

```
EXAMINE VARIABLES=diff BY tool_num
/PLOT NPLOT
/STATISTICS DESCRIPTIVES
/CINTERVAL 95
/MISSING LISTWISE
/NOTOTAL.
```

```
*Nonparametric Tests: Independent Samples.
NPTESTS
/INDEPENDENT TEST (diff) GROUP (tool_num) KRUSKAL_WALLIS (COMPARE=PAIRWISE)
JONCKHEERE_TERPSTR (ORDER=ASCENDING COMPARE=PAIRWISE) MEDIAN (TESTVALUE=SA
MPLE COMPARE=PAIRWISE)
/MISSING SCOPE=ANALYSIS USERMISSING=EXCLUDE
/CRITERIA ALPHA=0.05 CILEVEL=95.
```

Nonparametric Tests

Notes

Output Created		03-JUN-2019 13:31:04
Comments		
Input	Data	/Users/rvanemous/Documents/Afstuderen/Tools/CompuRacer_(own_github)/Tool_comparison/results/csvs/All.sav
	Active Dataset	DataSet1
	Filter	item_title ~= "Web" & item_title ~= "Vouchers used" (FILTER)
	Weight	<none>
	Split File	item_title_num, test_type_num
	N of Rows in Working Data File	14915
Syntax		NPTESTS /INDEPENDENT TEST (diff) GROUP (tool_num) KRUSKAL_WALLIS (COMPARE=PAIRWISE) JONCKHEERE_TERPSTR (ORDER=ASCENDING COMPARE=PAIRWISE) MEDIAN (TESTVALUE=SAMPLE COMPARE=PAIRWISE) /MISSING SCOPE=ANALYSIS USERMISSING=EXCLUDE /CRITERIA ALPHA=0.05 CILEVEL=95.

Notes

Resources	Processor Time	00:00:02.10
	Elapsed Time	00:00:00.00

item_title_num = Sucess codes, test_type_num = f

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.647	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.778	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.781	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Sucess codes, test_type_num = n

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.010	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.012	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.028	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Sucess codes, test_type_num = r

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.843	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.793	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.566	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Sucess codes, test_type_num = s

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.743	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.634	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	1.000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Ratio, test_type_num = f

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.490	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.362	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.118	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Ratio, test_type_num = n

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.560	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.078	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.099	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Ratio, test_type_num = r

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.220	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.116	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.128	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Ratio, test_type_num = s

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.560	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.840	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.747	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Local, test_type_num = f

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.000	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Local, test_type_num = n

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.000	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Local, test_type_num = r

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.000	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = Local, test_type_num = s

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.000	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = App, test_type_num = f

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.000	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = App, test_type_num = n

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.004	Reject the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.001	Reject the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.012	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = App, test_type_num = r

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.873	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.924	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.793	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

item_title_num = App, test_type_num = s

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of diff are the same across categories of tool_num.	Independent-Samples Median Test	.667	Retain the null hypothesis.
2	The distribution of diff is the same across categories of tool_num.	Independent-Samples Kruskal-Wallis Test	.355	Retain the null hypothesis.
3	The distribution of diff is the same across categories of tool_num.	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	.588	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

```

ONEWAY diff BY tool_num
  /STATISTICS DESCRIPTIVES HOMOGENEITY WELCH
  /MISSING ANALYSIS
  /POSTHOC=TUKEY GH ALPHA(0.05).

```

Oneway

Notes

Output Created		03-JUN-2019 13:31:33
Comments		
Input	Data	/Users/rvanemous/Documents/Afstuderen/Tools/CompuRacer_(own github)/Tool comparison/results/csvs/All.sav
	Active Dataset	DataSet1
	Filter	item_title ~= "Web" & item_title ~= "Vouchers used" (FILTER)
	Weight	<none>
	Split File	item_title_num, test_type_num
	N of Rows in Working Data File	14915
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY diff BY tool_num /STATISTICS DESCRIPTIVES HOMOGENEITY WELCH /MISSING ANALYSIS /POSTHOC=TUKEY GH ALPHA(0.05).
Resources	Processor Time	00:00:00.37
	Elapsed Time	00:00:00.00

item_title_num = Sucess codes, test_type_num = f

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	15	11.8000000	2.04240754	.527347360	10.6689524
CR_lbs	15	12.7333333	2.08623607	.538663838	11.5780143
RTW	15	11.6000000	2.19740106	.567366515	10.3831199
SR	15	12.4000000	2.89827535	.748331477	10.7949886
TI	15	11.8666667	3.71995904	.960489293	9.80662202
Total	75	12.0800000	2.62915052	.303588152	11.4750874

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	12.9310476	8.00000000	15.0000000
CR_lbs	13.8886524	9.00000000	16.0000000
RTW	12.8168801	7.00000000	14.0000000
SR	14.0050114	6.00000000	18.0000000
TI	13.9267113	4.00000000	17.0000000
Total	12.6849126	4.00000000	18.0000000

a. item_title_num = Success codes, test_type_num = f

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	1.461	4	70	.223
	Based on Median	1.383	4	70	.249
	Based on Median and with adjusted df	1.383	4	56.176	.252
	Based on trimmed mean	1.409	4	70	.240

a. item_title_num = Success codes, test_type_num = f

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.253	4	3.313	.465	.761
Within Groups	498.267	70	7.118		
Total	511.520	74			

a. item_title_num = Sucess codes, test_type_num = f

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	.638	4	34.685	.639

a. item_title_num = Sucess codes, test_type_num = f

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	-.93333333	.974207044	.873
		RTW	.20000000	.974207044	1.000
		SR	-.60000000	.974207044	.972
		TI	-.06666667	.974207044	1.000
	CR_lbs	CR	.93333333	.974207044	.873
		RTW	1.13333333	.974207044	.772
		SR	.33333333	.974207044	.997
		TI	.86666667	.974207044	.900
	RTW	CR	-.20000000	.974207044	1.000
		CR_lbs	-1.13333333	.974207044	.772
		SR	-.80000000	.974207044	.923
		TI	-.26666667	.974207044	.999
	SR	CR	.60000000	.974207044	.972
		CR_lbs	-.33333333	.974207044	.997
		RTW	.80000000	.974207044	.923
		TI	.53333333	.974207044	.982
	TI	CR	.06666667	.974207044	1.000
		CR_lbs	-.86666667	.974207044	.900

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-3.6612621	1.79459541
		RTW	-2.5279287	2.92792874
		SR	-3.3279287	2.12792874
		TI	-2.7945954	2.66126207
	CR_lbs	CR	-1.7945954	3.66126207
		RTW	-1.5945954	3.86126207
		SR	-2.3945954	3.06126207
		TI	-1.8612621	3.59459541
	RTW	CR	-2.9279287	2.52792874
		CR_lbs	-3.8612621	1.59459541
		SR	-3.5279287	1.92792874
		TI	-2.9945954	2.46126207
	SR	CR	-2.1279287	3.32792874
		CR_lbs	-3.0612621	2.39459541
		RTW	-1.9279287	3.52792874
		TI	-2.1945954	3.26126207
	TI	CR	-2.6612621	2.79459541
		CR_lbs	-3.5945954	1.86126207

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	.266666667	.974207044	.999
		SR	-.533333333	.974207044	.982
	CR	CR_lbs	-.933333333	.753826219	.730
		RTW	.200000000	.774596669	.999
		SR	-.600000000	.915475416	.964
		TI	-.066666667	1.09573488	1.000
	CR_lbs	CR	.933333333	.753826219	.730
		RTW	1.133333333	.782344868	.603
		SR	.333333333	.922040525	.996
		TI	.866666667	1.10122587	.932
	RTW	CR	-.200000000	.774596669	.999
		CR_lbs	-1.133333333	.782344868	.603
		SR	-.800000000	.939097845	.912
		TI	-.266666667	1.11554670	.999
	SR	CR	.600000000	.915475416	.964
		CR_lbs	-.333333333	.922040525	.996
		RTW	.800000000	.939097845	.912
		TI	.533333333	1.21759586	.992
	TI	CR	.066666667	1.09573488	1.000
		CR_lbs	-.866666667	1.10122587	.932
		RTW	.266666667	1.11554670	.999
		SR	-.533333333	1.21759586	.992

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-2.4612621	2.99459541
	SR	-3.2612621	2.19459541
	CR_lbs	-3.1296660	1.26299929
	RTW	-2.0575819	2.45758191
	SR	-3.2874041	2.08740411
	TI	-3.3210350	3.18770162
	CR_lbs	-1.2629993	3.12966596
	RTW	-1.1464303	3.41309695
	SR	-2.3711068	3.03777349
	TI	-2.4004727	4.13380604
	CR	-2.4575819	2.05758191
	CR_lbs	-3.4130969	1.14643028
	SR	-3.5493628	1.94936284
	TI	-3.5676812	3.03434785
	CR	-2.0874041	3.28740411
	CR_lbs	-3.0377735	2.37110682
	RTW	-1.9493628	3.54936284
	TI	-3.0282715	4.09493817
	CR	-3.1877016	3.32103495
	CR_lbs	-4.1338060	2.40047270
	RTW	-3.0343478	3.56768118
	SR	-4.0949382	3.02827150

a. item_title_num = Success codes, test_type_num = f

Homogeneous Subsets

diff^a

	tool_num	N	Subset for alpha = 0.05 1
Tukey HSD ^b	RTW	15	11.6000000
	CR	15	11.8000000
	TI	15	11.8666667
	SR	15	12.4000000
	CR_lbs	15	12.7333333
	Sig.		.772

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Success codes, test_type_num = f

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Success codes, test_type_num = n

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence ... Lower Bound
CR	15	16.0666667	2.89004861	.746207342	14.4662111
CR_lbs	15	13.0666667	2.65832027	.686375343	11.5945380
RTW	15	15.4000000	3.73783742	.965105472	13.3300546
SR	15	12.8666667	2.35634907	.608406714	11.5617640
TI	15	13.2666667	2.28243813	.589322991	12.0026946
Total	75	14.1333333	3.06388436	.353786892	13.4283976

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	17.6671222	11.0000000	22.0000000
CR_lbs	14.5387954	8.0000000	19.0000000
RTW	17.4699454	9.0000000	21.0000000
SR	14.1715693	9.0000000	17.0000000
TI	14.5306388	8.0000000	18.0000000
Total	14.8382691	8.0000000	22.0000000

a. item_title_num = Success codes, test_type_num = n

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	1.982	4	70	.107
	Based on Median	1.750	4	70	.149
	Based on Median and with adjusted df	1.750	4	68.339	.149
	Based on trimmed mean	1.971	4	70	.108

a. item_title_num = Sucess codes, test_type_num = n

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	132.533	4	33.133	4.126	.005
Within Groups	562.133	70	8.030		
Total	694.667	74			

a. item_title_num = Sucess codes, test_type_num = n

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	3.850	4	34.794	.011

a. item_title_num = Sucess codes, test_type_num = n

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	3.0000000 *	1.03476092	.039
		RTW	.66666667	1.03476092	.967
		SR	3.2000000 *	1.03476092	.023
		TI	2.80000000	1.03476092	.063
	CR_lbs	CR	-3.0000000 *	1.03476092	.039
		RTW	-2.3333333	1.03476092	.172
		SR	.20000000	1.03476092	1.000
		TI	-.20000000	1.03476092	1.000
	RTW	CR	-.66666667	1.03476092	.967
		CR_lbs	2.3333333	1.03476092	.172
		SR	2.5333333	1.03476092	.115
		TI	2.1333333	1.03476092	.248
	SR	CR	-3.2000000 *	1.03476092	.023
		CR_lbs	-.20000000	1.03476092	1.000
		RTW	-2.5333333	1.03476092	.115
		TI	-.40000000	1.03476092	.995
	TI	CR	-2.8000000	1.03476092	.063
		CR_lbs	.20000000	1.03476092	1.000
		RTW	-2.1333333	1.03476092	.248
		SR	.40000000	1.03476092	.995
Games-Howell	CR	CR_lbs	3.0000000 *	1.01387204	.045
		RTW	.66666667	1.21994015	.981
		SR	3.2000000 *	.962800149	.020
		TI	2.8000000 *	.950855922	.048
	CR_lbs	CR	-3.0000000 *	1.01387204	.045
		RTW	-2.3333333	1.18428868	.309
		SR	.20000000	.917207633	.999
		TI	-.20000000	.904661649	.999
	RTW	CR	-.66666667	1.21994015	.981
		CR_lbs	2.3333333	1.18428868	.309
		SR	2.5333333	1.14087129	.207
		TI	2.1333333	1.13080951	.352
	SR	CR	-3.2000000 *	.962800149	.020
		CR_lbs	-.20000000	.917207633	.999
		RTW	-2.5333333	1.14087129	.207
		TI	-.40000000	.847030293	.989

