A Perceptual Measure for Evaluating the Resynthesis of Automatic Music Transcriptions

Federico Simonetta, Federico Avanzini, Stavros Ntalampiras

To generate this file in html format use the following command: `streamlit run perceptual_app.py`

Chose control group:

all

Chose measure to compare:

mir_eval

☑ Use average of all the excerpts

Chose the variable that is iterated first (external loop) and next (inner loop):

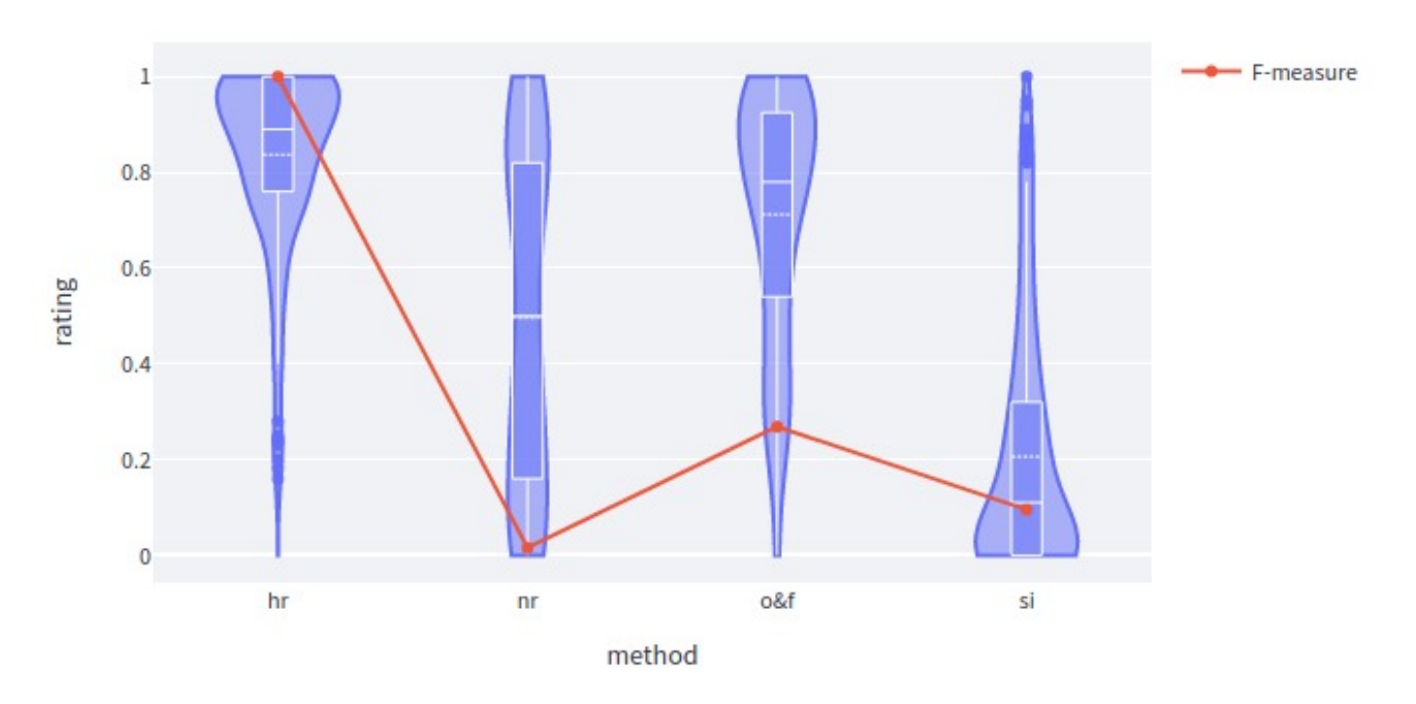
● 1. task, 2. method
○ 1. method, 2. task

Var1: *transcription*

Excerpt: *mean*

Controlled variable: *None*

Var1: transcription - Excerpt: mean - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.39e-01	7.38e-01	7.39e-01	7.51e-01	7.49e-01	7.50e-01
Mean	Pearsons	p-value	2.61e-01	2.62e-01	2.61e-01	2.49e-01	2.51e-01	2.50e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.96e-01	6.94e-01	6.95e-01	7.08e-01	7.06e-01	7.07e-01
Median	Pearsons	p-value	3.04e-01	3.06e-01	3.05e-01	2.92e-01	2.94e-01	2.93e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	219	0.0249	0.0244
nr	205	0.0482	0.0483
o&f	220	0.0345	0.0343
si	210	0.0351	0.0349

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "2.93e-15"
  "nr" : "2.07e-18"
  "o&f" : "2.93e-11"
  "si" : "1.85e-15"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.95e-216, 1041.79

ANOVA (p-value, h-statistics): 3.19e-305, 178.93

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.91e-21	nan	nan	nan
o&f	3.23e-08	1.06e-09	nan	nan
si	6.24e-34	8.84e-15	1.92e-30	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.95e-216, 1041.79

ANOVA (p-value, h-statistics): 3.19e-305, 178.93

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.12e-27	nan	nan	nan
o&f	6.05e-08	9.96e-11	nan	nan
si	4.65e-72	4.26e-17	1.20e-50	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

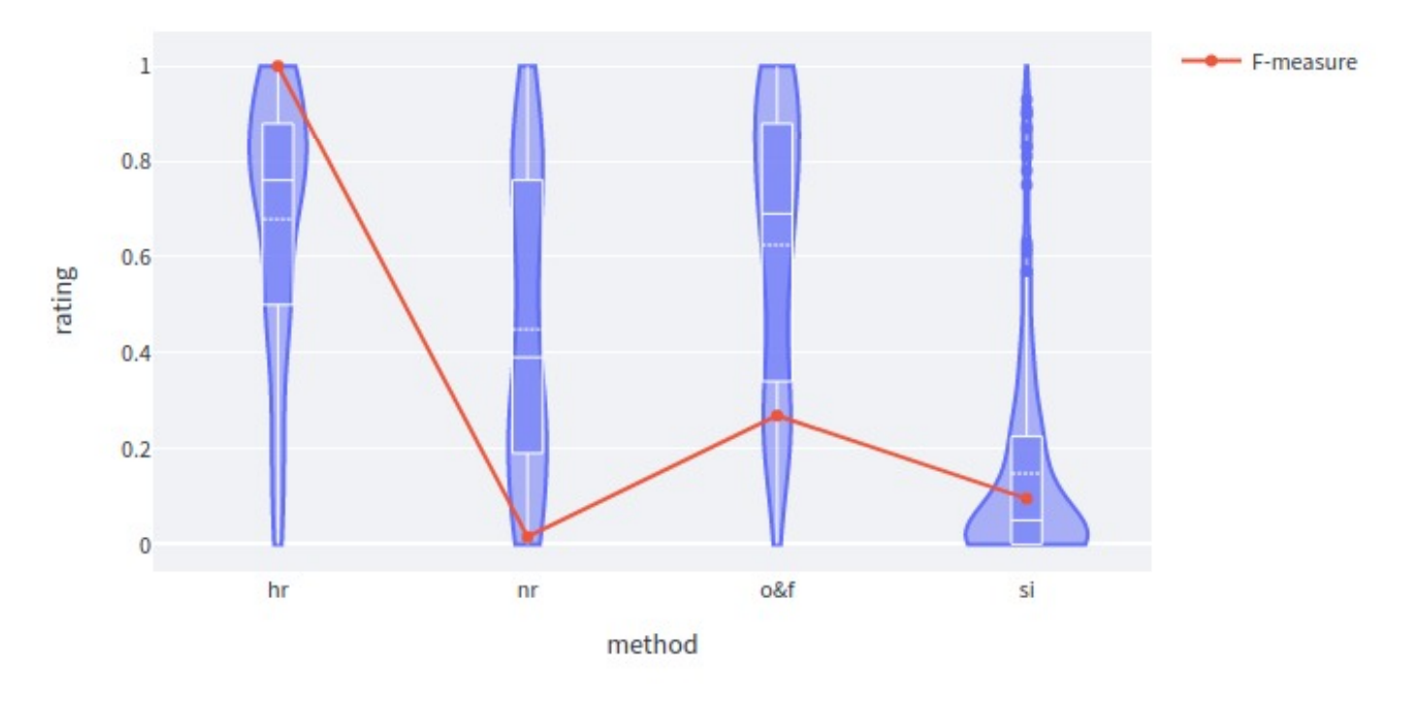
---

Var1: *resynthesis*

Excerpt: *mean*

Controlled variable: *None*

Var1: resynthesis - Excerpt: mean - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.47e-01	6.45e-01	6.46e-01	6.59e-01	6.57e-01	6.58e-01
Mean	Pearsons	p-value	3.53e-01	3.55e-01	3.54e-01	3.41e-01	3.43e-01	3.42e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.87e-01	6.85e-01	6.86e-01	6.98e-01	6.95e-01	6.96e-01
Median	Pearsons	p-value	3.13e-01	3.15e-01	3.14e-01	3.02e-01	3.05e-01	3.04e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	210	0.0365	0.0372
nr	197	0.0443	0.0435
o&f	212	0.0397	0.0404
si	207	0.0298	0.0279

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "5.04e-10"
  "nr" : "1.27e-08"
  "o&f" : "5.62e-09"
  "si" : "4.42e-18"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.35e-181, 876.14

ANOVA (p-value, h-statistics): 9.00e-224, 122.91

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.50e-11	nan	nan	nan
o&f	7.99e-02	8.59e-08	nan	nan
si	2.40e-30	8.56e-18	8.46e-30	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.35e-181, 876.14

ANOVA (p-value, h-statistics): 9.00e-224, 122.91

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.03e-12	nan	nan	nan
o&f	5.90e-02	3.18e-08	nan	nan
si	1.60e-53	9.43e-21	2.26e-46	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

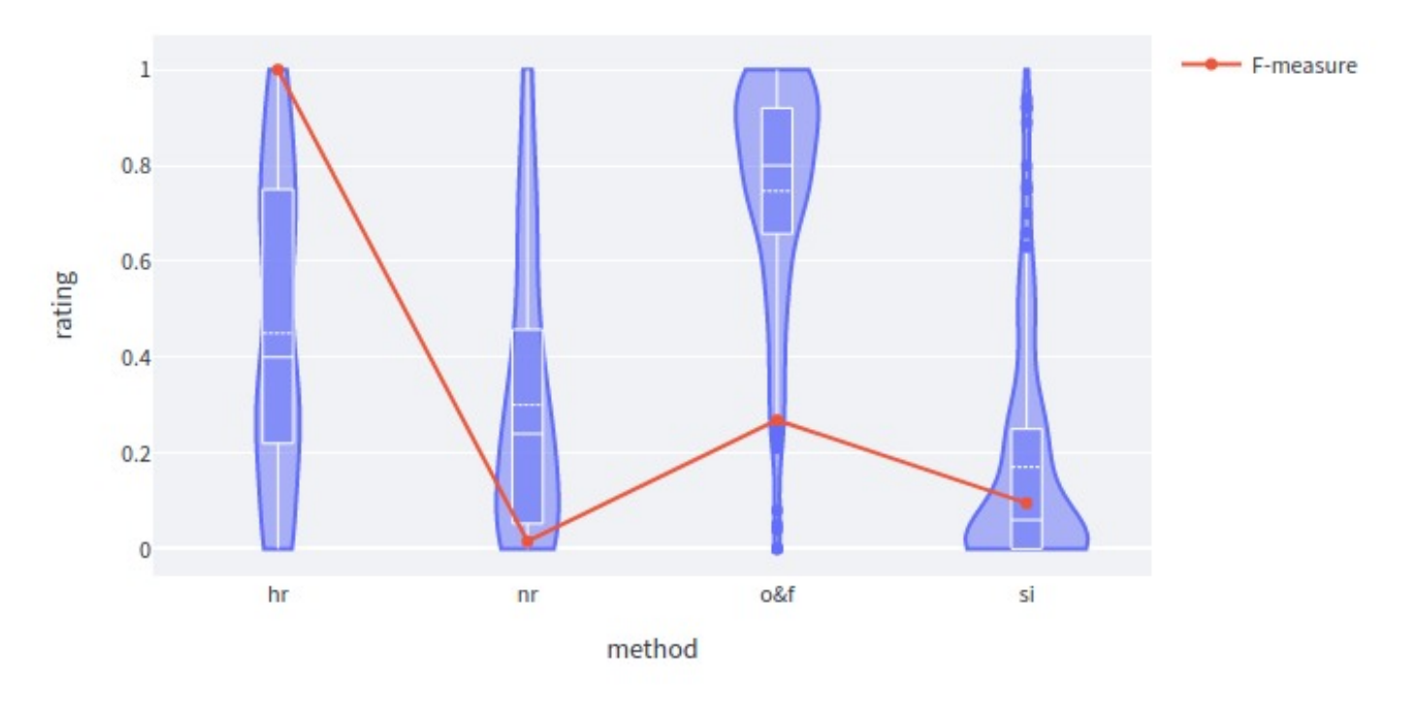
---

Var1: *restoration*

Excerpt: *mean*

Controlled variable: *None*

Var1: restoration - Excerpt: mean - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.88e-01	2.81e-01	2.85e-01	2.91e-01	2.85e-01	2.88e-01
Mean	Pearsons	p-value	7.12e-01	7.19e-01	7.15e-01	7.09e-01	7.15e-01	7.12e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	2.51e-01	2.45e-01	2.48e-01	2.55e-01	2.49e-01	2.52e-01
Median	Pearsons	p-value	7.49e-01	7.55e-01	7.52e-01	7.45e-01	7.51e-01	7.48e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	210	0.0423	0.0404
nr	199	0.0398	0.0390
o&f	209	0.0325	0.0307
si	193	0.0326	0.0318

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "6.35e-08"
  "nr" : "5.16e-11"
  "o&f" : "9.20e-12"
  "si" : "7.35e-16"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.12e-184, 890.42

ANOVA (p-value, h-statistics): 3.36e-240, 134.72

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.53e-06	nan	nan	nan
o&f	9.39e-18	4.93e-25	nan	nan
si	6.76e-16	1.10e-05	2.92e-30	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.12e-184, 890.42

ANOVA (p-value, h-statistics): 3.36e-240, 134.72

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.73e-07	nan	nan	nan
o&f	8.59e-21	6.54e-37	nan	nan
si	4.54e-19	4.13e-06	1.53e-59	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

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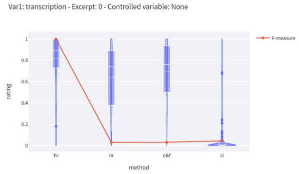
○ 1. method, 2. task

Var1: *transcription*

Excerpt: *0*

Controlled variable: *None*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.59e-01	4.58e-01	4.58e-01	5.05e-01	5.04e-01	5.04e-01
Mean	Pearsons	p-value	5.41e-01	5.42e-01	5.42e-01	4.95e-01	4.96e-01	4.96e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	4.25e-01	4.23e-01	4.24e-01	4.72e-01	4.71e-01	4.71e-01
Median	Pearsons	p-value	5.75e-01	5.77e-01	5.76e-01	5.28e-01	5.29e-01	5.29e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	46	0.0591	0.0572
nr	42	0.0813	0.0789
o&f	47	0.0773	0.0785
si	37	0.0392	0.0378

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "4.70e-05"
  "nr" : "6.39e-03"
  "o&f" : "1.96e-03"
  "si" : "2.08e-10"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.21e-49, 260.03

ANOVA (p-value, h-statistics): 1.13e-94, 73.38

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.67e-02	nan	nan	nan
o&f	7.34e-02	2.28e-01	nan	nan
si	6.57e-07	1.03e-06	8.32e-07	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.21e-49, 260.03

ANOVA (p-value, h-statistics): 1.13e-94, 73.38

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.13e-02	nan	nan	nan
o&f	5.90e-02	3.14e-01	nan	nan
si	2.26e-22	4.46e-13	4.58e-16	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

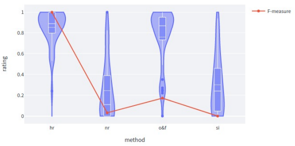
---

Var1: *transcription*

Excerpt: *1*

Controlled variable: *None*

Var1: transcription - Excerpt: 1 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	8.03e-01	7.96e-01	7.99e-01	7.83e-01	7.77e-01	7.80e-01
Mean	Pearsons	p-value	1.97e-01	2.04e-01	2.01e-01	2.17e-01	2.23e-01	2.20e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.29e-01	7.21e-01	7.25e-01	7.06e-01	6.99e-01	7.02e-01
Median	Pearsons	p-value	2.71e-01	2.79e-01	2.75e-01	2.94e-01	3.01e-01	2.98e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	39	0.0528	0.0509
nr	39	0.0897	0.0927
o&f	41	0.0839	0.0859
si	41	0.0864	0.0854

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr" : "3.37e-05"
   "nr" : "3.96e-05"
   "o&f" : "1.98e-05"
   "si" : "8.90e-04"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.65e-46, 243.13

ANOVA (p-value, h-statistics): 4.72e-70, 48.63

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.42e-07	nan	nan	nan
o&f	4.06e-01	1.00e-05	nan	nan
si	5.68e-07	4.28e-01	1.02e-05	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.65e-46, 243.13

ANOVA (p-value, h-statistics): 4.72e-70, 48.63

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.27e-14	nan	nan	nan
o&f	1.82e-01	1.21e-08	nan	nan
si	6.32e-13	4.37e-01	4.74e-08	nan

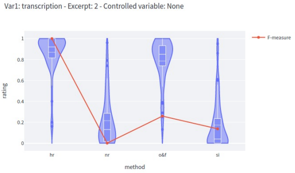
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *2*

Controlled variable: *None*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.69e-01	7.57e-01	7.63e-01	7.85e-01	7.72e-01	7.78e-01
Mean	Pearsons	p-value	2.31e-01	2.43e-01	2.37e-01	2.15e-01	2.28e-01	2.22e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.43e-01	7.31e-01	7.37e-01	7.60e-01	7.47e-01	7.53e-01
Median	Pearsons	p-value	2.57e-01	2.69e-01	2.63e-01	2.40e-01	2.53e-01	2.47e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	48	0.0540	0.0521
nr	41	0.0751	0.0739
o&f	45	0.0634	0.0627
si	47	0.0680	0.0659

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "2.68e-08"
  "nr" : "3.77e-05"
  "o&f" : "3.77e-05"
  "si" : "6.06e-07"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.63e-64, 329.75

ANOVA (p-value, h-statistics): 1.32e-117, 97.56

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.62e-07	nan	nan	nan
o&f	7.45e-02	2.26e-07	nan	nan
si	2.35e-08	3.01e-01	5.05e-08	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.63e-64, 329.75

ANOVA (p-value, h-statistics): 1.32e-117, 97.56

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.03e-15	nan	nan	nan
o&f	1.59e-01	2.49e-13	nan	nan
si	1.10e-18	2.75e-01	1.18e-16	nan

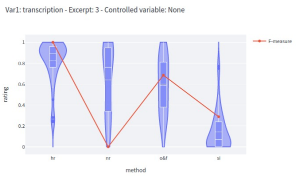
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *3*

Controlled variable: *None*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.47e-01	4.52e-01	4.50e-01	4.84e-01	4.88e-01	4.86e-01
Mean	Pearsons	p-value	5.53e-01	5.48e-01	5.50e-01	5.16e-01	5.12e-01	5.14e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01

Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.32e-01	3.37e-01	3.34e-01	3.71e-01	3.75e-01	3.73e-01
Median	Pearsons	p-value	6.68e-01	6.63e-01	6.66e-01	6.29e-01	6.25e-01	6.27e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	42	0.0613	0.0587
nr	41	0.1009	0.0988
o&f	46	0.0774	0.0784
si	41	0.0589	0.0578

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "3.96e-06"
  "nr" : "1.01e-03"
  "o&f" : "8.14e-02"
  "si" : "2.54e-06"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.49e-43, 232.18

ANOVA (p-value, h-statistics): 2.87e-64, 42.69

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.07e-02	nan	nan	nan
o&f	2.95e-04	3.78e-01	nan	nan
si	1.45e-07	2.10e-06	4.50e-07	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.49e-43, 232.18

ANOVA (p-value, h-statistics): 2.87e-64, 42.69

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.89e-02	nan	nan	nan
o&f	8.68e-05	4.70e-01	nan	nan
si	7.40e-20	2.40e-09	3.26e-11	nan

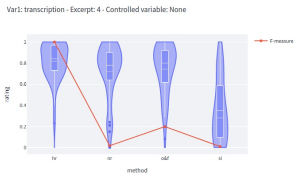
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *4*

Controlled variable: *None*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.98e-01	6.02e-01	6.00e-01	5.95e-01	5.99e-01	5.97e-01
Mean	Pearsons	p-value	4.02e-01	3.98e-01	4.00e-01	4.05e-01	4.01e-01	4.03e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.04e-01	5.09e-01	5.06e-01	5.01e-01	5.05e-01	5.03e-01
Median	Pearsons	p-value	4.96e-01	4.91e-01	4.94e-01	4.99e-01	4.95e-01	4.97e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	44	0.0500	0.0501
nr	42	0.0802	0.0791
o&f	41	0.0713	0.0693
si	44	0.0884	0.0834

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "1.07e-03"
  "nr" : "3.62e-04"
  "o&f" : "2.27e-03"
  "si" : "2.40e-03"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.16e-25, 144.31

ANOVA (p-value, h-statistics): 3.24e-41, 25.11

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.44e-01	nan	nan	nan
o&f	3.44e-01	7.91e-01	nan	nan
si	7.36e-07	1.32e-04	5.51e-06	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.16e-25, 144.31

ANOVA (p-value, h-statistics): 3.24e-41, 25.11

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.77e-01	nan	nan	nan
o&f	2.74e-01	5.73e-01	nan	nan
si	1.62e-10	2.31e-05	1.11e-07	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

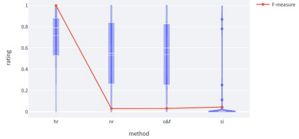
---

Var1: *resynthesis*

Excerpt: *0*

Controlled variable: *None*

Var1: resynthesis - Excerpt: 0 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.49e-01	5.47e-01	5.48e-01	5.92e-01	5.91e-01	5.91e-01
Mean	Pearsons	p-value	4.51e-01	4.53e-01	4.52e-01	4.08e-01	4.09e-01	4.09e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	5.46e-01	5.44e-01	5.45e-01	5.89e-01	5.88e-01	5.88e-01
Median	Pearsons	p-value	4.54e-01	4.56e-01	4.55e-01	4.11e-01	4.12e-01	4.12e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	45	0.0726	0.0723
nr	40	0.0932	0.0939
o&f	39	0.0958	0.0927
si	40	0.0573	0.0573

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "4.26e-03"
  "nr" : "2.94e-02"
  "o&f" : "2.94e-02"
  "si" : "7.58e-12"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.99e-43, 230.13

ANOVA (p-value, h-statistics): 6.37e-57, 37.23

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.21e-02	nan	nan	nan
o&f	1.22e-02	7.91e-01	nan	nan
si	3.62e-07	3.26e-06	1.85e-06	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.99e-43, 230.13

ANOVA (p-value, h-statistics): 6.37e-57, 37.23

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.40e-02	nan	nan	nan
o&f	7.66e-03	8.09e-01	nan	nan
si	6.82e-15	1.71e-09	8.29e-10	nan

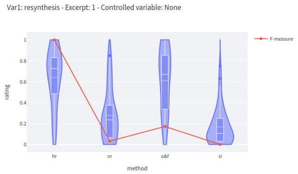
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *1*

