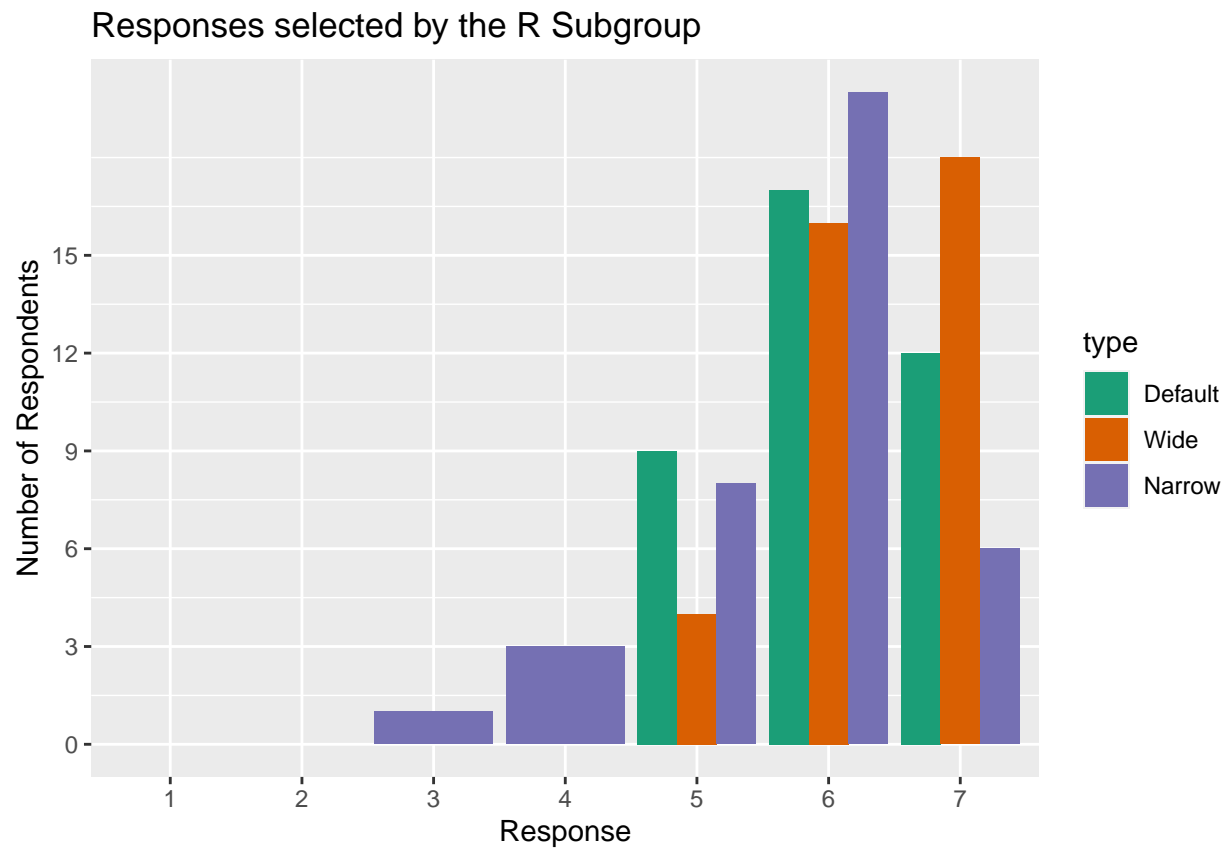
	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	4.0000000	5.0000000	4.0000000
1st Qu.	5.0000000	6.0000000	5.0000000
Median	6.0000000	6.0000000	6.0000000
Mean	5.9142857	6.0789474	5.7187500
3rd Qu.	7.0000000	7.0000000	6.0000000
Max.	7.0000000	7.0000000	7.0000000
Var	0.7751553	0.5611664	0.9828629