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	.102511148	5.89748885
		RTW	-2.2308222	3.56415552
		SR	.302511148	6.09748885
		TI	-.09748885	5.69748885
	CR_lbs	CR	-5.8974889	-.10251115
		RTW	-5.2308222	.564155518
		SR	-2.6974889	3.09748885
		TI	-3.0974889	2.69748885
	RTW	CR	-3.5641555	2.23082218
		CR_lbs	-.56415552	5.23082218
		SR	-.36415552	5.43082218
		TI	-.76415552	5.03082218
	SR	CR	-6.0974889	-.30251115
		CR_lbs	-3.0974889	2.69748885
		RTW	-5.4308222	.364155518
		TI	-3.2974889	2.49748885
	TI	CR	-5.6974889	.097488852
		CR_lbs	-2.6974889	3.09748885
		RTW	-5.0308222	.764155518
		SR	-2.4974889	3.29748885
Games-Howell	CR	CR_lbs	.044725029	5.95527497
		RTW	-2.9026409	4.23597422
		SR	.387309066	6.01269093
		TI	.019768364	5.58023164
	CR_lbs	CR	-5.9552750	-.04472503
		RTW	-5.8085896	1.14192295
		SR	-2.4748388	2.87483877
		TI	-2.8397414	2.43974139
	RTW	CR	-4.2359742	2.90264089
		CR_lbs	-1.1419230	5.80858962
		SR	-.83203590	5.89870257
		TI	-1.2074202	5.47408685
	SR	CR	-6.0126909	-.38730907
		CR_lbs	-2.8748388	2.47483877
		RTW	-5.8987026	.832035899
		TI	-2.8679828	2.06798275

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
TI	CR	-2.800000 *	.950855922	.048
	CR_lbs	.200000000	.904661649	.999
	RTW	-2.1333333	1.13080951	.352
	SR	.400000000	.847030293	.989

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
TI	CR	-5.5802316	-.01976836
	CR_lbs	-2.4397414	2.83974139
	RTW	-5.4740868	1.20742018
	SR	-2.0679828	2.86798275

*. The mean difference is significant at the 0.05 level.

a. item_title_num = Success codes, test_type_num = n

Homogeneous Subsets

diff^a

	tool_num	N	Subset for alpha = 0.05	
			1	2
Tukey HSD ^b	SR	15	12.8666667	
	CR_lbs	15	13.0666667	
	TI	15	13.2666667	13.2666667
	RTW	15	15.4000000	15.4000000
	CR	15		16.0666667
	Sig.		.115	.063

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Success codes, test_type_num = n

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Success codes, test_type_num = r

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	15	13.4666667	1.68466473	.434978562	12.5337304
CR_lbs	15	12.4000000	2.82337184	.728991476	10.8364688
RTW	15	13.6666667	1.58865022	.410187723	12.7869015
SR	15	13.4000000	1.50237907	.387912607	12.5680102
TI	15	13.7333333	1.70991506	.441498171	12.7864139
Total	75	13.3333333	1.93358184	.223270799	12.8884566

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	14.3996029	11.0000000	16.0000000
CR_lbs	13.9635312	3.0000000	15.0000000
RTW	14.5464318	11.0000000	17.0000000
SR	14.2319898	11.0000000	16.0000000
TI	14.6802527	12.0000000	18.0000000
Total	13.7782101	3.0000000	18.0000000

a. item_title_num = Sucess codes, test_type_num = r

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	.342	4	70	.849
	Based on Median	.143	4	70	.966
	Based on Median and with adjusted df	.143	4	37.371	.965
	Based on trimmed mean	.147	4	70	.964

a. item_title_num = Sucess codes, test_type_num = r

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.467	4	4.367	1.179	.327
Within Groups	259.200	70	3.703		
Total	276.667	74			

a. item_title_num = Sucess codes, test_type_num = r

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	.655	4	34.765	.627

a. item_title_num = Sucess codes, test_type_num = r

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	1.06666667	.702648053	.554
		RTW	-.20000000	.702648053	.999
		SR	.066666667	.702648053	1.000
		TI	-.26666667	.702648053	.995
	CR_lbs	CR	-1.0666667	.702648053	.554
		RTW	-1.2666667	.702648053	.380
		SR	-1.0000000	.702648053	.615
		TI	-1.3333333	.702648053	.328
	RTW	CR	.20000000	.702648053	.999
		CR_lbs	1.2666667	.702648053	.380
		SR	.26666667	.702648053	.995
		TI	-.0666667	.702648053	1.000
	SR	CR	-.0666667	.702648053	1.000
		CR_lbs	1.0000000	.702648053	.615
		RTW	-.2666667	.702648053	.995
		TI	-.3333333	.702648053	.989
	TI	CR	.26666667	.702648053	.995
		CR_lbs	1.3333333	.702648053	.328

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	95% Confidence Interval	
			Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.90085536	3.03418869
		RTW	-2.1675220	1.76752203
		SR	-1.9008554	2.03418869
		TI	-2.2341887	1.70085536
	CR_lbs	CR	-3.0341887	.900855359
		RTW	-3.2341887	.700855359
		SR	-2.9675220	.967522026
		TI	-3.3008554	.634188692
	RTW	CR	-1.7675220	2.16752203
		CR_lbs	-.70085536	3.23418869
		SR	-1.7008554	2.23418869
		TI	-2.0341887	1.90085536
	SR	CR	-2.0341887	1.90085536
		CR_lbs	-.96752203	2.96752203
		RTW	-2.2341887	1.70085536
		TI	-2.3008554	1.63418869
	TI	CR	-1.7008554	2.23418869
		CR_lbs	-.63418869	3.30085536

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	.066666667	.702648053	1.000
		SR	.333333333	.702648053	.989
	CR	CR_lbs	1.066666667	.848902186	.719
		RTW	-.200000000	.597879852	.997
		SR	.066666667	.582822906	1.000
		TI	-.266666667	.619779787	.992
	CR_lbs	CR	-1.066666667	.848902186	.719
		RTW	-1.266666667	.836470286	.564
		SR	-1.000000000	.825775249	.745
		TI	-1.333333333	.852261231	.534
	RTW	CR	.200000000	.597879852	.997
		CR_lbs	1.266666667	.836470286	.564
		SR	.266666667	.564561918	.989
		TI	-.066666667	.602639696	1.000
	SR	CR	-.066666667	.582822906	1.000
		CR_lbs	1.000000000	.825775249	.745
		RTW	-.266666667	.564561918	.989
		TI	-.333333333	.587704709	.979
	TI	CR	.266666667	.619779787	.992
		CR_lbs	1.333333333	.852261231	.534
		RTW	.066666667	.602639696	1.000
		SR	.333333333	.587704709	.979

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-1.9008554	2.03418869
	SR	-1.6341887	2.30085536
	CR_lbs	-1.4440725	3.57740580
	RTW	-1.9423164	1.54231645
	SR	-1.6328527	1.76618600
	TI	-2.0724168	1.53908347
	CR_lbs	-3.5774058	1.44407247
	RTW	-3.7479077	1.21457433
	SR	-3.4565209	1.45652088
	TI	-3.8521746	1.18550795
	CR	-1.5423164	1.94231645
	CR_lbs	-1.2145743	3.74790766
	SR	-1.3785205	1.91185386
	TI	-1.8230826	1.68974925
	CR	-1.7661860	1.63285267
	CR_lbs	-1.4565209	3.45652088
	RTW	-1.9118539	1.37852052
	TI	-2.0474938	1.38082714
	CR	-1.5390835	2.07241680
	CR_lbs	-1.1855080	3.85217462
	RTW	-1.6897493	1.82308258
	SR	-1.3808271	2.04749381

a. item_title_num = Success codes, test_type_num = r

Homogeneous Subsets

diff^a

		Subset for alpha = 0.05
		1
Tukey HSD ^b	tool_num	N
	CR_lbs	15
	SR	15
	CR	15
	RTW	15
	TI	15
Sig.		.328

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Success codes, test_type_num = r

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Success codes, test_type_num = s

Descriptives^a

diff

		95% Confidence ...			
		Lower Bound			
	N	Mean	Std. Deviation	Std. Error	
CR	15	21.2000000	3.80225497	.981738012	19.0943814
CR_lbs	15	22.0666667	3.88158043	1.00221976	19.9171191
RTW	15	21.3333333	3.86683087	.998411437	19.1919538
SR	15	23.2666667	1.38701461	.358125632	22.4985636
TI	15	21.8666667	2.85022973	.735926152	20.2882621
Total	75	21.9466667	3.29575211	.380560674	21.1883830

Descriptives^a

diff

		95% Confidence Interval for ...		
		Upper Bound	Minimum	Maximum
CR	23.3056186	15.0000000	25.0000000	
CR_lbs	24.2162143	14.0000000	25.0000000	
RTW	23.4747129	12.0000000	25.0000000	
SR	24.0347698	20.0000000	25.0000000	
TI	23.4450713	14.0000000	25.0000000	
Total	22.7049504	12.0000000	25.0000000	

a. item_title_num = Success codes, test_type_num = s

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	3.406	4	70	.013
	Based on Median	2.142	4	70	.085
	Based on Median and with adjusted df	2.142	4	55.904	.088
	Based on trimmed mean	3.190	4	70	.018

a. item_title_num = Sucess codes, test_type_num = s

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	40.453	4	10.113	.927	.453
Within Groups	763.333	70	10.905		
Total	803.787	74			