Controlled variable: *None*



Var1: resynthesis - Excerpt: 1 - Controlled variable: None

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.54e-01	7.46e-01	7.50e-01	7.32e-01	7.25e-01	7.29e-01
Mean	Pearsons	p-value	2.46e-01	2.54e-01	2.50e-01	2.68e-01	2.75e-01	2.71e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	7.67e-01	7.59e-01	7.63e-01	7.45e-01	7.38e-01	7.42e-01
Median	Pearsons	p-value	2.33e-01	2.41e-01	2.37e-01	2.55e-01	2.62e-01	2.58e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	40	0.0852	0.0801
nr	36	0.0817	0.0811
o&f	41	0.0920	0.0875
si	42	0.0542	0.0539

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "2.25e-02"
  "nr" : "4.88e-03"
  "o&f" : "2.25e-02"
  "si" : "1.15e-04"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.06e-32, 179.93

ANOVA (p-value, h-statistics): 6.49e-44, 27.62

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.69e-05	nan	nan	nan
o&f	5.67e-01	7.09e-04	nan	nan
si	1.12e-06	2.57e-02	3.92e-07	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.06e-32, 179.93

ANOVA (p-value, h-statistics): 6.49e-44, 27.62

using Bonferroni-Holm correction!

	hr	nr	o&f	si

hr	nan	nan	nan	nan
nr	3.60e-06	nan	nan	nan
o&f	6.16e-01	1.61e-04	nan	nan
si	6.54e-11	1.03e-02	1.09e-10	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

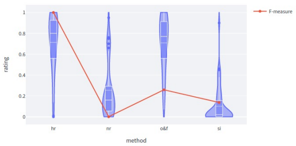
---

Var1: *resynthesis*

Excerpt: *2*

Controlled variable: *None*

Var1: resynthesis - Excerpt: 2 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.75e-01	6.64e-01	6.69e-01	6.96e-01	6.83e-01	6.90e-01
Mean	Pearsons	p-value	3.25e-01	3.36e-01	3.31e-01	3.04e-01	3.17e-01	3.10e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.08e-01	6.96e-01	7.02e-01	7.27e-01	7.14e-01	7.20e-01
Median	Pearsons	p-value	2.92e-01	3.04e-01	2.98e-01	2.73e-01	2.86e-01	2.80e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	44	0.0810	0.0783
nr	37	0.0862	0.0857
o&f	45	0.0757	0.0745
si	45	0.0524	0.0532

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "4.63e-04"
  "nr" : "1.06e-04"
  "o&f" : "1.50e-03"
  "si" : "8.15e-09"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.10e-50, 266.24

ANOVA (p-value, h-statistics): 8.37e-76, 53.25

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.21e-06	nan	nan	nan
o&f	8.56e-01	3.92e-06	nan	nan
si	1.48e-07	1.46e-03	3.09e-08	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.10e-50, 266.24

ANOVA (p-value, h-statistics): 8.37e-76, 53.25

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.79e-08	nan	nan	nan
o&f	9.85e-01	5.41e-09	nan	nan
si	1.92e-14	8.89e-03	2.41e-17	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

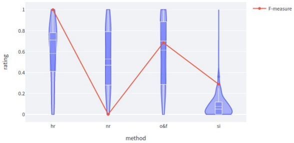
---

Var1: *resynthesis*

Excerpt: *3*

Controlled variable: *None*

Var1: resynthesis - Excerpt: 3 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.77e-01	3.78e-01	3.78e-01	4.10e-01	4.11e-01	4.11e-01
Mean	Pearsons	p-value	6.23e-01	6.22e-01	6.22e-01	5.90e-01	5.89e-01	5.89e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.91e-01	5.91e-01	5.91e-01	6.19e-01	6.19e-01	6.19e-01
Median	Pearsons	p-value	4.09e-01	4.09e-01	4.09e-01	3.81e-01	3.81e-01	3.81e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	38	0.0926	0.0892
nr	41	0.0893	0.0864
o&f	43	0.0927	0.0916
si	39	0.0271	0.0264

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "1.09e-02"
  "nr" : "5.28e-02"
  "o&f" : "5.21e-03"
  "si" : "1.55e-04"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.23e-39, 213.39

ANOVA (p-value, h-statistics): 2.09e-47, 30.04

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.84e-01	nan	nan	nan
o&f	7.84e-01	2.45e-01	nan	nan
si	1.47e-06	5.27e-07	4.29e-07	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.23e-39, 213.39

ANOVA (p-value, h-statistics): 2.09e-47, 30.04

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.33e-01	nan	nan	nan
o&f	8.33e-01	4.79e-01	nan	nan
si	1.05e-10	3.03e-10	4.78e-12	nan

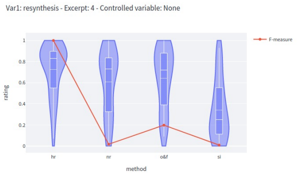
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *4*

Controlled variable: *None*


Var1: resynthesis - Excerpt: 4 - Controlled variable: None

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.70e-01	6.73e-01	6.71e-01	6.66e-01	6.70e-01	6.68e-01
Mean	Pearsons	p-value	3.30e-01	3.27e-01	3.29e-01	3.34e-01	3.30e-01	3.32e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.81e-01	5.85e-01	5.83e-01	5.79e-01	5.82e-01	5.80e-01
Median	Pearsons	p-value	4.19e-01	4.15e-01	4.17e-01	4.21e-01	4.18e-01	4.20e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	43	0.0735	0.0727
nr	43	0.0919	0.0920
o&f	44	0.0847	0.0822
si	41	0.0875	0.0894

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
  "hr" : "3.09e-04"
```

```
    "nr" : "3.78e-03"
    "o&f" : "3.78e-03"
    "si" : "3.78e-03"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.18e-15, 95.85

ANOVA (p-value, h-statistics): 1.15e-19, 11.78

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.31e-01	nan	nan	nan
o&f	3.45e-01	6.42e-01	nan	nan
si	6.61e-06	3.23e-03	4.98e-04	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.18e-15, 95.85

ANOVA (p-value, h-statistics): 1.15e-19, 11.78

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.86e-01	nan	nan	nan
o&f	4.14e-01	5.91e-01	nan	nan
si	9.67e-08	1.08e-03	9.60e-05	nan

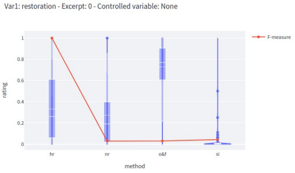
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *0*

Controlled variable: *None*


Var1: restoration - Excerpt: 0 - Controlled variable: None

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	-7.12e-02	-7.37e-02	-7.25e-02	-3.55e-02	-3.72e-02	-3.64e-02
Mean	Pearsons	p-value	9.29e-01	9.26e-01	9.27e-01	9.64e-01	9.63e-01	9.64e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-1.30e-01	-1.33e-01	-1.32e-01	-9.90e-02	-1.01e-01	-9.99e-02
Median	Pearsons	p-value	8.70e-01	8.67e-01	8.68e-01	9.01e-01	8.99e-01	9.00e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	46	0.0811	0.0750
nr	39	0.0880	0.0881
o&f	45	0.0693	0.0672
si	34	0.0323	0.0306

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "2.98e-03"
  "nr" : "9.20e-04"
  "o&f" : "1.29e-03"
  "si" : "8.75e-10"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.54e-45, 241.68

ANOVA (p-value, h-statistics): 5.99e-65, 44.92

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.36e-01	nan	nan	nan
o&f	2.33e-06	6.10e-06	nan	nan
si	7.01e-06	1.06e-04	2.19e-06	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.54e-45, 241.68

ANOVA (p-value, h-statistics): 5.99e-65, 44.92

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.15e-01	nan	nan	nan
o&f	8.38e-09	1.05e-08	nan	nan
si	3.70e-07	7.90e-05	3.38e-18	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

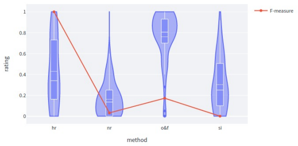
---

Var1: *restoration*

Excerpt: *1*

Controlled variable: *None*

Var1: restoration - Excerpt: 1 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.23e-01	2.11e-01	2.17e-01	1.91e-01	1.81e-01	1.86e-01
Mean	Pearsons	p-value	7.77e-01	7.89e-01	7.83e-01	8.09e-01	8.19e-01	8.14e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01

Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	9.25e-02	8.01e-02	8.61e-02	5.92e-02	4.90e-02	5.39e-02
Median	Pearsons	p-value	9.08e-01	9.20e-01	9.14e-01	9.41e-01	9.51e-01	9.46e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	41	0.1005	0.0985
nr	36	0.0516	0.0510
o&f	40	0.0764	0.0735
si	41	0.0765	0.0769

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "1.57e-02"
  "nr" : "4.24e-03"
  "o&f" : "1.16e-04"
  "si" : "1.57e-02"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.66e-33, 181.66

ANOVA (p-value, h-statistics): 1.20e-48, 31.13

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.06e-03	nan	nan	nan
o&f	5.79e-05	2.92e-06	nan	nan
si	6.76e-02	6.76e-02	2.68e-06	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.66e-33, 181.66

ANOVA (p-value, h-statistics): 1.20e-48, 31.13

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.44e-04	nan	nan	nan
o&f	6.52e-06	1.01e-11	nan	nan
si	5.61e-02	5.61e-02	1.21e-09	nan

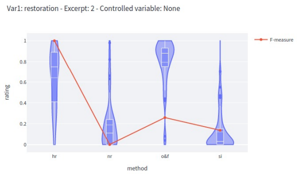
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *2*

Controlled variable: *None*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.63e-01	5.46e-01	5.54e-01	5.81e-01	5.63e-01	5.72e-01
Mean	Pearsons	p-value	4.37e-01	4.54e-01	4.46e-01	4.19e-01	4.37e-01	4.28e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.16e-01	6.01e-01	6.08e-01	6.34e-01	6.17e-01	6.25e-01
Median	Pearsons	p-value	3.84e-01	3.99e-01	3.92e-01	3.66e-01	3.83e-01	3.75e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	37	0.0918	0.0861
nr	35	0.0820	0.0826
o&f	39	0.0729	0.0721
si	33	0.0633	0.0634

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "6.42e-03"
  "nr" : "8.82e-06"
  "o&f" : "8.82e-06"
  "si" : "3.77e-06"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.19e-42, 227.85

ANOVA (p-value, h-statistics): 5.90e-69, 50.71

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.42e-05	nan	nan	nan
o&f	6.65e-02	1.48e-06	nan	nan
si	5.61e-06	2.55e-01	2.94e-06	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.19e-42, 227.85

ANOVA (p-value, h-statistics): 5.90e-69, 50.71

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.95e-07	nan	nan	nan
o&f	8.18e-02	6.62e-13	nan	nan
si	2.09e-09	2.30e-01	3.46e-13	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

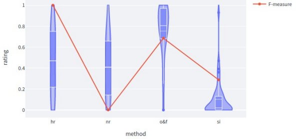
---

Var1: *restoration*

Excerpt: *3*

Controlled variable: *None*

Var1: restoration - Excerpt: 3 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.40e-01	4.36e-01	4.38e-01	4.58e-01	4.54e-01	4.56e-01
Mean	Pearsons	p-value	5.60e-01	5.64e-01	5.62e-01	5.42e-01	5.46e-01	5.44e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.22e-01	4.18e-01	4.20e-01	4.41e-01	4.37e-01	4.39e-01
Median	Pearsons	p-value	5.78e-01	5.82e-01	5.80e-01	5.59e-01	5.63e-01	5.61e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	43	0.0952	0.0983
nr	43	0.0857	0.0835
o&f	42	0.0792	0.0788
si	42	0.0534	0.0538

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "3.52e-02"
  "nr" : "5.75e-02"
  "o&f" : "6.73e-05"
  "si" : "1.46e-08"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.66e-40, 216.58

ANOVA (p-value, h-statistics): 1.23e-54, 34.67

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.42e-01	nan	nan	nan
o&f	1.37e-03	4.30e-05	nan	nan
si	7.11e-06	4.30e-05	2.10e-07	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.66e-40, 216.58

ANOVA (p-value, h-statistics): 1.23e-54, 34.67

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.75e-01	nan	nan	nan
o&f	3.03e-04	2.38e-06	nan	nan
si	1.06e-07	6.30e-06	4.09e-16	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

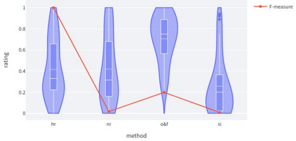
---

Var1: *restoration*

Excerpt: *4*

Controlled variable: *None*

Var1: restoration - Excerpt: 4 - Controlled variable: None



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.91e-02	6.81e-02	6.36e-02	5.12e-02	5.99e-02	5.55e-02
Mean	Pearsons	p-value	9.41e-01	9.32e-01	9.36e-01	9.49e-01	9.40e-01	9.45e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	-3.45e-03	5.77e-03	1.08e-03	-1.18e-02	-2.90e-03	-7.40e-03
Median	Pearsons	p-value	9.97e-01	9.94e-01	9.99e-01	9.88e-01	9.97e-01	9.93e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **all**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	43	0.0841	0.0839
nr	46	0.0924	0.0877
o&f	43	0.0661	0.0669
si	43	0.0819	0.0823