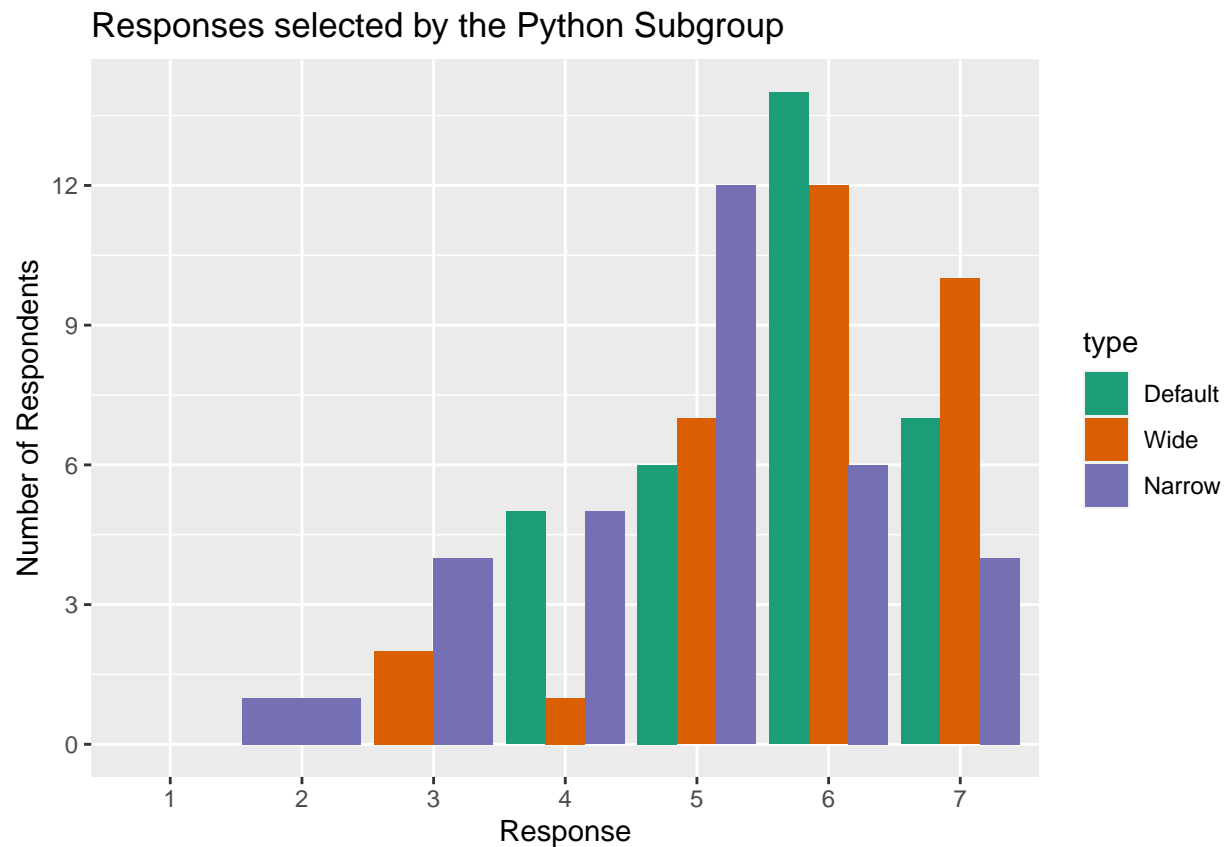
Lang comp - Narrow

	Whole Pop	R	Python
N	70.0000000	38.000000	32.000000
Min.	3.0000000	5.000000	3.000000
1st Qu.	6.0000000	6.000000	5.000000
Median	6.0000000	6.000000	6.000000
Mean	6.1285714	6.368421	5.843750
3rd Qu.	7.0000000	7.000000	7.000000
Max.	7.0000000	7.000000	7.000000
Var	0.8672878	0.455192	1.232863

Lang comp - Wide

	Whole Pop	R	Python
N	70.000000	38.0000000	32.000000
Min.	2.000000	3.0000000	2.000000
1st Qu.	5.000000	5.0000000	4.000000
Median	6.000000	6.0000000	5.000000
Mean	5.357143	5.7105263	4.937500
3rd Qu.	6.000000	6.0000000	6.000000
Max.	7.000000	7.0000000	7.000000
Var	1.363354	0.8598862	1.673387





Shapiro tests

Shapiro-Wilk normality test

data: default_1_r
W = 0.80887, p-value = 1.593e-05

Shapiro-Wilk normality test

data: narrow_1_r
W = 0.76209, p-value = 1.927e-06

Shapiro-Wilk normality test

data: wide_1_r
W = 0.84858, p-value = 0.0001207

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: default_1_r
Test statistic = 0.93002, p-value = 0.426
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  12
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: narrow_1_r
Test statistic = 4.1428, p-value = 0.014
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  17
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: wide_1_r
Test statistic = -3.1136, p-value = 0.032
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: default_1_r and narrow_1_r
S = 1, p-value = 0.006348
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0 0
sample estimates:
median of x-y
 0
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9664	0	0

Dependent-samples Sign-Test

data: default_1_r and wide_1_r
 S = 13, p-value = 0.02127
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 0.0000000 0.5825381
 sample estimates:
 median of x-y
 0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	0	0.0000
Interpolated CI	0.9500	0	0.5825
Upper Achieved CI	0.9664	0	1.0000

Dependent-samples Sign-Test

data: wide_1_r and narrow_1_r
 S = 1, p-value = 5.722e-06
 alternative hypothesis: true median difference is not equal to 0
 95 percent confidence interval:
 -1 0
 sample estimates:
 median of x-y
 -1

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	-1	0
Interpolated CI	0.9500	-1	0
Upper Achieved CI	0.9664	-1	0

Shapiro tests

Shapiro-Wilk normality test

data: default_1_py
W = 0.85878, p-value = 0.0006465

Shapiro-Wilk normality test

data: narrow_1_py
W = 0.84044, p-value = 0.0002593

Shapiro-Wilk normality test

data: wide_1_py
W = 0.93019, p-value = 0.03965

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: default_1_py
Test statistic = -2.3377, p-value = 0.034
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
16

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: narrow_1_py
Test statistic = -1.1948, p-value = 0.266
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
16

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

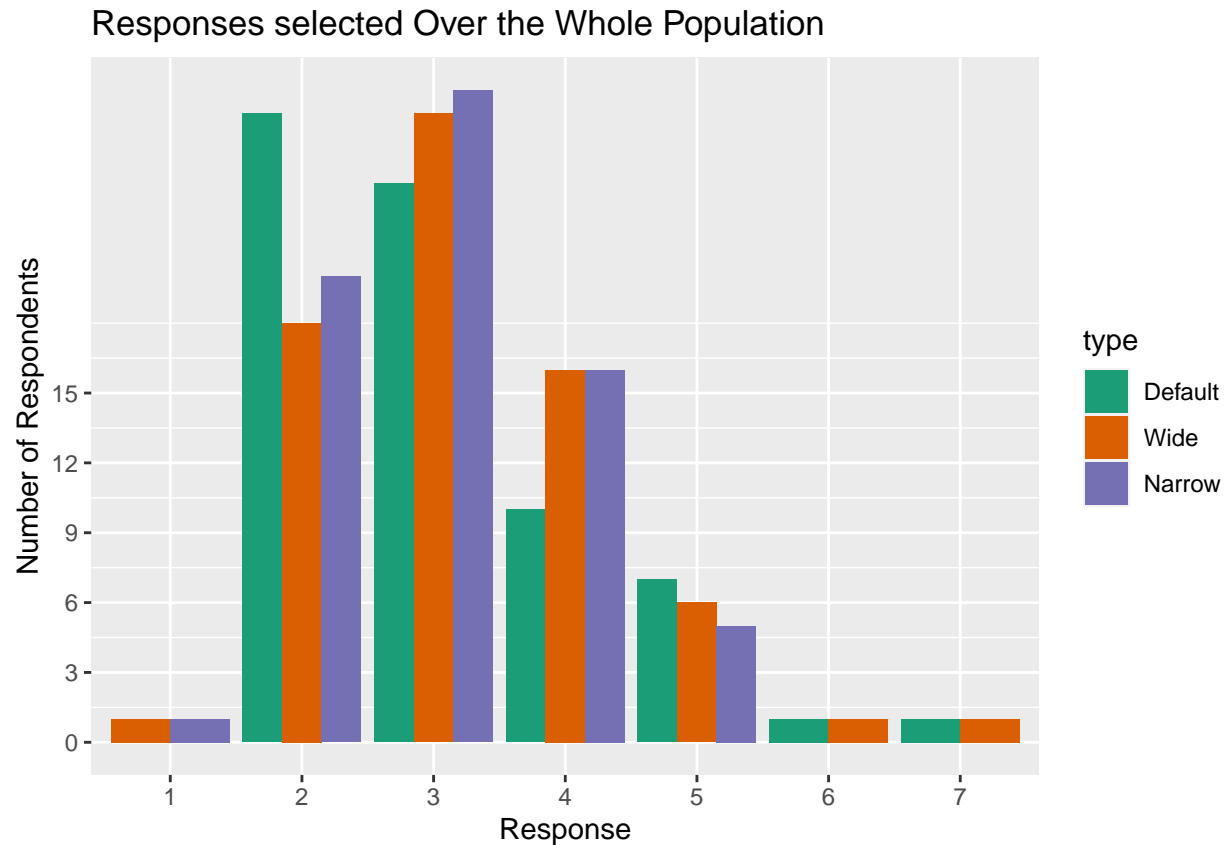
data: wide_1_py

Test statistic = -0.39828, p-value = 0.712
 alternative hypothesis: the distribution is asymmetric.
 sample estimates:
 bootstrap optimal m
 22