a. item_title_num = Sucess codes, test_type_num = s

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	1.969	4	32.763	.122

a. item_title_num = Sucess codes, test_type_num = s

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	-.86666667	1.20580606	.952
		RTW	-.13333333	1.20580606	1.000
		SR	-2.0666667	1.20580606	.432
		TI	-.66666667	1.20580606	.981
	CR_lbs	CR	.86666667	1.20580606	.952
		RTW	.73333333	1.20580606	.973
		SR	-1.2000000	1.20580606	.857
		TI	.20000000	1.20580606	1.000
	RTW	CR	.13333333	1.20580606	1.000
		CR_lbs	-.73333333	1.20580606	.973
		SR	-1.9333333	1.20580606	.500
		TI	-.53333333	1.20580606	.992
	SR	CR	2.0666667	1.20580606	.432
		CR_lbs	1.2000000	1.20580606	.857
		RTW	1.9333333	1.20580606	.500
		TI	1.4000000	1.20580606	.773
	TI	CR	.66666667	1.20580606	.981
		CR_lbs	-.2000000	1.20580606	1.000
		RTW	.53333333	1.20580606	.992
		SR	-1.4000000	1.20580606	.773
Games-Howell	CR	CR_lbs	-.86666667	1.40294475	.971
		RTW	-.13333333	1.40022674	1.000
		SR	-2.0666667	1.04501842	.316
		TI	-.66666667	1.22694614	.982
	CR_lbs	CR	.86666667	1.40294475	.971
		RTW	.73333333	1.41466245	.985
		SR	-1.2000000	1.06428305	.790
		TI	.20000000	1.24339525	1.000
	RTW	CR	.13333333	1.40022674	1.000
		CR_lbs	-.73333333	1.41466245	.985
		SR	-1.9333333	1.06069758	.392
		TI	-.53333333	1.24032766	.992
	SR	CR	2.0666667	1.04501842	.316
		CR_lbs	1.2000000	1.06428305	.790
		RTW	1.9333333	1.06069758	.392
		TI	1.4000000	.818438312	.450
	TI	CR	.66666667	1.22694614	.982
		CR_lbs	-.2000000	1.24339525	1.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-4.2431081	2.50977474
		RTW	-3.5097747	3.24310808
		SR	-5.4431081	1.30977474
		TI	-4.0431081	2.70977474
	CR_lbs	CR	-2.5097747	4.24310808
		RTW	-2.6431081	4.10977474
		SR	-4.5764414	2.17644141
		TI	-3.1764414	3.57644141
	RTW	CR	-3.2431081	3.50977474
		CR_lbs	-4.1097747	2.64310808
		SR	-5.3097747	1.44310808
		TI	-3.9097747	2.84310808
	SR	CR	-1.3097747	5.44310808
		CR_lbs	-2.1764414	4.57644141
		RTW	-1.4431081	5.30977474
		TI	-1.9764414	4.77644141
	TI	CR	-2.7097747	4.04310808
		CR_lbs	-3.5764414	3.17644141
		RTW	-2.8431081	3.90977474
		SR	-4.7764414	1.97644141
Games-Howell	CR	CR_lbs	-4.9542511	3.22091776
		RTW	-4.2129599	3.94629325
		SR	-5.2329401	1.09960677
		TI	-4.2601352	2.92680191
	CR_lbs	CR	-3.2209178	4.95425109
		RTW	-3.3882786	4.85494526
		SR	-4.4274578	2.02745776
		TI	-3.4443066	3.84430659
	RTW	CR	-3.9462932	4.21295992
		CR_lbs	-4.8549453	3.38827859
		SR	-5.1494050	1.28273833
		TI	-4.1681486	3.10148198
	SR	CR	-1.0996068	5.23294011
		CR_lbs	-2.0274578	4.42745776
		RTW	-1.2827383	5.14940499
		TI	-1.0459181	3.84591811
	TI	CR	-2.9268019	4.26013524
		CR_lbs	-3.8443066	3.44430659

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
	RTW	.533333333	1.24032766	.992
	SR	-1.4000000	.818438312	.450

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
	RTW	-3.1014820	4.16814865
	SR	-3.8459181	1.04591811

a. item_title_num = Success codes, test_type_num = s

Homogeneous Subsets

diff^a

			Subset for alpha = 0.05
	tool_num	N	1
Tukey HSD ^b	CR	15	21.2000000
	RTW	15	21.3333333
	TI	15	21.8666667
	CR_lbs	15	22.0666667
	SR	15	23.2666667
	Sig.		.432

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Success codes, test_type_num = s

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Ratio, test_type_num = f

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	15	1.83719577	.416490392	.107537357	1.60655108
CR_lbs	15	1.74275854	.445152709	.114937935	1.49624118
RTW	15	1.68619048	.354242671	.091465064	1.49001742
SR	15	1.53645022	.291160646	.075177356	1.37521082
TI	15	1.65250120	.366398185	.094603604	1.44959665
Total	75	1.69101924	.381454168	.044046533	1.60325461

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	2.06784046	1.22222222	2.60000000
CR_lbs	1.98927589	1.10000000	2.60000000
RTW	1.88236353	1.22222222	2.33333333
SR	1.69768961	1.10000000	2.20000000
TI	1.85540575	1.00000000	2.42857143
Total	1.77878387	1.00000000	2.60000000

a. item_title_num = Ratio, test_type_num = f

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	.538	4	70	.708
	Based on Median	.397	4	70	.810
	Based on Median and with adjusted df	.397	4	60.022	.810
	Based on trimmed mean	.539	4	70	.708

a. item_title_num = Ratio, test_type_num = f

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.742	4	.185	1.295	.281
Within Groups	10.026	70	.143		
Total	10.768	74			

a. item_title_num = Ratio, test_type_num = f

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	1.422	4	34.792	.247

a. item_title_num = Ratio, test_type_num = f

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.094437229	.138191674	.959
		RTW	.151005291	.138191674	.810
		SR	.300745551	.138191674	.201
		TI	.184694565	.138191674	.670
	CR_lbs	CR	-.09443723	.138191674	.959
		RTW	.056568062	.138191674	.994
		SR	.206308321	.138191674	.570
		TI	.090257335	.138191674	.965
	RTW	CR	-.15100529	.138191674	.810
		CR_lbs	-.05656806	.138191674	.994
		SR	.149740260	.138191674	.814
		TI	.033689274	.138191674	.999
	SR	CR	-.30074555	.138191674	.201
		CR_lbs	-.20630832	.138191674	.570
		RTW	-.14974026	.138191674	.814
		TI	-.11605099	.138191674	.917
	TI	CR	-.18469456	.138191674	.670
		CR_lbs	-.09025734	.138191674	.965

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.29252060	.481395055
		RTW	-.23595253	.537963116
		SR	-.08621227	.687703376
		TI	-.20226326	.571652390
	CR_lbs	CR	-.48139505	.292520596
		RTW	-.33038976	.443525887
		SR	-.18064950	.593266147
		TI	-.29670049	.477215160
	RTW	CR	-.53796312	.235952534
		CR_lbs	-.44352589	.330389764
		SR	-.23721757	.536698085
		TI	-.35326855	.420647099
	SR	CR	-.68770338	.086212274
		CR_lbs	-.59326615	.180649504
		RTW	-.53669808	.237217565
		TI	-.50300881	.270906839
	TI	CR	-.57165239	.202263261
		CR_lbs	-.47721516	.296700490

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	-.03368927	.138191674	.999
		SR	.116050986	.138191674	.917
	CR	CR_lbs	.094437229	.157400801	.974
		RTW	.151005291	.141174152	.820
		SR	.300745551	.131209443	.181
		TI	.184694565	.143227529	.700
	CR_lbs	CR	-.09443723	.157400801	.974
		RTW	.056568062	.146889710	.995
		SR	.206308321	.137340321	.571
		TI	.090257335	.148864270	.973
	RTW	CR	-.15100529	.141174152	.820
		CR_lbs	-.05656806	.146889710	.995
		SR	.149740260	.118395493	.714
		TI	.033689274	.131589133	.999
	SR	CR	-.30074555	.131209443	.181
		CR_lbs	-.20630832	.137340321	.571
		RTW	-.14974026	.118395493	.714
		TI	-.11605099	.120836571	.870
	TI	CR	-.18469456	.143227529	.700
		CR_lbs	-.09025734	.148864270	.973
		RTW	-.03368927	.131589133	.999
		SR	.116050986	.120836571	.870

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-.42064710	.353268552
	SR	-.27090684	.503008811
	CR_lbs	-.36428353	.553157987
	RTW	-.26100998	.563020560
	SR	-.08454708	.686038177
	TI	-.23304893	.602438060
	CR_lbs	-.55315799	.364283528
	RTW	-.37283254	.485968660
	SR	-.19813646	.610753105
	TI	-.34452591	.525040585
	CR	-.56302056	.261009978
	CR_lbs	-.48596866	.372832536
	SR	-.19606584	.495546362
	TI	-.34972365	.417102193
	CR	-.68603818	.084547075
	CR_lbs	-.61075311	.198136463
	RTW	-.49554636	.196065842
	TI	-.46930500	.237203025
	CR	-.60243806	.233048931
	CR_lbs	-.52504058	.344525914
	RTW	-.41710219	.349723645
	SR	-.23720302	.469304997

a. item_title_num = Ratio, test_type_num = f

Homogeneous Subsets

diff^a

	tool_num	N	Subset for alpha = 0.05 1
Tukey HSD ^b	SR	15	1.53645022
	TI	15	1.65250120
	RTW	15	1.68619048
	CR_lbs	15	1.74275854
	CR	15	1.83719577
	Sig.		.201

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Ratio, test_type_num = f

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Ratio, test_type_num = n

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence ... Lower Bound
CR	15	1.38285185	.645414022	.166645184	1.02543348
CR_lbs	15	1.49731222	.730946300	.188729523	1.09252766
RTW	15	1.20422435	.172086806	.044432622	1.10892585
SR	15	1.53787037	.507219407	.130963488	1.25698163
TI	15	1.41204425	.287703647	.074284762	1.25271928
Total	75	1.40686061	.513232397	.059262972	1.28877656

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	1.74027022	1.00000000	3.66666667
CR_lbs	1.90209679	1.06666667	4.00000000
RTW	1.29952284	1.00000000	1.60000000
SR	1.81875912	1.06250000	3.00000000
TI	1.57136922	1.00000000	2.00000000
Total	1.52494466	1.00000000	4.00000000

a. item_title_num = Ratio, test_type_num = n

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	1.080	4	70	.373
	Based on Median	.558	4	70	.694
	Based on Median and with adjusted df	.558	4	39.300	.695
	Based on trimmed mean	.698	4	70	.596

a. item_title_num = Ratio, test_type_num = n

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.005	4	.251	.951	.440
Within Groups	18.487	70	.264		
Total	19.492	74			

a. item_title_num = Ratio, test_type_num = n

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	2.713	4	32.470	.047

a. item_title_num = Ratio, test_type_num = n

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	-.11446038	.187652199	.973
		RTW	.178627504	.187652199	.875
		SR	-.15501852	.187652199	.922
		TI	-.02919240	.187652199	1.000
	CR_lbs	CR	.114460375	.187652199	.973
		RTW	.293087879	.187652199	.527
		SR	-.04055815	.187652199	1.000
		TI	.085267973	.187652199	.991
	RTW	CR	-.17862750	.187652199	.875
		CR_lbs	-.29308788	.187652199	.527
		SR	-.33364602	.187652199	.394
		TI	-.20781991	.187652199	.802
	SR	CR	.155018521	.187652199	.922
		CR_lbs	.040558146	.187652199	1.000
		RTW	.333646025	.187652199	.394
		TI	.125826118	.187652199	.962
	TI	CR	.029192402	.187652199	1.000
		CR_lbs	-.08526797	.187652199	.991
		RTW	.207819906	.187652199	.802
		SR	-.12582612	.187652199	.962
Games-Howell	CR	CR_lbs	-.11446038	.251772616	.991
		RTW	.178627504	.172467026	.835
		SR	-.15501852	.211948231	.947
		TI	-.02919240	.182452304	1.000
	CR_lbs	CR	.114460375	.251772616	.991
		RTW	.293087879	.193889378	.570
		SR	-.04055815	.229717801	1.000
		TI	.085267973	.202822727	.993
	RTW	CR	-.17862750	.172467026	.835
		CR_lbs	-.29308788	.193889378	.570
		SR	-.33364602	.138295672	.159
		TI	-.20781991	.086559135	.151
	SR	CR	.155018521	.211948231	.947
		CR_lbs	.040558146	.229717801	1.000
		RTW	.333646025	.138295672	.159
		TI	.125826118	.150564475	.917
	TI	CR	.029192402	.182452304	1.000
		CR_lbs	-.08526797	.202822727	.993

