#### **Reliability - AVERAGE ACCURACY AND RESPONSE TIME**

### **Case Processing Summary**

		N	%
Case	Valid	94	83,2
S	Exclude d <sup>a</sup>	19	16,8
	Total	113	100,0

a. Listwise deletion based on all variables in the procedure.

#### **Reliability Statistics**

	, ,	
	Cronbach's	
	Alpha Based	
	on	
Cronbach's	Standardize	N of
Alpha	d Items	Items
,839	,711	20

**Summary Item Statistics** 

		Minimu			Maximum /
	Mean	m	Maximum	Range	Minimum
Item Means	2469,429	,631	8276,137	8275,506	13119,003
Item Variances	4834850,8	,007	30016449,2	30016449,2	4551670415
	62		65	58	,851
Inter-Item	1000195,2	-714,03	26297430,7	26298144,8	-36829,359
Covariances	32	4	97	31	
Inter-Item	,110	-,537	,929	1,466	-1,730
Correlations					

**Summary Item Statistics** 

	Variance	N of Items
Item Means	8101919,122	20
Item Variances	75555468960353,880	20
Inter-Item Covariances	8389037835846,277	20
Inter-Item Correlations	,122	20

#### **Reliability - USER SCORES**

### **Case Processing Summary**

		N	%
Case	Valid	87	77,0
S	Exclude d <sup>a</sup>	26	23,0
	Total	113	100,0

a. Listwise deletion based on all variables in the procedure.

#### **Reliability Statistics**

	•	
	Cronbach's	
	Alpha Based	
	on	
Cronbach's	Standardize	N of
Alpha	d Items	Items
,935	,937	115

### **Summary Item Statistics**

		Minimu	Maximu		Maximum /	Varianc
	Mean	m	m	Range	Minimum	е
Item Means	,825	,575	,977	,402	1,700	,014
Item Variances	,132	,023	,247	,225	10,882	,005
Inter-Item	,015	-,050	,170	,220	-3,404	,001
Covariances						
Inter-Item	,114	-,243	1,000	1,243	-4,121	,025
Correlations						

#### **Summary Item Statistics**

	N of Items
Item Means	115
Item Variances	115
Inter-Item Covariances	115
Inter-Item Correlations	115

#### Reliability - USER SCORES + RESPONSE TIME

#### **Case Processing Summary**

		N	%
Case	Valid	87	77,0
S	Exclude	26	23,0
	_d <sup>a</sup>		
	Total	113	100,0

a. Listwise deletion based on all variables in the procedure.

### **Reliability Statistics**

	Cronbach's Alpha Based	
	on	
Cronbach's	Standardize	N of
Alpha	d Items	Items
,963	,938	231

## **Summary Item Statistics**

	Mean	Minimum	Maximum	Range
Item Means	2739,588	,575	12747,529	12746,954
Item Variances	14403193,0	,023	289584534,	289584534,
	91		159	136
Inter-Item	1458623,46	-3827315,1	119033920,	122861235,
Covariances	5	82	754	936
Inter-Item	,061	-,798	1,000	1,798
Correlations				

# **Summary Item Statistics**

	Maximum /		
	Minimum	Variance	N of Items
Item Means	22180,700	9797855,245	231
Item Variances	12745126379,871	901617056189297	231
		,400	
Inter-Item Covariances	-31,101	23879046827071,	231
		387	
Inter-Item Correlations	-1,253	,040	231

#### **Plots**

#### **Statistics**

Statistics					
			dotscompari		
		dotscompari	son_accurac	matchsampl	matchsampl
		son_RT	у	e_RT	e_accuracy
N	Valid	111	113	113	113
	Missin g	2	0	0	0
Mean		2834,493	,958	4779,228	,709931170 119
Median		2101,200	1,000	4451,800	,777777777 800
Std. Deviation		2325,4869	,0811	1455,0570	,203818068 8473
Variance		5407889,17 5	,007	2117190,85 7	,042
Percentil es	25	1588,100	,900	3795,550	,55555555 600
	50	2101,200	1,000	4451,800	,777777777 800
	75	3408,300	1,000	5483,650	,88888888, 900

### Statistics

			matchsampler		matchpointsn
		matchsampler	otate_accurac	matchpointsn	umber_accura
		otate_RT	У	umber_RT	су
N	Valid	113	113	108	112
	Missing	0	0	5	1
Mean		4525,2796460	,75319567356	4209,141	,926
		2	1		
Median		4257,9000000	,77777777780	4214,300	1,000
		0	0		
Std. Deviat	ion	1238,0427996	,21605250423	1688,3544	,1199
		97	31		
Variance		1532749,974	,047	2850540,424	,014
Percentile	25	3653,5500000	,5555555560	2974,475	,900
S	_	0	0		

	50	4257,9000000	,7777777780 0	4214,300	1,000
	75	5157,4500000	,8888888890	5186,875	1,000
		0	0		
		9	Statistics		
			symbolicmagn		
		symbolicmagn	itude_accurac	numericline_R	numericline_a
		itude_RT	У	Т	ccuracy
N	Valid	111	113	111	113
	Missing	2	0	2	0
Mean		1773,576	,957	5840,8386196 82	,629
Median		1656,800	1,000	5398,0222220 00	,700
Std. Deviation		879,6231	,1172	2969,2445234 146	,2930
Variance		773736,879	,014	8816413,040	,086
Percentile s	25	1259,400	1,000	3970,6375000	,400
3	50	1656,800	1,000	5398,0222220	,700
	75	2011,500	1,000	6767,0777780 00	,900
			Statistics	00	
			counting_acc	countingtrue_	countingtrue_
				_	_
		counting RT	uracy	RI	accuracy
N	Valid	counting_RT	uracy 113	RT 108	accuracy 113
N	Valid	113	113	108	113
	Valid Missing	113 0 4390,6106194	113 0 ,90757128810	108 5 5168,7548733	113 0
Mean		113 0 4390,6106194 41	113 0 ,90757128810 8	108 5 5168,7548733 6	113 0 ,88961341408 0
Mean		113 0 4390,6106194 41 4090,1111110	113 0 ,90757128810 8 1,00000000000	108 5 5168,7548733	113 0 ,88961341408 0 ,94736842110
Mean Median	Missing	113 0 4390,6106194 41 4090,1111110 00	113 0 ,90757128810 8 1,0000000000 00	108 5 5168,7548733 6 4571,2105260 0	113 0 ,88961341408 0 ,94736842110
Mean Median	Missing	113 0 4390,6106194 41 4090,1111110 00 2311,9785538	113 0 ,90757128810 8 1,0000000000 00 ,14840618185	108 5 5168,7548733 6 4571,2105260 0 3021,7194586	113 0 ,88961341408 0 ,94736842110 0 ,16952245039
Mean Median Std. Deviat	Missing	113 0 4390,6106194 41 4090,1111110 00 2311,9785538 421	113 0 ,90757128810 8 1,0000000000 00 ,14840618185 07	108 5 5168,7548733 6 4571,2105260 0 3021,7194586 86	113 0 ,88961341408 0 ,94736842110 0 ,16952245039 68
Mean Median Std. Deviat Variance	Missing	113 0 4390,6106194 41 4090,1111110 00 2311,9785538 421 5345244,833	113 0 ,90757128810 8 1,0000000000 00 ,14840618185 07 ,022	108 5 5168,7548733 6 4571,2105260 0 3021,7194586 86 9130788,487	113 0 ,88961341408 0 ,94736842110 0 ,16952245039 68 ,029
Mean  Median  Std. Deviat  Variance  Percentile	Missing	113 0 4390,6106194 41 4090,1111110 00 2311,9785538 421	113 0 ,90757128810 8 1,0000000000 00 ,14840618185 07 ,022	108 5 5168,7548733 6 4571,2105260 0 3021,7194586 86	113 0 ,88961341408 0 ,94736842110 0 ,16952245039 68 ,029
Mean  Median  Std. Deviat  Variance  Percentile	Missing	113 0 4390,6106194 41 4090,1111110 00 2311,9785538 421 5345244,833 3176,6666665	113 0 ,90757128810 8 1,0000000000 00 ,14840618185 07 ,022 ,88888888890 0	108 5 5168,7548733 6 4571,2105260 0 3021,7194586 86 9130788,487 3104,0657890 0	113 0 ,88961341408 0 ,94736842110 0 ,16952245039 68 ,029 ,89473684210
N Mean Median Std. Deviat Variance Percentile s	Missing ion	113 0 4390,6106194 41 4090,1111110 00 2311,9785538 421 5345244,833 3176,6666665 00	113 0 ,90757128810 8 1,0000000000 00 ,14840618185 07 ,022 ,88888888890 0	108 5 5168,7548733 6 4571,2105260 0 3021,7194586 86 9130788,487	113 0 ,88961341408 0 ,94736842110 0 ,16952245039 68 ,029 ,89473684210
Mean  Median  Std. Deviat  Variance  Percentile	Missing ion	113 0 4390,6106194 41 4090,1111110 00 2311,9785538 421 5345244,833 3176,6666665 00 4090,1111110	113 0 ,90757128810 8 1,0000000000 00 ,14840618185 07 ,022 ,88888888890 0 1,0000000000 00	108 5 5168,7548733 6 4571,2105260 0 3021,7194586 86 9130788,487 3104,0657890 0 4571,2105260	113 0 ,88961341408 0 ,94736842110 0 ,16952245039 68 ,029 ,89473684210 0 ,94736842110