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr" : "2.33e-02"
  "nr" : "6.96e-03"
  "o&f" : "2.33e-02"
  "si" : "1.02e-04"
}
```

Wilcoxon test

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.69e-24, 136.42

ANOVA (p-value, h-statistics): 1.31e-27, 16.35

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.31e-01	nan	nan	nan
o&f	9.57e-05	6.28e-04	nan	nan
si	2.45e-02	3.94e-02	1.61e-06	nan

t-test (related variables)

p-values for variable value all

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.69e-24, 136.42

ANOVA (p-value, h-statistics): 1.31e-27, 16.35

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.09e-01	nan	nan	nan
o&f	4.13e-06	1.80e-04	nan	nan
si	4.32e-02	4.32e-02	5.42e-10	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

A Perceptual Measure for Evaluating the Resynthesis of Automatic Music Transcriptions

Federico Simonetta, Federico Avanzini, Stavros Ntalampiras

To generate this file in html format use the following command: `streamlit run perceptual_app.py`

Chose control group:

expertise

Chose measure to compare:

mir_eval

☑ Use average of all the excerpts

Chose the variable that is iterated first (external loop) and next (inner loop):

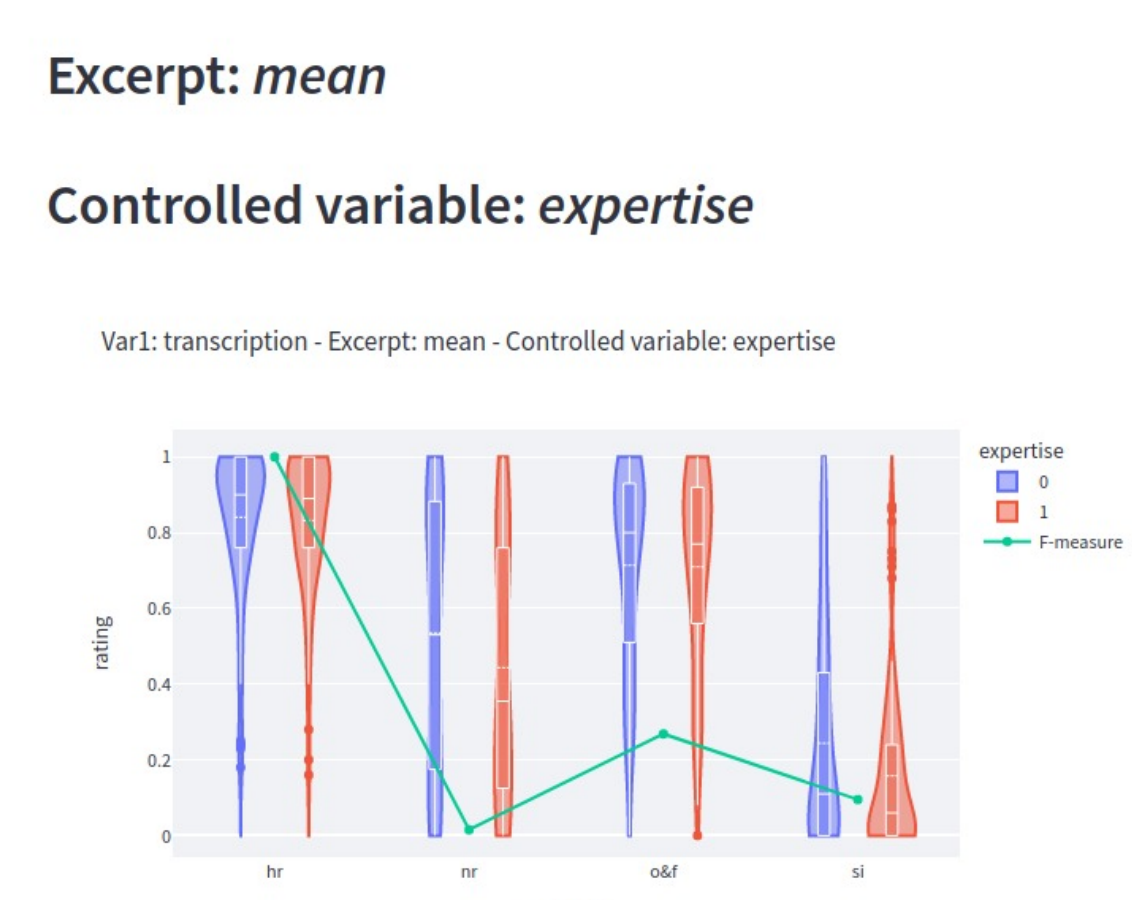
● 1. task, 2. method

○ 1. method, 2. task

Var1: *transcription*

Excerpt: *mean*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.39e-01	7.38e-01	7.39e-01	7.51e-01	7.49e-01	7.50e-01
Mean	Pearsons	p-value	2.61e-01	2.62e-01	2.61e-01	2.49e-01	2.51e-01	2.50e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.96e-01	6.94e-01	6.95e-01	7.08e-01	7.06e-01	7.07e-01
Median	Pearsons	p-value	3.04e-01	3.06e-01	3.05e-01	2.92e-01	2.94e-01	2.93e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.32e-01	7.31e-01	7.31e-01	7.44e-01	7.42e-01	7.43e-01
Mean	Pearsons	p-value	2.68e-01	2.69e-01	2.69e-01	2.56e-01	2.58e-01	2.57e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.75e-01	6.73e-01	6.74e-01	6.87e-01	6.85e-01	6.86e-01
Median	Pearsons	p-value	3.25e-01	3.27e-01	3.26e-01	3.13e-01	3.15e-01	3.14e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	120	0.0343	0.0338
nr	117	0.0643	0.0608
o&f	126	0.0459	0.0459
si	118	0.0510	0.0505

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.48e-01	7.46e-01	7.47e-01	7.58e-01	7.56e-01	7.57e-01
Mean	Pearsons	p-value	2.52e-01	2.54e-01	2.53e-01	2.42e-01	2.44e-01	2.43e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.55e-01	7.52e-01	7.54e-01	7.63e-01	7.60e-01	7.62e-01
Median	Pearsons	p-value	2.45e-01	2.48e-01	2.46e-01	2.37e-01	2.40e-01	2.38e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	99	0.0362	0.0356
nr	88	0.0716	0.0687
o&f	94	0.0526	0.0529
si	92	0.0448	0.0429

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "4.84e-11"
  "nr, group 0" : "4.09e-07"
  "o&f, group 0" : "9.13e-08"
  "si, group 0" : "9.24e-10"
  "hr, group 1" : "1.39e-08"
  "nr, group 1" : "5.04e-06"
  "o&f, group 1" : "2.87e-06"
  "si, group 1" : "1.13e-10"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 5.00e-01

p-values for var2_val **nr** and variable **expertise**: 2.46e-01

p-values for var2_val **o&f** and variable **expertise**: 6.90e-01

p-values for var2_val **si** and variable **expertise**: 1.97e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.55e-105, 524.92

ANOVA (p-value, h-statistics): 7.71e-145, 83.50

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.57e-11	nan	nan	nan
o&f	1.01e-04	3.40e-04	nan	nan
si	3.71e-20	3.02e-09	8.38e-16	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.50e-102, 509.20

ANOVA (p-value, h-statistics): 2.36e-151, 96.19

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.94e-10	nan	nan	nan
o&f	5.69e-04	5.71e-06	nan	nan
si	7.41e-16	3.30e-07	2.73e-15	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 6.77e-01

p-values for var2_val **nr** and variable **expertise**: 2.28e-01

p-values for var2_val **o&f** and variable **expertise**: 6.89e-01

p-values for var2_val **si** and variable **expertise**: 4.56e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.55e-105, 524.92

ANOVA (p-value, h-statistics): 7.71e-145, 83.50

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.84e-13	nan	nan	nan
o&f	3.21e-05	7.18e-05	nan	nan
si	3.41e-42	8.46e-11	7.09e-23	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.50e-102, 509.20

ANOVA (p-value, h-statistics): 2.36e-151, 96.19

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.51e-13	nan	nan	nan
o&f	3.16e-04	1.25e-06	nan	nan
si	1.48e-39	1.12e-08	4.97e-27	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

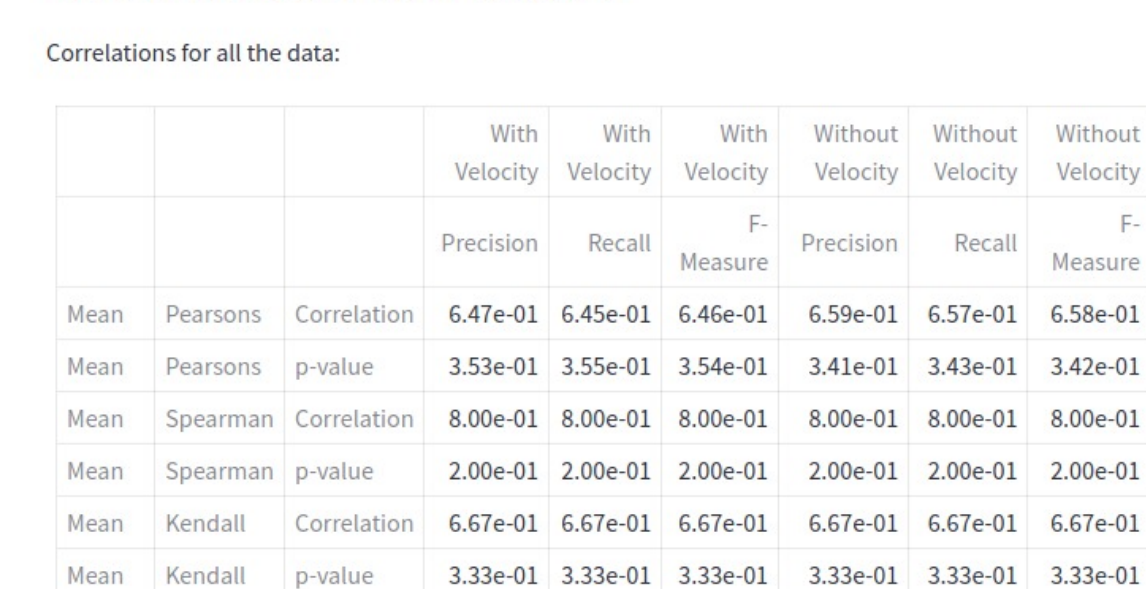
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *mean*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.47e-01	6.45e-01	6.46e-01	6.59e-01	6.57e-01	6.58e-01
Mean	Pearsons	p-value	3.53e-01	3.55e-01	3.54e-01	3.41e-01	3.43e-01	3.42e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.87e-01	6.85e-01	6.86e-01	6.98e-01	6.95e-01	6.96e-01
Median	Pearsons	p-value	3.13e-01	3.15e-01	3.14e-01	3.02e-01	3.05e-01	3.04e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.99e-01	5.97e-01	5.98e-01	6.12e-01	6.10e-01	6.11e-01
Mean	Pearsons	p-value	4.01e-01	4.03e-01	4.02e-01	3.88e-01	3.90e-01	3.89e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.18e-01	6.16e-01	6.17e-01	6.31e-01	6.28e-01	6.30e-01
Median	Pearsons	p-value	3.82e-01	3.84e-01	3.83e-01	3.69e-01	3.72e-01	3.70e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	114	0.0495	0.0508
nr	107	0.0594	0.0595
o&f	113	0.0553	0.0536
si	113	0.0433	0.0413

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.95e-01	6.93e-01	6.94e-01	7.07e-01	7.05e-01	7.06e-01
Mean	Pearsons	p-value	3.05e-01	3.07e-01	3.06e-01	2.93e-01	2.95e-01	2.94e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.55e-01	7.52e-01	7.53e-01	7.62e-01	7.59e-01	7.61e-01
Median	Pearsons	p-value	2.45e-01	2.48e-01	2.47e-01	2.38e-01	2.41e-01	2.39e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	96	0.0542	0.0550
nr	90	0.0658	0.0657
o&f	99	0.0570	0.0519
si	94	0.0394	0.0376

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "8.25e-06"
  "nr, group 0" : "8.84e-05"
  "o&f, group 0" : "3.57e-06"
  "si, group 0" : "4.44e-12"
  "hr, group 1" : "2.54e-06"
  "nr, group 1" : "1.91e-05"
  "o&f, group 1" : "8.84e-05"
  "si, group 1" : "3.71e-12"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 8.23e-01

p-values for var2_val **nr** and variable **expertise**: 5.48e-02

p-values for var2_val **o&f** and variable **expertise**: 5.29e-01

p-values for var2_val **si** and variable **expertise**: 2.39e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.65e-88, 445.03

ANOVA (p-value, h-statistics): 1.70e-108, 60.36

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.26e-05	nan	nan	nan
o&f	5.02e-01	9.17e-04	nan	nan
si	2.16e-17	4.79e-10	2.53e-16	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.23e-87, 440.93

ANOVA (p-value, h-statistics): 3.03e-110, 64.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.07e-07	nan	nan	nan
o&f	3.07e-02	7.02e-04	nan	nan
si	4.99e-15	1.43e-09	1.94e-14	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 8.04e-01

p-values for var2_val **nr** and variable **expertise**: 6.40e-02

p-values for var2_val **o&f** and variable **expertise**: 4.21e-01

p-values for var2_val **si** and variable **expertise**: 3.14e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.65e-88, 445.03

ANOVA (p-value, h-statistics): 1.70e-108, 60.36

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.35e-05	nan	nan	nan
o&f	4.08e-01	9.84e-04	nan	nan
si	7.02e-29	8.15e-12	4.46e-25	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.23e-87, 440.93

ANOVA (p-value, h-statistics): 3.03e-110, 64.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.21e-08	nan	nan	nan
o&f	3.36e-02	2.68e-04	nan	nan
si	7.79e-29	1.64e-10	3.81e-23	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

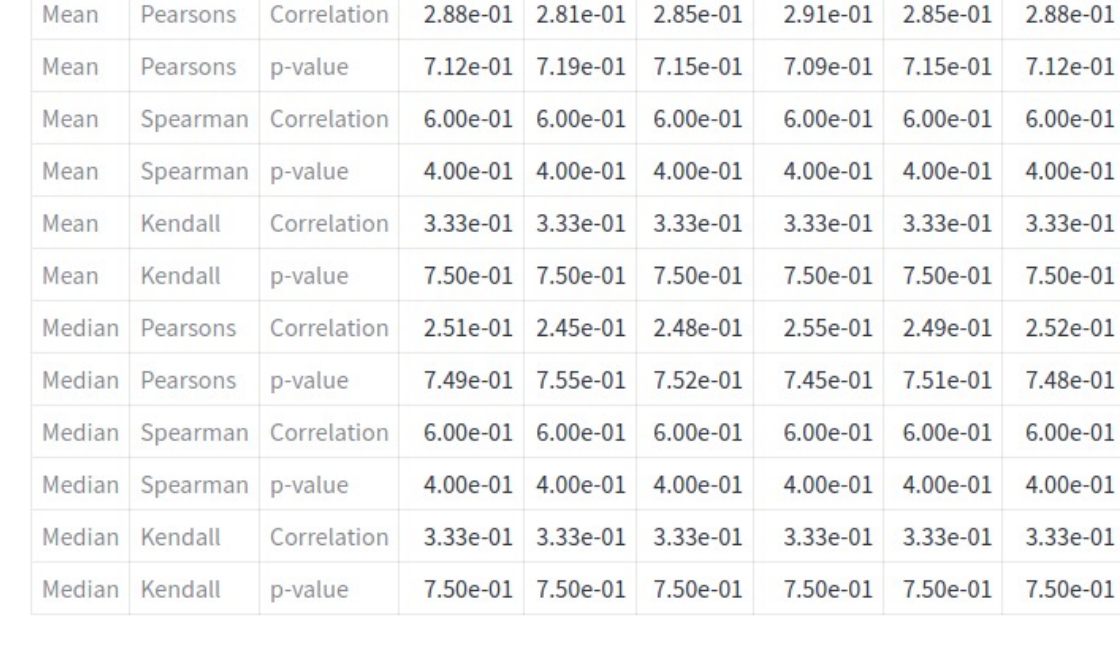
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *mean*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.88e-01	2.81e-01	2.85e-01	2.91e-01	2.85e-01	2.88e-01
Mean	Pearsons	p-value	7.12e-01	7.19e-01	7.15e-01	7.09e-01	7.15e-01	7.12e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	2.51e-01	2.45e-01	2.48e-01	2.55e-01	2.49e-01	2.52e-01
Median	Pearsons	p-value	7.49e-01	7.55e-01	7.52e-01	7.45e-01	7.51e-01	7.48e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.57e-01	3.51e-01	3.53e-01	3.61e-01	3.55e-01	3.58e-01
Mean	Pearsons	p-value	6.43e-01	6.49e-01	6.47e-01	6.39e-01	6.45e-01	6.42e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.19e-01	4.12e-01	4.15e-01	4.22e-01	4.16e-01	4.18e-01
Median	Pearsons	p-value	5.81e-01	5.88e-01	5.85e-01	5.78e-01	5.84e-01	5.82e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	116	0.0559	0.0540
nr	116	0.0568	0.0535
o&f	114	0.0438	0.0430
si	112	0.0493	0.0502

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.22e-01	2.16e-01	2.19e-01	2.25e-01	2.18e-01	2.21e-01
Mean	Pearsons	p-value	7.78e-01	7.84e-01	7.81e-01	7.75e-01	7.82e-01	7.79e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	1.03e-01	9.59e-02	9.91e-02	1.05e-01	9.87e-02	1.02e-01
Median	Pearsons	p-value	8.97e-01	9.04e-01	9.01e-01	8.95e-01	9.01e-01	8.98e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	94	0.0598	0.0595
nr	83	0.0483	0.0469
o&f	95	0.0484	0.0464
si	81	0.0319	0.0311

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "2.27e-04"
  "nr, group 0" : "2.02e-06"
  "o&f, group 0" : "7.49e-09"
  "si, group 0" : "7.56e-10"
  "hr, group 1" : "6.26e-06"
  "nr, group 1" : "2.02e-06"
  "o&f, group 1" : "6.26e-06"
  "si, group 1" : "3.06e-10"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 3.77e-03

p-values for var2_val **nr** and variable **expertise**: 1.82e-02

p-values for var2_val **o&f** and variable **expertise**: 3.11e-01

p-values for var2_val **si** and variable **expertise**: 4.59e-03

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.37e-90, 452.01

ANOVA (p-value, h-statistics): 1.10e-113, 63.29

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.83e-04	nan	nan	nan
o&f	2.98e-09	1.33e-14	nan	nan
si	1.83e-09	1.22e-03	2.53e-17	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.12e-95, 478.69

ANOVA (p-value, h-statistics): 1.14e-143, 92.41

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.55e-03	nan	nan	nan
o&f	2.82e-12	1.95e-13	nan	nan
si	2.95e-08	1.82e-04	1.85e-13	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 3.19e-03

p-values for var2_val **nr** and variable **expertise**: 1.68e-02

p-values for var2_val **o&f** and variable **expertise**: 2.62e-01

p-values for var2_val **si** and variable **expertise**: 6.54e-04

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.37e-90, 452.01

ANOVA (p-value, h-statistics): 1.10e-113, 63.29

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.31e-05	nan	nan	nan
o&f	8.41e-10	4.55e-20	nan	nan
si	2.68e-11	9.04e-04	1.07e-29	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.12e-95, 478.69

ANOVA (p-value, h-statistics): 1.14e-143, 92.41

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.03e-04	nan	nan	nan
o&f	7.30e-16	1.13e-23	nan	nan
si	1.80e-09	6.60e-05	5.47e-29	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

A Perceptual Measure for Evaluating the Resynthesis of Automatic Music Transcriptions

Federico Simonetta, Federico Avanzini, Stavros Ntalampiras

To generate this file in html format use the following command: `streamlit run perceptual_app.py`

Chose control group:

expertise

Chose measure to compare:

mir_eval

☐ Use average of all the excerpts

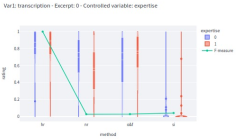
Chose the variable that is iterated first (external loop) and next (inner loop):

● 1. task, 2. method
○ 1. method, 2. task

Var1: *transcription*

Excerpt: *0*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.59e-01	4.58e-01	4.58e-01	5.05e-01	5.04e-01	5.04e-01
Mean	Pearsons	p-value	5.41e-01	5.42e-01	5.42e-01	4.95e-01	4.96e-01	4.96e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	4.25e-01	4.23e-01	4.24e-01	4.72e-01	4.71e-01	4.71e-01
Median	Pearsons	p-value	5.75e-01	5.77e-01	5.76e-01	5.28e-01	5.29e-01	5.29e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.34e-01	4.32e-01	4.33e-01	4.81e-01	4.80e-01	4.80e-01
Mean	Pearsons	p-value	5.66e-01	5.68e-01	5.67e-01	5.19e-01	5.20e-01	5.20e-01
Mean	Spearman	Correlation	2.00e-01	2.00e-01	2.00e-01	2.00e-01	3.16e-01	2.00e-01
Mean	Spearman	p-value	8.00e-01	8.00e-01	8.00e-01	8.00e-01	6.84e-01	8.00e-01
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	4.07e-01	4.05e-01	4.06e-01	4.55e-01	4.53e-01	4.54e-01
Median	Pearsons	p-value	5.93e-01	5.95e-01	5.94e-01	5.45e-01	5.47e-01	5.46e-01
Median	Spearman	Correlation	2.00e-01	2.00e-01	2.00e-01	2.00e-01	3.16e-01	2.00e-01
Median	Spearman	p-value	8.00e-01	8.00e-01	8.00e-01	8.00e-01	6.84e-01	8.00e-01
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	26	0.0828	0.0806
nr	24	0.1052	0.0983
o&f	27	0.1122	0.1106
si	20	0.0231	0.0220

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.85e-01	4.83e-01	4.84e-01	5.28e-01	5.27e-01	5.27e-01
Mean	Pearsons	p-value	5.15e-01	5.17e-01	5.16e-01	4.72e-01	4.73e-01	4.73e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	5.24e-01	5.22e-01	5.23e-01	5.65e-01	5.64e-01	5.65e-01

Median	Pearsons	p-value	4.76e-01	4.78e-01	4.77e-01	4.35e-01	4.36e-01	4.35e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.0852	0.0823
nr	18	0.1228	0.1189
o&f	20	0.1006	0.0950
si	17	0.0814	0.0724

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
  "hr, group 0" : "2.52e-03"
  "nr, group 0" : "5.97e-02"
  "o&f, group 0" : "5.97e-02"
  "si, group 0" : "1.89e-05"
  "hr, group 1" : "2.12e-02"
  "nr, group 1" : "5.97e-02"
  "o&f, group 1" : "5.97e-02"
  "si, group 1" : "3.75e-06"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 8.11e-01

p-values for var2_val **nr** and variable **expertise**: 3.52e-01

p-values for var2_val **o&f** and variable **expertise**: 8.12e-01

p-values for var2_val **si** and variable **expertise**: 4.00e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.90e-24, 139.67

ANOVA (p-value, h-statistics): 5.00e-48, 38.42

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.25e-01	nan	nan	nan
o&f	1.78e-01	7.90e-01	nan	nan
si	1.14e-05	1.14e-05	1.53e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.37e-21, 124.39

ANOVA (p-value, h-statistics): 4.44e-41, 35.12

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.50e-02	nan	nan	nan
o&f	2.34e-01	1.95e-01	nan	nan
si	1.53e-04	9.16e-05	1.53e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 7.40e-01

p-values for var2_val **nr** and variable **expertise**: 3.58e-01

p-values for var2_val **o&f** and variable **expertise**: 6.09e-01

p-values for var2_val **si** and variable **expertise**: 2.67e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.90e-24, 139.67

ANOVA (p-value, h-statistics): 5.00e-48, 38.42

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.86e-01	nan	nan	nan
o&f	9.54e-02	6.50e-01	nan	nan
si	9.28e-11	5.29e-10	1.53e-07	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.37e-21, 124.39

ANOVA (p-value, h-statistics): 4.44e-41, 35.12

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.95e-02	nan	nan	nan
o&f	2.22e-01	9.95e-02	nan	nan
si	1.83e-07	2.89e-06	3.82e-07	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

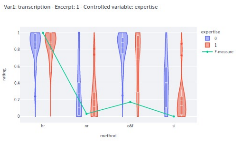
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *1*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	8.03e-01	7.96e-01	7.99e-01	7.83e-01	7.77e-01	7.80e-01
Mean	Pearsons	p-value	1.97e-01	2.04e-01	2.01e-01	2.17e-01	2.23e-01	2.20e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.29e-01	7.21e-01	7.25e-01	7.06e-01	6.99e-01	7.02e-01
Median	Pearsons	p-value	2.71e-01	2.79e-01	2.75e-01	2.94e-01	3.01e-01	2.98e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.33e-01	7.25e-01	7.29e-01	7.10e-01	7.03e-01	7.07e-01
Mean	Pearsons	p-value	2.67e-01	2.75e-01	2.71e-01	2.90e-01	2.97e-01	2.93e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.83e-01	6.75e-01	6.79e-01	6.61e-01	6.54e-01	6.58e-01
Median	Pearsons	p-value	3.17e-01	3.25e-01	3.21e-01	3.39e-01	3.46e-01	3.42e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.0847	0.0773
nr	21	0.1342	0.1308
o&f	22	0.0795	0.0809
si	22	0.1215	0.1181

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	8.59e-01	8.52e-01	8.56e-01	8.41e-01	8.35e-01	8.38e-01
Mean	Pearsons	p-value	1.41e-01	1.48e-01	1.44e-01	1.59e-01	1.65e-01	1.62e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	7.63e-01	7.55e-01	7.59e-01	7.41e-01	7.34e-01	7.37e-01
Median	Pearsons	p-value	2.37e-01	2.45e-01	2.41e-01	2.59e-01	2.66e-01	2.63e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	19	0.0634	0.0632
nr	18	0.1169	0.1147
o&f	19	0.1521	0.1437
si	19	0.1072	0.1066

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "2.89e-03"
  "nr, group 0" : "9.47e-03"
  "o&f, group 0" : "9.47e-03"
  "si, group 0" : "1.69e-01"
  "hr, group 1" : "1.61e-02"
  "nr, group 1" : "9.47e-03"
  "o&f, group 1" : "9.47e-03"
  "si, group 1" : "2.43e-03"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 4.77e-01

p-values for var2_val **nr** and variable **expertise**: 7.05e-01

p-values for var2_val **o&f** and variable **expertise**: 2.48e-01

p-values for var2_val **si** and variable **expertise**: 6.02e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.14e-21, 125.95

ANOVA (p-value, h-statistics): 1.02e-32, 23.94

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.47e-04	nan	nan	nan
o&f	8.24e-01	9.06e-05	nan	nan
si	1.14e-05	8.24e-01	2.38e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.55e-21, 122.98

ANOVA (p-value, h-statistics): 1.48e-34, 27.03

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.81e-05	nan	nan	nan
o&f	1.47e-01	3.45e-03	nan	nan
si	2.29e-05	8.68e-01	3.45e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 5.67e-01

p-values for var2_val **nr** and variable **expertise**: 6.76e-01

p-values for var2_val **o&f** and variable **expertise**: 1.09e-01

p-values for var2_val **si** and variable **expertise**: 5.09e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.14e-21, 125.95

ANOVA (p-value, h-statistics): 1.02e-32, 23.94

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.73e-07	nan	nan	nan
o&f	6.79e-01	7.42e-06	nan	nan
si	2.53e-06	6.79e-01	3.46e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.55e-21, 122.98

ANOVA (p-value, h-statistics): 1.48e-34, 27.03

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.84e-07	nan	nan	nan
o&f	8.03e-02	5.57e-04	nan	nan
si	7.95e-09	9.42e-01	3.32e-04	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

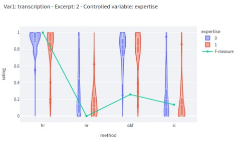
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *2*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.69e-01	7.57e-01	7.63e-01	7.85e-01	7.72e-01	7.78e-01
Mean	Pearsons	p-value	2.31e-01	2.43e-01	2.37e-01	2.15e-01	2.28e-01	2.22e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01

Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.43e-01	7.31e-01	7.37e-01	7.60e-01	7.47e-01	7.53e-01
Median	Pearsons	p-value	2.57e-01	2.69e-01	2.63e-01	2.40e-01	2.53e-01	2.47e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.81e-01	7.70e-01	7.75e-01	7.97e-01	7.84e-01	7.90e-01
Mean	Pearsons	p-value	2.19e-01	2.30e-01	2.25e-01	2.03e-01	2.16e-01	2.10e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.52e-01	7.39e-01	7.45e-01	7.67e-01	7.53e-01	7.60e-01
Median	Pearsons	p-value	2.48e-01	2.61e-01	2.55e-01	2.33e-01	2.47e-01	2.40e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	28	0.0408	0.0404
nr	24	0.1127	0.1035
o&f	26	0.0749	0.0727
si	27	0.0954	0.0897

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.53e-01	7.39e-01	7.46e-01	7.67e-01	7.52e-01	7.59e-01
Mean	Pearsons	p-value	2.47e-01	2.61e-01	2.54e-01	2.33e-01	2.48e-01	2.41e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.35e-01	7.22e-01	7.28e-01	7.52e-01	7.38e-01	7.44e-01
Median	Pearsons	p-value	2.65e-01	2.78e-01	2.72e-01	2.48e-01	2.62e-01	2.56e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.1142	0.1030
nr	17	0.0790	0.0735
o&f	19	0.1117	0.1079
si	20	0.0954	0.0913

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
    "hr, group 0" : "8.74e-04"
    "nr, group 0" : "7.87e-03"
    "o&f, group 0" : "7.87e-03"
    "si, group 0" : "6.30e-04"
    "hr, group 1" : "3.56e-04"
    "nr, group 1" : "7.87e-03"
    "o&f, group 1" : "7.87e-03"
    "si, group 1" : "2.81e-04"
  }
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 4.77e-01

p-values for var2_val **nr** and variable **expertise**: 9.79e-01

p-values for var2_val **o&f** and variable **expertise**: 7.27e-01

p-values for var2_val **si** and variable **expertise**: 4.23e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.15e-35, 190.43

ANOVA (p-value, h-statistics): 8.09e-65, 55.54

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.58e-06	nan	nan	nan
o&f	4.04e-02	1.20e-04	nan	nan
si	3.11e-05	3.38e-01	4.71e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.39e-24, 136.26

ANOVA (p-value, h-statistics): 4.33e-44, 38.53

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.83e-04	nan	nan	nan
o&f	6.64e-01	3.20e-04	nan	nan

si	1.83e-04	7.76e-01	2.14e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 2.95e-01

p-values for var2_val **nr** and variable **expertise**: 6.10e-01

p-values for var2_val **o&f** and variable **expertise**: 8.03e-01

p-values for var2_val **si** and variable **expertise**: 3.76e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.15e-35, 190.43

ANOVA (p-value, h-statistics): 8.09e-65, 55.54

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.57e-09	nan	nan	nan
o&f	2.49e-02	9.25e-08	nan	nan
si	2.78e-12	3.26e-01	1.46e-09	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.39e-24, 136.26

ANOVA (p-value, h-statistics): 4.33e-44, 38.53

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.30e-06	nan	nan	nan
o&f	1.00e+00	6.96e-06	nan	nan
si	1.59e-06	1.00e+00	5.73e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

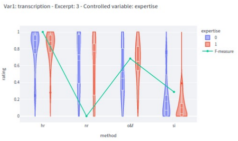
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *3*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.47e-01	4.52e-01	4.50e-01	4.84e-01	4.88e-01	4.86e-01
Mean	Pearsons	p-value	5.53e-01	5.48e-01	5.50e-01	5.16e-01	5.12e-01	5.14e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.32e-01	3.37e-01	3.34e-01	3.71e-01	3.75e-01	3.73e-01
Median	Pearsons	p-value	6.68e-01	6.63e-01	6.66e-01	6.29e-01	6.25e-01	6.27e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.74e-01	3.80e-01	3.77e-01	4.13e-01	4.18e-01	4.15e-01
Mean	Pearsons	p-value	6.26e-01	6.20e-01	6.23e-01	5.87e-01	5.82e-01	5.85e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.09e-01	3.16e-01	3.13e-01	3.48e-01	3.55e-01	3.52e-01
Median	Pearsons	p-value	6.91e-01	6.84e-01	6.87e-01	6.52e-01	6.45e-01	6.48e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap

hr	21	0.0992	0.0964
nr	23	0.1277	0.1243
o&f	25	0.1155	0.1100
si	23	0.0932	0.0931

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.13e-01	5.17e-01	5.15e-01	5.47e-01	5.50e-01	5.49e-01
Mean	Pearsons	p-value	4.87e-01	4.83e-01	4.85e-01	4.53e-01	4.50e-01	4.51e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	3.36e-01	3.41e-01	3.38e-01	3.74e-01	3.78e-01	3.76e-01
Median	Pearsons	p-value	6.64e-01	6.59e-01	6.62e-01	6.26e-01	6.22e-01	6.24e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.0740	0.0695
nr	18	0.1652	0.1589
o&f	21	0.0944	0.0948
si	18	0.0592	0.0592

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "1.40e-03"
   "nr, group 0" : "1.53e-02"
   "o&f, group 0" : "1.76e-01"
   "si, group 0" : "8.62e-04"
   "hr, group 1" : "4.75e-03"
   "nr, group 1" : "4.28e-02"
   "o&f, group 1" : "3.79e-01"
   "si, group 1" : "5.73e-03"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 6.68e-01

p-values for var2_val **nr** and variable **expertise**: 7.02e-01

p-values for var2_val **o&f** and variable **expertise**: 2.03e-01

p-values for var2_val **si** and variable **expertise**: 1.79e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.39e-19, 114.42

ANOVA (p-value, h-statistics): 5.44e-26, 17.79

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.99e-02	nan	nan	nan
o&f	2.41e-02	1.70e-01	nan	nan
si	5.72e-05	1.31e-04	5.44e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.33e-19, 113.13

ANOVA (p-value, h-statistics): 2.30e-33, 25.81

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.66e-02	nan	nan	nan
o&f	8.57e-03	7.95e-01	nan	nan
si	7.63e-05	2.12e-03	4.58e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 6.26e-01

p-values for var2_val **nr** and variable **expertise**: 7.12e-01

p-values for var2_val **o&f** and variable **expertise**: 2.13e-01

p-values for var2_val **si** and variable **expertise**: 1.63e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.39e-19, 114.42

ANOVA (p-value, h-statistics): 5.44e-26, 17.79

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.29e-02	nan	nan	nan
o&f	9.08e-03	1.22e-01	nan	nan
si	7.06e-07	2.48e-05	4.91e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.33e-19, 113.13

ANOVA (p-value, h-statistics): 2.30e-33, 25.81

using Bonferroni-Holm correction!

	hr	nr	o&f	si

hr	nan	nan	nan	nan
nr	9.01e-02	nan	nan	nan
o&f	1.15e-02	6.78e-01	nan	nan
si	3.83e-09	1.99e-05	1.15e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

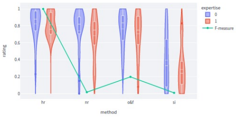
Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *4*