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.63991523	.410994485
		RTW	-.34682736	.704082364
		SR	-.68047338	.370436339
		TI	-.55464726	.496262458
	CR_lbs	CR	-.41099448	.639915235
		RTW	-.23236698	.818542739
		SR	-.56601301	.484896714
		TI	-.44018689	.610722833
	RTW	CR	-.70408236	.346827356
		CR_lbs	-.81854274	.232366981
		SR	-.85910088	.191808835
		TI	-.73327477	.317634954
	SR	CR	-.37043634	.680473380
		CR_lbs	-.48489671	.566013005
		RTW	-.19180884	.859100884
		TI	-.39962874	.651280978
	TI	CR	-.49626246	.554647262
		CR_lbs	-.61072283	.440186887
		RTW	-.31763495	.733274766
		SR	-.65128098	.399628742
Games-Howell	CR	CR_lbs	-.84874644	.619825685
		RTW	-.34983102	.707086028
		SR	-.77482914	.464792103
		TI	-.57687632	.518491514
	CR_lbs	CR	-.61982569	.848746436
		RTW	-.30297402	.889149780
		SR	-.71532095	.634204658
		TI	-.52719622	.697732167
	RTW	CR	-.70708603	.349831020
		CR_lbs	-.88914978	.302974022
		SR	-.75391639	.086624338
		TI	-.46379927	.048159453
	SR	CR	-.46479210	.774829144
		CR_lbs	-.63420466	.715320949
		RTW	-.08662434	.753916387
		TI	-.32061505	.572267291
	TI	CR	-.51849151	.576876319
		CR_lbs	-.69773217	.527196222

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
	RTW	.207819906	.086559135	.151
	SR	-.12582612	.150564475	.917

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
	RTW	-.04815945	.463799265
	SR	-.57226729	.320615055

a. item_title_num = Ratio, test_type_num = n

Homogeneous Subsets

diff^a

			Subset for alpha = 0.05
	tool_num	N	1
Tukey HSD ^b	RTW	15	1.20422435
	CR	15	1.38285185
	TI	15	1.41204425
	CR_lbs	15	1.49731222
	SR	15	1.53787037
	Sig.		.394

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Ratio, test_type_num = n

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Ratio, test_type_num = r

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	15	2.29841270	.468095884	.120861838	2.03918984
CR_lbs	15	2.13402116	.574568789	.148353023	1.81583557
RTW	15	1.83796296	.360534746	.093089671	1.63830548
SR	15	1.96772487	.541587829	.139837376	1.66780352
TI	15	2.06971861	.452234172	.116766361	1.81927968
Total	75	2.06156806	.497046907	.057394033	1.94720795

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	2.55763556	1.57142857	3.25000000
CR_lbs	2.45220675	1.44444444	3.25000000
RTW	2.03762045	1.33333333	2.60000000
SR	2.26764621	1.33333333	3.20000000
TI	2.32015755	1.36363636	3.00000000
Total	2.17592817	1.33333333	3.25000000

a. item_title_num = Ratio, test_type_num = r

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	1.352	4	70	.259
	Based on Median	1.107	4	70	.360
	Based on Median and with adjusted df	1.107	4	63.547	.361
	Based on trimmed mean	1.365	4	70	.255

a. item_title_num = Ratio, test_type_num = r

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.803	4	.451	1.915	.118
Within Groups	16.479	70	.235		
Total	18.282	74			

a. item_title_num = Ratio, test_type_num = r

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	2.362	4	34.737	.072

a. item_title_num = Ratio, test_type_num = r

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.164391534	.177167452	.885
		RTW	.460449735	.177167452	.082
		SR	.330687831	.177167452	.345
		TI	.228694084	.177167452	.698
	CR_lbs	CR	-.16439153	.177167452	.885
		RTW	.296058201	.177167452	.458
		SR	.166296296	.177167452	.881
		TI	.064302549	.177167452	.996
	RTW	CR	-.46044974	.177167452	.082
		CR_lbs	-.29605820	.177167452	.458
		SR	-.12976190	.177167452	.948
		TI	-.23175565	.177167452	.687
	SR	CR	-.33068783	.177167452	.345
		CR_lbs	-.16629630	.177167452	.881
		RTW	.129761905	.177167452	.948
		TI	-.10199375	.177167452	.978
	TI	CR	-.22869408	.177167452	.698
		CR_lbs	-.06430255	.177167452	.996

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.33170443	.660487500
		RTW	-.03564623	.956545701
		SR	-.16540813	.826783796
		TI	-.26740188	.724790049
	CR_lbs	CR	-.66048750	.331704431
		RTW	-.20003776	.792154166
		SR	-.32979967	.662392262
		TI	-.43179342	.560398515
	RTW	CR	-.95654570	.035646230
		CR_lbs	-.79215417	.200037764
		SR	-.62585787	.366334061
		TI	-.72785162	.264340314
	SR	CR	-.82678380	.165408135
		CR_lbs	-.66239226	.329799669
		RTW	-.36633406	.625857870
		TI	-.59808971	.394102218
	TI	CR	-.72479005	.267401882
		CR_lbs	-.56039851	.431793416

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	.231755652	.177167452	.687
		SR	.101993747	.177167452	.978
	CR	CR_lbs	.164391534	.191353608	.909
		RTW	.46044974 *	.152555795	.041
		SR	.330687831	.184829856	.400
		TI	.228694084	.168053464	.657
	CR_lbs	CR	-.16439153	.191353608	.909
		RTW	.296058201	.175140819	.459
		SR	.166296296	.203870330	.924
		TI	.064302549	.188793545	.997
	RTW	CR	-.4604497 *	.152555795	.041
		CR_lbs	-.29605820	.175140819	.459
		SR	-.12976190	.167988626	.936
		TI	-.23175565	.149332079	.539
	SR	CR	-.33068783	.184829856	.400
		CR_lbs	-.16629630	.203870330	.924
		RTW	.129761905	.167988626	.936
		TI	-.10199375	.182178140	.980
	TI	CR	-.22869408	.168053464	.657
		CR_lbs	-.06430255	.188793545	.997
		RTW	.231755652	.149332079	.539
		SR	.101993747	.182178140	.980

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-.26434031	.727851617
	SR	-.39410222	.598089712
	CR_lbs	-.39463359	.723416657
	RTW	.014046834	.906852637
	SR	-.20856437	.869940036
	TI	-.26096705	.718355214
	CR_lbs	-.72341666	.394633588
	RTW	-.22068894	.812805344
	SR	-.42781609	.760408687
	TI	-.48777067	.616375769
	RTW	-.90685264	-.01404683
	CR_lbs	-.81280534	.220688942
	SR	-.62407424	.364550428
	TI	-.66827347	.204762164
	SR	-.86994004	.208564374
	CR_lbs	-.76040869	.427816094
	RTW	-.36455043	.624074238
	TI	-.63389336	.429905870
	TI	-.71835521	.260967047
	CR_lbs	-.61637577	.487770670
	RTW	-.20476216	.668273467
	SR	-.42990587	.633893364

*. The mean difference is significant at the 0.05 level.

a. item_title_num = Ratio, test_type_num = r

Homogeneous Subsets

diff^a

	tool_num	N	Subset for alpha = 0.05 1
Tukey HSD ^b	RTW	15	1.83796296
	SR	15	1.96772487
	TI	15	2.06971861
	CR_lbs	15	2.13402116
	CR	15	2.29841270
	Sig.		.082

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Ratio, test_type_num = r

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Ratio, test_type_num = s

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence ... Lower Bound
CR	15	1.09234106	.205477950	.053054178	.978551162
CR_lbs	15	1.05205263	.053480407	.013808582	1.02243617
RTW	15	1.07521727	.129178065	.033353633	1.00368084
SR	15	1.02778884	.038023410	.009817602	1.00673218
TI	15	1.04741326	.079945555	.020641854	1.00314089
Total	75	1.05896261	.116968725	.013506385	1.03205055

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	1.20613095	.941176471	1.66666667
CR_lbs	1.08166910	1.00000000	1.16666667
RTW	1.14675370	1.00000000	1.45454545
SR	1.04884550	1.00000000	1.09523810
TI	1.09168564	.958333333	1.28571429
Total	1.08587467	.941176471	1.66666667

a. item_title_num = Ratio, test_type_num = s

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	3.250	4	70	.017
	Based on Median	1.015	4	70	.406
	Based on Median and with adjusted df	1.015	4	28.811	.416
	Based on trimmed mean	2.184	4	70	.080

a. item_title_num = Ratio, test_type_num = s

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.038	4	.009	.682	.607
Within Groups	.974	70	.014		
Total	1.012	74			

a. item_title_num = Ratio, test_type_num = s

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	1.067	4	33.104	.388

a. item_title_num = Ratio, test_type_num = s

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.040288424	.043082985	.882
		RTW	.017123787	.043082985	.995
		SR	.064552218	.043082985	.567
		TI	.044927795	.043082985	.835
	CR_lbs	CR	-.04028842	.043082985	.882
		RTW	-.02316464	.043082985	.983
		SR	.024263794	.043082985	.980
		TI	.004639370	.043082985	1.000
	RTW	CR	-.01712379	.043082985	.995
		CR_lbs	.023164638	.043082985	.983
		SR	.047428431	.043082985	.806
		TI	.027804008	.043082985	.967
	SR	CR	-.06455222	.043082985	.567
		CR_lbs	-.02426379	.043082985	.980
		RTW	-.04742843	.043082985	.806
		TI	-.01962442	.043082985	.991
	TI	CR	-.04492779	.043082985	.835
		CR_lbs	-.00463937	.043082985	1.000
		RTW	-.02780401	.043082985	.967
		SR	.019624423	.043082985	.991
Games-Howell	CR	CR_lbs	.040288424	.054821736	.945
		RTW	.017123787	.062667461	.999
		SR	.064552218	.053954899	.753
		TI	.044927795	.056928306	.930
	CR_lbs	CR	-.04028842	.054821736	.945
		RTW	-.02316464	.036099055	.966
		SR	.024263794	.016942911	.614
		TI	.004639370	.024834715	1.000
	RTW	CR	-.01712379	.062667461	.999
		CR_lbs	.023164638	.036099055	.966
		SR	.047428431	.034768522	.657
		TI	.027804008	.039224367	.952
	SR	CR	-.06455222	.053954899	.753
		CR_lbs	-.02426379	.016942911	.614
		RTW	-.04742843	.034768522	.657
		TI	-.01962442	.022857634	.909
	TI	CR	-.04492779	.056928306	.930
		CR_lbs	-.00463937	.024834715	1.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.08035052	.160927373
		RTW	-.10351516	.137762736
		SR	-.05608673	.185191167
		TI	-.07571115	.165566743
	CR_lbs	CR	-.16092737	.080350524
		RTW	-.14380359	.097474311
		SR	-.09637516	.144902742
		TI	-.11599958	.125278319
	RTW	CR	-.13776274	.103515162
		CR_lbs	-.09747431	.143803586
		SR	-.07321052	.168067380
		TI	-.09283494	.148442957
	SR	CR	-.18519117	.056086731
		CR_lbs	-.14490274	.096375155
		RTW	-.16806738	.073210518
		TI	-.14026337	.101014525
	TI	CR	-.16556674	.075711154
		CR_lbs	-.12527832	.115999578
		RTW	-.14844296	.092834941
		SR	-.10101453	.140263372
Games-Howell	CR	CR_lbs	-.12780725	.208384096
		RTW	-.16775807	.202005645
		SR	-.10211598	.231220421
		TI	-.12706933	.216924921
	CR_lbs	CR	-.20838410	.127807248
		RTW	-.13191655	.085587275
		SR	-.02545521	.073982794
		TI	-.06842204	.077700784
	RTW	CR	-.20200564	.167758071
		CR_lbs	-.08558728	.131916550
		SR	-.05877872	.153635584
		TI	-.08800201	.143610029
	SR	CR	-.23122042	.102115985
		CR_lbs	-.07398279	.025455207
		RTW	-.15363558	.058778722
		TI	-.08801483	.048765984
	TI	CR	-.21692492	.127069332
		CR_lbs	-.07770078	.068422044