### **Statistics**

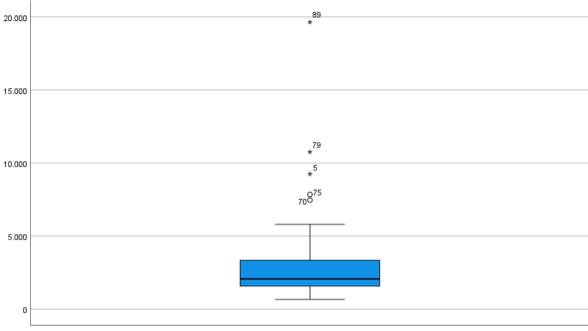
			simplearithme		simplearithme
		simplearithme	ticplus_accura	simplearithme	ticminus accu
		ticplus_RT	су	ticminus_RT	racy
N	Valid	111	113	111	113
	Missing	2	0	2	0
Mean		6887,228	,895	7935,7149	,8049
Median		5778,000	1,000	6615,4500	,9500
Std. Deviat	ion	4910,4419	,1889	5246,84822	,24339
Variance		24112439,819	,036	27529416,233	,059
Percentile	25	3321,800	,900	4213,8000	,7000
S	50	5778,000	1,000	6615,4500	,9500
	75	9530,600	1,000	11196,2500	1,0000
			Statistics		
		dotscomparis	matchsample	matchsampler	matchpointsn
		on_IES	_IES	otate_IES	umber_IES
N	Valid	111	113	112	108
	Missing	2	0	1	5
Mean		2983,1024595	7808,7011726	6749,9619593	4556,0614895
		9	0	1	6
Median		2356,4444440	6437,7000000	5774,3035715	4605,5722220
		0	0	0	0
Std. Deviat	ion	2397,3953780	4933,8658839	3703,9374397	1846,9445792
		06	20	70	54
Variance		5747504,598	24343032,561	13719152,558	3411204,279
Percentile	25	1658,9000000	4562,4875000	4222,5187500	3313,8166667
S		0	0	0	5
	50	2356,4444440	6437,7000000	5774,3035715	4605,5722220
		0	0	0	0
	75	3422,2500000	9322,6114285	8390,6700000	5537,1388890
		0	0	0	0
			Statistics		
		symbolicmagn	numericline_l		countingtrue_I
		itude_IES	ES	counting_IES	ES
N	Valid	111	111	113	108
	Missing	2	2	0	5
Mean		2018,2955956	13509,516394	5126,7525178	6574,7536687
N.4 11		2	36	8	5
Median		1672,1000000	_	4276,2500000	
		0	0	0	0

Std. Deviation		1785,7128093	13382,566331	3964,0639023	5766,4485121
		71	233	45	82
Variance		3188770,238	179093081,61	15713802,622	33251928,444
			0		
Percentile	25	1287,7000000	5186,5555560	3534,5555560	3580,8970585
S		0	0	0	0
	50	1672,1000000	7868,7936510	4276,2500000	4894,7187500
		0	0	0	0
	75	2080,6000000	16569,238100	5920,6666670	7362,4218750
		0	00	0	0

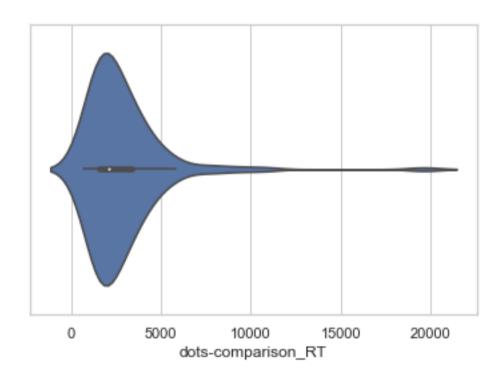
#### **Statistics**

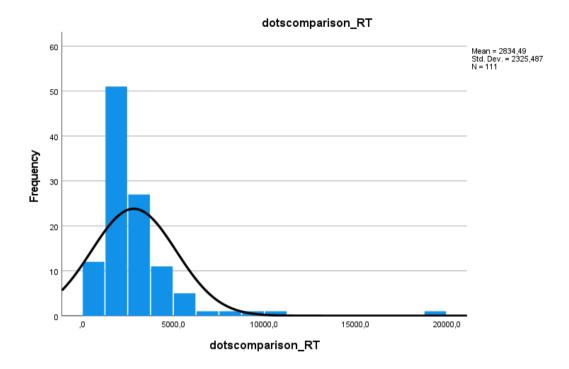
		simplearithmeticplus_IE S	simplearithmeticminus_ IES
N	Valid	110	111
	Missing	3	2
Mean		8409,646407030	14173,82744671
Median		5834,750000000	7976,10000000
Std. Deviation		8119,3288712122	19247,554313222
Variance		65923501,319	370468347,040
Percentiles	25	3389,525000000	4604,25000000
	50	5834,750000000	7976,10000000
	75	9937,816666750	15168,12500000