Controlled variable: *expertise*



Var1: transcription - Excerpt: 4 - Controlled variable: expertise

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.98e-01	6.02e-01	6.00e-01	5.95e-01	5.99e-01	5.97e-01
Mean	Pearsons	p-value	4.02e-01	3.98e-01	4.00e-01	4.05e-01	4.01e-01	4.03e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.04e-01	5.09e-01	5.06e-01	5.01e-01	5.05e-01	5.03e-01
Median	Pearsons	p-value	4.96e-01	4.91e-01	4.94e-01	4.99e-01	4.95e-01	4.97e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.75e-01	5.79e-01	5.77e-01	5.71e-01	5.76e-01	5.74e-01
Mean	Pearsons	p-value	4.25e-01	4.21e-01	4.23e-01	4.29e-01	4.24e-01	4.26e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.09e-01	5.13e-01	5.11e-01	5.05e-01	5.10e-01	5.07e-01
Median	Pearsons	p-value	4.91e-01	4.87e-01	4.89e-01	4.95e-01	4.90e-01	4.93e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.0768	0.0806
nr	25	0.1080	0.1036
o&f	26	0.0821	0.0818
si	26	0.1230	0.1198

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.31e-01	6.35e-01	6.33e-01	6.28e-01	6.32e-01	6.30e-01
Mean	Pearsons	p-value	3.69e-01	3.65e-01	3.67e-01	3.72e-01	3.68e-01	3.70e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	4.38e-01	4.42e-01	4.40e-01	4.34e-01	4.39e-01	4.37e-01
Median	Pearsons	p-value	5.62e-01	5.58e-01	5.60e-01	5.66e-01	5.61e-01	5.63e-01
Median	Spearman	Correlation	9.49e-01	9.49e-01	9.49e-01	9.49e-01	9.49e-01	9.49e-01
Median	Spearman	p-value	5.13e-02	5.13e-02	5.13e-02	5.13e-02	5.13e-02	5.13e-02
Median	Kendall	Correlation	9.13e-01	9.13e-01	9.13e-01	9.13e-01	9.13e-01	9.13e-01
Median	Kendall	p-value	7.10e-02	7.10e-02	7.10e-02	7.10e-02	7.10e-02	7.10e-02

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	19	0.0591	0.0532
nr	17	0.1202	0.1188
o&f	15	0.1351	0.1303
si	18	0.1206	0.1209

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "5.32e-03"
  "nr, group 0" : "1.92e-03"
  "o&f, group 0" : "4.86e-02"
  "si, group 0" : "1.93e-01"
  "hr, group 1" : "1.93e-01"
  "nr, group 1" : "1.93e-01"
  "o&f, group 1" : "1.93e-01"
  "si, group 1" : "1.92e-01"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 1.82e-01

p-values for var2_val **nr** and variable **expertise**: 2.07e-01

p-values for var2_val **o&f** and variable **expertise**: 6.39e-01

p-values for var2_val **si** and variable **expertise**: 7.37e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.03e-12, 80.81

ANOVA (p-value, h-statistics): 8.53e-20, 12.82

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	1.40e-03	1.97e-03	2.79e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.23e-10, 66.26

ANOVA (p-value, h-statistics): 6.93e-18, 12.86

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.94e-01	nan	nan	nan
o&f	9.77e-01	9.77e-01	nan	nan
si	3.20e-04	1.54e-02	3.05e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 3.22e-01

p-values for var2_val **nr** and variable **expertise**: 5.89e-01

p-values for var2_val **o&f** and variable **expertise**: 3.88e-01

p-values for var2_val **si** and variable **expertise**: 4.01e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.03e-12, 80.81

ANOVA (p-value, h-statistics): 8.53e-20, 12.82

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.44e-01	nan	nan	nan
o&f	8.06e-01	8.06e-01	nan	nan
si	5.03e-05	2.79e-04	8.97e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.23e-10, 66.26

ANOVA (p-value, h-statistics): 6.93e-18, 12.86

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.18e-01	nan	nan	nan
o&f	5.03e-01	8.86e-01	nan	nan
si	2.18e-05	7.21e-03	1.68e-03	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

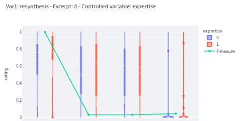
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

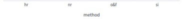
---

Var1: *resynthesis*

Excerpt: *0*

Controlled variable: *expertise*





Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.49e-01	5.47e-01	5.48e-01	5.92e-01	5.91e-01	5.91e-01
Mean	Pearsons	p-value	4.51e-01	4.53e-01	4.52e-01	4.08e-01	4.09e-01	4.09e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	5.46e-01	5.44e-01	5.45e-01	5.89e-01	5.88e-01	5.88e-01
Median	Pearsons	p-value	4.54e-01	4.56e-01	4.55e-01	4.11e-01	4.12e-01	4.12e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.11e-01	5.10e-01	5.11e-01	5.55e-01	5.54e-01	5.55e-01
Mean	Pearsons	p-value	4.89e-01	4.90e-01	4.89e-01	4.45e-01	4.46e-01	4.45e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	5.27e-01	5.26e-01	5.27e-01	5.70e-01	5.69e-01	5.70e-01
Median	Pearsons	p-value	4.73e-01	4.74e-01	4.73e-01	4.30e-01	4.31e-01	4.30e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.0969	0.0912
nr	22	0.1303	0.1289
o&f	21	0.1295	0.1245
si	21	0.0727	0.0576

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.85e-01	5.84e-01	5.85e-01	6.28e-01	6.27e-01	6.27e-01
Mean	Pearsons	p-value	4.15e-01	4.16e-01	4.15e-01	3.72e-01	3.73e-01	3.73e-01
Mean	Spearman	Correlation	2.00e-01	2.00e-01	2.00e-01	2.00e-01	3.16e-01	2.00e-01
Mean	Spearman	p-value	8.00e-01	8.00e-01	8.00e-01	8.00e-01	6.84e-01	8.00e-01
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	5.14e-01	5.13e-01	5.13e-01	5.59e-01	5.58e-01	5.59e-01
Median	Pearsons	p-value	4.86e-01	4.87e-01	4.87e-01	4.41e-01	4.42e-01	4.41e-01
Median	Spearman	Correlation	2.00e-01	2.00e-01	2.00e-01	2.00e-01	3.16e-01	2.00e-01
Median	Spearman	p-value	8.00e-01	8.00e-01	8.00e-01	8.00e-01	6.84e-01	8.00e-01
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.1084	0.1008
nr	18	0.1327	0.1325
o&f	18	0.1460	0.1440
si	19	0.0917	0.0829

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "4.32e-01"
  "nr, group 0" : "4.32e-01"
  "o&f, group 0" : "9.87e-02"
  "si, group 0" : "1.47e-08"
  "hr, group 1" : "1.40e-02"
  "nr, group 1" : "4.07e-01"
  "o&f, group 1" : "4.32e-01"
  "si, group 1" : "3.79e-07"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 6.58e-01

p-values for var2_val **nr** and variable **expertise**: 4.95e-01

p-values for var2_val **o&f** and variable **expertise**: 9.66e-01

p-values for var2_val **si** and variable **expertise**: 3.45e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.95e-23, 132.30

ANOVA (p-value, h-statistics): 3.21e-33, 24.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan

nr	4.96e-03	nan	nan	nan
o&f	8.42e-02	7.59e-01	nan	nan
si	5.72e-06	2.49e-03	2.05e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.69e-19, 115.17

ANOVA (p-value, h-statistics): 1.02e-29, 22.42

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.79e-02	nan	nan	nan
o&f	1.42e-02	6.09e-01	nan	nan
si	2.29e-05	2.09e-03	2.09e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 6.81e-01

p-values for var2_val **nr** and variable **expertise**: 4.31e-01

p-values for var2_val **o&f** and variable **expertise**: 7.53e-01

p-values for var2_val **si** and variable **expertise**: 7.12e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.95e-23, 132.30

ANOVA (p-value, h-statistics): 3.21e-33, 24.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.86e-03	nan	nan	nan
o&f	4.65e-02	5.73e-01	nan	nan
si	1.14e-11	9.93e-05	2.62e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.69e-19, 115.17

ANOVA (p-value, h-statistics): 1.02e-29, 22.42

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.21e-02	nan	nan	nan
o&f	1.21e-02	6.12e-01	nan	nan
si	1.34e-09	5.92e-05	5.92e-05	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

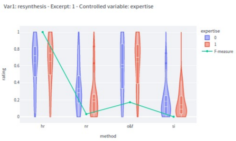
Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *1*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.54e-01	7.46e-01	7.50e-01	7.32e-01	7.25e-01	7.29e-01
Mean	Pearsons	p-value	2.46e-01	2.54e-01	2.50e-01	2.68e-01	2.75e-01	2.71e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	7.67e-01	7.59e-01	7.63e-01	7.45e-01	7.38e-01	7.42e-01
Median	Pearsons	p-value	2.33e-01	2.41e-01	2.37e-01	2.55e-01	2.62e-01	2.58e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.74e-01	7.66e-01	7.70e-01	7.54e-01	7.47e-01	7.51e-01

Mean	Pearsons	p-value	2.26e-01	2.34e-01	2.30e-01	2.46e-01	2.53e-01	2.49e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	8.08e-01	8.01e-01	8.04e-01	7.89e-01	7.82e-01	7.85e-01
Median	Pearsons	p-value	1.92e-01	1.99e-01	1.96e-01	2.11e-01	2.18e-01	2.15e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	23	0.1134	0.1061
nr	19	0.1147	0.1082
o&f	22	0.1346	0.1268
si	26	0.0773	0.0731

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.29e-01	7.20e-01	7.25e-01	7.06e-01	6.98e-01	7.02e-01
Mean	Pearsons	p-value	2.71e-01	2.80e-01	2.75e-01	2.94e-01	3.02e-01	2.98e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	7.64e-01	7.55e-01	7.59e-01	7.41e-01	7.34e-01	7.38e-01
Median	Pearsons	p-value	2.36e-01	2.45e-01	2.41e-01	2.59e-01	2.66e-01	2.62e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	17	0.1331	0.1297
nr	17	0.1137	0.1024
o&f	19	0.1248	0.1205
si	16	0.0683	0.0656

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "3.72e-01"
  "nr, group 0" : "4.44e-01"
  "o&f, group 0" : "4.44e-01"
  "si, group 0" : "3.55e-03"
  "hr, group 1" : "4.44e-01"
  "nr, group 1" : "5.11e-02"
  "o&f, group 1" : "4.21e-01"
  "si, group 1" : "1.57e-01"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 9.63e-01

p-values for var2_val **nr** and variable **expertise**: 2.25e-01

p-values for var2_val **o&f** and variable **expertise**: 4.18e-01

p-values for var2_val **si** and variable **expertise**: 3.75e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.78e-12, 79.58

ANOVA (p-value, h-statistics): 2.44e-15, 10.30

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.13e-02	nan	nan	nan
o&f	2.87e-01	2.87e-01	nan	nan
si	1.57e-04	2.87e-01	1.28e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.54e-15, 92.88

ANOVA (p-value, h-statistics): 2.06e-21, 15.66

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.52e-03	nan	nan	nan
o&f	9.90e-01	6.27e-03	nan	nan
si	2.62e-03	9.90e-01	1.83e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 8.65e-01

p-values for var2_val **nr** and variable **expertise**: 1.47e-01

p-values for var2_val **o&f** and variable **expertise**: 3.39e-01

p-values for var2_val **si** and variable **expertise**: 2.00e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.78e-12, 79.58

ANOVA (p-value, h-statistics): 2.44e-15, 10.30

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.26e-02	nan	nan	nan
o&f	2.84e-01	1.39e-01	nan	nan
si	1.42e-05	2.69e-01	6.38e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.54e-15, 92.88

ANOVA (p-value, h-statistics): 2.06e-21, 15.66

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.63e-04	nan	nan	nan
o&f	8.65e-01	2.62e-03	nan	nan
si	6.23e-05	7.56e-01	7.09e-05	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

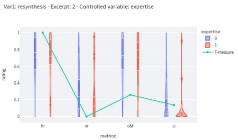
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *2*

Controlled variable: *expertise*



Var1: resynthesis - Excerpt: 2 - Controlled variable: expertise

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.75e-01	6.64e-01	6.69e-01	6.96e-01	6.83e-01	6.90e-01
Mean	Pearsons	p-value	3.25e-01	3.36e-01	3.31e-01	3.04e-01	3.17e-01	3.10e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.08e-01	6.96e-01	7.02e-01	7.27e-01	7.14e-01	7.20e-01
Median	Pearsons	p-value	2.92e-01	3.04e-01	2.98e-01	2.73e-01	2.86e-01	2.80e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.62e-01	6.52e-01	6.57e-01	6.84e-01	6.72e-01	6.78e-01
Mean	Pearsons	p-value	3.38e-01	3.48e-01	3.43e-01	3.16e-01	3.28e-01	3.22e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.86e-01	6.76e-01	6.80e-01	7.08e-01	6.96e-01	7.01e-01
Median	Pearsons	p-value	3.14e-01	3.24e-01	3.20e-01	2.92e-01	3.04e-01	2.99e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.1115	0.1070
nr	21	0.1043	0.1000
o&f	24	0.1044	0.0983
si	25	0.0574	0.0570

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.90e-01	6.79e-01	6.84e-01	7.10e-01	6.97e-01	7.04e-01
Mean	Pearsons	p-value	3.10e-01	3.21e-01	3.16e-01	2.90e-01	3.03e-01	2.96e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01

Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.00e-01	6.88e-01	6.94e-01	7.19e-01	7.05e-01	7.11e-01
Median	Pearsons	p-value	3.00e-01	3.12e-01	3.06e-01	2.81e-01	2.95e-01	2.89e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	19	0.1204	0.1132
nr	16	0.1475	0.1426
o&f	21	0.1128	0.1060
si	20	0.0951	0.0898

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "1.93e-02"
   "nr, group 0" : "2.90e-02"
   "o&f, group 0" : "4.73e-02"
   "si, group 0" : "5.11e-04"
   "hr, group 1" : "2.90e-02"
   "nr, group 1" : "2.37e-03"
   "o&f, group 1" : "4.73e-02"
   "si, group 1" : "1.36e-06"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 2.75e-01

p-values for var2_val **nr** and variable **expertise**: 4.64e-01

p-values for var2_val **o&f** and variable **expertise**: 7.94e-01

p-values for var2_val **si** and variable **expertise**: 4.26e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.38e-26, 146.60

ANOVA (p-value, h-statistics): 1.57e-39, 29.27

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.04e-03	nan	nan	nan
o&f	8.96e-01	2.04e-03	nan	nan
si	9.03e-05	1.21e-02	3.58e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.06e-19, 114.75

ANOVA (p-value, h-statistics): 3.72e-29, 22.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.06e-03	nan	nan	nan
o&f	5.86e-01	1.71e-03	nan	nan
si	4.58e-05	1.99e-01	1.81e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 4.23e-01

p-values for var2_val **nr** and variable **expertise**: 7.94e-01

p-values for var2_val **o&f** and variable **expertise**: 8.67e-01

p-values for var2_val **si** and variable **expertise**: 8.95e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.38e-26, 146.60

ANOVA (p-value, h-statistics): 1.57e-39, 29.27

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.55e-04	nan	nan	nan
o&f	8.77e-01	5.52e-04	nan	nan
si	3.63e-09	1.01e-02	2.59e-08	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.06e-19, 114.75

ANOVA (p-value, h-statistics): 3.72e-29, 22.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.19e-03	nan	nan	nan
o&f	7.17e-01	2.43e-04	nan	nan
si	1.01e-06	5.80e-01	1.10e-05	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

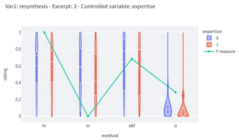
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *3*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.77e-01	3.78e-01	3.78e-01	4.10e-01	4.11e-01	4.11e-01
Mean	Pearsons	p-value	6.23e-01	6.22e-01	6.22e-01	5.90e-01	5.89e-01	5.89e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.91e-01	5.91e-01	5.91e-01	6.19e-01	6.19e-01	6.19e-01
Median	Pearsons	p-value	4.09e-01	4.09e-01	4.09e-01	3.81e-01	3.81e-01	3.81e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.19e-01	3.20e-01	3.20e-01	3.53e-01	3.53e-01	3.53e-01
Mean	Pearsons	p-value	6.81e-01	6.80e-01	6.80e-01	6.47e-01	6.47e-01	6.47e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.67e-01	4.68e-01	4.68e-01	4.98e-01	4.98e-01	4.98e-01
Median	Pearsons	p-value	5.33e-01	5.32e-01	5.32e-01	5.02e-01	5.02e-01	5.02e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.1270	0.1218
nr	22	0.1226	0.1212
o&f	24	0.1274	0.1194
si	20	0.0397	0.0380

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.48e-01	4.49e-01	4.48e-01	4.80e-01	4.80e-01	4.80e-01
Mean	Pearsons	p-value	5.52e-01	5.51e-01	5.52e-01	5.20e-01	5.20e-01	5.20e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.80e-01	5.82e-01	5.81e-01	6.10e-01	6.11e-01	6.10e-01
Median	Pearsons	p-value	4.20e-01	4.18e-01	4.19e-01	3.90e-01	3.89e-01	3.90e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	18	0.1385	0.1306
nr	19	0.1273	0.1224
o&f	19	0.1361	0.1324
si	19	0.0354	0.0334

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "3.00e-01"
  "nr, group 0" : "3.31e-01"
  "o&f, group 0" : "6.34e-02"
  "si, group 0" : "9.34e-02"
  "hr, group 1" : "3.31e-01"
  "nr, group 1" : "3.31e-01"
  "o&f, group 1" : "3.31e-01"
  "si, group 1" : "1.07e-03"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 8.99e-01

p-values for var2_val **nr** and variable **expertise**: 5.81e-02

p-values for var2_val **o&f** and variable **expertise**: 5.95e-01

p-values for var2_val **si** and variable **expertise**: 1.24e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.14e-17, 106.02

ANOVA (p-value, h-statistics): 5.40e-22, 15.10

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	6.58e-04	1.14e-04	6.58e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.54e-17, 102.57

ANOVA (p-value, h-statistics): 4.20e-19, 13.29

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.36e-01	nan	nan	nan
o&f	6.53e-01	6.36e-01	nan	nan
si	9.16e-05	5.72e-05	2.29e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 6.56e-01

p-values for var2_val **nr** and variable **expertise**: 7.04e-02

p-values for var2_val **o&f** and variable **expertise**: 6.44e-01

p-values for var2_val **si** and variable **expertise**: 2.66e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.14e-17, 106.02

ANOVA (p-value, h-statistics): 5.40e-22, 15.10

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	3.90e-07	1.75e-05	1.99e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.54e-17, 102.57

ANOVA (p-value, h-statistics): 4.20e-19, 13.29

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.70e-01	nan	nan	nan
o&f	8.83e-01	8.70e-01	nan	nan
si	3.18e-05	3.18e-05	3.93e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

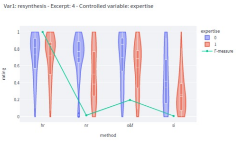
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *4*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.70e-01	6.73e-01	6.71e-01	6.66e-01	6.70e-01	6.68e-01
Mean	Pearsons	p-value	3.30e-01	3.27e-01	3.29e-01	3.34e-01	3.30e-01	3.32e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00

Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.81e-01	5.85e-01	5.83e-01	5.79e-01	5.82e-01	5.80e-01
Median	Pearsons	p-value	4.19e-01	4.15e-01	4.17e-01	4.21e-01	4.18e-01	4.20e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.11e-01	5.15e-01	5.13e-01	5.08e-01	5.12e-01	5.10e-01
Mean	Pearsons	p-value	4.89e-01	4.85e-01	4.87e-01	4.92e-01	4.88e-01	4.90e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	4.54e-01	4.59e-01	4.57e-01	4.50e-01	4.55e-01	4.52e-01
Median	Pearsons	p-value	5.46e-01	5.41e-01	5.43e-01	5.50e-01	5.45e-01	5.48e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.1077	0.1048
nr	23	0.1091	0.1079
o&f	22	0.1205	0.1150
si	21	0.1373	0.1298

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.83e-01	7.87e-01	7.85e-01	7.80e-01	7.84e-01	7.82e-01
Mean	Pearsons	p-value	2.17e-01	2.13e-01	2.15e-01	2.20e-01	2.16e-01	2.18e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	8.46e-01	8.50e-01	8.48e-01	8.41e-01	8.46e-01	8.44e-01
Median	Pearsons	p-value	1.54e-01	1.50e-01	1.52e-01	1.59e-01	1.54e-01	1.56e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	22	0.1028	0.0989
nr	20	0.1418	0.1443
o&f	22	0.1170	0.1123
si	20	0.0977	0.0963

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "6.80e-02"
   "nr, group 0" : "1.47e-02"
   "o&f, group 0" : "1.76e-02"
   "si, group 0" : "1.56e-01"
   "hr, group 1" : "8.98e-03"
   "nr, group 1" : "1.36e-01"
   "o&f, group 1" : "1.56e-01"
   "si, group 1" : "1.56e-01"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 8.81e-01

p-values for var2_val **nr** and variable **expertise**: 6.37e-02

p-values for var2_val **o&f** and variable **expertise**: 1.76e-01

p-values for var2_val **si** and variable **expertise**: 2.78e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.16e-04, 36.98

ANOVA (p-value, h-statistics): 3.30e-06, 4.51

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	2.85e-02	1.41e-02	2.85e-02	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.36e-10, 68.49

ANOVA (p-value, h-statistics): 8.14e-12, 8.02

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.63e-02	nan	nan	nan

o&f	3.12e-01	3.12e-01	nan	nan
si	2.05e-03	6.63e-02	4.25e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 8.00e-01

p-values for var2_val **nr** and variable **expertise**: 6.41e-02

p-values for var2_val **o&f** and variable **expertise**: 1.64e-01

p-values for var2_val **si** and variable **expertise**: 3.08e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.16e-04, 36.98

ANOVA (p-value, h-statistics): 3.30e-06, 4.51

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	2.11e-02	2.97e-03	3.85e-02	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.36e-10, 68.49

ANOVA (p-value, h-statistics): 8.14e-12, 8.02

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.45e-02	nan	nan	nan
o&f	3.04e-01	3.97e-01	nan	nan
si	1.06e-04	5.00e-02	2.12e-03	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

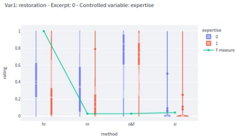
Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *0*

Controlled variable: *expertise*



Var1: restoration - Excerpt: 0 - Controlled variable: expertise

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	-7.12e-02	-7.37e-02	-7.25e-02	-3.55e-02	-3.72e-02	-3.64e-02
Mean	Pearsons	p-value	9.29e-01	9.26e-01	9.27e-01	9.64e-01	9.63e-01	9.64e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-1.30e-01	-1.33e-01	-1.32e-01	-9.90e-02	-1.01e-01	-9.99e-02
Median	Pearsons	p-value	8.70e-01	8.67e-01	8.68e-01	9.01e-01	8.99e-01	9.00e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.17e-03	-2.86e-04	9.03e-04	4.18e-02	4.02e-02	4.09e-02
Mean	Pearsons	p-value	9.98e-01	1.00e+00	9.99e-01	9.58e-01	9.60e-01	9.59e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-7.15e-02	-7.40e-02	-7.28e-02	-3.32e-02	-3.49e-02	-3.41e-02

Median	Pearsons	p-value	9.29e-01	9.26e-01	9.27e-01	9.67e-01	9.65e-01	9.66e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	26	0.1149	0.1162
nr	23	0.1243	0.1207
o&f	25	0.0966	0.0938
si	20	0.0490	0.0435

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	-1.61e-01	-1.63e-01	-1.62e-01	-1.32e-01	-1.33e-01	-1.32e-01
Mean	Pearsons	p-value	8.39e-01	8.37e-01	8.38e-01	8.68e-01	8.67e-01	8.68e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-1.34e-01	-1.36e-01	-1.35e-01	-1.07e-01	-1.09e-01	-1.08e-01
Median	Pearsons	p-value	8.66e-01	8.64e-01	8.65e-01	8.93e-01	8.91e-01	8.92e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.0966	0.0933
nr	16	0.1015	0.0935
o&f	20	0.0993	0.0950
si	14	0.0375	0.0364

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "2.03e-01"
  "nr, group 0" : "1.26e-01"
  "o&f, group 0" : "2.16e-02"
  "si, group 0" : "2.52e-07"
  "hr, group 1" : "4.56e-02"
  "nr, group 1" : "8.45e-03"
  "o&f, group 1" : "1.10e-01"
  "si, group 1" : "8.26e-05"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 1.22e-01

p-values for var2_val **nr** and variable **expertise**: 1.77e-01

p-values for var2_val **o&f** and variable **expertise**: 2.16e-01

p-values for var2_val **si** and variable **expertise**: 9.44e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.24e-24, 138.53

ANOVA (p-value, h-statistics): 2.08e-35, 25.84

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.64e-01	nan	nan	nan
o&f	1.67e-03	3.66e-04	nan	nan
si	1.67e-03	7.54e-03	1.14e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.94e-19, 112.11

ANOVA (p-value, h-statistics): 3.80e-32, 26.81

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.56e-01	nan	nan	nan
o&f	2.29e-05	1.71e-03	nan	nan
si	2.14e-02	4.15e-02	6.10e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 1.41e-01

p-values for var2_val **nr** and variable **expertise**: 1.68e-01

p-values for var2_val **o&f** and variable **expertise**: 2.51e-01

p-values for var2_val **si** and variable **expertise**: 6.91e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.24e-24, 138.53

ANOVA (p-value, h-statistics): 2.08e-35, 25.84

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.56e-01	nan	nan	nan
o&f	3.01e-04	1.53e-04	nan	nan
si	3.01e-04	4.06e-03	3.19e-10	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.94e-19, 112.11

ANOVA (p-value, h-statistics): 3.80e-32, 26.81

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.05e-01	nan	nan	nan
o&f	1.92e-06	2.06e-04	nan	nan
si	1.66e-02	3.75e-02	1.92e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

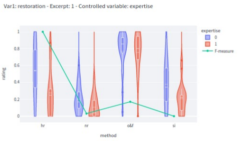
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *1*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.23e-01	2.11e-01	2.17e-01	1.91e-01	1.81e-01	1.86e-01
Mean	Pearsons	p-value	7.77e-01	7.89e-01	7.83e-01	8.09e-01	8.19e-01	8.14e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	9.25e-02	8.01e-02	8.61e-02	5.92e-02	4.90e-02	5.39e-02
Median	Pearsons	p-value	9.08e-01	9.20e-01	9.14e-01	9.41e-01	9.51e-01	9.46e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.62e-01	3.51e-01	3.56e-01	3.32e-01	3.23e-01	3.27e-01
Mean	Pearsons	p-value	6.38e-01	6.49e-01	6.44e-01	6.68e-01	6.77e-01	6.73e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.14e-01	3.03e-01	3.08e-01	2.83e-01	2.74e-01	2.78e-01
Median	Pearsons	p-value	6.86e-01	6.97e-01	6.92e-01	7.17e-01	7.26e-01	7.22e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	24	0.1288	0.1259
nr	21	0.0711	0.0686
o&f	20	0.1090	0.1155
si	23	0.1122	0.1137

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.20e-02	2.95e-02	3.55e-02	8.50e-03	-1.76e-03	3.20e-03
Mean	Pearsons	p-value	9.58e-01	9.70e-01	9.64e-01	9.91e-01	9.98e-01	9.97e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	2.36e-02	1.15e-02	1.74e-02	-9.29e-03	-1.93e-02	-1.44e-02
Median	Pearsons	p-value	9.76e-01	9.88e-01	9.83e-01	9.91e-01	9.81e-01	9.86e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	17	0.1308	0.1238
nr	15	0.0664	0.0614
o&f	20	0.1099	0.1003
si	18	0.0838	0.0789