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
	RTW	-.02780401	.039224367	.952
	SR	.019624423	.022857634	.909

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
	RTW	-.14361003	.088002013
	SR	-.04876598	.088014830

a. item_title_num = Ratio, test_type_num = s

Homogeneous Subsets

diff^a

			Subset for alpha = 0.05
	tool_num	N	1
Tukey HSD ^b	SR	15	1.02778884
	TI	15	1.04741326
	CR_lbs	15	1.05205263
	RTW	15	1.07521727
	CR	15	1.09234106
	Sig.		.567

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Ratio, test_type_num = s

b. Uses Harmonic Mean Sample Size = 15.000.

item_title_num = Local, test_type_num = f

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	-1.8985419	.609525336	.032124806	-1.9617184
CR_lbs	359	-1.9088028	.569508790	.030057524	-1.9679143
RTW	325	-1.0976280	.769066852	.042660153	-1.1815539
SR	360	-.96474223	.299497035	.015784880	-.99578468
TI	360	-1.1856741	1.06018264	.055876531	-1.2955606
Total	1764	-1.4170149	.815752965	.019422690	-1.4551088

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	-1.8353655	-2.3010300	2.06579252
CR_lbs	-1.8496913	-2.3010300	2.03557781
RTW	-1.0137021	-3.3010300	2.03077777
SR	-.93369978	-1.3665315	2.01805107
TI	-1.0757877	-3.3010300	1.06438310
Total	-1.3789210	-3.3010300	2.06579252

a. item_title_num = Local, test_type_num = f

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	93.851	4	1759	.000
	Based on Median	91.563	4	1759	.000
	Based on Median and with adjusted df	91.563	4	1490.694	.000
	Based on trimmed mean	98.808	4	1759	.000

a. item_title_num = Local, test_type_num = f

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	296.356	4	74.089	148.628	.000
Within Groups	876.837	1759	.498		
Total	1173.193	1763			

a. item_title_num = Local, test_type_num = f

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	305.994	4	825.463	.000

a. item_title_num = Local, test_type_num = f

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.010260845	.052661421	1.000
		RTW	-.8009139 *	.054023032	.000
		SR	-.9337997 *	.052624787	.000
		TI	-.7128678 *	.052624787	.000
	CR_lbs	CR	-.01026085	.052661421	1.000
		RTW	-.8111748 *	.054058718	.000
		SR	-.9440605 *	.052661421	.000
		TI	-.7231287 *	.052661421	.000
	RTW	CR	.80091392 *	.054023032	.000
		CR_lbs	.81117476 *	.054058718	.000
		SR	-.13288577	.054023032	.100
		TI	.088046105	.054023032	.478
	SR	CR	.93379969 *	.052624787	.000
		CR_lbs	.94406053 *	.052661421	.000
		RTW	.132885768	.054023032	.100
		TI	.22093187 *	.052624787	.000
	TI	CR	.71286781 *	.052624787	.000
		CR_lbs	.72312866 *	.052661421	.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.13353683	.154058517
		RTW	-.94842962	-.65339822
		SR	-1.0774973	-.79010205
		TI	-.85656545	-.56917018
	CR_lbs	CR	-.15405852	.133536826
		RTW	-.95878791	-.66356162
		SR	-1.0878582	-.80026286
		TI	-.86692633	-.57933099
	RTW	CR	.653398221	.948429617
		CR_lbs	.663561621	.958787908
		SR	-.28040147	.014629929
		TI	-.05946959	.235561803
	SR	CR	.790102049	1.07749733
		CR_lbs	.800262861	1.08785820
		RTW	-.01462993	.280401466
		TI	.077234235	.364629512
	TI	CR	.569170176	.856565452
		CR_lbs	.579330988	.866926331

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	-.08804611	.054023032	.478
		SR	-.2209319 *	.052624787	.000
	CR	CR_lbs	.010260845	.043993840	.999
		RTW	-.8009139 *	.053403107	.000
		SR	-.9337997 *	.035793373	.000
		TI	-.7128678 *	.064453005	.000
	CR_lbs	CR	-.01026085	.043993840	.999
		RTW	-.8111748 *	.052185663	.000
		SR	-.9440605 *	.033950216	.000
		TI	-.7231287 *	.063447943	.000
	RTW	CR	.80091392 *	.053403107	.000
		CR_lbs	.81117476 *	.052185663	.000
		SR	-.1328858 *	.045486824	.030
		TI	.088046105	.070299896	.720
	SR	CR	.93379969 *	.035793373	.000
		CR_lbs	.94406053 *	.033950216	.000
		RTW	.13288577 *	.045486824	.030
		TI	.22093187 *	.058063320	.002
	TI	CR	.71286781 *	.064453005	.000
		CR_lbs	.72312866 *	.063447943	.000
		RTW	-.08804611	.070299896	.720
		SR	-.2209319 *	.058063320	.002

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-.23556180	.059469593
	SR	-.36462951	-.07723424
	CR_lbs	-.11005180	.130573493
	RTW	-.94701766	-.65481018
	SR	-1.0317777	-.83582170
	TI	-.88924247	-.53649315
	CR_lbs	-.13057349	.110051803
	RTW	-.95396447	-.66838506
	SR	-1.0369819	-.85113914
	TI	-.89677547	-.54948185
	CR	.654810183	.947017655
	CR_lbs	.668385063	.953964466
	SR	-.25751523	-.00825631
	TI	-.10425289	.280345098
	CR	.835821696	1.03177768
	CR_lbs	.851139139	1.03698193
	RTW	.008256307	.257515230
	TI	.061851019	.380012729
	CR	.536493154	.889242474
	CR_lbs	.549481845	.896775473
	RTW	-.28034510	.104252887
	SR	-.38001273	-.06185102

*. The mean difference is significant at the 0.05 level.

a. item_title_num = Local, test_type_num = f

Homogeneous Subsets

diff^a

			Subset for alpha = 0.05		
	tool_num	N	1	2	3
Tukey HSD ^{b,c}	CR_lbs	359	-1.9088028		
	CR	360	-1.8985419		
	TI	360		-1.1856741	
	RTW	325		-1.0976280	-1.0976280
	SR	360			-.96474223
	Sig.		1.000	.462	.092

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Local, test_type_num = f

b. Uses Harmonic Mean Sample Size = 352.218.

c. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

item_title_num = Local, test_type_num = n

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	-1.8419225	.410655537	.021643447	-1.8844864
CR_lbs	360	-1.8377171	.392439376	.020683371	-1.8783929
RTW	360	-1.0408363	.523008967	.027564993	-1.0950454
SR	360	-.81955910	.331934986	.017494510	-.85396369
TI	360	-1.2902873	.982394983	.051776762	-1.3921111
Total	1800	-1.3660645	.710958181	.016757445	-1.3989306

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	-1.7993587	-2.3010300	.567614443
CR_lbs	-1.7970414	-2.2218487	.862489167
RTW	-.98662714	-3.3010300	.991757540
SR	-.78515450	-1.3010300	.636688448
TI	-1.1884634	-3.3010300	.740757323
Total	-1.3331984	-3.3010300	.991757540

a. item_title_num = Local, test_type_num = n

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	121.294	4	1795	.000
	Based on Median	113.015	4	1795	.000
	Based on Median and with adjusted df	113.015	4	1280.806	.000
	Based on trimmed mean	122.473	4	1795	.000

a. item_title_num = Local, test_type_num = n

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	309.269	4	77.317	231.286	.000
Within Groups	600.056	1795	.334		
Total	909.325	1799			

a. item_title_num = Local, test_type_num = n

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	528.547	4	882.645	.000

a. item_title_num = Local, test_type_num = n

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	-.00420540	.043095060	1.000
		RTW	-.8010863 *	.043095060	.000
		SR	-1.022363 *	.043095060	.000
		TI	-.5516353 *	.043095060	.000
	CR_lbs	CR	.004205395	.043095060	1.000
		RTW	-.7968809 *	.043095060	.000
		SR	-1.018158 *	.043095060	.000
		TI	-.5474299 *	.043095060	.000
	RTW	CR	.80108625 *	.043095060	.000
		CR_lbs	.79688086 *	.043095060	.000
		SR	-.2212772 *	.043095060	.000
		TI	.24945099 *	.043095060	.000
	SR	CR	1.0223634 *	.043095060	.000
		CR_lbs	1.0181581 *	.043095060	.000
		RTW	.22127719 *	.043095060	.000
		TI	.47072818 *	.043095060	.000
	TI	CR	.55163526 *	.043095060	.000
		CR_lbs	.54742987 *	.043095060	.000
		RTW	-.2494510 *	.043095060	.000
		SR	-.4707282 *	.043095060	.000
Games-Howell	CR	CR_lbs	-.00420540	.029937279	1.000
		RTW	-.8010863 *	.035046649	.000
		SR	-1.022363 *	.027829780	.000
		TI	-.5516353 *	.056118374	.000
	CR_lbs	CR	.004205395	.029937279	1.000
		RTW	-.7968809 *	.034462018	.000
		SR	-1.018158 *	.027089845	.000
		TI	-.5474299 *	.055755133	.000
	RTW	CR	.80108625 *	.035046649	.000
		CR_lbs	.79688086 *	.034462018	.000
		SR	-.2212772 *	.032647920	.000
		TI	.24945099 *	.058657156	.000
	SR	CR	1.0223634 *	.027829780	.000
		CR_lbs	1.0181581 *	.027089845	.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.12187864	.113467849
		RTW	-.91875950	-.68341301
		SR	-1.1400367	-.90469020
		TI	-.66930851	-.43396202
	CR_lbs	CR	-.11346785	.121878639
		RTW	-.91455410	-.67920761
		SR	-1.1358313	-.90048481
		TI	-.66510311	-.42975663
	RTW	CR	.683413008	.918759496
		CR_lbs	.679207613	.914554101
		SR	-.33895044	-.10360395
		TI	.131777743	.367124231
	SR	CR	.904690202	1.14003669
		CR_lbs	.900484807	1.13583129
		RTW	.103603950	.338950438
		TI	.353054937	.588401425
	TI	CR	.433962021	.669308509
		CR_lbs	.429756626	.665103114
		RTW	-.36712423	-.13177774
		SR	-.58840143	-.35305494
Games-Howell	CR	CR_lbs	-.08607596	.077665170
		RTW	-.89694283	-.70522968
		SR	-1.0984787	-.94624822
		TI	-.70529632	-.39797421
	CR_lbs	CR	-.07766517	.086075960
		RTW	-.89114365	-.70261807
		SR	-1.0922464	-.94406966
		TI	-.70010866	-.39475108
	RTW	CR	.705229677	.896942826
		CR_lbs	.702618067	.891143646
		SR	-.31060137	-.13195301
		TI	.088912651	.409989323
	SR	CR	.946248216	1.09847868
		CR_lbs	.944069664	1.09224644

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
TI	RTW	.22127719 *	.032647920	.000
	TI	.47072818 *	.054652456	.000
	CR	.55163526 *	.056118374	.000
	CR_lbs	.54742987 *	.055755133	.000
	RTW	-.2494510 *	.058657156	.000
	SR	-.4707282 *	.054652456	.000