# dotscomparison\_RT

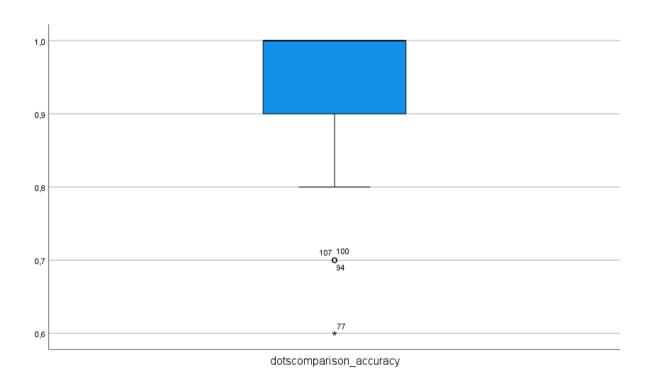


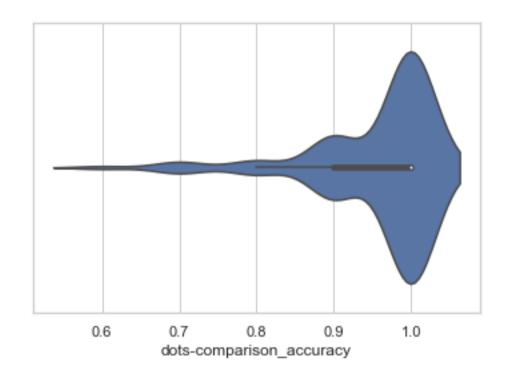


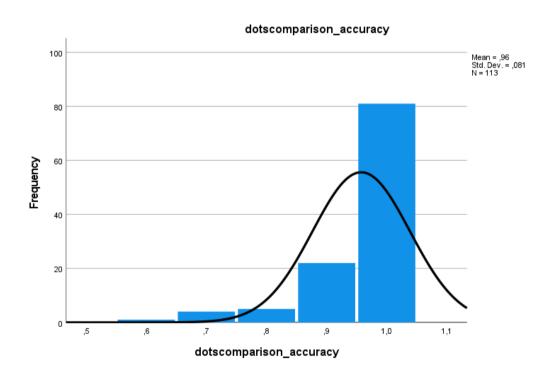




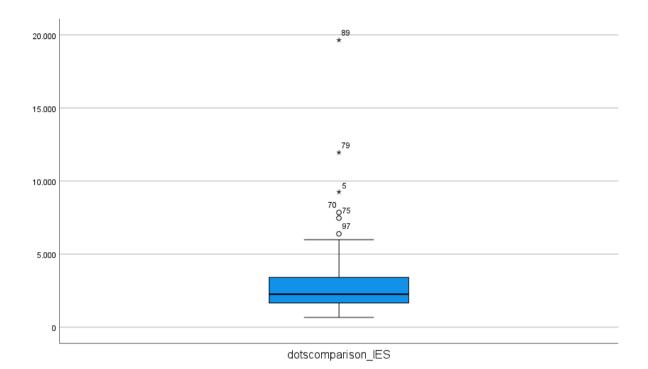
## dotscomparison\_accuracy

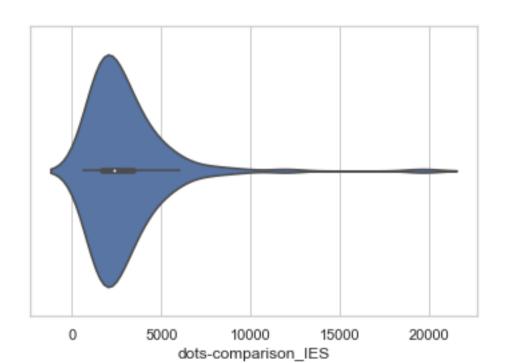


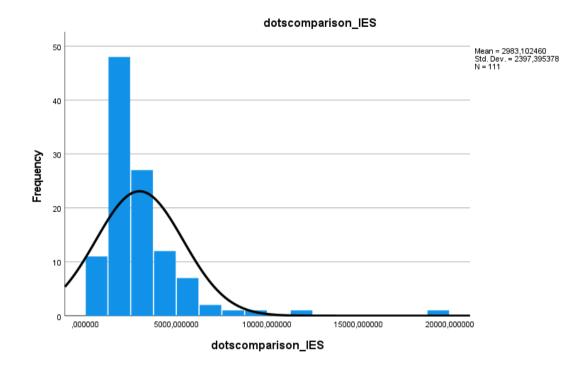




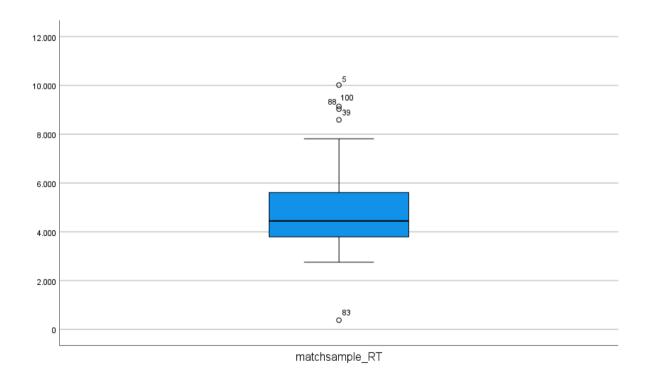
## dotscomparison\_IES

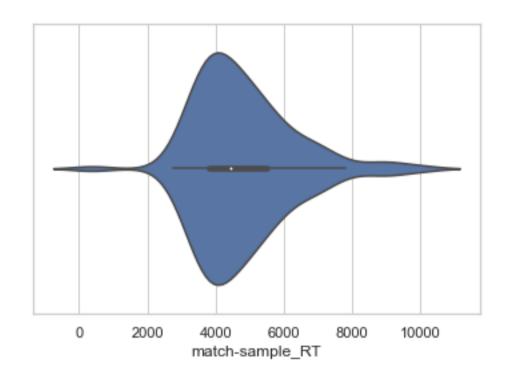


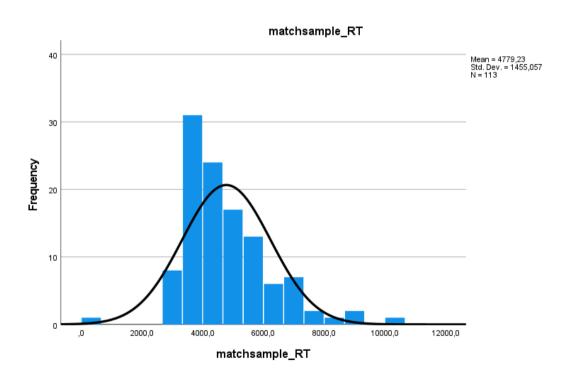




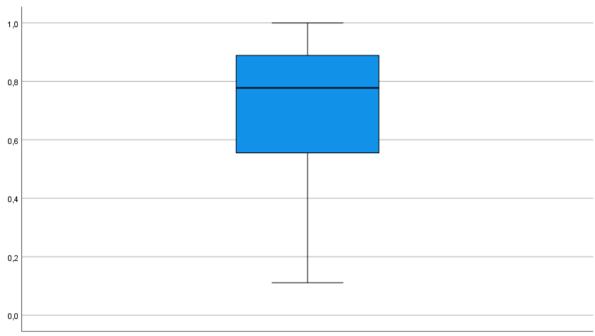
## matchsample\_RT



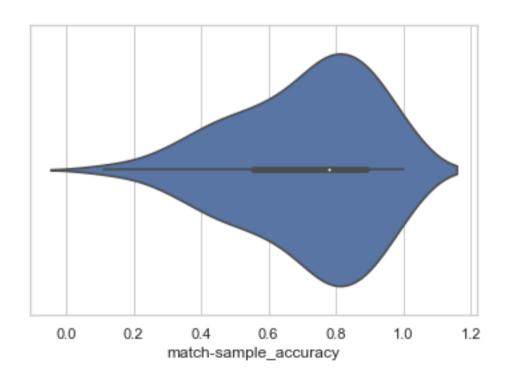


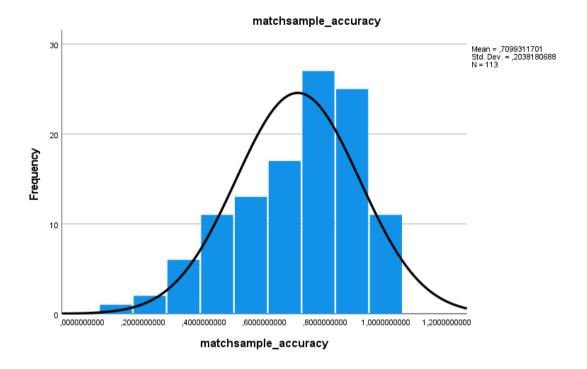


# matchsample\_accuracy

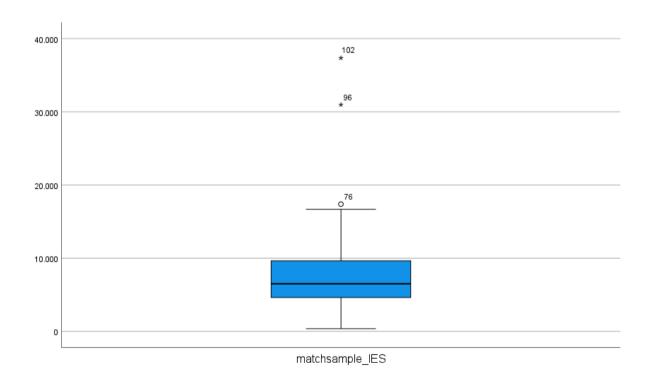


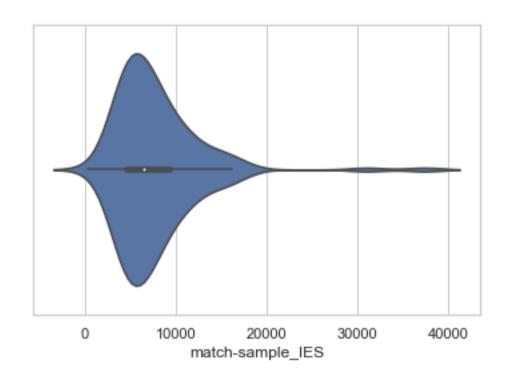
matchsample\_accuracy

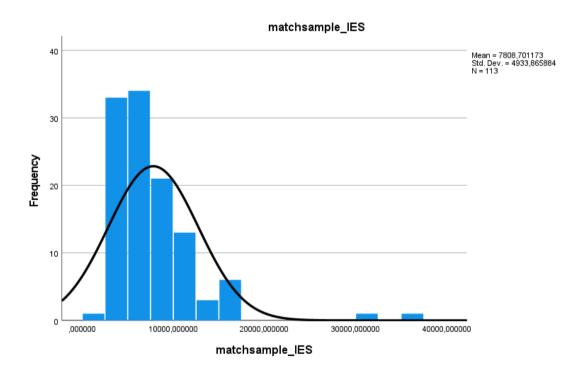