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "4.02e-01"
   "nr, group 0" : "3.45e-01"
   "o&f, group 0" : "7.93e-03"
   "si, group 0" : "4.02e-01"
   "hr, group 1" : "4.40e-02"
   "nr, group 1" : "3.41e-02"
   "o&f, group 1" : "3.41e-02"
   "si, group 1" : "7.89e-02"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 1.71e-02

p-values for var2_val **nr** and variable **expertise**: 4.99e-02

p-values for var2_val **o&f** and variable **expertise**: 4.09e-01

p-values for var2_val **si** and variable **expertise**: 4.83e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.45e-15, 95.40

ANOVA (p-value, h-statistics): 4.05e-21, 14.34

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.65e-03	nan	nan	nan
o&f	4.59e-02	2.86e-04	nan	nan
si	1.15e-01	4.59e-02	3.36e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.82e-15, 93.93

ANOVA (p-value, h-statistics): 1.36e-30, 24.63

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.75e-01	nan	nan	nan
o&f	8.36e-03	3.20e-04	nan	nan
si	5.54e-01	5.54e-01	3.20e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 1.49e-02

p-values for var2_val **nr** and variable **expertise**: 8.44e-02

p-values for var2_val **o&f** and variable **expertise**: 8.39e-01

p-values for var2_val **si** and variable **expertise**: 4.22e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.45e-15, 95.40

ANOVA (p-value, h-statistics): 4.05e-21, 14.34

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.76e-03	nan	nan	nan
o&f	2.86e-02	1.82e-05	nan	nan
si	1.09e-01	3.64e-02	7.30e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.82e-15, 93.93

ANOVA (p-value, h-statistics): 1.36e-30, 24.63

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.21e-01	nan	nan	nan
o&f	2.79e-03	6.65e-07	nan	nan
si	3.80e-01	3.34e-01	4.06e-06	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

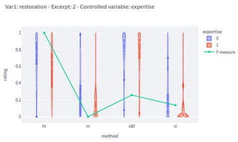
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: 2

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.63e-01	5.46e-01	5.54e-01	5.81e-01	5.63e-01	5.72e-01
Mean	Pearsons	p-value	4.37e-01	4.54e-01	4.46e-01	4.19e-01	4.37e-01	4.28e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.16e-01	6.01e-01	6.08e-01	6.34e-01	6.17e-01	6.25e-01
Median	Pearsons	p-value	3.84e-01	3.99e-01	3.92e-01	3.66e-01	3.83e-01	3.75e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.06e-01	5.90e-01	5.98e-01	6.24e-01	6.08e-01	6.16e-01
Mean	Pearsons	p-value	3.94e-01	4.10e-01	4.02e-01	3.76e-01	3.92e-01	3.84e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.24e-01	6.09e-01	6.16e-01	6.42e-01	6.26e-01	6.34e-01
Median	Pearsons	p-value	3.76e-01	3.91e-01	3.84e-01	3.58e-01	3.74e-01	3.66e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	18	0.1234	0.1203
nr	20	0.1305	0.1235
o&f	21	0.0947	0.0936
si	18	0.1008	0.0961

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.36e-01	5.19e-01	5.27e-01	5.54e-01	5.35e-01	5.44e-01
Mean	Pearsons	p-value	4.64e-01	4.81e-01	4.73e-01	4.46e-01	4.65e-01	4.56e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.71e-01	5.54e-01	5.62e-01	5.88e-01	5.70e-01	5.78e-01
Median	Pearsons	p-value	4.29e-01	4.46e-01	4.38e-01	4.12e-01	4.30e-01	4.22e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	19	0.1327	0.1295
nr	15	0.0538	0.0523
o&f	18	0.1157	0.1086
si	15	0.0508	0.0503

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "5.19e-02"
  "nr, group 0" : "9.12e-03"
  "o&f, group 0" : "2.60e-03"
  "si, group 0" : "1.02e-02"
  "hr, group 1" : "2.10e-01"
  "nr, group 1" : "1.91e-02"
  "o&f, group 1" : "8.92e-03"
  "si, group 1" : "8.83e-05"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 1.96e-01

p-values for var2_val **nr** and variable **expertise**: 3.45e-01

p-values for var2_val **o&f** and variable **expertise**: 7.23e-01

p-values for var2_val **si** and variable **expertise**: 5.97e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.75e-20, 116.60

ANOVA (p-value, h-statistics): 1.70e-32, 25.04

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.80e-04	nan	nan	nan
o&f	5.29e-01	2.86e-04	nan	nan
si	2.86e-04	7.33e-01	1.05e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.42e-21, 125.49

ANOVA (p-value, h-statistics): 2.03e-39, 36.32

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.93e-03	nan	nan	nan
o&f	5.37e-02	7.32e-04	nan	nan
si	3.93e-03	1.82e-01	7.32e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 1.62e-01

p-values for var2_val **nr** and variable **expertise**: 2.97e-01

p-values for var2_val **o&f** and variable **expertise**: 7.93e-01

p-values for var2_val **si** and variable **expertise**: 6.50e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.75e-20, 116.60

ANOVA (p-value, h-statistics): 1.70e-32, 25.04

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.20e-04	nan	nan	nan
o&f	5.68e-01	2.48e-05	nan	nan
si	1.04e-05	6.77e-01	1.38e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.42e-21, 125.49

ANOVA (p-value, h-statistics): 2.03e-39, 36.32

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.48e-05	nan	nan	nan
o&f	4.84e-02	7.80e-07	nan	nan
si	4.32e-05	1.96e-01	7.80e-07	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

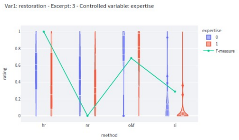
Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *3*

Controlled variable: *expertise*



Var1: restoration - Excerpt: 3 - Controlled variable: expertise

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.40e-01	4.36e-01	4.38e-01	4.58e-01	4.54e-01	4.56e-01
Mean	Pearsons	p-value	5.60e-01	5.64e-01	5.62e-01	5.42e-01	5.46e-01	5.44e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01

Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.22e-01	4.18e-01	4.20e-01	4.41e-01	4.37e-01	4.39e-01
Median	Pearsons	p-value	5.78e-01	5.82e-01	5.80e-01	5.59e-01	5.63e-01	5.61e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Corrclations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.82e-01	4.80e-01	4.81e-01	5.05e-01	5.02e-01	5.04e-01
Mean	Pearsons	p-value	5.18e-01	5.20e-01	5.19e-01	4.95e-01	4.98e-01	4.96e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.55e-01	5.53e-01	5.54e-01	5.77e-01	5.74e-01	5.76e-01
Median	Pearsons	p-value	4.45e-01	4.47e-01	4.46e-01	4.23e-01	4.26e-01	4.24e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.1147	0.1142
nr	26	0.1168	0.1156
o&f	24	0.1209	0.1179
si	26	0.0790	0.0739

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.87e-01	3.82e-01	3.85e-01	4.00e-01	3.95e-01	3.97e-01
Mean	Pearsons	p-value	6.13e-01	6.18e-01	6.15e-01	6.00e-01	6.05e-01	6.03e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.36e-01	3.30e-01	3.33e-01	3.44e-01	3.38e-01	3.41e-01
Median	Pearsons	p-value	6.64e-01	6.70e-01	6.67e-01	6.56e-01	6.62e-01	6.59e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	18	0.1533	0.1511
nr	17	0.1198	0.1156
o&f	18	0.0917	0.0928
si	16	0.0509	0.0485

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "5.22e-01"
   "nr, group 0" : "5.22e-01"
   "o&f, group 0" : "2.09e-03"
   "si, group 0" : "1.32e-05"
   "hr, group 1" : "1.17e-01"
   "nr, group 1" : "5.22e-01"
   "o&f, group 1" : "2.31e-01"
   "si, group 1" : "7.80e-05"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 1.70e-01

p-values for var2_val **nr** and variable **expertise**: 8.75e-01

p-values for var2_val **o&f** and variable **expertise**: 5.51e-01

p-values for var2_val **si** and variable **expertise**: 1.17e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.87e-18, 109.95

ANOVA (p-value, h-statistics): 2.33e-24, 16.03

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e-01	nan	nan	nan
o&f	1.78e-02	9.51e-03	nan	nan
si	5.20e-04	1.53e-03	3.57e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.88e-19, 112.87

ANOVA (p-value, h-statistics): 1.60e-28, 22.13

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan

nr	7.47e-01	nan	nan	nan
o&f	1.16e-03	1.16e-03	nan	nan
si	3.74e-03	7.63e-04	1.83e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 1.50e-01

p-values for var2_val **nr** and variable **expertise**: 9.44e-01

p-values for var2_val **o&f** and variable **expertise**: 3.93e-01

p-values for var2_val **si** and variable **expertise**: 1.38e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.87e-18, 109.95

ANOVA (p-value, h-statistics): 2.33e-24, 16.03

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.44e-01	nan	nan	nan
o&f	4.25e-02	8.43e-03	nan	nan
si	1.46e-05	3.66e-04	5.25e-07	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.88e-19, 112.87

ANOVA (p-value, h-statistics): 1.60e-28, 22.13

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.97e-01	nan	nan	nan
o&f	4.06e-04	2.68e-04	nan	nan
si	2.97e-03	3.36e-04	1.12e-09	nan

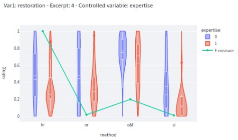
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

Var1: *restoration*

Excerpt: *4*

Controlled variable: *expertise*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.91e-02	6.81e-02	6.36e-02	5.12e-02	5.99e-02	5.55e-02
Mean	Pearsons	p-value	9.41e-01	9.32e-01	9.36e-01	9.49e-01	9.40e-01	9.45e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.45e-03	5.77e-03	1.08e-03	1.18e-02	-2.90e-03	7.40e-03
Median	Pearsons	p-value	9.97e-01	9.94e-01	9.99e-01	9.88e-01	9.97e-01	9.93e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.37e-02	4.27e-02	3.81e-02	2.56e-02	3.43e-02	2.99e-02
Mean	Pearsons	p-value	9.66e-01	9.57e-01	9.62e-01	9.74e-01	9.66e-01	9.70e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	5.79e-02	6.68e-02	6.23e-02	5.01e-02	5.86e-02	5.43e-02
Median	Pearsons	p-value	9.42e-01	9.33e-01	9.38e-01	9.50e-01	9.41e-01	9.46e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	23	0.1226	0.1161
nr	26	0.1407	0.1339
o&f	24	0.0678	0.0638
si	25	0.1199	0.1171

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	1.17e-01	1.26e-01	1.22e-01	1.10e-01	1.18e-01	1.14e-01
Mean	Pearsons	p-value	8.83e-01	8.74e-01	8.78e-01	8.90e-01	8.82e-01	8.86e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	-4.10e-02	-3.19e-02	-3.65e-02	-4.91e-02	-4.03e-02	-4.48e-02
Median	Pearsons	p-value	9.59e-01	9.68e-01	9.64e-01	9.51e-01	9.60e-01	9.55e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.1079	0.0988
nr	20	0.1030	0.0958
o&f	19	0.1146	0.1132
si	18	0.0721	0.0667

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
  "hr, group 0" : "4.81e-01"
  "nr, group 0" : "7.51e-02"
  "o&f, group 0" : "4.41e-01"
  "si, group 0" : "7.87e-02"
  "hr, group 1" : "2.37e-02"
  "nr, group 1" : "4.41e-01"
  "o&f, group 1" : "4.41e-01"
  "si, group 1" : "4.80e-03"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **expertise**: 1.36e-01

p-values for var2_val **nr** and variable **expertise**: 5.96e-01

p-values for var2_val **o&f** and variable **expertise**: 1.23e-01

p-values for var2_val **si** and variable **expertise**: 6.48e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.00e-10, 66.35

ANOVA (p-value, h-statistics): 2.30e-12, 8.18

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.43e-01	nan	nan	nan
o&f	7.78e-03	6.19e-03	nan	nan
si	7.49e-02	2.09e-01	2.41e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.07e-15, 91.61

ANOVA (p-value, h-statistics): 4.57e-17, 11.75

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.01e-01	nan	nan	nan
o&f	2.47e-02	2.02e-02	nan	nan
si	3.40e-02	3.40e-02	9.16e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **expertise**: 2.02e-01

p-values for var2_val **nr** and variable **expertise**: 4.86e-01

p-values for var2_val **o&f** and variable **expertise**: 8.80e-02

p-values for var2_val **si** and variable **expertise**: 2.54e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.00e-10, 66.35

ANOVA (p-value, h-statistics): 2.30e-12, 8.18

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.35e-01	nan	nan	nan
o&f	1.98e-03	2.47e-03	nan	nan
si	2.48e-01	2.48e-01	4.16e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.07e-15, 91.61

ANOVA (p-value, h-statistics): 4.57e-17, 11.75

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.95e-01	nan	nan	nan
o&f	1.94e-02	9.31e-03	nan	nan
si	3.83e-02	3.83e-02	3.54e-06	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

A Perceptual Measure for Evaluating the Resynthesis of Automatic Music Transcriptions

Federico Simonetta, Federico Avanzini, Stavros Ntalampiras

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Chose control group:

habits_classical ▾

Chose measure to compare:

mir_eval ▾

☑ Use average of all the excerpts

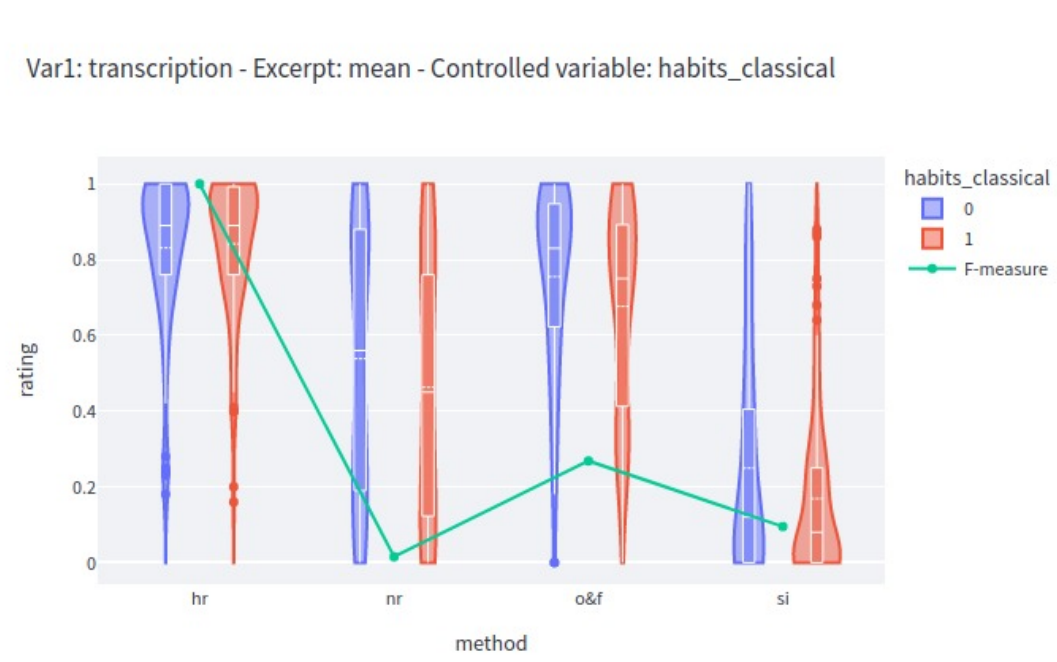
Chose the variable that is iterated first (external loop) and next (inner loop):

● 1. task, 2. method
○ 1. method, 2. task

Var1: *transcription*

Excerpt: *mean*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.39e-01	7.38e-01	7.39e-01	7.51e-01	7.49e-01	7.50e-01
Mean	Pearsons	p-value	2.61e-01	2.62e-01	2.61e-01	2.49e-01	2.51e-01	2.50e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.96e-01	6.94e-01	6.95e-01	7.08e-01	7.06e-01	7.07e-01
Median	Pearsons	p-value	3.04e-01	3.06e-01	3.05e-01	2.92e-01	2.94e-01	2.93e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.93e-01	6.91e-01	6.92e-01	7.05e-01	7.03e-01	7.04e-01
Mean	Pearsons	p-value	3.07e-01	3.09e-01	3.08e-01	2.95e-01	2.97e-01	2.96e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.34e-01	6.32e-01	6.33e-01	6.47e-01	6.45e-01	6.46e-01
Median	Pearsons	p-value	3.66e-01	3.68e-01	3.67e-01	3.53e-01	3.55e-01	3.54e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	98	0.0397	0.0381
nr	90	0.0723	0.0721
o&f	99	0.0461	0.0455
si	97	0.0586	0.0598

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.69e-01	7.68e-01	7.68e-01	7.80e-01	7.78e-01	7.79e-01
Mean	Pearsons	p-value	2.31e-01	2.32e-01	2.32e-01	2.20e-01	2.22e-01	2.21e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.30e-01	7.28e-01	7.29e-01	7.41e-01	7.38e-01	7.39e-01
Median	Pearsons	p-value	2.70e-01	2.72e-01	2.71e-01	2.59e-01	2.62e-01	2.61e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	121	0.0316	0.0312
nr	115	0.0641	0.0647
o&f	121	0.0482	0.0483
si	113	0.0406	0.0414

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
  "hr, group 0" : "8.11e-10"
  "nr, group 0" : "2.22e-06"
  "o&f, group 0" : "1.77e-07"
  "si, group 0" : "4.85e-09"
  "hr, group 1" : "7.39e-10"
  "nr, group 1" : "8.94e-07"
  "o&f, group 1" : "8.94e-07"
  "si, group 1" : "6.07e-11"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 6.00e-01

p-values for var2_val **nr** and variable **habits_classical**: 3.34e-01

p-values for var2_val **o&f** and variable **habits_classical**: 1.27e-02

p-values for var2_val **si** and variable **habits_classical**: 7.76e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.47e-83, 421.75

ANOVA (p-value, h-statistics): 1.80e-119, 70.43

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.98e-08	nan	nan	nan
o&f	1.19e-02	8.54e-05	nan	nan
si	5.11e-16	1.40e-07	7.42e-14	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.98e-129, 635.85

ANOVA (p-value, h-statistics): 2.15e-183, 113.21

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.22e-12	nan	nan	nan
o&f	9.21e-07	5.12e-06	nan	nan
si	4.08e-19	3.06e-09	7.91e-17	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 8.82e-01

p-values for var2_val **nr** and variable **habits_classical**: 3.06e-01

p-values for var2_val **o&f** and variable **habits_classical**: 8.89e-03

p-values for var2_val **si** and variable **habits_classical**: 5.37e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.47e-83, 421.75

ANOVA (p-value, h-statistics): 1.80e-119, 70.43

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.11e-09	nan	nan	nan
o&f	2.01e-02	2.20e-05	nan	nan
si	2.25e-30	1.05e-08	1.06e-21	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.98e-129, 635.85

ANOVA (p-value, h-statistics): 2.15e-183, 113.21

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.50e-15	nan	nan	nan
o&f	1.83e-07	1.15e-06	nan	nan
si	1.85e-44	6.27e-11	2.61e-27	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

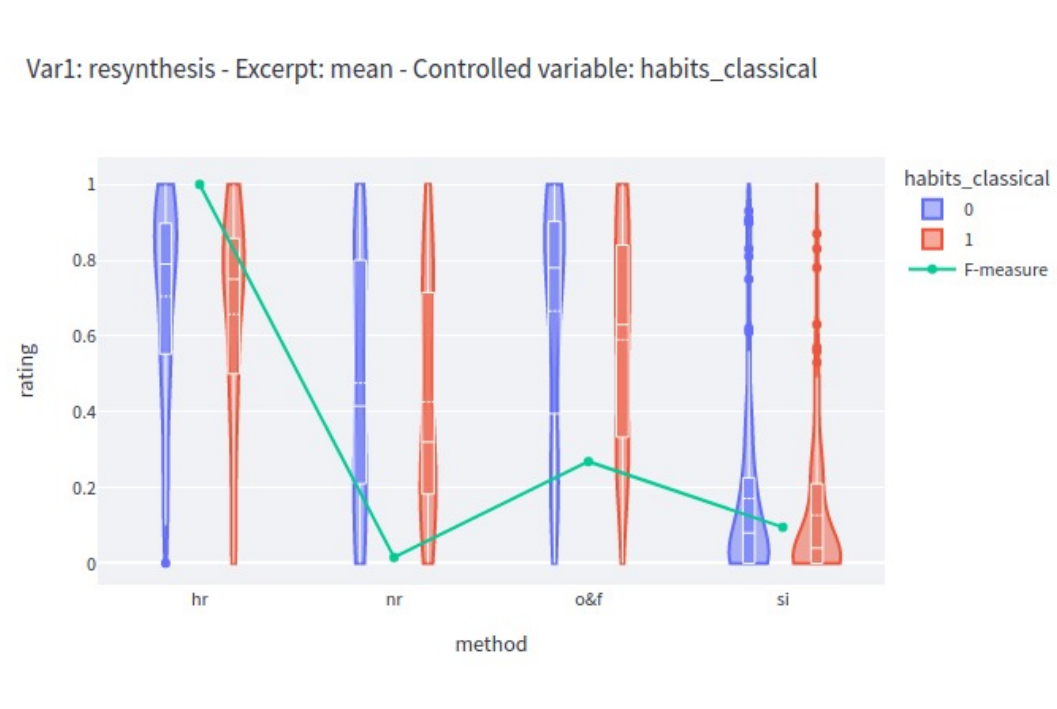
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *mean*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.47e-01	6.45e-01	6.46e-01	6.59e-01	6.57e-01	6.58e-01
Mean	Pearsons	p-value	3.53e-01	3.55e-01	3.54e-01	3.41e-01	3.43e-01	3.42e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.87e-01	6.85e-01	6.86e-01	6.98e-01	6.95e-01	6.96e-01
Median	Pearsons	p-value	3.13e-01	3.15e-01	3.14e-01	3.02e-01	3.05e-01	3.04e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.32e-01	6.30e-01	6.31e-01	6.45e-01	6.43e-01	6.44e-01
Mean	Pearsons	p-value	3.68e-01	3.70e-01	3.69e-01	3.55e-01	3.57e-01	3.56e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.51e-01	6.48e-01	6.49e-01	6.61e-01	6.58e-01	6.59e-01
Median	Pearsons	p-value	3.49e-01	3.52e-01	3.51e-01	3.39e-01	3.42e-01	3.41e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	95	0.0519	0.0549
nr	90	0.0685	0.0684
o&f	97	0.0602	0.0587
si	99	0.0477	0.0468

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.58e-01	6.57e-01	6.58e-01	6.72e-01	6.70e-01	6.70e-01
Mean	Pearsons	p-value	3.42e-01	3.43e-01	3.42e-01	3.28e-01	3.30e-01	3.30e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.53e-01	7.51e-01	7.52e-01	7.62e-01	7.60e-01	7.61e-01
Median	Pearsons	p-value	2.47e-01	2.49e-01	2.48e-01	2.38e-01	2.40e-01	2.39e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	115	0.0508	0.0489
nr	107	0.0577	0.0589
o&f	115	0.0521	0.0505
si	108	0.0364	0.0347

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
  "hr, group 0" : "5.33e-06"
  "nr, group 0" : "4.56e-05"
  "o&f, group 0" : "7.18e-07"
  "si, group 0" : "1.45e-11"
  "hr, group 1" : "2.35e-06"
  "nr, group 1" : "4.56e-05"
  "o&f, group 1" : "9.11e-05"
  "si, group 1" : "1.64e-12"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 1.60e-01

p-values for var2_val **nr** and variable **habits_classical**: 2.51e-01

p-values for var2_val **o&f** and variable **habits_classical**: 3.37e-02

p-values for var2_val **si** and variable **habits_classical**: 1.82e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.40e-77, 390.48

ANOVA (p-value, h-statistics): 2.46e-100, 57.32

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.05e-06	nan	nan	nan
o&f	4.82e-01	3.26e-04	nan	nan
si	4.84e-15	2.76e-08	1.49e-13	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.43e-100, 498.29

ANOVA (p-value, h-statistics): 2.77e-121, 68.93

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.90e-07	nan	nan	nan
o&f	4.34e-02	9.68e-05	nan	nan
si	1.55e-16	1.64e-11	4.47e-17	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 1.32e-01

p-values for var2_val **nr** and variable **habits_classical**: 1.95e-01

p-values for var2_val **o&f** and variable **habits_classical**: 4.70e-02

p-values for var2_val **si** and variable **habits_classical**: 1.08e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.40e-77, 390.48

ANOVA (p-value, h-statistics): 2.46e-100, 57.32

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.20e-06	nan	nan	nan
o&f	2.98e-01	2.64e-04	nan	nan
si	6.67e-27	2.20e-11	2.74e-21	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.43e-100, 498.29

ANOVA (p-value, h-statistics): 2.77e-121, 68.93

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.41e-07	nan	nan	nan
o&f	8.93e-02	5.25e-05	nan	nan
si	5.45e-29	1.21e-13	8.47e-28	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

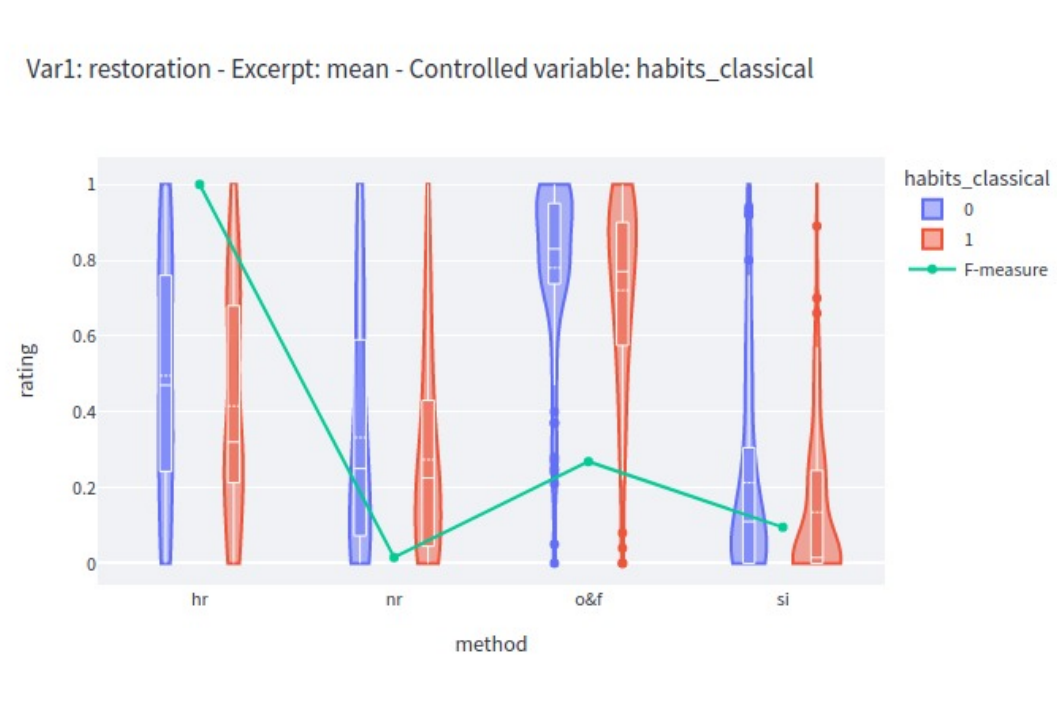
Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *mean*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.88e-01	2.81e-01	2.85e-01	2.91e-01	2.85e-01	2.88e-01
Mean	Pearsons	p-value	7.12e-01	7.19e-01	7.15e-01	7.09e-01	7.15e-01	7.12e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	2.51e-01	2.45e-01	2.48e-01	2.55e-01	2.49e-01	2.52e-01
Median	Pearsons	p-value	7.49e-01	7.55e-01	7.52e-01	7.45e-01	7.51e-01	7.48e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.10e-01	3.04e-01	3.07e-01	3.13e-01	3.07e-01	3.10e-01
Mean	Pearsons	p-value	6.90e-01	6.96e-01	6.93e-01	6.87e-01	6.93e-01	6.90e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.19e-01	3.13e-01	3.16e-01	3.22e-01	3.16e-01	3.19e-01
Median	Pearsons	p-value	6.81e-01	6.87e-01	6.84e-01	6.78e-01	6.84e-01	6.81e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	91	0.0665	0.0663
nr	91	0.0651	0.0625
o&f	93	0.0466	0.0472
si	89	0.0552	0.0532

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.75e-01	2.69e-01	2.72e-01	2.79e-01	2.73e-01	2.76e-01
Mean	Pearsons	p-value	7.25e-01	7.31e-01	7.28e-01	7.21e-01	7.27e-01	7.24e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	1.69e-01	1.63e-01	1.66e-01	1.74e-01	1.67e-01	1.70e-01
Median	Pearsons	p-value	8.31e-01	8.37e-01	8.34e-01	8.26e-01	8.33e-01	8.30e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	119	0.0541	0.0543
nr	108	0.0485	0.0490
o&f	116	0.0447	0.0458
si	104	0.0368	0.0362

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
  "hr, group 0" : "2.49e-04"
  "nr, group 0" : "1.29e-06"
  "o&f, group 0" : "3.70e-08"
  "si, group 0" : "2.95e-09"
  "hr, group 1" : "1.85e-05"
  "nr, group 1" : "1.29e-06"
  "o&f, group 1" : "1.29e-06"
  "si, group 1" : "2.84e-11"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 2.74e-02

p-values for var2_val **nr** and variable **habits_classical**: 9.41e-02

p-values for var2_val **o&f** and variable **habits_classical**: 3.11e-02

p-values for var2_val **si** and variable **habits_classical**: 5.98e-03

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.03e-72, 370.65

ANOVA (p-value, h-statistics): 1.49e-94, 53.89

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.04e-03	nan	nan	nan
o&f	2.18e-08	1.23e-12	nan	nan
si	3.82e-07	4.94e-03	9.64e-15	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.48e-107, 533.33

ANOVA (p-value, h-statistics): 9.57e-146, 86.42

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.22e-03	nan	nan	nan
o&f	9.11e-11	1.18e-14	nan	nan
si	1.21e-09	2.20e-05	7.46e-17	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 2.03e-02

p-values for var2_val **nr** and variable **habits_classical**: 4.11e-02

p-values for var2_val **o&f** and variable **habits_classical**: 5.77e-02

p-values for var2_val **si** and variable **habits_classical**: 1.65e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.03e-72, 370.65

ANOVA (p-value, h-statistics): 1.49e-94, 53.89

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.32e-03	nan	nan	nan
o&f	1.44e-09	2.46e-18	nan	nan
si	2.65e-08	6.03e-03	3.40e-27	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.48e-107, 533.33

ANOVA (p-value, h-statistics): 9.57e-146, 86.42

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.47e-03	nan	nan	nan
o&f	7.31e-13	3.63e-22	nan	nan
si	6.00e-11	6.05e-06	1.03e-34	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

A Perceptual Measure for Evaluating the Resynthesis of Automatic Music Transcriptions

Federico Simonetta, Federico Avanzini, Stavros Ntalampiras

To generate this file in html format use the following command: `streamlit run perceptual_app.py`

Chose control group:

habits_classical

Chose measure to compare:

mir_eval

☐ Use average of all the excerpts

Chose the variable that is iterated first (external loop) and next (inner loop):

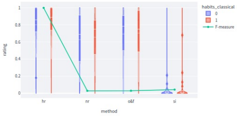
● 1. task, 2. method
○ 1. method, 2. task

Var1: *transcription*

Excerpt: *0*

Controlled variable: *habits_classical*

Var1: transcription - Excerpt: 0 - Controlled variable: habits_classical



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.59e-01	4.58e-01	4.58e-01	5.05e-01	5.04e-01	5.04e-01
Mean	Pearsons	p-value	5.41e-01	5.42e-01	5.42e-01	4.95e-01	4.96e-01	4.96e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	4.25e-01	4.23e-01	4.24e-01	4.72e-01	4.71e-01	4.71e-01
Median	Pearsons	p-value	5.75e-01	5.77e-01	5.76e-01	5.28e-01	5.29e-01	5.29e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.50e-01	4.49e-01	4.49e-01	4.96e-01	4.95e-01	4.95e-01
Mean	Pearsons	p-value	5.50e-01	5.51e-01	5.51e-01	5.04e-01	5.05e-01	5.05e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	4.08e-01	4.06e-01	4.07e-01	4.55e-01	4.54e-01	4.54e-01
Median	Pearsons	p-value	5.92e-01	5.94e-01	5.93e-01	5.45e-01	5.46e-01	5.46e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.0947	0.0898
nr	19	0.1327	0.1277
o&f	22	0.1159	0.1151
si	19	0.0238	0.0221

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.68e-01	4.66e-01	4.67e-01	5.13e-01	5.12e-01	5.13e-01
Mean	Pearsons	p-value	5.32e-01	5.34e-01	5.33e-01	4.87e-01	4.88e-01	4.87e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	4.25e-01	4.23e-01	4.24e-01	4.72e-01	4.71e-01	4.71e-01

Median	Pearsons	p-value	5.75e-01	5.77e-01	5.76e-01	5.28e-01	5.29e-01	5.29e-01
Median	Spearman	Correlation	3.16e-01	3.16e-01	3.16e-01	3.16e-01	3.33e-01	3.16e-01
Median	Spearman	p-value	6.84e-01	6.84e-01	6.84e-01	6.84e-01	6.67e-01	6.84e-01
Median	Kendall	Correlation	1.83e-01	1.83e-01	1.83e-01	1.83e-01	2.00e-01	1.83e-01
Median	Kendall	p-value	7.18e-01	7.18e-01	7.18e-01	7.18e-01	7.02e-01	7.18e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.0754	0.0730
nr	23	0.1027	0.0981
o&f	25	0.1058	0.1082
si	18	0.0767	0.0742

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾{
   "hr, group 0" : "1.93e-02"
   "nr, group 0" : "1.23e-01"
   "o&f, group 0" : "6.96e-02"
   "si, group 0" : "8.08e-06"
   "hr, group 1" : "3.13e-03"
   "nr, group 1" : "7.20e-02"
   "o&f, group 1" : "6.96e-02"
   "si, group 1" : "3.12e-06"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 9.84e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.00e-01