	Default	Narrow	Wide
N	23.0000000	22.0000000	23.0000000
Min.	3.0000000	5.0000000	3.0000000
1st Qu.	5.0000000	5.2500000	5.0000000
Median	5.0000000	6.0000000	5.0000000
Mean	5.2173913	6.0454545	5.2173913
3rd Qu.	6.0000000	7.0000000	6.0000000
Max.	7.0000000	7.0000000	7.0000000
Var	0.9960474	0.6168831	0.9960474

##How large would you say the difference between 'Log Grip' and 'Floating Steps' is?

	Default	Narrow	Wide
N	70.000000	70.000000	70.000000
Min.	2.000000	1.000000	1.000000
1st Qu.	2.000000	2.000000	2.000000
Median	3.000000	3.000000	3.000000
Mean	3.057143	3.214286	3.0571429
3rd Qu.	4.000000	4.000000	4.000000
Max.	7.000000	7.000000	5.000000
Var	1.301035	1.214286	0.8662526



Shapiro tests

Shapiro-Wilk normality test

data: default_2

W = 0.82288, p-value = 1.023e-07

Shapiro-Wilk normality test

data: narrow_2

W = 0.89138, p-value = 1.801e-05

Shapiro-Wilk normality test

data: wide_2

W = 0.88477, p-value = 1.022e-05

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: default_2
Test statistic = 0.60937, p-value = 0.604
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  17
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: narrow_2
Test statistic = 2.4098, p-value = 0.062
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  39
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: wide_2
Test statistic = 0.73632, p-value = 0.5
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  24
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: default_2 and narrow_2
S = 14, p-value = 0.243
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0 0
sample estimates:
median of x-y
 0
```

56 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Dependent-samples Sign-Test

data: default_2 and wide_2
S = 16, p-value = 0.4177
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0 0
sample estimates:
median of x-y
0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Dependent-samples Sign-Test

data: wide_2 and narrow_2
S = 17, p-value = 0.7428
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0 0
sample estimates:
median of x-y
0

Achieved and Interpolated Confidence Intervals:

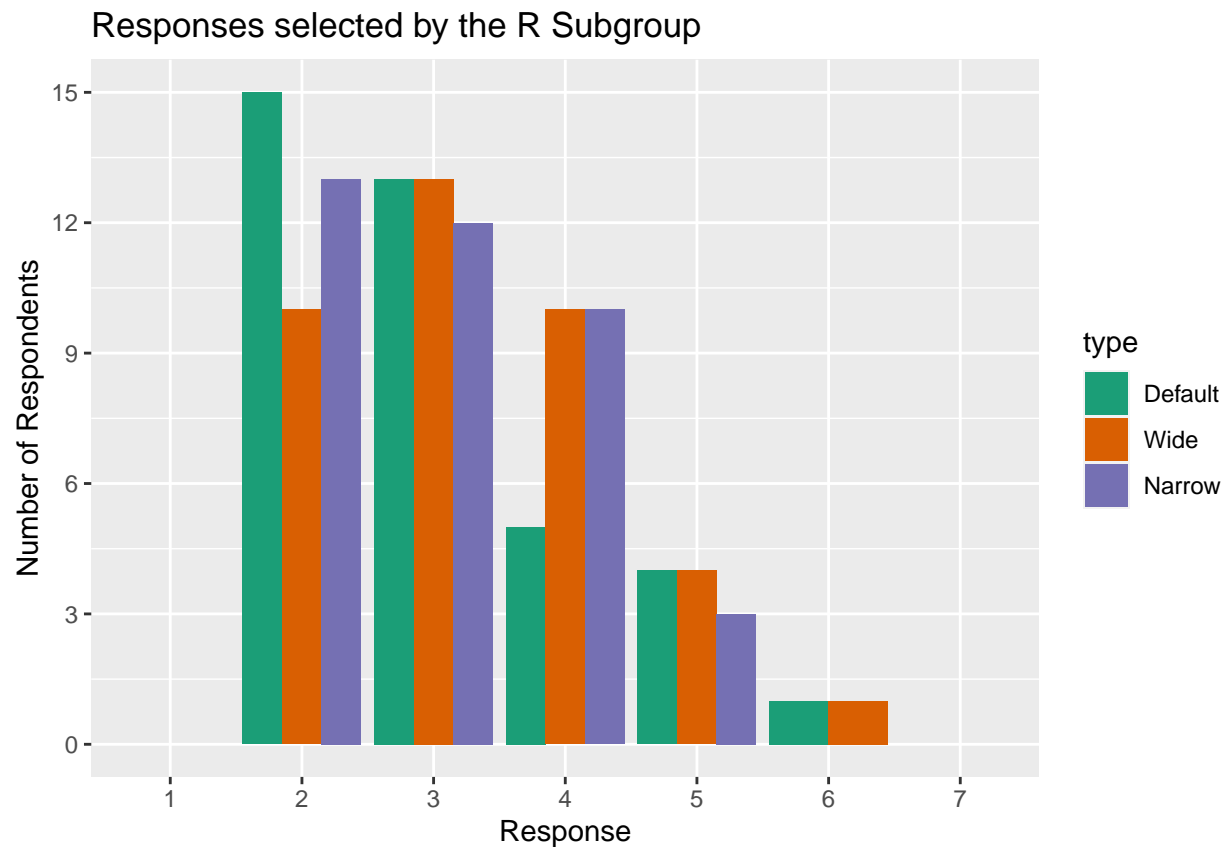
	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Pairwise Wilcoxon Tests

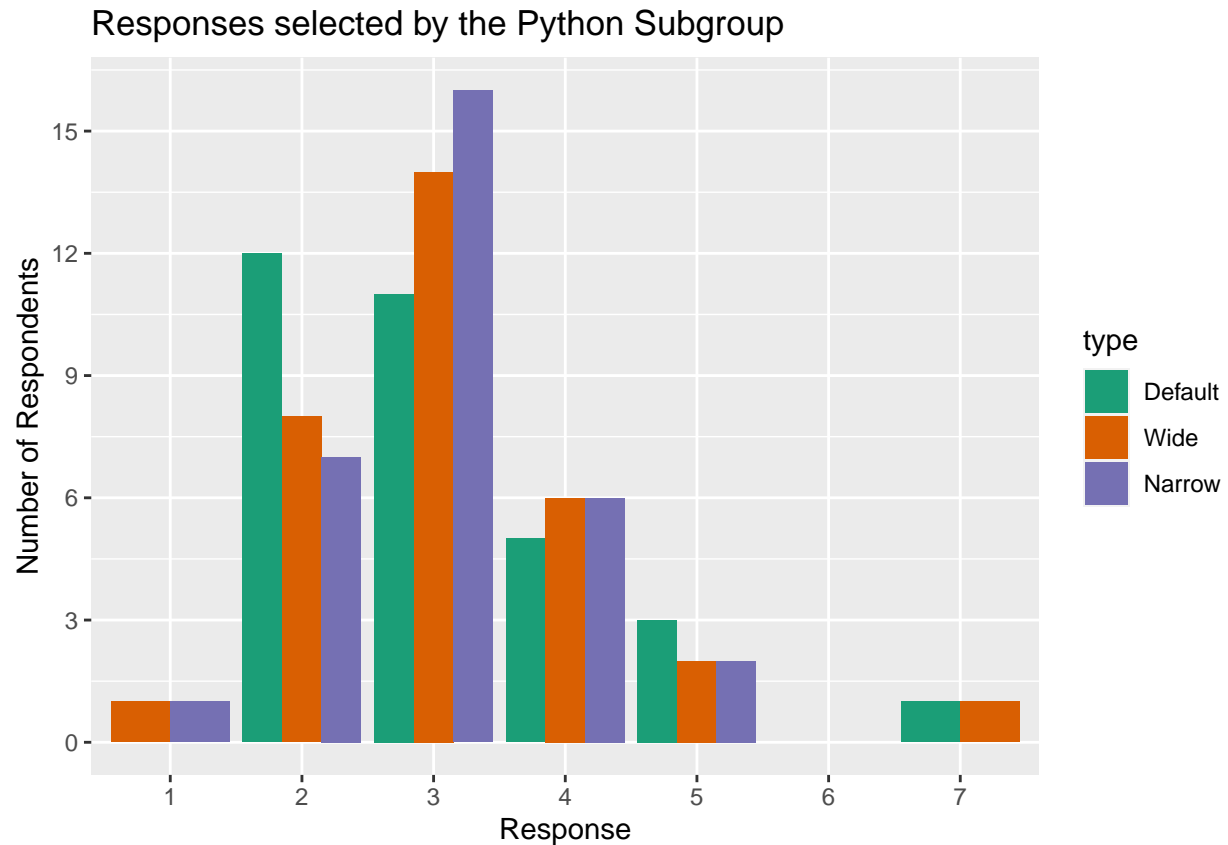
Wilcoxon rank sum test with continuity correction

data: default_2 and wide_2
W = 2319.5, p-value = 0.5688
alternative hypothesis: true location shift is not equal to 0

	Whole Pop	R	Python
N	70.000000	38.000000	32.000000
Min.	2.000000	2.000000	2.000000
1st Qu.	2.000000	2.000000	2.000000
Median	3.000000	3.000000	3.000000
Mean	3.057143	3.026316	3.09375
3rd Qu.	4.000000	3.750000	4.000000
Max.	7.000000	6.000000	7.000000
Var	1.301035	1.215505	1.44254



58 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?



Shapiro tests

Shapiro-Wilk normality test

data: default_2_r
W = 0.82519, p-value = 3.556e-05

Shapiro-Wilk normality test

data: narrow_2_r
W = 0.88751, p-value = 0.001153

Shapiro-Wilk normality test

data: wide_2_r
W = 0.85259, p-value = 0.0001502

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: default_2_r
Test statistic = 0.21, p-value = 0.886
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  12
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: narrow_2_r
Test statistic = 2.3101, p-value = 0.06
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: wide_2_r
Test statistic = 0.67346, p-value = 0.564
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  19
```