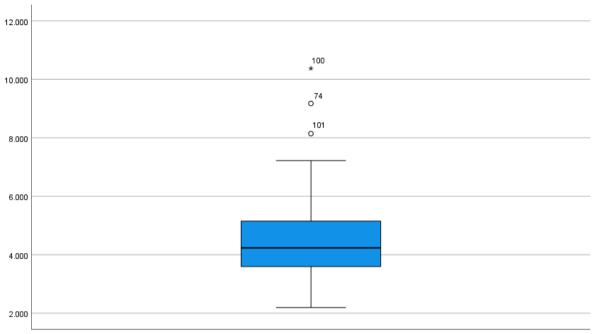
## matchsample\_IES



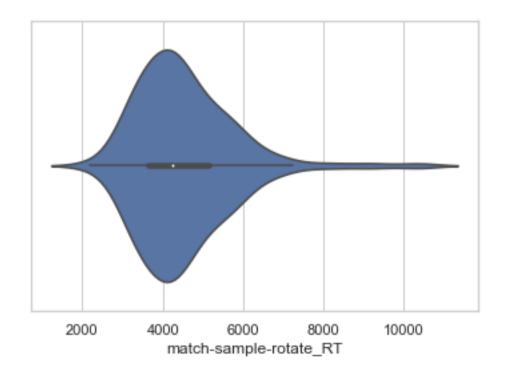


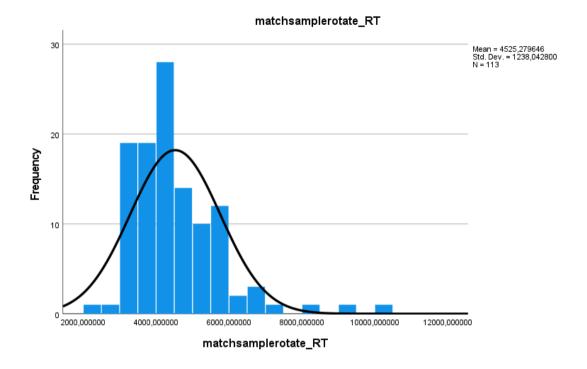


### $match sample rotate \_RT$

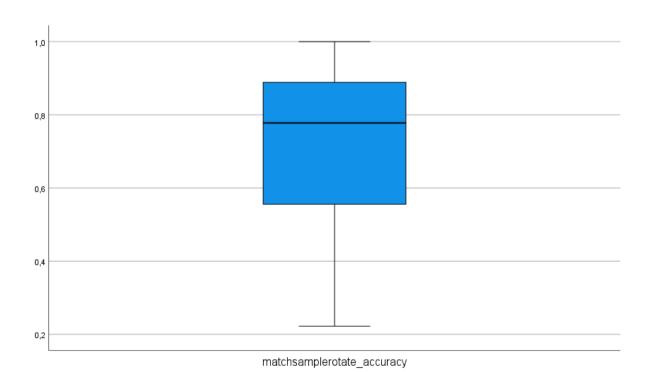


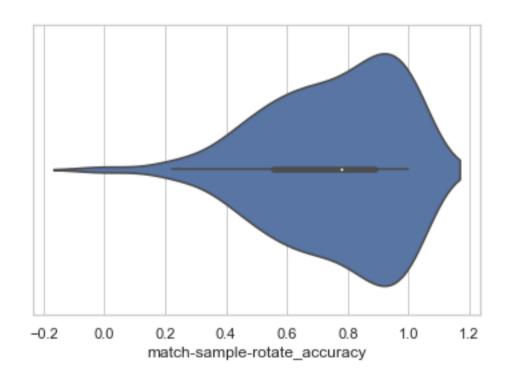
matchsamplerotate\_RT

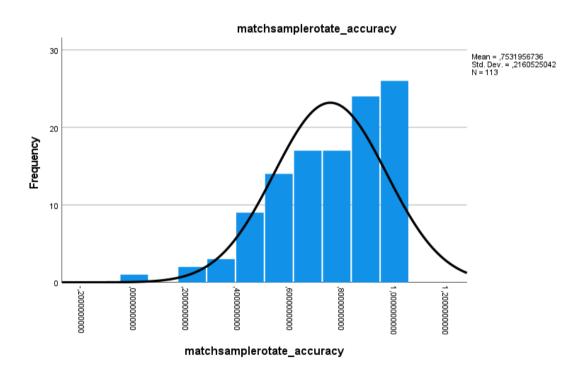




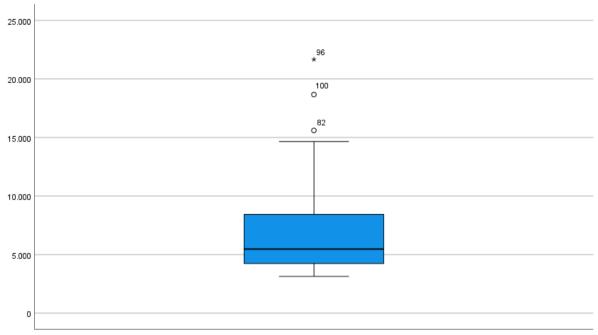
## matchsamplerotate\_accuracy



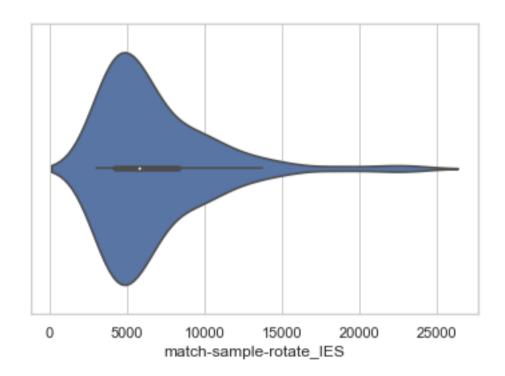


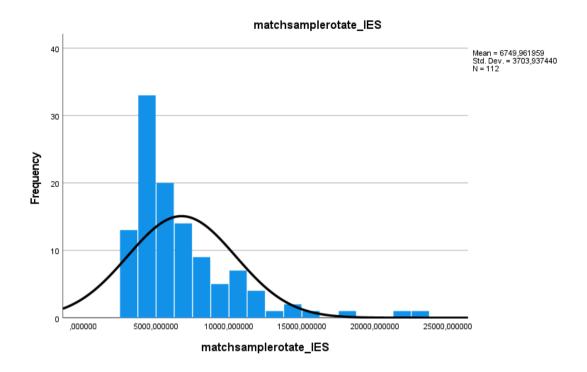


## matchsamplerotate\_IES

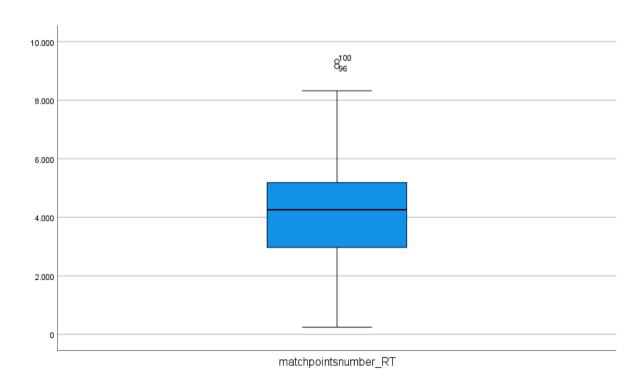


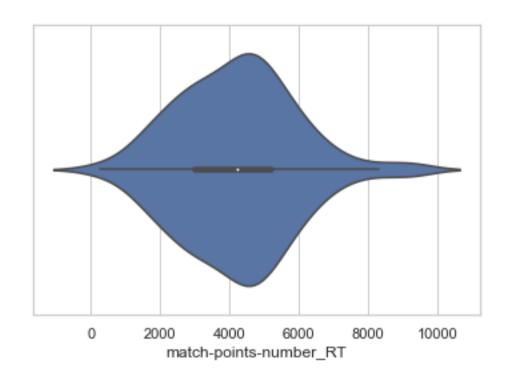


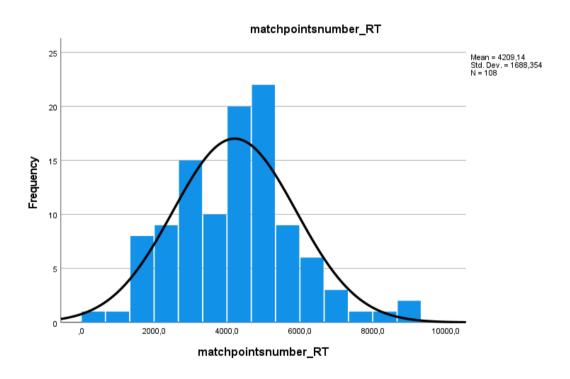




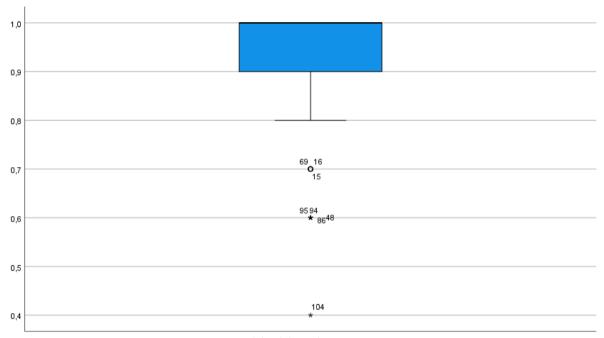
## matchpointsnumber\_RT



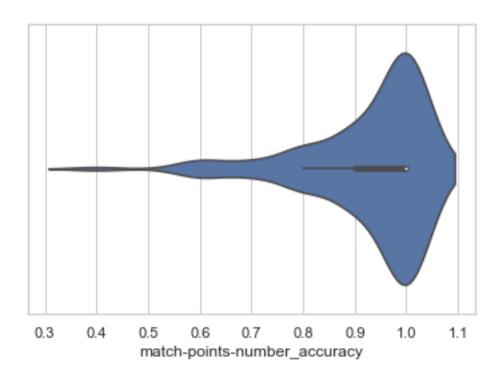


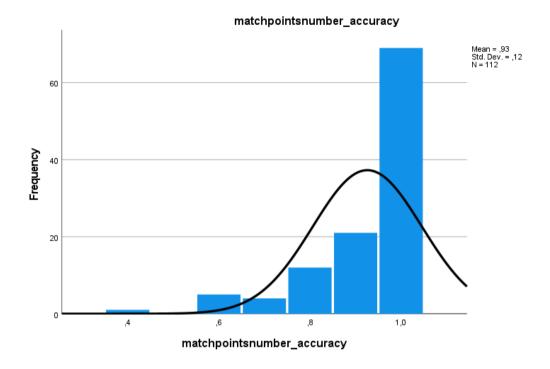