p-values for var2_val **o&f** and variable **habits_classical**: 9.58e-01

p-values for var2_val **si** and variable **habits_classical**: 2.35e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.41e-22, 129.30

ANOVA (p-value, h-statistics): 1.67e-41, 33.94

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.48e-01	nan	nan	nan
o&f	4.94e-01	4.94e-01	nan	nan
si	2.29e-05	2.29e-05	7.84e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.37e-22, 128.58

ANOVA (p-value, h-statistics): 1.76e-44, 35.86

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.27e-02	nan	nan	nan
o&f	1.48e-01	6.27e-01	nan	nan
si	4.58e-05	1.14e-04	2.14e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 6.36e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.22e-01

p-values for var2_val **o&f** and variable **habits_classical**: 9.31e-01

p-values for var2_val **si** and variable **habits_classical**: 1.57e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.41e-22, 129.30

ANOVA (p-value, h-statistics): 1.67e-41, 33.94

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.31e-01	nan	nan	nan
o&f	3.26e-01	4.61e-01	nan	nan
si	1.10e-10	1.26e-07	5.39e-08	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.37e-22, 128.58

ANOVA (p-value, h-statistics): 1.76e-44, 35.86

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.99e-02	nan	nan	nan
o&f	1.66e-01	5.39e-01	nan	nan
si	2.34e-09	1.21e-06	7.96e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

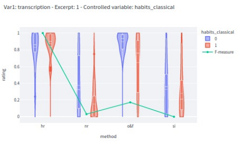
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *1*

Controlled variable: *habits_classical*


Var1: transcription - Excerpt: 1 - Controlled variable: habits_classical

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	8.03e-01	7.96e-01	7.99e-01	7.83e-01	7.77e-01	7.80e-01
Mean	Pearsons	p-value	1.97e-01	2.04e-01	2.01e-01	2.17e-01	2.23e-01	2.20e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.29e-01	7.21e-01	7.25e-01	7.06e-01	6.99e-01	7.02e-01
Median	Pearsons	p-value	2.71e-01	2.79e-01	2.75e-01	2.94e-01	3.01e-01	2.98e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.60e-01	6.50e-01	6.55e-01	6.34e-01	6.26e-01	6.30e-01
Mean	Pearsons	p-value	3.40e-01	3.50e-01	3.45e-01	3.66e-01	3.74e-01	3.70e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	6.55e-01	6.45e-01	6.50e-01	6.29e-01	6.21e-01	6.24e-01
Median	Pearsons	p-value	3.45e-01	3.55e-01	3.50e-01	3.71e-01	3.79e-01	3.76e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	16	0.1010	0.0959
nr	16	0.1657	0.1600
o&f	18	0.0464	0.0439
si	17	0.1442	0.1359

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	8.73e-01	8.67e-01	8.70e-01	8.57e-01	8.52e-01	8.55e-01
Mean	Pearsons	p-value	1.27e-01	1.33e-01	1.30e-01	1.43e-01	1.48e-01	1.45e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	8.02e-01	7.94e-01	7.98e-01	7.82e-01	7.76e-01	7.79e-01
Median	Pearsons	p-value	1.98e-01	2.06e-01	2.02e-01	2.18e-01	2.24e-01	2.21e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	23	0.0565	0.0552
nr	23	0.0836	0.0848
o&f	23	0.1294	0.1215
si	24	0.1084	0.1117

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "1.45e-02"
   "nr, group 0" : "1.42e-01"
   "o&f, group 0" : "1.42e-01"
   "si, group 0" : "1.42e-01"
   "hr, group 1" : "5.53e-03"
   "nr, group 1" : "1.14e-03"
   "o&f, group 1" : "2.94e-02"
   "si, group 1" : "2.94e-02"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 9.75e-01

p-values for var2_val **nr** and variable **habits_classical**: 4.68e-02

p-values for var2_val **o&f** and variable **habits_classical**: 3.36e-03

p-values for var2_val **si** and variable **habits_classical**: 9.63e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.32e-17, 101.67

ANOVA (p-value, h-statistics): 2.97e-26, 20.20

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.83e-03	nan	nan	nan
o&f	7.93e-01	3.66e-04	nan	nan
si	1.83e-04	7.93e-01	2.29e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.78e-28, 159.39

ANOVA (p-value, h-statistics): 5.60e-45, 34.52

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.43e-06	nan	nan	nan
o&f	2.97e-02	2.93e-04	nan	nan
si	1.43e-06	1.31e-01	1.63e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 6.81e-01

p-values for var2_val **nr** and variable **habits_classical**: 6.05e-02

p-values for var2_val **o&f** and variable **habits_classical**: 2.18e-03

p-values for var2_val **si** and variable **habits_classical**: 9.51e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 8.32e-17, 101.67

ANOVA (p-value, h-statistics): 2.97e-26, 20.20

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.58e-03	nan	nan	nan
o&f	5.65e-01	9.54e-05	nan	nan
si	9.44e-06	5.65e-01	8.33e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.78e-28, 159.39

ANOVA (p-value, h-statistics): 5.60e-45, 34.52

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.41e-11	nan	nan	nan
o&f	1.31e-02	3.70e-05	nan	nan
si	1.77e-08	5.42e-02	3.62e-04	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

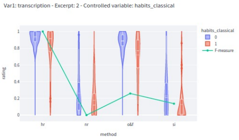
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *2*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.69e-01	7.57e-01	7.63e-01	7.85e-01	7.72e-01	7.78e-01
Mean	Pearsons	p-value	2.31e-01	2.43e-01	2.37e-01	2.15e-01	2.28e-01	2.22e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01

Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.43e-01	7.31e-01	7.37e-01	7.60e-01	7.47e-01	7.53e-01
Median	Pearsons	p-value	2.57e-01	2.69e-01	2.63e-01	2.40e-01	2.53e-01	2.47e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.42e-01	7.29e-01	7.35e-01	7.58e-01	7.43e-01	7.50e-01
Mean	Pearsons	p-value	2.58e-01	2.71e-01	2.65e-01	2.42e-01	2.57e-01	2.50e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.59e-01	7.44e-01	7.51e-01	7.71e-01	7.55e-01	7.63e-01
Median	Pearsons	p-value	2.41e-01	2.56e-01	2.49e-01	2.29e-01	2.45e-01	2.37e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	22	0.0332	0.0325
nr	18	0.1362	0.1320
o&f	18	0.0458	0.0442
si	21	0.1071	0.1048

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.80e-01	7.69e-01	7.74e-01	7.96e-01	7.83e-01	7.89e-01
Mean	Pearsons	p-value	2.20e-01	2.31e-01	2.26e-01	2.04e-01	2.17e-01	2.11e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.80e-01	7.70e-01	7.75e-01	7.97e-01	7.85e-01	7.91e-01
Median	Pearsons	p-value	2.20e-01	2.30e-01	2.25e-01	2.03e-01	2.15e-01	2.09e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	26	0.0924	0.0904
nr	23	0.0806	0.0798
o&f	27	0.0940	0.0895
si	26	0.0852	0.0838

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "1.26e-02"
  "nr, group 0" : "1.26e-02"
  "o&f, group 0" : "9.89e-02"
  "si, group 0" : "1.42e-02"
  "hr, group 1" : "1.57e-04"
  "nr, group 1" : "1.26e-02"
  "o&f, group 1" : "1.69e-02"
  "si, group 1" : "7.46e-06"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 5.50e-02

p-values for var2_val **nr** and variable **habits_classical**: 2.78e-01

p-values for var2_val **o&f** and variable **habits_classical**: 1.21e-02

p-values for var2_val **si** and variable **habits_classical**: 2.96e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.47e-25, 141.97

ANOVA (p-value, h-statistics): 2.87e-53, 51.07

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.63e-05	nan	nan	nan
o&f	4.22e-01	1.14e-04	nan	nan
si	1.14e-05	7.40e-01	7.63e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.88e-33, 183.56

ANOVA (p-value, h-statistics): 2.27e-57, 47.02

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.43e-06	nan	nan	nan
o&f	2.00e-01	1.67e-05	nan	nan

si	7.44e-05	4.21e-01	7.44e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.88e-02

p-values for var2_val **nr** and variable **habits_classical**: 2.96e-01

p-values for var2_val **o&f** and variable **habits_classical**: 1.31e-02

p-values for var2_val **si** and variable **habits_classical**: 3.11e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 6.47e-25, 141.97

ANOVA (p-value, h-statistics): 2.87e-53, 51.07

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.52e-07	nan	nan	nan
o&f	4.42e-01	6.49e-07	nan	nan
si	6.00e-10	6.87e-01	2.90e-07	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.88e-33, 183.56

ANOVA (p-value, h-statistics): 2.27e-57, 47.02

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.18e-09	nan	nan	nan
o&f	2.13e-01	1.55e-07	nan	nan
si	1.22e-08	5.95e-01	1.38e-08	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

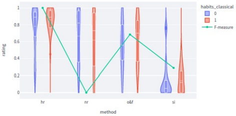
---

Var1: *transcription*

Excerpt: *3*

Controlled variable: *habits_classical*

Var1: transcription - Excerpt: 3 - Controlled variable: habits_classical



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.47e-01	4.52e-01	4.50e-01	4.84e-01	4.88e-01	4.86e-01
Mean	Pearsons	p-value	5.53e-01	5.48e-01	5.50e-01	5.16e-01	5.12e-01	5.14e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	3.32e-01	3.37e-01	3.34e-01	3.71e-01	3.75e-01	3.73e-01
Median	Pearsons	p-value	6.68e-01	6.63e-01	6.66e-01	6.29e-01	6.25e-01	6.27e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.54e-01	3.60e-01	3.57e-01	3.93e-01	3.97e-01	3.95e-01
Mean	Pearsons	p-value	6.46e-01	6.40e-01	6.43e-01	6.07e-01	6.03e-01	6.05e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	2.44e-01	2.50e-01	2.47e-01	2.84e-01	2.89e-01	2.87e-01
Median	Pearsons	p-value	7.56e-01	7.50e-01	7.53e-01	7.16e-01	7.11e-01	7.13e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap

hr	19	0.1174	0.1121
nr	19	0.1380	0.1379
o&f	22	0.1158	0.1082
si	20	0.1009	0.0990

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.17e-01	5.22e-01	5.20e-01	5.52e-01	5.56e-01	5.54e-01
Mean	Pearsons	p-value	4.83e-01	4.78e-01	4.80e-01	4.48e-01	4.44e-01	4.46e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.13e-01	4.17e-01	4.15e-01	4.50e-01	4.53e-01	4.52e-01
Median	Pearsons	p-value	5.87e-01	5.83e-01	5.85e-01	5.50e-01	5.47e-01	5.48e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	23	0.0550	0.0539
nr	22	0.1479	0.1425
o&f	24	0.1045	0.1048
si	21	0.0659	0.0657

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "1.71e-03"
  "nr, group 0" : "4.73e-02"
  "o&f, group 0" : "6.03e-01"
  "si, group 0" : "7.97e-05"
  "hr, group 1" : "4.73e-02"
  "nr, group 1" : "4.73e-02"
  "o&f, group 1" : "8.05e-02"
  "si, group 1" : "2.20e-02"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 8.28e-01

p-values for var2_val **nr** and variable **habits_classical**: 7.98e-01

p-values for var2_val **o&f** and variable **habits_classical**: 5.45e-01

p-values for var2_val **si** and variable **habits_classical**: 7.27e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.76e-18, 106.86

ANOVA (p-value, h-statistics): 3.12e-23, 16.35

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.38e-01	nan	nan	nan
o&f	8.82e-02	3.38e-01	nan	nan
si	6.87e-05	6.56e-04	6.54e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.30e-22, 128.06

ANOVA (p-value, h-statistics): 1.83e-36, 26.91

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.02e-02	nan	nan	nan
o&f	7.04e-04	1.00e+00	nan	nan
si	5.72e-06	1.55e-03	2.38e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.29e-01

p-values for var2_val **nr** and variable **habits_classical**: 4.52e-01

p-values for var2_val **o&f** and variable **habits_classical**: 4.70e-01

p-values for var2_val **si** and variable **habits_classical**: 9.42e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.76e-18, 106.86

ANOVA (p-value, h-statistics): 3.12e-23, 16.35

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.09e-01	nan	nan	nan
o&f	5.28e-02	4.09e-01	nan	nan
si	9.81e-07	1.07e-04	4.45e-07	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.30e-22, 128.06

ANOVA (p-value, h-statistics): 1.83e-36, 26.91

using Bonferroni-Holm correction!

	hr	nr	o&f	si

hr	nan	nan	nan	nan
nr	7.66e-03	nan	nan	nan
o&f	1.86e-04	9.69e-01	nan	nan
si	7.63e-12	1.19e-04	1.94e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

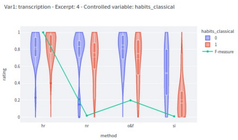
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *transcription*

Excerpt: *4*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.98e-01	6.02e-01	6.00e-01	5.95e-01	5.99e-01	5.97e-01
Mean	Pearsons	p-value	4.02e-01	3.98e-01	4.00e-01	4.05e-01	4.01e-01	4.03e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.04e-01	5.09e-01	5.06e-01	5.01e-01	5.05e-01	5.03e-01
Median	Pearsons	p-value	4.96e-01	4.91e-01	4.94e-01	4.99e-01	4.95e-01	4.97e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.58e-01	5.64e-01	5.61e-01	5.54e-01	5.59e-01	5.56e-01
Mean	Pearsons	p-value	4.42e-01	4.36e-01	4.39e-01	4.46e-01	4.41e-01	4.44e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	3.81e-01	3.86e-01	3.84e-01	3.77e-01	3.82e-01	3.80e-01
Median	Pearsons	p-value	6.19e-01	6.14e-01	6.16e-01	6.23e-01	6.18e-01	6.20e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.0804	0.0733
nr	18	0.1393	0.1375
o&f	19	0.0805	0.0758
si	20	0.1329	0.1278

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.07e-01	6.11e-01	6.09e-01	6.05e-01	6.08e-01	6.07e-01
Mean	Pearsons	p-value	3.93e-01	3.89e-01	3.91e-01	3.95e-01	3.92e-01	3.93e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	5.31e-01	5.35e-01	5.33e-01	5.28e-01	5.32e-01	5.30e-01
Median	Pearsons	p-value	4.69e-01	4.65e-01	4.67e-01	4.72e-01	4.68e-01	4.70e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	24	0.0638	0.0600
nr	24	0.0962	0.0952
o&f	22	0.1100	0.1107
si	24	0.0828	0.0786

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "4.62e-02"
  "nr, group 0" : "5.38e-03"
  "o&f, group 0" : "1.32e-01"
  "si, group 0" : "3.93e-01"
  "hr, group 1" : "7.77e-02"
  "nr, group 1" : "7.77e-02"
  "o&f, group 1" : "7.77e-02"
  "si, group 1" : "4.62e-02"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 7.78e-01

p-values for var2_val **nr** and variable **habits_classical**: 6.19e-01

p-values for var2_val **o&f** and variable **habits_classical**: 1.34e-01

p-values for var2_val **si** and variable **habits_classical**: 7.08e-04

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.26e-05, 40.24

ANOVA (p-value, h-statistics): 5.71e-08, 5.66

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	9.77e-01	nan	nan
si	3.94e-02	4.16e-02	3.41e-02	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.76e-23, 133.95

ANOVA (p-value, h-statistics): 5.63e-40, 29.51

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.09e-01	nan	nan	nan
o&f	1.71e-01	9.49e-01	nan	nan
si	7.15e-07	1.13e-05	1.29e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 6.83e-01

p-values for var2_val **nr** and variable **habits_classical**: 9.50e-01

p-values for var2_val **o&f** and variable **habits_classical**: 7.37e-02

p-values for var2_val **si** and variable **habits_classical**: 7.11e-04

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.26e-05, 40.24

ANOVA (p-value, h-statistics): 5.71e-08, 5.66

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.50e-01	nan	nan	nan
o&f	7.50e-01	7.50e-01	nan	nan
si	2.55e-02	2.55e-02	1.49e-02	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 2.76e-23, 133.95

ANOVA (p-value, h-statistics): 5.63e-40, 29.51

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.69e-02	nan	nan	nan
o&f	1.04e-01	9.75e-01	nan	nan
si	8.48e-11	3.13e-07	3.14e-05	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

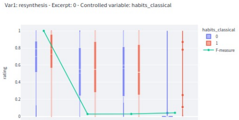
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

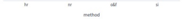
---

Var1: *resynthesis*

Excerpt: *0*

Controlled variable: *habits_classical*





Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.49e-01	5.47e-01	5.48e-01	5.92e-01	5.91e-01	5.91e-01
Mean	Pearsons	p-value	4.51e-01	4.53e-01	4.52e-01	4.08e-01	4.09e-01	4.09e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	5.46e-01	5.44e-01	5.45e-01	5.89e-01	5.88e-01	5.88e-01
Median	Pearsons	p-value	4.54e-01	4.56e-01	4.55e-01	4.11e-01	4.12e-01	4.12e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.11e-01	5.10e-01	5.10e-01	5.55e-01	5.54e-01	5.55e-01
Mean	Pearsons	p-value	4.89e-01	4.90e-01	4.90e-01	4.45e-01	4.46e-01	4.45e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01
Median	Pearsons	Correlation	5.46e-01	5.44e-01	5.45e-01	5.89e-01	5.88e-01	5.88e-01
Median	Pearsons	p-value	4.54e-01	4.56e-01	4.55e-01	4.11e-01	4.12e-01	4.12e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	3.16e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.84e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	1.83e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.18e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.1012	0.0981
nr	19	0.1341	0.1368
o&f	17	0.1460	0.1403
si	18	0.0060	0.0056

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.79e-01	5.77e-01	5.78e-01	6.21e-01	6.20e-01	6.21e-01
Mean	Pearsons	p-value	4.21e-01	4.23e-01	4.22e-01	3.79e-01	3.80e-01	3.79e-01
Mean	Spearman	Correlation	2.00e-01	2.00e-01	2.00e-01	2.00e-01	3.16e-01	2.00e-01
Mean	Spearman	p-value	8.00e-01	8.00e-01	8.00e-01	8.00e-01	6.84e-01	8.00e-01
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	6.03e-01	6.02e-01	6.03e-01	6.45e-01	6.44e-01	6.44e-01
Median	Pearsons	p-value	3.97e-01	3.98e-01	3.97e-01	3.55e-01	3.56e-01	3.56e-01
Median	Spearman	Correlation	2.00e-01	2.00e-01	2.00e-01	2.00e-01	3.16e-01	2.00e-01
Median	Spearman	p-value	8.00e-01	8.00e-01	8.00e-01	8.00e-01	6.84e-01	8.00e-01
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	24	0.1052	0.1042
nr	21	0.1320	0.1255
o&f	22	0.1295	0.1330
si	22	0.1022	0.0996

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "2.13e-01"
   "nr, group 0" : "2.67e-01"
   "o&f, group 0" : "1.70e-01"
   "si, group 0" : "5.30e-07"
   "hr, group 1" : "8.15e-02"
   "nr, group 1" : "4.16e-01"
   "o&f, group 1" : "4.16e-01"
   "si, group 1" : "2.46e-07"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 2.16e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.95e-01

p-values for var2_val **o&f** and variable **habits_classical**: 6.78e-01

p-values for var2_val **si** and variable **habits_classical**: 1.44e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.95e-22, 126.74

ANOVA (p-value, h-statistics): 5.71e-35, 28.14

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan

nr	2.14e-02	nan	nan	nan
o&f	6.37e-02	5.69e-01	nan	nan
si	4.58e-05	1.16e-03	7.63e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.62e-20, 120.24

ANOVA (p-value, h-statistics): 5.58e-29, 20.34

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.61e-02	nan	nan	nan
o&f	5.82e-03	4.55e-01	nan	nan
si	1.43e-05	6.66e-03	3.11e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 2.08e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.63e-01

p-values for var2_val **o&f** and variable **habits_classical**: 6.53e-01

p-values for var2_val **si** and variable **habits_classical**: 1.97e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 7.95e-22, 126.74

ANOVA (p-value, h-statistics): 5.71e-35, 28.14

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.88e-02	nan	nan	nan
o&f	5.53e-02	5.64e-01	nan	nan
si	6.54e-12	6.87e-06	6.92e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.62e-20, 120.24

ANOVA (p-value, h-statistics): 5.58e-29, 20.34

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.08e-02	nan	nan	nan
o&f	3.43e-03	5.66e-01	nan	nan
si	7.84e-08	9.44e-04	2.82e-04	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

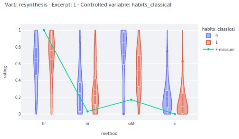
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *1*

Controlled variable: *habits_classical*



Var1: resynthesis - Excerpt: 1 - Controlled variable: habits_classical

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.54e-01	7.46e-01	7.50e-01	7.32e-01	7.25e-01	7.29e-01
Mean	Pearsons	p-value	2.46e-01	2.54e-01	2.50e-01	2.68e-01	2.75e-01	2.71e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	7.67e-01	7.59e-01	7.63e-01	7.45e-01	7.38e-01	7.42e-01
Median	Pearsons	p-value	2.33e-01	2.41e-01	2.37e-01	2.55e-01	2.62e-01	2.58e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.19e-01	6.09e-01	6.14e-01	5.93e-01	5.84e-01	5.88e-01

Mean	Pearsons	p-value	3.81e-01	3.91e-01	3.86e-01	4.07e-01	4.16e-01	4.12e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	5.43e-01	5.32e-01	5.37e-01	5.14e-01	5.05e-01	5.09e-01
Median	Pearsons	p-value	4.57e-01	4.68e-01	4.63e-01	4.86e-01	4.95e-01	4.91e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	17	0.1300	0.1257
nr	16	0.1213	0.1141
o&f	19	0.1516	0.1437
si	20	0.0858	0.0828

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	8.45e-01	8.39e-01	8.42e-01	8.29e-01	8.23e-01	8.26e-01
Mean	Pearsons	p-value	1.55e-01	1.61e-01	1.58e-01	1.71e-01	1.77e-01	1.74e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	8.82e-01	8.76e-01	8.79e-01	8.67e-01	8.61e-01	8.64e-01
Median	Pearsons	p-value	1.18e-01	1.24e-01	1.21e-01	1.33e-01	1.39e-01	1.36e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	23	0.1151	0.1100
nr	20	0.1129	0.1130
o&f	22	0.0995	0.0993
si	22	0.0667	0.0675

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "4.44e-01"
   "nr, group 0" : "2.07e-01"
   "o&f, group 0" : "7.85e-03"
   "si, group 0" : "6.58e-02"
   "hr, group 1" : "6.31e-02"
   "nr, group 1" : "6.58e-02"
   "o&f, group 1" : "4.44e-01"
   "si, group 1" : "3.96e-03"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 8.54e-01

p-values for var2_val **nr** and variable **habits_classical**: 7.82e-01

p-values for var2_val **o&f** and variable **habits_classical**: 7.28e-02

p-values for var2_val **si** and variable **habits_classical**: 2.12e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.41e-12, 75.83

ANOVA (p-value, h-statistics): 1.75e-17, 12.39

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.01e-02	nan	nan	nan
o&f	5.12e-01	3.81e-03	nan	nan
si	2.29e-03	9.10e-01	4.01e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.23e-17, 105.85

ANOVA (p-value, h-statistics): 1.78e-22, 15.32

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.26e-02	nan	nan	nan
o&f	2.05e-01	1.26e-02	nan	nan
si	8.58e-06	1.40e-01	1.22e-03	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 7.69e-01

p-values for var2_val **nr** and variable **habits_classical**: 8.43e-01

p-values for var2_val **o&f** and variable **habits_classical**: 7.86e-02

p-values for var2_val **si** and variable **habits_classical**: 2.92e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.41e-12, 75.83

ANOVA (p-value, h-statistics): 1.75e-17, 12.39

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.17e-03	nan	nan	nan
o&f	8.29e-01	8.40e-04	nan	nan
si	8.78e-04	8.29e-01	2.74e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.23e-17, 105.85

ANOVA (p-value, h-statistics): 1.78e-22, 15.32

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.60e-03	nan	nan	nan
o&f	1.80e-01	1.26e-02	nan	nan
si	1.74e-06	1.16e-01	3.52e-05	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

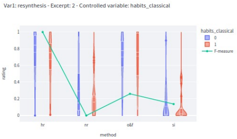
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *2*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.75e-01	6.64e-01	6.69e-01	6.96e-01	6.83e-01	6.90e-01
Mean	Pearsons	p-value	3.25e-01	3.36e-01	3.31e-01	3.04e-01	3.17e-01	3.10e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.08e-01	6.96e-01	7.02e-01	7.27e-01	7.14e-01	7.20e-01
Median	Pearsons	p-value	2.92e-01	3.04e-01	2.98e-01	2.73e-01	2.86e-01	2.80e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.06e-01	6.97e-01	7.01e-01	7.28e-01	7.17e-01	7.22e-01
Mean	Pearsons	p-value	2.94e-01	3.03e-01	2.99e-01	2.72e-01	2.83e-01	2.78e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	7.32e-01	7.20e-01	7.26e-01	7.50e-01	7.37e-01	7.43e-01
Median	Pearsons	p-value	2.68e-01	2.80e-01	2.74e-01	2.50e-01	2.63e-01	2.57e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	20	0.1160	0.1145
nr	17	0.1491	0.1427
o&f	22	0.1043	0.1000
si	24	0.0808	0.0794

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.45e-01	6.32e-01	6.38e-01	6.66e-01	6.51e-01	6.58e-01
Mean	Pearsons	p-value	3.55e-01	3.68e-01	3.62e-01	3.34e-01	3.49e-01	3.42e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.83e-01	6.71e-01	6.76e-01	7.02e-01	6.89e-01	6.95e-01
Median	Pearsons	p-value	3.17e-01	3.29e-01	3.24e-01	2.98e-01	3.11e-01	3.05e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	24	0.1126	0.1079
nr	20	0.0983	0.0948
o&f	23	0.1118	0.1024
si	21	0.0657	0.0631

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "1.78e-02"
  "nr, group 0" : "1.78e-02"
  "o&f, group 0" : "6.56e-02"
  "si, group 0" : "6.01e-06"
  "hr, group 1" : "6.56e-02"
  "nr, group 1" : "1.19e-02"
  "o&f, group 1" : "6.56e-02"
  "si, group 1" : "3.57e-05"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 5.56e-01

p-values for var2_val **nr** and variable **habits_classical**: 4.04e-01

p-values for var2_val **o&f** and variable **habits_classical**: 8.99e-01

p-values for var2_val **si** and variable **habits_classical**: 8.87e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.57e-19, 112.59

ANOVA (p-value, h-statistics): 3.83e-29, 21.54

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.16e-03	nan	nan	nan
o&f	3.30e-01	3.30e-02	nan	nan
si	6.58e-04	2.67e-01	5.72e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.16e-25, 142.91

ANOVA (p-value, h-statistics): 7.73e-37, 27.76

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.77e-05	nan	nan	nan
o&f	6.79e-01	7.84e-04	nan	nan
si	5.72e-06	1.40e-01	4.08e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.08e-01

p-values for var2_val **nr** and variable **habits_classical**: 2.38e-01

p-values for var2_val **o&f** and variable **habits_classical**: 9.76e-01