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

```
data: default_2_r and narrow_2_r
W = 607, p-value = 0.2138
alternative hypothesis: true location shift is not equal to 0
```

Wilcoxon rank sum test with continuity correction

```
data: narrow_2_r and wide_2_r
W = 796, p-value = 0.4254
```

60APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: wide_2_r and default_2_r

W = 765.5, p-value = 0.6389

alternative hypothesis: true location shift is not equal to 0

Shapiro tests

Shapiro-Wilk normality test

data: default_2_py

W = 0.81676, p-value = 8.555e-05

Shapiro-Wilk normality test

data: narrow_2_py

W = 0.86709, p-value = 0.0009957

Shapiro-Wilk normality test

data: wide_2_py

W = 0.88958, p-value = 0.003397

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: default_2_py

Test statistic = 0.66379, p-value = 0.576

alternative hypothesis: the distribution is asymmetric.

sample estimates:

bootstrap optimal m

16

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: narrow_2_py

Test statistic = 0.99569, p-value = 0.376

```

alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                14

```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```

data: wide_2_py
Test statistic = 0.31443, p-value = 0.846
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                32

```

Pairwise Sign Tests

Dependent-samples Sign-Test

```

data: default_2_py and narrow_2_py
S = 8, p-value = 0.8145
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 -0.00341068  0.00000000
sample estimates:
median of x-y
            0

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0.0000	0
Interpolated CI	0.9500	-0.0034	0
Upper Achieved CI	0.9799	-1.0000	0

Dependent-samples Sign-Test

```

data: default_2_py and wide_2_py
S = 8, p-value = 1
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0 0
sample estimates:

```

62APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

median of x-y
0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9799	0	0

Dependent-samples Sign-Test

data: wide_2_py and narrow_2_py
S = 10, p-value = 1
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
0.00000000 0.00341068
sample estimates:
median of x-y
0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0	0.0000
Interpolated CI	0.9500	0	0.0034
Upper Achieved CI	0.9799	0	1.0000

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

data: default_2_py and wide_2_py
W = 490, p-value = 0.76
alternative hypothesis: true location shift is not equal to 0