### matchpointsnumber\_accuracy

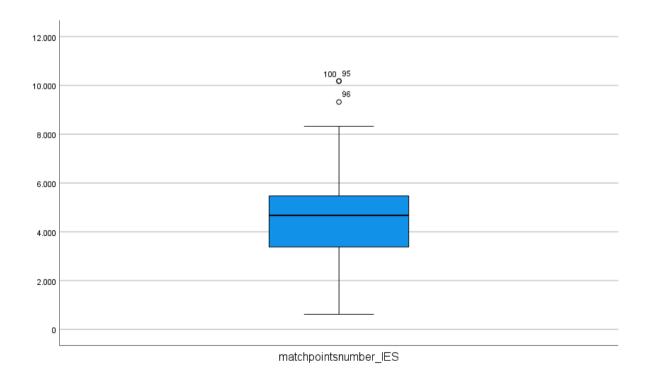


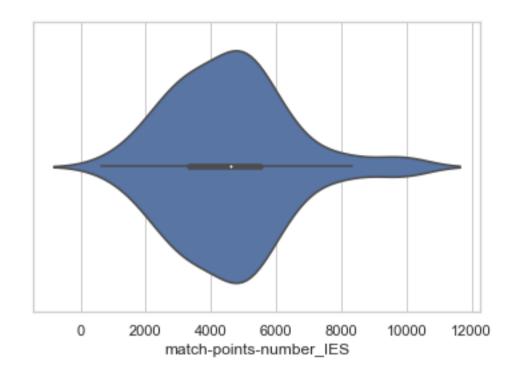
matchpointsnumber\_accuracy

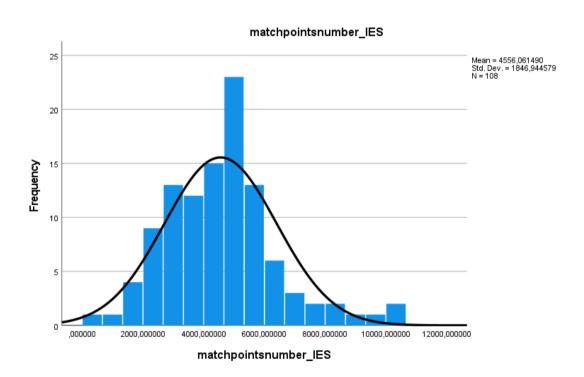




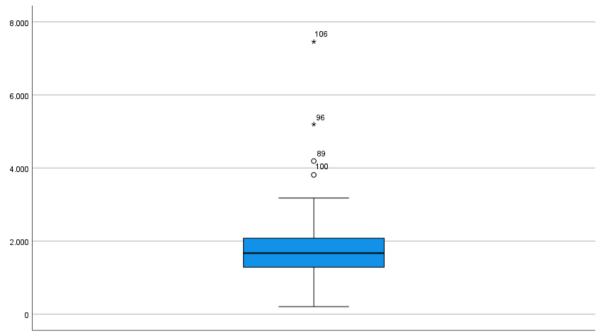
## matchpointsnumber\_IES



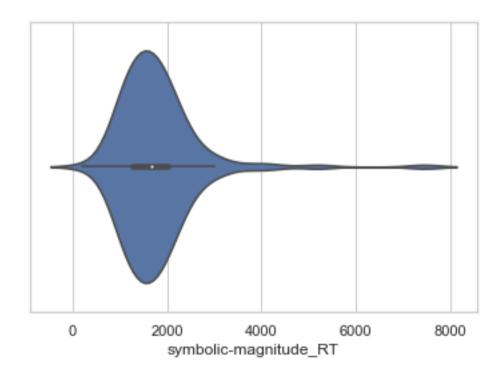


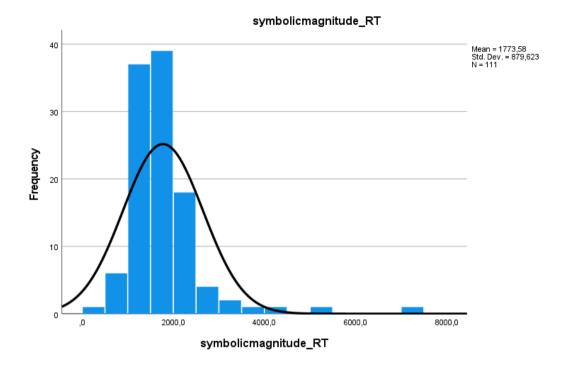


### symbolicmagnitude\_RT

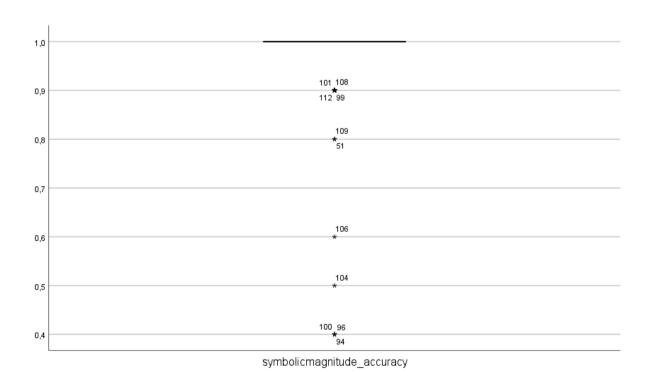


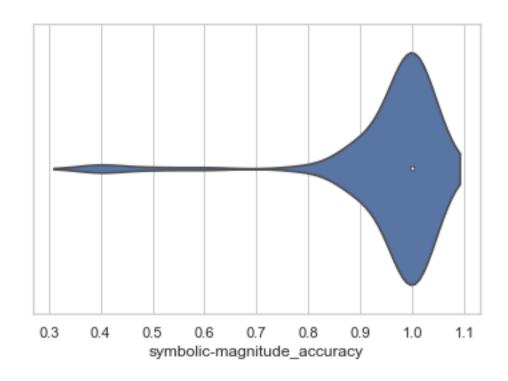
symbolicmagnitude\_RT

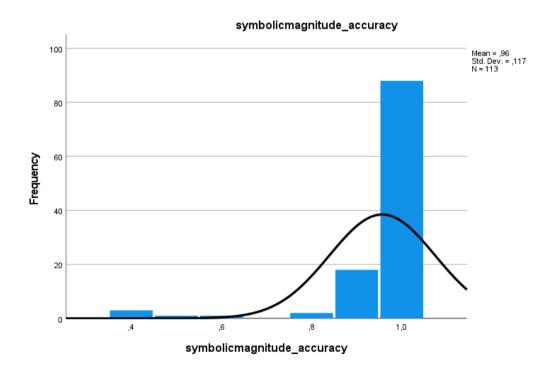




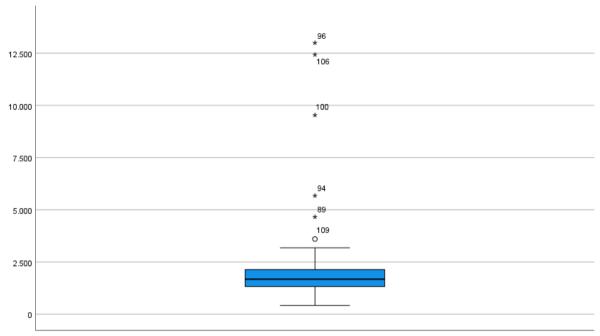
## symbolicmagnitude\_accuracy



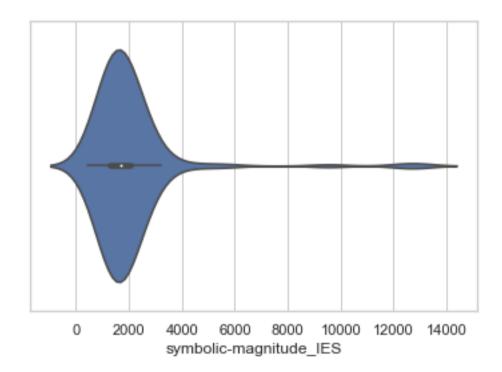


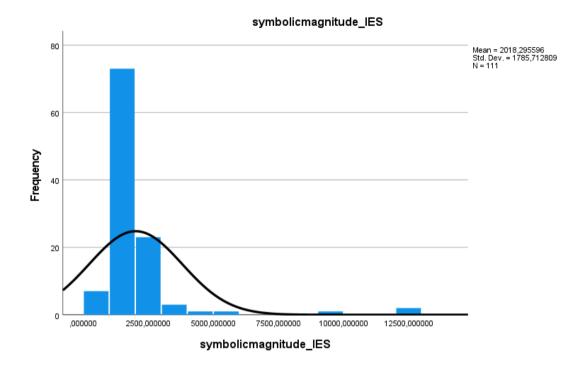


## symbolicmagnitude\_IES

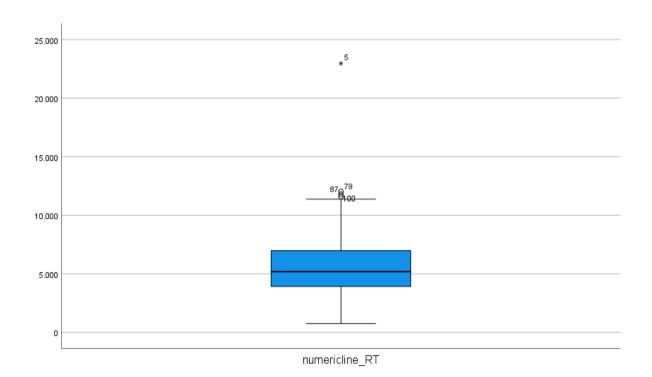


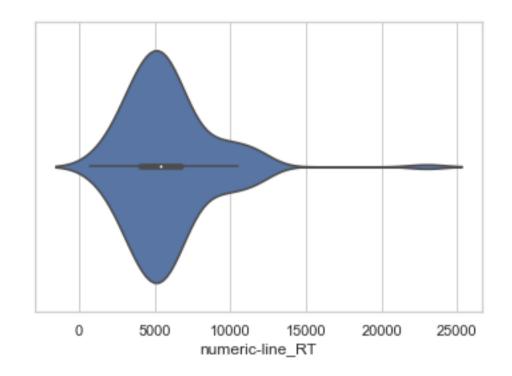