p-values for var2_val **si** and variable **habits_classical**: 8.46e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.57e-19, 112.59

ANOVA (p-value, h-statistics): 3.83e-29, 21.54

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.19e-04	nan	nan	nan
o&f	4.14e-01	1.45e-02	nan	nan
si	6.17e-08	2.18e-01	1.73e-08	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.16e-25, 142.91

ANOVA (p-value, h-statistics): 7.73e-37, 27.76

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.41e-06	nan	nan	nan
o&f	5.77e-01	1.92e-04	nan	nan
si	3.79e-07	1.81e-01	2.46e-07	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

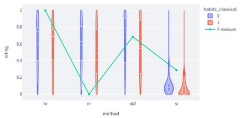
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *3*

Controlled variable: *habits_classical*



Var1: resynthesis - Excerpt: 3 - Controlled variable: habits_classical

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.77e-01	3.78e-01	3.78e-01	4.10e-01	4.11e-01	4.11e-01
Mean	Pearsons	p-value	6.23e-01	6.22e-01	6.22e-01	5.90e-01	5.89e-01	5.89e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.91e-01	5.91e-01	5.91e-01	6.19e-01	6.19e-01	6.19e-01
Median	Pearsons	p-value	4.09e-01	4.09e-01	4.09e-01	3.81e-01	3.81e-01	3.81e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	3.32e-01	3.33e-01	3.33e-01	3.65e-01	3.66e-01	3.66e-01
Mean	Pearsons	p-value	6.68e-01	6.67e-01	6.67e-01	6.35e-01	6.34e-01	6.34e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.34e-01	4.35e-01	4.35e-01	4.66e-01	4.66e-01	4.66e-01
Median	Pearsons	p-value	5.66e-01	5.65e-01	5.65e-01	5.34e-01	5.34e-01	5.34e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	16	0.1337	0.1260
nr	18	0.1371	0.1311
o&f	19	0.1372	0.1332
si	18	0.0404	0.0381

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.15e-01	4.17e-01	4.16e-01	4.49e-01	4.49e-01	4.49e-01
Mean	Pearsons	p-value	5.85e-01	5.83e-01	5.84e-01	5.51e-01	5.51e-01	5.51e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.12e-01	6.15e-01	6.13e-01	6.43e-01	6.45e-01	6.44e-01
Median	Pearsons	p-value	3.88e-01	3.85e-01	3.87e-01	3.57e-01	3.55e-01	3.56e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	22	0.1291	0.1280
nr	23	0.1169	0.1089
o&f	24	0.1250	0.1180
si	21	0.0354	0.0348

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "2.69e-01"
  "nr, group 0" : "4.31e-01"
  "o&f, group 0" : "8.69e-02"
  "si, group 0" : "4.98e-02"
  "hr, group 1" : "1.54e-01"
  "nr, group 1" : "4.31e-01"
  "o&f, group 1" : "8.14e-02"
  "si, group 1" : "4.56e-04"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 2.74e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.23e-01

p-values for var2_val **o&f** and variable **habits_classical**: 3.61e-02

p-values for var2_val **si** and variable **habits_classical**: 2.46e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.86e-15, 92.32

ANOVA (p-value, h-statistics): 4.66e-20, 14.38

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	9.26e-01	nan	nan
si	1.53e-04	1.53e-04	9.16e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.06e-19, 112.79

ANOVA (p-value, h-statistics): 2.35e-21, 14.37

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.66e-01	nan	nan	nan
o&f	9.52e-01	9.52e-01	nan	nan
si	5.19e-04	3.34e-05	5.72e-06	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.42e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.11e-01

p-values for var2_val **o&f** and variable **habits_classical**: 1.13e-01

p-values for var2_val **si** and variable **habits_classical**: 2.65e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.86e-15, 92.32

ANOVA (p-value, h-statistics): 4.66e-20, 14.38

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	1.75e-06	1.33e-05	1.75e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.06e-19, 112.79

ANOVA (p-value, h-statistics): 2.35e-21, 14.37

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.00e+00	nan	nan	nan
o&f	1.00e+00	1.00e+00	nan	nan
si	3.61e-06	1.33e-05	3.61e-06	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

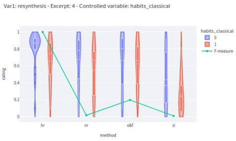
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *resynthesis*

Excerpt: *4*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	6.70e-01	6.73e-01	6.71e-01	6.66e-01	6.70e-01	6.68e-01
Mean	Pearsons	p-value	3.30e-01	3.27e-01	3.29e-01	3.34e-01	3.30e-01	3.32e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00

Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.81e-01	5.85e-01	5.83e-01	5.79e-01	5.82e-01	5.80e-01
Median	Pearsons	p-value	4.19e-01	4.15e-01	4.17e-01	4.21e-01	4.18e-01	4.20e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.36e-01	7.39e-01	7.37e-01	7.34e-01	7.37e-01	7.36e-01
Mean	Pearsons	p-value	2.64e-01	2.61e-01	2.63e-01	2.66e-01	2.63e-01	2.64e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	5.60e-01	5.65e-01	5.62e-01	5.57e-01	5.61e-01	5.59e-01
Median	Pearsons	p-value	4.40e-01	4.35e-01	4.38e-01	4.43e-01	4.39e-01	4.41e-01
Median	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Median	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Median	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.0957	0.0948
nr	20	0.1356	0.1305
o&f	20	0.1414	0.1328
si	19	0.1455	0.1400

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.99e-01	6.04e-01	6.01e-01	5.95e-01	6.00e-01	5.97e-01
Mean	Pearsons	p-value	4.01e-01	3.96e-01	3.99e-01	4.05e-01	4.00e-01	4.03e-01
Mean	Spearman	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Spearman	p-value	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Mean	Kendall	Correlation	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Mean	Kendall	p-value	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02	8.33e-02
Median	Pearsons	Correlation	5.60e-01	5.64e-01	5.62e-01	5.57e-01	5.61e-01	5.59e-01
Median	Pearsons	p-value	4.40e-01	4.36e-01	4.38e-01	4.43e-01	4.39e-01	4.41e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	22	0.1052	0.1018
nr	23	0.1224	0.1191
o&f	24	0.1035	0.0973
si	22	0.0936	0.0939

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
    "hr, group 0" : "1.26e-03"
    "nr, group 0" : "2.87e-02"
    "o&f, group 0" : "1.28e-02"
    "si, group 0" : "2.71e-01"
    "hr, group 1" : "2.71e-01"
    "nr, group 1" : "2.71e-01"
    "o&f, group 1" : "2.84e-01"
    "si, group 1" : "2.71e-01"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 4.38e-02

p-values for var2_val **nr** and variable **habits_classical**: 1.36e-01

p-values for var2_val **o&f** and variable **habits_classical**: 4.94e-01

p-values for var2_val **si** and variable **habits_classical**: 3.40e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.93e-04, 32.68

ANOVA (p-value, h-statistics): 5.56e-05, 3.78

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.13e-01	nan	nan	nan
o&f	5.13e-01	9.36e-01	nan	nan
si	2.35e-02	1.02e-01	2.97e-01	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.60e-11, 72.23

ANOVA (p-value, h-statistics): 1.58e-13, 9.00

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.06e-01	nan	nan	nan

o&f	7.99e-01	7.21e-01	nan	nan
si	1.23e-04	2.29e-02	8.85e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 6.60e-02

p-values for var2_val **nr** and variable **habits_classical**: 2.10e-01

p-values for var2_val **o&f** and variable **habits_classical**: 6.87e-01

p-values for var2_val **si** and variable **habits_classical**: 2.25e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.93e-04, 32.68

ANOVA (p-value, h-statistics): 5.56e-05, 3.78

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.10e-01	nan	nan	nan
o&f	3.53e-01	8.95e-01	nan	nan
si	1.11e-02	1.24e-01	1.91e-01	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.60e-11, 72.23

ANOVA (p-value, h-statistics): 1.58e-13, 9.00

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.74e-01	nan	nan	nan
o&f	8.01e-01	8.01e-01	nan	nan
si	7.73e-05	9.36e-03	1.20e-04	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

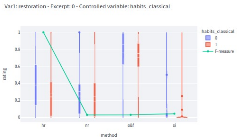
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *0*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	-7.12e-02	-7.37e-02	-7.25e-02	-3.55e-02	-3.72e-02	-3.64e-02
Mean	Pearsons	p-value	9.29e-01	9.26e-01	9.27e-01	9.64e-01	9.63e-01	9.64e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-1.30e-01	-1.33e-01	-1.32e-01	-9.90e-02	-1.01e-01	-9.99e-02
Median	Pearsons	p-value	8.70e-01	8.67e-01	8.68e-01	9.01e-01	8.99e-01	9.00e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	-8.05e-03	-1.05e-02	-9.34e-03	2.85e-02	2.69e-02	2.76e-02
Mean	Pearsons	p-value	9.92e-01	9.89e-01	9.91e-01	9.72e-01	9.73e-01	9.72e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-3.00e-02	-3.25e-02	-3.13e-02	3.32e-03	1.69e-03	2.48e-03
Median	Pearsons	p-value	9.70e-01	9.67e-01	9.69e-01	9.97e-01	9.98e-01	9.98e-01

Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.1202	0.1136
nr	18	0.1386	0.1339
o&f	20	0.1169	0.1118
si	16	0.0608	0.0538

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	-1.25e-01	-1.27e-01	-1.26e-01	-8.99e-02	-9.15e-02	-9.07e-02
Mean	Pearsons	p-value	8.75e-01	8.73e-01	8.74e-01	9.10e-01	9.09e-01	9.09e-01
Mean	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Mean	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Mean	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Mean	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00
Median	Pearsons	Correlation	-1.54e-01	-1.56e-01	-1.55e-01	-1.22e-01	-1.24e-01	-1.23e-01
Median	Pearsons	p-value	8.46e-01	8.44e-01	8.45e-01	8.78e-01	8.76e-01	8.77e-01
Median	Spearman	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-2.11e-01	0.00e+00
Median	Spearman	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.89e-01	1.00e+00
Median	Kendall	Correlation	0.00e+00	0.00e+00	0.00e+00	0.00e+00	-1.83e-01	0.00e+00
Median	Kendall	p-value	1.00e+00	1.00e+00	1.00e+00	1.00e+00	7.18e-01	1.00e+00

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.1076	0.1066
nr	21	0.1141	0.1107
o&f	25	0.0836	0.0824
si	18	0.0283	0.0244

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "3.75e-01"
   "nr, group 0" : "8.30e-02"
   "o&f, group 0" : "1.67e-02"
   "si, group 0" : "1.05e-05"
   "hr, group 1" : "1.67e-02"
   "nr, group 1" : "1.88e-02"
   "o&f, group 1" : "9.64e-02"
   "si, group 1" : "5.86e-07"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 3.04e-02

p-values for var2_val **nr** and variable **habits_classical**: 3.20e-01

p-values for var2_val **o&f** and variable **habits_classical**: 3.34e-01

p-values for var2_val **si** and variable **habits_classical**: 2.20e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.06e-18, 106.52

ANOVA (p-value, h-statistics): 4.38e-27, 20.37

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.68e-01	nan	nan	nan
o&f	3.33e-03	2.67e-03	nan	nan
si	1.89e-02	1.89e-02	5.49e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.08e-25, 142.48

ANOVA (p-value, h-statistics): 1.04e-38, 30.13

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	9.04e-01	nan	nan	nan
o&f	2.62e-04	2.62e-04	nan	nan
si	5.22e-03	7.73e-03	4.58e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.66e-02

p-values for var2_val **nr** and variable **habits_classical**: 2.93e-01

p-values for var2_val **o&f** and variable **habits_classical**: 4.62e-01

p-values for var2_val **si** and variable **habits_classical**: 3.97e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.06e-18, 106.52

ANOVA (p-value, h-statistics): 4.38e-27, 20.37

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.84e-01	nan	nan	nan
o&f	5.66e-04	5.66e-04	nan	nan
si	4.80e-03	1.41e-02	3.00e-06	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 5.08e-25, 142.48

ANOVA (p-value, h-statistics): 1.04e-38, 30.13

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.18e-01	nan	nan	nan
o&f	5.41e-06	5.99e-05	nan	nan
si	1.37e-03	1.05e-02	6.49e-09	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

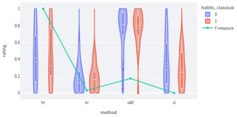
---

Var1: *restoration*

Excerpt: *1*

Controlled variable: *habits_classical*

Var1: restoration - Excerpt: 1 - Controlled variable: habits_classical



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.23e-01	2.11e-01	2.17e-01	1.91e-01	1.81e-01	1.86e-01
Mean	Pearsons	p-value	7.77e-01	7.89e-01	7.83e-01	8.09e-01	8.19e-01	8.14e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	9.25e-02	8.01e-02	8.61e-02	5.92e-02	4.90e-02	5.39e-02
Median	Pearsons	p-value	9.08e-01	9.20e-01	9.14e-01	9.41e-01	9.51e-01	9.46e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	1.75e-01	1.63e-01	1.69e-01	1.43e-01	1.34e-01	1.38e-01
Mean	Pearsons	p-value	8.25e-01	8.37e-01	8.31e-01	8.57e-01	8.66e-01	8.62e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	1.35e-01	1.23e-01	1.29e-01	1.02e-01	9.23e-02	9.71e-02
Median	Pearsons	p-value	8.65e-01	8.77e-01	8.71e-01	8.98e-01	9.08e-01	9.03e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	17	0.1544	0.1459
nr	17	0.0790	0.0788
o&f	17	0.1327	0.1318
si	17	0.1399	0.1341

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	2.53e-01	2.41e-01	2.46e-01	2.20e-01	2.10e-01	2.15e-01
Mean	Pearsons	p-value	7.47e-01	7.59e-01	7.54e-01	7.80e-01	7.90e-01	7.85e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Median	Pearsons	Correlation	5.70e-02	4.45e-02	5.06e-02	2.35e-02	1.31e-02	1.81e-02
Median	Pearsons	p-value	9.43e-01	9.55e-01	9.49e-01	9.77e-01	9.87e-01	9.82e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	24	0.1352	0.1327
nr	19	0.0695	0.0684
o&f	23	0.0923	0.0937
si	24	0.0851	0.0848

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "3.19e-01"
   "nr, group 0" : "1.12e-01"
   "o&f, group 0" : "3.61e-02"
   "si, group 0" : "2.61e-01"
   "hr, group 1" : "1.37e-01"
   "nr, group 1" : "7.85e-02"
   "o&f, group 1" : "8.14e-03"
   "si, group 1" : "1.37e-01"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 8.18e-01

p-values for var2_val **nr** and variable **habits_classical**: 9.10e-01

p-values for var2_val **o&f** and variable **habits_classical**: 7.47e-01

p-values for var2_val **si** and variable **habits_classical**: 3.01e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.99e-11, 74.13

ANOVA (p-value, h-statistics): 6.93e-16, 11.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.05e-02	nan	nan	nan
o&f	4.39e-02	1.74e-03	nan	nan
si	6.11e-01	6.05e-02	2.52e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.07e-18, 108.87

ANOVA (p-value, h-statistics): 4.18e-28, 19.72

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.58e-01	nan	nan	nan
o&f	2.17e-03	2.76e-04	nan	nan
si	1.58e-01	3.52e-01	2.76e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 8.42e-01

p-values for var2_val **nr** and variable **habits_classical**: 8.43e-01

p-values for var2_val **o&f** and variable **habits_classical**: 8.65e-01

p-values for var2_val **si** and variable **habits_classical**: 2.58e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.99e-11, 74.13

ANOVA (p-value, h-statistics): 6.93e-16, 11.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.28e-02	nan	nan	nan
o&f	2.48e-02	8.94e-05	nan	nan
si	5.84e-01	7.65e-02	1.59e-03	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.07e-18, 108.87

ANOVA (p-value, h-statistics): 4.18e-28, 19.72

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.74e-02	nan	nan	nan
o&f	5.29e-04	3.20e-06	nan	nan
si	8.74e-02	3.05e-01	6.47e-08	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

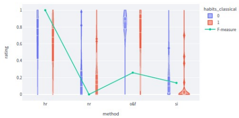
Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *2*

Controlled variable: *habits_classical*



Var1: restoration - Excerpt: 2 - Controlled variable: habits_classical

Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.63e-01	5.46e-01	5.54e-01	5.81e-01	5.63e-01	5.72e-01
Mean	Pearsons	p-value	4.37e-01	4.54e-01	4.46e-01	4.19e-01	4.37e-01	4.28e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.16e-01	6.01e-01	6.08e-01	6.34e-01	6.17e-01	6.25e-01
Median	Pearsons	p-value	3.84e-01	3.99e-01	3.92e-01	3.66e-01	3.83e-01	3.75e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.66e-01	5.49e-01	5.57e-01	5.84e-01	5.66e-01	5.74e-01
Mean	Pearsons	p-value	4.34e-01	4.51e-01	4.43e-01	4.16e-01	4.34e-01	4.26e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	6.58e-01	6.42e-01	6.50e-01	6.73e-01	6.56e-01	6.64e-01
Median	Pearsons	p-value	3.42e-01	3.58e-01	3.50e-01	3.27e-01	3.44e-01	3.36e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	14	0.1619	0.1536
nr	14	0.1628	0.1511
o&f	18	0.0432	0.0420
si	15	0.0857	0.0817

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.75e-01	5.59e-01	5.66e-01	5.94e-01	5.76e-01	5.84e-01
Mean	Pearsons	p-value	4.25e-01	4.41e-01	4.34e-01	4.06e-01	4.24e-01	4.16e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.40e-01	5.23e-01	5.31e-01	5.59e-01	5.42e-01	5.50e-01
Median	Pearsons	p-value	4.60e-01	4.77e-01	4.69e-01	4.41e-01	4.58e-01	4.50e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	23	0.1103	0.1068
nr	21	0.0862	0.0848
o&f	21	0.1266	0.1253
si	18	0.0924	0.0895

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "5.44e-02"
   "nr, group 0" : "3.50e-03"
   "o&f, group 0" : "5.03e-01"
   "si, group 0" : "2.68e-02"
   "hr, group 1" : "4.33e-01"
   "nr, group 1" : "3.50e-03"
   "o&f, group 1" : "8.56e-03"
   "si, group 1" : "3.15e-05"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 2.17e-01

p-values for var2_val **nr** and variable **habits_classical**: 9.03e-01

p-values for var2_val **o&f** and variable **habits_classical**: 1.81e-01

p-values for var2_val **si** and variable **habits_classical**: 2.86e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.15e-15, 93.69

ANOVA (p-value, h-statistics): 1.63e-30, 26.46

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.39e-02	nan	nan	nan
o&f	2.38e-01	1.46e-03	nan	nan
si	1.22e-03	4.26e-01	3.66e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.98e-23, 132.69

ANOVA (p-value, h-statistics): 1.68e-34, 26.29

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.72e-05	nan	nan	nan
o&f	2.01e-01	6.68e-05	nan	nan
si	8.76e-04	4.63e-01	1.53e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.27e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.22e-01

p-values for var2_val **o&f** and variable **habits_classical**: 8.62e-02

p-values for var2_val **si** and variable **habits_classical**: 4.97e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.15e-15, 93.69

ANOVA (p-value, h-statistics): 1.63e-30, 26.46

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	1.61e-03	nan	nan	nan
o&f	1.30e-01	1.93e-05	nan	nan
si	1.06e-04	3.84e-01	1.07e-08	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 4.98e-23, 132.69

ANOVA (p-value, h-statistics): 1.68e-34, 26.29

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.90e-06	nan	nan	nan
o&f	1.44e-01	1.51e-06	nan	nan
si	3.90e-06	5.63e-01	2.58e-06	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

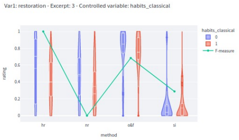
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *3*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.40e-01	4.36e-01	4.38e-01	4.58e-01	4.54e-01	4.56e-01
Mean	Pearsons	p-value	5.60e-01	5.64e-01	5.62e-01	5.42e-01	5.46e-01	5.44e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	4.22e-01	4.18e-01	4.20e-01	4.41e-01	4.37e-01	4.39e-01
Median	Pearsons	p-value	5.78e-01	5.82e-01	5.80e-01	5.59e-01	5.63e-01	5.61e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.66e-01	4.64e-01	4.65e-01	4.89e-01	4.87e-01	4.88e-01
Mean	Pearsons	p-value	5.34e-01	5.36e-01	5.35e-01	5.11e-01	5.13e-01	5.12e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.57e-01	5.56e-01	5.57e-01	5.82e-01	5.80e-01	5.81e-01
Median	Pearsons	p-value	4.43e-01	4.44e-01	4.43e-01	4.18e-01	4.20e-01	4.19e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	18	0.1721	0.1670
nr	20	0.1329	0.1343
o&f	18	0.1394	0.1336
si	19	0.0960	0.0887

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.28e-01	4.23e-01	4.26e-01	4.42e-01	4.37e-01	4.39e-01
Mean	Pearsons	p-value	5.72e-01	5.77e-01	5.74e-01	5.58e-01	5.63e-01	5.61e-01
Mean	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	5.18e-01	5.13e-01	5.15e-01	5.31e-01	5.26e-01	5.29e-01
Median	Pearsons	p-value	4.82e-01	4.87e-01	4.85e-01	4.69e-01	4.74e-01	4.71e-01
Median	Spearman	Correlation	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Spearman	p-value	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	25	0.1022	0.0934
nr	23	0.1080	0.1018
o&f	24	0.0938	0.0869
si	23	0.0587	0.0576

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
{
  "hr, group 0" : "8.91e-02"
  "nr, group 0" : "3.82e-01"
  "o&f, group 0" : "4.56e-03"
  "si, group 0" : "1.10e-05"
  "hr, group 1" : "2.39e-01"
  "nr, group 1" : "2.39e-01"
  "o&f, group 1" : "1.79e-02"
  "si, group 1" : "8.93e-05"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 2.29e-01

p-values for var2_val **nr** and variable **habits_classical**: 1.91e-01

p-values for var2_val **o&f** and variable **habits_classical**: 7.58e-01

p-values for var2_val **si** and variable **habits_classical**: 8.26e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.20e-13, 81.06

ANOVA (p-value, h-statistics): 3.53e-17, 11.92

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	3.44e-01	nan	nan	nan
o&f	1.10e-01	4.14e-02	nan	nan
si	2.65e-02	6.80e-03	6.41e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.35e-24, 140.39

ANOVA (p-value, h-statistics): 7.95e-37, 26.48

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.59e-01	nan	nan	nan
o&f	5.16e-04	1.45e-03	nan	nan

si	5.16e-04	2.93e-03	2.39e-04	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 1.37e-01

p-values for var2_val **nr** and variable **habits_classical**: 1.08e-01

p-values for var2_val **o&f** and variable **habits_classical**: 7.76e-01

p-values for var2_val **si** and variable **habits_classical**: 9.07e-01

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 9.20e-13, 81.06

ANOVA (p-value, h-statistics): 3.53e-17, 11.92

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	2.31e-01	nan	nan	nan
o&f	1.69e-01	2.00e-02	nan	nan
si	4.92e-03	1.26e-03	7.22e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.35e-24, 140.39

ANOVA (p-value, h-statistics): 7.95e-37, 26.48

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	4.84e-01	nan	nan	nan
o&f	2.08e-04	1.87e-04	nan	nan
si	3.20e-05	1.42e-03	1.56e-10	nan

Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in variable-wise tests

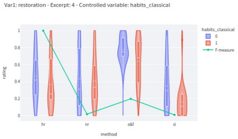
Wilcoxon and Student's t tests have *identical* outcomes for alpha = 0.05 in var2-wise tests

---

Var1: *restoration*

Excerpt: *4*

Controlled variable: *habits_classical*



Correlations and error margins

Correlations for all the data:

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	5.91e-02	6.81e-02	6.36e-02	5.12e-02	5.99e-02	5.55e-02
Mean	Pearsons	p-value	9.41e-01	9.32e-01	9.36e-01	9.49e-01	9.40e-01	9.45e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	-3.45e-03	5.77e-03	1.08e-03	-1.18e-02	-2.90e-03	-7.40e-03
Median	Pearsons	p-value	9.97e-01	9.94e-01	9.99e-01	9.88e-01	9.97e-01	9.93e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Correlations for control group **0**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	4.18e-02	5.10e-02	4.63e-02	3.35e-02	4.23e-02	3.78e-02
Mean	Pearsons	p-value	9.58e-01	9.49e-01	9.54e-01	9.67e-01	9.58e-01	9.62e-01
Mean	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Mean	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Mean	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Mean	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Pearsons	Correlation	1.15e-01	1.24e-01	1.20e-01	1.07e-01	1.15e-01	1.11e-01
Median	Pearsons	p-value	8.85e-01	8.76e-01	8.80e-01	8.93e-01	8.85e-01	8.89e-01
Median	Spearman	Correlation	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01	8.00e-01
Median	Spearman	p-value	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01	2.00e-01
Median	Kendall	Correlation	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01	6.67e-01
Median	Kendall	p-value	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01

Error margins for control group **0**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	21	0.1201	0.1160
nr	22	0.1511	0.1439
o&f	20	0.0622	0.0615
si	22	0.1281	0.1240

Correlations for control group **1**

			With Velocity	With Velocity	With Velocity	Without Velocity	Without Velocity	Without Velocity
			Precision	Recall	F-Measure	Precision	Recall	F-Measure
Mean	Pearsons	Correlation	7.77e-02	8.61e-02	8.19e-02	7.05e-02	7.86e-02	7.45e-02
Mean	Pearsons	p-value	9.22e-01	9.14e-01	9.18e-01	9.30e-01	9.21e-01	9.26e-01
Mean	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Mean	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Mean	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Mean	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01
Median	Pearsons	Correlation	-7.27e-02	-6.38e-02	-6.83e-02	-8.05e-02	-7.19e-02	-7.63e-02
Median	Pearsons	p-value	9.27e-01	9.36e-01	9.32e-01	9.20e-01	9.28e-01	9.24e-01
Median	Spearman	Correlation	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01	4.00e-01
Median	Spearman	p-value	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01	6.00e-01
Median	Kendall	Correlation	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01	3.33e-01
Median	Kendall	p-value	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01	7.50e-01

Error margins for control group **1**

	Sample Size	Error Margin Gaussian	Error Margin Bootstrap
hr	22	0.1171	0.1150
nr	24	0.1134	0.1081
o&f	23	0.1054	0.1046
si	21	0.0854	0.0791

Statistical significance analysis

Shapiro-Wilk tests:

Using Bonferroni-Holm correction!