	Default	Narrow	Wide
N	23.0000000	22.0000000	23.0000000
Min.	2.0000000	2.0000000	2.0000000
1st Qu.	3.0000000	2.0000000	3.0000000
Median	3.0000000	3.0000000	3.0000000
Mean	3.3043478	3.0000000	3.3043478
3rd Qu.	4.0000000	3.0000000	4.0000000

Max.	5.0000000	5.0000000	5.0000000
Var	0.8577075	0.8571429	0.8577075

Differences in means for Q1 and Q2

All

	Default	Narrow	Wide
Default	0.0000000	-0.2142857	0.5571429
Narrow	0.2142857	0.0000000	0.7714286
Wide	-0.5571429	-0.7714286	0.0000000

	Default	Narrow	Wide
Default	0.0000000	-0.1571429	0.0000000
Narrow	0.1571429	0.0000000	0.1571429
Wide	0.0000000	-0.1571429	0.0000000

R

	Default	Narrow	Wide
Default	0.0000000	-0.2894737	0.3684211
Narrow	0.2894737	0.0000000	0.6578947
Wide	-0.3684211	-0.6578947	0.0000000

	Default	Narrow	Wide
Default	0.00000000	-0.2631579	-0.05263158
Narrow	0.26315789	0.00000000	0.21052632
Wide	0.05263158	-0.2105263	0.00000000

Py

	Default	Narrow	Wide
Default	0.000000	-0.12500	0.78125
Narrow	0.12500	0.000000	0.90625
Wide	-0.78125	-0.90625	0.000000

	Default	Narrow	Wide
Default	0.000000	-0.03125	0.06250
Narrow	0.03125	0.000000	0.09375
Wide	-0.06250	-0.09375	0.000000

##How many times would you say 'Floating Steps' were used?

Whole Population

	Default	Narrow	Wide
N	70.0000000	70.0000000	70.0000000
Min.	26.0000000	23.0000000	24.0000000
1st Qu.	27.1250000	27.0000000	27.0000000
Median	28.0000000	28.0000000	28.0000000
Mean	27.9714286	27.3857143	28.035714
3rd Qu.	28.0000000	28.0000000	29.0000000
Max.	33.0000000	29.0000000	30.0000000
Var	0.9774327	0.8708075	1.929865

Shapiro tests

Shapiro-Wilk normality test

data: default_3
W = 0.73638, p-value = 6.81e-10

Shapiro-Wilk normality test

data: narrow_3
W = 0.68453, p-value = 5.579e-11

Shapiro-Wilk normality test

data: wide_3
W = 0.89126, p-value = 1.782e-05

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: default_3
Test statistic = -0.46504, p-value = 0.794
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m

55

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)


```

data: narrow_3
Test statistic = -8.4431, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                    35

```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```

data: wide_3
Test statistic = 0.32725, p-value = 0.828
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                    62

```

Pairwise Sign Tests

Dependent-samples Sign-Test

```

data: default_3 and narrow_3
S = 24, p-value = 0.00018
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0 0
sample estimates:
median of x-y
 0

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Dependent-samples Sign-Test

```

data: default_3 and wide_3
S = 17, p-value = 0.6271
alternative hypothesis: true median difference is not equal to 0

```

66APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

95 percent confidence interval:

0 0

sample estimates:

median of x-y

0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	0
Interpolated CI	0.9500	0	0
Upper Achieved CI	0.9586	0	0

Dependent-samples Sign-Test

data: wide_3 and narrow_3

S = 32, p-value = 0.0009407

alternative hypothesis: true median difference is not equal to 0

95 percent confidence interval:

0 1

sample estimates:

median of x-y

0

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	0	1
Interpolated CI	0.9500	0	1
Upper Achieved CI	0.9586	0	1

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

data: default_3 and wide_3

W = 2252, p-value = 0.378

alternative hypothesis: true location shift is not equal to 0

Default - Language comparison

	Whole Pop	R	Python
N	70.0000000	38.000000	32.0000000

Min.	26.0000000	26.000000	27.0000000
1st Qu.	27.1250000	28.000000	27.0000000
Median	28.0000000	28.000000	28.0000000
Mean	27.9714286	27.973684	27.9687500
3rd Qu.	28.0000000	28.000000	28.0000000
Max.	33.0000000	33.000000	30.0000000
Var	0.9774327	1.053343	0.9183468

Narrow - Language comparison

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	23.0000000	24.0000000	23.0000000
1st Qu.	27.0000000	27.0000000	27.0000000
Median	28.0000000	28.0000000	27.0000000
Mean	27.3857143	27.5000000	27.2500000
3rd Qu.	28.0000000	28.0000000	28.0000000
Max.	29.0000000	28.0000000	29.0000000
Var	0.8708075	0.6891892	1.080645

Wide - Language comparison

	Whole Pop	R	Python
N	70.0000000	38.0000000	32.0000000
Min.	24.0000000	25.0000000	24.0000000
1st Qu.	27.0000000	27.2500000	27.0000000
Median	28.0000000	28.0000000	28.5000000
Mean	28.035714	27.8157895	28.296875
3rd Qu.	29.0000000	28.0000000	30.0000000
Max.	30.0000000	30.0000000	30.0000000
Var	1.929865	0.7489331	3.271925

Shapiro tests

Shapiro-Wilk normality test

data: default_3_r
W = 0.59978, p-value = 5.639e-09

Shapiro-Wilk normality test

data: narrow_3_r
W = 0.63037, p-value = 1.482e-08

68 APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Shapiro-Wilk normality test

```
data: wide_3_r
W = 0.8221, p-value = 3.046e-05
```

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: default_3_r
Test statistic = -0.38295, p-value = 0.878
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: narrow_3_r
Test statistic = -6.5102, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  19
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: wide_3_r
Test statistic = -2.3985, p-value = 0.142
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  34
```

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

```
data: default_3_r and narrow_3_r
W = 889.5, p-value = 0.03838
```

alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: narrow_3_r and wide_3_r

W = 585, p-value = 0.101

alternative hypothesis: true location shift is not equal to 0

Wilcoxon rank sum test with continuity correction

data: wide_3_r and default_3_r

W = 698.5, p-value = 0.7788

alternative hypothesis: true location shift is not equal to 0

Shapiro tests

Shapiro-Wilk normality test

data: default_3_py

W = 0.79971, p-value = 4.024e-05

Shapiro-Wilk normality test

data: narrow_3_py

W = 0.69403, p-value = 7.086e-07

Shapiro-Wilk normality test

data: wide_3_py

W = 0.84294, p-value = 0.0002928

Symmetry tests

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: default_3_py

Test statistic = -0.28448, p-value = 0.814

alternative hypothesis: the distribution is asymmetric.

sample estimates:

bootstrap optimal m

18

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: narrow_3_py
Test statistic = 2.3897, p-value = 0.166
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                22
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: wide_3_py
Test statistic = -0.80066, p-value = 0.57
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                22
```