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
TI	RTW	.131953014	.310601374
	TI	.321028221	.620428140
	CR	.397974207	.705296322
	CR_lbs	.394751076	.700108664
	RTW	-.40998932	-.08891265
	SR	-.62042814	-.32102822

*. The mean difference is significant at the 0.05 level.

a. item_title_num = Local, test_type_num = n

Homogeneous Subsets

diff^a

		Subset for alpha = 0.05			
tool_num	N	1	2	3	
Tukey HSD ^b	CR	360	-1.8419225		
	CR_lbs	360	-1.8377171		
	TI	360		-1.2902873	
	RTW	360			-1.0408363
	SR	360			
	Sig.		1.000	1.000	1.000

diff^a

Subset for alpha .		
	tool_num	4
Tukey HSD ^b	CR	
	CR_lbs	
	TI	
	RTW	
	SR	-.81955910
	Sig.	1.000

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Local, test_type_num = n

b. Uses Harmonic Mean Sample Size = 360.000.

item_title_num = Local, test_type_num = r

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	-2.0390054	.993918234	.052384090	-2.1420236
CR_lbs	360	-1.9848465	1.07484687	.056649404	-2.0962528
RTW	360	-1.9456603	1.12796202	.059448818	-2.0625720
SR	360	-1.4293096	1.27205189	.067043021	-1.5611560
TI	359	-.38935586	1.71888725	.090719400	-.56776577
Total	1799	-1.5582849	1.40791432	.033194081	-1.6233879

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	-1.9359871	-3.3010300	3.25839205
CR_lbs	-1.8734401	-3.3010300	1.22383328
RTW	-1.8287486	-3.3010300	1.08873837
SR	-1.2974632	-3.3010300	1.05149982
TI	-.21094596	-3.3010300	4.10755825
Total	-1.4931819	-3.3010300	4.10755825

a. item_title_num = Local, test_type_num = r

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	11.556	4	1794	.000
	Based on Median	10.081	4	1794	.000
	Based on Median and with adjusted df	10.081	4	1160.273	.000
	Based on trimmed mean	9.760	4	1794	.000

a. item_title_num = Local, test_type_num = r

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	699.243	4	174.811	109.470	.000
Within Groups	2864.794	1794	1.597		
Total	3564.036	1798			

a. item_title_num = Local, test_type_num = r

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	76.399	4	891.172	.000

a. item_title_num = Local, test_type_num = r

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	-.05415888	.094188788	.979
		RTW	-.09334505	.094188788	.859
		SR	-.6096958 *	.094188788	.000
		TI	-1.649649 *	.094254357	.000
	CR_lbs	CR	.054158882	.094188788	.979
		RTW	-.03918617	.094188788	.994
		SR	-.5555369 *	.094188788	.000
		TI	-1.595491 *	.094254357	.000
	RTW	CR	.093345051	.094188788	.859
		CR_lbs	.039186169	.094188788	.994
		SR	-.5163507 *	.094188788	.000
		TI	-1.556304 *	.094254357	.000
	SR	CR	.60969576 *	.094188788	.000
		CR_lbs	.55553688 *	.094188788	.000
		RTW	.51635071 *	.094188788	.000
		TI	-1.039954 *	.094254357	.000
	TI	CR	1.6496495 *	.094254357	.000
		CR_lbs	1.5954906 *	.094254357	.000
		RTW	1.5563044 *	.094254357	.000
		SR	1.0399537 *	.094254357	.000
Games-Howell	CR	CR_lbs	-.05415888	.077157293	.956
		RTW	-.09334505	.079235440	.764
		SR	-.6096958 *	.085081488	.000
		TI	-1.649649 *	.104757350	.000
	CR_lbs	CR	.054158882	.077157293	.956
		RTW	-.03918617	.082117702	.989
		SR	-.5555369 *	.087771987	.000
		TI	-1.595491 *	.106954030	.000
	RTW	CR	.093345051	.079235440	.764
		CR_lbs	.039186169	.082117702	.989
		SR	-.5163507 *	.089604289	.000
		TI	-1.556304 *	.108462765	.000
	SR	CR	.60969576 *	.085081488	.000
		CR_lbs	.55553688 *	.087771987	.000
		RTW	.51635071 *	.089604289	.000
		TI	-1.039954 *	.112804149	.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.31134629	.203028524
		RTW	-.35053246	.163842354
		SR	-.86688317	-.35250835
		TI	-1.9070159	-1.3922830
	CR_lbs	CR	-.20302852	.311346287
		RTW	-.29637357	.218001236
		SR	-.81272428	-.29834947
		TI	-1.8528571	-1.3381242
	RTW	CR	-.16384235	.350532456
		CR_lbs	-.21800124	.296373575
		SR	-.77353811	-.25916330
		TI	-1.8136709	-1.2989380
	SR	CR	.352508355	.866883165
		CR_lbs	.298349473	.812724284
		RTW	.259163304	.773538114
		TI	-1.2973202	-.78258729
	TI	CR	1.39228305	1.90701593
		CR_lbs	1.33812417	1.85285705
		RTW	1.29893800	1.81367088
		SR	.782587288	1.29732017
Games-Howell	CR	CR_lbs	-.26516591	.156848150
		RTW	-.31004069	.123350589
		SR	-.84240462	-.37698690
		TI	-1.9363163	-1.3629827
	CR_lbs	CR	-.15684815	.265165913
		RTW	-.26375659	.185384251
		SR	-.79558588	-.31548788
		TI	-1.8881257	-1.3028555
	RTW	CR	-.12335059	.310040691
		CR_lbs	-.18538425	.263756590
		SR	-.76140246	-.27129895
		TI	-1.8530423	-1.2595666
	SR	CR	.376986900	.842404620
		CR_lbs	.315487876	.795585881
		RTW	.271298954	.761402465
		TI	-1.3485112	-.73139624

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
TI	CR	1.6496495 *	.104757350	.000
	CR_lbs	1.5954906 *	.106954030	.000
	RTW	1.5563044 *	.108462765	.000
	SR	1.0399537 *	.112804149	.000

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
TI	CR	1.36298270	1.93631628
	CR_lbs	1.30285547	1.88812575
	RTW	1.25956655	1.85304232
	SR	.731396242	1.34851122

*. The mean difference is significant at the 0.05 level.

a. item_title_num = Local, test_type_num = r

Homogeneous Subsets

diff^a

	tool_num	N	Subset for alpha = 0.05		
			1	2	3
Tukey HSD ^{b,c}	CR	360	-2.0390054		
	CR_lbs	360	-1.9848465		
	RTW	360	-1.9456603		
	SR	360		-1.4293096	
	TI	359			-.38935586
	Sig.		.860	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Local, test_type_num = r

b. Uses Harmonic Mean Sample Size = 359.800.

c. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

item_title_num = Local, test_type_num = s

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	-1.8100489	.373284128	.019673801	-1.8487393
CR_lbs	360	-1.8953679	.331323388	.017462276	-1.9297091
RTW	360	-.91315581	.558075501	.029413161	-.97099955
SR	360	-.93015197	.284051249	.014970815	-.95959349
TI	360	-1.2552621	1.04244376	.054941610	-1.3633100
Total	1800	-1.3607973	.722378984	.017026636	-1.3941914

Descriptives^a

diff

	95% Confidence Interval for ... Upper Bound	Minimum	Maximum
CR	-1.7713585	-2.2218487	.497896743
CR_lbs	-1.8610267	-2.2218487	.248953615
RTW	-.85531206	-3.0000000	1.11869451
SR	-.90071046	-1.3467875	1.34123662
TI	-1.1472143	-3.3010300	1.01653194
Total	-1.3274033	-3.3010300	1.34123662

a. item_title_num = Local, test_type_num = s

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	176.929	4	1795	.000
	Based on Median	152.997	4	1795	.000
	Based on Median and with adjusted df	152.997	4	1073.998	.000
	Based on trimmed mean	178.794	4	1795	.000

a. item_title_num = Local, test_type_num = s

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	318.445	4	79.611	230.365	.000
Within Groups	620.330	1795	.346		
Total	938.775	1799			

a. item_title_num = Local, test_type_num = s

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	624.817	4	876.152	.000

a. item_title_num = Local, test_type_num = s

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.085319034	.043817026	.293
		RTW	-.8968931 *	.043817026	.000
		SR	-.8798969 *	.043817026	.000
		TI	-.5547867 *	.043817026	.000
	CR_lbs	CR	-.08531903	.043817026	.293
		RTW	-.9822121 *	.043817026	.000
		SR	-.9652159 *	.043817026	.000
		TI	-.6401058 *	.043817026	.000
	RTW	CR	.89689307 *	.043817026	.000
		CR_lbs	.98221210 *	.043817026	.000
		SR	.016996166	.043817026	.995
		TI	.34210633 *	.043817026	.000
	SR	CR	.87989690 *	.043817026	.000
		CR_lbs	.96521594 *	.043817026	.000
		RTW	-.01699617	.043817026	.995
		TI	.32511017 *	.043817026	.000
	TI	CR	.55478674 *	.043817026	.000
		CR_lbs	.64010577 *	.043817026	.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.03432558	.204963644
		RTW	-1.0165377	-.77724846
		SR	-.99954151	-.76025229
		TI	-.67443135	-.43514213
	CR_lbs	CR	-.20496364	.034325576
		RTW	-1.1018567	-.86256749
		SR	-1.0848605	-.84557133
		TI	-.75975038	-.52046116
	RTW	CR	.777248458	1.01653768
		CR_lbs	.862567492	1.10185671
		SR	-.10264844	.136640776
		TI	.222461722	.461750942
	SR	CR	.760252292	.999541512
		CR_lbs	.845571326	1.08486055
		RTW	-.13664078	.102648444
		TI	.205465557	.444754776
	TI	CR	.435142125	.674431345
		CR_lbs	.520461159	.759750379

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	-.3421063 *	.043817026	.000
		SR	-.3251102 *	.043817026	.000
	CR	CR_lbs	.08531903 *	.026305694	.011
		RTW	-.8968931 *	.035386332	.000
		SR	-.8798969 *	.024722131	.000
		TI	-.5547867 *	.058357853	.000
	CR_lbs	CR	-.0853190 *	.026305694	.011
		RTW	-.9822121 *	.034206215	.000
		SR	-.9652159 *	.023001226	.000
		TI	-.6401058 *	.057649905	.000
	RTW	CR	.89689307 *	.035386332	.000
		CR_lbs	.98221210 *	.034206215	.000
		SR	.016996166	.033003930	.986
		TI	.34210633 *	.062319456	.000
	SR	CR	.87989690 *	.024722131	.000
		CR_lbs	.96521594 *	.023001226	.000
		RTW	-.01699617	.033003930	.986
		TI	.32511017 *	.056944761	.000
	TI	CR	.55478674 *	.058357853	.000
		CR_lbs	.64010577 *	.057649905	.000
		RTW	-.3421063 *	.062319456	.000
		SR	-.3251102 *	.056944761	.000

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-.46175094	-.22246172
	SR	-.44475478	-.20546556
	CR_lbs	.013377694	.157260374
	RTW	-.99370076	-.80008538
	SR	-.94751729	-.81227652
	TI	-.71462197	-.39495150
	CR_lbs	-.15726037	-.01337769
	RTW	-1.0758112	-.88861302
	SR	-1.0281216	-.90231024
	TI	-.79803001	-.48218153
	RTW	.800085378	.993700757
	CR_lbs	.888613020	1.07581118
	SR	-.07334000	.107332330
	TI	.171546530	.512666135
	SR	.812276516	.947517288
	CR_lbs	.902310241	1.02812163
	RTW	-.10733233	.073339998
	TI	.169087398	.481132935
	TI	.394951500	.714621970
	CR_lbs	.482181529	.798030010
	RTW	-.51266613	-.17154653
	SR	-.48113294	-.16908740