symbolicmagnitude\_IES

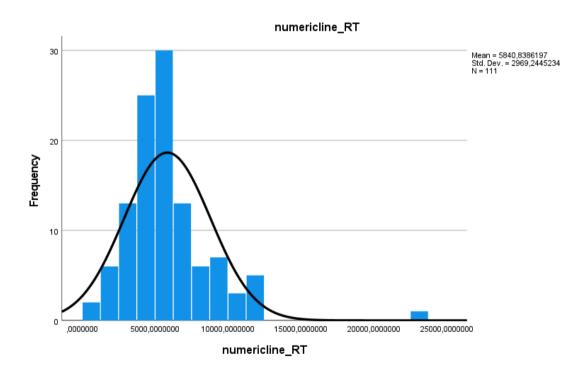




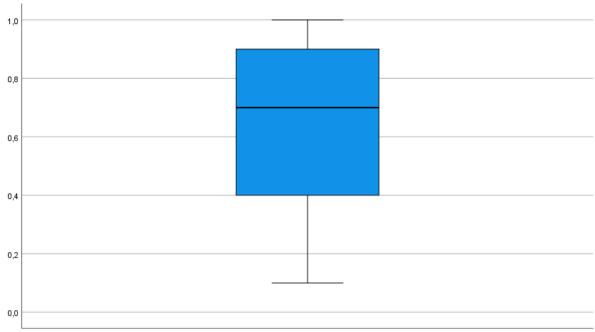
### numericline\_RT



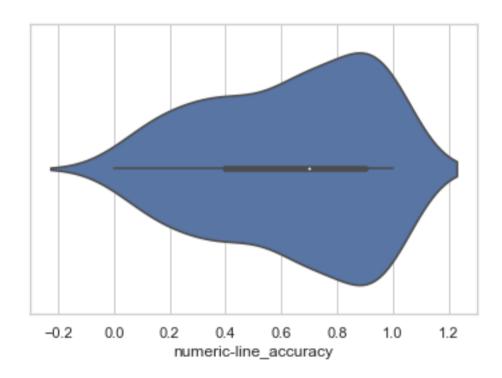


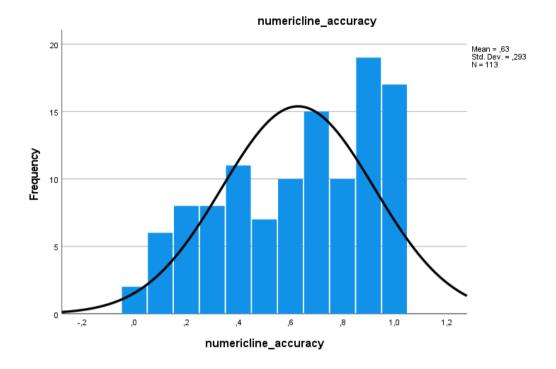


### numericline\_accuracy

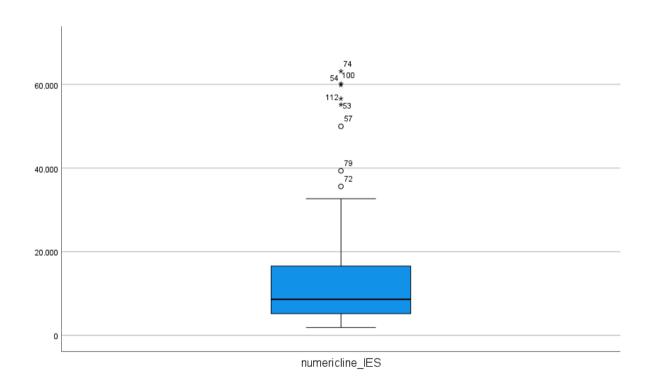


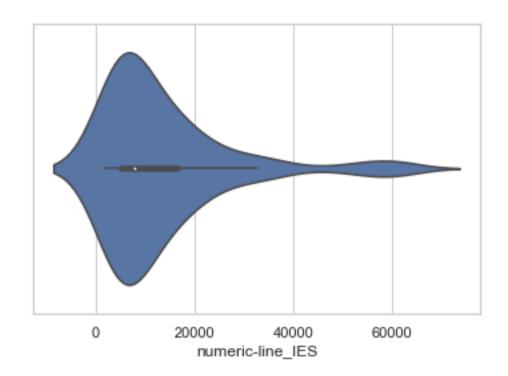


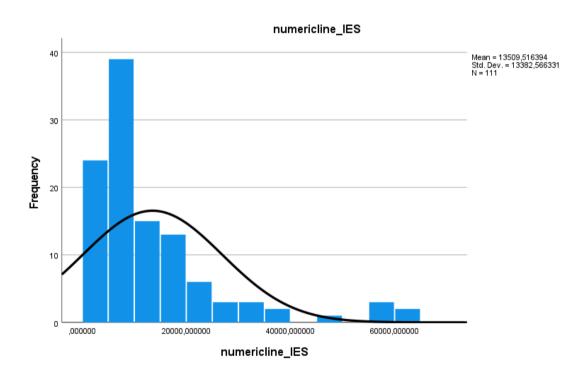




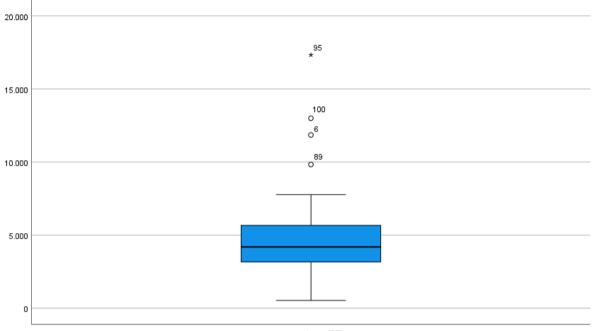
# numericline\_IES



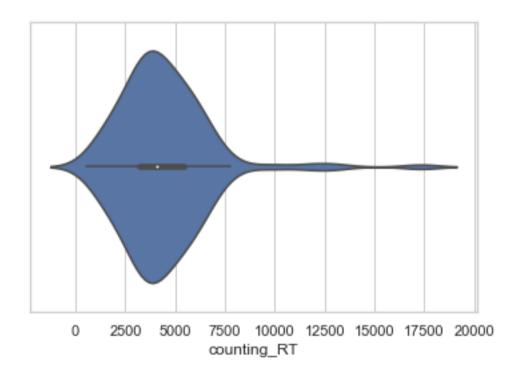


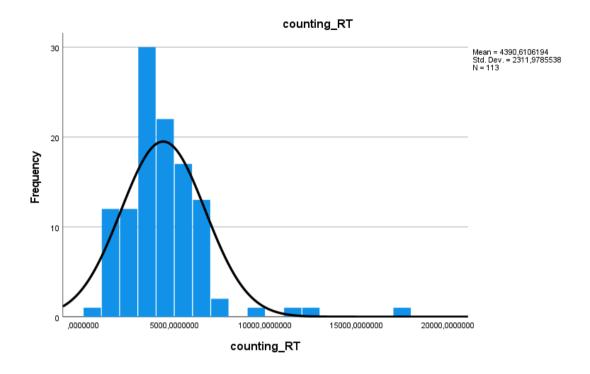


## $counting_RT$

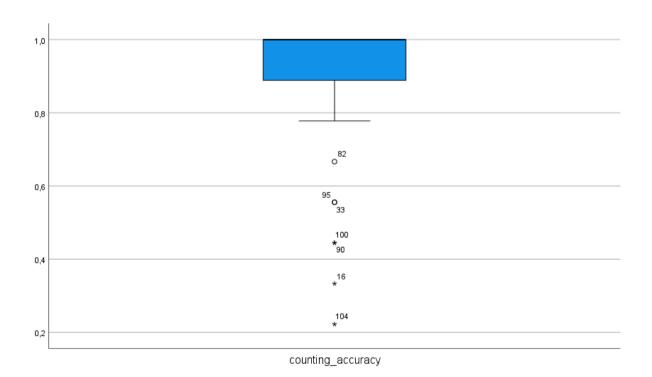


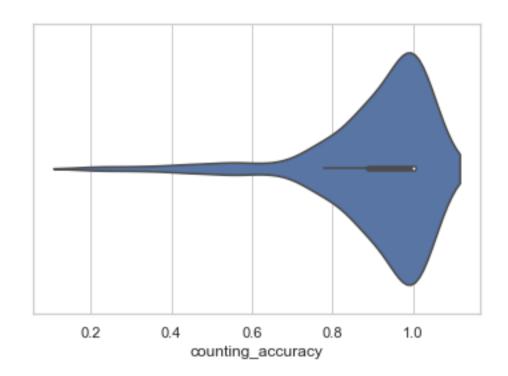


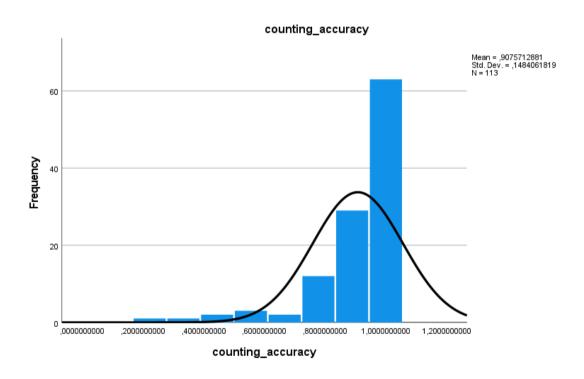




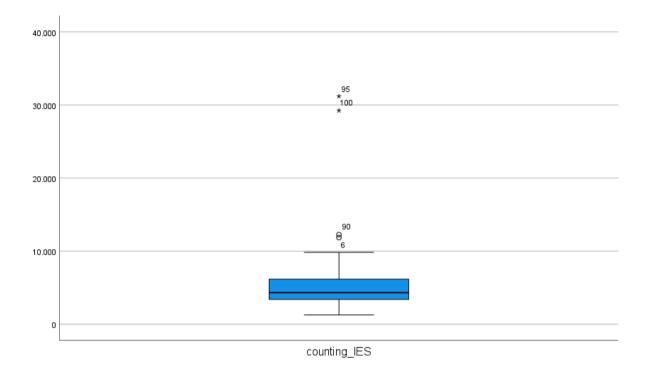
## counting\_accuracy

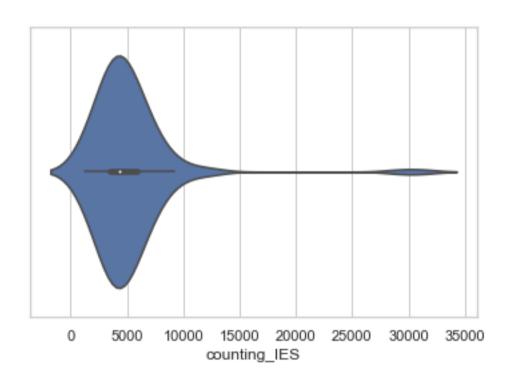