```
▾ {
   "hr, group 0" : "7.37e-01"
   "nr, group 0" : "8.34e-02"
   "o&f, group 0" : "7.37e-01"
   "si, group 0" : "2.19e-01"
   "hr, group 1" : "7.55e-02"
   "nr, group 1" : "4.33e-01"
   "o&f, group 1" : "2.19e-01"
   "si, group 1" : "2.24e-04"
}
```

Wilcoxon test

p-values for var2_val **hr** and variable **habits_classical**: 2.79e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.88e-01

p-values for var2_val **o&f** and variable **habits_classical**: 5.59e-02

p-values for var2_val **si** and variable **habits_classical**: 9.89e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.30e-09, 64.57

ANOVA (p-value, h-statistics): 4.55e-12, 8.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	6.83e-01	nan	nan	nan
o&f	4.35e-03	1.97e-03	nan	nan
si	1.31e-01	4.44e-01	9.29e-04	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.94e-14, 88.09

ANOVA (p-value, h-statistics): 5.71e-15, 9.97

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	7.50e-01	nan	nan	nan
o&f	5.16e-02	2.98e-02	nan	nan
si	5.16e-02	2.75e-02	2.86e-05	nan

t-test (related variables)

p-values for var2_val **hr** and variable **habits_classical**: 3.61e-01

p-values for var2_val **nr** and variable **habits_classical**: 5.14e-01

p-values for var2_val **o&f** and variable **habits_classical**: 4.49e-02

p-values for var2_val **si** and variable **habits_classical**: 4.65e-02

p-values for variable value 0

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 1.30e-09, 64.57

ANOVA (p-value, h-statistics): 4.55e-12, 8.16

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	5.44e-01	nan	nan	nan
o&f	1.02e-03	1.02e-03	nan	nan
si	1.18e-01	5.44e-01	1.61e-05	nan

p-values for variable value 1

Omnibus tests

Kruskal-Wallis (p-value, h-statistics): 3.94e-14, 88.09

ANOVA (p-value, h-statistics): 5.71e-15, 9.97

using Bonferroni-Holm correction!

	hr	nr	o&f	si
hr	nan	nan	nan	nan
nr	8.27e-01	nan	nan	nan
o&f	3.37e-02	2.42e-02	nan	nan
si	4.18e-02	2.03e-02	3.63e-06	nan

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in variable-wise tests

Wilcoxon and Student's t tests *differ* for alpha = 0.05 in var2-wise tests

---