*. The mean difference is significant at the 0.05 level.

a. item_title_num = Local, test_type_num = s

Homogeneous Subsets

diff^a

		Subset for alpha = 0.05			
	tool_num	N	1	2	3
Tukey HSD ^b	CR_lbs	360	-1.8953679		
	CR	360	-1.8100489		
	TI	360		-1.2552621	
	SR	360			-.93015197
	RTW	360			-.91315581
	Sig.		.293	1.000	.995

Means for groups in homogeneous subsets are displayed.

a. item_title_num = Local, test_type_num = s

b. Uses Harmonic Mean Sample Size = 360.000.

item_title_num = App, test_type_num = f

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	.103045293	.606711528	.031976505	.040160492
CR_lbs	359	.074542855	.616863821	.032556827	.010516191
RTW	325	.121761728	.744062734	.041273174	.040564484
SR	360	.307673445	.575390858	.030325761	.248034987
TI	356	.381323035	.633508295	.033575872	.315290411
Total	1760	.198831360	.646844205	.015418544	.168590761

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	.165930095	-3.3010300	1.86767516
CR_lbs	.138569520	-3.3010300	1.21982675
RTW	.202958971	-3.3010300	1.91737420
SR	.367311902	-3.3010300	1.63926729
TI	.447355659	-3.0000000	1.81224804
Total	.229071958	-3.3010300	1.91737420

a. item_title_num = App, test_type_num = f

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	2.668	4	1755	.031
	Based on Median	2.194	4	1755	.067
	Based on Median and with adjusted df	2.194	4	1688.611	.067
	Based on trimmed mean	2.552	4	1755	.037

a. item_title_num = App, test_type_num = f

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	26.900	4	6.725	16.645	.000
Within Groups	709.079	1755	.404		
Total	735.979	1759			

a. item_title_num = App, test_type_num = f

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	17.292	4	870.937	.000

a. item_title_num = App, test_type_num = f

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.028502438	.047410515	.975
		RTW	-.01871643	.048636359	.995
		SR	-.2046282 *	.047377534	.000
		TI	-.2782777 *	.047510430	.000
	CR_lbs	CR	-.02850244	.047410515	.975
		RTW	-.04721887	.048668487	.869
		SR	-.2331306 *	.047410515	.000
		TI	-.3067802 *	.047543319	.000
	RTW	CR	.018716434	.048636359	.995
		CR_lbs	.047218872	.048668487	.869
		SR	-.1859117 *	.048636359	.001
		TI	-.2595613 *	.048765825	.000
	SR	CR	.20462815 *	.047377534	.000
		CR_lbs	.23313059 *	.047410515	.000
		RTW	.18591172 *	.048636359	.001
		TI	-.07364959	.047510430	.530
	TI	CR	.27827774 *	.047510430	.000
		CR_lbs	.30678018 *	.047543319	.000
		RTW	.25956131 *	.048765825	.000
		SR	.073649590	.047510430	.530
Games-Howell	CR	CR_lbs	.028502438	.045633802	.971
		RTW	-.01871643	.052210840	.996
		SR	-.2046282 *	.044069816	.000
		TI	-.2782777 *	.046366325	.000
	CR_lbs	CR	-.02850244	.045633802	.971
		RTW	-.04721887	.052568260	.898
		SR	-.2331306 *	.044492682	.000
		TI	-.3067802 *	.046768432	.000
	RTW	CR	.018716434	.052210840	.996
		CR_lbs	.047218872	.052568260	.898
		SR	-.1859117 *	.051216469	.003
		TI	-.2595613 *	.053205396	.000
	SR	CR	.20462815 *	.044069816	.000
		CR_lbs	.23313059 *	.044492682	.000
		RTW	.18591172 *	.051216469	.003
		TI	-.07364959	.045243685	.480

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.10095738	.157962254
		RTW	-.15152356	.114090689
		SR	-.33399791	-.07525839
		TI	-.40801039	-.14854510
	CR_lbs	CR	-.15796225	.100957378
		RTW	-.18011372	.085675981
		SR	-.36259041	-.10367077
		TI	-.43660263	-.17695773
	RTW	CR	-.11409069	.151523557
		CR_lbs	-.08567598	.180113725
		SR	-.31871884	-.05310459
		TI	-.39272195	-.12640066
	SR	CR	.075258395	.333997908
		CR_lbs	.103670774	.362590405
		RTW	.053104594	.318718840
		TI	-.20338224	.056083056
	TI	CR	.148545096	.408010388
		CR_lbs	.176957727	.436602633
		RTW	.126400662	.392721953
		SR	-.05608306	.203382236
Games-Howell	CR	CR_lbs	-.09629389	.153298767
		RTW	-.16155192	.124119047
		SR	-.32514771	-.08410859
		TI	-.40507952	-.15147596
	CR_lbs	CR	-.15329877	.096293891
		RTW	-.19102864	.096590895
		SR	-.35480776	-.11145342
		TI	-.43468153	-.17887883
	RTW	CR	-.12411905	.161551915
		CR_lbs	-.09659090	.191028639
		SR	-.32603885	-.04578459
		TI	-.40510892	-.11401370
	SR	CR	.084108593	.325147710
		CR_lbs	.111453417	.354807761
		RTW	.045784587	.326038847
		TI	-.19738389	.050084706

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
TI	CR	.27827774 *	.046366325	.000
	CR_lbs	.30678018 *	.046768432	.000
	RTW	.25956131 *	.053205396	.000
	SR	.073649590	.045243685	.480

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
TI	CR	.151475962	.405079522
	CR_lbs	.178878832	.434681528
	RTW	.114013698	.405108917
	SR	-.05008471	.197383887

*. The mean difference is significant at the 0.05 level.

a. item_title_num = App, test_type_num = f

Homogeneous Subsets

diff^a

	tool_num	N	Subset for alpha = 0.05	
			1	2
Tukey HSD ^{b,c}	CR_lbs	359	.074542855	
	CR	360	.103045293	
	RTW	325	.121761728	
	SR	360		.307673445
	TI	356		.381323035
	Sig.		.862	.539

Means for groups in homogeneous subsets are displayed.

a. item_title_num = App, test_type_num = f

b. Uses Harmonic Mean Sample Size = 351.445.

c. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

item_title_num = App, test_type_num = n

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	.303272878	.733146343	.038640205	.227283285
CR_lbs	360	.280195707	.671427877	.035387356	.210603146
RTW	360	.378828331	.722365082	.038071983	.303956201
SR	360	.314526244	.680884582	.035885768	.243953510
TI	360	.424703512	.670724743	.035350298	.355183831
Total	1800	.340305334	.697492811	.016440063	.308061709

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	.379262471	-3.3010300	1.40772224
CR_lbs	.349788267	-3.3010300	1.37809797
RTW	.453700462	-3.3010300	1.66348420
SR	.385098979	-3.3010300	1.56712345
TI	.494223194	-3.3010300	1.56070151
Total	.372548959	-3.3010300	1.66348420

a. item_title_num = App, test_type_num = n

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	.117	4	1795	.976
	Based on Median	.066	4	1795	.992
	Based on Median and with adjusted df	.066	4	1767.732	.992
	Based on trimmed mean	.067	4	1795	.992

a. item_title_num = App, test_type_num = n

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.132	4	1.283	2.647	.032
Within Groups	870.074	1795	.485		
Total	875.207	1799			

a. item_title_num = App, test_type_num = n

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	2.755	4	897.187	.027

a. item_title_num = App, test_type_num = n

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.023077171	.051893114	.992
		RTW	-.07555545	.051893114	.591
		SR	-.01125337	.051893114	1.000
		TI	-.12143063	.051893114	.133
	CR_lbs	CR	-.02307717	.051893114	.992
		RTW	-.09863262	.051893114	.317
		SR	-.03433054	.051893114	.964
		TI	-.1445078 *	.051893114	.043
	RTW	CR	.075555454	.051893114	.591
		CR_lbs	.098632625	.051893114	.317
		SR	.064302087	.051893114	.728
		TI	-.04587518	.051893114	.903
	SR	CR	.011253366	.051893114	1.000
		CR_lbs	.034330538	.051893114	.964
		RTW	-.06430209	.051893114	.728
		TI	-.11017727	.051893114	.211
	TI	CR	.121430635	.051893114	.133
		CR_lbs	.14450781 *	.051893114	.043

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.11861961	.164773949
		RTW	-.21725223	.066141324
		SR	-.15295014	.130443411
		TI	-.26312741	.020266143
	CR_lbs	CR	-.16477395	.118619606
		RTW	-.24032940	.043064153
		SR	-.17602732	.107366240
		TI	-.28620458	-.00281103
	RTW	CR	-.06614132	.217252231
		CR_lbs	-.04306415	.240329402
		SR	-.07739469	.205998865
		TI	-.18757196	.095821597
	SR	CR	-.13044341	.152950144
		CR_lbs	-.10736624	.176027315
		RTW	-.20599886	.077394690
		TI	-.25187405	.031519509
	TI	CR	-.02026614	.263127412
		CR_lbs	.002811028	.286204583

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	.045875181	.051893114	.903
		SR	.110177268	.051893114	.211
	CR	CR_lbs	.023077171	.052395901	.992
		RTW	-.07555545	.054245196	.632
		SR	-.01125337	.052733801	1.000
		TI	-.12143063	.052370879	.140
	CR_lbs	CR	-.02307717	.052395901	.992
		RTW	-.09863262	.051978273	.320
		SR	-.03433054	.050398942	.961
		TI	-.1445078 *	.050019082	.032
	RTW	CR	.075555454	.054245196	.632
		CR_lbs	.098632625	.051978273	.320
		SR	.064302087	.052318871	.734
		TI	-.04587518	.051953050	.903
	SR	CR	.011253366	.052733801	1.000
		CR_lbs	.034330538	.050398942	.961
		RTW	-.06430209	.052318871	.734
		TI	-.11017727	.050372929	.186
	TI	CR	.121430635	.052370879	.140
		CR_lbs	.14450781 *	.050019082	.032
		RTW	.045875181	.051953050	.903
		SR	.110177268	.050372929	.186

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-.09582160	.187571958
	SR	-.03151951	.251874046
	CR_lbs	-.12021386	.166368204
	RTW	-.22390107	.072790165
	SR	-.15546766	.132960925
	TI	-.26465331	.021792037
	CR_lbs	-.16636820	.120213862
	RTW	-.24078068	.043515433
	SR	-.17215771	.103496631
	TI	-.28129609	-.00771952
	RTW	-.07279017	.223901073
	CR_lbs	-.04351543	.240780683
	SR	-.07877675	.207380929
	TI	-.18795432	.096203955
	SR	-.13296092	.155467658
	CR_lbs	-.10349663	.172157706
	RTW	-.20738093	.078776754
	TI	-.24793331	.027578771
	TI	-.02179204	.264653306
	CR_lbs	.007719518	.281296094
	RTW	-.09620395	.187954317
	SR	-.02757877	.247933308

*. The mean difference is significant at the 0.05 level.

a. item_title_num = App, test_type_num = n

Homogeneous Subsets

diff^a

		Subset for alpha = 0.05		
	tool_num	N	1	2
Tukey HSD ^b	CR_lbs	360	.280195707	
	CR	360	.303272878	.303272878
	SR	360	.314526244	.314526244
	RTW	360	.378828331	.378828331
	TI	360		.424703512
	Sig.		.317	.133

Means for groups in homogeneous subsets are displayed.

a. item_title_num = App, test_type_num = n

b. Uses Harmonic Mean Sample Size = 360.000.