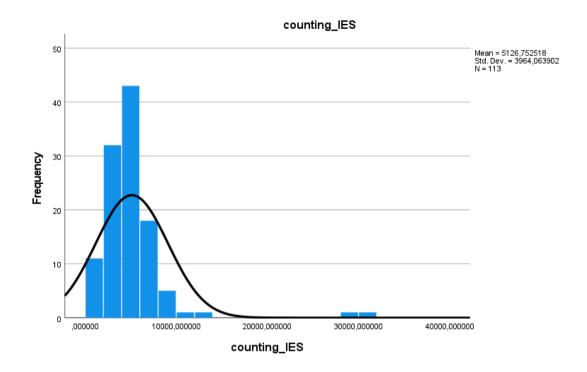




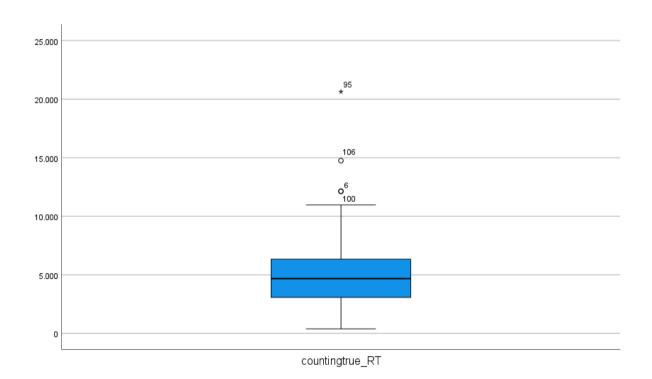
# counting\_IES

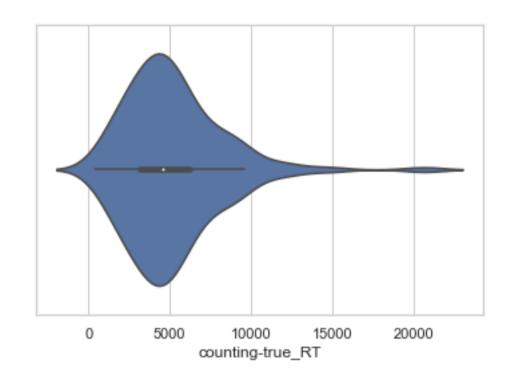


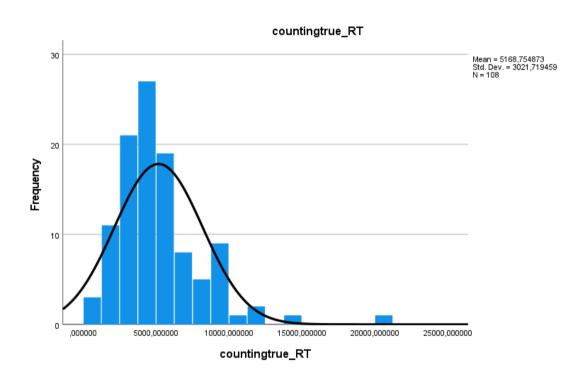




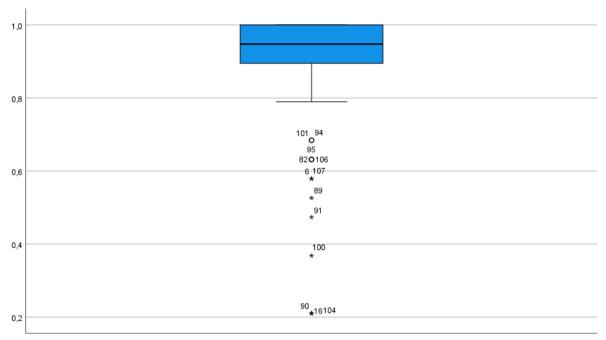
#### countingtrue\_RT



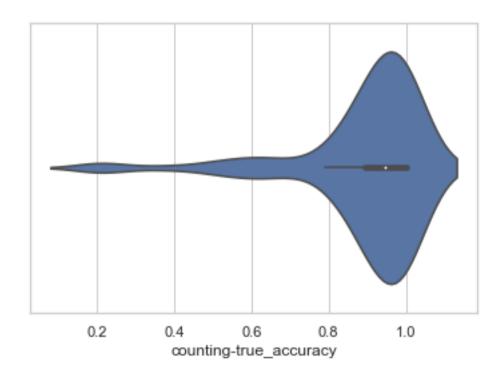


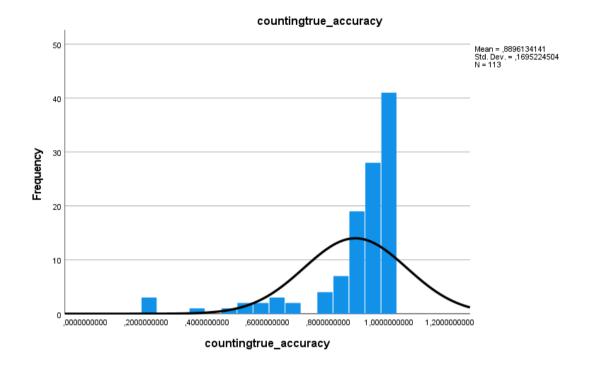


#### countingtrue\_accuracy

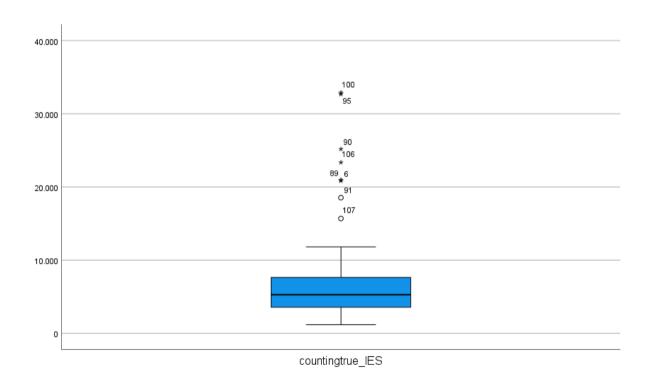


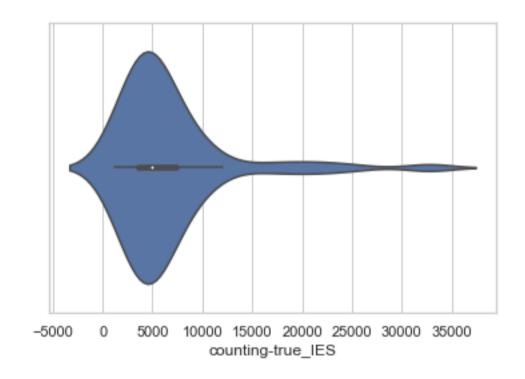
countingtrue\_accuracy

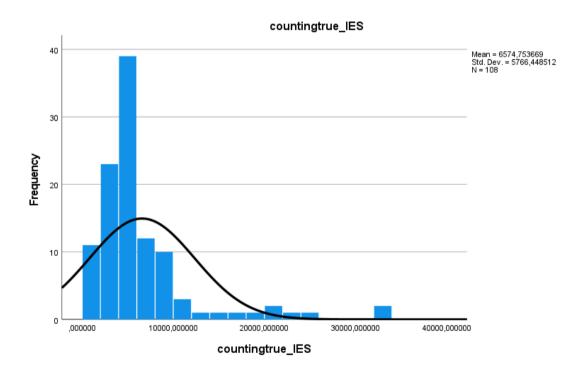




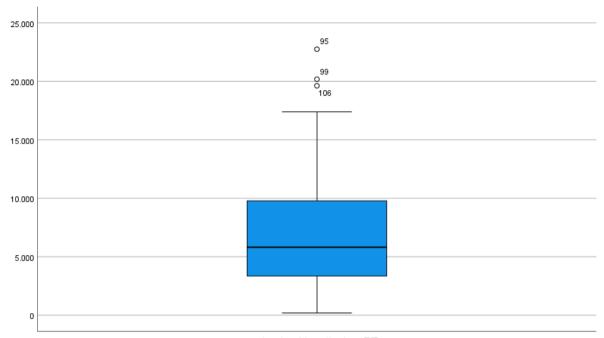
#### countingtrue\_IES



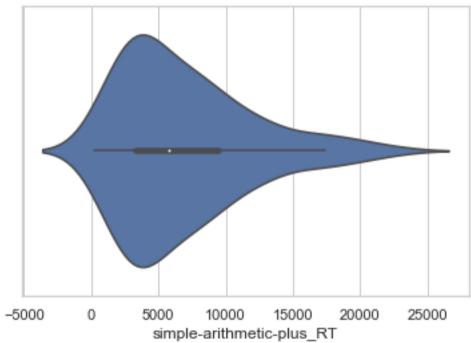


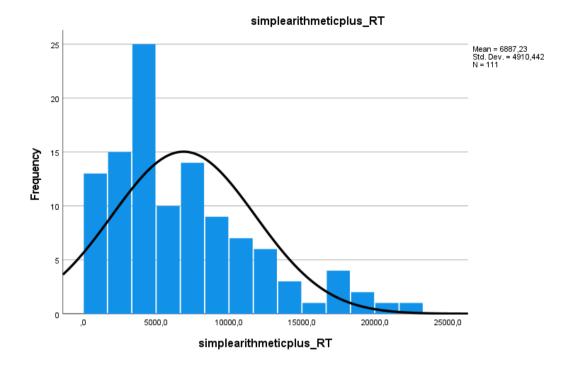


#### simplearithmeticplus\_RT

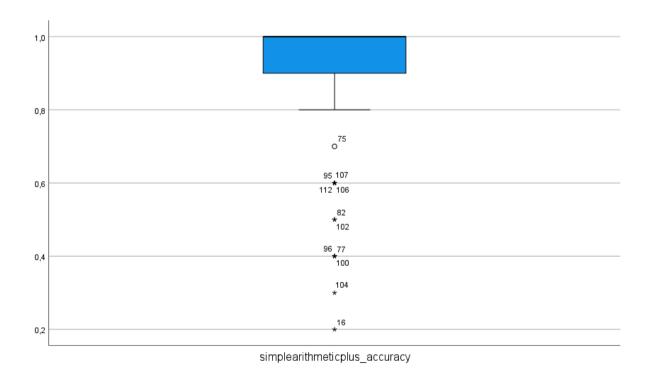


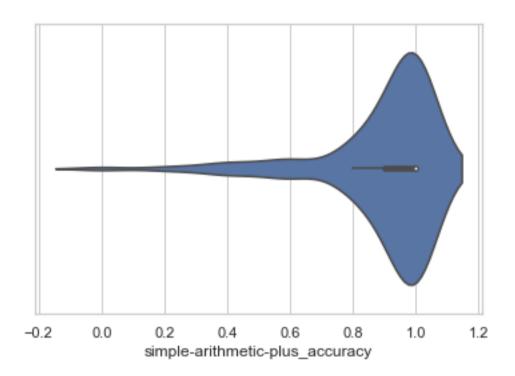