Pairwise Sign Tests

Dependent-samples Sign-Test

```
data: default_3_py and narrow_3_py
S = 12, p-value = 0.01294
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0 1
sample estimates:
median of x-y
      0
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0	1
Interpolated CI	0.9500	0	1
Upper Achieved CI	0.9799	0	1

Dependent-samples Sign-Test

```

data:  default_3_py and wide_3_py
S = 9, p-value = 0.4049
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 -1.003411  0.000000
sample estimates:
median of x-y
      0

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	-1.0000	0
Interpolated CI	0.9500	-1.0034	0
Upper Achieved CI	0.9799	-2.0000	0

Dependent-samples Sign-Test

```

data:  wide_3_py and narrow_3_py
S = 19, p-value = 0.02896
alternative hypothesis: true median difference is not equal to 0
95 percent confidence interval:
 0.000000 2.501705
sample estimates:
median of x-y
      1.5

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	0	2.5000
Interpolated CI	0.9500	0	2.5017
Upper Achieved CI	0.9799	0	3.0000

Pairwise Wilcoxon Tests

Wilcoxon rank sum test with continuity correction

```

data:  default_3_py and wide_3_py
W = 417, p-value = 0.1904
alternative hypothesis: true location shift is not equal to 0

```

Default - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	0	0	0	0	0	0
Min.	NA	NA	NA	NA	NA	NA
1st Qu.	NA	NA	NA	NA	NA	NA
Median	NA	NA	NA	NA	NA	NA
Mean	NaN	NaN	NaN	NaN	NaN	NaN
3rd Qu.	NA	NA	NA	NA	NA	NA
Max.	NA	NA	NA	NA	NA	NA
Var	NA	NA	NA	NA	NA	NA

Narrow - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.0000000	3.000000	31.0000000	2	4.0	1
Min.	26.0000000	23.000000	24.0000000	28	25.0	28
1st Qu.	27.0000000	24.500000	27.0000000	28	26.5	28
Median	28.0000000	26.000000	27.0000000	28	27.5	28
Mean	27.5517241	25.666667	27.3870968	28	27.0	28
3rd Qu.	28.0000000	27.000000	28.0000000	28	28.0	28
Max.	28.0000000	28.000000	29.0000000	28	28.0	28
Var	0.3275862	6.333333	0.6951613	0	2.0	NA

Wide - Degree comparison

	STEM	Humanities	Social Sci	Arts	Business	NA
N	29.000000	3.0	31.000000	2.0	4.0	1
Min.	1.000000	2.0	1.000000	1.0	1.0	1
1st Qu.	1.000000	2.0	1.000000	1.5	1.0	1
Median	2.000000	2.0	2.000000	2.0	1.0	1
Mean	2.206897	3.0	2.322581	2.0	1.5	1
3rd Qu.	3.000000	3.5	3.000000	2.5	1.5	1
Max.	6.000000	5.0	5.000000	3.0	3.0	1
Var	1.669951	3.0	1.559140	2.0	1.0	NA

	Default	Narrow	Wide
N	23.000000	22.000000	23.000000
Min.	24.000000	23.000000	24.000000
1st Qu.	27.250000	27.000000	27.250000
Median	28.000000	28.000000	28.000000
Mean	27.891304	27.272727	27.891304
3rd Qu.	28.500000	28.000000	28.500000
Max.	30.000000	28.000000	30.000000
Var	1.999012	1.445887	1.999012

Ratio Comparison questions - All

	Default	Narrow	Wide
Most aesthetically pleasing?	37	14	18
Easiest to read and interpret?	36	15	19
Hardest to read and interpret?	20	20	30

Ratio Comparison questions - R

	A	B	C
Most aesthetically pleasing?	14	14	9
Easiest to read and interpret?	16	9	13
Hardest to read and interpret?	2	18	18

Ratio Comparison questions - Py

	A	B	C
Most aesthetically pleasing?	12	11	9
Easiest to read and interpret?	14	8	10
Hardest to read and interpret?	12	9	11

Ninja Warrior - Part 3

##How many times would you say 'Floating Steps' were used in the Finals (Regional/City) round?

Whole pop summary

	Stacked	Grouped
N	70.00000	70.00000
Min.	9.00000	10.00000
1st Qu.	10.00000	11.00000
Median	11.00000	11.00000
Mean	14.32857	11.80000
3rd Qu.	14.00000	12.00000
Max.	35.00000	40.00000
Var	54.83251	13.14783

R population

	Stacked	Grouped
N	38.00000	38.0000000
Min.	9.00000	10.0000000
1st Qu.	10.00000	11.0000000
Median	10.00000	11.0000000

74APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Mean	13.15789	11.2368421
3rd Qu.	12.00000	12.0000000
Max.	35.00000	12.0000000
Var	45.37980	0.4018492

Py population

	Stacked	Grouped
N	32.00000	32.0000000
Min.	9.00000	10.0000000
1st Qu.	10.00000	11.0000000
Median	11.50000	11.0000000
Mean	15.71875	12.4687500
3rd Qu.	16.25000	12.0000000
Max.	35.00000	40.0000000
Var	45.37980	0.4018492

Shapiro and symmetry tests for the responses for the stacked bar plot

Shapiro-Wilk normality test

```
data: stacked_1
W = 0.63951, p-value = 7.897e-12
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: stacked_1
Test statistic = 6.75, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15
```

Shapiro-Wilk normality test

```
data: stacked_1_r
W = 0.53859, p-value = 9.347e-10
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```

data:  stacked_1_r
Test statistic = 6.4034, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15

```

Shapiro-Wilk normality test

```

data:  stacked_1_py
W = 0.73207, p-value = 2.722e-06

```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```

data:  stacked_1_py
Test statistic = 4.5565, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  18

```

Shapiro and symmetry tests for the responses for the grouped bar plot

Shapiro-Wilk normality test

```

data:  grouped_1
W = 0.29757, p-value < 2.2e-16

```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```

data:  grouped_1
Test statistic = 6.3437, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  15

```

Shapiro-Wilk normality test

76APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