item_title_num = App, test_type_num = r

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	.084528835	.393532287	.020740973	.043739763
CR_lbs	352	.060998382	.328778985	.017523979	.026533174
RTW	360	.044714744	.332912832	.017546047	.010208795
SR	360	.069998732	.309603909	.016317559	.037908720
TI	360	.065815159	.339770383	.017907472	.030598434
Total	1792	.065229977	.342000987	.008079014	.049384693

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	.125317906	-.71444269	2.02097003
CR_lbs	.095463589	-.63451202	1.45721557
RTW	.079220694	-.77793416	.958265173
SR	.102088744	-.73459250	1.00815287
TI	.101031884	-.76573588	1.19996761
Total	.081075262	-.77793416	2.02097003

a. item_title_num = App, test_type_num = r

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	1.474	4	1787	.207
	Based on Median	1.340	4	1787	.253
	Based on Median and with adjusted df	1.340	4	1621.220	.253
	Based on trimmed mean	1.370	4	1787	.242

a. item_title_num = App, test_type_num = r

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.300	4	.075	.641	.633
Within Groups	209.184	1787	.117		
Total	209.484	1791			

a. item_title_num = App, test_type_num = r

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	.589	4	892.298	.671

a. item_title_num = App, test_type_num = r

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	.023530453	.025645955	.890
		RTW	.039814090	.025501470	.523
		SR	.014530103	.025501470	.979
		TI	.018713675	.025501470	.949
	CR_lbs	CR	-.02353045	.025645955	.890
		RTW	.016283637	.025645955	.969
		SR	-.00900035	.025645955	.997
		TI	-.00481678	.025645955	1.000
	RTW	CR	-.03981409	.025501470	.523
		CR_lbs	-.01628364	.025645955	.969
		SR	-.02528399	.025501470	.859
		TI	-.02110041	.025501470	.922
	SR	CR	-.01453010	.025501470	.979
		CR_lbs	.009000350	.025645955	.997
		RTW	.025283987	.025501470	.859
		TI	.004183572	.025501470	1.000
	TI	CR	-.01871368	.025501470	.949
		CR_lbs	.004816778	.025645955	1.000
		RTW	.021100415	.025501470	.922
		SR	-.00418357	.025501470	1.000
Games-Howell	CR	CR_lbs	.023530453	.027152860	.909
		RTW	.039814090	.027167107	.585
		SR	.014530103	.026390352	.982
		TI	.018713675	.027401925	.960
	CR_lbs	CR	-.02353045	.027152860	.909
		RTW	.016283637	.024798258	.965
		SR	-.00900035	.023944781	.996
		TI	-.00481678	.025055286	1.000
	RTW	CR	-.03981409	.027167107	.585
		CR_lbs	-.01628364	.024798258	.965
		SR	-.02528399	.023960937	.829
		TI	-.02110041	.025070726	.918
	SR	CR	-.01453010	.026390352	.982
		CR_lbs	.009000350	.023944781	.996
		RTW	.025283987	.023960937	.829
		TI	.004183572	.024226850	1.000
	TI	CR	-.01871368	.027401925	.960
		CR_lbs	.004816778	.025055286	1.000

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.04649745	.093558352
		RTW	-.02981928	.109447462
		SR	-.05510327	.084163475
		TI	-.05091970	.088347047
	CR_lbs	CR	-.09355835	.046497446
		RTW	-.05374426	.086311536
		SR	-.07902825	.061027549
		TI	-.07484468	.065211121
	RTW	CR	-.10944746	.029819282
		CR_lbs	-.08631154	.053744261
		SR	-.09491736	.044349385
		TI	-.09073379	.048532957
	SR	CR	-.08416348	.055103269
		CR_lbs	-.06102755	.079028249
		RTW	-.04434939	.094917359
		TI	-.06544980	.073816945
	TI	CR	-.08834705	.050919697
		CR_lbs	-.06521112	.074844676
		RTW	-.04853296	.090733787
		SR	-.07381694	.065449800
Games-Howell	CR	CR_lbs	-.05073183	.097792740
		RTW	-.03448559	.114113772
		SR	-.05765035	.086710557
		TI	-.05622703	.093654381
	CR_lbs	CR	-.09779274	.050731834
		RTW	-.05153467	.084101943
		SR	-.07448570	.056484997
		TI	-.07333801	.063704451
	RTW	CR	-.11411377	.034485591
		CR_lbs	-.08410194	.051534668
		SR	-.09081137	.040243391
		TI	-.08966196	.047461125
	SR	CR	-.08671056	.057650351
		CR_lbs	-.05648500	.074485697
		RTW	-.04024339	.090811365
		TI	-.06207158	.070438723
	TI	CR	-.09365438	.056227030
		CR_lbs	-.06370445	.073338006

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
	RTW	.021100415	.025070726	.918
	SR	-.00418357	.024226850	1.000

Multiple Comparisons^a

Dependent Variable: diff

(I) tool_num	(J) tool_num	95% Confidence Interval	
		Lower Bound	Upper Bound
	RTW	-.04746113	.089661955
	SR	-.07043872	.062071579

a. item_title_num = App, test_type_num = r

Homogeneous Subsets

diff^a

		Subset for alpha = 0.05	
	tool_num	N	1
Tukey HSD ^{b,c}	RTW	360	.044714744
	CR_lbs	352	.060998382
	TI	360	.065815159
	SR	360	.069998732
	CR	360	.084528835
	Sig.		.525

Means for groups in homogeneous subsets are displayed.

a. item_title_num = App, test_type_num = r

b. Uses Harmonic Mean Sample Size = 358.371.

c. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

item_title_num = App, test_type_num = s

Descriptives^a

diff

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
CR	360	1.20568590	.811479690	.042768735	1.12157716
CR_lbs	360	1.22004340	.851299477	.044867422	1.13180740
RTW	360	1.25370039	.757039084	.039899463	1.17523435
SR	360	1.23086997	.840382607	.044292052	1.14376548
TI	360	1.17073368	.791643183	.041723259	1.08868097
Total	1800	1.21620667	.810649456	.019107191	1.17873205

Descriptives^a

diff

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
CR	1.28979463	-3.3010300	2.34722606
CR_lbs	1.30827940	-3.3010300	2.40612613
RTW	1.33216644	-3.3010300	2.46724135
SR	1.31797445	-3.3010300	2.31329288
TI	1.25278639	-3.3010300	2.33428935
Total	1.25368128	-3.3010300	2.46724135

a. item_title_num = App, test_type_num = s

Test of Homogeneity of Variances^a

		Levene Statistic	df1	df2	Sig.
diff	Based on Mean	.418	4	1795	.796
	Based on Median	.241	4	1795	.915
	Based on Median and with adjusted df	.241	4	1772.935	.915
	Based on trimmed mean	.277	4	1795	.893

a. item_title_num = App, test_type_num = s

ANOVA^a

diff

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.373	4	.343	.522	.720
Within Groups	1180.844	1795	.658		
Total	1182.217	1799			

a. item_title_num = App, test_type_num = s

Robust Tests of Equality of Means^a

diff

	Statistic ^b	df1	df2	Sig.
Welch	.561	4	897.088	.691

a. item_title_num = App, test_type_num = s

b. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	CR	CR_lbs	-.01435750	.060454392	.999
		RTW	-.04801450	.060454392	.932
		SR	-.02518407	.060454392	.994
		TI	.034952218	.060454392	.978
	CR_lbs	CR	.014357500	.060454392	.999
		RTW	-.03365700	.060454392	.981
		SR	-.01082657	.060454392	1.000
		TI	.049309718	.060454392	.926
	RTW	CR	.048014497	.060454392	.932
		CR_lbs	.033656997	.060454392	.981
		SR	.022830428	.060454392	.996
		TI	.082966715	.060454392	.646
	SR	CR	.025184069	.060454392	.994
		CR_lbs	.010826569	.060454392	1.000
		RTW	-.02283043	.060454392	.996
		TI	.060136287	.060454392	.858
	TI	CR	-.03495222	.060454392	.978
		CR_lbs	-.04930972	.060454392	.926

Multiple Comparisons^a

Dependent Variable: diff

			95% Confidence Interval	
	(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Tukey HSD	CR	CR_lbs	-.17943128	.150716279
		RTW	-.21308828	.117059282
		SR	-.19025785	.139889710
		TI	-.13012156	.200025997
	CR_lbs	CR	-.15071628	.179431280
		RTW	-.19873078	.131416783
		SR	-.17590035	.154247211
		TI	-.11576406	.214383498
	RTW	CR	-.11705928	.213088277
		CR_lbs	-.13141678	.198730776
		SR	-.14224335	.187904207
		TI	-.08210706	.248040494
	SR	CR	-.13988971	.190257849
		CR_lbs	-.15424721	.175900348
		RTW	-.18790421	.142243352
		TI	-.10493749	.225210067
	TI	CR	-.20002600	.130121562
		CR_lbs	-.21438350	.115764062

Multiple Comparisons^a

Dependent Variable: diff

	(I) tool_num	(J) tool_num	Mean Difference (I-J)	Std. Error	Sig.
Games-Howell	CR	RTW	-.08296671	.060454392	.646
		SR	-.06013629	.060454392	.858
	CR	CR_lbs	-.01435750	.061985887	.999
		RTW	-.04801450	.058490442	.924
		SR	-.02518407	.061570696	.994
		TI	.034952218	.059749436	.977
	CR_lbs	CR	.014357500	.061985887	.999
		RTW	-.03365700	.060042091	.981
		SR	-.01082657	.063046582	1.000
		TI	.049309718	.061269208	.929
	RTW	CR	.048014497	.058490442	.924
		CR_lbs	.033656997	.060042091	.981
		SR	.022830428	.059613363	.995
		TI	.082966715	.057730386	.604
	SR	CR	.025184069	.061570696	.994
		CR_lbs	.010826569	.063046582	1.000
		RTW	-.02283043	.059613363	.995
		TI	.060136287	.060849127	.861
	TI	CR	-.03495222	.059749436	.977
		CR_lbs	-.04930972	.061269208	.929
		RTW	-.08296671	.057730386	.604
		SR	-.06013629	.060849127	.861

Multiple Comparisons^a

Dependent Variable: diff

		95% Confidence Interval	
(I) tool_num	(J) tool_num	Lower Bound	Upper Bound
Games-Howell	RTW	-.24804049	.082107065
	SR	-.22521007	.104937493
	CR_lbs	-.18387266	.155157663
	RTW	-.20797156	.111942564
	SR	-.19356334	.143195197
	TI	-.12844614	.198350573
	CR_lbs	-.15515766	.183872664
	RTW	-.19786113	.130547138
	SR	-.18324152	.161588383
	TI	-.11824678	.216866219
	CR	-.11194256	.207971558
	CR_lbs	-.13054714	.197861131
	SR	-.14020005	.185860901
	TI	-.07491065	.240844079
	CR	-.14319520	.193563336
	CR_lbs	-.16158838	.183241521
	RTW	-.18586090	.140200046
	TI	-.10627067	.226543247
	CR	-.19835057	.128446138
	CR_lbs	-.21686622	.118246783
	RTW	-.24084408	.074910649
	SR	-.22654325	.106270673

a. item_title_num = App, test_type_num = s

Homogeneous Subsets

diff^a

			Subset for alpha = 0.05
		N	1
Tukey HSD ^b	TI	360	1.17073368
	CR	360	1.20568590
	CR_lbs	360	1.22004340
	SR	360	1.23086997
	RTW	360	1.25370039
	Sig.		.646

Means for groups in homogeneous subsets are displayed.

a. item_title_num = App, test_type_num = s

b. Uses Harmonic Mean Sample Size = 360.000.