simplearithmeticplus\_RT

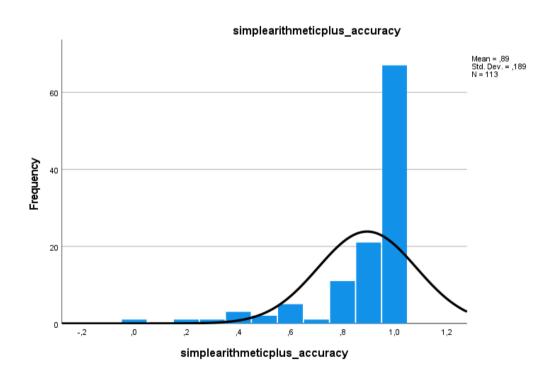




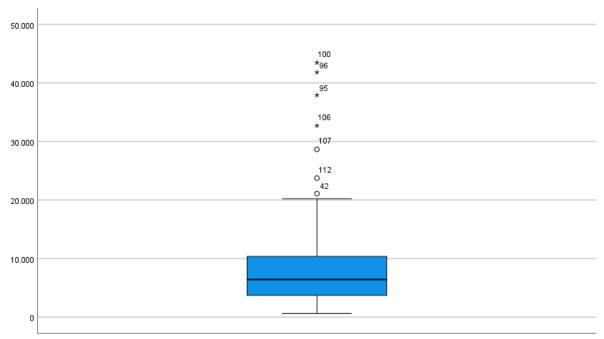
# simplearithmeticplus\_accuracy



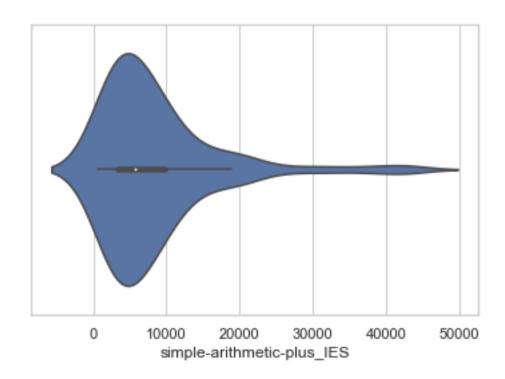


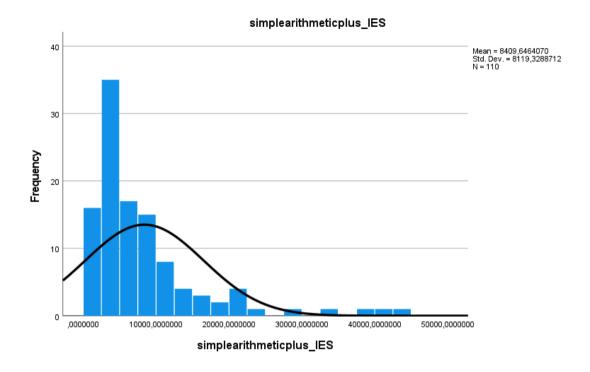


# simplearithmeticplus\_IES

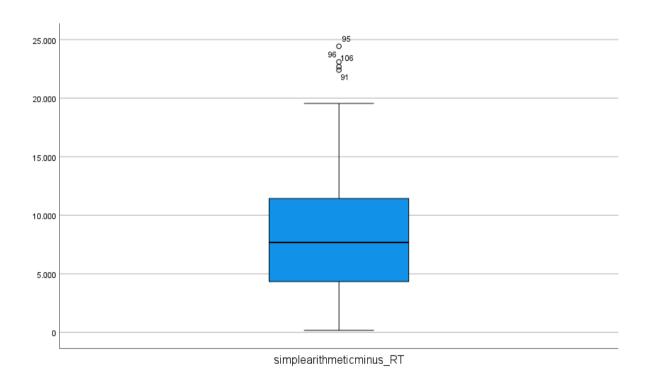


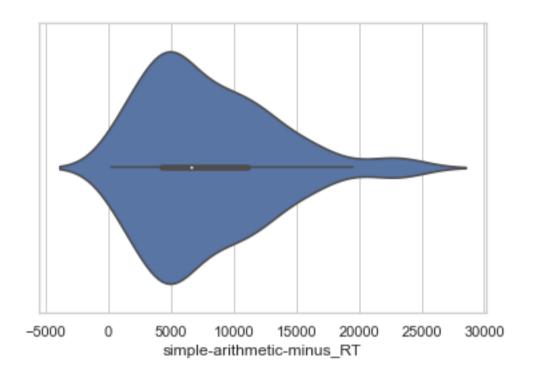
simplearithmeticplus\_IES

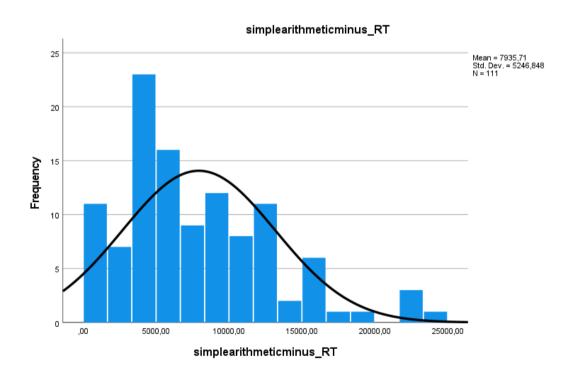




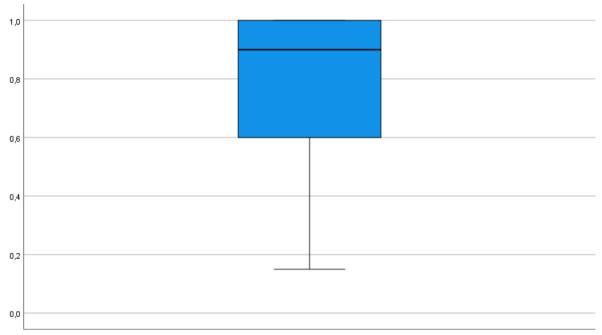
# simplearithmeticminus\_RT



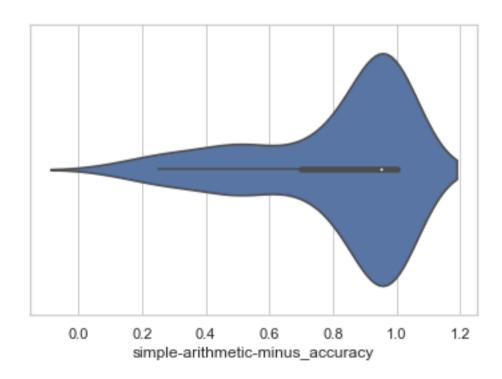


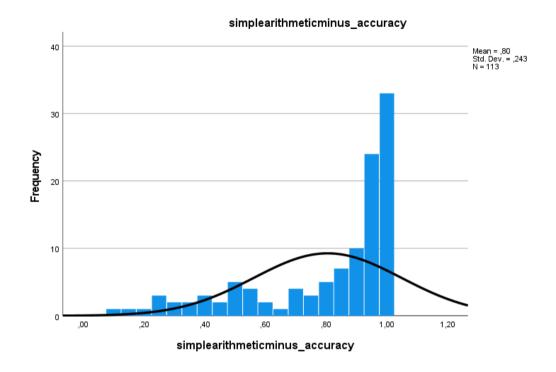


# simplearithmeticminus\_accuracy

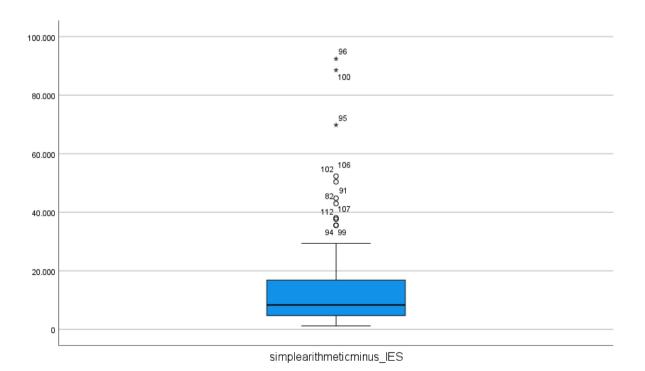


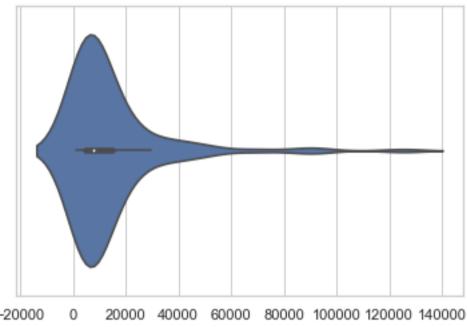
simplearithmeticminus\_accuracy





# simplearithmeticminus\_IES





-20000 simple-arithmetic-minus\_IES