```
data:  grouped_1_r
W = 0.7742, p-value = 3.25e-06
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data:  grouped_1_r
Test statistic = 3.4466, p-value = 0.018
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  12
```

Shapiro-Wilk normality test

```
data:  grouped_1_py
W = 0.38626, p-value = 1.833e-10
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data:  grouped_1_py
Test statistic = 4.603, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                  14
```

Sign tests for the responses for the stacked bar plot

One-sample Sign-Test

```
data:  stacked_1
s = 28, p-value = 0.5258
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 10 12
sample estimates:
median of x
          11
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	10	12
Interpolated CI	0.9500	10	12
Upper Achieved CI	0.9586	10	12

One-sample Sign-Test

```

data:  stacked_1_r
s = 12, p-value = 0.1214
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 10 11
sample estimates:
median of x
      10

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	10	11
Interpolated CI	0.9500	10	11
Upper Achieved CI	0.9664	10	11

One-sample Sign-Test

```

data:  stacked_1_py
s = 16, p-value = 0.5716
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 10 15
sample estimates:
median of x
      11.5

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	10	15
Interpolated CI	0.9500	10	15
Upper Achieved CI	0.9799	10	15

78APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Sign test for the responses for the grouped bar plot

One-sample Sign-Test

```
data:  grouped_1
s = 28, p-value = 0.009475
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 11 12
sample estimates:
median of x
      11
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	11	12
Interpolated CI	0.9500	11	12
Upper Achieved CI	0.9586	11	12

One-sample Sign-Test

```
data:  grouped_1_r
s = 13, p-value = 0.04904
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 11.00000 11.58254
sample estimates:
median of x
      11
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	11	11.0000
Interpolated CI	0.9500	11	11.5825
Upper Achieved CI	0.9664	11	12.0000

One-sample Sign-Test

```
data:  grouped_1_py
s = 15, p-value = 0.1338
```

alternative hypothesis: true median is not equal to 11
 95 percent confidence interval:

11 12

sample estimates:

median of x

11

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	11	12
Interpolated CI	0.9500	11	12
Upper Achieved CI	0.9799	11	12

##How many times would you say 'Log Grip' was used in the Finals (Regional/City) round?

Whole pop summary

	Stacked	Grouped
N	70.00000	70.000000
Min.	6.00000	2.000000
1st Qu.	8.00000	8.000000
Median	9.00000	9.000000
Mean	10.57143	9.057143
3rd Qu.	10.00000	10.000000
Max.	25.00000	15.000000
Var	23.92961	1.967702

R population

	Stacked	Grouped
N	38.00000	38.000000
Min.	6.00000	7.000000
1st Qu.	8.00000	9.000000
Median	9.00000	9.000000
Mean	10.10526	9.0526316
3rd Qu.	10.00000	10.000000
Max.	23.00000	10.000000
Var	18.36700	0.6458037

Py population

	Stacked	Grouped
N	32.000	32.0000000
Min.	6.000	2.0000000

80APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

1st Qu.	8.000	8.00000000
Median	9.000	9.00000000
Mean	11.125	9.0625000
3rd Qu.	10.000	10.00000000
Max.	25.000	15.00000000
Var	18.367	0.6458037

###Shapiro tests for the responses for the stacked bar plot

Shapiro-Wilk normality test

data: stacked_2
W = 0.66339, p-value = 2.179e-11

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: stacked_2
Test statistic = 4.9088, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
15

Shapiro-Wilk normality test

data: stacked_2_r
W = 0.60137, p-value = 5.922e-09

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

data: stacked_2_r
Test statistic = 3.1794, p-value = 0.024
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
30

Shapiro-Wilk normality test

data: stacked_2_py
W = 0.71251, p-value = 1.345e-06

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: stacked_2_py
Test statistic = 3.6271, p-value < 2.2e-16
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                22
```

###Shapiro test for the responses for the grouped bar plot

Shapiro-Wilk normality test

```
data: grouped_2
W = 0.7287, p-value = 4.611e-10
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: grouped_2
Test statistic = 0.63113, p-value = 0.624
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                70
```

Shapiro-Wilk normality test

```
data: grouped_2_r
W = 0.84122, p-value = 8.138e-05
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data: grouped_2_r
Test statistic = 0.59183, p-value = 0.648
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                17
```

Shapiro-Wilk normality test

82APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

```
data:  grouped_2_py
W = 0.7515, p-value = 5.65e-06
```

m-out-of-n bootstrap symmetry test by Miao, Gel, and Gastwirth (2006)

```
data:  grouped_2_py
Test statistic = 0.35142, p-value = 0.788
alternative hypothesis: the distribution is asymmetric.
sample estimates:
bootstrap optimal m
                20
```

###Sign tests for the responses for the stacked bar plot

One-sample Sign-Test

```
data:  stacked_2
s = 11, p-value = 7.556e-09
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 8.000000 9.720922
sample estimates:
median of x
          9
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9278	8	9.0000
Interpolated CI	0.9500	8	9.7209
Upper Achieved CI	0.9586	8	10.0000

One-sample Sign-Test

```
data:  stacked_2_r
s = 4, p-value = 1.084e-06
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 8 10
sample estimates:
median of x
```

9

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	8	10
Interpolated CI	0.9500	8	10
Upper Achieved CI	0.9664	8	10

One-sample Sign-Test

```

data:  stacked_2_py
s = 7, p-value = 0.002102
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 8 10
sample estimates:
median of x
      9

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	8	10
Interpolated CI	0.9500	8	10
Upper Achieved CI	0.9799	8	10

###Sign test for the responses for the grouped bar plot

One-sample Sign-Test

```

data:  grouped_2
s = 2, p-value < 2.2e-16
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 9 9
sample estimates:
median of x
      9

```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
--	------------	--------	--------

84APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Lower Achieved CI	0.9278	9	9
Interpolated CI	0.9500	9	9
Upper Achieved CI	0.9586	9	9

One-sample Sign-Test

```
data: grouped_2_r
s = 0, p-value = 7.276e-12
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 9 9
sample estimates:
median of x
 9
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9270	9	9
Interpolated CI	0.9500	9	9
Upper Achieved CI	0.9664	9	9

One-sample Sign-Test

```
data: grouped_2_py
s = 2, p-value = 2.463e-07
alternative hypothesis: true median is not equal to 11
95 percent confidence interval:
 8.996589 10.000000
sample estimates:
median of x
 9
```

Achieved and Interpolated Confidence Intervals:

	Conf.Level	L.E.pt	U.E.pt
Lower Achieved CI	0.9499	9.0000	10
Interpolated CI	0.9500	8.9966	10
Upper Achieved CI	0.9799	8.0000	10

Please select the statement you feel applies to the bar chart above.

WHICH OBSTACLE DO YOU THINK WAS USED MORE IN FINALS (REGIONAL/CITY) ROUNDS, ‘Log Grip’ or ‘Floating Steps’?

Whole pop

	Equal	Less	More
Stacked	27	31	11
Grouped	60	5	2

R pop

	Equal	Less	More
Stacked	11	20	6
Grouped	29	4	2

Python pop

	Equal	Less	More
Stacked	16	11	5
Grouped	31	1	31

Which obstacle do you think was used MORE in Finals (Regional/City) rounds, ‘Log Grip’ or ‘Floating Steps’?

Whole pop

	Floating Steps	Log Grip	Both the same
Stacked	56	2	12
Grouped	57	4	9

R

	Floating Steps	Log Grip	Both the same
Stacked	30	8	0
Grouped	32	1	5

Py

	Floating Steps	Log Grip	Both the same
Stacked	26	2	4
Grouped	25	3	4

Which bar chart do you feel is easiest to read and interpret?*

A B

86APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?

Whole Population	32	38
R	17	21
Python	15	17

	Colour Set	Main Colour	Palette	Secondary Colour	Palette
1	A		Viridis		Default
2	B		Default		Viridis
3	C		Default		Greyscale
4	D		Greyscale		Default
5	E		Viridis		Greyscale
6	F		Greyscale		Viridis

By colours - Whole pop

	A	B	A Colour	B Colour
Set A	3	10	Viridis	Default
Set B	1	11	Default	Viridis
Set C	9	1	Default	Greyscale
Set D	1	11	Greyscale	Default
Set E	8	3	Viridis	Greyscale
Set F	10	2	Greyscale	Viridis

By colours - R

	A	B	A Colour	B Colour
Set A	2	6	Viridis	Default
Set B	6	6	Default	Viridis
Set C	4	1	Default	Greyscale
Set D	1	6	Greyscale	Default
Set E	4	1	Viridis	Greyscale
Set F	6	1	Greyscale	Viridis

By colours - Py

	A	B	A Colour	B Colour
Set A	1	4	Viridis	Default
Set B	1	5	Default	Viridis
Set C	5	5	Default	Greyscale
Set D	5	5	Greyscale	Default
Set E	4	2	Viridis	Greyscale
Set F	4	1	Greyscale	Viridis

Which colour scheme do you find most aesthetically pleasing?

DO YOU FEEL THAT ONE OF THE COLOUR SCHEMES MAKES IT EASIER TO READ AND INTER

Whole pop

	A	B	A Colour	B Colour
Set A	3	10	Viridis	Default
Set B	1	11	Default	Viridis
Set C	9	1	Default	Greyscale
Set D	1	11	Greyscale	Default
Set E	8	3	Viridis	Greyscale
Set F	10	2	Greyscale	Viridis

R

	A	B	A Colour	B Colour
Set A	2	6	Viridis	Default
Set B	0	6	Default	Viridis
Set C	4	1	Default	Greyscale
Set D	1	6	Greyscale	Default
Set E	4	1	Viridis	Greyscale
Set F	6	1	Greyscale	Viridis

Py

	A	B	A Colour	B Colour
Set A	1	4	Viridis	Default
Set B	1	5	Default	Viridis
Set C	5	0	Default	Greyscale
Set D	0	5	Greyscale	Default
Set E	4	2	Viridis	Greyscale
Set F	4	1	Greyscale	Viridis

Do you feel that one of the colour schemes makes it easier to read and interpret? If so, please select which one.

Whole Pop

	None	A	B	A Colour	B Colour
Set A	3	7	3	Viridis	Default
Set B	1	11	1	Default	Viridis
Set C	9	1	9	Default	Greyscale
Set D	2	10	2	Greyscale	Default
Set E	11	11	11	Viridis	Greyscale
Set F	1	2	9	Greyscale	Viridis

88APPROXIMATELY MANY TIMES WOULD YOU SAY THE ‘SALMON LADDER’ WAS USED?

R

	None	A	B	A Colour	B Colour
Set A	0	5	3	Viridis	Default
Set B	1	5	0	Default	Viridis
Set C	0	4	1	Default	Greyscale
Set D	0	1	6	Greyscale	Default
Set E	0	5	0	Viridis	Greyscale
Set F	1	2	4	Greyscale	Viridis

Py

	None	A	B	A Colour	B Colour
Set A	3	2	0	Viridis	Default
Set B	0	6	0	Default	Viridis
Set C	0	5	0	Default	Greyscale
Set D	0	1	4	Greyscale	Default
Set E	0	6	0	Viridis	Greyscale
Set F	0	0	5	Greyscale	Viridis

Sales - Part 1

How much would you say sales of each company increased between January and December? [Company A]

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	2.000000	2.000000	1.000000
Median	3.000000	2.000000	1.000000
Mean	3.043478	2.414286	1.371429
3rd Qu.	4.000000	3.000000	1.750000
Max.	7.000000	7.000000	3.000000

How much would you say sales of each company increased between January and December? [Company B]

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	4.000000	4.000000	2.000000
Median	5.000000	6.000000	2.000000
Mean	4.826087	5.144928	2.478261
3rd Qu.	6.000000	7.000000	3.000000
Max.	7.000000	7.000000	6.000000

HOW LARGE WOULD YOU SAY THE DROP IN SALES BETWEEN APRIL AND JULY OF COMPANY A IS?

How large would you say the drop in sales between April and July of Company A is?

	Separate	Truncated	Zeroed
Min.	1.000000	1.000000	1.000000
1st Qu.	3.000000	2.000000	1.000000
Median	4.000000	3.000000	1.000000
Mean	4.028571	2.814286	1.571429
3rd Qu.	5.000000	3.000000	2.000000
Max.	7.000000	7.000000	6.000000

Sales - Part 2

Based on the above graph, how large would you say the difference is between the number of sales Company C makes and the number of sales Company D makes?

	Truncated	Zeroed
Min.	2.000000	1.0
1st Qu.	4.000000	2.0
Median	4.000000	3.0
Mean	4.271429	2.7
3rd Qu.	5.000000	3.0
Max.	7.000000	5.0

90 *APPROXIMATELY MANY TIMES WOULD YOU SAY THE 'SALMON LADDER' WAS USED?*